Alcohol, Tobacco and Other Drugs:
Clinical Guidelines for Nurses and Midwives

Version 3, 2012

Endorsed by the South Australian Alcohol and Drug Nursing and Midwifery Statewide Action Group

Government of South Australia
SA Health

DRUG & ALCOHOL SERVICES SOUTH AUSTRALIA

THE UNIVERSITY of ADELAIDE

Electronic Index: This publication is available as a down-loadable PDF with fully searchable text. To access PDF copies go to:

www.dassa.sa.gov.au

www.health.adelaide.edu.au/nursing

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Foreword

The use of alcohol, tobacco and other drugs (ATOD) is prevalent in our society. Nurses, midwives and other health care professionals are faced with a diverse group of consumers many of whom are affected either temporarily or in the longer term by ATOD related health challenges. These challenges include intoxication, withdrawal, trauma, medical and mental health conditions, and social issues. The complexities of providing safe care to consumers affected by ATOD are unmistakable and challenging. The provision of safe care is at the core of good nursing and midwifery practice. For nurses and midwives to do this they require reliable evidence based clinical guidelines that are accessible and easy to use.

These guidelines aim to support and provide a benchmark for quality assessment, intervention and referral by nurses and midwives in their daily practice. Clinicians should aim to use these guidelines within the context of their roles and scopes of practice and, to update their knowledge base by accessing current research and clinical guidelines as they emerge. To this end I draw your attention to the information, links to key resources and websites listed at the back of this publication.

Ms Lydia Dennett

Chief Nurse and Midwifery Officer

Nursing and Midwifery Office

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Purpose and Principles

Statement of purpose

Alcohol, tobacco and other drug use (ATOD) is prevalent in our society, and associated with preventable, yet high levels, of morbidity and mortality. Nurses and midwives, and other health professionals, regularly face the complexities of caring for people and their families who are affected by ATOD use.

These Clinical Guidelines have been developed to support evidence based decision making and best practice. They offer a reliable benchmark for quality nursing and midwifery care, whether in general hospitals, mental health facilities or community settings. Each clinician needs to use and interpret these guidelines according to their role and scope of practice.

We advise clinicians to regularly update their knowledge through accessing emerging research and clinical guidelines.

Please note there is a list of useful information and links to key resources and websites at the beginning of this publication.

Principles for practice

These Clinical Guidelines are based on the following principles:

- Any people affected by ATODs have the right to cultural respect and quality risk assessment, intervention and support within any health service.
- All episodes of care provide an important opportunity - a 'critical moment' - for people to receive appropriate, understandable health information and education related to ATOD use and how to access services and available community resources.
- All health professionals, including nurses and midwives, must ensure that their own attitudes, values and personal experiences do not interfere with all people's rights to respect and quality care.
- A person-centred approach is needed to effectively care for people with ATOD problems, and where appropriate, their families.
- There is a duty of care for all health professional to attend to the safety and health care needs of any person presenting with ATOD problems.

Acknowledgements

We gratefully acknowledge the South Australian Alcohol Tobacco and Other Drug Nursing & Midwifery Statewide Action Group, (chaired by Professor de Crespigny) for its leadership in requesting and supporting the development of this resource. The Statewide Action Group comprises nurses and midwives from diverse health care settings, including drug and alcohol, emergency and acute care, community health, youth and adult mental health and forensic health care. They are committed to supporting nurses and midwives in the delivery of quality ATOD health care wherever they practice. Since 2000 the Statewide Action Group has continued to support the development and provision of best practice alcohol, tobacco and other drug clinical guidelines, with Version 3 (2012) now superseding Version 2 (2003).

We also gratefully acknowledge Drug and Alcohol Services SA (DASSA) for its ongoing commitment and support of nurses and midwives by providing quality, essential resources such as these Guidelines. This commitment continues to boost the capability of many nurses and midwives to respond effectively to people with alcohol, tobacco and other drug (ATOD) problems, wherever they present across the health system. This Version 3 resource builds on Version 2 which has been in use since 2003.

The expertise and time contributed to developing Version 3 by experienced drug and alcohol nurses, medical officers and social workers is gratefully acknowledged. Their advice and input has contributed to the quality, relevance and usefulness of the Guidelines for general and other specialist nurses, midwives, educators and service leaders.

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Professional endorsement

South Australian Chapter of the Drug and Alcohol Nurses of Australasia (DANA).

Glossary

Abstinence: Refraining from ATOD use at all times.

Agonist: A psychoactive substance that acts on a neuronal receptor e.g. opioid receptor to produce effects similar to those of a reference drug; for example, methadone is a morphine-like agonist at the opioid receptors.

Alcoholic hallucinosis: A cluster of psychotic symptoms occurring during or following heavy alcohol use not due to acute intoxication alone. Characterised by hallucinations (typically auditory), perceptual distortions, paranoid or other delusions, psychomotor disturbances, and abnormal affect. Some degree of clouding of consciousness may be present.

Alcoholic brain syndrome A general term for a range of disorders due to the effects of alcohol on the brain-acute intoxication, pathological intoxication, withdrawal syndrome, delirium tremens, hallucinosis, amnesic syndrome, dementia, psychotic disorder. More specific terms are preferred.

Alcohol-related brain injury (ARBI): A generic term that encompasses chronic impairment of memory and higher mental functions associated with the frontal lobe and limbic system.

Alcohol-related problem: Any of the range of adverse accompaniments of drinking alcohol. It is important to note that "related" does not necessarily imply causality.

Amphetamine: The group of psycho-stimulant drugs commonly known as *speed*, *uppers*, *whiz*, *goey*, *ice*, *crystal meth*. Sold as white or yellow powder, tablets or liquid in capsules. Can be swallowed, inhaled ('snorted'), smoked or injected. Commonly mixed with other substances (see psychostimulants).

Anabolic androgenic steroids (AAS): are drugs that mimic the effects of the male sex hormones testosterone and dihydrotestosterone. They are available in oral or parenteral form. Anabolic substances have the ability to synthesise body tissue and increase muscle mass and/or strength.

Antagonist A psycho-active substance that blocks the effects of another psycho-active substance on the same neural receptor.

Antidepressant: One of a group of psychoactive drugs prescribed for the treatment of depressive disorders. Also used for other conditions such as anxiety disorders including panic disorder and PTSD.

ATOD: Alcohol, tobacco and/or other drugs.

Benzodiazepine: One of the sedative-hypnotic group of drugs. May be referred to as *rowies*, *serries, benzos*. A safer alternative to barbiturates, they have a general depressant effect on the central nervous system that increases with the dose, from sedation to hypnosis to stupor. Benzodiazepines have significant potential for dependence which may occur within two weeks of regular use.

Binge drinking: A pattern of heavy drinking that occurs in an extended period set aside for the

purpose. In population surveys, the period is usually defined as more than one day of drinking at a time. The terms "bout drinking" and "spree drinking" are also used for the activity, and "drinking bout" for the occasion. A binge drinker or bout drinker is one who drinks predominantly in this fashion, often with intervening periods of abstinence.

Blood alcohol level (BAL): The concentration of alcohol (ethanol) present in blood. The legal blood alcohol limit for driving in South Australia is 0.05. The BAL is often extrapolated from measurements made on breath or urine or other biological fluids in which the alcohol concentration bears a known relationship to that in the blood.

Brief intervention: A strategy in which short (between five minutes and two hours) structured therapy is offered on one occasion or spread over several visits. Aimed at helping a person to reduce or stop harmful ATOD use.

Caffeine: A xanthine, which is a mild central nervous system stimulant, vasodilator, and diuretic. Caffeine is found in coffee, chocolate, cola and some other soft drinks, and tea, in some cases with other xanthines such as theophylline or theobromine. Acute or chronic overuse (e.g. a daily intake of 500 mg or more) with resultant toxicity is termed caffeinism.

Cannabis: The generic name given to the psychoactive substance found in the marijuana plant *Cannabis sativa*, Delta 9-tetra-hydrocannabinol (THC). Street names include *dope*, *grass*, *pot*, *weed*, *shit*, *hash*, *head*, *skunk*.

Chroming: A term used for inhalation of aerosol paints. Anecdotally, it derives from chrome paint used to inhale.

Cocaine: A powerful central nervous system stimulant derived from the coca plant, used non-medically to produce euphoria or wakefulness. Sold as white, translucent, crystalline flakes or powder. Street names include *coke*, *snow*, *C*.

Compulsion: When applied to psychoactive substance use, the term refers to a powerful urge-attributed to internal feelings rather than external influences- to take the substance (or substances} in question. The substance user may recognize the urge as detrimental to well-being and may have a conscious intent to refrain. These feelings are less characteristic of alcohol and drug dependence than of the psychiatric syndrome of obsessive-compulsive disorder.

Controlled drinking: Alcohol consumption that is moderated to avoid intoxication or hazardous use.

Craving: Strong neurological response resulting in a person experiencing an urge or trigger to consider or resume the use of a psychoactive drug for its intoxicating effects.

Cross-tolerance The development of tolerance to a substance, to which the individual has not previously been exposed, as a result of acute or chronic intake of another substance. The two substances usually, but not invariably, have similar pharmacological effects. Cross-tolerance is apparent when a dose of the novel substance fails to produce the expected effect

Delirium tremens (DTs): A severe complication of alcohol withdrawal, typically manifesting as acute confusion accompanied by rapid pulse, clouding of consciousness, dehydration, delirium, elevated body temperature, sweating, extreme fear, hypertension, tachycardia,

tremor and hallucinations. It is medical emergency as it carries a high mortality risk.

Dependence: As a general term, the state of needing or depending on something or someone for support or to function or survive. As applied to alcohol and other drugs, the term implies a need for repeated doses of the drug to feel good or to avoid feeling bad. Physical dependence is a result of neuro-adaptation: a person's nervous system has adjusted to ATOD to function as 'normal.' Abstinence may be associated with the onset of withdrawal symptoms and discomfort of withdrawal will become a motivator for reinstatement of ATOD use.

Depressant: Any substance that suppresses, inhibits or decreases some aspects of CNS activity. The main classes of central nervous system depressants are sedatives/ hypnotics, opioids and neuroleptics. Some antipsychotics and other drugs may have CNS depressant effects.

Designer drug: A novel chemical substance with psychoactive properties, synthesized specifically for sale on the illicit market and to circumvent regulations on controlled substances. In response, these regulations now commonly cover novel and possible analogues of existing psychoactive substances.

Detoxification: The process by which a person is assisted to withdraw from the ATOD on which they are dependent. Usually detoxification refers to medically supervised withdrawal that may or may not involve the administration of medication to ease withdrawal symptoms. There is an evidence base to support the use of medication for detoxification from alcohol, opioids and benzodiazepines.

Dissociation: a partial or complete disruption of the normal integration of a person's consciousness or psychological functioning.

Disinhibition: A state of mind where the person feels free from internal constraints on their own behaviour—a loss of inhibitions.

Drug: Any chemical substance used for its effects on bodily processes.

Drug use patterns:

> **Experimental use:** The first few instances of using a particular ATOD. The term sometimes refers to extremely infrequent or non-persistent use.
>
> **Harmful use:** A pattern of ATOD use that is causing damage to mental or physical health (e.g. depressive episodes secondary to heavy alcohol intake; hepatitis infection associated with risky injecting drug use). Harmful use may have a range of adverse social consequences but this is not sufficient to justify a diagnosis of harmful use.
>
> **Hazardous use:** A pattern of ATOD use that increases the risk of harm. In contrast to harmful use, hazardous use refers to patters of use that are of significance despite the absence of any current disorder in the individual.
>
> **High-risk use:** A pattern of harmful ATOD use that is likely to cause damage to health—either physical (e.g. pancreatitis or cirrhosis from heavy drinking or hepatitis from unsafe injecting) or mental (e.g. depressive episodes after

heavy alcohol intake). Harmful use commonly has adverse social, legal or occupational consequences.

Risky use: A pattern of substance use that increases the risk of harm. Types of harm may include injuries caused by intoxication such as an occasional binge the accidental overdose associated with recreational drug use.

Symptomatic use: Using ATOD as a means of reducing unpleasant sensations or experiences or to avoid challenging situations or responsibilities.

Dual diagnosis: Where a person has an ATOD use problem(s) concurrent with a mental health problem(s). Also known as 'comorbidity'.

Flashbacks: A perception disorder that can follow hallucinogen use. Flashbacks are a spontaneous recurrence of the experience that occurred when the person was intoxicated with hallucinogens. These feelings include visual distortions, physical symptoms, loss of ego boundaries, or intense emotions. Flashbacks can last from a few seconds to a few hours. The consensus is that flashbacks are genuine but uncommon disorders that sometimes persist for months or years after hallucinogen use and can cause substantial harm.

Foetal alcohol spectrum disorders (FASD): Refers to a range of behavioural, intellectual and developmental problems that range from mild to more severe.

Foetal alcohol syndrome: The characteristic pattern of retarded growth and development, both mental, physical and behavioural, caused by alcohol exposure in utero.

Gamma hydroxybutyrate (GHB): GHB is a CNS depressant. See the *Framework* document for further information. Common street names include *fantasy*, *grievous bodily harm* (*GBH*), *liquid E*, *liquid ecstasy* and *liquid X*.

Hallucinogen: A mind-altering drug that alters perception, typically by inducing illusions or hallucinations. Hallucinogens can include naturally occurring compounds (e.g. magic mushrooms) and artificial compounds (e.g. LSD) and are usually taken orally. Some psychostimulants may also have hallucinogenic properties (e.g. ecstasy and methamphetamine).

Harm reduction: In the context of alcohol or other drugs, describes policies or programmes that focus directly on reducing the harm resulting from the use of alcohol or drugs. The term is used particularly of policies or programmes that aim to reduce the harm without necessarily affecting the underlying drug use. Harm reduction is the key policy and strategy that has enabled Australia to be so effective in preventing and minimising the spread of HIV through injecting drug use.

Heroin: A natural opiate from the opium poppy (as is codeine and morphine) with street names such as *smack*, *hammer*, *H*.

HBV: Hepatitis B virus

HCV: Hepatitis C virus

HIV: Human immuno-deficiency virus. HIV is a retrovirus that causes Acquired Immunodeficiency Syndrome (AIDS).

IDU: Injecting drug use or in reference to the person who injects drugs. Injections may be intramuscular, subcutaneous, intravenous (IV),

Inhalant: Any of a group of highly volatile compounds or mixtures of compounds that are inhaled for the intoxicating effects. Inhalants are also called solvents or volatile substances.

Inhalant use: Sniffing: inhaling fumes from glue, petrol, paint or other volatile substances (also called solvents) for the intoxicating, mind-altering effects. Inhalant use of paints is often called 'chroming'.

Intoxication: An acute condition of the central nervous system caused by the administration of an ATOD that results in dose related disturbances in the level of consciousness, cognition, perception, judgment, affect (mood), behaviour and or other psycho-physiological functions and responses. These disturbances are related to the pharmacological effects of the ATOD which diminish over time according to pharmacological half life and metabolism.

Kava: A drink prepared from the roots of the shrub *Piper methysticum.* Acute effects include mild euphoria, appetite suppression and sedation.

Ketamine: A dissociative anaesthetic that has stimulant properties when taken in low doses.

Khat: The leaves and buds of an East African plant, *Catha edulis,* which are chewed or brewed as a beverage. Khat is a stimulant with effects similar to those of amphetamine.

Lapse: A brief resumption (e.g. one episode) of ATOD use or increased use where the goal is for controlled use or abstinence.

Loss of control: An inability to modulate the amount and frequency of psycho-active substance use: the inability to cease ingesting substances such as alcohol and cocaine once their initial effect has been experienced. In recent discussions of the dependence syndrome, the term "loss of control" has been replaced by impaired control.

Maintenance therapy: A form of pharmaco-therapeutic treatment for ATOD dependence to prevent the emergence of withdrawal symptoms. It involves the prescription of a substitute drug, e.g. methadone or buprenorphine, which may be prescribed for the treatment of heroin or other opioid dependence (also OST – opioid substitution treatment). Nicotine patches may be prescribed for the treatment of nicotine dependence.

Marijuana: See cannabis.

Methadone: A long acting synthetic opioid used in ATOD treatment settings as a maintenance pharmacotherapy for people dependent on opioids. It is used to prevent opioid withdrawal symptoms and to produce blockade of the opioid receptors to discourage illicit use.

Naloxone: An opioid antagonist receptor blocker used to reverse opioid overdose.

Naltrexone: An opioid antagonist receptor blocker (as well as other receptors, alcohol acts on the opioid receptor) predominantly used to assist in preventing relapse through reducing cravings in alcohol dependent person seeking abstinence.

Narcotics Anonymous: A self-help group, based on the 12-step philosophy of Alcoholics Anonymous, in which participants support each other in recovering or maintaining recovery from opioid dependence.

Neuroadaptation: The process by which the function of the brain cells changes in response to exposure to drugs. These adaptive changes may include increases in the number of receptor sites, alterations in the shape of the receptors, or changes in the chemical functioning of the cell.

Nicotine: The major psychoactive substance in tobacco which has both stimulant and relaxing effects. Considerable neurological tolerance and dependence develop to nicotine.

Opioids: The generic term applied to all psychoactive alkaloids either derived naturally from the opium poppy or their synthetic analogues.

Overdose: The result of a dose of a drug that exceeds the individual's physical tolerance resulting in systems collapse and may be fatal.

Pharmacotherapy: The use of a suitably prescribed psychoactive drug to manage the complications of drug use. This may be for short term relief (e.g. nicotine patches for nicotine withdrawal, clonidine or buprenorphine/naloxone for opioid withdrawal management) or longer term management (e.g. buprenorphine/naloxone or methadone for opioid substitution treatment/maintenance treatment). The use of acamprosate or naltrexone for the medium – long-term management of alcohol cravings after a withdrawal episode is also pharmacotherapy.

Poly drug use: Where a person uses more than one drug, often at the same time or following one another, and usually with the intention of enhancing, potentiating, or counteracting the effects of another substance.

Psychostimulant: Any agent that activates, enhances, or increases neural activity of the central nervous system. Psychostimulants include the amphetamines, cocaine, caffeine and nicotine. This group also includes a range of designer drugs that are amphetamine derivatives such as ecstasy. Some amphetamine derivatives may also have hallucinogenic properties.

Psychoactive substance: A substance that, when ingested inhaled or injected, affects mental processes, emotions and behaviour.

Psychotropic: In its most general sense, a term with the same meaning as 'psychoactive' (i.e. affecting the mind or mental processes).

Rehabilitation: The process by which a person experiencing problems related to their use of ATOD achieves an optimal state of health, psychological functioning, and wellbeing.

Reinstatement: Returning to regular ATOD use following a period of abstinence.

Relapse: In its most general sense, a term with the same meaning as reinstatement.

The term "lapse" is used to refer to single or occasional return to use without full reinstatement of regular ATOD use.

Sedative/hypnotic: Any of a group of central nervous system depressants that can relieve anxiety and induce calmness and sleep.

STI's: Sexually transmitted infections

STD's: Sexually transmitted diseases

THC: Tetrahydrocannabinol is the main psychoactive constituent in cannabis. It has a depressant effect and may induce hallucinations. There are also stimulant effects such as increased heart rate, and paranoia.

Tolerance: A decrease in response to a drug dose that occurs with continued use. Increased doses of the substances are required to achieve the effect originally produced by lower doses.

Tranquilliser: General term for several classes of psycho-active drugs employed to treat symptoms of various mental disorders. They have an inhibitory effect on psychomotor processes without interfering with consciousness and thinking (except at high doses). The term 'tranquilliser' is often used to refer to any drug that is used for treating anxiety disorders. In its most general sense a tranquiliser is a sedative.

Wernicke's encephalopathy: An acute, life-threatening, neurological syndrome. It begins abruptly, usually with eye movement disorders. These include nystagmus (pupil jerking from side to side), gaze palsy (inability of eyes to move in the same direction at the same time) and paralysis of the ocular muscles. It is also characterised by confusion, ataxia (movement disorder), peripheral neuropathy (damage to nerves of the peripheral nervous system e.g. weakness, numbness, pain) and encephalopathy (brain damage). The most common cause of the condition is thiamine deficiency as a consequence of long-term excessive use of alcohol. If not treated immediately with Thiamine, person is likely to progress to permanent amnesic syndrome (Wernicke-Korsakoff's psychosis). Fatality can occur.

Note: Always ensure Thiamine is given before glucose if there is any suspicion or risk of Wernicke's. A large dose of glucose administered to someone with a thiamine deficiency can cause an onset of Wernicke's encephalopathy.

Withdrawal syndrome: Emerges when a person stops or substantially reduces regular excessive drug use that has resulted in neuroadaption of the central nervous system. It is a cluster of defined symptoms that are neurologically or physiologically based. The severity of the withdrawal syndrome depends on the magnitude of the regular dose, half-life of the drug used and time of last dose. The onset of withdrawal syndrome may be delayed in those with severe liver disease. Generally withdrawal symptoms are the opposite of the acute effects of the drug e.g. hyperactivity of the CNS in alcohol or opioid withdrawal may be due to depressant nature of these drugs.

Adapted from:

World Health Organization 1994, Lexicon of alcohol and drug terms, World Health Organisation, Geneva.

Western Sydney Area Health Service 1997, Ordinary people, Western Sydney Area Health Service, New South Wales.

New South Wales Health Department 2000, Alcohol and other drugs policy for nursing practice in New South Wales: clinical guidelines 2000-2003, NSW Health Department, Sydney.

Useful Resources and Information

Aboriginal Sobriety Group (ASG)

ASG is a community-controlled organisation which provides a network of services for Aboriginal people who wish to lead an alcohol and drug 'free' lifestyle. Go to the ASG website for information www.aboriginalsobrietygroup.org.au

ASG Services include:

- Crisis Intervention – Mobile Assistance Patrol
- Assessment, referral & counselling
- Stabilisation – Cyril Lindsay House – Inner City Adelaide
- Rehabilitation – Lakalinjeri Tumbetin Waal – (Near Monarto)
- Outreach Services to Adelaide northern metropolitan and the Riverland.

ADIS 24 hour - Alcohol & Drug Information Service

ADIS is a 24-hour confidential telephone information, advice, self-help resources, brief counselling and support service that acts as a referral service for the general public, concerned family and friends, students and health professionals. ADIS is staffed by experienced professionals and offers a range of drug information and self help resources for the general public and professionals.

Nurses, midwives and other health professionals can access clinical advice through the ADIS service 24 hrs on 1300 13 1340.

Up to date evidence based guidelines and other professionals resources can be accessed through the DASSA website – go to *Professional Resources* page for drug information, best practice monographs and clinical resources such as these guidelines.

Drug and Alcohol Day Centres for Aboriginal people

Pt Augusta	DASSA	www.dassa.sa.gov.au
Ceduna	DASSA	www.dassa.sa.gov.au
Coober Pedy	Umoona Tjutagku Health Service	www.uths.com.au

Drug and Alcohol Services SA (DASSA)

161 Greenhill Road Parkside SA 5063

Phone (08) 8274 3333

DASSA has a network of client services in metropolitan and rural SA.

For up to date information call ADIS on 13 13 1340 or visit the DASSA Website www.dassa.sa.gov.au

DASSA Library & Resource Centre can be accessed by students and health professionals. Call DASSA on (08) 8274 3333 for details.

Mental Health Services [MHS]

- Child and Adolescent Mental Health Services
  Phone (08) 8161 7198
- Human Rights and Mental Health
- Mental Health state-wide 24 hr emergency crisis line
  Phone 131 465
- Multicultural Mental Health Australia
  Phone 1300 136 289
- Rural & Remote Mental Health Services
  Phone (08) 8303 1225 or (08) 8303 1355 (Country areas only)

Mobile Assistance Patrol Services (MAPS)

- Adelaide – Aboriginal Sobriety Group
  Phone (08) 8223 4204
- Ceduna – Ceduna Koonibba Aboriginal Health Service
  Phone (08) 8625 3699
- Coober Pedy – Umoona Community Council
  Phone (08) 8672 5246
- Pt Augusta MAPS – Pt Augusta Council
  Phone (08) 8641 9100
- Riverland MAPS
  Phone (08) 8580 8700

Self help groups

- AA
  www.aa.org.au
- Drug Arm
  www.drugarm.com.au
- Family Drug Support
  www.fds.org.au/
- NA
  www.naoz.org.au

South Australian Network of Drug and Alcohol Services (SANDAS)

(SANDAS) is the peak body for Non-Government Organizations working in the alcohol and other drug field in South Australia. For information about how to contact non government drug and alcohol services go to www.sandas.org.au

Alcohol & Drug Information Service (ADIS)
1300 13 1340 (24 hrs/day)

Contact DASSA ADIS for information about interstate ADIS drug and alcohol information services.

Sobering Up Units (SUUs)

- Ceduna SUU Ceduna Koonibba Aboriginal Health Service
  Phone (08) 8625 3699
- Coober Pedy SUU
  Umoona Community Council
  Phone (08) 8672 5246
- Mission Australia Youth SUU
  Phone (08) 8346 4015
- Pt Augusta SUU
  Phone (08) 8641 9171
- Salvation Army SUU Whitmore Square Adelaide
  Phone (08) 8212 2855

Blood Borne Viruses

Reliable services and community consumer groups concerned with blood borne viruses can be found in local service directories, and include the following:

- Australasian Society for HIV Medicine (ASHM)
  Phone (02) 8204 0700
- Hepatitis C Council of SA
  Information and Support Line
  Phone (08) 8362 8443 or 1800 021 133 for rural callers
- MOSAIC
  Free counselling available for people with hepatitis C. Telephone counselling is also available for people in rural areas.
  Phone (08) 8223 4566
- PEACE
  Multicultural HIV & Hepatitis C Services
  Phone (08) 8245 8100
- The AIDS Council of SA Inc.
  Phone (08) 8334 1611

Useful Websites

- Australian Drug Foundation
  Phone 1300 85 85 84
- Offenders Aid and Rehabilitation Services of SA (OARS)
  Phone (08) 82180700
- QUIT smoking
  Phone 13 7848

Peer reviewed journals

- Drug and Alcohol Review
- ANZ Journal of Public Health
- Mental Health and Substance Use: dual diagnosis

Professional Resources

- Alcohol Treatment Guidelines for Indigenous Australians
  www.alcohol.gov.au/internet/alcohol/publishing.nsf/Content/AGI02
- Australian guidelines to reduce health risks from drinking alcohol
  www.health.gov.au/internet/alcohol/publishing.nsf/Content/guidelines
- Australasian Society for HIV Medicine HIV, viral hepatitis and STIs - a guide for primary care providers
  www.ashm.org.au
- Guidelines for the treatment of alcohol problems
  www.alcohol.gov.au/internet/alcohol/publishing.nsf/Content/treat
- Guidelines on the management of co-occurring alcohol and other drug and mental health conditions in alcohol and other drug treatment settings
  www.ndarc.med.unsw.edu.au/
- National Comorbidity Initiative
  www.health.gov.au/internet/mentalhealth/publishing.nsf/Content/drug-alcohol-mental-illness-1
- National Health and Medical Research Council (NHMRC). Consensus-based clinical practice guideline for the management of volatile substance use in Australia, 2011.
  www.nhmrc@nhmrc.gov.au
- National Health and Medical Research Council (NHMRC) Clinical Practice Guidelines Portal and Register
  www.clinicalguidelines.gov.au
- Responding to challenging situations related to the use of psychostimulants: a practical guide for frontline workers
  www.nationaldrugstrategy.gov.au/internet/drugstrategy/Publishing.nsf/content/id-chall
- Treatment Approaches for Users of Methamphetamine
  www.nationaldrugstrategy.gov.au/internet/drugstrategy/publishing.nsf/Content/id-tremeth

Relevant services and community groups

- AIDS Council
  www.acsa.org.au
- Alcohol and drug information services – SA
  www.wwda.org.au/portalc.htm#sa
- Alcohol and Drug Information Service (24hr phone line for general public and clinicians)
  www.dassa.sa.gov.au
- Anxiety Support Groups
  www.anxietyaustralia.com.au/support_groups/south_australia.shtml
- Australian Institute of Health and Welfare (AIHW)
  www.aihw.gov.au
- Beyond Blue
  www.beyondblue.org.au/index.aspx
- Blackdog Institute (depression and bi-polar disorder)
  www.blackdoginstitute.org.au
- Carers Association
  www.carersaustralia.com.au
- Drug and Alcohol Services SA
  www.dassa.sa.gov.au
- Family Drug Support SA
  www.fds.org.au/famsupport.html
- Hepatitis C Council SA
  www.hepccouncilsa.asn.au/
- Mental Health Advice Line (national for health professionals- 24hrs)
  www.health.vic.gov.au/mhal/professionals.htm
- Mental Illness Fellowship of Australia
  www.mifa.org.au/
- Mental Health Council of Australia
  www.mhca.org.au

- Minda
  www.mindaustralia.org.au
- National Cannabis Prevention and Information Centre (NCPIC)
  www.ncpic.org.au/
- National Inhalants information services
  www.inhalantsinfo.org.au
- Orygen Youth Health (Mental Health)
  www.oyh.org.au
- Panic Anxiety Disorder Association
  www.panicanxietydisorder.org.au
- SANE
  www.sane.org/

List your own contact numbers

[Please use this page to record contact details of services in your area].

Section 1
Basis for practice

1.1 Alcohol, Tobacco and Other Drug use

Introduction

This section presents an overview of alcohol, tobacco and other drug (ATOD) use in the context of Australian society and how we can assist people whose health is at risk or adversely affected.

Alcohol, tobacco and other drug (ATOD) problems affect individuals from all sections of society regardless of their ethnicity, social, cultural and educational background, religion, gender or age. It is important to recognise that ATOD use is common and those who use may be impacted by the ignorance and prejudice of other people. Assumptions about those who use ATOD's are often founded on myths, stereotypes, media images or another's particular experience. People who use ATOD's are not a homogeneous group and the reasons for commencing ATOD use and continuing to use are varied and for some people.

It is therefore necessary for all nurses and midwives to act to prevent and reduce the harms associated with ATOD use resulting from intoxication, withdrawal and dependence, and associated physical and mental health issues.

Poly drug use

People who use ATODs commonly use more than one type on the same occasion or at different times. Reports of single drug use are rare.

Prescribed and over the counter medicines, as well as alcohol and other psycho-active drugs – legal and illegal – all have the potential to interact. Drug interactions can occur in two major ways:

Pharmacokinetic: when changes take place in the absorption, distribution, metabolism or excretion of the drugs.

Pharmacodynamic: changes in the effects of drugs.

Drug interactions can reduce, increase or alter the effects of drugs and occur through four actions. These are:

Addition: the effects of two drugs are combined to produce a total effect which is greater than either drug alone.

Potentiation: increased activity of the first drug is caused by the second drug which is itself inactive.

Synergism: two active drugs have a greater combined effect than simple addition.

Antagonism: the second drug cancels some or all of the effects of the first drug so that the overall effect is less than the effect of the first drug alone [7].

The dangers of poly drug use include increased risk of:

- overdose
- toxicity
- adverse drug reactions
- medical conditions not responding to prescribed medications
- intoxication and subsequent effect on performance being greater than anticipated for the amount of ATOD's used
- increased or decreased duration of effects due to altered metabolism
- false sense of competence, e.g. when caffeine and alcohol are used together a counteraction of the CNS depressant effects from the stimulant effects leading to impaired performance such as driving safely [7].

Poly drug use and its risk factors should be considered at all times when assessing and responding to a person affected by ATOD's.

Patterns of ATOD use

People who use ATOD's may have started to use experimentally. Some may continue occasionally at levels that may or may not be risky, or more regularly. For example, a person may enjoy the effects of a particular drug because it helps them to feel less shy and more confident socially or eases their physical or emotional pain. The person may not perceive their drug use as risky or harmful to their health or safety.

There is a spectrum of ATOD problems that are directly related to the pattern of consumption. This ranges from 'once off' intoxication, to binge drinking/drug use, regular high risk use, and dependence (addiction).

A minority of people who use ATOD's regularly have an increased risk of psychological and physical problems [8]. Most people can identify the positive effects related to their ATOD use, as well as any negative effects. Many 'move in and out' of their various patterns of ATOD use according to their life context, of their use, motivation to use or not, and what else is happening in their lives. Their environment and stage of maturation as an adult are very influential.

Clear distinctions between experimental, occasional and dependent use can be difficult to define. It is helpful to focus on problem use (including physical, social, psychological and/or legal problems), the method of use (route of administration), and dependence (addiction).

Myths

Some people judge another according to their ATOD use, judging them as 'bad' and therefore less worthy as another.

Some common myths are:

'Addicts are beyond help'

Many people who experience ATOD dependence (addiction) can (and do) modify or cease their harmful ATOD use, often without professional help. They may move away from use altogether, which may happen over time and as their situation supports this change. They may choose to be abstinent or to reduce their ATOD consumption to a safer level which they can control.

'It is someone else's problem'

Nurses and midwives are in ideal settings across the health system where they can help to address ATOD problems, rather than leaving this solely to the 'specialists' [9, 10].

'People with ATOD problems are 'hopeless'

Most people with ATOD problems have or want to have jobs, manage their households, raise children, and meet a range of responsibilities.

'All people who use drugs are dependent'

Many people use ATOD's, at lower risk levels, and while they may experience problems (such as intoxication), it is a much smaller proportion of people who become physically and psychologically dependent[11].

1.2 Harm minimisation

Introduction

All nurses and midwives are well placed to identify risks or harms associated with people's ATOD use. Their role, knowledge, skills, opportunities, scope of practice and sheer numbers enable them to apply a range of harm minimisation strategies and interventions that can reduce risk and to enhance safety and wellbeing.

What is harm minimisation?

The concept of harm minimisation, and its various practical applications, is based on the acceptance that ATOD use exists, is likely to continue despite prohibition, and is widespread across all levels of the Australian and international community. This concept does not preclude abstinence.

There are three broad strategies (pillars) of the overarching principle of harm minimisation. These are:

- harm reduction
- demand reduction
- supply reduction.

The harm, demand and supply reduction approaches do not accept or encourage unsafe ATOD use or in any way abandon the goal or importance of abstinence. It simply means that abstinence is one of a range of strategies and therefore not the only goal a person may have in relation to managing their ATOD use.

Harm reduction

Harm reduction is aimed at reducing the impact of ATOD-related harm to individuals and the community through a range of public health policies, strategies and practices.

Harm, reduction strategies aim to:

- address the harms associated with ATOD use including those related to the drug, dose, duration and frequency of use, method of administration, concurrent drug use e.g. poly drug use, physical and psychological health, nutrition, hydration and sleep status and the persons expectations of effects and the environment in which drugs are used [12, 13]
- recognise that people have different goals and that abstinence is not the only option
- are applicable to all persons presenting to services due to high risk and rates for lapses and relapse [14].

Harm reduction strategies include:

- assessing and addressing people's ATOD use problems at each possible point of contact in the health system (such as in emergency departments, pre-admission clinics, other specialist health units such as diabetes clinics, midwifery services, STD clinics, heart clinics, adolescent and adult mental health services)
- providing clean injecting equipment (such as disposal units, needles, syringes, alcohol swabs, water)
- providing information to the community about how to access confidential clean needle and syringe programs; and how to safely dispose of used injecting equipment

Provision of information about ways to:

- prevent and reduce risk of overdose from the use of opioids and combinations of drugs
- how to use safe, sterile injection techniques to avoid vein damage, infections that can cause abscesses and septicaemia
- prevent injection of foreign bodies
- ensure inhalation of fresh air if using inhalants
- avoid blood borne virus (BBV) infection, by always using new equipment and never sharing any injecting equipment including tourniquets and spoons, and choosing less risky methods of use.

Demand reduction

Demand reduction is aimed at removing the demand for drugs through e.g. education, community awareness and media campaigns and prevention programs.

Demand reduction strategies include:

- mass media safety campaigns to raise awareness of risk factors from drink/ driving; binge drinking, smoking, or injecting drugs
- educating communities about the risks associated with ATOD use
- health promotion campaigns to inform and prevent uptake of tobacco smoking by children and young people, alcohol use by teenagers, risks from drink spiking,
- promoting low alcohol drinks as a safer alternative to drinking full strength drinks
- providing access to abstinence-based support services (such as therapeutic communities or self-help programs like Alcoholics Anonymous - AA, Narcotics Anonymous - NA, Marijuana Anonymous – MA and counselling)
- providing access to pharmacotherapy services to treat opioid, alcohol and tobacco dependence

- providing access to specialist ATOD services for detoxification, therapy and rehabilitation.

Supply reduction

Supply reduction is aimed at reducing the supply of ATODs through legislation, public policy, customs procedures and policing.

Supply reduction strategies include legislation such as:

- Laws e.g. The Controlled Substances Act; Tobacco Advertising Act; Road Traffic Act
- random breath alcohol and drug testing and criminal penalties to prevent dangerous drink and/or drug-driving)
- prohibition of tobacco advertising
- prohibition on selling alcohol or tobacco to minors under 18
- limiting opening hours of hotels and clubs that sell alcohol.
- restricting particular types of drugs to prescription only
- customs and policing to detect and prevent importation, production, availability, supply or sale of illicit drugs.

1.3 Non-judgemental care

People who use ATOD's can be stereotyped by others. If clinicians hold such stereotypes, they cannot have an accurate picture of the diversity of people who, for a variety of reasons, experience problems associated with their ATOD use.

Incorrect beliefs or information can lead to ongoing stigmatisation of people, resulting in them being reluctant to seek help. For clinicians to be effective, ATOD use needs to be viewed and responded to as the health issue that it is.

Barriers to people seeking help

There are a wide variety of reasons why individuals, families and communities do not or cannot seek help for problems associated with their ATOD use.

Some are:

- fear of professional judgments (such as being seen as an 'unfit parent' or not considered as deserving of a hospital bed as another person who has a 'legitimate' condition)
- inconvenient opening times of specialist services (such as poor access to care by people who work, have children or live far away)
- money problems
- culturally unsafe services that have not been designed to meet the needs of culturally and linguistically diverse persons and their families (including Aboriginal and Torres Strait Islander peoples, migrant groups and 'same sex' couples)
- fear of being labelled a 'junkie', ' addict' or 'alcoholic'
- fear of lack of confidentiality (such as their employer, family member/s or members of their local community finding out about their ATOD problem)
- age (most ATOD services are unable to address the needs of people under 16 years of age or older people such as those 60 years or more)
- gender (there are few services designed to meet the needs of women or that accommodate children with their parents who are seeking specific ATOD treatment)
- fear professionals including nurses and doctors who have ATOD problems affecting their work often fear recognition, loss of job and being judged by colleagues and supervisors.

Engaging people in treatment and care

Nurses and midwives can offer effective care by ensuring people at risk of ATOD problems understand what treatments are available, the services which can assist them, and how to accessing these. People need to know what to expect from services e.g.:

- type of care/program offered
    - ‘live-in’ or community based rehabilitation
    - ‘abstinence only’ rehabilitation programs
    - community based program
- where it is situated
- if family can be involved
- visiting hours
- counselling
- ‘talking therapies’
- medically supervised withdrawal (detoxification)
- pharmacotherapy e.g. methadone or acamprosate medication
- comorbidity care.

To provide this information nurses and midwives need to know about:

- services provided
- location and hours of operation
- eligibility criteria
- visiting hours
- access to child care and acceptability of live-in children with parents receiving treatment)
- involvement of family and access to family support whilst in treatment [11, 15-17].

1.4 Understanding ATOD problems

Theories

Knowledge of the key theories that underpin our current understanding about ATOD problems offers a useful basis for determining what may be happening in a person's life, their drug use situation, and why particular clinical interventions and treatment programs are likely to be helpful.

Over the last 50 or so years, varied theories on the nature and aetiology of ATOD problems have developed. These were generally culturally-bound and not necessarily evidence-based. Table 1.3 on the following page describes the main theories.

The table shows different ways of considering ATOD problems. Current research supports the view that ATOD use is common; problems are varied in severity and likely outcomes, and may be a one off event, transient, complex or lifelong. We know that ATOD problems are influenced by factors relating to the individual person, the pharmacology and pharmacokinetics of the drug, cost, availability and legal status of the drug used, and the context of their ATOD use.

The following two models offer ways of understanding the types of problems people experience. The first, Thorley's model, represents the spectrum of alcohol problems. The second, Zinberg's interactive model of the drug use experience. These form the basis of the ATOD assessment and interpretation of the key issues that arise from that assessment. They can therefore inform the choices of interventions and pathways of care we can offer.

ATOD use can be relatively safe depending on the age, gender and general health status of the person, pattern and context of use, purity and type of drug/s used, frequency, dose, route of administration, expected effects and drug use environment.

ATOD use is not necessarily harmful. It can be non-problematic, e.g. intoxication can occur without harm, regular use can occur without being excessive and dependence can occur without harm [8].

Table 1: Summary of common theories of ATOD use

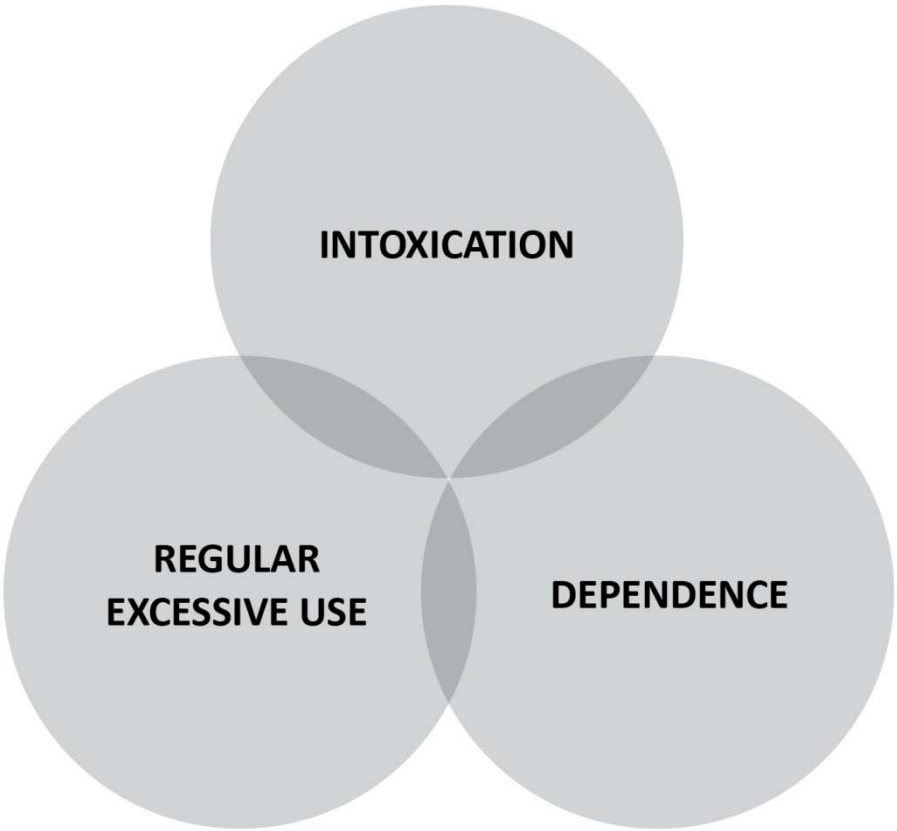
	Moral	Disease	Symptomatic	Learning	Social
Aetiology	Weak or bad character	Biological factors, possibly genetic	Another primary mental health problem	Learned, behaviour disorder	Environmental factors
Focus of treatment	Control of behaviour through deterrent or punishment	Abstinence to stop progression of disease	Improved mental functioning	Learning behaviour alternative to or incompatible with harmful ATOD use	Improved social functioning
Advantages	Responsibility for change lies with person	Not blaming or punitive	Not blaming or punitive. Emphasis on importance of diagnosing and treating co-existing mental health problems	Not blaming or punitive. Holds user responsible for new learning	Easily integrated into other models
Disadvantages	Punitive	Absolves person's responsibility for change. Ignores psychological cultural and environmental factors	Implies treatment of mental health problem is sufficient	Tends to ignore personality—disabling consequences of excessive ATOD use and irrationality of human beings	Implies change of social situation is sufficient

[Checinsk 1996 in 15]

Model 1: Spectrum of alcohol problems (Thorley's model)

Thorley developed a system representing the spectrum of alcohol problems based on the incidence, magnitude and characteristics of health problems associated with patterns and levels of consumption across the UK population [8]. The majority of alcohol related deaths, injuries and illnesses were associated with intoxication and regular excessive use (too much too often – tolerant but are not psychologically dependent. Only about 10% of problem drinkers experience physical and psychological dependence.

Figure 1: Spectrum of problems and examples of types of associated problems



[8]

Problems arising from intoxication

Intoxication can be life threatening. It is associated with 'once off' use, binge drinking, recreational drug use, injecting drug use, infrequent or sporadic use of combinations of drugs including medications. Problems may include:

- toxicity
- accidental injury/trauma
- headaches
- nausea/vomiting
- drowning
- overdose
- dehydration
- hypothermia
- poor problem solving
- absenteeism
- choking
- work problems
- violence
- interpersonal problems
- memory loss
- unsafe sex
- unplanned polydrug use
- legal issues/crime/drink driving.

Problems arising from regular excessive use

Regular excessive use is typified by daily or almost daily use where the level of consumption is above low risk levels. This pattern related to short and linger term harms to safety and health. For example exceeding 20gms of alcohol (two standard drinks) a day for healthy adult men and women who are not pregnant [77]. This applies even though the person does not exhibit intoxication due to neurological or physical tolerance, in which case they would need higher doses to reach the same intoxicating effect they had when they first started using the substance.

Pattern of regular excessive use can be associated with short-term memory problems, sleep disturbance, poor work performance, social problems with friends and/or family, poor general health including mental health issues and financial problems. Even though the person is not psychologically dependent, they may experience the withdrawal syndrome if they cease or drastically reduce the amount used due to neuro-adaptation of the central nervous system to the dose and frequency of use.

Withdrawal may occur, possibly for the first time, during an admission to hospital for an injury or treatment of a medical condition, and may not be predicted by either the person themselves or the medical and nursing team unless the person's ATOD history is taken.

Regular excessive use can result in:

- acute and chronic problems such as organ damage, heart disease, kidney disease, infections, diabetes, high blood pressure, stomach disorders, liver damage, brain damage
- nutritional/weight problems
- financial problems
- memory problems
- difficulty learning new tasks
- psychoactive drug tolerance and neuro-adaptation
- poor work performance/attendance
- comorbidities e.g. diabetes, mental health disorders
- sleep disturbances
- social and relationship problems
- cognitive difficulties e.g. learning, organising and problem solving
- mood swings
- psychoactive drug withdrawal.

Problems arising from dependence (physical tolerance and psychological reliance)

Dependence (addiction) can range from mild to severe. The more severe the persons level of dependence, the greater their risk is of it becoming a chronic relapsing condition. On the other hand, despite this complexity, people may and do recover from dependence.

Dependence is often associated with acute and chronic health and social problems. It is almost always associated with the physical withdrawal syndrome when the ATOD is ceased or if the reduction in consumption is significant. It is also usually characterised by craving and a compulsion to resume use. Resumption of the drug of choice will prevent or ameliorate withdrawal and may be the motivation for resumed consumption.

Dependence therefore involves taking larger doses (amounts) over a longer time to gain the same wanted effect (increased physical tolerance) and withdrawal is induced by cessation or reduction of the dose (amount) used.

Signs of dependent use include:

- use to avoid withdrawal
- craving
- preoccupation (salience) with use
- lifestyle accommodates and is focused on use
- narrowed of repertoire of daily activities and social interaction
- reinstatement of previous harmful patterns of use in a short time after a period abstinence.

The dependent person may continue to use despite problems such as:

- physical illness (e.g. cancer, heart disease, liver disease, pancreatic or kidney disease)
- mental health problems including depression, anxiety, panic attacks, social and interpersonal problems
- legal issues
- poor employment opportunities
- financial and housing problems
- vocational problems.

It is important to recognise the person's current pattern of use and how this relates to the situation regarding their health and wellbeing. Interventions should be selected to match as best as possible their needs including pattern of use and the nature of their problem.

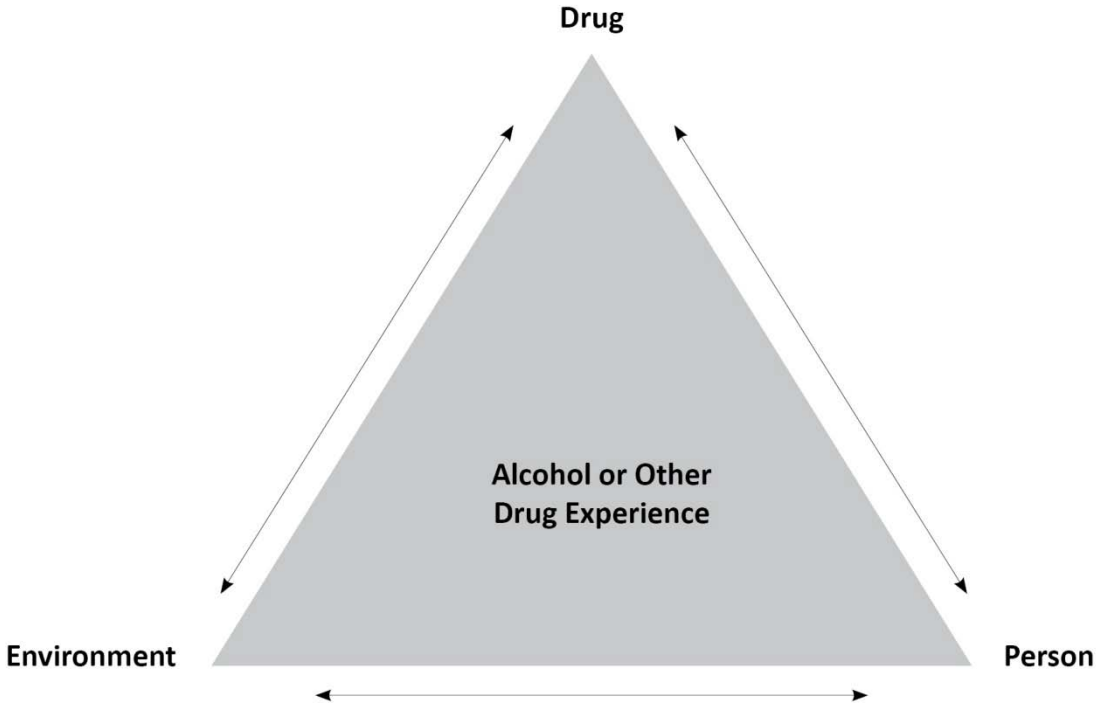
For example, it is pointless prescribing a 12-step abstinence program to a young adult whose pattern of use is binge drinking occasionally, even if they have just experienced an alcohol-related injury. On the other hand, it is equally pointless to advocate a controlled drinking program for a person who is drinking at harmful levels and has multiple health and social problems including cognitive deficits, caused by drinking.

Model 2: The interactive model of the ATOD use experience

The interactive model of the drug use experience [1] is useful in understanding the aetiology and nature of people's ATOD problems. This is because the ATOD use 'experience' is influenced by the dynamic interactions between the person, the particular ATOD's they use and the environment (context) in which this occurs.

This model provides an excellent framework for screening, assessment, interpretation and diagnosis of problems, and selection of appropriate interventions for the individual person.

Figure 2: The interactive model of the ATOD use experience



[1]

Integrating the models in practice

These models are widely accepted in this field as useful and highly relevant. They are used to inform Australian government ATOD policies, health promotion strategies, harm reduction programs and assessment and interventions for people with ATOD problems.

Clinicians can benefit greatly from integrating these models into the ATOD clinical assessments, interventions and prevention strategies for their clients.

Section 2
Client Care

2.1 Communication and cultural issues

Introduction

Effective communication, which is clear and non-judgemental, assists in building rapport and developing a sense of trust in people. This is the key to undertaking a quality assessment, understanding the person's major issues, and managing ATOD-related problems, including any concurrent physical or mental health problems.

The Australian community comprises people from diverse cultural and linguistic backgrounds. The nursing and midwifery professions have made explicit their ethical views regarding the need for non-discriminatory policies and practices in delivering quality care to all people.

Across all Australian state and territory governments, there is the expectation that people will be treated with fairness and dignity. Therefore nurses and midwives have the responsibility to ensure that people of culturally and linguistically-diverse backgrounds that have ATOD problems are shown respect and treated equitably and with dignity.

As primary service providers, nurses and midwives often provide the link between the person, other members of the multidisciplinary team, their person's family, and other service providers, including specialist ATOD services.

General principles of communication

ATOD use is a health issue, not a moral issue. Whatever their age or circumstances, a person's recent ATOD use history should be taken as part of the general routine clinical assessment - not only if they have been identified as a 'likely' or are suspected or known to be a person with ATOD problems.

Cultural and linguistic diversity can make communication difficult. Use of culturally-appropriate interpreters, including Indigenous interpreters, is essential to overcome potential barriers.

Clinicians need to be clear and straightforward about who they are, their name, their role, what they need to know from the person, and why they are asking about ATOD use.

Clinicians need to attend to the person's immediate concerns before trying to address sensitive issues that may be, at the time, less important to the person themselves. This includes their ATOD problem.

Clinicians need to listen to what the person wants, why they may be worried and what they believe will help them. This communication can only happen if rapport and a sense of trust have been developed. Clinicians need to show their concern about the person's ATOD use problems without prejudice.

Improving cross-cultural communication

Effective communication with people from diverse cultural groups is crucial in understanding and responding to their ATOD issues.

It is important to note that there can be cultural differences within particular groups in any community, including children, young people, old people, women and men. Nurses and midwives providing services to diverse groups need to liaise and consult with bona fide cultural and bilingual workers, trained interpreters and liaison staff to enhance the likelihood of timely and sound assessment, problem identification, intervention and appropriate referral.

People from diverse cultural groups may interpret your requests differently from what you expect. Particular words, beliefs and expectations may not reflect that of your particular role or service. Their ATOD and other health-related beliefs, experiences, knowledge and contexts may also differ from those of other people.

The following suggestions are helpful when working with people from culturally and linguistically diverse communities (CALD):

Use approved interpreter services

When there are spoken and/or written language difficulties, it is very important to use a professional interpreter service. Relatives, friends or untrained staff may inhibit the person's options of what they can talk about and may raise concerns regarding confidentiality. It is best to avoid using family or friends as interpreters wherever possible.

Emphasise description rather than interpretation or evaluation

Interpreting or evaluating what someone has said or done—rather than simply describing it—is based more on the observer's own culture and background than on the actual observed situation. Suspend judgement so that you have sufficient time to observe and interpret the situation from the person's (and family's) different cultural perspective.

Empathy

Before communicating with the person, put yourself in their 'shoes'. Ask yourself what their experiences and frames of reference might be, and how you might feel if you were them. Try to see the other person as they are, not what or whom you think they may represent.

Ongoing evaluation of assessment and care

Once we have identified and developed an explanation of the ATOD problem/s (such as homelessness and alcohol dependence), we need to treat our interpretation as a 'working' diagnosis that needs to be reviewed effectively in a timely manner, and revised and adapted as necessary. Through seeking feedback from the person, and family if appropriate, interpreting their responses to our diagnosis, care and interventions, we will be better placed in offering effective strategies and assisting them to overcome, or at least minimise, their problems.

Being clear, concrete and specific

If culturally appropriate, communicate as directly, clearly and specifically as you can. This may be between you and the person or through an interpreter. This approach will aid your communication and encourage the person to feel that they will be respected by you. Encourage the person to be concrete in their explanations and specific in their responses to your efforts.

Responding with immediacy and timeliness

When people first meet us they need us to respond directly to them as individuals, to help them feel accepted, to listen to their concerns, and give assurance that we will try to meet at least some of their immediate needs. Once their confidence is gained and they are feeling more at ease, we are in a better position to assess and address any ATOD issues they are experiencing.

Respecting taboo

ATOD issues may be taboo in particular cultures, families or generations. If so, it is important to find ways to raise and address these issues, and find how and when this is appropriate. We need to help people to speak about their ATOD use and related issues, if at all possible, in ways that they feel most comfortable. The age and gender of the nurse or midwife may inhibit or assist in this process, and so it is important to try and ascertain whom they would feel most comfortable talking to if this is an option. Seek guidance from appropriate cultural and other advisers, trained interpreters, or a suitable family member or trusted friend, if available.

Sensitivity to embarrassment

Showing other people that things are 'normal' when this is not the case is a common way for people to deal with their ATOD problems.

Many people are too embarrassed to report that they or a family member needs help with their ATOD-related issue. They feel ashamed and they will be judged by health professionals and others. Often the person has had previous experiences that have made them feel embarrassed or demeaned or they may know of situations of friends and family members that have resulted in shame.

Parents and close family members may feel that it is only 'other people's children' or those from other cultural communities who use 'drugs'. It is important for nurses and midwives to acknowledge that people from all communities use drugs, whether they be medicines, tobacco, alcohol or illicit substances, and that young people and adults from any community can experience the risks and harms associated with intoxication, regular excessive use or dependence.

Health professionals need to provide an atmosphere in which people can reveal and discuss sensitive issues knowing that their experiences will be listened to and validated and that their confidentiality will be maintained.

Examining one's own expectations

It is useful for us to examine and define what we actually expect of the person who has an ATOD problem. By honestly clarifying our own feelings, beliefs, attitudes and responses towards the other person with ourselves, we can then act to prevent our behaviours impacting negatively on them.

Working effectively with Indigenous People

Rationale for using the term Indigenous Australians

For the purposes of this resource, we have chosen the term *Indigenous Australians* as a way of acknowledging all Australian Aboriginal, Torres Strait and Tiwi Islander Peoples. We are, however, aware that this terminology has limitations and ask readers to respectfully use locally preferred terms in their practice [18].

Background

All groups in the Australian community, including Indigenous Australians, share common historical and contemporary issues associated with colonisation and racism, while also having diverse cultures, language, practices and beliefs.

Most Indigenous people live in urban and semi-rural settings, with fewer living in remote areas. The reasons and ways in which Indigenous people do or do not use particular ATOD's are affected by their e.g. location, social and economic situations, physical environments, living conditions, access to education, training and employment and other essential resources, all of which are major social determinants of health and well being.

Significantly fewer Indigenous people per capita consume alcohol or other drugs compared with other Australians. However smoking rates of tobacco are high with about 50% of Indigenous people smoking about double the rate of non-Indigenous Australians [19].

Putting Indigenous ill-health in context

Indigenous people in Australia have, on average, 17 years less life expectancy than do non-Indigenous Australians due to an array of acute and chronic physical diseases, injuries, poor mental health and suicide.

Inquiries into Indigenous Australians' health have repeatedly recognised the detrimental effects of dispossession and alienation on the health and wellbeing of many Indigenous Australians. Grief, trauma and loss must therefore be recognised by all health professionals, wherever they work, as powerful contributing factors to the much lower health and socioeconomic status of Indigenous Australians, including those who use alcohol, tobacco and other drugs (ATOD) as they are often using ATOD's to relieve their grief and suffering [20, 21].

Indigenous people are commonly affected by co-existing - more than one illness (comorbidity) [22]. Compared to the general population, Indigenous people are:

- at least eight times more likely to develop cardiovascular disease
- between two and four times more likely to develop diabetes
- eight times more likely to die from chronic kidney disease [23].

Effects of previous contact with health and other institutions

Many Indigenous people (and/or their loved ones) have had bad experiences in hospitals and other institutions when in 'care' of doctors and nurses. These experiences include a loved one dying away from home (country), having their babies taken away, being kept in separate facilities from family members, being segregated from 'white' people or being given medical treatment without explanation or having given proper informed consent.

While many incidents such as these have continued to happen over the years since colonisation, non-Indigenous people may view them as past history and not relevant today. However, distress and the aftermath of incremental trauma, loss and grief are long-lived across today's generations. And inappropriate practices still occur resulting in enduring trauma and harms.

Many non-Indigenous health professionals are not aware of how government health, social, housing, child protection and other policies have been directed at Indigenous people, and may still believe that 'the past is best forgotten'. However, the history of these policies, and their continuing impact, has a very definite bearing on the way Indigenous people interpret and respond to their current and future experiences in the health care system. There can be a justifiable 'residue of suspicion' among Indigenous people towards non-Indigenous people who are seen to be 'in authority', including nurses, midwives and doctors [24].

Thus all nurses, midwives and other health professionals need to be aware of how institutional racism has impacted, and continues to impact, on Indigenous Australians. They need to make sure that they offer services that are accessible, respectful and sensitive to all Indigenous people however they present or whatever their health condition [25].

Continuing ill health and hospitalisation

Indigenous people have the worst health status of all Australians and most others in the world [26]. Their use of hospital outpatient and emergency departments is more frequent than that of non-Indigenous people, with Indigenous people being about three times more likely to use public or regional hospitals and outpatient services than a family doctor's surgery. This is often because the hospital is the only service available to them, it's free, or there is no general practitioner nearby.

Indigenous people are admitted to hospital between 1.6 and 3.2 times more often than other Australians, meaning that they are more likely to have experienced medical

interventions (and therefore have been at high risk of having had bad experiences in hospital) than other Australians [24]. The poor levels of social and emotional wellbeing of Indigenous people is a direct reflection of their overall status in society, worsening health reflected by the highest morbidity and mortality rates and shortened expected life span compared with non-Indigenous members of our community [22, 27, 28].

How hospitalisation may be understood

Many Indigenous people experience multiple losses of loved ones and accumulative grief throughout their lives, including being seriously ill, being incarcerated in prison or mental institutions, or being a member of the 'stolen generations'. Loss of children to 'white man' has been devastating and adversely affects how Indigenous people view all institutions, including hospitals, other health care and social services, and those who work in them.

The clinical atmosphere and abrupt interactions of staff in hospitals and other medical settings can therefore be strong barriers to Indigenous people trusting and feeling able to present for or receive health care [24].

Fear as a barrier to effective health care

Indigenous people commonly fear being in hospital and separated from their families and community. Not understanding the medical or English languages influence the way in which many Indigenous people perceive and fear hospitals and hospital staff. They may not understand what is happening to them, misinterpret the intensions and practices of nurses and others, and have no or little knowledge of their medical problem/s or subsequent medical or nursing procedures.

Because our verbal and non-verbal language is culturally defined, it can be unclear and easily misunderstood. Some communication may be perceived as threatening by Indigenous people, further exacerbating their anxiety and making them even less able to communicate.

As with anyone, an Indigenous person's fear can manifest as anger, terror or apparent unwillingness to 'cooperate' in the situation, leading to further problems and misunderstandings. It is therefore doubly important to use effective interpersonal skills and to try and offer a culturally-safe environment wherever possible.

While fewer Indigenous people drink alcohol than non-Indigenous people, those who do tend to drink at high risk levels resulting in serious injuries, violence and ill-health. It is also linked with mental health problems, including suicide [29, 30]. Indigenous youths are nearly 2½ times more likely to die from alcohol-related causes than their non-indigenous peers [20]. Co-existing, and multiple, mental and physical health conditions are common amongst even young people. All Indigenous people need to be screened and assessed for their ATOD use and risk, so that their needs are attended to when they present to hospital or other health services [22, 31, 32].

Communication

As with all groups, effective communication between Indigenous and non-Indigenous Australians is essential for sound health assessment and care, and this should never be disregarded by anyone working within health care services [33].

Indigenous Australians are diverse in their cultures, histories and life experiences with each person's experience being unique. Indigenous people hold particular cultural concepts of health and illness, and their family structures and gender roles have a strong impact on their understanding of what is happening to them, and those who are there to assist in the recovery. Also while English is the dominant language in Australian health care services, there are significant numbers of Indigenous people for whom English is not their first language, and this issue needs to be addressed in any health care encounter.

As with any acute brain condition, intoxication from alcohol and/or other drugs means that the person's mood, cognition and perception are affected and communication is an even greater challenge.

The basic principles of communicating with Indigenous people should therefore be the same as for any cultural group. This means that showing respect and finding ways and resources to ensure accurate information sharing and comprehension occur is essential.

Here are some useful factors to keep in mind:

- Today's ATOD problems are directly linked to many Indigenous people's history and ongoing experiences of colonisation; 'stolen generations', racism and social, cultural and economic disadvantage.
- A basic understanding of the local culture and community's expectations of ATOD issues and health care is advisable for health professionals. They need to consult with and learn from local Indigenous leaders and organisations as a matter of practice.
- Indigenous people's understanding and experiences of health are holistic, therefore holistic health approaches are needed for effective assessment and treatments of their ATOD problems.
- No single approach to alcohol problems is necessarily an appropriate remedy - 'no one size fits all'.
- Individual and community responses to ATOD problems need be based on partnerships between the person, community, health professionals and services.
- Any individualised therapy or community-based response needs to be conducted in the context of each individual's needs, and where possible, also with their chosen family members.
- Careful use of verbal and non verbal - body language - is a necessary way to show respect for an Indigenous person.

- Early intervention, treatment, self-management and prevention approaches need to take into account that Indigenous people's drinking may be their way of coping with their trauma and suffering, and nurses and other health professionals need to avoid blaming and shaming the person for their problems [18].
- Health professionals, individuals and their families need to know that of all risky drinkers; Indigenous people are more likely to give up 'the grog' than non Indigenous Australians.
- Indigenous people need to know that smoking tobacco is a major cause of disease and early death of many; that smoking rates are far higher than the non Indigenous population; and there needs to be significant reduction in smoking rates for Indigenous people's health to improve.
- Much can be done to help Indigenous people overcome their drinking, smoking or other drug use through pharmacotherapy, counselling, non medical therapies and supports for recovery - as a realistic goal.

Communication suggestions

Here are some ways in which to communicate effectively with Indigenous people:

- Remember that Indigenous people consider themselves to be inseparable from their family—this means you are caring for the whole family, not just the individual.
- Enlist the help of an Indigenous liaison officer in the care and discharge planning for your person, and seek their advice and assistance wherever possible in regards to meeting the person's needs (providing they have given their informed consent).
- Be friendly and empathic, and do not call the person by their first/given name unless they have requested you to do so or you have specifically sought their permission and they have agreed.
- Ensure confidentiality when talking about ATOD and other sensitive issues. If a family member or friend is with the person it is likely that this has been pre-arranged and culturally suitable. If unsure ask your client discreetly if they would like to be together or alone at this time.
- Be welcoming to family members.
- Show respect by treating the person and family as you like to be treated.
- Smile and present yourself in a confident, friendly and professional manner.
- Take enough time to introduce yourself, explain the nature of your service and your role, and what is likely to happen to them.
- Show interest in the person and not just their illness or problem.
- If unsure about how to behave with the person (e.g. you are a woman and he is a man) ask them, a family member, friend or cultural interpreter their advice.
- Spend time talking generally (e.g. try to find some common ground) before asking about any personal health or other issues, and explain why you are asking such personal questions and what happens with their information.
- Be aware that the person is most likely to need a relative, friend or other trusted person present when you speak with them, and perhaps throughout their admission. However, this cannot be assumed and the person's wishes should be ascertained and respected before contacting others.
- Be careful how your 'non-verbal signals' may be interpreted. It may not be appropriate, for example, to stand directly in front of the person and look into their eyes, or stand over them as they lie in a bed or sit in a chair and look down on them. Seek advice if you are unsure how best to present yourself.
- Avoid using medical terms (jargon) and explain what you mean clearly, in simple terms. Always assess if the person understands what you are saying by seeking

feedback from them. Re-explain the issue until you are confident that they understand what has been said. Drawing pictures can be useful.

- Where it is necessary to take notes, explain why this is needed and offer the person the opportunity to see or read what you have written. Also explain this to their trusted companion.

Some particular issues to think about:

Gender and age

Be aware that most Indigenous people whether they are from urban, rural or remote areas still value, are in touch with and continue many cultural practices such as; 'men's business' and 'women's business'. Some may be offended and upset by being questioned on personal issues or physically examined by a younger clinician or someone of the opposite gender.

Silence

Listen carefully to the person. Be aware that a silent pause does not necessarily mean the person has completed their answer to the question. It may be helpful to ask whether the person has anything else to add or needs further clarification before proceeding to the next question. If the person does not respond to something you ask, wait and then try rephrasing the question. You need to move on if it becomes clear that the issue at hand is causing discomfort or embarrassment.

Hostility and fear

Be aware that a person may be hostile towards your role based on past experiences, and not necessarily towards you personally. Being friendly, non-judgemental and respectful is the best way to overcome such difficulties.

Hope of recovery

Hope of recovery from ATOD related problems can be realistic for many Indigenous people. However, as with many other people in the community, some health professionals are pessimistic about the ability of people with ATOD disorders to overcome their problems, and this view is also held by many Indigenous people.

Displaying optimism about the person's ability to address their ATOD problem is important, even if their pathway to recovery may be long or troubled. Offering stories of people who have been able to do this can be useful, providing no real names are disclosed. For inspiration read Indigenous people's stories in *Giving Away the Grog: Aboriginal Accounts of Drinking and not Drinking* [34].

Setting the scene for assessment and intervention

Nurses and others assisting Indigenous people need to 'set the scene' so people feel at ease, and encourage them to talk about the issues they face, whether they are those at risk or family members.

Screening

Risk assessment for alcohol and other drug use and associated mental health problems amongst Aboriginal and Torres Strait Islander people in a culturally appropriate and timely manner. This instrument is called the Indigenous risk impact screen (IRIS) and brief intervention.

According to the results (scores) of the IRIS, implement the appropriate assessment, nursing care and treatment plan as discussed in Section 2 and 3. To access information about IRIS go to Section 4, Appendix 3.

Health advice

Link any of health advice about ATOD use to the person's own ATOD use, health (and other) related problems. This is usually far more effective than giving general health information, such as 'heavy drinking badly affects diabetes'.

It is helpful to avoid:

- Assuming anything or base your responses on what you believe might be a person's situation, illness, ATOD problem, cultural background or experiences as an Indigenous person. By providing a comfortable atmosphere and undertaking a thorough assessment of their general health and ATOD use, you will be able to make clearer clinical judgements and provide sound nursing care.
- Relying on stereotypes such as 'all Indigenous people drink excessively'. This is not only offensive and untrue, but likely to lead to their actual health problems being ignored or misdiagnosed.
- Being confrontational when talking with the person or giving them advice about their ATOD use. Confrontation does not change people's views about how to deal with their issues and may further entrench their resistance to reducing or ceasing their ATOD use. It is offensive, increases shame and embarrassment, and does not encourage openness and information flow about sensitive issues. More than likely this may result in your efforts and services being rejected.

Working with young people and children

Children and adolescents require particular attention and sensitivity when dealing with their alcohol, tobacco and other drug related problems.

They may be particularly vulnerable due to grief and loss, family conflict or other issues. Informed consent for children to be treated for ATOD or any other health problems needs to be given by a well-informed, responsible parent or guardian. If this is not possible for a young child in your care you need to seek guidance from senior medical and nursing staff, and relevant legislation and policy related to this situation.

In certain circumstances (such as not living at home, being at risk of abuse, not being in care of parents, or privacy needs), adolescents can give their own informed consent for

treatment. The clinician must follow organisational policy and state laws in this situation [35]. Seek advice from the local Child Adolescent Mental Health Team or Youth Health Service.

Please be familiar with:

National Health and Medical Research Council (NH&MRC) 2009. *Australian Guidelines to Reduce Health Risks from Drinking Alcohol* Guideline 3.

2.2 Assessment

Introduction

People come to hospital or other health services for a variety of reasons relating to their health needs. They may not believe that there is any need to mention their ATOD use to the clinical staff. By maintaining an empathic, non-judgemental attitude and explaining why all people over the age of 14 years need to have an ATOD assessment as part of their general health assessment (based on the age of uptake of ATOD, patterns of ATOD use of and related risks to the Australian population), we can encourage them to talk openly about their ATOD use and any concerns they may have.

(For drug-specific assessment guidelines see Section 3; For general guidelines see Section 2.4: Managing intoxication; Section 2.5: Managing overdose and Section 2.6: Managing withdrawal).

Rationale for assessment

The importance of the ATOD assessment cannot be overstated. Importantly it is an ideal opportunity to deliver brief intervention in a timely manner. Assessment is an intervention in itself as it raises the issue of ATOD as a common aspect of many people's general health concerns, alerts the person and their clinicians to any potential risks or actual problems that may exist, and provides a timely opportunity for ATOD education, information giving and early intervention.

The ATOD use assessment is necessary to:

- identify immediate problems
- treat any emergency or acute problems
- establish a correct differential diagnosis
- predict the effects of intoxication, assess its life-threatening potential, and inform appropriate intervention
- identify the purpose or reasons for the person's ATOD use
- identify issues related to possible medical complications of ATOD use
- assess the possibility of any drug interactions (e.g. between medications and other drugs the person may have consumed recently and any prescribed medications needed at the time for medical treatment)
- identify the likelihood of dependence, predict the likelihood of withdrawal, assess for imminent withdrawal and possible complications
- identify history of any previous withdrawal syndrome to predict likely severity of withdrawal and possible complications such as seizures and hallucinations

- assess risk behaviours including self-harm
- provide education on harm reduction skills (e.g. always using clean injecting equipment and knowing where/how to get these, hepatitis B immunisation, daily Thiamine for risky and binge drinkers)
- gain a greater understanding of the person not merely in terms of their current ATOD and other symptoms
- determine the person's goals related to their ATOD use and if they want any assistance to change their use at this time/stage (e.g. start using nicotine patches or gum, having a planned/supervised withdrawal and starting counselling)
- identifying any environmental vulnerabilities related to housing, disaster, weather or bushfires
- select appropriate interventions and service options so that timely and acceptable referral can be organised.

These may include transport to a sobering-up service if medically fit, engaging in counselling or pharmacotherapy such as methadone and/or:

- developing a therapeutic relationship
- identifying immediate needs and possible complications (such as concurrent health problems, psychoactive drug withdrawal, prescribed medication administration and pain management needs)
- understanding the individual, family and/or community
- identifying the goals of the person and/or their family in relation to their ATOD use
- offering well-matched intervention/treatment for the individual's ATOD problems
- clarifying the reasons for any treatment procedures during the admission or episode of care
- informing care and discharge planning, and any need for ongoing care and referral
- Providing harm reduction strategies and skills to ensure that further risks can be reduced (e.g. provision of clean needles and syringes, swabs and sterile water; advice on using low strength alcoholic drinks and where the person engages in risky daily drinking or binge drinking to maintain good nutrition and daily Thiamine 100mgs).

Try to remember that what appears to be an ATOD presentation may not be. It could be a condition that is mimicked or complicated by intoxication or withdrawal. Some diagnoses may be confused by the presence of alcohol intoxication or withdrawal. This could lead to medical problems being overlooked. Such problems include head injury; cardiovascular accident (CVA); infection, hypoxia, hypoglycaemia and other metabolic imbalances, liver disease, overdose; adverse drug reaction and psychosis.

Assessment should be carried out in a timely manner that is in a safe, confidential environment with sensitivity towards the person and their family, and respect for their cultural identity and associated needs [11].

Using a person-centred approach

Quality nursing and midwifery ensures that the health needs of individuals are kept to the fore and holistic care is provided.

Nursing care needs to be focused on empowering the person to manage their own lives to their full potential. Some people take longer than others to trust health professionals and services. People are more likely to enter into a relationship where they are assisted in identifying and expressing their own needs and can set goals and objectives to achieve them, such as reducing or abstaining from harmful drinking [36-38].

Maintaining confidentiality

Under common law, statutory law and codes of practice, nurses, midwives and allied professionals have a professional duty of care relating to honouring and maintaining person confidentiality. The person's right to confidentiality means that all persons must have this clearly defined and explained to them before being asked to reveal any personal information. Information can be provided to third parties on their behalf only if their specific written permission is provided before this occurs.

They also need to understand any legislation that limits this (such as the requirement for mandatory reporting of child abuse or being unfit to possess a firearm) so that they know what boundaries exist before they divulge information. People need to know that their personal information will be respected and only shared with the clinical team responsible for their care. They also need to know that their clinical records can be subpoenaed by courts of law.

Strengthening motivation

When a person attends a specialist service they will generally have developed at least some awareness that an ATOD problem exists. When people are receiving care in a general hospital ward, mental health or community health care setting, they may not be aware that they have an ATOD problem. The degree to which a person may be aware of their ATOD use and their desire and readiness to change and/or seek help is directly related to their recognition that a problem exists and that the benefits of use are now outweighed by the negative aspects and harms. They may also believe that change is possible, that they have (or can develop) coping mechanisms, and that their life can improve [11, 36, 39, 40].

Their understanding and willingness to consider the issues and the possibility for change can be positively influenced by nursing staff at what may be a 'critical moment' in their life in contact with health professionals wherever they are receiving health care. In order to strengthen people's motivation to reduce or change their harmful ATOD use, assessment is a critical process of information-sharing between person and the nurse, and an important trajectory towards engaging in more in-depth care or referral should this be needed.

Issues for assessment

People's ATOD use can be controversial, particularly if this involves illicit drug use. Some nurses and midwives may feel reluctant about discussing drug use with people, particularly if it is seen as not affecting the person's presenting problem. The ability of staff to raise the issue of ATOD use is critical to identifying any problems, offering early intervention and minimising risks.

In working with people with explicit ATOD problems, it may be necessary for you to raise some rather difficult issues. The skills involved in effectively raising sensitive issues such as these are the same skills nurses use to ask about many other personal issues.

Possible factors that may cause nurses to feel reluctant in raising ATOD use may include:

- may not be the presenting health problem
- a reluctance of the nurse to 'pry' with the worry that this may jeopardise their therapeutic relationship with their person
- poor knowledge about ATOD use and related issues
- a belief that only ATOD specialists can address these problems
- a lack of confidence in responding effectively if an ATOD issue is revealed
- a belief that if the other presenting problem is 'fixed' then underlying ATOD issues may go away
- a belief that only people who are ATOD-addicted require assistance for their ATOD problem
- a degree of comfort/discomfort with one's own ATOD use such as smoking or binge drinking or one's own experience of a difficult family issue
- a belief that ATOD problems are too difficult to fix and therefore there is no point in asking about them.

Misconceptions may exist regarding the most effective way to raise the issue of ATOD use. Traditionally the focus has been on people who appear to be or have been diagnosed as 'chronic' or 'dependent' users, with a strong belief that 'denial' is an integral component of their personalities and that confrontation will break down denial.

However, it is precisely the techniques of confrontation and labelling people 'alcoholics' or 'addicts' that produces denial, particularly among people who do not perceive themselves in this stereotypical way. This judgemental approach is unhelpful as it does not promote a safe therapeutic environment that facilitates trust, or foster rational discussion about the reasons for person's ATOD use and any positive and negative consequences associated with their use. Zinberg [1] stated, all ATOD use is functional in that it serves a purpose for the person, whether or not it has become a problem to them.

How to raise the issue of ATOD use

Routine questioning acknowledges that ATOD use is widespread in the community. ATODs may be used to have fun, cope with stress, deal with pain, stay awake, go to sleep or improve performance. ATOD use issues may occur for anyone and affect people in different ways.

It is therefore very useful to incorporate ATOD use within your general assessment routine, even if problems are not suspected. If your person knows that you do this with all persons, it normalises the issue. The advantage of this approach is that it allows for a range of problems associated with ATOD use to be recognised, and not just the more obvious difficulties such as dependence (that is, problems associated with regular excessive use and intoxication). Once assessed, ATOD problems and concerns can be identified, choices for treatment offered and a management plan negotiated with the person.

Routine questioning of all persons also decreases the responsibility on nurses and midwives to work out when to raise the issue and with whom. It diminishes the probability that people will feel singled out if you explain that you ask everyone these questions [41]. Importantly, it provides a unique opportunity to educate and clarify the questions the person may have about ATOD use, and in fact saves time by alerting to you to any potential complications that may develop during the admission such as acute withdrawal.

Hints to assist communication

If you feel uncomfortable discussing ATOD use with your persons, these points may be useful:

- Ascertain if an interpreter is needed and if so, ensure this occurs.
- Tell the person that you ask all persons over the age of 14 years about their ATOD use because it is common and may affect diagnosis and treatment of their problem.
- Link the person's current ATOD use with their presenting condition (if appropriate) such as chest infection, liver disease, injuries.
- Use non-threatening verbal and body language.
- Use 'open-ended' questions such as, 'Can you describe a typical drinking or drug use occasion for you?'
- Use a comfortable environment (quiet, private, adequate lighting). If privacy is impossible, draw the screen or curtain and speak quietly to ensure others do not hear personal details.
- Display a caring attitude (non-judgemental approach).
- Ensure that the person knows they have the right to refuse to answer any questions and that confidentiality is assured.
- Note any inconsistencies in what the person tells you about their ATOD use (such

as their physical condition not being consistent with being a light drinker) and explore these if possible to ascertain their own understanding of what is being asked/said.

- If a question angers the person, leave it until later when it can be rephrased or do not ask again.
- Take account of their 'whole' health profile. If there is a discrepancy between what the person tells you about their ATOD use and what you see (ascites, spider naevi on face, chronic cough, muscle wasting of legs, needle marks), record this. Combine the information you draw from the person's own ATOD history and your clinical observations.
- Phrase questions that give the person permission to talk about their ATOD use, and if appropriate, ask questions that display an assumption that the person uses some form of ATOD such as medicines or alcohol. This gives the person permission to talk about their use.
- A history of the person's ATOD use may be elicited (where possible with consent) from their partner, friends or family.
- Be sensitive to the person's ability to respond to your inquiries.

Factors that will influence responses to you include the person's:

- age
- culture
- personal history
- level of pain
- fear of your judgement and reprisal
- fear of a breach of their confidentiality
- fear of losing their job
- need for more privacy
- level of English comprehension
- legal status of their ATOD use
- past negative experiences with health professionals
- fear that parents or other family members will find out
- fear of any other health problems they may have developed (e.g. HIV or hepatitis).

Do not be distracted from important points

Always make sure phones are silenced and other people including staff do not interrupt you.

Allow for minor diversions by the person during their assessment, but try to help them to return to the point of discussion. If they seem to be avoiding answering your questions or become hostile, reassure them, and if necessary, do not proceed. Make an objective note in their case notes or assessment form about what was happening and continue to monitor the person. Return to the assessment later when they have settled and/or had pain relief.

You may need to suggest that another clinician undertakes assessment if this seems appropriate. It may be that the person would prefer a clinician of his or her own gender.

Do not allow your personal attitudes to affect the assessment.

The person's way of life and behaviours may not conform to your own personal standards of what is acceptable behaviour. Such considerations should be put aside and not affect the therapeutic process.

Be sensitive to the person's cultural background and language

(See Section 2.1: Communication and cultural issues).

Do not assume that the person perceives their ATOD use as a problem

Even though people may be drinking over the recommended low-risk level [42] or using other drugs at harmful levels, we should not assume that the person believes that this is a problem. Many people do not know that their ATOD use is risky or harmful [43].

A person may refuse to engage in ATOD assessment

People are unlikely to object to their ATOD assessment if they know why it is happening (that all persons of the service are offered ATOD assessment and therefore not only for them specifically), and that questions are asked in a matter-of-fact manner as part of routine history taking.

However, people do have a right to refuse ATOD assessment, and if this happens, discontinue discussion in a way that can allow them to return to the topic at another time should they wish. Make a note of their refusal in their clinical record.

A person may not want ATOD treatment

If a person is intoxicated or withdrawing when in your care, wants to leave the hospital/service and has been assessed as unsafe to leave, the nurse or midwife (and doctor) must exercise their duty of care to ensure the person's safety and wellbeing. Refer to the team leader and relevant policies to determine the appropriate course of action. Always document the situation and action taken. Best practice has been shown to include detaining the person who is delirious, dangerously intoxicated, is at risk of harming others or themselves, or is experiencing suicidal ideation, under the relevant mental health act [44].

Nursing guidelines—general assessment

Systematic assessment of all people over 14 years of age should include:

- pattern and recent history of ATOD use
- physical assessment
- mental health history
- history of any injecting and other risk factors
- psychosocial issues
- environmental and other vulnerabilities related to housing, disaster, weather or bushfires
- other needs.

Pattern and recent history of ATOD use

The following should be covered as part of every ATOD use assessment:

- type of drug (note that polydrug use is common and the assessment should include all drugs—prescribed and over-the-counter medicines, herbal remedies, tobacco, alcohol, illicit)
- route of administration (oral, inhalation, injecting, suppository—rectal)
- frequency of use (e.g. very occasional, less than weekly, once a week, more than once a week, daily, more than once a day)
- amount used in grams/doses or daily cost (for illicit drugs such as psychostimulants, cannabis, heroin)
- duration of use at current level, any changes in pattern over time (age commenced use; recent typical pattern)
- time and amount of the last dose (where possible, clarify in exact terms, such as grams of alcohol, milligrams of methadone, grams of cannabis, points of amphetamine etc.)
- with whom is the drug typically used (e.g. friends at the pub, at work, at rave/dance parties, with family and friends at home, alone)
- past/present contact with alcohol and other drug treatment services
- any periods of abstinence and when were these
- what influenced a resumption of harmful ATOD use
- history of withdrawal symptoms on cessation or reduction of use
- history of complications of withdrawal such as seizures.

Note: Always consider the likelihood of poly drug use amongst people of all ages. It is vitally important that you assess for poly drug use and any immediate and longer term potential for drug interactions e.g. drugs the person may have recently used and are possibly still affected by, during admission, and any additional medications given for acute illness.

In addition people who use more than one drug at a time need to be educated about the potential for accidental overdose, unwanted effects, and toxicity due to differing drug actions and half lives e.g. additive effects, synergistic effects, potentiation, or antagonism.

Validated screening instruments are essential for accurately identifying the pattern of drinking, and level and nature of problem (see Appendices 1 and 2a, b & c). Also see Appendices 3 - 7 for alcohol, drug and tobacco assessment tools.

Examples of useful lead-in statements and questions:

- Do you have any cigarettes or cigars with you?
- How many cigarettes or cigars do you have with you?
- How often do you smoke cigarettes or cigars?
- How many cigarettes or cigars do you smoke each day?
- Do you ever drink alcohol?
- How often do you have a drink?
- On a typical day, how much alcohol would do you have? What size container is your drink in (e.g. a stubby, small vegemite glass, cask)?
- Do you use any medicines, powders, creams or tablets other than those your doctor has prescribed for you (for example to help you relax, sleep, cope with pain, block out bad thoughts, deal with stress, feel good, have fun or excitement)?
- Do you ever need to use more of your medicine(s) than the doctor prescribed?
- Do you ever use other people's medicines (sleeping pills, antibiotics, heart pills, laxatives, and pain killers like codeine)?
- Do you use other medicines from the chemist or supermarket? If so, what, why and how often?
- Do you use any other drugs such as cannabis (marijuana), amphetamines (speed), heroin, nitrous oxide (laughing gas), GBH, ketamine, steroids, solvents (aerosol paint, glue, petrol, cooking spray) or hallucinogens (LSD, magic mushrooms, Datura)?
- Do you ever take more than one drug at a time (e.g. alcohol and cannabis, sleeping pills and heroin, amphetamines and alcohol, sleeping pills and alcohol, ecstasy and cannabis)? If so what happens?

- What benefits do ATOD's give you?
- Have you ever had a problem from using a drug?
- Is there anything you like to change about your ATOD use?

Table 2: Drug use questions & their purposes

Question	Purpose
When did you last use? (Specify date and time plus name of drug, quantity, route of administration)	Identifying the type, likely pharmacological actions, possible side effects, half-life and range of ATODs used. The dose/quantity and route of administration should indicate pattern and extent of use and associated risks such as imminent overdose, withdrawal, drug interactions, risk of emergencies, infection.
What age were you when you first used this drug?	Establishing the onset, pattern/s and length of use. The lower the age of initiation the greater potential for subsequent harm.
Has there been any recent change in the amount and way you use (e.g. less or more)?	Ascertaining whether the use is/has previously been experimental, recreational or at dependent levels and any changes in pattern (e.g. reduction, increase).
Starting with today, then yesterday, then the day before yesterday etc. … which days did you use (this drug/s) over the last week? (use 2, 3 or 4 weeks if use infrequent)	Ascertaining whether the use is/has been occasional, recreational, binge, regular excessive or at dependent levels [42].
What times of the day do you usually use the drug/s?	Establishing pattern, quantity and severity of use.
Where do you usually use the drug/s?	Identifying the environment/s where use is likely to occur to ascertain external influences, potential risks, contexts that affect decision to use.
Do you typically use the drug/s alone, or with others? Who with?	Establishing whether use is typically a solo or group activity. Whether partner is involved.
What mood might you be in when you typically use the drug/s?	Identifying any specific events or mood states which can trigger use of ATOD's (e.g. happy, sad, 'party mood', depressed, in pain, argumentative, preparation to go out, being at parties/raves, response to pressures, family occasions).
How does your ATOD use generally make you feel?	Identifying the reasons for use, likely outcomes of use, identifying any risks, identifying risk for continued problem use.
Have you ever experienced any bad effects from your ATOD use?	Identifying physical illnesses (e.g. overdoses, gastritis, pancreatitis, accidents, hepatitis, septicaemia), psychological (e.g. moody swings or depression, anxiety, paranoia, hallucinations, suicidal ideation), social (e.g. loss of friends/employment, family conflict), legal (e.g. loss of drivers licence, arrests, gaol).
Has anyone ever told you they are worried about your ATOD use?	Identifying whether use has come to the attention of, or is a concern for others such as friends, partner and/or family.
Have you previously tried to reduce, stop or change your alcohol, tobacco and other drug use?	Identifying periods of abstinence, reductions in use, change in pattern to control use, any personal strengths or weaknesses in being successful in making change. What strategies did they use that worked?
Are you worried about your ATOD use?	Elicit the person's perspective of how serious they consider their use of ATOD's is.
Would you like to do anything about your current ATOD use?	Eliciting from the person their perceived need and/or likely motivation to make changes to their ATOD use.

[13, 15]

Physical assessment

Nurses and midwives should carry out relevant observations as appropriate. These include vital signs, neurological observations, nutritional status, fluid balance, level of consciousness and signs of ATOD intoxication or withdrawal. Examples of physical signs arising from ATOD use are listed below, many being due to the pharmacological effects, half-life of the drug or drugs used, the route of administration, accidental injury or illness arising from concurrent use.

Signs of harmful ATOD use

- flushed or ashen face
- jaundice
- puncture marks
- phlebitis
- erosion or irritation around nostrils/septum
- conjunctival irritation
- unstable or abnormal gait
- swollen abdomen, ascites
- spider naevi on face
- cellulitis
- skin abscesses
- irritation or rash around nose and mouth
- odour—breath, skin
- distended blood vessels along side of neck.

Specific signs of intoxication

- abnormal pupil size—constricted or dilated
- psycho-stimulant intoxication—dilated pupils
- ataxia
- pressured or rapid speech
- decreased concentration or erratic ability to concentrate
- opioid intoxication—pinpoint pupils
- drowsiness/decreasing alertness
- slurred speech
- mood swings
- poor or inability to manage normal tasks (e.g. lacing-up shoes, writing clearly).

Specific signs of withdrawal

(See Section 3 for specific drugs and withdrawal management).

Symptoms of the various withdrawal syndromes (e.g. alcohol withdrawal, opiate withdrawal, benzodiazepine withdrawal, amphetamine withdrawal, cannabis withdrawal, nicotine withdrawal) are due to the particular pharmacology of the drug (CNS depressant or stimulant), and its half-life.

Symptoms emerge with a significant drop in blood concentration or abrupt cessation of ATOD use. This occurs in someone whose central nervous system has neuro-adapted to

maintain normal body function in response to his or her excessive and frequent (daily) use.

A general guide is that the withdrawal syndrome will usually exhibit opposite signs to the acute drug affects (such as, a CNS depressant alcohol withdrawal can produce increasing irritability, acute agitation, anxiety, tremor, sweating, nausea, headache, general physical and psychological discomfort). It can also progress to severe complications known as delirium tremens (DTs) and possibly death if not managed effectively.

Signs and symptoms of intoxication and withdrawal for specific drugs are detailed in Section 3: Drug-specific information.

Past medical history

Other health conditions may exist (e.g. diabetes, heart disease, liver disease, accidents, head injuries, abnormal menstrual pattern, menopause, poor nutrition or hydration status, or mental health problems). All concurrent health issues need to be assessed and attended to.

Ask about:

- any recent or concerning unintended weight loss or gain
- possible injuries—recent and not so recent
- general health problems (e.g. diabetes, renal disease, cancer, stroke, infections including septicaemia, human immunodeficiency virus (HIV), hepatitis A, B and C, liver or pancreatic problems, chronic gastritis, high blood pressure, heart disease, breathing problems).

Note: These are only some examples of problems that may be relevant to the person's pattern of ATOD use and their drug administration methods.

Mental health history

Alcohol and other psychoactive drugs all affect cognition, emotions, moods and behaviours. They can, for instance, temporarily induce over confidence, mania or depression, confusion, disorientation, perceptual disturbances, euphoria, agitation, panic attacks, emotional lability, pressured, rapid or slurred speech, repetitious behaviours, fear or aggression. It is therefore important to include a mental health assessment as part of the overall ATOD assessment.

Ask about:

- any previous psychiatric/mental health problems such as depression, panic attacks, anxiety disorder, bi-polar disorder, schizophrenia
- related admissions or medical treatment
- any medications prescribed for the disorder—past and present
- any known family history of mental health problems.

A mental status examination includes observing and asking questions relevant to:

- Current level of consciousness
- Quality of memory - recent and past recall.
- Affect - does the person seem unduly anxious, depressed, flat, blunted, inconsistent with person's expressed mood etc.? Do the person's emotions, posture, facial expression etc. Seem natural for their present situation?
- Behaviour - approach/reaction to you and their assessment interview. Does the person maintain normal eye contact if this is appropriate for their culture? What is the person doing during their assessment interview? What is their behaviour like (restlessness, hand wringing, pacing, lethargic and sleepy) Illusions (e.g. Misinterpretation of visual stimuli in the environment such as a wavy pattern on a curtain perceived as a snake moving).
- Level of orientation
- Level of logic in expressed ideas – are they rational? And in context?
- Speech - manner of speech, speech pattern, possible disorders, aphasia, dysarthria, incoherent, disjointed, preservation, flight of ideas, how (e.g. Loud, soft, fast, pressured) form - the thoughts relate to each other, logical.
- Comprehension - understanding simple instructions.
- Abnormality of perception - visual, auditory, tactile, olfactory hallucinations. Are any auditory hallucinations threatening, accusing or commanding?
- Also ask about appetite and sleep issues as well as any delusions occurring.

People with complex ATOD problems are likely to need a psychiatric assessment.

History of injecting and/or other risk factors

The following should be explored if the person has indicated a past history of injected drugs. Ask if they:

- use clean needles and syringes and other injecting equipment ('gear')
- ever share, needles, syringes and other injecting equipment including swabs, spoons, water for dilution, tourniquets—such as a piece of cloth or a belt
- can access supplies, clean needles and syringes
- know how to inject safely to protect veins and tissues
- know how to safely dispose of used injecting equipment
- have adequate knowledge of HIV/hepatitis B and C issues including routes and risk of transmission, immunisation drug use
- have had any health complications from injecting (e.g. abscesses, thrombosis, viral illness, and heart or chest problems)

- have a good understanding about safe sex, the need for condoms to protect against infections and how to use condoms.

This is the ideal time to provide the person with clear information.

Psychosocial issues

Ask about the following:

- Family (any problems or special circumstances?)
- Housing; risk of homelessness (any urgent needs?)
- Children (any urgent issues, current need for care or assistance?)
- Employment (is this satisfactory? Any immediate worries?)
- Legal (any immediate worries?)
- Financial (any immediate worries?)
- Vulnerability from harsh weather or disaster e.g. exposure to extreme cold, heatwave or bushfire. Consider issues such as lack of or poor access to; a safe place, appropriate clothing for weather conditions, fresh water, shade, air conditioning or heating
- Other agencies involved - may already have a plan, undertake follow-up of vulnerable person or develop collaborative plans with local emergency services
- Possible family history of ATOD use issues
- Any negative social consequences of the person's ATOD use and related situations.

It is important to consider the above issues pertinent to the person you are caring for. Try to ensure these are considered in the person's care and after care plan as early as practicable prior to discharge to maximise engagement and continuity of care; and thus avoid unnecessary re-admissions and distress.

Planning care

The aim of any clinical intervention is to undertake quality care. The types of interventions chosen will vary depending on the type of ATOD problem and the particular needs of the person. Sharing the care through multidisciplinary teamwork and inter-agency collaboration is essential. All nurses and midwives have a key role in shared care. There are excellent models of shared care in general health services and these are applicable for care of people with ATOD issues. Relevant policies and available resources in the health care setting will influence what type of interventions and outcomes occur.

During the care planning process, nurses and midwives need to assist the person to clarify their own needs and goals, taking into account priorities of clinical issues and immediate concerns, the person's motivation to address their ATOD problem and what outcomes they want, other needs and concerns including family and housing issues. At all times harm

reduction processes need to be put in place to minimise any further risks and/or harms, whatever the person's longer-term actions may be.

It is important that the nurse or midwife, and the person themselves, have a common understanding about what interventions are possible. For example:

- being cared for in a primary health care setting
- being referred to a specialist
- having useful information
- having the choice of self-help strategies
- learning new strategies to change harmful ATOD use
- learning how to attain and maintain change—relapse prevention

Linkages are essential in building local disaster plans for, and follow-up of, vulnerable people. Building strong local networks of local collaborative partnerships help to support vulnerable people. This may include sharing referral and communication strategies, common emergency and intervention plans for times of high risk and day to day support. Partnerships can include health, police, ambulance and fire services, shelters and community centres, managers of shopping centres and bus/railway stations, neighbourhood houses or other safe places.

Networks of services can devise effective ways of supporting vulnerable people at times of risk or disaster with e.g. prepaid mobile phone with essential numbers to call for assistance; emergency lighting, water and food supplies; transport, addresses of known safe places; essential medication and first aid kits.

Following assessment the nurse or midwife should also identify whether the person can be assisted in the primary health care setting or needs referral, and assistance from e.g. GP, social worker, Aboriginal health service, specialists or other relevant services. This should then be built into the treatment plan.

Knowing when to refer on

There are no hard and fast rules about whether people with ATOD problems should be cared for in the primary health care setting or within specialist services. The decision to refer on to other services/agencies will depend on the outcome of ATOD assessment, the person's own preference, the severity of their problems, actual location, accessibility and availability of services, and family needs etc. The following table provides a broad framework of some factors that may assist in deciding what may be the most appropriate choices of service.

Referral options may include:

- Sobering-up unit (may be referred to as a non-medical detoxification centre) where following careful assessment intoxication is considered as the presenting factor (no risk of injury or potential medical crises). This is voluntary and does not include medically supervised care.
- Withdrawal (detoxification) services. Some provide non-medical supervision and others medical supervision. The person's needs must be ascertained. The person is referred according to their medical condition, intoxicated state or likely severity of withdrawal.
- Pharmacotherapy services such as methadone or buprenorphine maintenance programs for opioid-dependent people.
- Residential programs (such as a therapeutic community), usually accessed by people who have undergone a withdrawal (detoxification) program and aim to be alcohol or drug free. They may require psychiatric medications for comorbidity such as depression. This needs to be negotiated before transfer or referral.
- Community-based services for counselling, home detoxification, self-help groups including Alcoholics Anonymous, Narcotics Anonymous.

Table 3: Factors assisting decisions about appropriate venue for care/treatment

Factors	Primary care setting	Specialist services
Drug/alcohol history	Occasional use Recreational drug/alcohol users Lower levels of hazardous drug/alcohol consumption Less severe dependence	Chaotic, poly drug/alcohol use Dependence > than one year Methadone or buprenorphine assessment and therapy Person's request/choice
Complications	Stable psychiatric conditions Co-existing medical problems (e.g. diabetes, hypertension, infection, injury, HIV, HBV, HCV, acute illness, injury)	Unstable psychiatric condition Pregnant women at special risk History of chronic ATOD relapse or unsuccessful ATOD treatment episodes History of recent self harm HIV or hepatitis C
Previous ATOD treatment	No previous attempts to cease or reduce ATOD use Strong motivation to undergo intervention including withdrawal management Willingness to access other appropriate services, e.g. social worker Drug use already stabilised by specialist services or GP Family/support network	History of poor ATOD treatment outcomes Poor home or family support system Multiple agency involvement Undertaking current ATOD treatment, e.g. methadone, chronic pain management, co-management for mental health disorder
Social	Employment/study commitments Financial resources Family responsibilities Family/social and effective supports in place Being a volunteer, carer, parent Not acceptable to go to specialist inpatient service for cultural/gender reasons	Child care and safety concerns Homeless/unstable social circumstances Poverty, unemployment, poor supports Must be acceptable to culture and gender

[45]

Note: Where the person has an ATOD problem and unstable psychiatric illness, immediate referral with assistance should be made for combined (collaborative) mental health and alcohol/drug specialist services.

Contact your local alcohol and drug information service for advice and information on the range services available near you (See Section 5).

2.3 Early and brief intervention

Introduction

The terms 'brief intervention' and 'early intervention' are often used interchangeably. However there are two definitions that we use.

Early intervention (EI) is designed to intervene as early as possible in the history of a person's risky or harmful ATOD use. It aims to prevent further risks, avoid or ameliorate any existing complications, and reduce any harm associated with that use.

Studies have shown that talking with people at a 'critical moment', such as when in hospital and at an early stage in their ATOD use, can be very effective in educating and preventing further problems and complications [46]. Most importantly, early intervention is known to be effective when people understand that they can moderate their ATOD use rather than abstain, making the required behaviour change more acceptable and easier.

Brief intervention (BI) is defined by the short period of time needed to deliver the intervention and the context in which it is offered. BI can be applied in a variety of settings and provided by a range of health professionals (e.g. hospital and community based nurses and midwives, general practitioners, social workers, counsellors). BI includes strategies to inform and educate the person about their ATOD use and related risks.

BI employs techniques such as motivational interviewing in order to motivate the person to identify any ATOD problems, move towards change, set goals and undertake changes in their ATOD use. BI can be undertaken in as little as a few minutes for small problems to the provision of several planned sessions to assist the person through the process of change. BI can be supported by written information and self-help strategies.

Rationale for early intervention

Early intervention focuses on the early stages of harmful ATOD use when there is a risk of physical and psychosocial problems. The person may have been using ATOD in this way for a short length of time or a few years, but may not yet experience obvious health or social problems.

Rationale for brief intervention

Brief intervention can be very effective when applied at 'critical moments' in the person's life, such as being admitted to hospital, possibly for an ATOD-related injury or illness, or another event that heightens their awareness and need for help—such as a family crisis or employment problem.

More intensive treatment for ATOD problems is still needed for individuals experiencing complex ATOD problems (e.g. heavy drinkers or drug users with a history of relapse following treatment and/or complicated withdrawal) and those with complex psychiatric comorbidity.

Brief intervention can be applied at any stage in the person's ATOD-using career (not just in early stages of use), but is not as likely to be effective for those who experience chronic relapsing dependence or psychiatric comorbidity. This group usually requires supportive care and longer-term expert treatment.

BI may not be appropriate for:

- People showing signs and symptoms of serious physical illness arising from their ATOD use. In this instance, people need to be assessed by a physician.
- People who are dependent on ATOD and need comprehensive general health and mental health screening and specialist assessment and treatment.
- People who feel powerless over their situation or have concurrent health and social problems that require more intensive counselling, intervention and support than is possible in a brief intervention.

General principles of early and brief intervention

Early and brief interventions can be undertaken at any time during the nurse's/midwife's contact with the person.

Miller and Sanchez [47] described a number of factors that can make brief intervention effective, and these apply to early intervention as well. These are grouped under the acronym 'FRAMES':

FEEDBACK:	Providing honest information with the person regarding the results of the ATOD assessment.
RESPONSIBILITY:	Promoting the notion that the person has responsibility for their own actions and has the ability to change their ATOD behaviour. Self-help manuals can assist in the process.
ADVICE:	Giving clear advice on the nature of the ATOD problem encouraging the person to think about change and, if necessary, to seek further treatment that is appropriate to them.
MENU:	Providing the person with a menu of choices that will help them to resolve ATOD problem.
EMPATHY:	Being aware of the situation from the person's perspective, 'being in their shoes'.
SELF-EFFICACY:	Emphasising that the person has strengths and abilities to achieve change in their ATOD use.

Guidelines for brief intervention

Brief intervention (BI) can differ in the mode of delivery, amount of time required e.g. can be delivered in 5 minutes, and the range of resources provided. BI generally involves:

- identifying risk through ATOD assessment/screening with feedback of outcomes
- assessing the person's capacity and readiness to change
- applying motivational interviewing—to assess stage of change, create recognition of the need for change, and support the willingness to change
- matching the BI strategy to the person's needs and circumstances (e.g. provision of relevant, easy-to-understand information, self-help materials, pamphlets, video or audiotape, discussion)
- staying relevant and helping the person to identify achievable goals (small steps)
- offering skills development and strategies for the person to meet their goals and improving self-efficacy (e.g. dealing with craving, building self-esteem to support new skills like controlled drinking or relapse prevention to maintain abstinence)
- offering follow- up/monitoring referral [48].

Assessment/Screening

(See Section 2.2: Assessment).

Screening is allows for quick assessment of risk and offers an indication of likely level of risk. It is not full assessment or diagnosis.

Validated tools for screening and brief intervention for ATOD problems include:

- AUDIT (Alcohol Use Disorders Test) – see Appendix 1.
- ASSIST (the Alcohol Smoking and Substance Involvement Screening Test) see Appendix 2a, b & c.
- IRIS (Indigenous Risk Impact Screen) – see Appendix 3

Alcohol Use Disorders Test – AUDIT (See Appendix 1)

The AUDIT screening tool was developed and validated by the World Health Organisation (WHO) in 1989. AUDIT is not a diagnostic tool, but rather an interpretive and indicative tool. Although the global score itself is useful, AUDIT considers three main areas to elicit specific information about patterns of use that indicate harmful or hazardous use and the potential for dependence. The three main areas assessed are:

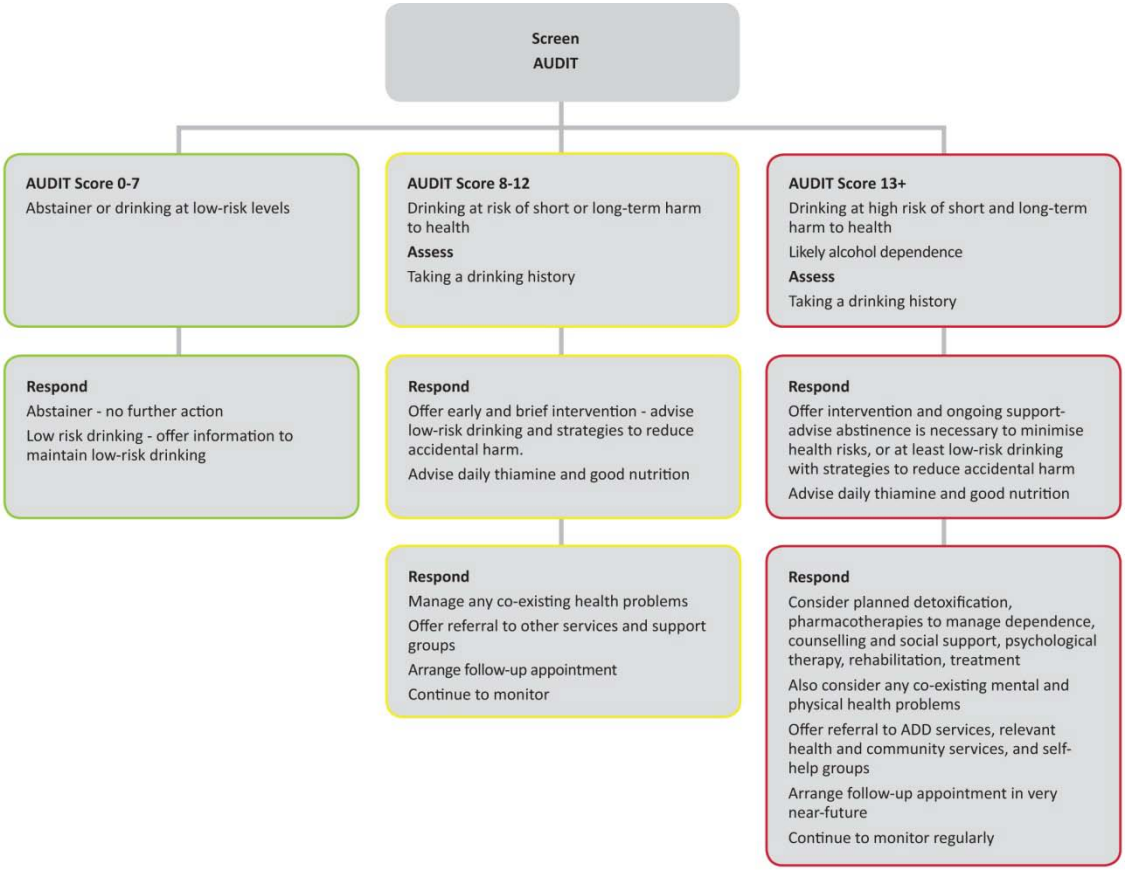
Questions 1-3: Quantity and frequency of use

Questions 4-6: Possible dependence on alcohol [49].

The AUDIT will elicit a score of between 0 and 40. Although a score of 8 or more indicates risky e.g. binge drinking or regular excessive drinking requiring brief intervention, scores of

13 or more are indicative of dependence and possible physical and/or mental health problems and therefore requires in-depth assessment and treatment [49].

Figure 3: Flow Chart



[18]

The Alcohol, Smoking and Substance Involvement Screening Test (ASSIST) and linked Brief Intervention (See Appendix 2a, b & c)

The *ASSIST* screening questionnaire and Brief Intervention was developed by the World Health Organisation (WHO) and specialist addiction researchers and clinicians in response to the overwhelming public health burden associated with problematic substance use worldwide. The ASSIST was developed principally for use in primary health care settings where harmful substance use among clients may go undetected, or become worse. Many primary and community health care workers can identify dependence (or addiction) among clients, but may not be able to identify substance use that is not dependent, but still causing harms. Ten years of international research has shown that the ASSIST is valid and reliable and able to be linked into an effective brief intervention.

The ASSIST is a health worker-administered pencil and paper questionnaire and screens for all levels of problem or risky substance use. It consists of eight questions covering tobacco, alcohol, cannabis, cocaine, amphetamine-type stimulants (including ecstasy) inhalants, sedatives, hallucinogens, opiates and 'other drugs', that can be answered by most clients in

around ten minutes. A risk score is provided for each substance, and scores are grouped into low, moderate or high risk. The scores are recorded on a custom-designed Feedback Report Card and are used to provide feedback to clients about their substance use and associated risks as part of the Brief Intervention.

The risk score determines the level of intervention (treatment as usual, brief intervention or referral to specialist treatment). A self-help manual for clients is available to help consolidate the brief intervention *"Self-help Strategies for cutting down or stopping substance use: A guide".*

Some level of training is required before use. Please visit www.dassa.sa.gov.au

The manuals are entitled:

- The Alcohol, Smoking and Substance Involvement Screening Test (ASSIST): A manual for use in Primary Care.
- The ASSIST-lined Brief Intervention for Problematic substance Use: A manual for use in primary Care.

Training workshops conducted by DASSA are available. These are approximately six hours and interest can be registered by contacting DASSA on 8274 3333.

A demonstration of the ASSIST and linked brief intervention can be viewed by following the links on www.dassa.sa.gov.au

Identification of the person at risk

(See Section 2.2: Assessment).

Assessment of readiness to change

The person's responses to the issues will give an indication of the stage they are at in terms of wanting, and being able, to change their ATOD use. (See Table 2.3: 'Matching stage of change to intervention strategy' later in this section).

It is useful to identify the person's:

- concerns about their alcohol and other drug use
- their pattern of use (see Section 2.2: Assessment)
- influences on their use
- reasons for changing
- likes/dislikes about their ATOD use
- consequences of ATOD use
- risk factors of ATOD use
- supports for change, barriers to change, e.g. partner uses ATOD too
- stocktaking their current satisfaction with life [47].

Motivational interviewing

Assisting clients to be motivated in changing their risky ATOD use is a powerful element that nurses and other clinicians can use with many of their clients, particularly those with less serious or complex ATOD related problems. It is however useful to understand that anyone's motivation and capacity to change a harmful behaviour is not necessarily a constant emotion or intent.

Motivation varies according to how they feel and what is impacting on their life at the time. Capacity can be reduced or adversely affected by cognitive problems or intellectual disability, poor physical or mental health, adverse living situations or experience of sexual abuse or other trauma.

Therefore just because a person appears not to be motivated to change their risky drinking today it does not mean that at another time they will not respond positively to a nurse's use of motivational interviewing and offer of support for them to change at another time. This may be because they are feeling well, their life situation is better or their mental capacity has improved.

Motivational interviewing is suitable for people who have the capacity to change (physical, emotional and cognitive). It is particularly useful when the person is becoming ambivalent about their ATOD problems i.e. they have started to weigh up and consider what benefits there are as opposed to the problems they are experiencing. In other words they are reaching a stage whereby they are contemplating change – either giving up or cutting down on their drinking, smoking or other drug use.

This interviewing technique can help to 'move' the person further towards their willingness and commitment to change. It incorporates strategies that acknowledge the good aspects of their ATOD use (from their perspective), as well as enhancing their ability to weigh up the risks and benefits, thus creating discomfort and a growing desire to commit to change. Getting ready to change is all part of this preparatory process.

When motivational interviewing is helping the person to consider change they will indicate to the other person (e.g. nurse) that they feel they might be ready for change, and will start to plan how they can stop or reduce their ATOD use. During this next stage they will need information about, and support in, setting realistic goals and strategies (baby steps) and time frames for change that they can reasonably manage. They will also need to develop the actual skills to that will enable them to make such change, and they will need support from others to do this. They therefore need advice and encouragement in deciding who can best help them, and what community supports there are to assist. The nurse is essential in providing relevant information, advice and linking the person with their supports.

Five principles of motivational interviewing

Motivational interviewing rests upon five basic principles:

Expression of empathy

1. Use skilful active and reflective listening.

    - Know that ambivalence is normal—acceptance of this may facilitate change.
    - Do not label the person (e.g. 'alcoholic', 'drug addict').

2. Deployment of discrepancy

    - Build on the person's self-awareness of the consequences of their ATOD use. By
    - giving factual information when client raises their own concern about the consequences of their ATOD use (e.g. injury, arguments, lost money, ill-health, hangovers at work) can be powerful.
    - Consequences that conflict with their other important and desired goals favour willingness for change.
    - Offer advice and feedback in a way that expresses concern for their wishes and wellbeing can encourage a desire for change.

3. Avoiding arguing

    - Arguments are counter-productive and will not help.
    - Focusing on the person's own concerns and perceptions is helpful.
    - Resistance by the person is a signal to change your interview strategies.
    - The person, not the counsellor, should present any arguments for change and identify the actions needed to solve issues or problems (see 'Sample questions to encourage self motivational statements' below).

4. Rolling with resistance

    - Momentum ('going with the conversation') can be used to good advantage
    - The person's perspectives can be shifted.
    - New perspectives can be invited but not imposed.
    - The clinician should not seek to 'correct' the person's views.
    - The person is the most valuable resource in finding solutions to their own problems.

5. Supporting self-efficacy

    - A person's own belief and hope in the possibility of change is important in developing and maintaining the motivation to change.

- Self-efficacy is not the same as self-esteem—it impacts on the person's beliefs about their ability and potential to change.
- The person is responsible for choosing their own goals and carrying out their personal change.

There is hope for people with ATOD problems to be helped through by the range of alternative options now available [36, 38, 50].

Building on the person's self-awareness of the consequences of their ATOD use is helpful. Providing factual information when the person raises their concerns about their ATOD use (e.g. injury, arguments, lost money, ill-health, and hangovers at work) can be powerful. Below are two statements that reflect back to the person about their own concerns and perceptions:

1. *You are worried that your husband is going to leave this time you if you keep taking amphetamines.*
2. *You said you are scared that the doctor has told you that your lung disease is due to your smoking.*

Finding out from the person the consequences of how their ATOD use may be conflicting with other important life goals (such as being fit, a good parent or worker) can help them to consider change. Offering advice and feedback in ways that show your concern for their wellbeing can encourage their desire for change.

Avoid arguing as this is inevitably counter -productive and builds resistance. Resistance shown by the person is a signal that they are not yet ready to consider change (pre-contemplative) and/or you need to change your interview strategies.

Importantly always leave them with the belief that change is possible and help is available.

Rolling with resistance:

- 'Going with the conversation' can be helpful.
- The person's perspectives can be shifted.
- New perspectives can be invited but not imposed.
- The person, not the nurse/counsellor, needs to be able to identify and decide for themselves their reason for positive change; and find the actions they need to solve their problems.

Supporting self-efficacy:

- A person's own belief and hope in the possibility of change is important in developing and maintaining the motivation to change.
- Self-efficacy is not the same as self-esteem—it impacts on the person's beliefs about their ability and potential to change.

- The person is responsible for carrying out their personal change.
- Many people with ATOD problems want to be helped [36, 38, 51].

Sample questions to evoke self-motivational statements

Questions for problem recognition:

- What are the benefits of ATOD use for you (e.g. what is good about drinking)?
- What makes you think there might be an ATOD-related problem?
- In what ways has this actually been a problem for you?
- What difficulties have you had in relation to your ATOD use?
- How do you think other people might have been harmed by your use of ATOD?
- Has your use of ATOD ever stopped you from doing something you wanted to do?

Questions according to level of person's concern:

- What is there about your ATOD use that you or other people feel is concerning?
- What worries you about your ATOD use? What might happen to you?
- How do you feel about your current ATOD use?
- What are the good things about it?
- Does anything concern you?
- How does this concern you?
- What do you think will happen if you keep using the ATOD as you are?

Questions regarding their intention to change:

- Are you thinking about changing your ATOD use at the moment?
- Why might your change your ATOD use?
- What benefits can there be from changing your ATOD use?
- How do you feel about this now?
- What else could we do to help you with this problem?
- Identifying stages of change—matching brief intervention strategy

Table 4: Matching stages of change to intervention strategy

Stage	Matching intervention strategy
Pre-contemplation 'Happy user', does not see any need for change	Harm reduction—e.g. Thiamine for risky and binge drinkers, low alcohol beer when possible, provision of free condoms, provision of clean needles/syringes, swabs, water etc. Advice/information and education Invitation to return for further assistance
Contemplation Thinking about change, 'unhappy user, might want to change but not sure	Problem assessment Education/information re risks and harms Motivational interviewing Reinforcing concerns and need for change Harm reduction—e.g. Thiamine for risky and binge drinkers, low alcohol beer when possible, provision of free condoms, provision of clean needles/syringes, swabs, water etc. Advice/information Invitation to return for further assistance
Determination to change Ready to make decisions	Motivational interviewing Decision making Support for this decision to change Time and invitation to return for further assistance
Action Ready to take action to change or has commenced action	Develop an action plan Problem solving/goal setting—practical and achievable Skills identification, development and practice Self-help manuals Feedback/support Practicing how to manage barriers to change
Maintenance Has made change	Coping skills Self monitoring Relapse prevention Building self efficacy Skills rehearsal Support Information about dealing with risky situations
Lapse and relapse Recommenced risky use—once off, or more sustained ATOD use following making changes	Support to return to goals if things go wrong Chance to debrief Problem solving Normalising lapse and relapse Information sharing Goal setting again Skills rehearsal again

[39]

Setting goals

- empower the person to set their own goals/choose from their options (e.g. reduction in use or cessation of ATOD use)
- provide support and encouragement for them to achieve goals
- facilitate their action plan (e.g. follow-up appointment, referral).

Developing skills and strategies for self-efficacy

- Empower the person to achieve their goals through provision of:
- support and encouragement, articulating their strengths to build self-efficacy
- culturally appropriate and easy-to-understand information/self-help materials
- skills and strategies for preventing and managing relapse, identifying and dealing with at-risk situations.

Providing information

Education can be offered at various levels ranging from brief easy to understand information to more in-depth education sessions. It is important to offer people general and specific health information such as good nutrition and safe medication use, as well as the effects and risks from ATOD use. It is also important to tailor this with a discussion about the person's particular options for better health and well being.

Providing ATOD information and other resources and facilitating the person's access to more intensive support if needed, are essential aspects of helping people to reduce their risks from ATOD use. Naturally our nursing interventions need to reflect each person's particular needs and their capacity for change. The bottom line is ensuring that a harm reduction strategy is in place, even if change is not at the time possible or relapse is likely to occur (see section on next page).

There is a wide range of web-based and printed information and self-help booklets available to assist people to understand and make decisions about their managing their ATOD related problem. There are also resources specifically aimed at assisting women, youth, Indigenous people, and other groups. Call the 24 hours ADIS advisory service on 1300 13 13 40.

Handy hints in suggesting resources

Preface suggestions with phrases such as:

- 'This is what other people have found helpful …'
- 'You are the best judge about what will assist you'.
- 'What do you think?'

Where appropriate, give information related to prevention of intoxication and accidental overdose.

Follow-up monitoring

The offer of follow-up indicates your concern for the person's welfare and provides them with an opportunity for further support and skills development. There is evidence suggesting that regular medical check-ups and feedback improve the effectiveness of brief intervention.

Refer when needed

Assist or facilitate the person to self-refer to the selected service for follow-up. Provide resources and practical help if needed, including offering a bridge by putting them in touch by telephone to talk to the receiving agency while they are still with you.

Harm reduction strategies

Nurses and midwives can advise people about using harm reduction strategies as part of the delivery of early or brief intervention. This is critical where the person does not wish to change their ATOD use and is still using in hazardous ways.

Some strategies include advising them to:

- drink alcohol within low-risk levels
- drink low alcohol drinks when possible
- drink water or soft drinks in between drinks if bingeing
- use alcohol or drugs in a safe place with trusted people
- have a test dose (small amount) of illicit drugs to gauge the strength and likely effect before using the whole amount to avoid accidental overdose or a 'dirty deal' where the drug is contaminated with other chemicals of substances
- ask friends or partner to always call an ambulance if you become ill or overdose
- not mix different drugs as this increases the risk of overdose and death e.g. alcohol and opiates or benzodiazepines. This places them at risk of severe/adverse effects
- maintain an otherwise healthy lifestyle—good diet, exercise, sleep etc.
- not drive a car or boat or operate machinery, including household machines, when affected by ATOD
- not get into a car or boat with a driver who has been using alcohol or other drugs
- be informed about ATOD use by getting accurate information and accessing health education resources
- use safest possible route of administration—e.g. avoid injecting but if injecting, do not use other people's needles/syringes, swabs, tourniquets/belts or any other injecting equipment
- use a condom when having sex.

(For more harm reduction strategies, see Section 3: Drug-specific information).

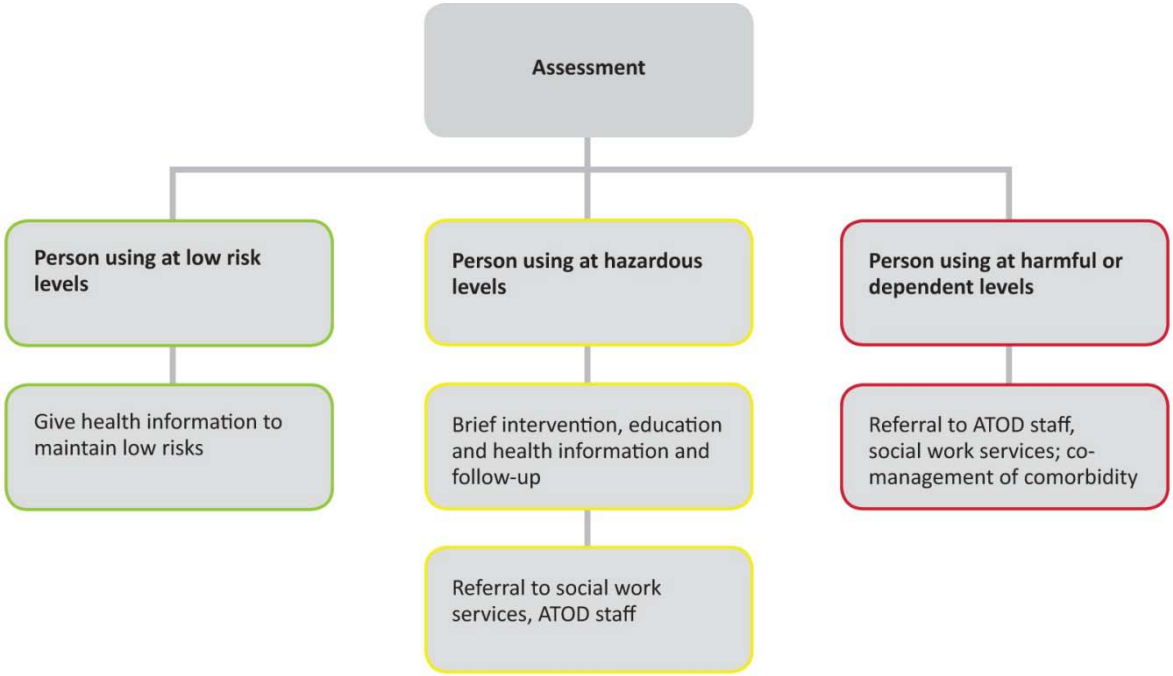
Relapse prevention strategies

- raise the person's awareness of positives and negatives about the relapse event and strategies to manage next time and reinforcement of reasons for wanting change
- help the person to identify triggers for relapse and how they can manage these
- help the person to find their coping skills to manage threats to change
- help the person to plan how best to avoid risky situations that may trigger relapse
- suggest that they receive alcohol/drug refusal skills training from their counsellor
- talk to them about how they can manage cravings to avoid relapse
- inform the person about psycho-therapies such as cognitive restructuring (e.g. positive thinking; thinking ahead) that can be developed with a trained therapist
- discuss behavioural self-management
- help them to consider how best to preparing for lapse and relapse
- inform the person about (if medically appropriate) pharmacotherapies e.g. Naltrexone, Acamprosate.

Brief intervention and relapse prevention

(See Section 2.3: Early and brief intervention & Appendices 4, 5, 6 and 7: ATOD use assessment forms, for quantification of ATOD use and definitions of hazardous and harmful levels and Alcohol Brief Intervention).

Figure 4: Assessment and intervention



[2]

2.4 Managing intoxication

Introduction

Recognising the signs of intoxication and any risk of impending overdose from psychoactive drugs is essential in ensuring the immediate resolution of risks to the person. Once the immediate problems have resolved, there may be the opportunity to provide them with important information about safe ATOD use and harm reduction in the future through early intervention.

The use of more than one drug (poly-drug use) is common. It is therefore important to identify and observe for the effects of more than one drug in the intoxicated person.

Rationale for intoxication management

Intoxication occurs from the direct pharmacological effect of the drug on the CNS.

Intoxication is dose-related and becomes more obvious as consumption and the blood level increases. Observable intoxication is mediated by the person's neurologic tolerance whereby they will need a larger dose or quantity to feel (and show that they are) intoxicated. Nurses and midwives need to be able to correctly estimate and manage intoxication as it complicates general health problems and the safety and management of people, even when their intoxication is not life-threatening. Intoxication can be extremely dangerous:

- it can mimic or mask serious illness and injuries
- it can complicate other health problems.

Psychoactive drugs affect mood, cognition, behaviour and physiological functioning. Alcohol and opioids for example are central nervous system depressants that suppress respiration, coughing reflex, gag reflex and cardiovascular function, thus inducing a variety of arrhythmias.

Severe intoxication causes:

- altered physical functions (e.g. depressed respiration, altered temperature regulation)
- altered mental function (e.g. panic or paranoia resulting in accidental injuries or self-destructive behaviour)
- acute poisoning
- accidental overdose
- death.

It is essential to pay attention to a person's complaints of e.g. a sore head, blurred vision, or reports of a fall or injury no matter how intoxicated they seem. People who are

aggressive or disruptive because they are intoxicated can risk their own safety and/or the safety of other people, staff, and visitors. They may also have a head injury or metabolic dysfunction and must still receive appropriate medical and nursing assessment and treatment.

Thiamine deficiency

Note: (See Section 3.1.1 Alcohol - Critical Situations).

Thiamine is always administered parentally to people with a history of risky alcohol consumption as a prophylaxis against Wernicke's encephalopathy. This is best considered as a standing order for all risky drinkers. (See Section 3 Alcohol for Thiamine regime).

- Any healthy adult male who drinks as a daily average, 8 or more standard drinks a day (e.g. 5 stubbies of full strength beer), or healthy adult female who drinks as a daily average, 6 or more standard drinks a day (e.g. 4 stubbies of full strength beer).
- This daily average may be even less for people with nutritional deficits, young or older people or those with health problems such as heart disease, liver disease or diabetes. Intramuscular injection of thiamine can be painful, particularly if the person has muscle wasting. Parenteral thiamine may be preferable due to gastric inflammation and poor absorption from excessive drinking, it may however be necessary to give orally providing the person can swallow safely.

Intravenous thiamine can be given simultaneously with glucose products – only if anaphylactic shock can be managed – even though risk is slight this still needs to be anticipated.

For more information on thiamine and Wernicke's encephalopathy see Section 3: Drug-specific information – Alcohol.

When someone is overly intoxicated with an Opioid such as morphine, codeine or heroin they may require Narcan to reverse the effects and prevent overdose. This can be given even when other drugs have been consumed.

General principles of intoxication management

- Any intoxicated person is at risk of aspiration and asphyxiation due to vomiting at a time of diminishing consciousness, whether or not there are overt signs of injury.
- All intoxicated people are at risk of and should be monitored for poisoning and overdose.
- All intoxicated people must be kept under observation until their intoxication diminishes and they can safely manage their environment.
- All intoxicated people with a low blood alcohol/breath alcohol reading but whom appear grossly intoxicated must be assumed to have either consumed other drugs, sustained a head injury or have another severe illness.

- Thorough physical and mental status examinations need to be conducted to reveal the level of intoxication.
- If the intoxication does not diminish with falling serum alcohol/drug levels, the person must be assessed for other possible causes of their condition. People who appear intoxicated may be suffering other conditions.

- Maintenance of the airway is of paramount importance to the semi-conscious or fully comatose person.
- People who have stabilised after being intoxicated should be further assessed for any possibility of withdrawal—early identification and intervention of withdrawal can prevent complications which may be life threatening (see withdrawal sections appropriate to the specific drug).
- Alcohol withdrawal can occur before a zero blood alcohol reading.
- Any person presenting with seizures should be assessed for alcohol withdrawal, benzodiazepine withdrawal or stimulant intoxication, as well as other possible causes. Withdrawal seizures must be treated according to best practice, with the person observed for at least four hours post seizure, using the Glasgow coma scale score (See Appendix 3).

Identification of hazardous drug use

A person's physiological and behavioural reaction to a drug depends on the:

- characteristics of the individual (e.g. age, size, gender, health state, mood etc.)
- pharmacokinetics of drug/s used
- side effects or unwanted effects of the drug/s used
- one drug is used in combination with other substances including medicines, inhalants, herbal preparations
- pharmacology of the drug/s used
- how much (dose) of the drug/s taken
- the setting in which the drug/s used
- previous experiences with the drug/s used.

Table 5: Symptoms & effects of drugs

	Symptoms of use	Symptoms: high doses	Possible signs	Adverse effects/ outcomes
Alcohol Common street names: *grog, piss, booze, sauce*	loss of inhibitions exuberance slurred speech argumentative over-friendly stumbling	confusion slurred speech intense moods/swings aggression lack of coordination increasing drowsiness comatose, possibly leading to death	tins, cans, bottles, flasks nearby smell of alcohol vomit on shoes/clothes	alcohol-related injuries (e.g. falls, fights, pedestrian injuries) drink-driving brain, liver and other organ damage withdrawal (tremors, sweating, hallucinations, seizures, delirium) risks increase if used with other drugs, especially depressants
Solvents Common street names: *glue, tol, toluene, bute, nitrus, amyls, petrol, aerosol paint—chroming*	intense intoxication loss of balance auditory and visual hallucinations stumbling	very similar to alcohol intoxication seizures unconsciousness slurred speech drowsy accidents aggression	common products including adhesives, thinners, liquid paper, dry cleaning products, aerosols, fuels, antifreeze, fire extinguisher fluids, chrome and other spray paint smell of solvent used	long-term damage to health (liver, kidney, brain damage) sudden sniffing death syndrome asphyxiation (swelling of throat) risks increase if used with other drugs especially depressants
Cannabis Commons street names: *marijuana, grass, pot, shit, gunga, mull, hash, durry, green, dope, cone*	light intoxication very relaxed red eyes silliness distorted sense of time giggles munchies (increased appetite) talkative	sleepiness disorientation inability to perform complex tasks hallucinations increased appetite paranoia time distortion	odour of burnt leaves seeds cigarette papers & tobacco pieces of foil plastic money/coin bags pipes/bongs	falls/injuries respiratory problems memory lapse drug driving exacerbation of mental illness paranoia withdrawn

Table 5 cont: Symptoms & effects of drugs

	Symptoms of use	Symptoms: high doses	Possible signs	Adverse effects/ outcomes
Benzodiazepine Common street names: *benzos, rowies, moggies, downers, sleepers, temmies, serries, pills*	light intoxication drowsiness headache confusion ataxia dazed look	sleepiness disinhibition confusion slurred speech lack of coordination stumbling	tablets in possession prescriptions in possession	amnesia falls/injuries impaired thinking withdrawal symptoms (nervousness, tremour, seizures)
Heroin/ opioids Common street names: *Hammer, H, shit, smack, horse, harry, white, scag, junk, slow, rock*	emotional detachment pain relief comfort euphoria pinpoint pupils drowsy ' nods off'	drowsiness stupor slowing respirations itching constricted pupils nausea & vomiting unconsciousness leading to death	poor nutritional state poor teeth needle tracks injecting equipment sachets folds/wraps of paper spoons white/beige powder tablets, capsules, syrup and vials	overdose withdrawal (nausea, pain cramps, diarrhoea, irritability, dilated pupils) impact of unsafe injecting, e.g: HIV, hepatitis B/C pericarditis abscesses vein collapse
Amphetamines Common street names: *Speed, goey, whiz, uppers, oxblood, point, crystal, crystal meth, ice, shabu*	enlarged pupils increased energy appetite hyperactive very talkative may be aggressive	feeling of well being aggression rapid speech pressured speech confusion dehydration shakiness/ tremor agitation paranoia	capsules, tablets and powder, varying colours injecting equipment needle tracks underweight paranoid ideation evidence of lack of sleep poor nutrition loss of weight	hallucinations drug induced psychosis depression and suicidal ideation following withdrawal exacerbation of mental illness withdrawal (excessive sleep, irritability) impact of unsafe injecting: HIV, hepatitis B/C pericarditis abscesses vein collapse
LSD Common street names: *trips, acid, wangers, tabs, dots*	hallucinations: visual, auditory and tactile. Can range from being extremely pleasant to unpleasant	'bad trip' (severe hallucinations) incoherency uncoordinated vomiting seizures dilated pupils	small paper squares in various colours and designs (microdots), will be kept away from light and wrapped in foil	risk of self-harm injuries/falls unpredictable behaviour may predispose mental illness 'flash backs' some time after usage

Table 5 cont: Symptoms & effects of drugs

	Symptoms of use	Symptoms: high doses	Possible signs	Adverse effects/ outcomes
Ecstasy Common street names: *E, eccies, XTC, fantasy, GBH, liquid ecstasy, good speed PMA* *variable contents—may be sold as ecstasy but contains speed, PMA or GBH	increased energy loss of appetite loss of inhibitions wakefulness euphoric feelings sweating grimacing muscle cramps	feeling of wellbeing vigorous activity jaw clenching nausea sweating teeth grinding paranoia severe headaches increase in body temperature loss of temperature control interferes in body cooling severe dehydration muscle meltdown brain damage death	capsules and tablets, usually white, but may be coloured with motif stamped onto one side of tablet	if combined with rigorous activity: severe dehydration muscle meltdown brain damage death all adverse effects and negative consequences as yet unknown. can occur with short term use
Ketamine Common street name: *Special K*	intense hallucinations euphoria depersonalisation	temporary paralysis	straws needles and syringes	cramps fatigue severe depression irritability vomiting heart failure violent reactions flashbacks similar to those experienced with LSD
Cocaine Common street names: *snow, coke*	energy rush heightened awareness confidence chatty affable agitated panic enlarged pupils	extreme agitation paranoia/ psychosis drug induced hallucinations nausea and vomiting increased body temperature irregular shallow rapid breathing tremors heart pain heart attack	straws for snorting shiny surface (e.g. tin, mirror) pipes needles and syringes needle tracks	lethargy fatigue panic paranoia depression, irritability weight loss delusions and violent behaviour can lead to collapsed veins or skin ulcers at the injection site ulceration and permanent damage to mucosa of nasal passage if snorted

[15, 52]

Screening for alcohol and other drug use

The presence of a drug or its metabolites in a person's blood or urine helps to corroborate the ATOD assessment findings and clinical symptoms. This is especially important in the following situations:

- people who are unable to give a coherent history
- people who cannot or do not wish to reveal their drug use
- people with atypical reaction to drugs
- people whose absorption, metabolic or excretory functions have been impaired by drug use or other diseases
- people who have consumed unknown drugs and quantities of drugs (e.g. with drink-spiking).

Alcohol levels are measured by breath analysis or blood sample. Other drugs are usually measured by urine sample. Timeliness of urine sampling is important due to the short duration of possible detect ability of some drugs. It is important to note:

- Drug concentrations in urine do not accurately reflect drug concentrations in blood.
- Only drug concentrations in blood provide an accurate measure of drug effect.
- Positive urine results indicate recent drug use [53].

Table 6: Duration of detectable drugs in urine

Substance	Duration of detect ability
Alcohol	12-24 hrs
Amphetamines	48-72 hrs
Methamphetamine	48 hrs
Barbiturates short-acting long-acting	 24-72 hrs 2-3 weeks
Benzodiazepines	Up to 1-2 weeks
Cocaine	48-72 hrs Chronic use— up to 4 weeks
Lysergicacid di-ethylamide (LSD)	Up to one week
Methadone	3-5 days
Opioids (codeine/morphine/heroin)	2-4 days
Cannabis (marijuana)	Infrequent user— up to 10 days Chronic user 7-30 days or more
Propoxyphene	2-3 days
Phencyclidine (PCP)	Up to 2 weeks

[15, 54]

Nursing guidelines—intoxication assessment

- Take an ATOD use history on admission (see Appendix 3, 4, 5 and 6: Taking a drinking history). Ask about today's use and time of last drink or drug dose. This must be recorded and reported to MO.
- Measure breath alcohol concentration (BAC) if appropriate and record.
- Observe vital signs (temperature, pulse, blood pressure, respiration).
- Refer to the physical examination by the medical officer
    - including pupils; widely dilated or pinpointed, ataxia/gait, coordination, impaired reflexes, collapsed and unable to walk, etc.
- If an alcohol and other drug use history cannot be obtained from the person, try to determine the type of drug/s used, how much was used and when last used by asking another person accompanying the person. Always observe for signs of impending overdose or poisoning (see Section 2.5: Managing overdose).
- Observe for signs of drug use such as puncture marks, cellulitis, phlebitis, skin abscesses, nasal erosion, irritation or rash around nostrils, septum or mouth,

evidence of rectal damage, dehydration, rapid weight loss.

- Consider conditions other than intoxication
    - e.g. head injury, acute infection, electrolyte imbalance, CVA, hypoglycaemia, psychosis, severe liver disease etc, vomiting, incontinence.
- Skin colour and condition
    - e.g. pale, sweaty, flushed.
- Speech—faster, slower, slurred, unintelligible.
- Record observations.

Refer to the mental status examination which should assess the following:

- any confusion
- attention span
- memory – short and long term
- mood (e.g. any sudden changes)
- speech (e.g. audibility pace is calm or rapid)
- paranoia (e.g. uncalled for suspicion)
- capacity for appropriate decision making
- level of consciousness
- orientation
- judgement—accurate or poor
- behaviour (e.g. sudden changes e.g. happy to very sad or angry)
- comprehension (e.g. understanding conversation and situation
- abnormality of perception (e.g. hallucinations).

The initial assessment of an intoxicated person who may be at risk of overdose needs to take into account any factors that may lead to suspicion of head injury:

- person (or companion) tells you they are injured or in pain
- history of a fall, no matter how long ago or how minor (there may be no obvious signs of injury)
- visual disturbances
- headache
- irritability
- limb weakness
- personality change
- aggression
- moods swings
- failing responses to external stimuli.

If assessment indicates intoxication:

- Maintain airway and monitor signs frequently.
- Continue monitoring the person's physical and mental state.
- Ensure the medical officer is aware of the person's status.

Note: vomiting is likely to occur in the grossly intoxicated person. This can present a major problem in semiconscious or unconscious people.

Checking for causes other than intoxication

People who appear to be intoxicated may be experiencing conditions due to other causes. Intoxicated people often present with additional problems such as fractures, trauma, lacerations, other illnesses etc.

Nurses and midwives need to always consider and investigate the possibility of an underlying illness. If an apparently intoxicated person cannot easily walk, stand or get up from a chair, you must keep them for observation, regardless of the lack of obvious injury. Any person who presents as incoherent, disoriented or drowsy should be treated as having a head injury until proven otherwise.

The following conditions can mask or mimic signs of intoxication:

- infection
- respiratory disease, hypoxia
- acute psychotic state (e.g. schizophrenia)
- epilepsy (temporal lobe), postictal
- alcohol/drug withdrawal
- shock due to injuries
- hyperthermia (e.g. risk of rhabdomyolosis)
- early signs of cerebral vascular accident (CVA) or transient ischaemic attack (TIA)
- semi-consciousness or coma
- head injury, subdural haematoma
- diabetes (e.g. confusion due to hypoglycaemia or ketoacidosis)
- drug toxicity (Dilantin, Digoxin) and/or side effects of other prescribed drugs
- meningitis - encephalopathy (Wernicke's or hepatic) and other neurological disorders
- hypothermia.

Managing intoxication

Supportive care will most often prevent an intoxicated person from becoming upset or frightened and/or disrupting other people, staff and visitors.

Supportive care also plays a major role in the safe and effective management of people who are intoxicated, and their environment to prevent accidents and trauma while in your care.

What to do

- Approach the person in a quiet, consistent, friendly and respectful manner. Patronising and authoritarian attitudes may evoke anger and result in an aggressive response—this is a common response to threats to dignity and self-respect.
- If the person is accompanied by friends who are also intoxicated, ask them to wait outside the room.
- Provide the person with a seat in an uncluttered, quiet part of the room.
- The nurse must introduce him/herself, giving their name and role.
- Ask the client's name. Orient the person and establish rapport, inform the person where they are and what is happening.
- Only ask specific questions about the presenting illness or injury.
- Elicit information—do not rely on the person to volunteer it. Ask sober family member or friend if available.
- When possible, postpone questions or procedures that antagonise the person.
- Give simple information/messages as required taking care to avoid information overload.
- Repeat information if necessary.
- When instructing the person or seeking their cooperation, give clear, concrete instructions. If necessary, repeat slowly. Also guide them to and from their destination, hand them things, etc.
- Reduce the possibility of accidents.

When talking to the person:

- use slow, distinct speech if English is not their first language they may revert to their first language while intoxicated—they may need an interpreter
- use short, simple sentences
- avoid emotional topics and involved discussions
- maintain eye contact if appropriate

- use the person's name, e.g. Mr …
- adjust pace of talking to match the person's.

The nurse needs to notify other staff that he/she is dealing with an intoxicated person and ensure safe procedures for managing any challenging behaviours that may develop. Work with other staff to manage verbal or physical aggression; ask other staff for their support at the time and opportunity for debriefing immediately after any incident. Seek further counselling if needed.

Managing unwanted behaviours

Some specific ATOD-induced behavioural problems stem from CNS confusion and other drug induced effects, much like any other acute brain condition where a person's perception, cognition, communication abilities and impulse control are diminished. Many such situations can be prevented and managed well by nurses who use particular approaches as listed below.

Anxiety/agitation/panic

- approach the person in a quiet, calm and confident manner
- stand beside them rather than front on and do not appear aggressive
- move and speak in an unhurried way
- minimise the number of staff attending to the person
- always explain who you are and what you are doing
- provide a quiet environment to reduce unnecessary CNS stimulation
- reassure the person frequently (e.g. 'it won't take much longer,' 'I am just going to do … because ...')
- remain with the person to calm him or her down
- explain any actions or interventions needed no matter how simple (e.g. moving the pillow; taking TPR)
- protect the person from accidental harm (e.g. do not leave them unattended on a barouche or bed without safeguards. lower the bed as close to the floor as possible)
- brief and frequent attendances will reassure them and prevent unnecessary agitation.

Confusion/disorientation

- provide frequent reality orientation
- reduce amount of unnecessary equipment nearby
- reduce amount of unnecessary noise
- use/display some object familiar to the person (e.g. dressing gown, slippers)
- ensure frequent supervision
- accompany the person to and from places (e.g. bathroom, lounge)
- explain in simple terms what is happening.
- explain altered perception/hallucinations
- explain their perceptual errors; tell them what is real (e.g. that the curtain does not have snakes on it)
- reassure that this will pass
- create a simple, uncluttered environment
- provide care in well-lit surroundings to avoid perceptual ambiguities from poor light
- protect person from harm.

Anger/aggression

- use space for self-protection (e.g. ensure you have easy access to the open door; do not crowd the person; keep furniture between yourself and the person if feeling unsafe etc.)
- keep own emotions in check
- speak in a calm, reassuring way and do not raise your voice
- use the person's proper name when speaking to them
- do not challenge or threaten the person by tone of voice, eyes or body language
- let the person air their feelings and acknowledge them
- work in pairs if you feel at risk
- determine the source of the person's anger and if possible, remove it
- be flexible within reason
- be aware of workplace policies on managing aggression
- work in pairs where at all possible and keep yourself safe at all times
- use available security measures or carry personal duress alarm.

Peer support/debriefing

- At times staff may feel stressed dealing with people with ATOD problems and whose behaviour is difficult or threatening. Staff debriefing on the ward—either formal or informal—should be available as part of day to day practice. Referral to an employee assistance program (EAP) may be needed for those who need support away from the workplace.

If a person refuses treatment

- If a person who is intoxicated or withdrawing from ATOD wants to leave the hospital and they are assessed medical to be unsafe to leave, you need to exercise your duty of care to ensure their safety and wellbeing, and that of other people.
- Refer to and be familiar with the relevant legislation as well as organisational policy and procedures manual of your health facility to determine the appropriate course of action.
- Consult MO and senior staff.
- Record all actions and note times.
- The person may need to be admitted or detained under the Mental Health Act or other legislation in your state or territory, until they are deemed medically safe and able to care for themselves safely and not cause harm to other people.

For further information on intoxication, refer to Section 3: Drug-specific information.

2.5 Managing overdose

Introduction

Overdose can be by accident or as a result of deliberate self-harm.

Any person who presents as incoherent, disoriented or drowsy should be treated as having a cerebral event (head injury) until proven otherwise. Overdoses should be managed according to the individual policy of each hospital. (For information on overdose please go to individual drugs in Section 3: Drug-specific information).

Note: Acute poisoning and acute withdrawal can have common features.

- Those with a high alcohol tolerance may experience withdrawal while their blood alcohol concentration is still positive and above zero.
- Accidental overdose is a high risk when a person has used more than one depressant drug.
- Risky of binge drinkers may overdose from high intake of alcohol or having used other drugs in combination with alcohol.
- Inexperienced drinkers or drug users (e.g. children and adolescents) can overdose from excessive doses of alcohol or another drug due to low tolerance.

Rationale for overdose management

- Overdose occurs when a person has consumed a dose of a drug that alters the ability of the central nervous system to maintain respiration and other vital bodily functions. This can occur when more of the drug has been used in one dose than would usually be recommended as a safe therapeutic dose or as a high dose exceeding the person's acquired CNS tolerance.
- All people who present with decreasing or diminished level of consciousness must have careful and appropriate monitoring of all vital signs and neurological function. The Glasgow coma scale (see Appendix 6) and vital signs provide the best method of assessment. These observations must be done on arrival, after checking airway, breathing and circulation, and should be continued at a maximum of 15-minute intervals for at least four hours.
- With the use of the Glasgow coma scale (GCS) and monitoring of vital signs, the nurse can quickly recognise any deterioration in the person's condition and intervene at the earliest possible time.
- If the condition rapidly deteriorates, which is always a risk, usual nursing intervention is followed.

Nursing guidelines—overdose assessment

(See Section 3: Drug-specific information).

Monitoring possible progression of intoxication to overdose

Careful monitoring of the person enables early identification and intervention at risk of impending overdose. To observe for progression to an overdose state, monitor the following:

- increasing agitation or sedation
- changing mental state—hallucinations, panic or deep depression
- abnormal pulse (irregular, below 60 or above 120 per minute)
- breathing difficulties
- decreasing levels of consciousness
- seizures
- increasing disorientation
- diminished response to stimuli.

Please note the need to:

- evaluate risk of self-harm
- remove any medicines, alcohol, other drugs or substances (e.g. solvents) that could be ingested by the person.

Identify type of drug and dose

If the person has a sample of the drug recently used with them this can greatly assist with correct identification of the drug.

Note: For assistance with identification of the drug, check The Australian Drug Compendium or Poisons Information Service, or ask the nearest medical staff, general practitioner or pharmacist. If a non-pharmaceutical drug has been used:

- check the label on container (e.g. aerosol can)
- ask the poisons information service in your state
- ask any relevant government agency (e.g. agriculture, mining)
- ask the manufacturer.

Collect urine sample (as soon as possible) to:

- identify type of drug/s used and confirm actual ingestion of that drug/s
- assess for qualitative estimates/doses.

Collect blood sample for:

- presence of drug/s
- blood alcohol level
- serum drug levels.

Other concerns:

- history of ingestion of foreign substance
- medical history (e.g. epilepsy, diabetes).

Identifying people at risk of overdose

People in this category must be identified and assessed for need for:

- urgent urine screening
- specific antidotes
- haemodialysis.

Guide for 'dangerous' classification:

- unusual overdoses
- paracetamol
- unusual drug combinations
- overwhelming overdoses.

Significant overdoses of the following:

- ethyl or methyl alcohol
- opiates/opioids
- sedatives
- tricyclic or tetracyclic antidepressants
- lithium
- glutethamide
- organophosphates
- salicylates
- quinine and quinidine
- iron salts
- heavy metals
- cyanide.

Nursing management of overdose

A standard approach should be used for management of all overdose situations.

Alcohol intoxicated people may have ingested other substances that may complicate and compromise their condition further. There may also be underlying pathology. All these factors must be considered.

Signs

Measure and observe the following and manage according to best practice:

- hypotension
- bradycardia/tachycardia/arrhythmias
- hyperthermia or hypothermia
- oliguria/anuria
- seizures.

Treatment

To be initiated with the following guidelines as routine practice:

- do not give food or fluids
- keep the person calm, if awake, and quiet as excessive movement may enhance rapid absorption of alcohol and other drugs.

Be alert and manage the following conditions according to best practice:

- slowing respiration
- respiratory depression or failure
- airway obstruction
- bronchospasm
- acidosis
- aspiration
- pulmonary or cerebral oedema
- haemorrhagic conditions
- hypoglycaemia
- hyper/hypokalaemia
- liver failure.

Potentially lethal overdoses

People who have had a potentially lethal overdose must be identified and assessed as early as possible for any need for:

- urgent urine screening if and where possible
- specific antidotes
- haemodialysis.

Any person presenting with seizures should be assessed for alcohol withdrawal as well as other causes. The seizures must be investigated and treated according to best practice. The person must be observed and monitored for at least four hours after seizure, incorporating Glasgow coma scale (GCS) score.

Unconscious people

Head injuries, CVA, overdose and intoxication must all be taken into consideration when assessing all unconscious people. Thorough assessment, early recognition and intervention are vitally important. Remember that treating people with respect is a priority and that seemingly unconscious people may be aware of what is being said.

Poisoning must be suspected in all people who present unconscious or with decreasing level of consciousness. The priority of care is as follows:

Airway management: clear airway e.g. vomit, mucous and remove ill fitting dentures. Position head (head tilt/jaw thrust position). Have suction available. In trauma, be aware of possible spinal injury.

Breathing: if clearing airway does not stimulate spontaneous respiration, commence manual ventilation with high flow oxygen and air viva with Guedel's airway in situ.

Circulation: cannulation for blood sampling, drug access and fluid replacement may be required.

Medical management

(For medical management see Section 3).

All people with a depressed or altered level of consciousness must have frequent regular monitoring of vital signs. This is best achieved by using the Glasgow coma scale in conjunction with vital signs including respirations, temperature, blood pressure and pulse. In the unconscious person axillary temperature should be taken. An indwelling catheter should be inserted to monitor urine output. Collect urine for drug screen.

Presume that any person who is unresponsive has a full stomach. Therefore suction should always be available; if not, place in coma position and monitor closely.

- Electro-cardiograph, x-rays, etc. can be done after basic observations and appropriate support are ensured.

Brief Intervention and relapse prevention for people recovering from overdose

Once recovered and when appropriate consider offering Brief intervention and relapse prevention advice and information on services.

Brief intervention may be undertaken once the acute overdose episode has resolved and the person is willing and able to discuss and understand the information they are given. The focus should be on preventing any reoccurrence of an overdose situation and strategies for harm reduction if drug use is likely to continue.

(See Section 1.2 Harm reduction – 2.3: Early and brief intervention and the section(s) related to the specific drug for further harm reduction strategies).

2.6 Managing withdrawal

Introduction

The severity of withdrawal symptoms is not clearly or directly related to the quantity of drugs previously consumed and where physical tolerance has occurred. When assessing for withdrawal and for the purpose of dose titration for clinical management, it is necessary to estimate the time of last drink or dose, as well as placing clinical judgement on the likely onset and severity of withdrawal based on previous history and/or observable clinical signs. It is not useful to rely on the subjective symptoms reported by the person or family/friend present.

Effective clinical monitoring and management of withdrawal in its early stages can greatly reduce or prevent the progression to complicated withdrawal that may be life-threatening due to accidental injury, dehydration, electrolyte imbalance, seizures, delirium tremens or the negative impact on other concurrent disorders including acute infection, renal disease or diabetes.

In the management of withdrawal, it is crucial to select the appropriate withdrawal symptoms monitoring scale as indicated by the person's recent ATOD use history.

The management of particular withdrawal syndromes associated with specific ATOD's is detailed in Section 3: Drug-specific information. Relevant 'gold standard' tools are included and available as Appendices.

Rationale for withdrawal management

Withdrawal symptoms can range in severity from mildly uncomfortable to life-threatening.

Some people withdraw from ATOD without the aid of medication and may only need support and encouragement. Others, especially those with a history of long-term harmful alcohol or benzodiazepine use, can experience serious withdrawal complications (e.g. benzodiazepine or alcohol withdrawal-induced seizures) and will require appropriate medication and nursing supervision.

It is best to assume that any person who has consumed alcohol and other drugs excessively on a daily basis over a significant period of time (weeks) can experience some withdrawal symptoms on ceasing or reducing their intake. Severity of withdrawal symptoms can differ depending on the person, the drug(s) used, duration of use, past experience of withdrawal, other psychological and physical conditions (e.g. nutrition, hydration) and acute or chronic illness.

Drugs with short half-lives, such as alcohol or heroin, will give rise to withdrawal symptoms at an earlier phase after the last dose, and the symptoms will peak and fade faster than withdrawal syndromes associated with drugs with a long half-life such as diazepam or methadone.

General principles of withdrawal management

The approach taken to managing withdrawal will depend on whether the person is specifically admitted to hospital or the clinic for their withdrawal management, or they incidentally experience withdrawal as a result of admission for another illness or injury. In either situation, it is always important to know if the person has a history of severe withdrawal, such as seizures or delirium tremens (DTs).

Managing anxiety is essential to the effective management of any withdrawal state. The basis of all successful withdrawal management is a clear and accurate ATOD use assessment with immediate attention to last dose and time taken.

Nursing management of withdrawal focuses on these main areas:

- assessment and early recognition
- monitoring, documenting and reporting
- preventing withdrawal complications where possible
- minimising progression to severe withdrawal
- decreasing risks of any injury to self/others
- eliminating any risk of dehydration, electrolyte or nutritional imbalance
- reducing any risk of seizures
- identifying concurrent illness that masks/mimic or complicate withdrawal
- providing supportive care
- preparing for discharge after-care and referral as desired.

Nursing guidelines—withdrawal management

Assessment and early recognition of withdrawal

A withdrawal syndrome always develops progressively after cessation or rapid reduction in alcohol or other drug use. Therefore, history taking and assessment, ongoing monitoring, early recognition and prompt management of the initial (and milder) withdrawal state can prevent progression to more severe stages and complications. See Appendices 9 – 13 for withdrawal observation tools and Appendix 14 for the neonatal abstinence syndrome tool.

The basis of all successful withdrawal management is a clear and accurate alcohol and other drug use assessment. If the assessment (see Section 2.2 Assessment) has not been completed accurately, withdrawal may not be anticipated and therefore managed effectively. A clear assessment will point to the possibility of withdrawal, allowing the nurse to plan the person's care. For each of the following potential problem areas there are specific management goals and actions nurses need to take to achieve the goal. A consistent approach is very important. The following is a suggested nursing care plan for managing withdrawal.

Nursing care plan—minimising risk of severe withdrawal

Nursing management goals:

- prevent withdrawal complications
- identify any change in the persons clinical condition early
- if change occurs provide rapid, appropriate interventions.

Nursing actions:

- assess, monitor and predict
- reassure and take a supportive approach
- monitor withdrawal symptoms, document observations based on validated withdrawal scale
- intervene during mild state of withdrawal (e.g. relaxation, reassurance, medications as prescribed)
- explain effects of withdrawal medication (e.g. diazepam) to the person
- administer medication strictly as prescribed and assess effectiveness (do not withhold medication unless complications arise)
- monitor and evaluate effectiveness of nursing interventions
- document and report outcomes
- provide self-help information for withdrawal period
- maintain hydration, nutrition, hygiene, physical safety.

Decreasing risk of injury or self-destructive behaviour

Nursing management goals:

- allow the person to move freely if safe and able to do so
- maintain safety at all times
- maintain privacy and dignity.

Nursing actions:

- assess fine and gross motor coordination, stability and orientation
- assist with daily tasks for self-care where necessary
- help person to express his or her feelings, allow them to talk about their emotional experiences, concerns and issues
- maintain a well-lit, uncluttered environment
- ensure safety by removing dangerous objects (e.g. chairs, vases, heavy objects, razor blades, knives etc.) and assess for suicidal ideation—if this is indicated, facilitate a quick referral to the psychiatric team
- supervise closely—the person may need to be restricted to a supervised area.

Eliminate risk of dehydration, electrolyte and nutritional imbalance

Nursing management goals:

- maintain adequate hydration
- maintain Thiamine and essential nutritional intake
- maintain body weight.

Note: Thiamine (Vit B1) should be given to all at risk drinkers (See Section 3.1.1 – Alcohol – Critical situations).

Nursing actions:

Thiamine (Vit B1) should be given prior to glucose loading (See section 3.1.1 – Alcohol – Critical situations). Coagulopathy may render intramuscular injection unsafe. Resuscitation equipment should be immediately available when Thiamine is given IV, in the unlikely event of anaphylaxis [55].

- assess and record nutritional intake, fluid intake and output
- encourage and assist adequate fluid intake and nutrition
- administer other vitamins and fluids as ordered
- monitor blood pressure, temperature, pulse and respirations
- monitor any nausea or vomiting and administer anti-emetics as ordered

- monitor any tremor of hands, limbs, tongue.
- Reduce potential for seizure

Nursing management goals:

- prevent seizures
- maintain safety.

Nursing actions:

- assess and monitor withdrawal status regularly
- observe best practice guidelines for seizure prophylaxis
- administer medication as ordered.

Identify presence of concurrent illness that mask or mimic withdrawal

Nursing management goals:

- exclude conditions that may mimic/mask withdrawal (e.g. hypoglycaemia)
- treat concurrent medical and psychological conditions as required.

Nursing actions:

- take adequate history
- monitor and respond to withdrawal state and concurrent condition
- follow procedures relating to other conditions including those detailed in section 2.4 Managing intoxication.
- administer medications as ordered.

Provide supportive care

Nursing management:

- explain to the person what is happening and that you are there to look after them
- allay and lessen anxiety, agitation, confusion, disorientation, hallucinations, anger or fears of not having needs met, and maintain personal comfort
- encourage and support the person to complete their withdrawal episode.

Nursing actions:

If showing signs of anxiety, agitation, panic:

- approach in a calm, friendly and open manner
- always introduce self
- always explain any nursing actions required

- spend time with the person to establish rapport
- move and speak in unhurried way
- provide support and encouragement
- minimise the number of staff attending to the person
- reinforce goals related to the admission
- decrease stimulation by providing quiet and uncluttered environment
- give the person the opportunity to discuss feelings/concerns
- provide frequent reassurance
- show interest/empathy in person's welfare and health
- remain with the person to calm him/her down
- seek input regarding their comfort level and needs
- explain any medical or nursing interventions
- provide information on self-help strategies
- protect from accidental harm (e.g. do not leave unattended on a trolley or bed without safeguards)
- offer activities such as relaxation, warm bath, soft music.

If showing signs of anger or aggression:

- determine the source of anger
- defuse the situation
- let the person air their feelings, acknowledge them
- address the person by their proper name
- keep your own emotions in check, speak in a calm, reassuring way
- use space to protect yourself
- do not challenge or threaten by the tone of your voice, eyes or posture
- be reasonably flexible, keep in mind own safety and that of others.

Signs of confusion or disorientation:

- confusion, disorientation, altered perception or hallucinations may indicate progression to severe withdrawal (associated particularly with alcohol withdrawal) or may signify another concurrent illness.

If there is an emergence or exacerbation of these symptoms in a person who is not intoxicated, an urgent medical review is warranted:

- provide information on place, time and day regularly to the person
- offer reassurance
- remove any unnecessary equipment, restrictive clothing, bed linen
- use/display object(s) familiar to the person (e.g. their own slippers, dressing gown)
- ensure safety by frequent supervision and safeguards such as padded cot sides, lower bed as far as possible
- walk with the person to and from the bathroom, lounge, etc.

With altered perception/hallucinations:

- explain perceptual errors and provide reassurance
- create a simple and uncluttered environment
- nurse in well-lit/evenly lit surroundings to avoid perceptual ambiguities, and take care with night lighting to avoid shadows
- explain any procedures you need to do
- protect from harm.

More detailed information about nursing management of withdrawal from ATOD may be obtained by phoning the local alcohol and drug information service (ADIS) in your state.

Brief intervention and relapse prevention

(See Section 2.3: Early and brief intervention).

Preparation for discharge follow-up and referral

Nursing management:

- plan for discharge and ensure the person is aware of, and can choose from, the range of services/support available
- where appropriate involve the person's family in their after care plan and discharge

Nursing actions:

- effective management and support may influence a person's successful completion of withdrawal and their decisions to engage in further interventions or activities to cease or reduce their ATOD use, and any harms associated with their use
- advise the person that withdrawal may be an initial 'milestone' in encouraging the person to change their harmful ATOD use

- education about harmful ATOD use and withdrawal can support this change
- person needs to be encouraged to use self-management strategies (e.g. relaxation, sleep management, defocusing from craving to other activity) that were introduced in the acute phase of withdrawal. These may assist in alleviating any ongoing withdrawal symptoms and craving that can persist for weeks or months
- determining the person's longer-term goals will guide the clinicians caring for them in what information might assist the person to make their choices relating to any future goals in reducing or ceasing their ATOD use. Their goal may be abstinence, methadone maintenance or controlled use
- providing the person with information about the services available to them following discharge, such as methadone (pharmacotherapy) maintenance, can assist them in achieving their goal, such as future abstinence through pharmacotherapy
- providing access to supportive counselling can assist the person with achieving their short and long-term goals
- assisting the person to engage in self-help and community groups, such as Alcohol Anonymous (AA) or Narcotics Anonymous (NA), who can provide free and accessible support for the person to achieve their goals and re-integrate into the community. ALANON and ALATEEN are available for family members and young people.
- providing referral to residential rehabilitation programs that can assist the person to achieve abstinence
- providing the person with information and assistance to make follow-up appointments will help them to engage with services that can help them resolve their problems and achieve their goals for change.

Maternal and neonatal care

Midwives and nurses can be challenged at times in how best to care for pregnant women who use alcohol, tobacco and other drugs such as heroin or other opioids (for specific drug information (see Section 3).

Attracting and maintaining pregnant women in drug treatment and maternity services is vital for them and their babies. Being non-judgemental and offering reassurance and support is always the best approach. This will help the midwife and other staff to develop rapport and trust and optimise the health and well being of the woman and her baby. We know that:

- Drugs and pregnancy outcomes of women engaged with a specialist perinatal outreach addictions service have better general health themselves as well as healthier babies, even if they are still using illicit drugs [56-58].

- Engaging the woman's partner/family is a very important aspect of enabling the woman to manage her ATOD use issues and general health and achieve optimal progress at the earliest possible stage in her pregnancy.

The key aims in caring for the woman and her baby are to:

- ensure that she and her family feel welcome and not judged by nurses, midwives and other staff, and that she knows her antenatal care and drug use will be managed effectively
- encourage her to cease ATOD use with guidance, and if necessary specialist support/treatment such as methadone for opioid dependence, so as to achieve maximum health and wellbeing for her and her developing baby
- ensure effective coordination of maternal and family care between all relevant services (midwife /doctor and specialist A&OD team) and other parties
- care planning meeting (with consent) with the woman (and partner/family if appropriate) as early as possible in her pregnancy
- ensure contingency plans and strategies are in place to prevent and intervene early in any health or social 'crises' along the way.

The woman, (and if she wishes her partner/family) should be informed about all clinical meetings and invited to attend.

These meetings should include:

- the woman (and partner /family as appropriate)
- relevant case worker, medical, maternity, neonatal, ATOD, MH and social work staff.

The case worker or team should help the woman to:

- identify problems, educate and help her to set goals
- receive psychosocial support and access to community resources and network.

Assessing ATOD use in pregnancy (see Section 3 for specific drug assessment)

It is essential to know the woman's:

- pattern of ATOD use (include tobacco, over-the-counter (OTC) and other pharmaceuticals, herbals, inhalants etc)
- current and recent past e.g. last 12 months
- frequency of use e.g. multiple times/day, daily, every two or three days, weekly, monthly, occasional, binges
- quantify doses or $ amount used
- time & date of last use/dose/s

- route/s of administration (swallowed liquid or tablet; topical gel or patch; sniffed; smoked/inhaled; injected)
- risks e.g. sharing injecting equipment, unsafe sex, driving vehicle when intoxicated
- any known allergies and medical conditions.

Possible complications during pregnancy

(See Section 3 for specific drug information).

Uncontrolled use of ATODs in pregnancy can lead to complications such as:

- Low birth weight and premature labour.
- Abrupto placentae, spontaneous abortion, intrauterine death, intrauterine growth retardation, foetal distress, meconium aspiration and neonatal jaundice.
- Blood-borne viral infection from unsafe injecting can result in maternal infection and vertical transmission to her baby (see Section 1).
- ATOD withdrawal during pregnancy carrying serious risk of miscarriage or stillbirth, particularly if withdrawal is sudden.
- Importantly alcohol withdrawal carries significant risk for the woman as well as foetus. Any pregnant woman at risk of withdrawal needs to be cared for in hospital to ensure her withdrawal is managed safely and that any obstetric complications are prevented and treated (see Section 3).

General health

Health problems can occur during pregnancy, and need to be discussed as early as possible with the woman. Her physical and mental health should be monitored and reviewed throughout her pregnancy, and include:

- injury (e.g. from domestic violence, episodes of intoxication, falls etc.)
- dental problems (e.g. caries and oral infections)
- poor nutrition e.g. Thiamine deficiency, anaemia, malnutrition, gestational diabetes etc.
- acute and chronic bacterial or viral infections including those acquired through unsafe injecting
- depression, anxiety including Post Traumatic Stress Disorder (PTSD).

Any of the above and other health issues can increase the risk of obstetric complications and premature delivery.

It is important that the woman's general health is therefore regularly checked and in addition to usual monitoring should include a review of general nutrition, any risk of anaemia, dental hygiene and complications from acute or chronic infections such as bacterial and blood borne viruses.

Pregnant women with ATOD problems should be advised of the benefits of well coordinated care between their GP or drug treatment and maternity service as this will offer them best possible outcomes.

In a 'nutshell':

- Pregnant women who use ATOD's can do well given effective clinical, social and emotional support.
- Women need non judgemental, well coordinated care from their midwife, nurse, treating doctor (GP or drug treatment service) and obstetric staff.
- Partners and trusted family members should be included according to a woman's needs and wishes.
- A sound care plan needs to be developed by the treating teams in collaboration with the woman (and parent/family) at the earliest possible time in the pregnancy.
- Consideration of the woman's changing needs and possible crises 'along the way' along with regular monitoring, re-assessment, early intervention and social support will be critical throughout the pregnancy, labour and postnatal periods.

Education and quality information should be provided to women and their partners and families about:

- general, dental and mental health during pregnancy, labour and the neonatal period
- caring for a newborn at risk of withdrawal and during the withdrawal stage (See below and Section 3)
- ATOD effects and how to get help
- harm reduction information (See Section 1)
- ADIS 1300 13 1340 24hr telephone information; brief counselling and referral services.

2.7 Alcohol, Tobacco, Other drugs & Pregnancy

This section provides general information about ATODs and pregnancy.

This information has largely been drawn from the following document:

Ministerial Council on Drug Strategy 2006, *National Clinical Guidelines for the management of drug use during pregnancy, birth and the early developmental years of the newborn*, Commonwealth of Australia, March.

This document is available at the following website:

www.health.nsw.gov.au/pubs/2006/pdf/ncg_druguse.pdf

Specific information on the management of particular ATODs and pregnancy, as well as the neonate, are presented in Section 3 of this document.

Section 3 is focused on the specific management of intoxication, overdose and toxicity in relation to a number of drugs of dependence. Subsections entitled 'Maternal and Neonatal Care' are incorporated which address the appropriate management of particular drugs, including the impact of the drug on pregnancy and its outcomes. Section 3 also contains (as appropriate for different drugs), the management of withdrawal, pharmacotherapy programs in pregnancy, and management of labour and the newborn including neonatal abstinence syndrome.

Harm and risk for withdrawal from drug use during pregnancy

Table 7: Summary of harm and withdrawal potential from drug use during pregnancy

Chemical Class	Drug	Potential Harm	Withdrawal potential
Stimulant	Nicotine Tobacco	*Risk for foetus* – IUGR, lower birth weight, increase in infections and breathing complications in first weeks of life. *Risk for pregnancy* – increased risk of placental problems, bleeding, miscarriage, premature birth and stillbirth.	Yes
	Caffeine	*Risk for foetus* – if daily consumption over 600mg per day – increased risk of miscarriage, difficult birth and low birth weight. *Risk for pregnancy* – crosses placental barrier similar to that of mother, may experience withdrawal symptoms such as rapid, irregular pulse, rapid breathing and tremors.	Yes
	Amphetamine	*Risk for foetus* – reduced blood flow and oxygen to foetus from vasoconstriction. Linked to increased risk of e.g. smaller head size, eye problems, cleft lip and palate, delayed motor development. *Risk for pregnancy* – increased risk for miscarriage, premature birth, placental haemorrhage, IUGR and stillbirth.	Yes
	MDMA (Metheleynedioxy-methamphetamine)	*Risk for foetus* – has been associated with delayed development and subtle abnormalities in newborn. *Risk for pregnancy* – limited research and specific effects on pregnancy.	
	Cocaine	*Risk for foetus* – IUGR, small birth weight And birth defects e.g. defects of genitor-urinary tract, heart, limbs. *Risk for pregnancy* – may cause bleeding, miscarriage, premature labour or stillbirth.	Yes

Table 7 cont: Summary of harm and withdrawal potential from drug use during pregnancy

Chemical Class	Drug	Potential Harm	Withdrawal potential
Depressant	Alcohol	*Risk for foetus* – risk of foetal alcohol spectrum disorder, foetal alcohol syndrome, IUGR. *Risk for pregnancy* – miscarriage, bleeding, premature birth and stillbirth.	Yes
	Prescribed sedatives Minor Tranquillisers e.g. Benzodiazepines	*Risk for foetus* – may affect foetal growth and development.	Yes
	Barbiturates	Risk for foetus Risk for pregnancy	Yes
	Opioids-Heroin -Morphine -Codeine -Pethidine -Opium	*Risk for foetus* – smaller baby and prone to illness, increased risk for BBV, *Risk for pregnancy* - increased risk of miscarriage, premature birth	Yes
	Non-narcotic analgesics		No
	Marijuana	*Risk for foetus* – reduced growth and increased risk of illness. *Risk for pregnancy*	Unknown
	GHB (Gamma-hydroxybutyrate (Fantasy)	Risk for foetus and pregnancy – little known	
Hallucinogens	-LSD -Mescaline -Psylocibin - Ketamine	*Risk for pregnancy* – LSD and other hallucinogens appear to be linked to increased risk of miscarriage and birth complications.	Unknown
Inhalants and Solvents		*Risk for foetus* – increased risk of birth defects, (similar to those for alcohol if use toluene). *Risk for pregnancy* – increased risk of miscarriage, early labour/premature birth with associated breathing difficulties and risk of infections.	Yes

[59]

Antenatal Care

Good antenatal care is critical for early identification and amelioration or risks to the woman and her baby and is aimed at optimizing pregnancy outcomes through reducing the risks to the mother and her baby [60].

Continuity of care

Continuity of ante and post natal care is important for all pregnant women and their babies, especially young first time mothers.

This is especially important for pregnant women, who have problems related to their use of ATOD's where collaboration of multidisciplinary teams including obstetric medical specialist, midwives and ATOD specialist medical and nursing personnel can optimize the outcomes for the woman and her baby [60]. Continuity of care is established by:

- effective engagement skills, including cultural awareness
- effective systems including clear identification of an ongoing main case worker and assertive follow-up of non attendances
- individualised care planning in consultation with the woman
- timely and accurate documentation and multidisciplinary team communication
- seamless referral systems and service delivery [60].

Engaging with pregnant women

The aim of engagement is to establish a professional, trusting and empathetic relationship in which the woman is and feels welcome, supported and encouraged to continue to attend [60].

Successful engagement relies on the quality of the relationship established with the woman by the health care team. Failure of engagement may result in loss of the woman to follow-up, which increases the risk of less than optimal pregnancy outcomes for the woman and her baby [60].

Pregnant women with problems related to their use of ATOD's may be reluctant to engage with mainstream services for antenatal care for a range of reasons. Some reasons may include; being fearful of notification to child welfare services, past history of negative, judgmental or punitive responses from health service providers or feeling unwelcome [60].

Pregnant teenagers and young women are particularly at risk of having poor antenatal care due to non-engagement with service providers, continuing drug use and late pregnancy presentation.

Each presentation of a drug dependent pregnant woman at any service needs to be identified as an opportunity to engage or encourage the woman to remain engaged in ongoing antenatal care [60].

Engagement is enhanced when:

- the team ensures a non-judgemental attitude and aproach
- there is a commitment to providing optimal and timely health care for all women regardless of race or diagnosis - dependence is seen as a health issue - not an issue for moral, social or other judgments
- a safe, supportive therapeutic milieu and an environment that ensures dignity, privacy and confidentiality is created by the team
- there is an understanding of the potential barriers to the woman accepting antenatal care, and strategies are in place to overcome them
- the woman's feelings and perceptions are acknowledged and the woman is reassured to address fears
- the team understands that disclosing ATOD use in pregnancy is difficult
- the team establishes and sustains a sound and trusting professional relationship with pregnant women who have ATOD issues, whereby importance is given to creating a therapeutic partnership in which the woman makes decision based on the selection of safe interventions from the range of options discussed and available to her
- there is an awareness that women with drug and alcohol issues often have a number of service providers involved in their lives
- an understanding and acknowledgment that regardless of drug use, the woman will want what is best for her baby
- pregnancy provides an excellent opportunity to engage the woman in drug and alcohol treatment and change [60].

Client Education

In the health sector, the education approach can commonly involve "telling someone what to do and they will do it" model which assumes that if you tell someone about what is good for them they will act in accordance with the advice given. This approach does not work and is not useful in encouraging behavioral change. This model will not be productive in supporting a drug-dependent pregnant woman.

Client education during pregnancy is a critical component of antenatal care for all women. For pregnant women who use drugs it is particularly important. Women need to be empowered to make decisions to protect and enhance the health and wellbeing of themselves and their baby and to choose from among the safe options available to them in the context of full information provision (including risks) and need to be supported in the decisions they make.

Information must be relevant and meaningful (i.e. fits with the information they need

based on what will assist in implementing thier decisions). In this, client education is undertaken in the context of a partnership with the woman and aims at meeting their needs and expectations. The woman feels her wishes are considered in the content of the education program and education strategy selection process.

The program development process should include undertaking a needs assessment with the woman which may include asking about or consideration of some the following as relevant:

- stage of change
- motivation for change
- literacy levels
- beliefs regarding susceptibility and seriousness of threat or risk to herself and her baby
- need for information related to intervention choices
- barriers to learning or change e.g. learning difficulties
- benefits of change
- beliefs in self efficacy - belief that she can succeed and that strategies are likely to be successful
- current beliefs, skills and knowledge i.e. what does the woman know about?
- needs and expectations for the program, what the woman wants to learn about and wants as an outcome of the educaiton porgram i.e. What do they want to know and/or be able to do?
- type of intervention required - if it is for prevention or intervention purposes, does it involve behavioral change e.g. stopping, substituting or learning a behavior or about pregnancy or child care
- how the person learns (we all learn differently); using strategies that fit with the invidual's learning style will positively effect their capacity to understand the information e.g. seeing, doing, reading, audiovisiuals such as film or notes, as reminders or pictures or story boards
- client competency to carry out identified actions or new behaviours – what could get in the way, what could help
- relapse prevention - lapse factor assessment and strategy development for how to get back on track
- level of personal responsiblity
- rapport developed
- personal characteristisc - e.g. personal space, past behavioral change adherence to

strategies and family influence.

- Negotiation of program content [61-64].

Throughout the client intervention process, the impact and outcomes of each component needs to be undertaken with the woman. This focuses on success and addressing barriers or problems for adherence as they arise. The evaluation discussion should also seek to:

- identify any changes woman wants to make to their care and or education plan
- answer any questions
- problem solve
- negotiate any changes to the the education program
- short-term goal setting to address problems and actions to meet them
- time for ongoing education contact and follow-up antenatal care visit.

Screening

Drug and alcohol use

Screening for alcohol, tobacco and other drug use should be included all antenatal initial assessments. There is some recent evidence yet to be published that has identified one screening question that will give an indication of other drug use. The question is, “Do you smoke?”

Where women do not smoke during pregnancy, the incidence of using other drugs is almost nonexistent [65].

Further screening where the woman uses tobacco can also include asking about:

- current and previous use of ATOD’s e.g. alcohol, tobacco, cannabis, stimulants (amphetamine), ecstasy, opioids, inhalants
- drugs used from the time of conception (or earlier if possible)
- prescribed medications including e.g. opioid pharmacotherapy, benzodiazepines
- over the counter medications e.g. paracetamol.

It is important to identify the amount, dose, pattern, route of administration and frequency of use, in order to identify risks for the mother and her baby arising from high doses, regular or daily use and dependence and/or the method of use.

Alcohol Screening

All pregnant women should be screened about their consumption of alcohol. Where women are drinking a full assessment of alcohol intake should be undertaken and appropriate referrals should be made. A validated tool for use in pregnancy such as T-ACE, TWEAK can be used to assist assessment. AUDIT can also be used but is not specifically validated for use in pregnancy.

Urine drug screening for illicit drugs

Pregnant women should have urine drug screens no less often than other women in similar circumstances (e.g. when in an opioid treatment program).

Screening for blood-borne viruses

It is cost effective to screen all drug-dependent pregnant women for blood-borne viral infections early in pregnancy, particularly where evidence supports the benefits of interventions to reduce the risk of vertical transmission to the newborn. All screening for blood-borne viruses must be conducted with the informed consent of the woman, and with appropriate pre-test and post-test counseling.

Screening for other critical and associated potential risks

All pregnant women should be screened for risk of mental health issues and social issues that may place then at risk such as family or relationship violence and homelessness.

Managing withdrawal during pregnancy

See specific drug sections in Section 3 for management of drug use and withdrawal in pregnancy.

Women who are pregnant and present with alcohol or other drug use may have tolerance and may choose withdrawal as a part of treatment strategies. Pregnant women need appropriate, safe clinical management based on the most current best evidence available. This involves a careful assessment of their needs (including antenatal care, mental health and drug issues) and consideration of available options that may include Opioid maintenance pharmacotherapy, psycho-social care and referral to high risk obstetric services.

Women who are >28 weeks pregnant should be managed in a specialist inpatient obstetric service by where management of their health and pregnancy, along with appropriate drug withdrawal treatment, can occur. Planned withdrawal aims to provide a safe and effective clinical response to women who are pregnant and seeking alcohol or other drug withdrawal.

Possible hazards

There is a risk of precipitation of complications of pregnancy if the relevant withdrawal syndrome is not adequately treated.

There may be consequences of the use of medication that is contraindicated (or relatively contraindicated) in pregnancy (ADEC categories B, C ,D & X). See information regarding these categories below.

Principles for Management

Women with a viable pregnancy (>28 weeks) should be admitted to specialist inpatient obstetric services.

Women known to be pregnant and wanting inpatient withdrawal management should be admitted as a matter of some urgency and where possible their admission should be expedited.

Pregnant women requesting outpatient withdrawal management should be advised of any relevant risks involved and encouraged to consider inpatient management.

All other women of reproductive age presenting for inpatient withdrawal management are required to provide a urine sample for pregnancy testing prior to the administration of medications (unless to do so would result in serious medical complications).

Attention should also be given to any antenatal care needs throughout withdrawal management. This may include needs for:

- transferring the woman to a specialist antenatal care service
- an ultrasound scan if there are concerns about her pregnancy, and
- referral to a specific antenatal clinic e.g. High Risk Pregnancy Clinic if the woman is not already engaged in antenatal care.

Note: It is advisable to check with the relevant obstetric service whether the woman is already known to them and for further information and advice.

A number of medications routinely prescribed in drug withdrawal are not ADEC Category A (no evidence of harmful drug effects) – see listing below of categories for medications commonly used in withdrawal.

Categorisation of drugs commonly administered in medical withdrawal setting, with category explanations:

A: Drugs which have been taken by large numbers of pregnant women and women of childbearing age without any proven increase in the frequency of malformations or other direct or indirect harmful effects on the foetus having been observed.

B1: Drugs which have been taken but only by a limited number of pregnant women and women of childbearing age, without an increase in the frequency of malformation or other direct or indirect harmful effects on the human foetus having been observed. Studies in animals have not shown evidence of an increased occurrence of foetal damage.

B2: Drugs which have been taken by only a limited number of pregnant women and women of childbearing age, without an increase in the frequency of malformation or other direct or indirect harmful effects on the human foetus having been observed. Studies in animals are inadequate or may be lacking but available data show no evidence of an increased occurrence of foetal damage.

B3: Drugs which have been taken by only a limited number of pregnant women and women of childbearing age, without an increase in the frequency of malformation or other direct or indirect harmful effects on the human foetus having been

observed. Studies in animals have shown evidence of an increased occurrence of foetal damage, the significance of which is considered uncertain in humans.

C: Drugs which, owing to their pharmacological effects, have caused or may be suspected of causing, harmful effects on the human foetus or neonate without causing malformations. These effects may be reversible. Appropriate texts should be consulted for further details.

D: Drugs which have caused or are suspected to have caused, or may be expected to cause an increased incidence of human foetal malformations or irreversible damage. These drugs may also have adverse pharmacological effects. Appropriate texts should be consulted for further details.

X: Drugs which have such a high risk of causing permanent damage to the foetus that they should not be used in pregnancy or when there is a possibility of pregnancy.

Categories:

Category A

Metoclopramide

Paracetamol

Category B1

Amoxicillin with clavulanic acid

Cefotaxime

Category B2

Benztropine

Hyoscine

Norgesic™

Disulfiram

Acamprosate

Category B3

Loperamide

Clonidine

Naltrexone

Category C

Diazepam (oxazepam, temazepam, nitrazepam) – hypotonia, respiratory depression and hypothermia in the newborn; prolonged use causes withdrawal in the neonate.

Pericyazine – high doses in late pregnancy have caused prolonged neurological disturbances in the newborn infant.

Naproxen – inhibits prostaglandin synthesis, when given in the last trimester may cause closure of the foetal ductus arteriosus, foetal renal impairment, inhibition of platelet aggregation and delay labour and birth.

Methadone – may cause respiratory depression in the newborn infant. Withdrawal symptoms in newborn infants have been reported with prolonged use of the drug.

Suboxone and Subutex.

Category D

Quinine.

Discharge planning

Discharge planning for the pregnant woman is an extremely important part of her withdrawal management, ongoing treatment, relapse prevention, general health and mental health and antenatal care.

Therefore careful liaison with relevant antenatal services and regular follow-up with her midwife/caseworker are necessary. If she does relapse, opioid maintenance treatment should be urged and supported, as appropriate, or readmission facilitated.

Neonatal Abstinence Syndrome (NAS)

(See Section 3 for specific drug information)

The mother and her baby require non-judgemental support, regular observation and close monitoring so that withdrawal symptoms can be detected and treated early.

- like any other mother she will be very concerned about the wellbeing of her baby – and needs to be involved and supported in caring for her baby
- the mother may feel ashamed and therefore afraid to ask for help
- she may fear her baby will be very sick or die, or taken from her because of her ATOD problems (she may have already lost a baby to miscarriage, prematurity, or other reasons).

Assessment of the mother's ATOD use history and most recent use is necessary to guide clinical decisions about the possibility of NAS in the neonate.

- NAS symptoms generally begin 24 to 48 hours after delivery
- withdrawal symptoms need to be regularly monitored and treated as early as possible (See Section 3)
- both mother and baby will require extended admission of about 8 days and close monitoring and support post discharge.

Remember:

- mother may also undergo ATOD withdrawal and she too needs to be carefully monitored and treated according to her history and symptoms
- a history of previous withdrawal indicates caution being required as it is likely to recur this time
- any suspected previous complications must be noted, prevented or treated effectively e.g. alcohol, benzodiazepine withdrawal (see Section 3)
- if the mother is undergoing methadone or buprenorphine treatment for opioid dependence she will require her usual daily doses AS WELL as additional pain relief and symptomatic medications (See Section 3 for Opioid Withdrawal and Pain Management).

Care of neonate with NAS

(See Section 3 for specific drug NAS).

The mother, father and other concerned family members need to be educated, shown, supported and enabled to be fully involved in establishing their baby's feeding and general care routine. This includes NAS observations and treatment as required.

The baby requires supportive care including:

- low stimulus (and if possible private) environment preferably rooming with mother
- demand feeding – breastfeeding if possible and/or formula - small frequent feeds (sucking can be ineffective) as this encourages bonding, optimal nutrition, soothing and settling and has the bonus effect of reducing the severity of withdrawal symptoms
- regular monitoring of how the baby suckles, intake and weight
- pacifier
- cuddling, swaddling, close skin contact
- careful and frequent observation and monitoring for onset, progression, severity and lessening of withdrawal symptoms. Observe between observation regime e.g. NAS observation regime (See Section 3 for specific drug and Section 4 Appendix 16 for NAS - Finnegan Observation Chart).

Medical treatment of significant NAS

Morphine and phenobarb are used to treat NAS. The baby will need to be transferred to and managed in the special care unit in the event medication management is required for significant withdrawal.

Nursing care of mother and baby

- Mother (and partner/family) need be educated about her baby's condition, what to expect, the nature of and reasons for treatment
- Mother needs to feel included and welcome and supported to be with her baby as much as possible – this will help her baby to recover, and is good for her
- Mother's ability to provide demand feeding needs to be encouraged, guided and maintained.

Going home

Preparation for going home needs to be carefully prepared for and managed, and based on the particular health, social and other needs of the mother, baby and her family unit.

- Daily midwifery visits will be required as well as regular contact and support from her drug treatment and maternity care units.
- The mother's ATOD treatment regime needs to be supported and maintained
- Various social issues may arise such as e.g. housing or financial support needs
- The baby may require medication for three weeks after going home.

The women's drug treatment doctor and team need to be notified of her and her baby's discharge so that arrangements are in place to continue her pharmacotherapy e.g. methadone without interruption. This can prevent relapse and other problems arising unnecessarily.

Home visiting social services need to be included (if possible) in discharge planning, and notified when this occurs. This can enable regular support that can assist mother and baby to progress well.

2.8 Blood Borne Viruses

The most common blood borne viruses associated with injecting drug use are:

- Hepatitis B, C
- HIV [66]

The following website has additional information visit www.ashm.org.au

This website has accurate information related to current evidence based management of HIV, Hepatitis B & C

Testing

Informed consent is required before HIV, Hepatitis B and C testing. To enable a person to make an informed decision and give consent they require adequate information around testing and the implication of results for them.

Discussion of issues related to hepatitis B, C and HIV should be undertaken for all people who are or have been injecting drugs.

Hepatitis C infection is common among people who inject drugs. It may be diagnosed some years after injecting has ceased. Transmission can occur with any unsafe injecting drug use even in a once off situation.

Testing (with effective pre-test education and post-test counselling) should be offered to any person considering being tested for a blood-borne infection or disease. They should be offered hepatitis B vaccination if found to be not immune.

The person should be provided with relevant literature to read prior to pre-test counselling.

Pre-test Counselling

Pre-test counselling aims to:

- provide the person with the opportunity to understand the implications of testing (both a negative and positive result)
- give an opportunity to discuss risk factors for transmission
- educate people about transmission risk reduction
- enable the person to make an informed choice about undertaking testing.

Pre-test education should be adapted to the person's knowledge and cultural understanding as appropriate.

Pre-test counselling should involve the following:

- explanation of blood borne viruses

- assessment of risk behaviours and education on risk reduction measures
- information on transmission and how to prevent transmission of BBV's
- description of the relevant tests and possible results
- discussion around fears and concerns
- information on confidentiality and privacy
- explanation of the logistics of testing (including how results are provided, and the window period)
- information about the implications of a negative or positive result including re-testing and sero-conversion
- notification requirements and contact tracing
- treatment options and support services
- exploration of psychosocial issues and support.

A person should be given the time to think about the issues before making a decision on whether to proceed with testing.

Procedure for BBV Testing

- undertake pre test counselling and negotiate for post test counselling
- obtain written consent
- ensure blood is collected for testing and sent to pathology.

Post-test Counselling

All HIV, Hepatitis B and C test results should be given in person (face to face) and preferably by the same person who undertook the pre-test counselling. The education and counselling should be adapted to the person's individual needs and cultural understanding as appropriate.

Nurses are well placed to provide follow-up, counselling and support, to reinforce the information provided and link the person with available community services.

There are two main aims of post-test counselling. These are to:

- address the immediate concerns of the person receiving a positive test result
- provide necessary information and follow up support.

If the result is positive

Allow for discussion of the following issues as appropriate e.g.:

- support needs during the initial period following receipt of a positive test result and the immediate emotions, feelings and reaction to the result.

- provision of factual information relevant to the test results
- likely changes for themselves and their family
- ways to deal with loss, grief, depression, anger and anxiety
- reinforce transmission information, prevention strategies and pre test education provided. Also provide and teach relevant harm reduction and transmission prevention practices e.g. for safe sex, safe use of injecting equipment, low risk drug use and promotion of abstinence
- any difficulties or issues that may prevent the person from engaging in safe practices
- co-infection or re-infection
- who to tell, why and how
- options for drug treatment and medical management
- positive news e.g. the percentage of people who will clear the virus or respond well to treatment
- complementary management options
- ongoing counselling
- legislative requirements (notification, contact tracing, clinical records storage and coding).

What a positive result means in regard to:

- medical aspects/prognosis
- psychological aspects
- notification requirement
- social aspects (supports etc)
- insurance aspects
- personal perception of risk
- confidentiality

Provide prevention information/education in relation to:

- self management and infection with new genotypes
- harm reduction.

Post-test counselling may require more than one session and the time taken to provide this will vary according to the individual persons needs. As there may be an emotional reaction to a positive test result, it may be necessary to repeat information provided on more than one occasion, to allow the information to be absorbed.

If the result is negative:

Allow for discussion of the following issues as appropriate e.g.:

- discuss what a negative results means (i.e. 3 month period before sero-conversion) and need for retesting
- reinforce transmission information, prevention strategies and pre test education provided. Also provide and teach relevant harm reduction and transmission prevention practices e.g. for safe sex, safe use of injecting equipment, low risk drug use and promotion of abstinence
- any difficulties or issues that may prevent the person from engaging in safe practices
- discuss future testing following any practices placing them at risk of infection
- provide further information and support as requested.

Hepatitis B

Hepatitis B infection is preventable. Hepatitis B vaccine should be offered to all people who inject drugs who upon testing for the virus are shown to have no immunity. Immunity is life-long but co-infection can occur.

Transmission

Hepatitis B is a virus transmitted through any body fluid. Co or re-infection can occur due to different mutants of the virus.

Progression to chronic infection or carrier

5% of people who have acute hepatitis B infection progress to chronic infection. This increases to around 80% in children affected at birth. Neonatal infection usually results in asymptomatic carrier state. Some may progress to cirrhosis.

Persons with chronic HBV infection might be asymptomatic, have no evidence of liver disease, or have a spectrum of disease ranging from chronic hepatitis to cirrhosis or hepatocellular carcinoma (a type of liver cancer).

Signs and Symptoms of Acute Hepatitis B

The presence of signs and symptoms of hepatitis B varies by age and depend on whether a person has acute or chronic hepatitis B infection.

Acute hepatitis B infection

Many adults and children with acute hepatitis B are asymptomatic and unaware that they have the infection. A very small percentage with acute hepatitis B develop ‘fulminating hepatitis’ within a short period of time.[67].

Symptoms of acute hepatitis B include:

- fever

- jaundice occurring approximately 12 weeks after initial infection with yellow eye sclera, skin, dark urine and pale faeces
- loss of appetite
- nausea and vomiting
- lethargy
- abdominal pain
- muscle and joint pain.

Chronic hepatitis B

Most people with chronic hepatitis B are asymptomatic, feel healthy and are unaware they are infected. Others may experience symptoms similar to those of other forms of viral hepatitis.

Symptoms of chronic hepatitis B include:

- lethargy
- depression and irritability
- liver pain
- nausea and vomiting
- loss of appetite
- muscle and joint pain

Current treatments for Hepatitis B

Lamivudine is a 12 month treatment for people whose biopsy shows chronic active hepatitis.

If awaiting transplant this treatment is not commenced without discussion with the transplant unit.

Interferon monotherapy may be used with 5 – 7 % people clearing the virus.

For up to date comprehensive information about Hepatitis B treatment please refer to the following website: www.hepatitisaustralia.com/about-hepatitis/hepatitis-b

Hepatitis C

In South Australia, it is estimated that there are over 17,000 people who have been exposed to the hepatitis C virus, with around 150 new infections each year.

The majority of people who contract the virus are asymptomatic and unaware that they have the infection. Thus diagnosis does not usually occur around the time of exposure.

The diagnosis of hepatitis C can result in shock and confusion.

Respectfully engaging with people, providing accurate information and allowing time to answer their questions can assist them to understand the:

- diagnosis and its meaning
- transmission and the nature of the infection
- potential for clearance of the virus
- possible progression to chronic disease and time frames
- treatment options and outcomes.

The following topics need to be discussed with the person newly diagnosed:

- the screening test and what it means
- natural history of hepatitis C
- physical impacts
- lifestyle recommendations
- treatment options
- social impacts
- disclosure
- notification requirements
- risk factors for transmission /prevention for self and others
- Hep B vaccination
- referral options
- resources available.

What is the screening test and what does it mean?

A hepatitis C antibody test (HCV Ab+) is the initial blood test to screen for hepatitis C.

A positive result to the hepatitis C antibody test means that a person has been exposed to the hepatitis C virus. It does not necessarily mean the person has the virus, though an antibody positive test together with an abnormal liver function test (LFT) gives greater than 80% likelihood that the person has the virus.

Antibodies to hepatitis C remain in the body over many years, even when people have cleared the virus naturally or through pharmaceutical treatment. Antibodies do not protect against re-infection with other strains of the hepatitis C virus.

A PCR (polymerase chain reaction) qualitative test is used to detect the actual virus (HCV RNA). This test is free for people who have tested HCVAb positive.

The ‘window period’ for hepatitis C sero-conversion ranges between 2-26 weeks, and 90%

of people have detectable antibodies after three months. Indeterminate test results can occur. PCR testing will confirm infection.

Two other PCR tests are used in the work up for treatment to measure viral load and identify genotype.

Natural History of Hepatitis C

Individual health outcomes of hepatitis C infection vary markedly, so it is usually impossible to give any accurate prognosis at the time of diagnosis. People need to be reassured that being infected with hepatitis C is serious but treatable. Hepatitis C related liver disease is generally slowly progressive, and the majority of people infected will not progress to serious liver disease.

Information on the natural history of hepatitis C, observed at a population level, gives people some understanding of long term outcomes of hepatitis C infection.

Natural History

Of 100 people infected with the hepatitis C virus:

On average 25% clear the virus naturally within 12 months	On average 75% will have chronic infection

A person is considered to have chronic hepatitis C, if they have not cleared the virus naturally within the first 6 months after exposure.

Of 100 people with chronic hepatitis C infection who remain untreated after 20 years:

45% may never develop serious liver disease	47% develop mild to moderate liver damage	7% may develop cirrhosis	1% of those with cirrhosis may develop liver failure or liver cancer

Of 100 people with chronic hepatitis C infection who remain untreated after 40 years:

45% may never develop serious liver disease	30% develop mild to moderate liver damage	20% may develop cirrhosis	5% of those with cirrhosis may develop liver failure or liver cancer

[68]

Duration of infection

The duration of infection is a critical factor in the ongoing management of hepatitis C. It is important to assist the person to identify as closely as possible when they may have been exposed to the virus. This may be aided by explaining the risk factors for infection:

- sharing injecting equipment
- unsterile tattooing

- blood transfusion or use of blood products prior to 1990
- born in a country with high prevalence of hepatitis C
- unsterile medical or dental procedures in countries of high prevalence
- incarceration in a correctional facility or their partner.

This process touches on sensitive issues for some people, and the emphasis should be on when rather than how someone was exposed to the virus.

Some people have various risk factors; it is useful to measure duration of infection from the earliest possible exposure. Some people may not be able to identify their risk factors.

Physical Impact

The hepatitis C virus affects various people in different ways. There is a lack of correlation between the symptoms experienced and liver disease. That is, experiencing symptoms does not necessarily mean there is liver disease, and some people may experience no symptoms but still have liver disease.

Symptoms of Hepatitis C

People can experience symptoms ranging from mild to severe. Symptoms include:

- lethargy, fatigue, general malaise lack of energy
- headaches
- nausea and vomiting
- diarrhoea
- muscle and joint pain
- skin irritation and rashes
- depression and anxiety
- discomfort in the upper abdomen area near the liver.

Hepatitis C - Liver Disease

Liver disease is measured by a fibrosis score on liver biopsy. Factors identified that result in more rapid progression of liver disease include:

- aged over 40 at time of infection
- heavy alcohol intake, both current and past
- obesity
- fatty liver
- Type 2 diabetes
- co-infection with chronic hepatitis B or HIV.

Lifestyle Recommendations

- abstaining or at least minimising alcohol intake and other drug use
- achieving and maintaining healthy weight through exercise
- healthy diet
- rest and relaxation
- managing depression and anxiety– referral to GP, counsellor, psychiatrist if required.

Many people with liver disease manage symptoms with the use of complementary therapies. They should be encouraged to discuss their use of complementary therapies with their GP.

Treatment Options

The newly diagnosed person should be told there is treatment available for hepatitis C for the 'acute' phase which may result in a good prognosis.

Treatment has improved markedly over the past few years with overall viral clearance at around 60%. A sustained viral response (SVR) or viral clearance is defined as the absence of hepatitis C RNA in serum, six months after cessation of treatment.

Treatment outcomes vary according to genotype. While viral clearance is around 60% across all genotypes, for people with genotype 1and 4 there is 40%-50% expected viral clearance, and for people with genotype 2 and 3, expected viral clearance is in the range of 70%-90%.

Outcomes of Combination Therapy

Treatment Duration	6 months	12 months
Genotype	2 & 3	1 & 4
Expected SVR	70% - 90%	40% - 50%

Treatment is usually combination therapy of pegylated interferon (self – administered by injection weekly) and ribavirin (tablets taken daily), over a period of 6 – 12 months, depending on the genotype of the virus present.

In Australia, 55% of people have genotype 1, requiring 12 months treatment. 35% have genotype 3, requiring 6 months treatment. People with cirrhosis, no matter what their genotype, may have 12 months of treatment.

Side effects of treatment vary for individuals. Management of side effects has improved over recent years, enabling 90% of people who undertake treatment to complete the course.

S100 Criteria – free access to prescribed medications

Criteria apply to access hepatitis C treatment under the Pharmaceutical Benefits Scheme:

- no prior interferon treatment
- over 18 years of age
- hepatitis C virus detected by PCR
- women must not be pregnant or breastfeeding
- a woman and her partner must use effective contraception during and for 6 months after treatment.

Note: Liver biopsy was removed from the S100 criteria in April 2006.

Treatment may be available to those with prior non-pegylated interferon therapy under certain circumstances through specialist centres.

Treatment Update March 2012.

The treatment for Hepatitis C Genotype 1 is about to change significantly (as of March 2012). Currently standard of care with 48 weeks of pegylated interferon and Ribavirin treatment cure rates are between 45-50%. With the advent of new therapies the expected cure rates will increase by up to 70%, and perhaps higher depending on treatment history and fibrosis level.

There are currently 2 new protease inhibitors which are added to the background therapy of pegylated interferon and ribavirin, making the new standard of care for Genotype 1 Hepatitis C a triple therapy regime. Currently Boceprevir and Telaprevir are available in Australia through patient familiarisation programs; both medications have TGA approval but are not currently available through the national Pharmaceutical Benefits Scheme.

There will be the benefit for some people for shortened duration of therapy. For individuals with Genotype 1 Hepatitis C there will be many considerations in choosing a regimen that will suit them and provide the best chance for a sustained virologic response (cure).

The background therapy of pegylated interferon and Ribavirin is required for either of the protease inhibitors. In choosing either Boceprevir or Telaprevir as the protease inhibitor for a particular individual, the side effect profile duration of therapy, past treatment history and expected treatment outcomes will all be a factor in choosing the best option for treatment [6].

Social Impact

It is often difficult for people with hepatitis C to tell others of their status due to the associated stigma and fear of judgemental reactions.

Discussion with the person about the people they 'trust' to tell can be useful. It is usually best to limit this to those closest to them, until they have had the opportunity to 'come to terms' with their diagnosis, and feel well informed about what the diagnosis means for them.

Legal requirements regarding disclosure

People with hepatitis C are not legally bound to disclose their health status. There are a few exceptions to this:

- healthcare workers who perform exposure prone procedures
- blood donors
- people in the armed forces
- disclosure requirement on insurance forms.

Disclosure of hepatitis C status is not required for infection control purposes. All blood should be viewed as potentially infectious and standard precautions should be used.

Notification Requirements

Mandatory notification of hepatitis C is a requirement of the Environmental and Public Health Act, South Australia. The Act allows for surveillance and to detect and follow up different modes of infection. People often need to be reassured that this information is confidential, and that only de-identified data is released publicly.

Risk Factors

People newly diagnosed with hepatitis C can be very concerned about passing the infection on to their partners and families – particularly children. Reassure the person that this risk is low.

- Sexual transmission is rare – hepatitis C is not classified as an STI. There needs to be blood present during sex for infection to occur. There may be an increased risk of transmission for example with anal intercourse, during a woman's menstrual period, or when STD infections are present.
- Household transmission is a very low risk – it is recommend to avoid sharing personal grooming aids (e.g. toothbrushes, razors) as these items may have small amounts of blood present, invisible to the eye.
- Hepatitis C is not transmitted via kissing, hugging, sharing cups, plates, cutlery.
- Vertical transmission – around 3%-5%, largely dependent on whether mother has high viral load during pregnancy. Viral load is high during the acute phase of

hepatitis C infection.

- Women with hepatitis C can breastfeed. Breastfeeding is not recommended if nipples are cracked and bleeding
- Tattooing or body piercing by family or friends can pose a high risk for infection transmission. These should be undertaken by accredited professionals.

For people who are still injecting drugs, advise that:

- There is a high risk of transmission from sharing unsterile injecting equipment e.g. tourniquets, mixing items, swabs, surfaces, blood on hands, as well as needles and syringes.
- They can be reinfected with another strain of the hepatitis C virus. Antibodies do not protect against other strains of the virus.
- Hepatitis B vaccination should be recommended for people with hepatitis C who may still be engaging in high risk behaviours – injecting drug use or unsafe sex, multiple sexual partners.
- Hepatitis B vaccination is free for people with hepatitis C, and can be accessed via their GP.

Transmission during pregnancy

Screening test for vertical transmission. There is some risk of vertical transmission of HCV to her baby if the mother is:

HCV Ab +ve

- risk is less than (<) 1%

RNA positive (+ve)

- risk is 4-5% [69].

All babies born to HCV positive mothers need to be Ab tested at 18 months of age.

Where a mother is HCV RNA +ve and testing is requested, an HCV PCR can be undertaken when the baby reaches 6-12 weeks of age.

If results show the baby is:

RNA positive (+ve)

- risk of HCV infection is 73%

RNA negative (- ve)

- risk of HCV infection is very unlikely.

Babies with confirmed HCV infection [HCV Ab and RNA positive] need to be referred to a paediatric gastroenterologist. Quality information and support including counselling need to be offered to the mother, father and family.

Clinical assessment and investigation of chronic hepatitis C

This section has been adapted from [70].

Physical Examination

A physical examination should be undertaken to identify any evidence of liver disease. Although the majority of people have no signs of chronic liver disease, a significant minority will.

Signs of liver disease in chronic hepatitis C

Common signs:

- spider naevi
- hepatomegaly
- firm liver edge
- palmar erythema (liver palms).

Less common signs- usually indicate severe liver disease (60% of people have no signs of chronic liver disease):

- jaundice
- loss of body hair
- hirsutism in females
- splenomegaly (usually an indication of portal hypertension)
- ascites
- encephalopathy
- asterixis (hepatic flap)
- gynaecomastia
- hepatomegaly or shrunken liver from cirrhosis
- dilated veins on abdominal wall
- peripheral oedema
- hepatic bruitis (a sign of liver cell cancer).

Table 8: Initial Testing for Hepatitis C

Initial testing after positive antibody	HCV RNA PCR	Detects presence of HCV
	HAV, HBV, HIV serology	Exclude other BBV's
	Blood biochemistry & LFT's	ALT's, Albumin, Bilirubin, Glucose
	CBE	Platelets
	INR	INR
	Alpha-fetoprotein (AFP) (6 monthly in cirrhosis)	Baseline investigation for HCC

Serum alanine aminotransferase (ALT) levels are not reliable indicators of severity of liver disease or degree of inflammatory change.

ALT elevations indicate ongoing hepatic inflammation but a proportion (up to 30%) of those with normal liver enzymes may have hepatitis on biopsy.

A review of ALT levels cannot therefore be used to predict severity of disease.

Severity of liver disease is best assessed by hepatic synthetic function – measured by serum albumin and International Normalised Ratio (INR) or prothrombin time.

By paying attention to albumin, bilirubin and prothrombin time (which are true liver function tests) a more accurate assessment of severity & progression of disease can be gained.

Table 9: Further Testing for Hepatitis C

Testing once (within 12 months post diagnosis to exclude other liver disease)	Thyroid function (TSH)	Keep check for symptoms; re-test if symptoms present
	Serum transferrin saturation and ferritin	To exclude haemochromatosis
	Nuclear, mitochondrial and smooth muscle antibodies	For other causes of liver disease
	Caeruloplasmin and Copper	To exclude Wilson's disease
	Alpha-1-antitrypsin	To exclude deficiency
	ANA, SMA, LKM	To exclude auto immune disease
	Ultrasound	If cirrhosis is suspected or considering liver biopsy
Consider	Liver biopsy	Staging and grading liver disease
6 monthly	LFT, CBE, INR. Ultrasound and AFP (if cirrhotic)	Monitoring liver function and screening for HCC if cirrhotic

- Serial platelet counts are of unusual value in chronic HCV. A progressive fall indicates progression of hepatic fibrosis, usually with cirrhosis and increasing portal hypertension. Platelet count has become close to a surrogate indicator of cirrhosis in chronic hepatitis C.
- Liver biopsy remains the only reliable test to diagnose disease severity.
- Complications of liver disease include liver cell cancer (hepatocellular carcinoma HCC), which may be identified on ultrasound investigation.
- People with stage 3 fibrosis or cirrhosis on liver biopsy, should have 6 monthly ultrasound and 3 - 6 monthly alpha fetoprotein as part of early screening program to detect HCC development.

- Tests for evidence of cryoglobulinaemia, renal disease and porphyria may be indicated if clinical signs and symptoms indicate the presence of these rarer complications of chronic HCV infection.

Clinical evidence of cirrhosis

Although many people with cirrhosis may be asymptomatic, profound lethargy and significant right upper quadrant discomfort are frequent symptoms. Physical examination may reveal a hard liver edge and splenomegaly.

There may be indicators from biochemical and haematological parameters that cirrhosis is present:

- slightly low serum albumin
- slightly prolonged international normalised prothrombin ratio (INR)
- aspartate aminotransferase (AST) level greater than ALT level and thrombocytopenia.

Signs and symptoms of mixed cryoglobulinaemia (skin rash – palpable purpura on lower limbs, proteinuria) are more frequent in presence of cirrhosis.

In people with HCV related cirrhosis, the annual risk of developing HCC is 1-6%.

Thirty percent (30%) of all adult liver transplants are for HCV associated cirrhosis. It is the most common reason for liver transplants in Australia.

Referral Options

People with hepatitis C should have regular monitoring by their general practitioner, on a 6-12 monthly basis (depending on duration of infection and liver disease progression factors). This check up should include liver function tests and other blood tests, associated with a long term management plan. Regular monitoring without a long term plan is insufficient.

Referral to specialist hepatologists should be considered for ALL people with hepatitis C, but particularly when they:

- request a referral
- are newly infected
- are interested in treatment options
- have abnormal liver function tests
- may be cirrhotic
- have been infected for 10 years or more.

SA Liver Clinics and Treatment Centres

Flinders Medical Centre	(08) 8204 5511
Lyell McEwen Hospital	(08) 8182 9000
Queen Elizabeth Hospital	(08) 8222 6000
Royal Adelaide Hospital	(08) 8222 4000

There are three Liver Clinics in non-tertiary settings: at Northern Service DASSA in Elizabeth; Eastern Service DASSA (Warinilla Clinic) in Norwood and Nunkuwarrin Yunti Aboriginal Medical Service in Adelaide.

Hepatitis Australia

People diagnosed as having hepatitis C infection should be encouraged to make contact with the Hepatitis Australia ongoing support and information to people living with the virus. For information, advice about where to obtain assistance call:

Hepatitis Helpline - available 9am to 5pm week days (national) 1300 437 222 – callers will be connected to their local area

Hepatitis SA - 1800 021 133 - available 9am to 5pm weekdays for rural callers

Hepatitis SA Office - 8362 8443 - available 9am to 5pm weekdays

Other supports include:

MOSAIC: Ph (08) 8223 4566

Free counselling is available for people with hepatitis C.

PEACE: Ph (08) 8245 8100

Multicultural HIV & Hepatitis C Services

SAVIVE: Ph (08) 8334 1699

Education on hepatitis C for people who inject drugs.

Resources: The Hepatitis C Council of SA has a wide range of written resources on hepatitis

C. Healthcare workers can order resources on line. Nurses can access on line education resources on the Hep C Council website www.hepccouncilsa.asn.au or by phoning (08) 8362 8443.

For additional information visit: www.ashm.org.au. This website has accurate information related to current evidence based management of HIV, Hepatitis B & C

Human Immuno-deficiency Virus (HIV)

The HIV infection rates among the Australian injecting drug use population remains low at around 1-2%. Signs of acute infection:

- glandular fever type symptoms
- flu like symptoms out of season
- fever for more than 3 days
- maculo-papular rash
- recent high risk exposure
- recent evidence of sexually transmitted infections (STI's).

Testing

Tests can be positive after three weeks. All people at risk are advised to be screened for HIV exposure with the appropriate pre-test and post-test counselling.

Evidence based treatment for HIV

For additional information visit: www.ashm.org.au. This website has accurate information related to current evidence based management of HIV [71].

Post Exposure Prophylaxis (PEP)

PEP is a course of anti-HIV drugs that is taken shortly after possible exposure to HIV infection. It is thought that the drugs may help reduce the risk of acquiring HIV after unprotected sex, sharing needles or a needle-stick injury.

Note: Safe injecting and safe sexual practices have been important in keeping Australia's HIV infection rate low. Post Exposure Prophylaxis is not intended to replace these safe practices.

Who should take PEP?

Anyone who has had risky contact with a person who has HIV or who may have HIV should consider taking PEP. This risky contact may include:

- having unsafe sex
- sharing a needle
- sustaining a needle-stick injury.

It is important for people with high risk exposure to discuss the need for PEP with a doctor trained in using anti-HIV drugs, or with emergency health services in order to determine the risk of acquiring HIV and whether PEP is indicated.

The medical officer will need to consider details of the exposure, how much time has passed since the event and what is known about the HIV status of the other person or people involved.

How persons can access PEP?

If a person thinks they might need PEP, they should contact:

During business hours:	GP who is trained and licensed to prescribe HIV medications.
After hours:	The Accident and Emergency Department of a public hospital.

To talk to someone about PEP

AIDS Council in SA	(08) 8334 1611
SHINE SA	(08) 8300 5300

When should PEP be initiated?

Ideally, PEP should be started within hours of exposure, but may be offered up to 72 hours after the exposure. It is likely that PEP will work most effectively if it is started as soon as possible after the exposure to HIV - preferably within one or two hours. This gives the drugs the best chance to work against HIV before it becomes established in the immune system.

If the person thinks they may be pregnant, they will need to discuss this with their doctor prior to commencement of the PEP regime.

Treatment Regime

PEP involves taking a 2 or 3 medication combination once or twice daily for four weeks. The drugs need to be taken at certain times of the day and may need to be taken with or without food.

It is very important not to miss any doses of PEP. Full adherence to medication can maximize the benefits from PEP.

If seen at an Emergency Department the person may be given a starter pack to enable them to commence PEP immediately. This pack only has enough pills for a few days. To continue PEP, the person will need to be referred to a doctor or sexual health centre.

Side effects

PEP drugs can cause side effects such as nausea, diarrhoea, headaches, tiredness and a rash in 2/3 of those who take the medication.

The person should be advised to discuss possible side effects and how to manage them with their doctor.

HIV blood test screening

If the person and their doctor decide to use PEP, "baseline" blood tests will be done to check current HIV, hepatitis B and hepatitis C status.

Tests for other sexually transmitted infections (STIs) may also be recommended.

PEP Action

At this stage no studies have been done to test whether the likelihood of getting HIV after unprotected sex or unsafe injecting is reduced by taking PEP.

There are, however, some encouraging signs from studies done with health care workers that show that their risk of becoming HIV positive after a needle stick injury is significantly reduced by using PEP.

These studies suggest that it may be possible to reduce the risk of HIV transmission by prompt use of PEP after possible exposure to HIV, sexually or through injecting equipment.

It must be stressed, however, that PEP will not eliminate the risk of HIV transmission.

Follow-up after completing PEP

People should be advised that follow-up with their doctor is extremely important. For all people who take PEP, blood tests for HIV are repeated at these times after the exposure:

- at 6 weeks, then
- at 3 months, and
- at 6 months

This is longer than the usual 3-month 'window period' for HIV testing because PEP may prolong the time to detect HIV infection.

Contraception

Women commencing PEP should be advised to use effective methods of birth control to avoid pregnancy whilst on PEP.

Safe sex

All people, whose HIV status is being monitored over the six months, are advised to practice safe sex.

Critical nursing advice

All persons commencing PEP should be advised:

- to protect themselves and any partner by safer sex and/or injecting practices
- that PEP is not guaranteed to stop people from being infected with HIV (taking PEP will not make a person immune to further exposures - it is not a replacement for safe sex and safe injecting practices)
- against donating blood, organ or tissue, and sperm while taking PEP and being monitored for HIV infection
- that breastfeeding mothers should discuss the issue with their GP [72].

2.9 Comorbidity: Co-existing ATOD and Mental Health Problems

Background

The prevalence and nature of comorbidity (co-existing mental health [MH] and alcohol, tobacco and other drug [ATOD] problems) are seriously impacting on individuals, communities, health services and professionals across Australia.

Many people with comorbidity come into contact with a general hospital, emergency department, GP, community health agency or non government organisation (NGO), at some time. An example is when an adult is admitted to a medical/surgical ward or other specialist unit. Likewise, children and young people at risk of developing MH and ATOD problems are often in contact with child/youth services, school nurses, youth mental health services, and hospital units.

Nurses and midwives who work in primary health care settings are in a very favourable position to identify people at risk from ATOD use and mental health problems. This is an opportunity to support and refer them to an appropriate service depending on the nature, impact, complexity and severity of the issues they are experiencing.

While not expected to have specialist skills, primary health nurses and midwives do need to recognize when a person is at risk of comorbidity and be able to refer to the specialist team that can assist in offering the best care. This will ideally involve coordinated care between the treating teams depending on the nature, complexity and severity of the person's needs and circumstances.

People with comorbidity may present for help when their problem has become severe, acute or significantly advanced. This means that wherever they present, medical and nursing staff need to recognise that this is common and does not mean they cannot be helped. Even though their treatment may be more intensive and can be potentially less effective, there are interventions that can help. Clearly the first priority is to attend to their immediate needs, and as their condition settles then work together to devise the best possible care plan.

Recovery from comorbidity

People with comorbidity may present for help when their problem has become severe, acute or significantly advanced. This means that wherever they present, medical and nursing staff need to recognise that this is common and does not mean they cannot be helped. Even though their treatment may be more intensive and can be potentially less effective, there are interventions that can help. Clearly the first priority is to attend to their immediate needs, and as their condition settles then work together to devise the best possible care plan.

Whilst comorbidity can be a chronic condition, (much like other chronic illnesses) recovery is possible for many. Recovery to the level of function a person is likely to achieve typically involves multiple episodes of treatment before progress can be made. A person's capacity to recover will be influenced by the complexity of their conditions, and their mental, emotional and physical capacity to change. As well, their family and social situations including their living environment will play a large influence on whether or not change possible. The complexity of comorbidity and the losses and challenges of daily living cannot be underestimated. Compassion is the essence of caring for this group of people

Relapse and/or the need for re-admission should not be viewed as a sign of the person's lack of commitment but rather of the nature, severity and complexity of the condition. Relapse of mental health and ATOD conditions is common and should be viewed as an opportunity for learning, as either a part of the recovery process or in regaining stability for optimum level of functioning. . It is important to offer treatment, support and encouragement to realise that this is common for anyone with a complex health problem, and there is hope that they can recover.

Physical conditions

People who are admitted to hospital for various different physical conditions may also have comorbidity. It is necessary to consult and work closely with the specialist teams best able to guide how best to manage this person's conditions at this time. Clearly this needs to occur early on in the admission e.g. current ATOD use and/or MH treatment may involve daily medication regimes. In other words seek guidance from and ensure that appropriate referral is built into the care plan, discharge and ongoing care plans.

Role of early identification and intervention

Early identification and intervention (EI&I) for a person with their first episode of mental illness is extremely important. This will assist in preventing their risk of also developing ATOD problems secondary to their MH condition. The reverse is also true where a person with early onset of ATOD problems receives EI&I and quality interventions [73].

In children and young people, offering EI&I to reduce their risk factors for ATOD and MH problems can help prevent social alienation from peers and others. This can play a large part in whether or not they remain at school or in work. EI&I can also assist them and their family in avoiding or reducing experimentation with alcohol or drugs, and thus any potential complications that ATOD use may have on the onset of mental illness as a secondary disorder for those pre-disposed. This means that all nurses working with children and young people have a critical role in the engagement with this client group, and the timely identification of any risk factors and provision of early intervention and referral if required [73].

Screening for comorbidity

Where possible, screening for risk should be undertaken routinely with all people aged 14 years and over (or younger if particularly vulnerable). This will help to determine whether they are experiencing co-morbidity, or independent MH or ATOD problems.

Nurses working in emergency departments or hospital wards are ideally placed to offer routine screening of their clients and thus identify risk, facilitate further assessment and early intervention. This will serve to prevent complications from other comorbidities such as acute physical illness linked to or separate from their MH and ATOD condition. It is known that this client group comprises a significant percentage of people in hospitals as they are more likely to present to general hospitals and primary health care agencies than specialist MH and ATOD services.

Validated Tools for Screening

Screening for ATOD problems:

- AUDIT (Alcohol Use Disorders Test) - See Appendix 1
- ASSIST (Alcohol Smoking And Substance Involvement Screening Test) – See Appendix 2
- IRIS

Screening for MH problems:

There are various screening tools for MH problems including e.g. suicide risk, mental health problems and specific disorders e.g. anxiety, depression.

Screening for comorbidity in Indigenous Australians:

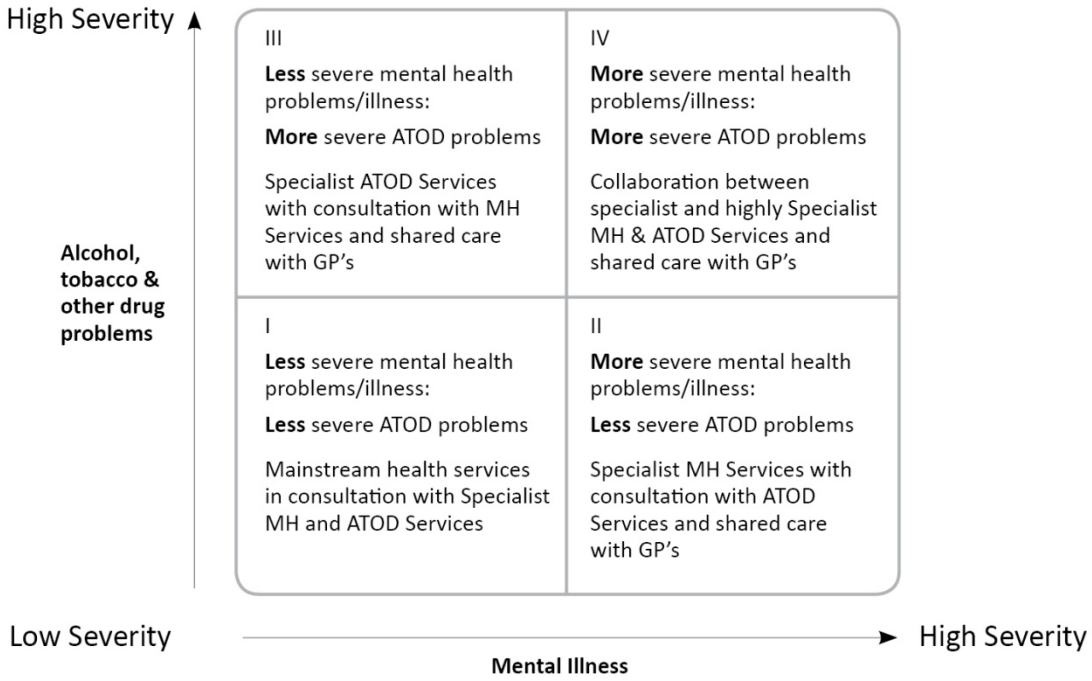
IRIS (Indigenous Risk Impact Screen) – See Appendix 3 or go to

www.clinicalguidelines.gov.au/browse.php?treePath=&pageType=2&fldglrID=722&

Services to people with comorbidity

As with other health conditions, not every person experiencing ATOD or MH problems need specialist treatment. Indeed, appropriate providers of early intervention are in the primary health care and other service delivery sectors. This can be best explained in the following model which explains the spectrum of risk according to presence or not of serious MH and ATOD conditions.

Figure 5: Shared (integrated) Care according to Comorbidity Severity



[5]

Common comorbidity presentations

People may present with a range of co-existing ATOD and MH comorbidity problems including:

- alcohol or drug dependence, depression and acute withdrawal
- alcohol dependence, psychosis and intellectual disability
- benzodiazepine dependence and anxiety
- heavy drinking and bi-polar disorder
- amphetamine induced psychosis (short lived with abstinence)
- cannabis induced psychosis (short lived with abstinence)
- heroin dependence and PTSD
- nicotine (smoking) and schizophrenia
- codeine tolerance and acute pain
- excessive paracetamol intake and related codeine tolerance, chronic pain, depression.

Multiple comorbidities

People with ATOD and mental health comorbidity can also experience serious physical illnesses e.g. injury; infections; diabetes, hypertension; cardiovascular disease; renal and gastrointestinal diseases; lowered immunity, blood dyscrasias. People may also present with intellectual or physical disability) congenital or acquired; and various social, financial, family and other relationship problems.

Negative stereotyping and labelling

Care is needed to engage people with multiple comorbidities. Many have been negatively stereotyped (labelled as “too hard” or “difficult”) by service providers and community members. Client thus labelled are often reluctant to seek help resulting in a further deterioration of their situation. It is important therefore to maintain respectful interactions with the person and communications with the treating team.

It is equally important to promote hope of recovery to the person i.e. that their needs and problems are understood, they can be helped and that their health and situation can improve.

It is necessary when considering a person’s care needs and when making referrals to other services that all agencies involved are kept well informed of the person’s range of problems and needs that require realistic interventions as well as support for them and their family and carers.

Challenging behaviours

All too often, people with ATOD and mental health comorbidity who display challenging behaviours are labelled as having “personality disorder (PD)” without proper psychiatric assessment and diagnosis. This labelling practice is unacceptable, and has potentially dangerous sequelae for the person including self harm and suicide.

People’s behaviour is often a sign of unmet need and fear. Asking about what the person would like or what is needed can often reduce anxiety and assist in gaining cooperation. There are useful strategies that can be used to assist in reducing mutual frustration and unnecessary sanctions against people at risk.

It is necessary to challenge directly or indirectly any colleague who does not meet their duty of care and the professional standards for quality nursing care when working with this client population.

In a 'nutshell':

- understand the person's behaviours as unmet needs, fear, anxiety, concerns
- engage them by assuring them you are there to help
- ask what is concerning them and what their immediate needs are (people commonly report negative experiences in health services due to staff attitudes to them or under-medication for their illness or post surgery; or poorly managed ATOD withdrawal)
- develop rapport so that a therapeutic relationship can be established and thus assist in setting behavioural expectations and effective health care delivery
- respectfully discuss concerns and behavioural expectations with the person
- negotiate appropriate strategies to alleviate the person's concerns and assist them to manage their feelings and responses better
- involve them in developing their care plan wherever possible including:
- maintain respectful nurse-client behaviours (two way)
- prevent and manage challenging behaviours in ways that support the person but not their behaviour
- implement nursing actions that aim to stop unacceptable behaviours in ways that are fair and safe for the person, staff and others.

Principles for intervention in an Acute setting

The key principles that guide care and treatment of people with comorbidity in the general hospital include:

- safe stabilisation and monitoring of ATOD, MH and physical health conditions
- assessment and intervention and/or treatment planning
- integrated care within and across teams and services including crisis intervention, withdrawal management and after care
- advocacy and family support [74, 75].

It is important to remember that in the initial stages of a person's presentation to the emergency department, the consideration of the underlying nature of the symptoms is less important that its management [73].

The aim of the initial assessment in the acute or primary health care setting is to identify any immediate or potentially life threatening medical or psychiatric problem/s in order to implement appropriate interventions.

As soon as practicable, a risk assessment and provisional diagnosis based on MH/ATOD symptoms, and planning for safe medical and nursing care needs to be undertaken.

Further in-depth assessment and differential diagnosis is required once the emergency has passed, and the person is stable and able to participate and contribute to identification of issues and planning for ongoing intervention following discharge.

Engagement

People with comorbidity often have low self esteem and feelings of shame and stigma due to attitudes and behaviours of other people. Because of this they may be less willing to relax with you and offer a reasonable account of their MH and ATOD issues. This will be even less likely if they feel you might be judgemental or dismissive.

At times, people with ATOD problems can feel an enormous sense of guilt and shame at some of the things they have done, or anger they feel about what happened to them e.g. being abused and its sequelae e.g. feelings of hopelessness, helplessness, guilt and unworthiness

- Engagement is the major priority with any person experiencing comorbidity.
- Engagement can be facilitated by the nurse or midwife taking a supportive approach by encouraging the person within their capacity to consider change and take responsibility to address their issues.
- This can promote the person's consideration and acceptance of the services offered and willingness to adhere to their treatment.
- It can also provide the opportunity for the nurse to discuss with the person their concerns about their needs, treatment options and preferences.

Developing, trust, hope, motivation and self efficacy

Providing a friendly and safe environment for assessment requires the nurse to actively aim at developing rapport and trust with the client. This is the most important precursor to effective assessment, diagnosis and treatment. Demonstrating acceptance and empathy, using active listening, explaining why they are being assessed and using open-ended questions about any difficulties they may be having are essential.

Normalising a person's feelings of guilt and shame and placing their experiences in context is important. Acknowledging the person's worth and responses aimed at externalising the issue and not making judgements can be helpful. E.g. ATOD use often causes people to do things they would never normally do. Informing the person that help is available and offering referral to someone they can talk to demonstrates that their problems are legitimate and help is available.

Comorbidity Assessment in Acute Emergency Setting

Note: For further information regarding specific ATOD assessment, please refer to Section 2.2, and Section 3.

This section provides a summary of the evidence based parameters of comorbidity assessment. These include:

- effective communication
- using a person centred approach
- confidentiality
- raising the issue
- identifying factors that will assist in building motivation for change
- holistic care planning, and referral.

Assessment should be inclusive of all of the issues relevant to the person's presenting situation, including mental health, ATOD use, physical health, cultural and social issues.

Assessment of a person experiencing an acute episode of a mental illness may be difficult due to the symptoms experienced e.g. the person may be overly suspicious, anxious, frightened, misperceive the questions or provide incoherent answers.

Depending on the severity of the person's acute illness, assessment data required to identify immediate needs may need to be obtained from a trusted family member, carer or friend depending on who is with the person or can be contacted.

Risk Assessment

Safety is paramount and needs to be assessed and monitored throughout the person's assessment and treatment. Health services need to have effective policies, protocols and procedures to help staff in assisting and managing people at risk of accidents e.g. falls, as well as harming self or others. These should include the need for:

- additional assessment by specialist clinician
- close supervision [specialling] until risk to self or others no longer exists, or
- the person has been transferred to an acute MH service [74].

Once the person is mentally and physically stable and able to be involved, a comprehensive comorbidity assessment should be undertaken. It is important to involve family or carers as appropriate. The aim of comorbidity assessment is to identify the person's:

- immediate risk factors e.g. suicidal ideation or self harm; withdrawal; delirium tremens, withdrawal seizures, intoxication; overdose or toxicity; self harm; acute illness; serious injury, harm to others.

ATOD history, pattern of use, problems; and their severity (see section 2)

- MH history, onset of current problem and its severity
- current physical illness/es and previous history
- any disability (physical or intellectual including alcohol or drug related brain injury)
- immediate and future needs from the person's perspective
- potential and capacity to make changes
- goals and readiness for change - motivation may be stronger or weaker in relation to changing ATOD use versus their MH problems [76]
- current medications [prescribed and OTC]
- date, time and dose of last prescribed medication/s use
- recent history of ATOD use (dose, quantity. method of use and risky behaviours)
- date, time and dose of last ATOD use
- recent or current ATOD or MH treatments.

Acute ATOD conditions

For detailed information regarding acute ATOD conditions and assessment please refer to sections 2 and 3.

Acute MH conditions

As with serious physical conditions e.g. hypoxia, head injury, meningitis or delirium, assessment of someone's acute MH condition may be impeded due to their symptoms and behaviours:

- difficulty in concentrating
- poor memory
- agitation
- rapid mood swings
- suspicious thoughts
- acute anxiety
- fear
- misperceptions of communication and actions
- inability to answer questions accurately, coherently or appropriately.

Table 10: Priorities for Comorbidity assessment in the acute setting

Current condition:	Routine testing and medical/nursing assessment for:	Routinely observe, monitor and record:	Identify:
Physical	Signs and symptoms of injury, acute illness, disability. Particularly: head injury other serious injury or illness evidence of self harm medications side effects and interactions	TPR BP hydration level of consciousness symptoms experienced risk for self harm	Current medications (prescribed, OTC, herbal, complementary) Any alcohol or other drugs including solvents Time of last prescribed and non prescribed medication/s dose, ATOD's used
ATOD	Immediate risk of: acute intoxication acute withdrawal (in particular alcohol) overdose or toxicity recent history of all types of ATOD used. ATOD effects and interactions with any medications	Onset and severity of: withdrawal symptoms and/or signs of withdrawal complications Onset or progression to overdose	Collateral information from family/friends: dose, quantity, method of use (swallow, inject etc.) and associated risks time and dose/amount and method of last ATOD use any recent or current ATOD or MH problems and treatments risk of withdrawal – known history of withdrawal and complications of withdrawal e.g. alcohol withdrawal seizures or delirium tremens (see Section 3) history of past ATOD problems and treatments
Mental Health (MH)	Immediate risk of: suicidal ideation self harm acute psychosis acute/severe depression anxiety e.g. panic attack medication side effects and interactions medications	Risk for suicide, other self harm or harm to others Evidence of recent or current self harm e.g. old or new wounds, swallowed corrosives, overdose Observations for medication side effects	history of mental illness and treatments

People experiencing mental illness may also have a range of social and other issues related to their illness that may impact on their presentation and presenting issues.

These may include:

- violence (not common)
- family, relationship and employment difficulties
- high risk social conditions e.g. homelessness, high risk tenancy tenure, vulnerability from the actions of others particularly financial
- inability to manage finances and activities of daily living
- inappropriate or unsafe housing e.g. young person staying in adult shelter, unsafe electrical wiring, not power or water.

It is important to ask about and document these issues. No person should be discharged to homelessness or to an unsafe home environment. Where there is known extreme family violence considerations should be given for referral to the area family safety committee.

Principles of care

Care of the person with comorbidity in the emergency setting may need to be opportunistic but should always be, timely and aimed at:

- the person's condition and response to interventions
- promoting the person's awareness of any interaction between ATOD use, mental health problem and any prescribed medication
- involving and educating family or carers where appropriate.

Principles include:

- prioritising the person's immediate and devising an integrated plan.
- identifying and noting longer term needs which form the basis of referrals in pre discharge planning
- timely monitoring and review of all conditions to recognise early signs of deterioration, relapse or improvements and amend care plans accordingly
- timely monitoring and review of social and cultural situation to identify situations which may negatively impact on post discharge progress and recovery
- stabilising and initiating treatment for all conditions as the primary intervention goal
- facilitating a trusting therapeutic relationship with the person will help form a treatment alliance which promotes the person's participation in their intervention process and encourages them to engage with ATOD and/or MH services and other services as needed [74].

Treatment planning

Planning is based on client needs and the required clinical responses – including the client's preferred treatment options; provision of various services and resources that are available and acceptable to the person.

The treatment plan aims to meet the person's needs as best as possible e.g.:

- safe medication use
- safe housing
- induction and stabilization of medical therapies e.g. methadone for opioid dependence or acamprosate for alcohol dependence)
- talking therapies such as cognitive behavioural therapy (CBT), narrative therapy and counselling
- comorbidity treatment
- treatment of any physical health conditions
- support for disability.

Collaboration and coordination of the care plan between clinical teams and services are necessary to ensure delivery of comprehensive care.

Nursing Management in the Acute Emergency Setting

The appropriate interventions to manage presenting issues are implemented based on the care plan developed by the treating team. This would be amended as required according to any changes in the person's condition and treatment responses.

Acute nursing management aims to:

- implement the nursing care plan
- address and stabilise co-existing health problems as per nursing assessment and diagnoses
- monitor regularly for early signs and symptoms and early intervention for acute conditions as these emerge e.g. withdrawal, Wernicke's Encephalopathy, septicaemia, overdose, psychosis, hypoglaecemia etc.
- initiate and administrate all ordered prescription and non prescription medications and prophylactic medication regimes
- observe for any adverse side effects or drug interactions – particularly important for multiple prescribed medications and complex pharmacy regimes.
    - safe management of their medicines needs to be addressed for the person in preparation for their discharge

- predict and manage specific concurrent conditions or injury e.g.: hypertension, electrolyte imbalance, dehydration; diabetes, cardiac or other physical conditions; as well as acute intoxication, withdrawal, overdose; drug interactions; acute or underlying mental illness
- attend to the person's immediate social needs and include these as core components of their care and discharge plans.

General Care

Family and Social Interventions

It is important to encourage, educate, support and include the person's preferred family members, carers and significant others in their care. They are critical in ensuring the person can be supported during admission and after discharge. They need to be involved as appropriate and provided with information about:

- the person's main problems (depending on their need to know and patient confidentiality) - what these mean for the person and treatment and supports required
- comorbidity problems and the person's behaviours which they may have found disturbing – these may be sign s of the mental illness and not just 'bad behaviour'
- the care plan needs to include the prescribed medications, possible side effects and their safe management
- How they can help the person manage their medications and treatment, attend appointment
- how to recognise early signs of relapse and when and how to seek help
- how to access social supports, recreation or activity groups
- how to look after themselves and seeking help when needed.

Where a person is socially isolated or does not have family or other suitable social supports, special consideration needs to be given when devising appropriate ways to help them engage with others, build social skills and networks e.g. linking with community self-help and support groups which are accessible through the 24 hour phone service 1300 13 1340. Many have members who can visit people in hospital.

Education of the person and their family

People with comorbidity often need information about the:

- nature and prognosis of their problems, likely symptoms, and longer term consequences
- likelihood of recovery and/or amelioration of symptoms
- available treatments and how effective they may be

- range of non prescribed and prescribed medications that may be useful, and their possible side effects
- risks from not receiving treatment in time
- emerging signs of relapse, what strategies to use and when to seek help
- strategies and skills to self manage symptoms and medications, including building confidence and self esteem
- need to ask questions and receive answers to the same questions more than once – their retention of information may be impaired at times
- need for any information or advice provided to be documented in their case notes and care plan.

Self Help Groups

Becoming involved with a suitable community self help group is known to have better outcomes for people with ATOD dependence and mental illness. It is an important adjunct to the person's plan for treatment and ongoing support. These groups may focus on MH and/or ATOD problems and social issues of their members. These include AA, ALANON, NarAnon, Beyond Blue, MIND, SANE, Gamblers Anonymous and GROW (see Resources Section 4).

Encouraging people to join a self help group can provide them with new friends with similar issues and positive, social contact, and help them to build their confidence and skills in managing their comorbidity [74].

Safe Medication Management

A major concern regarding comorbidity relapse is if the person forgets to take their medications or stops their medications, e.g. they feel better or have side effects. Each person's reasons for this vary and can be complex. The nurse or midwife needs to explore these, work with the treating team to find ways that can better help the person to managing better, maintain recovery, and avoid relapse and exacerbation of their symptoms.

When a person is admitted to hospital and had erratic medication use or recently ceased use, it is important to quickly build rapport so that the reason for this can be understood. Their reasons may be due to having no money or easy access to a pharmacy or their doctor due to transport problems; It may be due to the side effects of their medications such as weight gain, loss of libido, blunting or numbing of emotions "feeling like a zombie" or having "no feelings of happiness".

For the person with psychosis, it is important to engage with them and explore the effects of their medications on their comorbidity symptoms, including the effects of ATODs they may be using. Understanding the wanted and unwanted effects is important in estimating why this is occurring and deciding what mediation adjustments may be required to reduce the unwanted effects and optimise the wanted effects. For example, were the medications

are stopping or reducing their positive symptoms such as having more energy and losing weight the person may resist the risk of losing these benefits.

If person decides not to use their medications and/or use other ATODs such as cannabis, providing them with education and goof information about their need for the prescribed medications is necessary. Their situation also needs to be communicated to their treating GP and specialist so that their situation can be monitored and prescribed medications resumed as the opportunity arises. Good communications can also stimulate other services to engage with the person and support them prevent and manage any relapse (see Section 2.3).

Assessment and re-assessment are key opportunities to educate the person and their family or carer about their risks from using ATODs. In particular the relationship this may have with interfering with the stability of their comorbidity conditions, and impact on likely progression and severity of their conditions.

Nurses and midwives can assist in a person's longer term medication management and relapse prevention by:

- Providing all medicines on time and doses as prescribed throughout the admission.
- Monitoring for side effects and report and record these to the prescribing medical officer.
- Informing the person and their family about how particular medications can assist their treatment and recovery.

The importance of presenting easy to understand information to the person cannot be overstated. They may have limited understanding of the words used, difficulties in reading or be confused, unaware or concerned about their medications and why and how they are to be taken.

Information should include mental illnesses, ATOD problems, comorbidity and safe medication use (see Resource and Contacts Section).

Safe medication use

The person and their family need information about:

- How their medicines work (pharmacology)
- Wanted effects and how long these take to start working from first dose
- Possible side effects and what to do
- Possible other drug interactions including medicines, alcohol, other drugs
- Toxic effects (poisoning)
- Overdose
- When and how to seek assistance.

Building the person's confidence and skills in managing their medications is important. This needs to involve teaching them the skills to manage, educating them about their options and decisions about their medications and treatment plan, and what supports there are nearby to help them when they go home.

In a 'nutshell':

- Ensure their needs and choices, are considered in care plan and medication reviews.
- Advocate for them to ensure their involvement in their above, and any other important decisions affecting them.
- Advise them to continue their prescribed medications even when they feel better.
- Help them to understand that their medications are chosen to relieve their symptoms and maintain stability.
    - Ask them on what they understand about their medications, how they feel about taking them and any concerns they may have.
    - Be prepared to answer her questions and seek advice from their prescribing doctor as needed.
- Inform their GP and specialist if they (or family) are concerned about possible problems from taking their medications so that this can be reviewed as soon as possible.
- Help the person to understand, whether or not their comorbidity conditions are likely to endure, and how best to manage this e.g.
    - Their alcohol dependence may respond well to treatment while their mood disorder may endure and require long term medication and other treatment.
- Communicate with the person's family or carer to help them understand why the person needs their prescribed medicines.
    - Discuss with them what may occur if the medications are not taken as prescribed or are ceased without medical supervision.
- Handover to your team any issues that arise from these actions and record in the person's case notes.

Medication Regimes

Assist the person to find ways that they can use to ensure they can take their medications safely by:

- helping them, to identify and solve problems that prevent them from taking their medications safely e.g. Offering them prompts for remembering when to take their medications

- ensuring they know how to get the right bus/train to attend their appointment for e.g. medication and treatment reviews
- providing information that does not rely on good literacy and numeracy skills – such as pictures and easy symbols that represent the information required. Educate them with reliable internet resources such as Beyond Blue and the Australian Drug Foundation (See Section 4 Resources).

Teaching them easy practical ways to manage medications safely:

- teach how to fill their medication dosette for a week or asking the pharmacist to regularly prepare Webster packs from the pharmacist
- teach how to store medications safely
- inform them, about their local bus or train outs, and how to use the community bus that can take them to their local pharmacy and GP
- teach the person about what to do if they lose their prescriptions or medications
- advise them and their family or carer about what arrangements can be made with their local pharmacy for them to leave their prescriptions and medication stores there for safe keeping and easy access.

Encourage the person to talk about their medications or other concerns they have about their treatment after their discharge:

- early in their admission (as appropriate) and as problems arise rather than waiting till discharge is imminent
- reassure them that they can talk to their doctor and treating team at any time about their medications and any problems they may be having, and that this is important.

Engaging the family or carer so that they understand the issues and can support the person within their capacity is very useful. This means informing and involving them in the long term treatment planning, including:

- Addressing any practical and cultural barriers to treatment such as transport; poor English or cultural support; limited hours of operation of services (e.g. weekday business hours only).
- Educating family or carers about what to do if the person becomes distressed about their medications (See Resource Section).
- Call the Alcohol and Drug Information Service (ADIS) 24 hour phone support service (See Resources Section) [77].

Medication regime – patient refusal of medications while in hospital

If the person absolutely refuses to take their medications:

- Let them know you are there to help.
- Acknowledge concerns and show empathy.
- Ask them what they would prefer to happen and what they think might happen if they do not have these medications.
- Relate this to their particular comorbidity conditions and their need for medications.
- Ask the person to share reasons and concerns.
- Do not argue with them.
- Educate them and provide quality information to assist them in making an informed choice.
- Ensure they know what other services can be provided such as psychological therapies, counselling and social support (see Section 2).

Other Nursing Management

Maintaining boundaries of behaviour

Setting and maintaining safe behavioural boundaries between yourself and the person with comorbidity, particularly when acute, is essential. This will help them to have positive treatment experience and outcomes. It is especially important in assisting them to take control over possible harmful behaviour. Some people have diminished capacity to control their behaviour due to their MH condition e.g. they may have a personality disorder that interferes with their capacity to interact positively with others, and can interfere with them receiving the treatment they require. Importantly we need to remember that their behaviour is often their coping strategy having been developed from a past history of trauma such as child sexual abuse and other trauma.

Examples of setting boundaries include:

- Maintaining your professional relationship at all times while still being friendly and communicative.
- Having consistent, fair and firm boundaries (not rigid or punitive).
- Developing a behavioural management plan for all staff.
- Establishing acceptable rules about contacting another worker or service external to their current care team.
- Make sure the person understands the boundaries, why they are in place and how they will be used – to keep them safe and enable their treatment and support to be optimised – we want to help.
- Work flexibly within the set boundaries, and monitor and review the person's response and progress regularly [74].

Developing behaviour management plans

Developing a behaviour management plan with the person needs to include:

- Identifying and setting limits regarding unacceptable behaviours that may arise according to currently or very recent presentation.
- Identify clearly the consequences of particular unacceptable behaviour - relevant to the nature and severity of the behaviour e.g. Terminate admission if medically safe to do so.
- Ensure familiarity of Mental Health Act, and how this may need to be applied.

It is important to be supportive and inform the person about:

- what is acceptable and expected
- what is unacceptable in relation to their behaviour e.g. trying to be intimate with a staff or other people; requesting illegal medication provision; using alcohol or drugs on the premises, being verbally or physically aggressive; intimidating or threatening staff or other people; possessing a weapon
- the goal is to work with them not against them
- any consequences respond to the actual behaviours – not excessively punitive
- seeking the person's concerns (and fears) about their comorbidity and treatment
- how their unmet needs can be addressed and therefore reduce their concerns during their treatment plan
- keeping their confidentiality may need to be breached e.g. if they threaten others or harm themselves due to impulsive behaviour.

Referral to specialist ATOD and Mental Health services

Not all people with ATOD or MH symptoms require specialist referral. If their condition/s are stable and not greatly impacting on general function and daily life, they are likely to respond well to general nursing and medical care while in hospital. Their after care plan should ensure they will be monitored regularly by their GP and supported by other relevant health and social services depending on their situation. If the hospital team is unsure it is wise to consult a specialist clinician/service for further assessment and guidance in managing their comorbidity during their admission.

If screening and assessment reveals more serious ATOD and/or MH comorbidity, the person's symptoms are unstable and their health, well being and capacity to manage are compromised, they require immediate referral to a specialist consultant/service. It is important that this referral happens early in the admission to ensure that the specialist service can assess them prior to discharge and put in place their after care plan. This will include clinical management as well as then community supports and services required by the person and their family.

In a 'nutshell':

Referral to specialist ATOD/MH services should be considered when the person's:

- ATOD use places them at high risk of injury, dependence, poor general and mental health and issues such as; poor medication management, needle/syringe sharing, unsafe sex, drink or drug driving
- MH issues interfere with daily life and capacity to function
- presentation is due to inability to maintain their existing ATOD and MH treatment regimes
- condition indicates they are at risk of harm to self or others
- condition has resulted in multiple presentations
- condition indicates ATOD dependence.

For those in rural/remote areas there is a 24 hour clinical consultation service through ADIS (See Resources Section) Call 1300 13 1340.

Referral may be required if the nurse and medical team do not feel comfortable in treating the person's condition during admission and in their after-care planning. If the person is being admitted or leaving another service such as hospital, their care coordinator or caseworker needs to be notified. This is especially important if the person is receiving treatment from ATOD or MH services.

Whilst a person is in hospital referral to a specialist consultant/service needs to be discussed with the care team. Referral should occur with the person's consent (or their legal guardian) unless there is MH legislation (detention) in place to protect the person's safety or that of the community.

If a person refuses to consent to the nursing and medical team can consult the clinical advisory service 24 hrs telephone 1300 13 1340, or the nearest MH Service.

When referring a person to ATOD services, certain information will need to be provided, such as:

- copies of any screening results (AUDIT, ASSIST, IRIS)
- information about the person's current condition/s
- expectations of the specialist service
- current ATOD treatment
- MH History and current MH treatment
- known diagnosis of mental illness
- person's insight into their ATOD /MH issues
- any challenging behaviours – current and recent past
- reason for referral
- level of urgency
- ATOD history (see Section 2)
- MH risk assessment result
- MH symptoms and severity
- persons' concerns regarding their ATOD and MH problems
- what the person needs from their service e.g. in-depth assessment, early admission, medical and psychological treatment, medication review, coordinated care, specialist nursing care.

Relevant referral information allows the specialist nurse or other professional to identify any resources needed to be taken to the hospital when coming to assess the person before discharge. For example if the person is undergoing alcohol withdrawal the specialist ATOD nurse could educate the other staff as well as the person about this, and provide a self help booklet to assist them through withdrawal.

What to expect from specialist services

In responding to people with comorbidity, there should be 'no wrong door' in MH and ATOD services - there needs to be an integrated approach and willingness from both specialties to accept comorbidity referrals and work together to support and treat the person's conditions simultaneously.

Every person with comorbidity conditions require comprehensive assessment and tailored care plan. They require a designated case manager or key worker whose role is to coordinate their care, and ensure effective collaboration between the relevant services, for support, treatment, monitoring and assertive follow up for all of their health and related issues. No person with comorbidity or their family or carer should be left without adequate comorbidity sand general health care or community supports.

It is important therefore that the general health care team know what to expect regarding specialist comorbidity care (see Resources Section 4).

The person affected by comorbidity, and their family or carer need to be well informed about what they should expect in this regard such as concurrent (holistic) assessment and treatment planning, coordination between relevant teams and services. Whether they attend a mental health or drug and alcohol specialist services their comorbidity should be diagnosed and treated. Therefore these services should be asked about what they provide in regards to comorbidity care so that your team and the person and their family or carer are well aware of what they offer and how they can assist. This can ensure people with comorbidity are referred effectively and not 'bounced' between' services which has happened.

Knowing about the admission/intake criteria of the various specialist services enables nurses and their team to be selective in their comorbidity referrals, and advocate on behalf of the people in their care.

Best practice in comorbidity care

It must be recognised that there can be barriers to people affected by comorbidity receiving the specialist care they require from some mental health or drug and alcohol services. This is particularly relevant for outer city and rural/remote areas, where support from telemedicine (psychiatry), ATOD telephone clinical advice (1300 13 1340) and local hospital and community health services are required.

People affected by comorbidity who are receiving treatment from specialist services require regular monitoring and re-assessment as their needs change, and support in accessing other essential services such as housing and social connect ion programs.

Their physical health issues, including dental problems are also important considerations.

People affected with comorbidity may only present for care when their condition /s are acute or significantly advanced and complex. This means that nurses and the team within the emergency department of other areas of the general hospital are commonly caring for people when they are most vulnerable. This makes assessment and treatment challenging but even more critical so as to adapt their treatment and discharge plans in ways that can maximise monitoring and stability of their conditions, and minimise their risk of relapse and crisis episodes. This issue needs careful consideration for each person so affected, with collaboration between the key treating clinicians and services, so that discharge planning includes close monitoring and support with regular follow-up and coordinated community care.

People affected by comorbidity are diverse, can be young or older. Their experience of comorbidity may be influenced by their development stage of life, living situations and individual experiences and characteristics. People affected by comorbidity can have 'once off' or occasional episodes that resolve, while others have longer term or lifelong comorbidity that is complex and commonly erodes their well being and life opportunities.

Stabilisation, recovery and 'moving on' from any of their conditions (e.g. anxiety or alcohol dependence) are challenging. Many do succeed having had multiple attempts before reaching their goal.

This is why a 'client centred' tailored approach to assessment, treatment and after care for each person presenting with comorbidity is required. This can start when they are a patient in the general hospital or community setting.

Features of client centred comorbidity treatment/care include:

- Comprehensive physical, ATOD and MH assessment.
- Risk reduction and relapse plan for early identification and intervention. Includes ATOD, MH and physical conditions.
- Long term safe housing with supported accommodation if required.
- Regular case-conferencing between all services to review person's progress, identify additional needs, amend care plan.
- Treatment/care plan
- Assertive outreach, monitoring and follow-up.
- Collaboration between all services involved, with clearly defined roles and agreed communications.
- Provision of consultation and support for collaborating services and professional groups on client management e.g. clinical team in the hospital or mental health unit and workers in the non government sectors [78].

Section 3
Drug-specific Nursing Care

Overview

The section presents four categories of psycho-active drugs affecting the central nervous system (CNS). According to the particular category, particular drugs of concern are presented with the necessary clinical guidance for assessment and safe management in the general health care setting.

The categories are:

3.1 Depressants

- 3.1.1 Alcohol
- 3.1.2 Opioids (opiates)
- 3.1.3 Pain and analgesia
- 3.1.4 Benzodiazepines
- 3.1.5 Gamma hydroxybutyrate (GHB)

3.2 Cannabis

3.3 Psycho-stimulants

- 3.3.1 Nicotine
- 3.3.2 Amphetamines
- 3.3.3 Cocaine

3.4 Hallucinogens

- 3.4.1 Hallucinogens

3.5 Other

- 3.5.1 Ketamine
- 3.5.2 Inhalants (solvents)
- 3.5.3 Anabolic androgenic steroids (AAS)

3.1 Depressants

In this chapter:

3.1.1 Alcohol

Introduction

Alcohol is a major central nervous system depressant. Alcohol is consumed by about 84% of Australians, the majority of whom drink at low risk levels [79]. However there are significant groups of people, many from a young age, whose short or longer term health is at risk due to drinking.

Here is some essential information taken from the national alcohol guidelines for Australians [80].

Key terms:

- Standard drink – the Australian standard drink contains 10g of pure alcohol (e.g. 100ml wine; 285 mls of full strength beer; 60 mls fortified wine such as port; 30mls of any spirit).
- Drinking occasion/single occasion – a sequence of drinks taken without the blood alcohol concentration reaching zero in between.
- Regular drinking – repeated drinking occasions over a period of time – e.g. drinking daily, or every weekend, over many years. This is not necessarily dependent drinking.
- Harmful drinking – drinking at levels that are likely to cause significant injury or short or long term ill health.
- Harm – adverse health outcomes; in this context harm includes disease and/or injury resulting from consumption of alcohol.
- Immediate effects – the acute effects of during or after an occasion of drinking, lasting until the blood alcohol concentration returns to zero.
- Cumulative effects – the effects of many drinking occasions.
- Risk – a person's risk of experiencing an adverse health outcome is the probability of the person developing that outcome in a specified time period.
- Absolute risk – the actual risk of injury or disease from drinking.
- Lifetime risk – the accumulated risk from drinking either on many drinking occasions, or on a regular (e.g. daily) basis over a lifetime.
- Relative risk – the risk of harm in drinkers relative to the risk of harm in non-drinkers.

Note: that the relative risk on its own does not give any information about the absolute risk of harm.

Short or long-term risk to health from any alcohol consumption

Short term or immediate effects (such as once off or occasional risky drinking) can include:

- Intoxication
- nausea,
- injury
- blackouts
- assaults/violence
- disinhibition
- delayed reaction time
- impaired balance
- co-ordination and loss of fine motor skills
- impaired respiration at high BAC with the possibility of unconsciousness and death.

Long term or cumulative effects include:

- Cardiovascular disease
- cancers (various)
- diabetes
- nutrition-related conditions
- risks to the unborn child
- liver disease
- cognitive impairment (incl. brain damage)
- premature disability or death [81].

Alcohol consumption at even low-risk levels is not recommended for people who are:

- experiencing a health condition made worse by drinking
- taking particular medications
- children and adolescents under 18 years of age
- pregnant or breastfeeding
- about to engage in activities involving risk or a degree of skill (e.g. driving, flying, water sports, skiing, operating machinery
- using other drugs or substances that adversely interact with alcohol [81].

The National Health & Medical Research Council (NH&MRC) [80] has developed guidelines for people considering alcohol consumption, based on the latest best evidence. These are:

Guideline 1 - Reducing the risk of alcohol-related harm over a lifetime

For healthy men and women, drinking no more than 2 standard drinks on any day reduces the lifetime risk of harm from alcohol-related disease or injury.

Guideline 2 - Reducing the risk of injury on a single occasion of drinking

For healthy men and women, drinking no more than 4 standard drinks on a single occasion reduces the risk of alcohol-related injury arising from that occasion.

Guideline 3 - Children and young people under 18 years of age

For children and young people less than 18 years of age, not drinking is the safest option. Parents and carers should be advised that children under 15 years of age are at the greatest risk of harm from drinking and that for this age group, not drinking is especially important. For young people aged 15-17 years, the safest option is to delay the initiation of drinking for as long as possible.

Guideline 4 - Pregnancy and breastfeeding

Maternal alcohol consumption can harm the developing foetus or breastfeeding baby.

For women who are pregnant or planning a pregnancy, not drinking is the safest option. For women who are breastfeeding, not drinking is the safest option.

In addition to the above it is important to note:

- Mental health problems– people who have, or are prone to, mental health conditions (e.g. anxiety and depression, schizophrenia) may have worse symptoms after drinking. Alcohol can also trigger a variety of mental health conditions in people who are already prone to these conditions.
- Other health conditions that are made worse by alcohol – people who already have physical health conditions caused or exacerbated by alcohol, such as epilepsy, alcohol dependence, cirrhosis of the liver, alcoholic hepatitis or pancreatitis, other acute or chronic diseases are at risk of the condition becoming worse if they drink [80].

To access the 2009 *Australian Guidelines to Reduce Health Risks from Drinking Alcohol* go to: www.nhmrc.gov.au/publications/synopses/ds10syn.htm

Alcohol and clinical intervention

The following mechanisms are important to understand in relation to alcohol withdrawal and therefore how best to determine if a person is at risk.

Tolerance – the immediate effects of alcohol on the brain are often less apparent in people who drink regularly, as they acquire a degree of tolerance. Tolerance occurs in part because the liver becomes more efficient at breaking down alcohol. The person learns to cope with, and compensate for, the deficits induced by alcohol. Despite this tolerance, the long-term effects remain damaging, particularly as the drinkers who have greater tolerance for alcohol are likely to be those who experience higher blood alcohol levels more frequently [80].

Dependence – alcohol is an addictive drug and regular use can result in alcohol dependence. Alcohol dependence is a complex phenomenon. In brief, it refers to situations where a person feels a strong need to drink so that drinking is given priority over other behaviours that the person had previously found much more important.

Dependence ranges from mild to severe. People with severe dependence drink regularly at

high-risk levels, often find it hard to limit how much they drink, and generally have marked tolerance to the effects of alcohol. If they stop drinking for a few hours, they experience tremulousness and anxiety. Alcohol is strongly linked with anxiety and depression in those with alcohol dependence, and this increases the risks of violence and self-harm. Alcohol dependence is a major risk factor for suicide [80].

Alcohol tolerance and dependence can be missed, particularly if a person is admitted to hospital for surgery or unexpected illness or injury. Alcohol withdrawal can be very serious leading to seizures, hallucinations and delirium tremens (DTs), which can be life-threatening.

Alcohol withdrawal symptoms can frequently be predicted if the risk of tolerance and possible past history have been identified. It is therefore extremely important that all nurses undertake a drinking history to assess risk, and are ready and can recognise and manage the symptoms of withdrawal and possible complications.

For additional information refer to [82].

To access this document go to:

http://www.health.gov.au/internet/alcohol/publishing.nsf/Content/treat-guide

Critical situations

Thiamine, other vitamins and mineral supplements

Thiamine (Vitamin B1) is administered to people drinking the daily equivalent to 8 standard drinks or more (men) and 6 standard drinks or more (women) to treat or prevent Wernicke – Korsakoff's syndrome. The need for Thiamine treatment may be determined by blood test results that indicate Thiamine deficiency.

Thiamine deficiency—Wernicke's encephalopathy

Thiamine deficiency is common in people who drink heavily and is a major cause of Wernicke's encephalopathy. This is an acute condition associated with high-risk levels of alcohol use, or any condition that has caused poor nutritional status and its sequelae (e.g. malnutrition, anorexia or bowel disease). If the condition is not treated effectively and early, it can lead to permanent brain damage and memory loss. It can occur in heavy drinkers (60gms a day or almost daily for adults).

Preventing Wernicke's encephalopathy in people at risk but not withdrawing

- In people who are nutritionally compromised and therefore at serious risk of Wernicke's encephalopathy, parenteral thiamine should be given prior to any glucose loading.
- IV thiamine can be administered concurrently with a glucose infusion
- People at risk of alcohol withdrawal should be administered at least 100mg TDS IMI or IV particularly if there is evidence of Coagulopathy.

- Coagulopathy may render intramuscular injection unsafe.
- If withdrawal occurs the person should be administered 100mg TDS IM or IV for three days followed by oral thiamine 100mg TDS for the remainder of the admission.
    - A B Forte formulation containing 250 mgs thiamine may be available and used in some settings.
- Correct any electrolyte` disturbances including hypomagnesaemia
- Daily oral multivitamins should also be administered.
- Resuscitation equipment should be immediately available when thiamine is given IV, in the unlikely event of anaphylaxis [50]. The risk of this is extremely low [83].

Treating Wernicke's encephalopathy

Signs and symptoms of Wernicke's encephalopathy:

- ophthalmoplegia (reduced eye movements or nystagmus)
- neuropathy – pins and needles or loss of feeling in extremities
- ataxia – unsteady gait
- confusion – people may also have impairment of memory, concentration and judgement, confabulation and labile mood. These problems may coexist with both intoxication and withdrawal
- acute disorientation.

This condition is preventable and can be reversible if recognised and treated with parenteral Thiamine.

Because a high carbohydrate load exacerbates Thiamine deficiency, any carbohydrate loading e.g. glucose or dextrose must be accompanied by parenteral thiamine. This can be given simultaneously if given IV.

Thiamine treatment is based on the person's drinking history and changes in clinical signs. With signs of Wernicke's encephalopathy, treatment of presumed Wernicke's should be commenced.

- Parenteral doses of at least 500mg thiamine every 24 hours IM or IV diluted in saline over 30 minutes should be given for at least 3 – 5 days. The intramuscular route should not be used for people who have Coagulopathy. This is followed by 300mg per day oral or parenteral for 1 – 2 weeks.
- Always check magnesium status since deficiency can impair Thiamine utilisation [84].
- Oral multivitamin and mineral supplement are also needed.
- Any person who has alcohol related brain damage or an episode of Wernicke's

encephalopathy or continues to drink should be maintained on oral thiamine supplements on a continuing basis.

Alcoholic hallucinosis

Alcohol hallucinosis is a cluster of psychotic symptoms that appear during or following a period of heavy alcohol use. It can co-exist during acute intoxication or withdrawal but is apparently not caused by these conditions.

This disorder is characterised by hallucinations (typically auditory, but often involving other senses), perceptual distortions (usually visual tactile, auditory), paranoid or other delusions, psychomotor disturbances, and abnormal affect (ranging from intense fear to ecstasy). The sensorium is usually clear although some degree of clouding of consciousness may be present.

Supportive care is the major focus of intervention and includes withdrawal observations in order to identify and manage symptoms of the withdrawal syndrome that may emerge.

Assessment and quantification

The level of alcohol intake is an important determinant of:

- the likelihood of alcohol withdrawal and its subsequent severity
- whether the person may be using alcohol at a level known to cause long-term harm
- early identification of likely problems will influence choices and effectiveness of nursing interventions.

Screening, assessment and monitoring tools

(See Section 2.2: Assessment and Section 4: Appendices).

A complete ATOD use history should reveal the following – go to Section 4, Appendix 4:

- type of alcohol e.g. beer, wine, spirits (and any other drug)
- how much has been consumed in the last 24 hours
- e.g. 10 schooners of regular beer = 10 standard drinks
- e.g. 3 stubbies of regular beer = 5 standard drinks
- how much is consumed - average daily intake (measured in number of standard drinks/grams per day)
- frequency of drinking (and any other drug) e.g. once a week, daily, less than monthly
- duration of use – when started drinking (be specific) , last few weeks, yesterday was first time etc.
- nutritional status

- time and amount of last dose of any other drug/s used
- route of administration for other drugs (e.g. sedatives, analgesics , heroin, ecstasy, amphetamines) e.g. oral, injecting (IV or IM), snorting, inhalation
- concerns about drinking and/or any other drug use
- benefits of drinking and/or any other drug use.

It is important to have exact information on the amount and frequency of use and to document this clearly in the case notes.

If the person does not give exact amounts initially, ask in a non-judgemental manner questions such as:

- How many, how much, what is the size of the glass/bottle/cask?
- How often would you have that amount?
- How long have you been drinking at this level?
- Do you do this every day?

Note: When taking a drinking history do not accept phrases such as 'social drinker' or 'occasional drinker'. This does not convey an accurate clinical picture of what has been happening or what implications consumption level and pattern may have on the person's current medical and psychological condition.

Indicators of harmful alcohol use and risk of withdrawal

Intoxication

Any person presenting with clinical signs suggesting harmful alcohol and other drug use needs to be fully assessed by nursing and medical staff to identify any co-existing injury or illness, and that there is no risk of toxicity or overdose.

Recent high level of alcohol consumption is generally demonstrated by:

- level of alcohol consumption according to blood alcohol or breath alcohol concentration (BAC)
- decreased level of consciousness
- unsteady gait
- slurred speech
- physical trauma possibly attributable to alcohol and other drug use (e.g. fractures, head injuries, other injuries resulting from violence, pedestrian or motor vehicle and boating accidents).

People who present intoxicated or seemingly intoxicated may be at risk from any of the following; alcohol dependence, withdrawal, liver disease, pancreatitis, oesophageal varices, hypertension, cancer, other conditions.

Alcohol dependence and withdrawal

The Alcohol Use Disorders Identification Test (AUDIT) that shows a score of 13 or more indicates definite risk of alcohol dependence and withdrawal (see Appendix 1).

Index of suspicion for withdrawal:

- An alcohol intake of 80gms or more per day (such as 5 stubbies/cans of full strength beer) for a healthy adult man, or 60gms or more per day (3 stubbies/cans of full strength beer) for a healthy adult woman on a regular basis.
- Debilitated, young, frail or elderly people may experience withdrawal at consumption levels less than 80gms/day for men and 60gms/day for women.
- Some people who have been abstinent can develop tolerance and experience withdrawal after only two or three weeks of resuming heavy drinking.

Brief and early intervention – harm reduction

(See Section 2.3: Early and brief intervention).

In this context, harm reduction uses strategies of brief intervention in helping someone who is drinking at risky levels to avoid short term and longer term harm. For example encouraging them to:

- avoid risks associated with intoxication or overdose
- reduce drinking levels in any session
- understand alcohol and its effects, and harms to health
- learn practical ways to reduce their risks.

Strategies in reducing long-term harm from regular intake (i.e. damage to physical and mental health):

- consider not drinking (abstinence) or at least drink below low-risk drinking guidelines [80] go to: www.nhmrc.gov.au/your-health/alcohol-guidelines
- ensure good nutrition and healthy lifestyle
- take Thiamine 100mg orally daily.

Strategies in reducing short term harm from intoxication:

- eat and drink water before drinking alcohol
- set a drinking limit (and stick to it) and count drinks
- try to have drinks in standard size glasses
- have a non-alcohol spacer (e.g. water or soft drink) between alcoholic drinks
- don't drink and drive or use machinery
- plan ahead—catch a taxi, stay overnight, arrange a non-drinking driver,

- try low alcohol alternatives such as light beers and wines
- quench thirst on water or soft drinks – never with alcohol
- avoid top-up drinking—keep your own glass
- avoid drinking in rounds
- avoid salty snacks
- take small sips and put the container (e.g. can; cup; glass; pannikin; jar; bottle) down in-between each sip.

Alcohol intoxication

Alcohol is a central nervous system depressant. It works on all areas of the brain. In high doses alcohol depresses respiration, cough reflex, gag reflex and cardiovascular function causing various arrhythmias. Intoxication is a potentially lethal condition - as with other drugs, people can overdose on alcohol.

(See Section 2.4: Managing intoxication and Section 2.5: Managing overdose).

Signs of intoxication

- strong smell of alcohol on their breath
- analgesic and anaesthetic effects—no/minimal pain despite obvious injury or illness
- ataxia
- increasing stupor or coma
- cold and clammy skin
- lowered blood pressure
- accelerated heart rate or bradycardia
- positive breath/blood alcohol reading
- altered mood and/or cognition (e.g. mood swings, loss of inhibition, disorientation, confusion)
- inappropriate behaviour/emotive responses to what is happening
- altered consciousness
- slurred or incoherent speech
- lowered body temperature
- slow and noisy respiration.

Note: the person may also have consumed other depressant drugs.

(See Section 2.4: Managing intoxication and Section 2.5: Managing overdose).

Alcohol withdrawal syndrome

Alcohol withdrawal syndrome can occur in someone whose body has become tolerant to alcohol. It is caused by the brain reacting to the fall in the blood alcohol concentration (not absence of alcohol), with onset occurring before the blood alcohol concentration is zero.

Alcohol withdrawal can be mild, moderate or severe. It is a medical syndrome with a set of known symptoms that may increase in severity to the point of being life threatening.

Complications

Early recognition and correct management of the initial, milder stages of withdrawal is crucial in preventing progression to the severe, life-threatening stages.

- Alcohol withdrawal can start 6 to 12 hours after the last drink and is not reliant on a zero blood alcohol reading.
- It is most important to suspect and anticipate withdrawal in a person whose drinking history or physical symptoms are indicative.
- Suspect possibility of withdrawal in a person with an unexplained acute organic brain syndrome.
- Seizures can occur at any time during withdrawal, but usually within the first 48 hours. Any seizure must be reported and investigated.
- Hallucinations occur in approximately 25% of people experiencing withdrawal. They are usually visual or tactile (typically insects crawling over the body) and occasionally auditory. They can be unpleasant, frightening and cause severe anxiety. They can be associated with complications.
- Delirium tremens (DTs) is a medical emergency. It is an acute complication of alcohol withdrawal (20% death rate if untreated).
- Symptoms include profound disorientation, confusion and hallucinations, electrolyte imbalance and eventual system breakdown.
- Onset is likely to occur between 24 and 36 hours after the last drink but may vary from person to person.
- Needless to say anyone at risk of or diagnosed with Delirium tremens must receive close medical and nursing monitoring and treatment in a well equipped intensive care setting [75].

Alcohol withdrawal, observation and monitoring

Please see Appendix 10 for exemplars of an alcohol withdrawal observation scale, based on the CIWA-Ar. These are useful as monitoring tools only—they do not diagnose alcohol withdrawal.

Alcohol withdrawal—Index for suspicion

So as to judge the potential for alcohol withdrawal the following Index of Suspicion provides a guide. If the person has:

- a history of heavy drinking or alcohol dependence and it is less than 10 days since they last consumed alcohol
- had a regular daily intake of 80 grams or more of alcohol (eight drinks for men) or 60 grams or more of alcohol (six drinks for women) for several months, or possibly weeks

- regularly taken smaller amounts of alcohol in conjunction with other central nervous system (CNS) depressants, e.g. Benzodiazepines
- had previous episodes of alcohol withdrawal
- experienced previous alcohol withdrawal seizures or other serious symptoms
- a current admission for an alcohol-related reason
- a previous history of an alcohol-related condition (e.g. alcoholic hepatitis, alcoholic cardiomyopathy, pancreatitis, oesophageal varices, liver disease)
- a physical appearance indicating harmful alcohol use, e.g. facial vascularisation, reddened eyes, signs of liver disease (e.g. ascites, jaundice), muscle wasting, spider naevi, palmar erythema, previous injuries
- recent pathology results showing raised serum Gamma Glutamyl Transpeptidase (GGT) and/or raised mean cell volume (MCV)
- displayed or reported symptoms such as hypertension, anxiety, sleep disturbance, agitation, tremor, sweatiness, nausea/vomiting or early morning retching.

Onset of withdrawal

Due to falling blood alcohol levels the early signs of withdrawal usually appear between 6-24 hours after the last intake/drink of alcohol. Symptoms may emerge before the breath alcohol reading reaches zero, e.g. at 0.1 Blood Alcohol Level (BAL).

Features of mild withdrawal

Signs and symptoms may occur within 24 hours and subside 48 hours after stopping or substantially reducing alcohol intake. These include:

- mild rise in temperature, e.g. 37°C
- slight tremor
- nausea
- mild dehydration
- mild hypertension
- dyspepsia
- insomnia
- mild anxiety
- mild sweating
- vomiting
- headaches
- tachycardia
- malaise.

Features of moderate withdrawal

Signs and symptoms may occur within 24 hours and subside 72 hours after stopping or substantially reducing alcohol intake.

These include:

- mild rise in temperature, e.g. 37°C
- hyperventilation and panic attacks
- moderate sweating
- diarrhoea
- anorexia
- mild to moderate hypertension (diastolic reading of 100-110mmHg)
- nausea and vomiting
- weakness
- moderate anxiety (will respond to reassurance)
- dehydration
- restlessness/agitation
- dyspepsia
- headache
- insomnia/nightmares
- mild tremor.

Features of severe withdrawal

Signs and symptoms may occur within 24 hours or may be delayed until 48 hours or more after stopping or substantially reducing alcohol intake. Further delays in onset may be caused by administration of other central nervous system (CNS) depressants, e.g. opioid analgesia or anaesthetics. The usual course of withdrawal is five days, but can be up to 14 days.

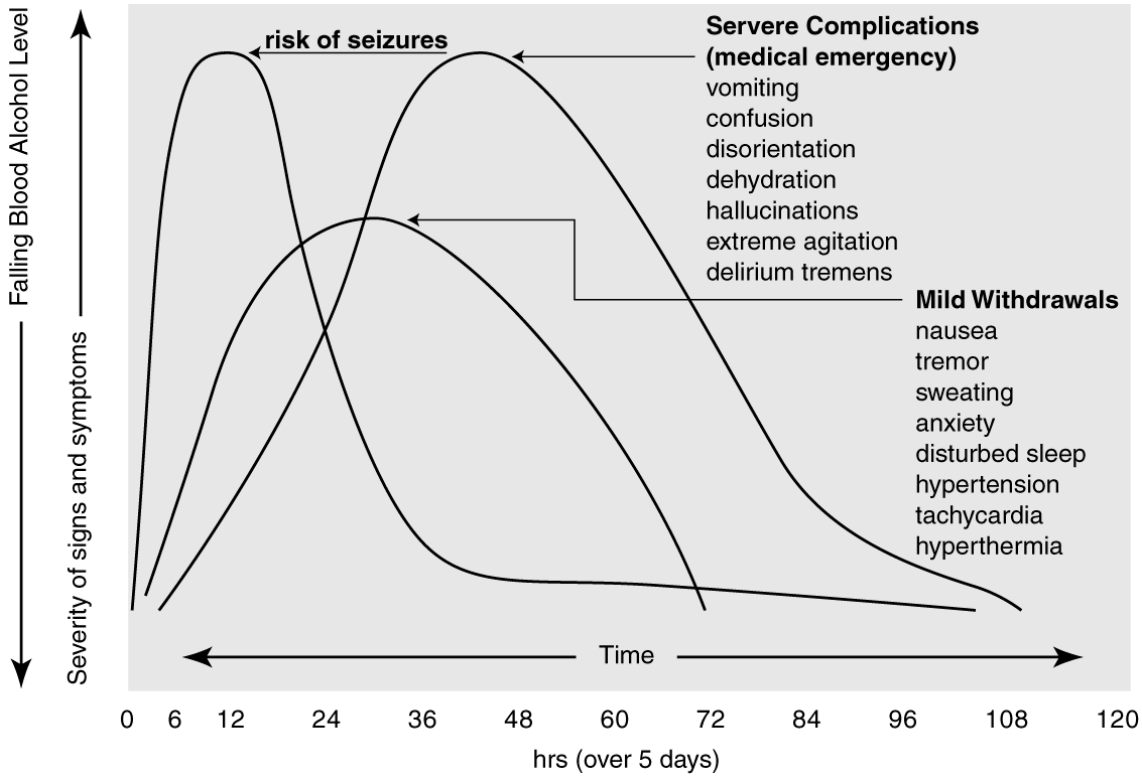
The features include:

- acute anxiety (may or may not respond to reassurance)
- agitation
- dehydration
- nausea
- diarrhoea
- fever
- hypersensitivity to stimulation
- tachycardia
- withdrawal seizures, any seizure can be life threatening and are
- hyperventilation and panic
- convulsions/seizures
- excessive sweating
- vomiting
- disorientation/confusion (for time and place)
- hallucinations (auditory, tactile or visual)
- moderate to severe hypertension (danger sign is a diastolic pressure greater than 120mmHg), or hypotension

preventable in people with a known history through a diazepam-loading regime

- marked tremor.

Figure 6: Progress of alcohol withdrawal from time of last drink



[3]

Features of Complicated Alcohol Withdrawal

- onset seizures (6-48 hours +)
- onset disorientation (48 + hours)
- onset confusion (48 + hours)
- onset hallucinations (48 + hours)
- onset delirium tremors (2-6 days after last drink).

The presence and severity of each of these symptoms varies with the level of severity of withdrawal. Presence of concomitant illness, infection, injury or other physical trauma, and recent surgery increases the likelihood of complicated alcohol withdrawal.

Delirium tremens (DTs)

Delirium tremens ('the DTs') is the most severe complication of alcohol withdrawal syndrome, and is a medical emergency. It usually develops two to five days after cessation or significantly reducing alcohol consumption, but may take seven days to appear [75]. The usual course is three days, but can be up to 14 days.

Symptoms

- exaggerated features of simple alcohol withdrawal, e.g. CIWA-Ar [85] Alcohol Withdrawal Score (CIWAR-AR) score increases later in withdrawal syndrome (See appendix 10)
- autonomic instability (e.g. fluctuations in blood pressure or pulse may be hypertensive and tachycardic), disturbance of fluid balance and electrolytes, hyperthermia and sweating
- extreme agitation restlessness or disturbed behaviour – this may be to the extent where the person needs restraint or to be detained under the Mental Health Act for their protection
- gross tremor
- confusion and disorientation
- paranoid ideation, typically of delusional intensity
- hallucinations affecting any of the senses, but typically visual (highly coloured, animal form).

A mild alcohol withdrawal syndrome may not precede delirium tremens. Dehydration, infection, arrhythmias, hypotension, renal failure and pneumonia may be precipitating factors. Delirium tremens may result in death in 20% of cases. If treated, the mortality rate reduces to less than 5%.

Effective management is likely to include:

- effective sedation
- intravenous fluids to correct or avoid dehydration and electrolyte imbalance
- treatment of any concurrent conditions
- symptomatic treatment of nausea, diarrhoea, headache
- prophylactic thiamine replacement during alcohol withdrawal
- all risky or binge drinkers should be considered to be at risk of Wernicke's encephalopathy
- chronic drinkers with poor dietary intake and nutritional status should be administered parenteral thiamine [83]. Thiamine should be given prior to glucose loading. See section on thiamine below.

Some people can have lingering cognitive dysfunction (may recover in 4-12 weeks) following withdrawal. If this is accompanied by Wernicke's encephalopathy, higher daily doses of Thiamine may be required. Cognitive dysfunction may be permanent.

See Thiamine regime for prevention and treatment of Wernicke's encephalopathy in this section.

Monitoring alcohol withdrawal

Always record the time of the last alcoholic drink, and the blood or breath alcohol concentration at time of admission. This will optimise accurate diagnosis of risk of withdrawal, likely time of onset and whether there is also risk of other overdose, concurrent illness or injury.

The most systematic and useful way to measure the severity of withdrawal is to use a reliable alcohol withdrawal scale which, if implemented early, can provide baseline data and any subsequent deterioration (or improvement) of symptoms. The changes in signs and symptoms are observed and documented regularly in order to discern, measure and treat increasing severity over time. This ensures that not only is treatment timely but also reduces the likelihood of unintended under dosing or over dosing with benzodiazepines (generally diazepam) and any symptomatic medications used to manage the alcohol withdrawal syndrome.

The Clinical Institute Withdrawal Assessment for Alcohol—Revised Version (CIWA-Ar) is recommended for best practice and provided in this document in two exemplars (See Appendix 10) and as a standalone withdrawal observation recording form.

Note: The CIWAR-Ar is merely a monitoring tool to detect symptoms and is NOT a diagnostic instrument. It guides the identification of symptoms indicative of severity of an already diagnosed withdrawal syndrome.

Re-evaluate the person's symptoms regularly to ensure that it is not another condition

being observed, particularly if the person may also have a concurrent condition and/or does not respond well to standard alcohol withdrawal treatment.

Clinical Institute Withdrawal Assessment for Alcohol—revised version (CIWA-Ar)

The CIWA-Ar (see Appendix 9) is a 10-item scale that several studies have shown is a valid, reliable and sensitive instrument for assessing the clinical course of alcohol withdrawal.

This scale allows a quantitative rating (from 0-7 with a maximum possible score of 67) of the following components of withdrawal:

- nausea and vomiting
- tremor
- paroxysmal sweats
- anxiety
- agitation
- tactile disturbances
- auditory disturbances
- visual disturbances
- headache and fullness in head
- disorientation and clouding of sensorium.

Early onset of alcohol withdrawal may be indicated by a slight rise in temperature (37°C) in a person who does not have an infection.

It is very useful to include TPR and BP assessment on the same form as the CIWA-Ar in the hospital setting. This enables concurrent monitoring of the person's general health status, identifying other problems through objective clinical signs, and/or early signs of the onset of alcohol withdrawal.

Use of CIWA-Ar in the Emergency Department

Monitor the person hourly for at least four hours using the CIWA-Ar. Contact the medical officer for re-assessment if:

- CIWA-Ar total score reaches 8
- alcohol score increases by at least 5 points over this four hour period, or
- you are at all concerned

Use of CIWA-Ar for hospitalised people e.g. surgical or medical unit:

- monitor hourly if the alcohol withdrawal score is greater than 20
- 2 hourly if score is 8-20

- 4 hourly if score is less than 8, for a further three days.

Note: If score fails to settle with prescribed diazepam or rises above 15, the medical officer must be notified immediately. Specialist medical advice is needed if the withdrawal score is greater than 25.

Pharmacological treatment

The medical officer may prescribe pharmacological treatment to prevent and combat acute withdrawal symptoms, without over-sedating the person.

The most commonly prescribed pharmacological treatment for alcohol withdrawal is diazepam due to its cross tolerance with alcohol, long half life and anti-convulsant properties.

Further clinical advice about alcohol withdrawal and recommended medication regimes can be obtained from Alcohol and Drug Information Service 24 hour telephone information and Clinical Advisory Service – call 1300 13 1340. (See section 5).

In general it is advised that unless otherwise prescribed by an experienced medical officer, the alcohol withdrawal diazepam regimes should not commence until:

- medical assessment is made to diagnose alcohol withdrawal as the cause of the person's presentation or symptoms
- other potential organic exacerbating factors have been assessed e.g. sepsis, cardiovascular event, metabolic problem such as diabetes
- breath/blood alcohol level (BAL) reading 0.1% or less.

Potential hazards

- benzodiazepine over sedation
- dose of diazepam is inadequate to control withdrawal symptoms.
- misdiagnosis of alcohol withdrawal when other serious medical problems exist that either accounts for or exacerbates the alcohol withdrawal score.

Alcohol withdrawal regimes

Mild withdrawal predicted

- no other likely medical condition that may complicate or mimic withdrawal
- no history of withdrawal seizure
- daily alcohol intake less than 80 grams (60 grams in women)
- daily alcohol intake greater than 80 grams (60 grams in women) and the person is under 30 years old
- history of previous mild withdrawal syndrome.

Who is at risk of alcohol withdrawal?

Any person admitted is at risk of experiencing alcohol withdrawal syndrome when:

- Alcohol consumption >80g per day and less than 10 days since last drink
- Previous history of alcohol withdrawal
- History of alcohol dependence and less than 10 days since last drink
- AUDIT questionnaire score >12 on admission
- Admitted with breath or blood alcohol >0.15g/dl.

How to initially manage?

- commence alcohol withdrawal observations 2-4 hourly and continued for 72 hours.
- if alcohol withdrawal symptoms develop then people should be nursed in a low stimulus environment, provide reassurance, reorientation, even lighting, continuity of care throughout the shift
- if alcohol withdrawal symptoms develop then assume that withdrawal is complicated by medical problems. E.g. sepsis, CCF, metabolic problems such as diabetes, inadequate postoperative analgesia, urine retention. The person in this situation requires a medical assessment.

Which regime?

There are four benzodiazepine regimes depending on the clinical circumstances.

- Mild alcohol withdrawal regime
- Symptom triggered regime
- Loading regime
- Seizure prophylaxis regime

Note: Any person undergoing alcohol withdrawal requires a Thiamine regime.

1. Mild withdrawal predicted when

- there is no other likely medical condition that may complicate or mimic withdrawal
- there is no history of withdrawal seizure
- daily alcohol intake has been less than 80 grams (60 grams in women)
- daily alcohol intake has been greater than 80 grams (60 grams in women but the person is under 30 years old
- there is a recent history of previous mild withdrawal syndrome.

If circumstances match the above then:

- Protocol for mild alcohol withdrawal may be suitable in the general hospital setting or where alcohol withdrawal is complicating another condition, e.g. surgical procedures (and where concurrent illness does not preclude diazepam).
- Diazepam 5-10 milligrams (mg) orally, four times a day as necessary (qid) (prn) should be prescribed to cover mild agitation in the event of a low alcohol withdrawal score.
- In addition the patient should also be given Regime 2 [ie Symptom triggered regime] to cover the emergence of more severe withdrawal.

2. Symptom triggered regime

Where a person is admitted for a purpose other than alcohol withdrawal management, e.g. surgery, injury, medical condition and their management does not preclude the use of sedation with diazepam. In this instance the protocol based on withdrawal symptom severity may be the preferred regime. This could be due to a number of factors, e.g. also receiving opioid pain relief, minor head injury and neurological observations are required during early phase of admission.

If this is the case then:

- Prescribe diazepam 20 milligrams (mg) 2 hourly to commence if alcohol withdrawal score (AWS) rises to 8 or more and continue until it falls to <8. Maximum dose 120mg over 24 hours.
- If more is required a medical officer should first review the person.
- Diazepam may be recommenced if AWS score rises to >8. Diazepam should be withheld if person shows signs of benzodiazepine toxicity.
- More intensive nursing care will be required for a person whose AWS >20.

3. Loading regime

Use when:

- main reason for admission is to manage alcohol withdrawal syndrome
- no history of withdrawal seizures
- daily drinking more than 80gms for men and 60 grams women
- past history of severe withdrawal
- person under the age of 30 years or drinking less than 80gms (60 grams
- women) per day with a past history of severe withdrawal
- person is not debilitated, elderly and/or frail
- person does not have a concurrent acute medical condition, e.g. diabetes, renal or

liver disease, serious injury or infection.

If this is the case then:

Loading with diazepam is commenced according to weight:

Less than (<) 75kg	20mg 2 hourly for 3 doses (i.e. 60mg total)
75-90kg	20mg 2 hourly for 4 doses (i.e. 80mg total)
More than (>) 90kg	20mg 2 hourly for 5 doses (i.e. 100mg total)

- Diazepam should also be administered as per the AWS score to commence if the AWS score is greater than (>) 10 after loading dose is completed.
- Diazepam 5-10mg orally, four times a day as necessary (qid) (prn) may also be prescribed to cover mild agitation in the event of a low AWS score. This commences the day after diazepam loading.
- Temazepam 10-20mg at night (nocte) as necessary (prn) may also be prescribed for night sedation for three nights (not to commence until the day after diazepam loading).

4. History of alcohol withdrawal seizures

- Any seizure must be taken seriously and investigated for causes.
- People with a past history of alcohol withdrawal seizures should receive diazepam loading (as in 2. above).
- If person's weight is more than 75kg an additional 15mg dose may be needed for the first day.
- If the AWS score is greater than 10 after the loading dose is completed, the dosing regimen (as in 3. above) should be instituted. Thereafter all people requiring seizure prophylaxis should receive 10mg diazepam twice a day for two days, followed by 5mg twice a day (BD) for one day.

Note: Seizure prophylaxis should not be withheld because a person is asleep. The dose may be delayed slightly if this is clinically appropriate, but it is important to ensure that the full amount is given.

Note: In either seizure prophylaxis or weight related loading, diazepam should only be withheld if signs of benzodiazepine intoxication are present; short periods of sleep are allowable. As long as the patient is easily rousable, the regime should continue.

Thiamine regime – for all people at risk of alcohol withdrawal or who are withdrawing

- 100mgs Thiamine IM or IV as TDS for three days

- 100mgs Thiamine oral TDS for remainder of the admission.
- Oral multivitamin and mineral supplement daily.
- On discharge advise oral 100mg thiamine daily and recommend periodic review with person's general practitioner or health services.

Symptomatic medications

- Symptomatic medication relief may be needed for nausea/vomiting, headache or gastrointestinal upset.
- Any symptomatic medications should be prescribed as usual, e.g. paracetamol: 500mg-1 gram oral 4-6 hourly as necessary.
- Metoclopramide: 10mg oral/or intramuscular, three times a day as necessary.

Clinical judgement

Clinical judgment will be required when there is combined alcohol and benzodiazepine withdrawal. A benzodiazepine reduction regime is often more appropriate (with superimposed alcohol withdrawal regime in the event of a withdrawal scale score rising to more than 15 using CIWA-Ar Score).

Alcohol withdrawal management - diazepam sedation contra-indicated

A Diazepam regime may be contraindicated in the following:

Acute or chronic liver disease

- The advice of a specialist physician is necessary.
- It is essential to determine that the person is in withdrawal and not hepatic Encephalopathy as injudicious sedation is dangerous.
- The dose of the sedative needs to be lower than for people who have normal liver function.
- Lorazepam may be preferable to diazepam because it has a shorter half life and it has no active metabolites (1-2mg Lorazepam = 5mg diazepam).
- Consider seeking specialist dietary advice.

Chronic airflow limitation

- Advice of a specialist physician is necessary.
- Respiratory failure. Sedating benzodiazepines are not the drug of choice for Chronic Obstructive Airway Disease (COAD). In acute deterioration of COAD, HDU (high dependency unit) monitoring may be indicated.
- An oxazepam regime may be the choice in this instance due to short duration of action and absence of active metabolites.

No oral intake

- Consult specialist physician.
- Give 5mg diazepam intravenously (IV), repeated up to half hourly. If more frequent doses are required, this is a medical emergency and specialist advice should be sought.

Use of Haloperidol

Haloperidol may be required in addition to diazepam to control symptoms of alcohol withdrawal, especially when psychotic symptoms such as hallucinations or paranoid ideation (particularly if acted upon with aggression) are pronounced

Advice should be sought from intensive care registrar or medical specialist.

- Doses of 0.25mg 1-2 hourly orally or parenteral, and as required. Doses up to a total of 10mg/day may be required.
- Benztropine should be prescribed at doses of 0.5-2 mg as necessary prn to a maximum of 6mg daily for dystonic reactions, which are characterised by opisthotonos (usually extension of the neck), oculogyric crisis (eyes upward) or other unusual dystonia including abnormal tongue movements.

People receiving other CNS depressants (e.g. Opioid)

Monitor oxygen saturation 1-2 hourly. Dose of diazepam may need to be reduced.

Situations requiring specialist consultation

As a general guide, refer to Intensive Care Unit (ICU) Registrar if:

- oxygen saturation is being checked and is ≤ 94% on room air
- respiratory rate less than 8 or more than 25 breaths per minute
- person not easily rousable to other's speech
- the person has delirium tremens
- person has other medical problems that may cloud conscious state, e.g. neurosurgical condition
- other medical conditions that make administration of sedatives dangerous, e.g. chronic obstructive airways disease, hepatic failure, receiving opioids.

Note: If a person's withdrawal syndrome is difficult to manage and they need higher doses than the usual diazepam regime for their situation, management in a high dependency/intensive care unit is preferable. Some people in this situation may require intubation and ventilation in order to control their withdrawal syndrome.

Nursing management of alcohol withdrawal

(See Section 2.6: Managing withdrawal).

Note: There is no place for prescribing or giving alcoholic beverages for treatment of alcohol withdrawal.

Always nurse in a safe low stimulus environment.

Nutrition and hydration

- Monitor and maintain fluid balance. Electrolytes may be monitored as a component of medical management including magnesium. Fluids need to be encouraged as dehydration from sweating, nausea, vomiting and diarrhoea may cause an exacerbation of the withdrawal syndrome
- Appetite may vary—encourage healthy diet where there is loss of appetite due to nausea or vomiting and encourage regular light food intake. When persons are likely to be nutritionally compromised or have liver disease, specialist dietary advice may be required. Nutritional planning needs to include consideration of special sensitivity to avoid iatrogenic complications, to treat deficiencies, prevent illnesses caused by the long-term effects of alcohol and/or to treat the complications of alcohol dependence [86].

Concurrent illness

People with concurrent illness may score high on the *CIWAR-AR* for reasons other than alcohol withdrawal. Sedative medication should not be given until a diagnosis of alcohol withdrawal is confirmed and the effects of concurrent illness have been assessed.

Pharmacotherapy for Alcohol Dependence

Pharmacotherapy for people with alcohol dependence with the goal of abstinence can be very effective. They may require regular support to manage their daily medication. They are more likely to benefit if receiving non medical therapy e.g. structured rehabilitation, general counselling, cognitive behavioural therapy (CBT), narrative therapy or other supportive programs. Alcohol pharmacotherapy includes:

Acamprosate (Campral™)

Prescribed Acamprosate is a pharmacotherapy used to prevent alcohol relapse post-withdrawal. The effect, while not well understood as yet, seems to prohibit or lessen craving for alcohol. It may have various CNS actions.

- recommended length of treatment is one year
- should be initiated as soon as possible following withdrawal
- daily dose is calculated according to body weight with average daily dose between 1.3-2 grams per day for a person weighing greater than 60kgs
- dosage is usually two tablets three times per day (333mg in each tablet)

- does not interact with alcohol, and does not have hypnotic, anxiolitic or antidepressant effects
- considered safe in the absence of liver disease or renal insufficiency
- can be given concomitantly with disulfiram, and interactions with other drugs have not been.

Note: Acamprosate has been shown to be effective by increasing non-drinking days and nearly doubling abstinence rates in study populations. It is yet unknown which particular groups will particularly benefit from this therapy.

Safety

Acamprosate is well-tolerated—no adverse effect if alcohol is consumed. Acute overdose is usually benign with diarrhoea being the major symptom. No withdrawal syndrome occurs on cessation of Acamprosate.

Side effects (usually mild and transient)

- diarrhoea
- vomiting
- itching skin rash
- nausea
- dyspepsia
- changes in libido.

Contraindications

- allergy
- pregnancy
- kidney disease (renal insufficiency where serum creatinine is more than 120 micromol/L)
- severe liver disease
- breastfeeding
- withdrawal.

Naltrexone

Naltrexone can be prescribed to assist the person to remain abstinent from alcohol following withdrawal. Naltrexone does not influence intoxication or the withdrawal effects of alcohol (may reduce craving, aid reduction of drinking and associated problems, and assist abstinence); it produces modest improvements in the outcome of conventional treatment when starting treatment, if you need to confirm an individual is drug-free (some alcoholics also use opioids), give a Naloxone challenge or test urine for presence of opioid metabolites. This is to assess the likely benefit of treatment for alcohol dependence. For up-to-date clinical guidance please refer to Australian Medicines Handbook.

- Naltrexone suppresses the priming effect of alcohol (blunts the euphoric effects of alcohol and reduces the positive reinforcement of alcohol use) and can assist in achieving goals of reduction in consumption and/or abstinence
- monitoring the liver profile is recommended during the course of naltrexone

treatment, which is usually three to six months

- a dose of 50mg daily has shown positive outcomes with relapse rates, craving and number of non-drinking days
- Naltrexone is effective, safe and well tolerated. Naltrexone is best commenced following alcohol withdrawal; however, there are no contraindications in commencing naltrexone while the person is still drinking. In this situation efficacy in assisting someone to reduce or cease his or her use is not known.

Safety

- Naltrexone can cause hepato-cellular injury when given in excessive doses.

Note: Caution is required if transaminases are above three times the normal range.

Side effects

Side effects are generally dose-dependent and include:

- gastrointestinal tract (nausea, vomiting)
- dizziness
- fatigue
- headache
- depression
- nervousness
- anxiety.

Contraindications

The principal contraindication for naltrexone use is when there is coexisting use and dependence on opioids as a withdrawal episode may be induced. Other contraindications include:

- oral hypoglycaemic medication
- acute hepatitis or liver failure
- concomitant therapy with thioridazine
- opioid analgesic use.

Caution should be exercised when combining naltrexone with other drugs associated with potential liver toxicity.

Disulfiram (Antabuse®)

The goal in prescribing disulfiram is to provide a powerful disincentive to drink. It is usually prescribed for three to six months following withdrawal and is provided in combination with monitoring, support, and psychosocial interventions.

It is dispensed in 200mg dispersible tablets, with the usual dose being 200mg daily. The usual recommended length of treatment is six weeks to six months.

Disulfiram inhibits the ALDH in the liver, and if the person drinks alcohol, causes an

accumulation of acetaldehyde. Within 15 minutes of drinking the person may experience the following:

- flushing
- feeling heat and sweating
- nausea
- vomiting
- palpitations and rapid pulse
- headache
- difficulty breathing
- blood pressure may rise steeply initially followed by a drop in blood pressure resulting in pallor, weakness, dizziness, nausea and vomiting.

Ideally it is commenced post-withdrawal or at least 48 hours after the last drink (with evidence of zero blood alcohol level). Alcohol should not be consumed for one week following the last dose.

Indications for use are for a person who is alcohol dependent, wishes to achieve immediate abstinence, and who clearly understands the nature of the drug and its effects.

To be successful this therapy requires a method of supervision of daily doses.

Safety

- Liver function tests are needed fortnightly for two months, then monthly
- People with major co-existing psychiatric disorders such as bipolar, depression and psychotic illness need close supervision as disulfiram may worsen these disorders by affecting the brain dopamine systems. However 200mg daily is generally considered safe for these people.

People commencing on disulfiram should be advised of the following:

- do not consume or use any alcohol or alcohol containing products or food including medicines, cough mixtures, marinated meat, wine trifle and food essences
- after shave, mouthwashes, alcohol rubs and perfumes are safe unless swallowed
- always read labels on all food and medicines to ensure they don’t contain alcohol.

Side effects

Short term effects which may occur in the first two weeks include:

- initial drowsiness
- metallic taste
- headache
- stomach upset
- fatigue
- rash/acne
- sexual dysfunction

These side effects usually disappear by themselves. Other side effects or adverse reactions include:

- peripheral neuropathy
- changes in vision, eye tenderness/pain
- mood changes
- yellowing of the skin/eyes
- abdominal pain.

Contraindications

- The reaction caused by consumption of alcohol whilst taking disulfiram may cause tachycardia and hypotension, and precipitate a coronary event or serious arrhythmia
- older people need a cardiac history (an electrocardiogram) prior to commencing disulfiram.
- Disulfiram has not been used widely in pregnancy but does not appear to be teratogenic. It should only be prescribed in pregnancy under care of a high risk pregnancy team. (ref. MIMS category B2) Lactation is a precaution for prescription.

Complications may result if the person has a history of:

- coronary artery disease
- history of arrhythmias
- heart failure
- severe liver disease (disulfiram can cause toxic hepatitis although this is rare).

Drug interactions

Disulfiram interacts with:

- phenytoin
- warfarin
- diazepam
- anti-tuberculosis medication [87].

Maternal and neonatal care

These guidelines are based on an assessment of current evidence concerning risk of harm from alcohol to the developing foetus and young babies during their breastfeeding period.

Pregnancy and alcohol

Maternal alcohol consumption can result in a spectrum of harms to the foetus.

Risk of birth defects is greatest with high, frequent maternal alcohol intake during the first trimester. However exposure to alcohol during pregnancy (including before pregnancy is confirmed) can have adverse effects on foetal brain development. It remains unclear whether alcohol effects are dose related or if there is a threshold above which adverse effects occur. Variation in effects can be due to the stage of development of the foetus at the time of exposure and the individual characteristics of the mother. This uncertainty is reflected in reports on alcohol use in pregnancy in Australia and overseas [88].

Alcohol Intoxication in pregnancy

Intoxication can lead to injury, alcohol toxicity, overdose or exacerbation of illness for pregnant women. This also places their foetus at serious risk.

In particular:

- intoxication, where there are high peak levels of alcohol in the blood stream may adversely affect the central nervous system of the foetus
- possible complications including miscarriage, stillbirth and premature birth
- ‘an average of two or more standard drinks (20 grams or more) a day has been linked with low birth weight, behavioural and learning difficulties, and an increased risk of spontaneous abortion’ [89].

The national alcohol guidelines for pregnant and breastfeeding women advise that no alcohol is the safest option in both cases [80]. The risks of drinking during pregnancy and breastfeeding differ as noted separately below. Expert opinion cautions that currently there is no safe level or period of drinking during pregnancy established thus strongly advise that no drinking is the safest option.

In addition:

- Women who drank alcohol before knowing they were pregnant or during pregnancy need to be reassured risks to their foetus is likely to be low if they had consumed alcohol at low risk levels. Efforts should be made not cause them to become anxious if there had been isolated episodes of drinking.
- Women who remain concerned should seek specialist medical advice. Health professionals who are uncertain how to advise pregnant women seeking information concerning the potential for alcohol-related harm should seek expert advice from specialist drug and alcohol/ obstetric services.

- Women who find it difficult to decrease their alcohol intake will require support and treatment and it is very important that they are referred to the appropriate services as early into their pregnancy as possible.

Foetal Alcohol Spectrum Disorder (FASD) and Foetal Alcohol Syndrome (FAS)

The harmful effects of alcohol on the foetus are dose related [80] and termed foetal alcohol spectrum disorder. The term Foetal Alcohol Syndrome refers to the more severe effects characterised by brain damage, facial deformities and growth defects.

Foetal Alcohol Spectrum Disorder (FASD) – identification

- diagnosis is difficult
- infant should be reassessed at 6 months
- babies with signs of FASD need to be followed up regularly over their early years
- signs include learning difficulties, behaviour problems
- where any child is diagnosed with attention deficit disorder there should be a history taken of mothers alcohol use in pregnancy [60].

Foetal Alcohol Syndrome (FAS) – identification

Characteristic features include:

- Failure to thrive
- Microcephaly
- Characteristic facial features
- Developmental delay
- Background of heavy alcohol consumption by mother during pregnancy

Other signs may include:

- generalised hypo-tonicity
- poor coordination & motor skills
- intellectual disability
- growth deficits e.g. head, & bones [60].

Diagnosis of FAS at birth can be difficult. Where the neonate's mother has previously given birth to a baby with FAS, the following should be incorporated into care plans:

- infants should be assessed at birth and followed up to at least 6 months with reassessment at 6 months where FAS is suspected
- children with signs of FAS should have regular community follow up by appropriately trained health professional during pre-school and early school life (up to at least 7 years of age) [60].

Assessment of women

Assessment of women who have consumed alcohol before knowing that they were pregnant should include appraisal of how much alcohol was consumed and at what stage in the pregnancy.

Practical advice for women who are pregnant or may soon become pregnant

- no drinking alcohol is the safest option
- alcohol cessation at any point during the pregnancy is worthwhile as the risk to the infant continues until delivery. “it is never too late”
- risk of harm to the foetus seems to be greatest with high, frequent, maternal alcohol intake
- risk of harm to the foetus is likely to be low if a woman consumed small amounts of alcohol before becoming aware of being pregnant or during her pregnancy
- level of risk to an individual foetus is influenced by maternal and foetal characteristics that are hard to predict at this point in time.

Practical advice on drinking during pregnancy

It is important that all women of child-bearing age, as well as the general public, are aware that there is uncertainty about the pattern of alcohol consumption, and gestation period/s in which drinking occurs, that places the developing foetus at risk. This is in order for informed decision making to occur regarding alcohol use in pregnancy. Nurses and midwives need to highlight that:

- risks are higher with high alcohol intake, including episodic intoxication
- risks appear to be low with low level intake
- it is impossible to determine how maternal and foetal factors will alter risk in the individual.

Breastfeeding

Alcohol use while breastfeeding is not recommended [60, 80]. As for pregnancy, it is not yet possible to set a ‘safe’ or ‘no-risk’ drinking level for breastfeeding women and their babies. We know that:

- alcohol enters the breast milk and may persist in the milk for several hours after alcohol consumption [90, 91]
- blood alcohol level in breast milk is the same as the mother’s blood alcohol level and is transferred to the infant as it suckles
- alcohol adversely affects lactation, infant behaviour (e.g. feeding, arousal) and psychomotor development of the breastfed baby [90].

Giglia and Binns [90] found that consumption of two standard drinks (20 grams pure alcohol) or more per day during lactation is associated with:

- decreased lactation in terms of the milk ejection reflex, milk production of mother and milk consumption by the baby
- earlier cessation of breastfeeding
- deficits in infant psychomotor development
- disrupted sleep-wake pattern in the infant.

Education and support of breastfeeding women is very important.

- Qualitative research has shown that breastfeeding mothers are generally unaware of the effects of alcohol on breastfeeding performance and development of the infant
- Women who consumed alcohol at levels of more than two standard drinks per day were almost twice as likely to discontinue breastfeeding before the infant was 6 months old than women who drank below this level [90].

Table 11: Time taken for alcohol to be cleared from breast milk (hours: minutes)

Maternal weight (kg)	Australian standard drinks						
	1	2	3	4	5	6	7
50	1:51	3:43	5:35	7:27	9:18	11:11	13: 03
59	1:42	3:26	5:09	6:52	8:36	10:19	12:02
66	1:37	3:15	4:53	6:31	8:10	9:48	11:26
70	1:33	3: 07	4:41	6:15	7:50	9:24	10:57

Note: Time is calculated from the onset of drinking. Assumptions made are that: alcohol metabolism is constant at 15 mg/dL and that the height of the woman is 162.56 centimetres.

Example 1: For a 40.8 kg woman who consumed three standard drinks in 1 hour, it would take approximately 8 hours 30 minutes for there to be no alcohol in her breast milk, but for a 95.3 kg woman drinking the same amount, it would take approximately 5 hours 33 minutes.

Example 2: For a 63.5 kg woman drinking four standard drinks starting at 8:00pm, there would be a zero level of alcohol in her breast milk approximately 9 hours 17 minutes later (i.e. at 5:17am) [90, 91].

Note: It can only be estimated as to how long alcohol takes to disappear from breast milk as this varies for each individual woman [91].

Practical advice for mothers who are breastfeeding and choose to drink

It is acknowledged that an abstinence message may discourage breastfeeding. For this reason, although women who are breastfeeding are advised that 'not drinking alcohol is the safest option', practical guidance regarding minimising the risk to lactation and to the breastfed infant is also provided for mothers who choose to drink.

Internationally and in Australia it is recommended that infants are exclusively breastfed for the first six months of life and that breastfeeding (in addition to complementary foods) is extended into the second year of life [80, 92]. Although 75.6 per cent of Australian infants are exclusively breastfed following birth, only 12 per cent are exclusively breastfed at 6 months of age, and only 19 per cent of infants are receiving any breast milk at 12 months of age [88, 90, 91].

It is important not to discourage women from breastfeeding. Advise mother to:

- avoid drinking until breastfeeding is well established
- limit their drinking to no more than two standard drinks a day
- avoid drinking immediately before breastfeeding
- express breast milk and refrigerate in advance if planning to drink, and ensure baby is in the care of a safe, sober adult.

Women should be advised on the length of time that alcohol is secreted from their breast milk and their optimal timing for subsequent breastfeeding in relation to how much alcohol over time they have consumed [90].

Beyond breastfeeding

Abstaining from drinking is always the safest option when supervising babies and other children. Mothers, fathers, family members and other carers of babies need to be informed about how the acute affect of alcohol can alter their capacity to anticipate and minimise risks, and safely undertake tasks including:

- lifting a baby or child
- cycling
- driving
- managing household or other equipment.

This is due to the acute effects of alcohol on eye hand coordination, reaction time and problem solving - even at low levels of consumption. It is very important to inform mothers and others that intoxication can lead to injury while holding a baby [60].

Alcohol withdrawal during pregnancy

Any pregnant woman who at risk of spontaneous, unplanned or planned alcohol withdrawal must be hospitalized and receive close monitoring and expert medical and nursing care. Care should include:

- reassurance and being informed about what is happening and why
- personalised medication management, including seizure prophylaxis, may be required
- frequent foetal & maternal monitoring for signs of distress or illness
- CIWA-Ar monitoring and symptom management
- effective nutritional support, including vitamin & mineral supplements
- safe and non-judgemental care sensitive to their situation, gender and culture.

Note: Refer to Thiamine regime.

Neonatal withdrawal

A neonate assessed to be at risk of withdrawal due to the mother's level and pattern of alcohol use during pregnancy is monitored closely for withdrawal symptoms over the first few days of life.

- Neonatal withdrawal will start 24 – 48 hours after birth – according to date and time of the mother's last drink.
- This time difference (mother may start withdrawal 6 to 12 hours after last drink) is due to the neonate's immature liver.
- A neonate experiencing alcohol withdrawal can usually be managed well with supportive care and medications [60].
- Importantly the mother's withdrawal requires careful monitoring and management.
- The mother, whether or not she is undergoing withdrawal, needs support, to know what is happening with her baby, and be encouraged and shown how to bond to her baby by taking part in any decisions and special care that her baby requires.

Assistance and support

Specialists can advise how best to care for women and their babies who are at risk from alcohol, during pregnancy, delivery and early stages after delivery when mothers and babies can be physically and emotionally vulnerable.

Partners/fathers and other family members need to be well informed and encouraged to be non–judgemental and helpful. They need to understand what will be needed in the months to come and how best to support the new mother and baby in relation to alcohol and related health and psycho-social issues.

3.1.2 Opioids (opiates)

Introduction

Opioids (opiates) are a class of substances with morphine-like effects that can be reversed by the specific antagonist naloxone. Some opioids are semi-synthetic chemical derivatives of morphine (such as heroin) and others are fully synthetic (such as pethidine and methadone). They share a common core structure that allows them to interact with opioid receptors [93].

Opioids have a depressant effect on the central nervous system. They decrease the spontaneous activity of neurones, producing drowsiness, mood changes and mental clouding. However, they also have features quite distinct from the sedative-hypnotics. They are powerful analgesics and suppress reflex cough and diarrhoea.

Prolonged opioid use results in tolerance and lowering of pain threshold, therefore apparently mild pain may be perceived as more severe. This may be inadvertently interpreted as drug-seeking behaviour rather than inadequately relieved pain.

Prescribing opioids for opioid dependence

Most potent opioids are Schedule 8 medications and hence regulated by law in all Australian jurisdictions. Medical practitioners and other prescribers must be aware of their local jurisdictional legislation regarding prescribing opioids. In most jurisdictions specific authority is required from the relevant government agency, [in South Australia the Drugs of Dependence Unit] in order to prescribe opioids for the purpose of managing a dependent person, e.g. for withdrawal or maintenance treatment.

Unlike alcohol withdrawal, the syndrome associated with the cessation of opioid use is not likely to be life-threatening. However, the symptoms can cause the person undergoing withdrawal considerable discomfort and may lead to resumption of use to avoid or abate the symptoms, early discharge and thus poor intervention outcomes.

A person's ability to make clear, responsible decisions may be markedly affected. This needs to be taken into account in terms of management decisions and further referrals.

The major focus of intervention is to minimise the risks (e.g. overdose and other harms including blood-borne viruses such as hepatitis B and C or HIV) that are associated with injecting drug use.

Equally important is to provide support and encourage the person to accept a referral for ongoing interventions whether this is aimed at abstinence or pharmacotherapy maintenance (e.g. buprenorphine, methadone).

Injecting drug use carries the greatest risk of infection, particularly when equipment is shared. Dirty and unhygienic injecting habits can result in local or systemic infections and poor injecting technique can cause venous or arterial thrombosis. Some drug users inject

subcutaneously ('skin-popping') and some intramuscularly, but the most favoured route is intravenous with the associated increased risk of overdose [94].

Assessment and quantification
(See Section 2.2: Assessment).

Taking the drug history

When taking the person's drug use history, including illicit drug use, it is important not to portray judgement or criticism as this will result in the person feeling ashamed and less likely reveal essential details about their drug use. This is a critical moment for engagement and developing rapport, which will then increase the likelihood of the person's acceptance of intervention now and in the future.

Drug use is a legitimate health issue, not a moral issue. When taking the history:

- be clear about who you are, your role, what you need to know and why
- explain that you are concerned for the person's wellbeing and are there to help
- show concern about their drug-use without judgement
- acknowledge their concerns
- if history is unclear seek clarification
- be aware if the person becomes uncomfortable about further disclosure do not persist—acknowledge that they may prefer to not discuss this.

The drug history should record:

- type of opioid used e.g. heroin, morphine, codeine, other
- pattern of use
- how long ago did this start (e.g. days, weeks, months, years)
- how often is it used e.g. daily, occasionally, weekly, once a month etc.
- how is it used – injected, swallowed, snorted - route of administration
- frequency, amount and time of last use.

Estimating likely dose of illicit drugs

The quantity of illicit drug doses is difficult to assess as each 'deal' varies and may also contain other drugs and 'fillers' e.g. battery acid or talcum powder. We estimate 'the dose' by its current street price or weight in street grams. Asking how much the person spends each day on their drug of choice can assist in estimating their level of tolerance. How long they have been using the drug, and route of administration (e.g. swallowing, snorting or injecting) are also important to know.

For information on current illicit drug prices and likely 'doses' call:
ADIS 24 hour phone line 1300 13 1340.

Pregnancy:

- record daily pattern and quantify (as above)
- record risk-taking behaviours (e.g. needle or equipment sharing, unsafe sex, driving under the influence)
- other medical problems or hepatitis/liver disease, head injury, mental health problems, systemic disease
- other drug use including tobacco, alcohol, medicines.

Note: Ask about and record any observations the woman has made about her pregnancy related to her drug use e.g. when is the baby most/least active, if/when contractions/tightenings have been noted and how this relates to intoxication and withdrawal and bleeding, previous use in pregnancy.

Information about a person's drug use may also be gathered from the following sources:

- history (interviewing the person or accompanying persons if the person is unable to answer questions)
- data obtained through inspection/assessment of physical and mental status
- blood test results (liver function tests, hepatitis B screening, hepatitis C and HIV screening) with informed consent along with pre- and post-test counselling
- presence of a drug or its metabolites in urine or blood
- Recognise the psychosocial aspects. Many heroin users participate in a social group with distinctive norms and beliefs leading to discomfort in many conventional settings and wariness of stigmatisation. They may have difficulty adjusting to a drug-free lifestyle.

Physical status

Examples of harms arising from drug use are listed below. Many of them are due to the route of administration or accidental injuries during intoxication. It is important to record the following:

- past overdose
- cellulitis
- skin abscesses
- septicaemia
- hepatitis B or C
- drug side effects (e.g. constipation)
- puncture marks
- phlebitis
- bacterial endocarditis
- HIV infection
- dental disease
- signs of intoxication, overdose or withdrawal.

Early and brief intervention
(See Section 2.3: Early and brief intervention).

Risk reduction

Abstinence is the first principle of harm reduction as it is the only way of preventing and removing risk. However, not everyone is abstinent and it is therefore important to provide sound advice and strategies to reduce their drug use risks.

Note: Accurate information is also needed to reduce risk. This can be obtained from the 24 hr phone service - contact ADIS on 1300 13 1340

Advice should include:

1. Considering abstinence
    - socialise with people who do not use drugs
    - find alternative non-drug-orientated activities
    - seek information about options
    - seek professional support and counselling
    - explore treatment options
2. Preventing infections from injecting
    - seek information about safer injecting practices
    - always wash hands before and after injecting and when handling injecting equipment including tourniquets, swabs
    - avoid injecting into infected or inflamed tissue
    - mix powders with sterile water and filtering solution before injecting
3. Vein care
    - use safer and hygienic injecting practices to prevent vein damage, arterial thrombosis and local or systemic infections
    - always use new needles and syringes with small bore to protect skin and vein integrity
    - take care to rotate injecting sites to avoid tissue and vein damage
    - always inject into a vein
    - avoid injecting into neck, groin, breast, feet and hand veins
    - do not inject into swollen limbs even if veins appear to be distended
4. Safer routes of administration
    - consider alternative routes of use (e.g. snorting, swallowing or smoking)

5. Preventing blood borne virus infections
    - do not share injecting equipment (i.e. needles, tourniquets, syringes, spoons, filters or water for mixing drugs) due to the risks of blood-borne viruses infection
    - safely disposal of all used injecting equipment
6. Avoiding overdose
    - Not using previous dose having been abstinent (tolerance drops)
    - not using opioids (e.g. Heroin and morphine) combined with other drugs - especially CNS depressants e.g. benzodiazepines and/or alcohol
    - never use drugs alone
    - acquire some basic training in resuscitation methods in the event of a drug-using friend collapsing
    - obtain opioid (e.g. heroin or pharmaceutical morphine of codeine) from a reliable dealer in order to be more certain of its strength – try a small 'test' dose before using
    - if using after a break from opioid use physical tolerance will be lower. Use less than that previously used to test tolerance and reduce risk of overdose.

Opioid intoxication

(See Section 2.4: Managing intoxication).

Acute effects of opioids:

- drowsiness 'nodding off'
- euphoria
- miosis
- orthostatic hypotension
- decreased level of consciousness
- analgesia
- tranquillity
- constipation
- respiratory depression
- in rare cases, delirium.

Caution: Monitor the person closely as intoxication can rapidly progress to overdose depending on the type of opioid and route of administration. Other drugs may also increase the risk of overdose e.g. alcohol or benzodiazepines and any medicines which increase serum plasma concentrations of opioid drugs.

Opioid overdose

Accidental overdose is not uncommon and may be due to:

- varying dose and increased purity of illicit supplies
- reduction in tolerance after period of abstinence (e.g. release from prison, discharge from rehabilitation or hospital)
- mixing drugs (particularly injecting benzodiazepine, cocaine) and/or alcohol
- leakage from poorly wrapped drugs that have been ingested (body 'stuffers' and packers)
- being a novice opioid-injecting drug user.

It is important to remember that there are significant risks of overdose from opioids in people with particular physical conditions. These include:

- sleep apnoea
- chronic airways disease
- cardiac conditions

Signs of overdose:

- slow respiration
- miosis
- weak pulse
- bradycardia
- possible pulmonary oedema
- subnormal temperature
- cyanosis
- difficult to rouse, decreased level of consciousness
- muscle twitching.

Pharmacological/medical management of general opioid overdose

- Maintenance of airway and breathing are most important in overdose management – follow cardiopulmonary resuscitation (CPR) protocol.
- Narcan (naloxone), an opioid antagonist, is used as a reversal agent and will reverse the effect of opioid overdoses. People who were previously sedated may become agitated, aggressive and difficult to manage due to sudden precipitated withdrawal syndrome
- Naloxone is shorter-acting than opioids. Repeat doses may be required until the opioid effect is resolved e.g. methadone has a long half life (approx. 24 hours), and so the effect of a single dose of naloxone is obviously insufficient
- Naloxone should always be given in the case of respiratory depression even if the person is conscious [95]

- Naloxone hydrochloride (naloxone) is available as 1 millilitre (ml) ampoules of 400 micrograms and as Min-I-Jet containing 2mg in 5ml.

A dose at 0.8-2mg by intravenous injection should be administered, repeated at intervals of two to three minutes to a maximum of 10mg. If respiratory function does not improve, other diagnostic options such as other drug intoxication or other organic causes of loss of consciousness, including hypoglycaemia, should be considered.

The subcutaneous or intramuscular injection route should be used if an intravenous route is not accessible. The same regime should be employed as for intravenous use, but the clinician should expect a slower response.

Because naloxone is short-acting, and repeated injections or intravenous infusion may be needed if a longer-acting opiate such as methadone or buprenorphine has been taken. Naloxone can be given as a continuous intravenous infusion of 2mg diluted in a 500ml intravenous solution titrated at a rate determined by the clinical response.

Effects of methadone or buprenorphine overdose

- Can persist for up to 72 hours, even in circumstances where people have been resuscitated. Depending on the magnitude of the overdose, they should be observed for a period of up to 72 hours. For high dose intoxication, naloxone infusion should be considered [94].
- Because of the longer half-life of methadone compared with heroin or morphine (methadone = 24-48 hours), people who overdose from methadone and who are subsequently treated with naloxone, may seem to recover initially but can relapse into respiratory depression and coma if not adequately monitored and treated with additional naloxone.

Management of overdose of buprenorphine (Subutex®) and buprenorphine and naloxone (Suboxone®)

Overdose [i.e. opioid toxicity] due solely to buprenorphine in an opioid tolerant person is unusual. If the person appears to be intoxicated and is known to be opioid tolerant, then poly drug toxicity [buprenorphine plus combination with alcohol, benzodiazepines or other CNS depressant drugs] may be the issue. Most overdoses involve combined use of more than one central nervous system depressant.

On the other hand buprenorphine in moderate or high doses in an opioid-naïve person [and especially in children] may result in opioid toxicity. It is important to remember that if swallowed, buprenorphine absorption will be poor due to first pass metabolism. However the person should generally be monitored for 24 hours even if there has been a good initial response to treatment. [see below]

The major aim of managing a Buprenorphine overdose is to recognise and respond early with appropriate management.

Possible complications of Buprenorphine overdose include:

- respiratory and cardiovascular depression, aspiration, hypoxia
- precipitation of withdrawal
- inadequate response leading to non-reversal (or temporary reversal then relapse) of respiratory depression
- physical /verbal assault from individual with precipitated withdrawal (rapid reversal of opioid overdose with naloxone)
- needle-stick injury.

General Principles for Medical Management of Buprenorphine Overdose

Naloxone (naloxone hydrochloride) in standard doses of 0.4-0.8 mg, will readily reverse most overdoses of heroin, morphine or methadone, but this may not be the case for buprenorphine. Much higher doses may be required than for reversal of other opiate overdose and even these may not be fully effective in reversing buprenorphine overdose.

Initial management of overdose should include respiratory support, the establishment of IV access and administration of large doses of naloxone.

Once reversal is achieved, repeat administration of Naloxone will be necessary to prevent respiratory depression due to the short half-life of Naloxone.

High doses of antagonist are needed for overdose reversal: Buprenorphine has a high affinity for μ opioid receptors, and is not easily displaced by the antagonist, naloxone. In some cases doses of 10 to 30 times the normal naloxone doses (up to 10 to 35 mg/70 kg) may be required to partially reverse the effects of buprenorphine toxicity [96-101]. However, cases have also been reported where much smaller doses (2 to 4mg) of naloxone have been effective in reversing the effects of buprenorphine [102].

A continuous infusion of naloxone may be employed in these circumstances and may be required for over 24 hours due to the long half-life of buprenorphine. A guide is to use two-thirds of the initial reversal dose on an hourly basis. Ten times this dose could be added to a litre of Normal Saline or D5W and infused at 100ml/hour. The infusion rate and concentration may be adjusted to achieve the desired antagonistic effect without fluid overload.

Naloxone requirements may vary during the infusion period necessitating close monitoring of vital signs and increasing or decreasing the dose as required.

Medical regime may include:

- 2mg of naloxone IV immediately
- if no response within two minutes, repeat the dose of naloxone
- repeat the process up to 10 mg of naloxone

- monitoring of respiratory and cardiac status. check blood pressure - if shocked, commence intravenous fluids may be prescribed
- oxygen, intravenous fluids and assisted ventilation as indicated
- continual monitoring and administration of high dose naloxone hourly.

Nursing Management

- undertake usual overdose procedures related to maintenance of airway, cardiac status and monitoring of state of consciousness
- if in full cardio-respiratory arrest commence CPR. Give 2mg of naloxone iv immediately or other dose as per ordered medically prescribed regime
- undertake usual nursing observations including observing for other signs of external injury or for other possible causes of altered conscious state, e.g. hypoglycaemia, head injury. If no response within two minutes, repeat the dose of naloxone
- avoid assumptions that the presentation is solely due to overdose especially for people well known to participate in drug use as something else may be happening
- attempt to get as much history as possible about the overdose from other sources [103].

Opioid withdrawal

Overdose following opioid withdrawal

A person who has undergone opioid withdrawal during hospitalisation or in a medically supervised detoxification clinic will have significantly lowered tolerance to all opioids.

To avoid the risk of accidental overdose from using an opioid now tolerance has reduced the person needs to be informed about why this can occur – even with significantly smaller doses/amounts than they were using previously.

Opioid withdrawal precipitated by buprenorphine or naltrexone

Naltrexone is an antagonist that blocks the effects of opioids on the central nervous system, including heroin. Buprenorphine is a partial agonist which at normal doses will displace other opioids from mu receptors. Administration of buprenorphine or naltrexone to an opioid dependent person who has a significant amount of opioid still in their system, is likely to result in a severe withdrawal reaction requiring hospital treatment.

- onset of buprenorphine or naltrexone-precipitated withdrawal occurs 20-60 minutes following oral ingestion of naltrexone, or within seconds with IV administration
- gastrointestinal symptoms are usually predominant
- severe vomiting and diarrhoea may occur

- agitation, distress and delirium with confusion are common
- signs of sympathetic overactivity, particularly profuse sweating and piloerection can occur.

Assessment

If at all possible the person's history of opioid dependence should be obtained from them or from:

- an accompanying partner or friend
- by examining any likely injection sites for recent injection ' track' marks, inflammation or bruising. An absence of track marks should not exclude this diagnosis.

The ATOD and general history is however often difficult to obtain from the person who is confused. Clinicians need to consider naltrexone-precipitated withdrawal where a person presents with signs of opioid withdrawal and delirium or intractable vomiting.

Note: Extra care is necessary to assess:

- depth of sedation using the Glasgow Coma Scale (See Appendix 8)
- capacity to protect their airway
- any other serious symptoms.
- people who are deeply sedated or vomiting are highly likely to require intubation and intensive care.
- electrolytes and arterial blood gases will need to be checked and monitored closely.

Note: In this instance, the use of flumazenil (benzodiazepine antagonist) to reverse sedation is not recommended due to risk of:

- concurrent benzodiazepine dependence
- inducing life-threatening seizures.

Clinical management

It is essential that supportive and symptomatic treatment for at least four hours is provided due to risk of delirium and agitation. In addition attend to:

- ensuring fluid and electrolyte replacement in a person who is vomiting
- inserting intravenous cannulae and administration of fluids as required
- a person is likely to tolerate oral fluids within 12 hours of oral ingestion of naltrexone
- reassuring the person that their symptoms, although severe, will be short-lived

- antagonist-induced withdrawal syndrome such as this is extremely traumatic with people expressing fear of death
- they need repeated reassurance to feel safe and recover
- educating the person that taking heroin or another opioid will not alleviate their symptoms as administration of opioid agonists does not help
- relieving vomiting and diarrhoea - conventional anti-emetics provides little relief
- Octreotide (Sandostatin®) 100mg is the drug of choice in this instance
- treating agitation and sympathetic over-activity with clonidine (150mcg orally or 100mcg intramuscular
- repeated after two hours if agitation persists and hypotension is not a problem)
- urgent sedation that is imperative (where people are violent and confused)
- midazolam 5-10mg intramuscular may be helpful
- abdominal cramps may be relieved by a single dose of 20mg hyoscine-butylbromide (Buscopan®) reorientating the person who has experienced naltrexone-induced withdrawal delirium. This is critical in both obtaining a history and in clinical management.

The person should be informed that some residual withdrawal symptoms may persist for up to seven days.

Note: The person needs to be warned of the high risk of overdose if they use heroin or other opioids following naltrexone-induced withdrawal.

Onset and duration of withdrawal syndrome

Knowledge of the half-life of each opioid drug (e.g. heroin vs. methadone) and the likely time of onset of withdrawal symptoms following the last dose assists in predicting, identifying and effectively managing withdrawal symptoms.

Objective and subjective symptoms of opioid withdrawal:

- lacrimation
- rhinorrhoea
- yawning
- sweating
- piloerection
- hot and cold flushes
- mydriasis
- tremor
- restlessness
- anxiety
- muscle twitches
- nausea and vomiting
- abdominal cramps
- muscle and joint aches
- craving
- hypertension.

Table 12: Times of onset of withdrawal syndrome in dependent opioid users

Opioid	Time after last dose symptoms appear (hours)	Duration of withdrawal syndrome (days)
Heroin/morphine	6-12 hours	5-7 days
Pethidine	3-4 hours	4-5 days
Methadone	24-48 hours	10-21 days
Kapanol/MS **MS Contin (if intravenous)**	8-24 hours	7-10 days
Codeine orally	8-24 hours	5-10 days
Buprenorphine/ **Buprenorphine/Naloxone**	Variable but generally around 48 hours	Can be prolonged as Methadone generally 10 – 14 days
Tramadol	Variable 12 – 20 hours	7 days can be longer

[Adapted from 3]

Opioid withdrawal syndrome can start as soon as four (4) hours after the last dose and is manifested as a marked drive to use the drug [93].

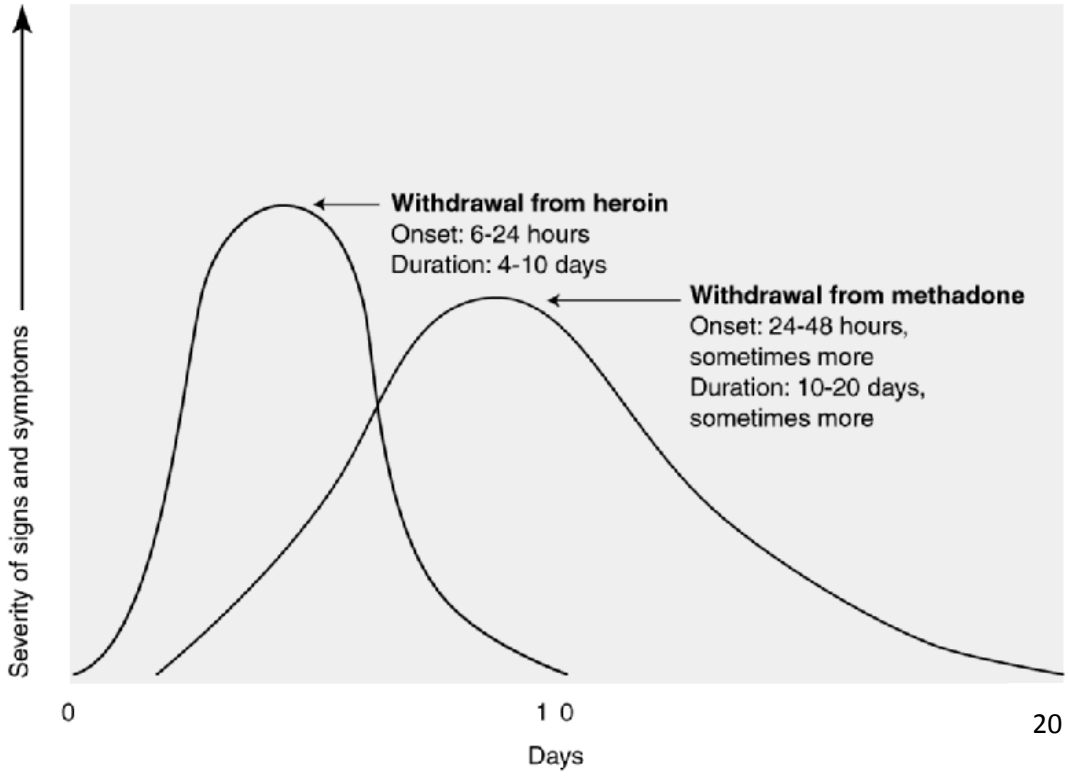
Opioid withdrawal is the characteristic group of symptoms (syndrome) that occurs due to recent cessation or reduction in daily prolonged use of an opioid drug.

People who use opioids continuously can experience a moderate to severe but not life-threatening withdrawal syndrome. Withdrawal from heroin can begin 6 to 12 hours after the last dose and lasts for about four to 10 days. Methadone has a longer half-life than heroin. Withdrawal from methadone has a later onset, starting 24 to 48 hours after the last dose and lasting from 10 to 20 or more days. Moderate to severe withdrawal can occur after doses of more than 100mg morphine per day for 30 days; mild withdrawal can occur after even shorter periods of administration.

Heroin (diacetylmorphine) is rapidly metabolised to morphine. Pharmaceutical heroin is equipotent with morphine but street heroin is of variable purity (current information from seizures suggests up to 70%) with additives (adulterants) making up the weight. Onset of withdrawal is 6-12 hours after the last dose and usual duration is five to seven days.

Methadone has a much longer half-life than morphine (24-48 or more hours with chronic dosing), consequently onset of withdrawal is 24-48 hours after last dose with a duration of 5-21 days.

Figure 7: Progress of the acute phase of opioid withdrawal last dose



[Adapted from 3]

Special considerations

Polydrug dependence: Withdrawal from each drug group may need to be addressed and consideration should be given to admission and management. It may be necessary to institute a benzodiazepine reduction regime in addition to the symptomatic medications. In these circumstances advice should be sought from a specialist ATOD medical officer or an alcohol and drug information service.

Pre-existing medical condition: If this is likely to be exacerbated by withdrawal, admission and management is indicated.

Pregnancy: Opioid withdrawal should not be undertaken during pregnancy due to the high risk to the viability of the foetus. Methadone maintenance followed by gradual withdrawal/reduction may be a more appropriate option. Advice should be sought from a specialist ATOD medical officer regarding the best management options for pregnant women. Increasing evidence is accumulating in the literature regarding the safety of buprenorphine maintenance in pregnancy.

Post- acute withdrawal phase: May last two weeks to three months, characterised by cravings for the drug, low frustration tolerance and mood swings. The person is likely to experience ongoing symptoms over this timeframe. Assist the person by focussing on relapse prevention including to develop coping strategies, relapse prevention plans and or

relapse management plan and encourage participation in exercise (acupuncture may have a role through similar effects on endorphins). A supportive, positive and understanding home environment is very helpful in assisting people through this phase. Provide reassurance that symptoms will lessen over time.

Signs and symptoms of opiate withdrawal:

- drug-seeking behaviour
- joint pain
- anorexia
- restlessness
- disturbed dreams/nightmares
- diarrhoea
- gooseflesh (piloerection)
- rhinorrhoea
- yawning
- tremor
- muscle twitches
- hot and cold flushes
- abdominal cramps
- muscle and joint aches
- insomnia
- anxiety
- craving nausea and vomiting
- mydriasis
- lacrimation
- perspiration
- tachycardia
- hypertension.

This withdrawal syndrome can be very uncomfortable and distressing, but not life-threatening unless there is a severe underlying disease. People may have a low tolerance to pain due to the effect of long-term opiate use and these needs to be acknowledged and treated effectively.

Major complications

- anxiety and agitation
- low tolerance to discomfort and dysphoria
- dehydration and electrolyte imbalance (arising from severe vomiting and diarrhoea)
- drug-seeking behaviour (through requests for medication or attempts to self-medicate)
- muscle cramps
- abdominal cramps
- insomnia.

Opioid withdrawal precipitated by buprenorphine or naltrexone

Naltrexone is an antagonist that blocks the effects of opioids on the central nervous system, including heroin. Buprenorphine is a partial agonist which at normal doses will displace other opioids from mu receptors. Administration of buprenorphine or naltrexone to an opioid dependent person who has a significant amount of opioid still in their system, is likely to result in a severe withdrawal reaction requiring hospital treatment.

- onset of buprenorphine or naltrexone-precipitated withdrawal occurs 20-60 minutes following oral ingestion of naltrexone, or within seconds with IV administration
- gastrointestinal symptoms are usually predominant
- severe vomiting and diarrhoea may occur
- agitation, distress and delirium with confusion are common
- signs of sympathetic overactivity, particularly profuse sweating and piloerection can occur.

Nursing management

(See Section 2.6: Managing withdrawal).

Nursing observations

(See Appendix 10: Clinical Objective Opiate Withdrawal Scale (COWS)

The clinical objective opiate withdrawal scale (COWS) is a validated clinician-administered, tool which rates eleven common opiate withdrawal signs or symptoms. The added score of the eleven items can assess the severity of opiate withdrawal and to make inferences about a person's level of physical dependence on opioids. Nursing observations should be undertaken four hourly or more frequently if required.

- create a supportive environment – provide reassurance and encouragement.
- provide information to counter negative expectations (e.g. around stigma and fear withdrawal symptoms).
- provide the prescribed medications and explain their effects and expected impact on withdrawal.
- provide self-help information [104].

Drug-seeking behaviour can be a consequence of anxiety and/or inadequate pharmacological and nursing management of withdrawal symptoms. Ensuring adequate assessment of withdrawal symptoms, timely administration of medication and the offer of alternatives to medication such as hot baths and massage for muscle cramps, teach and encourage relaxation activities (e.g. reading, watching television, playing cards) to direct attention from withdrawal symptoms.

It is important to involve the person in their assessment of the severity of their withdrawal symptoms by administering the Clinical Objective Opiate Withdrawal Scale (COWS). (See Appendix 10).

Considering the person's report on the efficacy of their symptom relief can assist in reducing anxiety regarding being under-medicated

Requests for medication may be dismissed inappropriately as 'drug-seeking'. It is important and more helpful to identify this as the person having a need that is not being met. Asking about their concerns and how you can be of help. If the person is making unreasonable or illegal requests for additional drugs, talk with them to find out what is happening and their concerns. As appropriate explain why such requests cannot be met and offer reasonable options for them, taking a supportive respectful approach.

In some instances a contract management plan between the person and the clinical team helps to define the boundaries and set behavioural limits while in the treatment setting. This can result in positive outcomes.

Pharmacological treatment

The medical officer may prescribe one or two pharmacological options for opioid withdrawal. These are:

- buprenorphine
- methadone.

Buprenorphine

Evidence indicates that buprenorphine is the drug of choice for a significant number of people undergoing opioid withdrawal symptoms. Buprenorphine is available as 8mg, 2mg and 0.4mg tablets. Its trade name is Subutex®. Buprenorphine is also available in combination with naloxone as 2mg and 8mg tablets and film for sublingual or buccal mucosal use. Its trade name is Suboxone®. In general this should be the formulation used except in pregnancy or where allergy to naloxone is documented.

As a partial agonist, buprenorphine can offer advantages over methadone tapering because withdrawal distress may be less intense, and there are often fewer side effects than experienced with other medication such as clonidine. There can be problems with precipitated withdrawal with initial doses due to its partial agonist properties [93].

Buprenorphine is an opioid used either as a pain reliever or as a substitute for drugs such as morphine, heroin or methadone, or to medicate someone undergoing opiate withdrawal. As a partial agonist (sometimes called 'mixed agonist/antagonist') it cannot produce the same level of opioid effects as heroin or methadone. It also means that overdose may be less of a problem.

Buprenorphine binds very tightly to opioid receptors and can displace other opioids. Consequently commencing someone who is opioid dependent on buprenorphine may precipitate withdrawal.

- First doses should be delayed for at least six hours after heroin use and 24 hours after methadone. Buprenorphine should not be administered until withdrawal is evident.
- Dose titration may be required in the event of worsening withdrawal symptoms [93].
- Buprenorphine blood levels peak at about 90 minutes after sublingual absorption, with the onset of clinical effects at 30-60 minutes and peak clinical effects at one to four hours.
- Duration of effect is eight to 12 hours at low dose (e.g. less than 4mg) but at higher doses (greater than 8mg per day) effects may last 24-72 hours because of the strong receptor binding. The therapeutic effect lasts from one to two days. It is eliminated mainly by hepatic metabolism.

The role of buprenorphine in treating opioid withdrawal is to reduce symptoms and craving, but not necessarily remove all symptoms or intoxicate the person. It is important that people understand that high doses can result in increased rebound withdrawal, prolonged duration of symptoms and increased side effects. Ongoing cravings are not necessarily an indication of inadequate doses, and may relate to other cues to resume drug use, such as the other people they are with or sighting needles and syringes. However, too low a dose can result in unnecessary withdrawal symptoms and the person ceasing treatment early.

For most people, buprenorphine withdrawal is not as uncomfortable as it is from heroin or methadone. Most withdrawal symptoms will begin one to three days after the last dose.

Use of buprenorphine

It is supplied as sublingual tablets that dissolve under the tongue in about five minutes, with the drug being absorbed through the lining of the mouth into the bloodstream. Crushing the tablets does not seem to have much impact on absorption, but lessens the likelihood of the person giving the drug to others or selling it on the black market. If it is swallowed, most of the drug will be metabolised by the liver before reaching the general circulation.

Contraindications

Buprenorphine should not be taken by people who:

- are allergic to buprenorphine
- are breastfeeding (it may reduce milk production, also it does get into breast milk and so may affect the baby)
- have severe liver or kidney problems
- have serious breathing problems
- are children under 16 years

- are intoxicated with alcohol or in alcohol withdrawal.

Precautions for women who are:

- heavy alcohol drinkers
- taking any other drugs especially CNS depressants
- pregnant or are trying to get pregnant
- Evidence regarding the safety of buprenorphine maintenance in pregnancy is accumulating however it is not yet considered definitive
- Neonatal withdrawal syndrome may be less severe than in methadone exposed infants
- are breastfeeding
- It may reduce milk production; although buprenorphine passes into breast milk, it is poorly orally absorbed.

Use caution if using other drugs

- benzodiazepines
- alcohol
- antidepressants (especially monoamine oxidase inhibitors)
- any other central nervous system depressants.

Side effects

- drowsiness, especially if taken with alcohol
- headaches
- nausea and vomiting
- sweating
- hallucinations
- constipation
- insomnia
- fainting and dizziness (orthostatic hypotension)
- respiratory depression.

There is a possibility that it may cause hepatic necrosis and hepatitis with jaundice. Liver function tests should be performed at regular intervals for those people receiving long-term buprenorphine (that is of more than two months duration).

Using buprenorphine in opioid withdrawal—suggested dosing protocol

Hospital setting

Buprenorphine is well suited to this application as it alleviates symptoms of withdrawal without significantly prolonging the duration of symptoms. When buprenorphine is used for inpatient withdrawal an authority is not required for the prescription.

However, with outpatients the withdrawal program will need to be managed by an accredited prescriber, and an authority for the prescription from the SA Drugs of Dependence unit will be required.

There should be some ability to tailor doses to degree of withdrawal as assessed by the Clinical Opiate Withdrawal Scale (COWS). Buprenorphine should not be commenced until objective withdrawal is present to reduce the likelihood of precipitating worse withdrawal symptoms.

Table 13: Daily buprenorphine dose

Day	Buprenorphine sublingual tablet regime	Total daily dose
1	4mg at onset of withdrawal and additional 2-4mg as necessary (more than four hours later)	4-8mg
2	4mg in the morning, additional 2-4mg evening dose as necessary	4-8mg
3	4mg in the morning, additional 2mg evening dose as necessary	4-6mg
4	2mg in the morning, if necessary, 2mg evening dose as necessary	0-4mg
5	2mg prn	0-2mg
6	no dose	
7	no dose	

Buprenorphine should not be administered if there are features of intoxication or sedation, otherwise it should be given on person request as per the above protocol (there is no need for objective withdrawal for subsequent doses, only for the first).

Observations should include COWS scores at every observation occasion, and just prior to discharge (see Appendix 10 for COWS).

Withdrawal in a Community setting

Buprenorphine has been used successfully in community settings and its long duration of action and relative safety makes it well-suited to this application. The objective is to cover the period of most intense withdrawal symptoms and discontinue buprenorphine quickly to minimise rebound withdrawal phenomena and limit duration of symptoms. As with admission and management, flexibility with individual tailoring of dose is ideal.

Symptomatic medications

Buprenorphine does not alleviate all withdrawal symptoms (although buprenorphine is more effective) and is used in conjunction with appropriate additional symptomatic medications as described in Table 14 (below).

Table 14: Use with symptomatic medications

Insomnia	temazepam 10-20mg nocte prn for no more than three nights.
Vomiting	metoclopramide (Maxolon®) 10mg oral/or intramuscular, three times a day, as necessary (TDS, PRN)
Stomach cramps	hyoscine butylbromide 10 – 20 mg four times a day as necessary (QID PRN)
Diarrhoea	loperamide (Imodium) 2mg orally as necessary (generally 4mg initially then 2mg as necessary following passing unformed stools, to a max of 16mg per day).
Headache and muscle and bone aches/pain	paracetamol 500mg-1 gram oral four to six hourly as necessary or Norgesic™ one to two tablets orally four times a day as necessary and/or naproxen 250mg oral three times a day as necessary.
Anxiety/agitation	relaxation exercises/therapy and/or massage. If unsuccessful diazepam 5-10mg orally four times a day as necessary for four days.

[3, 103]

Note:

- Caution is recommended in exceeding stated duration of benzodiazepine use to avoid substituting for heroin dependence.
- Duration of treatment may need to be longer than stated above for withdrawal from long-acting opioid (e.g. methadone, Kapanol® etc).

Pharmacotherapy treatment for opioid dependence

Introduction

Pharmacotherapy medication in management of opioid dependence is known as 'replacement or substitution pharmacotherapy' (e.g. methadone and buprenorphine).

There is a range of pharmacological therapies that are effective in the treatment of alcohol, opioid and nicotine dependence in Australia. Evidence-based pharmacotherapy is yet to be developed for psycho-stimulant dependence.

All nurses, midwives, medical officers and allied health professionals need to know about these treatments, the rationale and benefits of use and what is required when this client population are admitted to hospital. While some people can achieve abstinence without the use of medication, others require prescribed medication for weeks, months or years.

Longer-term prescribing of specific medications in this domain is known as 'replacement or maintenance pharmacotherapy' (e.g. methadone for opioid dependence, naltrexone for alcohol dependence, nicotine patches for nicotine dependence). Pharmacotherapy requires extensive medical and psychosocial assessment, supervision, monitoring and regular review (at least three monthly for stable persons, more frequently for those at risk), and should be part of a broader program of general health care (including dental), counselling, management of comorbid conditions and social support. It may or may not be a treatment of first choice for a person presenting to a GP or specialist service for the first time, and where other options have not been explored.

Importance of Contraceptive advice and support

Women that enter treatment for opioid dependence are likely to show improvement in their health and fertility – and pregnancy may occur. It is a common misconception that amenorrhoea is synonymous with infertile cycles. Women should be cautioned that while they may experience irregular menses while on methadone maintenance treatment they can continue to ovulate.

Improved fertility and contraception information/advice is needed by all women on entry to drug or other health programs [60].

Opioid pharmacotherapy

Opioid maintenance pharmacotherapy (often referred to as 'replacement or substitution therapy') is very effective for a significant number of people who are dependent on opioids such as heroin and morphine. There are two drugs that are most commonly used in Australia, Buprenorphine (Subutex) and Buprenorphine with naloxone (Suboxone) and Methadone.

Buprenorphine is slowly becoming the drug of choice in opioid pharmacotherapy although it will not suit many clients particularly those with very high tolerance at induction to treatment.

Methadone remains the gold standard drug of choice for pregnant women.

Buprenorphine or Buprenorphine with naloxone hydrochloride

Buprenorphine is available in two forms, as a single drug (Subutex®) and in a combination (Suboxone®) which contains buprenorphine and naloxone hydrochloride in a ratio of 4:1.

Suboxone® is likely to be the choice of Buprenorphine treatment in the future due to the less abuse potential due to naloxone precipitating acute withdrawal symptoms if injected. It is also considered it will reduce abuse potential and therefore illicit diversion to non treatment populations [105].

Note: Suboxone® has until recently been administered as a dissolvable buccal tablet. However it is now available as a sublingual film preparation that adheres to the sublingual or buccal mucosa and cannot easily be removed. This is proving to be the preferred formulation if available.

Buprenorphine is:

- a partial agonist—an opioid analgesic with both partial agonist which has the effect of reduces the respiratory depression effect in overdose [105] and antagonist properties
- a drug which has a wider safety margin and strong receptor binding leading to a long half-life which allows for alternate day (double) dosing which is a more convenient option for many people
- effective in managing opioid withdrawal and as a long term opioid pharmacotherapy
- as effective as methadone for people with moderate levels of dependence, and possibly for those with higher levels [106]
- administered sublingually and reaches its peak effect after about 3 hours.

There are two explanations for reduced withdrawal symptoms on cessation following long term dosing of buprenorphine compared to other opioid pharmacotherapy.

These are:

- The tightness of receptor binding and slow dissociation from receptor sites gives rise to lower level withdrawal symptoms [105]
- As a partial agonist it induces lower level physical dependence than methadone so cessation is more comfortable [106].

Safety

Buprenorphine is relatively safe; there have been no deaths in Australia attributed to buprenorphine alone when taken in a prescribed dose. There have been deaths associated with poly pharmacy with other CNS depressant drugs such as alcohol or benzodiazepines.

Indications for pharmacotherapy use

It is recognised that Buprenorphine is an effective treatment for opioid dependence within a framework of medical, social and psychological interventions.

Administration: Sublingual or buccal film

Tablet and film **strength:** Two strengths – 2mg and 8mg.

> Suboxone® has *added naloxone* at ratio of 4 buprenorphine to 1 naloxone i.e. 2mg has 0.5mg naloxone and 8mg has 2mgs naloxone.

Dose levels: Usually 12 - 24mg per day. Some people may be maintained on lower doses.

Duration of action: Buprenorphine is long acting with a terminal half life of 24 – 37 hours. Peak effect is 1 – 4hrs post sublingual administration. Effects last up to 12 hrs for low doses (2mg) and up to 48-72 hrs for higher doses (16 or 32mg).

Dosing frequency: Some people may be dosed every day whereas others, who meet specific criteria, may be receiving double doses (maximum dose of 32mg per day), every second day (four doses per week) and others on three doses per week depending on which regimen best suits the individual person and the prescribed dose.

See the National clinical guidelines and procedures for the use of buprenorphine [107] on the following website:

www.health.gov.au/internet/drugstrategy/publishing.nsf/Content/buprenorphine-guide

Side effects

The side effects of Buprenorphine are similar to those which occur with the use of other opioids. Some side effects have been reported, however these are relatively mild, occur early in commencing treatment and reduce over time. Side effects include:

- constipation
- insomnia
- drowsiness or sedation
- anxiety
- itching
- headache
- sweating
- nausea
- dizziness.

During stabilisation or following dose increase, the person's capacity to operate machinery or drive may be decreased until tolerance to the dose develops.

Contraindications

The contraindications for buprenorphine pharmacotherapy include:

- known hypersensitivity
- previous severe side effects
- children less than 16 years of age

- pregnancy and breastfeeding
- acute psychosis or severe depression – particularly if at moderate to high risk of suicide.

Precautions

Buprenorphine should be used with caution by client populations with:

- concomitant prescription of CNS depressant drugs due to overdose risk or dependence on these drugs e.g. alcohol, benzodiazepines, antidepressants
- increased intracranial pressure
- chronic obstructive airways disease or corpulmonale
- severe hepatic disease (may alter hepatic metabolism of buprenorphine)
- severe hepatic insufficiency (Suboxone is metabolised by the liver and its activity may be increased or extended)
- myxoedemaCYP3A4 inducers e.g. carbamazepine, phenolbarbital, phenytoin, rifampicin (potential interactions are not known)
- recent head injury
- abdominal conditions (can obscure diagnosis or clinical course)
- pre-existing respiratory depression, hypoxia or hypercapnea
- severe respiratory insufficiency
- impaired renal function
- hypothyroidism
- adrenal cortical insufficiency e.g. Addison's disease
- delirium tremens
- hypotension
- biliary tract dysfunction
- kyphoscoliosis
- CYP3A4 inhibitors e.g. ketoconazole, ritonavir.

Table 15: Drug interactions with buprenorphine

Drug	Degree of interaction	Effect	Mechanism
Alcohol	Clinically important	Additive sedative effects	Additive central nervous system (CNS) depression
Amiodarone	Clinically important	May cause increased plasma concentration	Inhibition of metabolism in the liver
Some antibiotics e.g. clarithromycin, erythromycin (contra-indicated),	Clinically important	Erythromycin – may increase serum erythromycin levels and therefore increased risk of ventricular arrythmia and sudden death.	Inhibition of metabolism in the liver
Antifungal e.g. fluconazole		May cause increased plasma concentration	Inhibition of metabolism in the liver
Antidepressant e.g. fluvoxamine		May cause increased plasma concentration Risk of serotonin syndrome due to serotonin toxicity with MAO inhibitor and for example, amitriptyline, doxepin	Inhibition of metabolism in the liver Potential additive CNS depression effects
Benzodiazepines e.g. Alprazolam, Clonazepam, Diazepam, Flunitrazepam, Midazolam, Triazolam, Zolpidem		Additive sedative effects	Additive CNS and depression and fatal over dose risk particularly with high doses
Carbamazepine		May cause increased clearance and lower serum levels	Increased metabolism in the liver
Cimetidine	Clinically important	May cause increased plasma concentration	Inhibition of metabolism in the liver
Dispyramide		May cause increased plasma concentration	Inhibition of metabolism in the liver
Domperidone (not recommended for use in conjunction with buprenorphine)		No evidence of effect – manufacturer contraindicates use of domperidone with CYP3A4 inhibitors	Inhibits metabolism in the liver
Droperidol (caution advised when co-administering)			Weak inhibition of metabolism
Fluvoxamine		May cause raised serum levels	Inhibit metabolism
HIV antiviral drugs, e.g. ritonavir, atazanavir, delavirdine, saquinavir	Clinically important	May cause increased serum concentrations Ritonavir – sub clinical prolongation of QTc has been observed	Inhibition of metabolism in the liver

Table 15 cont: Drug interactions with buprenorphine

Drug	Degree of interaction	Effect	Mechanism
HIV antiviral drugs e.g. Efavirenz, nevirapine		May cause increased clearance and lower serum levels	Increased metabolism in the liver
Ketoconazole,	Clinically important	May cause increased serum concentrations	Inhibition of metabolism in the liver
MAOI's, Doxepin	Clinically important	May cause serotonin toxicity and risk of serotonin syndrome	May induce excessive intra-synaptic serotonin
Nefazodone		May cause increased plasma concentration	Inhibition of metabolism in the liver
Nifedipine		May cause increased plasma concentration	Inhibition of metabolism in the liver
Opioids		Additive sedative effects May induce withdrawal In overdose - high doses of naloxone may be needed to reverse effects	Additive CNS depression May complicate the use of additional opoids for analgesia due to degree of blockade as Buprenorphine is a partial agonist
Barbiturates e.g. phenytoin, phenobarbital		May cause increase experience of side effects when co-administered with buprenorphine May cause increased clearance and lower serum levels	Side effects Increased metabolism in the liver
Tricyclic Antidepressants (e.g. amitriptyline	Clinically important	May cause additive respiratory depression and serotonin toxicity Amitriptyline – additive CNS effects	Additive CNS depression May induce excessive intra-synaptic serotonin
Sotalol		Increased sedative and or increase hypotensive effect.	Additive effects in
Spironolactone (aldactone)		May cause increased clearance and additivel hypotensive effect	Increased metabolism in the liver Addtive effect on blood pressure
St John's Wart		May cause increased clearance and lower serum levels	Increased metabolism in the liver
Thioridazine (not recommended for use in conjunction with buprenorphine)		Additive sedative effects	Additive or synergistic CNS effects
Verapimil		May cause increased plasma concentration	Inhibition of metabolism in the liver

[108] [109]

For further information regarding the range of drugs metabolised by Cytochrome P4503A4 – see the National clinical guidelines and procedures for the use of Buprenorphine (2006, page 71) on the following website:

www.health.gov.au/internet/drugstrategy/publishing.nsf/Content/buprenorphine-guide

Ceasing treatment

When deciding to cease Buprenorphine treatment, there is usually a gradual reduction in dose occurring over several weeks. For further information about tapering dose regimes go to the website above.

Methadone

Methadone is very cost effective for those being treated, as well as the service provider and government.

Action and dispensing

Methadone is a synthetic opioid (depressant) with a long half-life, e.g. longer acting than heroin. It is active orally as syrup. For the purposes of treating opioid dependence it can be administered once a day under medical or nursing supervision at a specialist clinic, or dispensed from a specified community pharmacy or hospital pharmacy. Methadone is administered as an oral syrup.

The use of methadone maintenance has a strong evidence base particularly in areas of reducing criminal activity and illicit opioid injecting, thus reducing the cost to society and improving health and well being of individuals.

Methadone for opioid dependence should be provided as one element of a personalised treatment program that includes non-medical therapies, treatment for any comorbid physical or psychiatric disorder, and where counselling is available

Doses range from 40mg to 120mg/day depending on individual health status and circumstances of each person. Methadone is more effective at higher doses (at least 60mg) as a maintenance therapy. Most people will experience few symptoms of withdrawal or craving for opioids once stabilised on their individualised methadone regime.

There are criteria for admission to methadone maintenance programs and the person being treated registered with the relevant local authority such as the state health department.

Should a lapse to opioid use occur, high doses of prescribed methadone will 'blunt' the euphoric effects of other opioids.

Note: Caution needs to be observed regarding people receiving high doses if there is concurrent alcohol or benzodiazepine dependence as there is a risk of respiratory depression.

Note: There is a significant risk of fatal overdose in the first few weeks of methadone treatment, due to rapid dose increases. Advice should be sought from a medical practitioner with experience in prescribing methadone prior to commencement.

*An authority to prescribe methadone needs to be obtained from the relevant regulatory agency.

Pain relief

(See Section 3.1.3 on pain and analgesia for further information).

If a person is being prescribed methadone as a maintenance pharmacotherapy for opioid dependence, even at high doses, they will require additional opioids over and above their daily methadone dose for effective pain relief due to tolerance and hyperalgesia (increased sensitivity to pain). Accident and emergency and other nursing and medical staff need to know that a person is taking methadone so that effective pain relief can be offered.

Safety

There is a risk of overdose if additional opioids are taken with methadone. Dose tolerance reduces with abstinence, so the person needs to be reassessed if they have not had methadone for more than three days. Methadone has no severe long-term effects on health, however, it is a drug of dependence and expert advice should be sought if there is abrupt cessation of use. Most people can remain in treatment over a long term with no ill effects on health.

Administration: Oral syrup.

Side effects

Short term: (Related to the central nervous system depressant properties of opioids)

- constipation
- nausea/vomiting
- drop in body temperature
- bradycardia, palpitations
- hypotension.

Long term:

- weight gain
- tooth decay due to decreased oral secretions.

Contraindications:

- kidney disease
- liver disease.

Drug interactions

(See Table 14: Drug interactions with Opioids).

Withdrawal

Following the cessation of methadone (severity varies with the dose), withdrawal will occur one to three days after last dose, and may last two weeks or more. Abrupt cessation from doses above 20mgs per day is not recommended (See Section 3.1.2: Opioids).

Use in pregnancy

(See section 2.6: Managing withdrawal).

Breastfeeding

(See section 2.6: Managing withdrawal).

Naltrexone

Note: Research on effectiveness of long-term naltrexone pharmacotherapy for opioid abstinence maintenance indicates poor acceptance with high drop-out rates from treatment. This therapy may be selected for a person who is highly motivated, abstinent and psychologically stable ,not likely to cease naltrexone and then relapse into opioid use – thus increasing risk of overdose with use of an opioid, due to reduced opioid tolerance [93, 110].

Naltrexone is an opioid antagonist recently registered for use in relapse prevention in Australia. As an antagonist, naltrexone blocks both the euphoric and analgesic effects of opioids. It is long acting, with effects lasting between 24 and 72 hours.

As a maintenance pharmacotherapy treatment for opioid dependence, naltrexone is prescribed for daily use for up to two years to help prevent relapse to opioid use, and is administered orally.

It should always be used in conjunction with counselling and support and access to other psychotherapy. It has also been used in rapid detoxification (see below). There are particular issues for nurses in managing withdrawal from opioids precipitated by naltrexone when this drug has been self-administered by opioid users (see Section 3.2: Opioids).

Safety

There is a high risk of death by opioid overdose if the person takes opioids after ceasing naltrexone due to reduced tolerance to opioids.

Use of naltrexone while still opioid-dependent will bring on severe withdrawal symptoms. People must have completed opioid withdrawal prior to using naltrexone and have a low withdrawal score.

As naltrexone use can be associated with psychological depression, medical staff should be informed of any history of depression. A referral to a psychologist or psychiatrist may be required. Naltrexone is not the pharmacotherapy of choice for people who have a pre-existing depression.

Pain relief

If a person is using naltrexone, opioid-based analgesics (or codeine-based cough medicines) will be ineffective. Accident and emergency and other nursing and medical staff need to know if a person is taking naltrexone so that effective pain relief can be provided by using non-opioid analgesics in these situations.

Side effects

Naltrexone is generally well tolerated. Some of the side effects may be due to residual withdrawal symptoms associated with heroin or other opioid dependence. If depression occurs as a side effect or if the person is unable to tolerate Naltrexone, an alternative pharmacotherapy is often considered. Side effects may include:

- depression
- headaches
- nausea and vomiting
- constipation
- anxiety
- sleep disturbances
- loss of energy
- abdominal pain
- loss of appetite.

Withdrawal

No withdrawal syndrome occurs when naltrexone treatment stops.

Nursing guidelines—maintenance pharmacotherapy in the acute hospital setting

Rationale

Effective nursing care includes appropriate management of a person receiving maintenance pharmacotherapy during their hospital stay. The continued provision of their maintenance pharmacotherapy is important as it will help maintain their comfort and safety, assist in planning pain management, and prevent the harms associated with poorly managed opioid withdrawal, thus reducing the risk of relapse and/or unplanned early discharge.

General principles

Nurses must consult with the ATOD specialist about the care of all people admitted to hospital who are receiving maintenance pharmacotherapy. Ensure that their methadone or buprenorphine dose is known and confirmed with prescriber, and that the dose is quoted in mg.

Ensure that adequate pain relief is provided and that this is individually tailored to the person's clinical presentation and expressed need.

Methadone

Procedural guidelines

Take an alcohol, tobacco and other drug use history on admission.

Assess the person for signs of alcohol and other drug intoxication, overdose or withdrawal and take appropriate action. (See Section 2.4: Managing intoxication, Section 2.5: Managing overdose and Section 2.6: Managing withdrawal).

When a person reports that they are receiving maintenance pharmacotherapy, confirm the following:

- name of their program/prescribing doctor
- what medication regime they are on, e.g. methadone or buprenorphine
- where they get their medication, e.g. at the drug clinic or community pharmacy
- dose (ensure doses are recorded in mg)
- date and time of last dose (ensure methadone doses are recorded in mg)
- dosage and number of take-away doses usually provided, e.g. three a week (ensure doses are recorded in mgs and mls for methadone)
- whether the person has brought any take-away doses to hospital
- confirm the person's enrolment in a pharmacotherapy maintenance program by telephoning the usual prescriber or service provider

- contact the program or the dispenser to confirm the details given above, including take-away doses, and inform them of the person's admission to hospital. If a person cannot supply telephone numbers, call an alcohol and drug information service for details of maintenance pharmacotherapy services, accredited doctors licensed to prescribe (e.g. GPs)
- arrange for any take-away doses held by the person to be forwarded to the hospital pharmacy. Take-away doses must not be consumed in hospital and should not be returned to the person on discharge
- particular care must be taken to notify the pharmacotherapy service (GP and/or chemist) of the person's impending discharge from your hospital so that continuity of care, in particular the pharmacotherapy regime, can be maintained. The person must also be informed in a timely manner as to what they can expect and what has been planned
- arrange for prescription of maintenance pharmacotherapy by the appropriate medical officer and dispensing by the hospital pharmacy. Ensure that methadone syrup and not physeptone tablets are used for people on methadone maintenance
- where oral methadone is contraindicated (e.g. nil-by-mouth), an alternative opioid should be administered parenterally. Buprenorphine can still be given sublingually when on a nil-by-mouth order. If other medical contraindications occur, such as head injury, contact the senior medical officer and follow the appropriate local policy guidelines
- monitor the potential for drug interactions with methadone.

For people on a maintenance pharmacotherapy program who require pain relief:

- Follow the procedures above
- In addition to authorised methadone dose, provide the person with such opioid analgesics as are necessary to control pain. Such people often have altered tolerance to opioids and may require higher doses of analgesia than normal.

Table 16: Drug interaction with opioids

Opioid interaction	Examples	Opioids affected	Mechanism	Effect
Other medicines (and substances) that depress the CNS	Other opioids Benzodiazepines Many tricyclics antidepressants Many antipsychotics Older antihistamines Alcohol	All	Increased CNS depression	Additive effect – potentiation of respiratory depression
Medicines that increase opioid levels	Cimetidine Ciprofloxacin Erythromycin Clarithromycin Fluconazole Ketoconazole Fluvoxamine and possibly other SSRIs	Methadone Buprenorphine	Increased blood levels of methadone or buprenorphine by inhibition of the enzyme CYP3A4	Dose of methadone or buprenorphine may need to be decreased to prevent toxicity or overdose AND may need to be increased to prevent withdrawal symptoms when the enzyme inhibitor is stopped
Medicines that decrease opioid levels	Anticonvulsants (e.g. barbiturates, carbamazepine, phenytoin) HIV medicines (e.g. efavirenz, nevirapine) Rifampicin Spironolactone St John's Wort	Methadone Buprenorphine	Decreased blood levels of methadone or buprenorphine by induction of enzyme CYP3A4	Dose of methadone or buprenorphine may need to be increased to prevent withdrawal symptoms AND decreased to prevent overdose when the enzyme inducer is stopped

Table 16 cont: Drug interaction with opoids

Opioid interaction	Examples	Opioids affected	Mechanism	Effect
Opioids that act as partial agonists	Buprenorphine and other partial opioid agonists	Methadone Diamorphine Other full agonists	Buprenorphine is a partial agonist and displaces other opioids from receptor sites	Can precipitate withdrawal symptoms – advise waiting until opioid is excreted (confirmed by presence of withdrawal symptoms) before taking buprenorphine
Opioid antagonists	Naltrexone (active orally) Naloxone (active by injection – IV, IM and SC)	All	Naltrexone and naloxone are full antagonists and displace other opioids from receptor sites	Will precipitate withdrawal symptoms if taken when agonist or partial agonists have recently been taken
Medicines affecting QTc interval	Tricyclic antidepressants Antipsychotic medicines	Methadone	Prolongation of QTc interval	Can cause torsades de pointes. Use cautiously with methadone.
Medicines affecting urine pH	Vitamin C Sodium bicarbonate (antacids)	Methadone	Affects excretion of methadone – increased excretion of acidic urine, decreased excretion of alkaline urine	Increased excretion may cause withdrawal Decreased excretion may cause toxicity

[111]

Maternal and neonatal care

(See section 2.6: Maternal and Neonatal Care).

Midwives and nurses may experience considerable challenges in managing opioid use during pregnancy and post natal periods and in managing potential withdrawal in the neonate. Professional non-judgemental care such as respect, reassurance, support and reinforcement of positive behaviour will optimise outcomes.

Attracting and maintaining women in specialist drug treatment and perinatal maternity services is vital for them and their babies [112]. Follow-up studies suggest that the long-term outcomes for women who undertake methadone treatment during pregnancy are better, including childbirth and their infant's development in terms of their pregnancy, childbirth and infant development, irrespective of continuing illicit drug use. Continued drug use may reduce the protective effect of treatment [113, 114].

Treatment services that offer non-judgemental, strengths based holistic care based on realistic and non-punitive goal setting, counselling and psychosocial support promotes long term engagement [58].

Engaging the woman's partner/family is an important aspect of enabling her to feel supported and to achieve progress and well-being at the earliest possible stage**.**

The key aims in caring for the pregnant woman and her baby are to:

- Ensure that she receives continuity of care and her family feel welcome and not judged by nurses, midwives and other staff, and that she knows her antenatal care and drug use can be managed effectively.
- Encourage the woman to cease illicit opioid and other drug use and to access Methadone pharmacotherapy treatment and ensure her pharmacotherapy regime will be stable and comfortable (client and her partner should be given priority access) in order to help her cease illicit opiate and other drug use.
- Provide effective coordination of services for her and her family care occurs between all relevant services (midwife /doctor and specialist A&OD team) and other parties. This will usually involve a planning meeting (with consent) around the 32nd week of the pregnancy or earlier as necessary for the wellbeing and safety of the woman and her baby (but not a formal case conference unless needed for specific reasons) with the woman and her partner. This meeting provides the opportunity to gain an understanding of the woman's issues and perspectives and work with the woman and her partner. This is also a time to identify problems and solutions, plan for education, set goals and plan support and key networks and resources for the remaining prenatal period and following the birth. A decision to hold a formal case conference can be made at this meeting or subsequently, depending on circumstances and need. Case management should include relevant members of the multidisciplinary team and collaborating practitioners.
- Provide psychosocial and refer for practical support.

- Monitor nutrition, risk of anaemia, dental health, complications from any infections arising from unsafe injecting drug use.

The woman, and her partner, should be informed about all clinical meetings and invited to participate.

Assessment – Opioid use and Pregnancy

- type of opioid used e.g. codeine, morphine, heroin
- pattern of opioid use & quantify amount/dose e.g. daily, occasional
- time & date of last use/dose
- risks e.g. sharing injecting equipment, unprotected sex, driving vehicle or operating machinery when intoxicated
- medical or mental health conditions
- other drug use including tobacco, alcohol, medicines or inhalants.

Maternal health problems

A number of health problems related to drug use that can occur during pregnancy that need to be discussed with the woman. The woman's ongoing health should be managed, monitored and reviewed throughout her pregnancy, and include:

- nutrition
- risk of anaemia
- dental health
- bacterial or viral infections such as from unsafe injecting.

These all contribute to the increased risk of complications in pregnancy, including premature delivery.

Smoking tobacco during pregnancy increases the risk of complications in pregnancy and in the baby who has an increased risk of Sudden Infant Death Syndrome (SIDS) – see Nicotine in Psycho-stimulants below.

There are therefore a range of issues that contribute to increased risk of obstetric complications and premature delivery for women who use opioids. A woman's pregnancy is recognised as a special entry criterion for her access to methadone pharmacotherapy programs due to increased risk that withdrawal poses to the woman's health and continuation of her pregnancy.

Potential obstetric complications of non-medical opioid use during pregnancy

Uncontrolled use of opioids during pregnancy can result in obstetric complications, including:

- abrupto placentae, spontaneous abortion, and intrauterine death with the most common being intrauterine growth retardation with low birth weight, and premature labour, foetal distress, meconium aspiration and neonatal jaundice [89]. These

symptoms are likely to be caused by fluctuation in illicit opioid dose leading to repeated intoxication and withdrawal episodes, rather than due to the nature of the opioids themselves

- blood-borne viral infections can be vertically transmitted by mother to her baby.

Opioid Withdrawal in Pregnancy

(See section 2.6: Managing Withdrawal).

Opioid Withdrawal in pregnancy is associated with:

- a high risk of relapse and generally should not be encouraged
- increased risks to foetus e.g. serious risk of miscarriage or stillbirth, miscarriage or low birth weight for gestational age, particularly if withdrawal is sudden and not medically managed.

If Methadone maintenance pharmacotherapy is refused and withdrawal is requested by a pregnant woman, advise her of:

- the risks
- methadone maintenance – preferred and safest option
- conditions under which medically supervised withdrawal would need to occur to reduce risks.

Conditions for supervised withdrawal are:

- second trimester only (wks 14 – 32)
- high level of medical supervision in obstetric inpatient unit – foetal monitoring
- use tapering doses of methadone to ensure gradual withdrawal.

The benefits of methadone maintenance should be continually reinforced and encouraged during the withdrawal period in order to prevent relapse to illicit drug use.

Methadone treatment during pregnancy

Methadone pharmacotherapy is the medication treatment of choice (may include gradual dose reduction) for pregnant women who are dependent on opioids. Methadone pharmacotherapy is known to improve their health and the chances of delivering a healthy full-term baby [89] Methadone treatment is not associated with adverse postnatal infant development.

Research studies have shown that methadone pharmacotherapy is associated with:

- improved outcomes, maternal, foetal development and higher birth weight
- reduced perinatal and infant mortality
  However, effectiveness is reduced if non-medical opioid and or other drug use continues even though it is not typically associated with poor postnatal infant development [60].

For practical reasons, opioid-dependent partners of pregnant women seeking treatment should be accepted into treatment expediently so as to maximise their capacity to engage in and benefit from treatment.

Where possible, referral to or advice from a specialist obstetric service for women with 'at risk' pregnancies should be sought in regards to combined obstetric care and treatment for drug dependence.

Pregnant women who are opioid dependent should be advised of the benefits of receiving well coordinated care between their opioid pharmacotherapy prescriber and maternity service to ensure the best possible outcomes for herself and her baby.

Many women may wish to decrease their methadone dose during their pregnancy but withdrawal during pregnancy or a return to non – medical opioid use are associated with serious risks. These aspects need to be discussed with the person and persons should be closely monitored. A methadone pharmacotherapy reduction regime can be implemented at any stage of pregnancy provided the dose reduction does not precipitate sudden withdrawal [115].

Pregnancy alters methadone metabolism by the liver and therefore, a woman may need an increase in her doses and/or have divided doses. In general, a higher methadone dose is associated with better pregnancy outcomes for women who use more than one drug.

Induction into methadone pharmacotherapy

- A pregnant woman should have priority access (including partner as their use may increase risk of relapse).
- May include admission to inpatient obstetric unit for stabilisation and rapid dose titration based on symptoms and respite from external environment.
- Preventative planning and actions to prevent withdrawal due to the woman vomiting her dose or being nauseated and unable to take her oral dose as regularly as prescribed [60].

Adequate dosing

- Doses are titrated to the level that blocks withdrawal and suppresses other opioid use.
- Titrated to the woman's symptoms – (not kept low) to try to reduce possible neonatal abstinence syndrome as there is no dose response relationship between methadone and the risk of neonatal abstinence syndrome.
- Dose increases may be required in response to risk of or relapse to injecting heroin or other drug use.
- Increased doses may be needed as pregnancy progresses due to increased rate of metabolism and blood volume [60].

Split dosing

There is little evidence to suggest split dosing is preferable to single daily dosing. However, it:

- May stabilize conditions within the uterus by reducing the difference in peak and trough concentrations of methadone in the woman's blood.
- May be considered a clinical option for women who experience withdrawal symptoms as pregnancy advances, particularly in the 3rd trimester.
- Second dose – daily take away can be considered for women who are stable on pharmacotherapy as well as physically and psychologically. This requires approval from State Regulatory Authority (Drugs of Dependence Unit SA) [60].

Managing occasional vomiting

- can be serious
- can lead to withdrawal – mother and foetus – foetal distress
- a protocol is required for management e.g. if dose vomited:
- within 10 minutes of dosing – consider repeat dose
- within 10 – 60 minutes of dosing – consider half a repeat dose
- more than 60 minutes of dosing – consider giving half of repeat dose if withdrawal symptoms occur

Note: even if observed – it is unlikely all stomach contents expelled – unsure how much of dose has been absorbed:

- if in doubt, reassessment by experienced clinician required 4-6 hrs after vomiting (methadone effects at peak) to determine if additional small dose is needed [60].

Management of frequent and or continuing vomiting

Women should be advised that:

- they need to eat before taking their methadone dose
- they need to sip the dose slowly
- where the dose consistently causes or exacerbates vomiting – consider splitting the dose or offering rectal prochlorperazine/metochlopramide 30 – 60 minutes before dosing
- if the woman is experiencing constant vomiting not necessarily related to the methadone dose they need to be assessed and treated according to obstetric protocols for hyper-emesis gravidarum:
- assess degree of dehydration & ketosis (consider admission if urine ketones more than 2+)
- look for other causes e.g. UTI

- consider I/V re-hydration
- consider medications e.g. rectal prochlorperazine (Stemetil®) or IM or IV ondansetron (Zofran®)
- consider need for modified diet and, vitamin and iron supplements [60].

On presentation of labour

When a woman presents in labour, the following needs to be undertaken:

- inform her methadone prescriber and dosing pharmacist of the admission & non ability to attend for dosing
- ascertain time of her last dose and or provision expected possession of takeaway doses
- ensure she receives her usual daily methadone dose as prescribed
- obtain copies or confirmation of:
- identity (her birth date and photo)
- date, time and amount of last dose
- current prescription (mg).

Buprenorphine pharmacotherapy during pregnancy

Buprenorphine is not the first drug of choice for opioid pharmacotherapy treatment during pregnancy. It is not currently TGA approved for this indication. This is due to relative lack of evidence so far regarding efficacy when compared to methadone, which has been first line therapy for over 30 years. There is however, increasing evidence that buprenorphine may be used safely in pregnancy and is as efficacious as methadone.

Women who are already prescribed buprenorphine pharmacotherapy for opioid dependence prior to becoming pregnant may wish to continue during pregnancy and breastfeeding. Women should be fully informed with regard to the evidence to date re safety and TGA status. In addition experienced practitioners may offer buprenorphine as an option for commencement during pregnancy.

If buprenorphine is prescribed during pregnancy, it should be in the Subutex formulation.

The team needs to case manage as for Methadone pharmacotherapy e.g.

- continue Buprenorphine during admission and care
- give other analgesia and opioids (if indicated) to manage pain – (Pethidine may be less effective due to Buprenorphine pharmacology).

Buprenorphine has partial agonist and antagonist opioid properties – analgesia may be blocked - take care with pain management and seek advice from specialist as required.

Managing labour

Labour of a pregnant woman who is opioid tolerant (dependent) is similar to that of any other woman. However, there are particular issues of which to be aware of and prepared. There can be increasing placental insufficiency in pregnancies of opioid dependent women, leading to:

- increased risk of intra-partum hypoxia
- foetal distress
- meconium staining.

The opioid-dependent pregnant woman requires careful risk assessment and careful risk assessment, monitoring and management of withdrawal as required during labour. Seek specialist advice.

It is important to encourage the woman to present for admission early in her labour so as to limit any need she may have to self- medicate with alcohol or other drugs, ensure monitoring of pain and analgesic requirements and adequacy of the regimen implemented.

Pain management in labour

The pain relief needs of women in labour who are also undergoing methadone pharmacotherapy are often under estimated. Women with a history of opioid drug use can have increased analgesia requirements and due to heightened sensitivity to pain, doses should be titrated based on each individual woman's response.

Women on methadone and buprenorphine programs should be offered a review appointment with an anaesthetist, prior to term to discuss their pain relief options during labour, delivery and post natal period including post surgical pain where caesarean delivery is required.

The following may assist in pain management:

- analgesia requires individualised assessment, medication options and attention. Pain must be assessed regularly and the dose of analgesia titrated to the individual's response – keep in mind the dose may need to be higher due to opioid tolerance
- the woman must continue to receive her prescribed daily methadone dose(s) on time, in liquid form, not tablet – to prevent opioid withdrawal. This dose does not provide pain relief
- all forms of pain relief including non pharmacological means should be considered and escalated as required. For example Paracetamol, Entonox® gas, TENS®, bath/shower, massage, breathing exercises
- additional opioid pain relief at the typical dose may not be effective if opioid receptors are already saturated e.g. with methadone and hypersensitivity to pain has developed
- if a woman is prescribed methadone or buprenorphine pharmacotherapy, her usual dose will not relieve labour pain
- should the woman have a lower pain threshold consider regional anaesthesia e.g. epidural [60].

Note: Pethidine may not be effective due to changes in opioid receptors.

Management of intractable pain

- When assessment indicates uncontrolled pain is not due to lowered pain threshold, further assessment for other obstetric or medical causes is essential e.g. pyelonephritis, abruption, sacro iliac abscess.
- Assessment of potential birthing risk is essential e.g. foetal distress.
- Careful monitoring and management for signs of opioid withdrawal or overdose.

Late presentations

Women who present for drug treatment the first time in their third trimester, or in labour, can have a high risk of complications due to inadequate antenatal care. Effective management includes:

- admission to hospital (regardless of what type of drugs are used)
- thorough assessment of opioid use is critical (to avoid risk of over or under estimating opioid tolerance, and to inform decisions about treatment).

This should include:

- time of last dose and amount (mg)
- usual pattern of drug use and quantity e.g. daily , weekly)
- onset of symptoms (to identify whether they may be due to withdrawal)
- signs of withdrawal
- urine drug screen
- assessment of level of opioid tolerance and dependence as this will have immediate significance for managing analgesia during labour and predicting and managing neonatal withdrawal
- development of a detailed management plan including liaison with general practitioner, community or mental health professionals as needed, and plans for discharge
- initiate and refer with the woman's consent for drug treatment
- monitor withdrawal symptoms using reliable withdrawal scales – COWS (Clinical Opioid Withdrawal Scale). (See Appendix 10).
- if not in labour and not receiving pharmacotherapy – encourage pharmacotherapy induction to e.g. Methadone is the current gold standard treatment in pregnancy) – seek advice from ATOD experienced medical clinician and if appropriate facilitate rapid induction as inpatient for close monitoring

If on Methadone contact prescriber and pharmacist to confirm:

- current dose in mg
- whether today's dose has been given or date and time of last dose
- receipt of any take away doses today for today or subsequent days. Some clients who are stable may be in possession of more than one take away dose [60].

Postnatal guidelines

Post-natal care of mother and baby includes:

- provide a low-stimulus environment for mother and her baby where possible. This will facilitate bonding and minimise any withdrawal symptoms and other stressors
- provide support and care for mother in equal priority as for her baby
- attend to mother's needs particularly treating residual pain and opioid withdrawal as appropriate
- pain after caesarean section, tubal ligation or vaginal birth can be difficult to control and should be assessed and managed in consultation with ATOD specialist.

Informing mother (and father) about the likely NAS treatments and procedures including close monitoring, withdrawal scoring and medications (if required) is important, along with being non-judgemental and supportive.

Explain that:

- both mother and her baby will be monitored for signs of withdrawal (and treated as needed)
    - if on opioid pharmacotherapy (e.g. methadone) monitoring of dose requirements and any necessary adjustments will be made
- her methadone pharmacotherapy will continue according to her prescription and on advice from her ATOD specialist and or prescriber
- if not on pharmacotherapy her own and her baby's withdrawal symptoms (NAS) will be monitored and treatment will be provided as necessary
- neonatal withdrawal can occur 1-4 days following delivery and up to 7 – 10 days if the mother has been taking methadone in conjunction with benzodiazepines
- NAS treatment may require admission of her baby to the specialist neonatal unit
- encourage both the mother and father questions
- avoid separation of mother and baby wherever possible (reduces NAS symptoms)
- Encourage breastfeeding if at all possible
- assist with breast feeding as needed, and if not contraindicated (see breastfeeding)
- ensure mother can manage her breastfeeding positions and techniques that can

prevent cracked nipples. A lactation consultant while she is in hospital or after discharge is likely to be needed to assist her during these early stages

- if she is not breast feeding educate her about the benefits of frequent skin to skin contact with her baby and safe bottle feeding positions. Also involve father in these discussions and help him to know what to do.

Note: Hepatitis C is not a contraindication for breastfeeding

- involve the mother and father in all of her baby's care, including any neonatal abstinence syndrome (NAS) scoring and management.
- assist mother in baby settling techniques e.g. dummy, relaxation, baths, massage

Discharge planning needs to include frequent and close follow-up and support from key agencies. The following may be useful:

- home visiting support as soon as possible following discharge
- referral to a service specialising in supporting mothers and their babies
- lactation support
- parenting education, baby massage and care programs
- ATOD specialist services support
- post natal mental health services (where indicated)[60].

Post-natal pharmacotherapy dose review

The pharmacotherapy dose needs to be reviewed in the early days following birth and regularly thereafter as blood volume and metabolism change rapidly following delivery

The focus of the review is on supporting the mother, enhancing and supporting stability on pharmacotherapy – taking into account any:

- signs of withdrawal or sedation
- risk of resuming non-medical opioid or other drug use [60].

Post-natal transfer back to community prescriber

- plan for timely transfer so as to ensure continuity of pharmacotherapy
- prior to discharge the prescriber and pharmacist should be notified of date of discharge, and date, time and amount (mg) of last dose given. This is particularly important where the dose has been adjusted and different to the dose that was prescribed prior to admission. If discharge is to be on a weekend day, the prescriber may not be available and must be notified in advance

Post natal Contraceptive advice

- improved fertility and contraception education and or advice is needed by women on entry to pharmacotherapy programs or other ATOD treatment

- the health and fertility of women who enter treatment for opioid dependence is likely to improve – and further pregnancy may occur
- women should be advised that they may experience irregular menses while on opioid pharmacotherapy while still continuing to ovulate. It is a common misconception that amenorrhoea is synonymous with infertile cycles [60].

Future pregnancy plans and contraception options should be discussed and implemented prior to discharge as appropriate.

Neonatal Abstinence Syndrome NAS

About 60% infants born to mothers on methadone will develop clinical features of withdrawal (NAS). Women and their partner/families should be well informed about NAS ante-natal stages and become familiar with monitoring and possible treatment of their baby. This can assist to reduce parental distress.

Assessment and monitoring for onset of NAS:

- All pregnant women with a recent history of ATOD use, including opioids, need to be assessed for their potential withdrawal and NAS in their newborn.

Therefore:

- determine the woman's recent pattern of ATOD use
- identify the type of ATOD's and the time and amount of last dose/s
- risk of NAS and maternal withdrawal
- if mother is receiving pharmacotherapy for opioid dependence (methadone or buprenorphine – and type Suboxone® or Subutex®).

If the mother has been opioid dependent and is breastfeeding, she may require opioid levels to be maintained with methadone pharmacotherapy to prevent neonatal abstinence syndrome (NAS) in her newborn.

Assess possibility of neonatal abstinence syndrome by documenting signs and symptoms on the Neonatal Abstinence Syndrome Scoring Chart (See Appendix 14) from two hours post delivery. Score the infant one hour after a feed.

Do not administer naloxone (Narcan®) to the infant if mother is receiving methadone or other opioids and has had opioid pain relief. If respiratory difficulties occur, supportive management (including artificial ventilation) is indicated.

Onset

Symptoms usually start about 72 hours after delivery, but can occur sooner. It may be delayed for up to two weeks of age due to the long half-life of methadone.

There is no clear relationship between maternal methadone dose and the incidence, severity or duration of NAS [115].

There are no adverse long-term sequelae if diagnosed early and effectively managed [89, 115].

The mother and father must be reassured of this.

Signs of NAS opioid withdrawal

Signs of opioid withdrawal:

- tend to occur 24-72 hours after delivery
- can be vague and multiple
- spectrum of symptoms e.g. high-pitched cry, rapid breathing, hungry but ineffective sucking, and excessive wakefulness
- hyper-tonicity and convulsions can occur but these are not common
- can be delayed for up to 7-10 days if the woman has been taking methadone in conjunction with benzodiazepines.

Concomitant benzodiazepine use causes more prolonged NAS symptoms, including respiratory problems and depression.

Regularly observe and document signs and symptoms on the Neonatal Abstinence Syndrome Scoring Chart (See Appendix 14) from two hours post delivery.

Note: Do not administer Narcan® to the neonate.

Score the infant every four hours or prior to feeds unless more frequent scoring is indicated. Observe regularly between scoring to identify any escalation of symptoms, and act accordingly.

Medical management of neonatal abstinence syndrome (NAS)

The diagnosis of NAS should be made in consultation with a neonatologist.

Due to opioid exposure in utero, medication of neonate should be initiated when the Finnegan or modified Finnegan score (see Appendix 14).

- score averages 8 or more on three consecutive assessments or
- 12 or more on 2 consecutive assessments when assessed by an experienced scorer [60].

The choice of opioid for NAS withdrawal is usually morphine, as it is less likely to require treatment with another agent or cause seizures and may reduce the duration of required treatment. If unclear what the starting dose should be a starting dose of 0.5mg per kg per day is often recommended. Doses are titrated according to NAS withdrawal scores to control withdrawal symptoms [60].

Caution: Where the neonate has respiratory difficulties, supportive management (including artificial ventilation) may be indicated.

For comprehensive information see *Neonatal Abstinence Syndrome Clinical Practice Guideline* at the following website:

www.thewomens.org.au/NeonatalAbstinenceSyndromeNAS

Breastfeeding and opioids

- opioids are present in breast milk
- breastfeeding is recommended for women who are stable and maintained on a pharmacotherapy program
- breastfeeding is not recommended if methadone is being used in combination with other drugs. If use is occasional (recreational) encourage mother to express and dispose of contaminated milk for 24 hours before resuming feeding
- if the woman's opioid use is un stable, and short acting opioids are being used – she should be encouraged not to breastfeed - it is important to focus on her bonding and feeding skills, and supporting and stabilising her drug use and lifestyle
- contra-indicated if HIV +, Not contraindicated in HCV except temporarily if nipples actively bleeding, mother should be assisted to express and dispose until bleeding resolved).

Note: Breastfeeding should be interrupted for 24 hours after using heroin, owing to the uncertain composition of street heroin.

Unstable drug use may raise child protection concerns.

- Women should wean their infant over at least a one-week period to prevent any risk of methadone withdrawal in the infant.
- Mothers should be informed that research evidence on the effects of high doses of methadone through breastfeeding is unclear; breastfeeding should be discussed with her by the medical practitioner.
- Buprenorphine safety in breastfeeding is as yet not established, however although buprenorphine passes into breast milk, it is not well orally absorbed. If a woman wishes to breastfeed while taking buprenorphine she needs to be informed that there may be risks, and support her decision [60].

Breastfeeding & Blood Borne virus infection

Women with HIV, hepatitis B or C should be advised on the best available evidence related to transmission of these viruses through breast milk. The current recommendations are:

HIV

HIV positive mothers should not breastfeed as it increases the risk of transmission – especially in the first 6 months. It is important to inform mothers of the importance of skin to skin contact [60 pg 21], and to provide reassurance that in Australia bottle feeding is a safe alternative.

Hepatitis C (HCV)

There is no evidence that breastfeeding increases the risk of transmission from mother to infant. The mother should discard her breast milk if there is a possibility of blood contamination e.g. cracked, infected, abraded or bleeding nipples.

Women need to be educated that:

- HCV does appear in breast milk
- HCV transmission may depend on viral load
- in absence of HIV co-infection that can increase HCV viral load, risk of HCV transmission appears small
- HCV transmission is blood- borne – not via gastrointestinal tract [60].

Hepatitis C has been found in breast milk, but the levels of virus are not thought to be high enough to pose a transmission risk.

Because the health benefits of breastfeeding far outweigh the low risk of hepatitis C transmission, women with hepatitis C are encouraged to breastfeed.

Women with hepatitis C who have cracked or bleeding nipples are advised to express and discard milk from that breast until lesions are healed as blood may be present in the breast milk.

Breastfeeding & Hep B

There is no evidence that breastfeeding increases risk of transmission from mother to infant.

To protect against transmission it is important for all infants of Hep B positive mothers to receive active and passive immunisation within 12 hours of birth [60].

3.1.3 Pain and analgesia

Pain management in the general population

One of the biggest challenges facing nurses and other health care professionals is providing adequate pain relief for people experiencing acute and/or chronic pain.

It is generally accepted that pain is poorly treated in the general population for which there are a number of reasons.

The key factor in effective pain management is adequate assessment of the:

- pain and its aetiology
- any treatment the person is receiving, including drug kinetics
- appropriate management response, which may include analgesia.

People receiving prescribed opioids either for treatment of opioid dependence or chronic pain, or those with acute pain caused by injury or illness are a particular clinical challenge [116].

Pain management in this population may involve consideration of the:

- nature of the person's acute and/or chronic pain.
- pain relief needs of the person's acute and/or chronic pain who has been exposed to regular opioid analgesia will require higher doses of opioid or an alternative analgesia regime
- risk of hyperalgesia where prolonged use of opioids causes a paradoxical effect of greater neural sensitivity.

Note: People receiving opioid pharmacotherapy during their drug treatment are physically more sensitive to pain than those who are opioid 'naive' [117].

Pain management for people receiving opioid pharmacotherapy

A person who is currently receiving opioid medication for their chronic pain or opioid dependence has specific pain relief needs which need to be considered in the acute care setting. For further information go to 'Specific pain management guidelines for opioid tolerant people'.

Latrogenic dependence

Iatrogenic dependence is where a person has been treated with opioid analgesia for a pain condition and subsequently becomes opioid dependent with associated behaviours.

The differentiation between psychological dependence and pseudo- psychological dependence can be difficult for the clinician. The key factor is adequate pain management.

With adequate pain management any unhelpful behaviours should. If adequate pain management is provided and the behaviours do not cease it may mean the person is

psychologically dependent, making it sometimes difficult to ascertain if adequate pain management had been achieved [117]. Failure to provide adequate pain management may increase the risk of psychological dependence developing (iatrogenic dependence) [118].

Tolerance

Physical tolerance occurs when progressively larger amounts of the psychoactive drug are required to get the same effect. Or if the amount of drug consumed remains constant, the effect of the drug diminishes. The development of physical tolerance by people on long-term opioid therapy is the central problem for effective pain management for this population.

In spite of being maintained on relatively large amounts of opioids, this population require even larger amounts of opioids for analgesic effect. Effective pain management starts by administering the dose usually required for an opioid naive individual, and then titrating doses upwards until adequate pain relief is achieved. Analgesics should not be withheld unless the person is becoming over-sedated.

Cross-tolerance

Tolerance to one opioid makes a person cross-tolerant to another opioid. It is the mechanism by which opioid substitution works. People are given long acting methadone or buprenorphine because it stops the withdrawal syndrome associated with a shorter acting opioid such as heroin. Similarly benzodiazepines are administered to alcohol dependent people to prevent them going into withdrawal (alcohol and benzodiazepines act at the same receptors and cross-tolerance occurs).

Hyperalgesia

Pain is an important human function as it signals to the brain that there is injury or illness. During opioid therapy the relatively large dose required is circulated and providing analgesia. The brain, in order to maintain homeostasis thus becomes more sensitive to pain – 'counter balances' the usual analgesic effect of the opioid.

Unfortunately, it commonly sensitizes more than required and people maintained on opioids become more sensitive to pain, even those with high plasma opioid concentrations, compared to opioid naïve people.

This may contribute to the development of opioid tolerance. As the body becomes more sensitive to pain it requires more opioid to achieve a pain free state. As stated, it is the primary complicating factor in the pain management of opioid dependent people.

Effective pain management

It is crucial that nurses have a sound understanding of the general pharmacological principles of effective pain management for the person who is opioid tolerant (dependent). This includes the person who is receiving opioid pharmacotherapy treatment for their opioid dependence, or is using regular doses of opioids for other reasons such as chronic pain.

Factors impeding opioid analgesia include:

- tolerance due to regular exposure to opioid analgesia

- hyperalgesia to the above
- receiving opioid replacement therapy – for opioid dependence e.g. methadone and buprenorphine
- opioid pharmacotherapy for dependence – methadone and buprenorphine – are administered according to the half life of the drug. This is every 24 hours for methadone and every 24 - 48 hours for buprenorphine. This is to prevent opioid withdrawal and not provide analgesia
- tolerance develops very rapidly to opioid exposure and any analgesic effects while receiving pharmacotherapy diminish over time
- the person becomes tolerant not only to their methadone or buprenorphine but also cross-tolerant to the analgesic effects of other opioids [117].

Additional doses of opioids do not necessarily cause respiratory and CNS depression as tolerance to the respiratory and CNS depression effects develops quickly. For example, as the pain increases for people with carcinomas and opioid doses are increased as a consequence, there is generally no increase in respiratory and CNS depression in doses adequate to achieve pain control.

Note: Pain is a natural antagonist to opioid induced respiratory and CNS depression.

Seeking medication relief from pain is not the same as 'drug seeking'

A careful clinical assessment for the objective evidence of pain will decrease the chance of manipulation by a drug-seeking person and also support the administration of opioid analgesics in a person with a history of drug dependence. Clinicians often perceive opioid dependent people with pain issues to be demanding and manipulative. In turn, opioid dependent people, often due to a history of discrimination and inadequate pain relief, may:

- become distrustful of the medical community and concerned about being stigmatized
- fear that their pain will be under treated or that their opioid maintenance dose will be altered or discontinued
- act very inappropriately to get opioids but actually suffering from unrelieved pain (pseudo-psychological dependence)
- have good pain relief but be very fearful of the re-emergence of pain
- fear withdrawal symptoms should their pain relief be discontinued
- fear a reduction in the current effective doses of opioid analgesics.

Major health effects of unrelieved pain

There are major health implications associated with unmanaged pain. These include physical stasis, decubitus ulcers, foot droop etc), prolonged post-operative recovery, clinical depression, cardiovascular stress, increased tumour growth and relapse or exacerbation of dependence issues. It is critical for pain to be managed to achieve optimal overall health.

The dangers associated with unrestricted opioid dosing

However, the answer is not as simple as dosing without restriction in an effort to produce pain relief. While there are dangers with unmanaged pain, there are dangers with unrestricted opioid dosing.

While opioids theoretically have no maximum analgesic ceiling, hyperalgesia (as stated), neuro-endocrinological (hormone) dysfunction and possibly immune-suppression (decreased functioning of the immune system) may occur at high doses. Respiratory depression can present difficulties in spite of tolerance (especially if the person is on other medication or consumes alcohol or another central nervous system depressant).

Sedation can interfere with daily function and the processes of driving and safety around the home. The care of dependents may also be affected with lethal consequences if sedated. It has also been suggested that repeated dose escalations lack incremental benefit at higher doses (e.g. more than 200 mg of morphine daily or equivalent) [119].

Factors affecting the pain experience

The pain experience of people maintained on opioids with chronic pain is not simply augmented by opioid induced hyperalgesia. It is also exacerbated by subtle withdrawal syndromes. It may also be influenced by intoxication with related sympathetic arousal and muscle tension. Sleep disturbance, mood changes and functional changes (associated with a comorbid condition such as hepatitis C) may also affect the pain experience [117, 120].

Identifying and treating co-occurring conditions which impact upon the perception of pain and therefore the successful management of the pain is of paramount importance. Important examples of frequently co-morbid conditions are depression and anxiety. Both may significantly complicate the treatment of pain, and dependence, but may be responsive to a range of treatments.

Specific pain management guidelines for opioid tolerant people

Those with active dependency

- build trust
- openly acknowledge history of dependency, and allow people to discuss fears about how this may affect pain management and treatment by staff
- reassure people that their history of dependency problems will not prevent adequate pain management
- respect and believe the person's report of pain
- reassure the person that staff are committed to assertively providing effective pain relief
- treat acute pain aggressively
    - treating the person's dependency issues is not the priority during the acute pain period.

- educate staff
- prescription of opioids to a person with a known dependency problem for the management of pain is not illegal or unethical
- people with a dependency problem may be relatively pain intolerant
- detoxification is an ineffective short-term treatment for a dependency problem and inappropriate in the presence of pain.
- broaden the treatment plan
- with the person, develop a treatment contract for opioid analgesia
- request consultation from an addiction medicine specialist
- carefully document treatment plan, including analgesic use, response and regular reviews of efficacy of current plan
- knowledgeably administer opioids
- utilize non-pharmacologic and non-opioid analgesic alternatives
- consider client-controlled analgesia which may decrease total opioid requirements and the drug seeking behaviours
- choose long-acting opioids with gradual onset of action and lower street value, administered under continuous scheduled dosing orders (e.g. 4 times a day-QID) rather than as-needed orders (PRN)
- opioid cross-tolerance and the person's increased pain sensitivity will often necessitate higher opioid analgesic doses administered at shorter intervals
- if physically maintained on an agonist (e.g. methadone), do not administer a mixed opioid agonist/antagonist (e.g. buprenorphine) as withdrawal may be precipitated [117].

Those on opioid maintenance therapy

- continue the usual dose of methadone or buprenorphine (or equivalent)
- use short-acting opioid analgesics and titrate to effect
- contact methadone or buprenorphine maintenance clinic
- notify them of admission, discharge and confirm the time and amount of last maintenance dose
- notify them of any medications such as opioids or benzodiazepines given to the person during hospitalization because they may show up on routine urine drug screening
- notify them of any short-term analgesia (opioid or otherwise) provided on discharge [117].

People currently abstinent from opioids

Building trust

- openly acknowledge history of dependence, and allow person and staff to discuss fears of re-activation of dependency
- explain any intent to use opioids or other psychoactive medications
- respect person's right to decide whether or not to be administered opioids.

Education

- explain health risks associated with unrelieved pain, including risk of relapse
- explain that the known risk for re-activation of dependency to opioids in the context of pain is small
- ensure that the person understands differences between psychological and physical dependence.

Minimising withdrawal following procedure or treatment

- taper opioid analgesics slowly to minimize emergence of withdrawal symptoms
- assess for presence of withdrawal symptoms at least QID during analgesic taper; treat symptomatically
- offer non-pharmacological and non-opioid analgesic alternatives.

Supporting abstinence

- encourage the person to increase contact with family and/or significant other supports. Reassure person that it is acceptable to take medications for medical reasons. Offer to educate/reassure significant others if required
- request consultation from addiction medicine specialist
- request consultation from allied health professionals to devise pain management plans to support and minimise analgesic requirements
- identify and treat all co-morbid conditions or make appropriate referrals
- include family in plan of pain care
- if relapse occurs, intensify abstinence efforts; do not terminate pain care [117].

Those receiving naltrexone for alcohol or opioid dependence

- cease naltrexone prior to pain-producing procedures if possible. Encourage the client to seek additional support as required to maintain abstinence during this period. (3-5 days) and caution opioid dependent individuals about the risk of relapse
- in the initial 24 hour period as the naltrexone begins to wear off, multimodal analgesic regimes (e.g. non-steroidal anti-inflammatories (e.g. ibuprofen), paracetomol, ketamine, tramadol and regional nerve blocks/anaesthetics) are recommended.

- caution is needed – there is experimental evidence of opioid receptor up-regulation following naltrexone/opioid antagonist withdrawal. Therefore abrupt discontinuation of naltrexone may lead to increased opioid sensitivity and a possibility of opioid toxicity with opioid administration. Increased supervision and monitoring is necessary during this time.

- continued administration of naltrexone will prevent the analgesic effects of regularly used doses of opioid based analgesia
- if unable to decrease naltrexone prior (e.g. in the Emergency Department or for an emergency surgical procedure) multimodal analgesic regimes (e.g. non-steroidal anti-inflammatories (ibuprofen®), paracetomol, ketamine, tramadol and regional nerve blocks/anaesthetics) are recommended.

Note: If pain is not effectively managed the person should (if at all possible) be transferred to a High Dependency Unit, and opioids titrated.

- very high doses in combination with opioid adjuvants may be needed (e.g. non-steroidal anti-inflammatories (ibuprofen), paracetomol, ketamine, tramadol, regional nerve blocks - the opioids will override antagonist effects of naltrexone offering relief
- the therapeutic window may be narrow, necessitating careful monitoring for precipitous respiratory and CNS depression [117].

Those with chronic pain and dependence

- complicated by the need to take opioids on a regular basis for the treatment of pain
- complicated by the lack of clear pathology underlying the pain experience
- complicated in that complete analgesia is not the practical goal of opioid treatment.

Treatment

- address dependency issues
- use specific treatment contracts which should detail frequency of review, dispensing agreements and any specific monitoring
- define and manage physical and emotional elements of pain. There are various interventions that can be helpful, and particularly important if the painful condition causes significant life challenges and consequent grief and loss issues
- identify and treat co-morbid conditions as indicated
- holistic care including the use of physiotherapy and occupational therapy as required addressing pain management and functional capacity. Interventions may include acupuncture, exercise plans, anxiety management and mindfulness training.

Monitor assess and document

- pain severity and quality
- level of function

- presence of adverse events
- opioid analgesic use
- evidence of opioid misuse
- evaluation and plan
- progress toward therapeutic goals [121] .

Therapeutic goals

Includes the functional restoration of:

- physical capabilities
- psychological intactness
- family and social interactions
- degree of health care utilization
- drug use for symptom control [117].

Preparing for discharge

- If they have become dependent (tolerant) to opioids and are at risk of withdrawal ensure withdrawal is assessed and a management plan is activated prior to their discharge, and that their aftercare strategy is in place.
- If they are already physically dependent to opioids, initiate long acting, pharmacotherapy and overall treatment plan
- If withdrawal has occurred prior to discharge being agreed on, taper opioids slowly to minimise the emergence of withdrawal symptoms
- Monitor for emergence of withdrawal symptoms at least QID, and treat aggressively and symptomatically.

If the person will be discharged on opioid analgesics with limited maintenance:

- choose a single, long-acting formulation with low street value
- write prescriptions for decreasing quantities of opioids for short periods of time with no repeats. Specify frequent dispensing. Clearly communicate discharge plans and medications to all community clinicians
- specify dosing times (not 'PRN')
- assess person's level of motivation for drug treatment and encourage entry into treatment [117].

Acute pain and opioid-dependence

People who use opioids regularly will have increased tolerance to opioid analgesics. Recognising the significant impact of opioid tolerance on achieving effective analgesia for acute pain is crucial.

Ensure an adequate ATOD history has been taken to determine whether the person is likely to be opioid or other drug tolerant.

The person requires an individualised regime of appropriate analgesics for their medical condition and alleviation of drug withdrawal. Because of their neurological tolerance, they may require higher doses of opioids or other analgesics than people who are not opioid dependent, particularly if they are receiving daily methadone as pharmacotherapy for opioid dependence.

A person likely to have opioid tolerance is someone who:

- has had regular prescribed opiate medications for long periods—they may have iatrogenic dependence
- is currently receiving opioid pharmacotherapy treatment for their drug dependence or who is currently dependent on opioids such as long acting morphine, codeine or heroin
- regularly takes liver enzyme-inducing drugs (e.g. alcohol, phenytoin, Dilantin®, Interferon® or Rifampicin®).

Indication of opioid tolerance is decreased duration or minimal analgesic effect of the opioid medication – this is an involuntary physiological response.

Nursing care

Nurses need to regularly assess pain and provide effective analgesia for this person. Being non-judgemental, observing and believing the person's reported level of pain and responding accordingly will minimise fear and agitation. This approach can go a long way to enhance the person's individualised medication and non medical pain management regime once in place.

Discussing with the person about any changes in their medications can help to reassure them, and lessen any anxiety they may feel about being under-medicated and remaining in pain.

Note: providing opioid and any other suitable analgesia will not make the person more drug dependent, exacerbate the existing drug problems or precipitate relapse.

Pain relief

- intravenous or intramuscular administration may be needed initially
- as analgesia need lessens change to oral medication of equivalent strength.
- a patient-controlled analgesic (PCA) system may assist in achieving rapid relief of pain
- this person is just as likely to do well as the non opioid tolerant person with PCA
- change from PRN medication (as necessary) to set times if possible.
- adjuvant medication may be helpful, particularly if prolonged use of analgesics is required. Adjuvant medications include:
- tricyclic antidepressants
- non-steroidal anti-inflammatory drugs

- anti-convulsants
- should analgesic needs be prolonged (weeks), it is appropriate to change from short-acting to long-acting medication to achieve more constant pain relief throughout the day (e.g. MS Contin®, Kapanol® or Physeptone®)
- offer additional pain relief through e.g. heat, bathe, massage, music etc.

Note: It is critical that analgesia is given as prescribed and is withheld unless medically indicated.

People taking prescribed methadone for drug treatment

- if the person is taking methadone their usual daily dose must be continued—as this will not provide pain relief. They will need additional analgesia prescribed
- buprenorphine has a partial antagonist effect and therefore partially blocks opioid action at the CNS neural pathways level
- effective pain management starts with the dose usually required for an opioid naive person, and then titrating doses upwards until adequate pain relief is achieved
- analgesics should not be withheld unless the person is becoming over-sedated.

In a 'nutshell':

- allay any fears the person has about not having adequate pain relief
- discuss with them any management plan.

Other supportive methods of pain relief can be useful in acute or chronic pain states. They include:

- trans-cutaneous electrical nerve stimulation (TENS®) machine
- relaxation techniques and meditation
- diversion techniques
- massage
- hydrotherapy
- consult a pain management specialist or appropriate clinical advisory service.

One of the biggest challenges facing nurses and other health care professionals is providing adequate pain relief for people experiencing acute and/or chronic pain.

It is generally accepted that pain is poorly treated in the general population for which there are a number of reasons.

3.1.4 Benzodiazepines

Introduction

Benzodiazepines belong to the sedative-hypnotic group of drugs. They have a general central nervous system depressant effect which is dose dependent; as the dose increases there is progression from sedation through hypnosis to stupor.

Benzodiazepines cause respiratory depression, but this effect is minimal unless other central nervous system depressants are taken (e.g. alcohol and opioids). A synergistic action may occur when alcohol or opioids are used in conjunction with benzodiazepines. This may result in respiratory depression that may be life-threatening.

People who use large amounts of benzodiazepines may experience withdrawal seizures on cessation of use or severe reduction in dose. Benzodiazepine use should not cease abruptly. A dose reduction regime should always be used.

Uncomplicated benzodiazepine withdrawal can be accomplished at home with a gradual diazepam reduction regime. However, anyone who presents already exhibiting symptoms of withdrawal (e.g. agitation, confusion, convulsions, and delirium) should be admitted for assessment and treatment. The following guidelines focus on inpatient withdrawal and management.

Criteria for in-hospital management

People may need admission because:

- they present in withdrawal
- they have an illness or injury which warrants admission and withdrawal becomes an additional clinical issue
- they are unable to take responsibility for the self-administration of their medication in the home.

Assessment and quantification

Record the name of the drug, the dose (in milligrams) and duration of use, frequency, time of last use, positives and negatives and goals related to use. There are two main patterns of benzodiazepine dependence, the most common being low dose dependency over many years, particularly among women and elderly people. High dose dependence, often in the context of poly drug use, can also occur.

Table 17: Absorption rates, half-life, and equivalent daily doses of common benzodiazepines

Generic	Trade name	Time to peak concentration	Elimination half-life**	Equivalent dose***
Diazepam	Antenex™ Ducene™ Valium™	30-90 min	32 hours	5mg
Triazolam	Halcion™	1 hour	2 hours	0.25mg
Alprazolam	Kalmar™ Xanax™	1 hour	14 hours	0.5-1.0mg
Bromazepam	Lexotan™		12 hours	3-6mg
Clonazepam	Paxam™ Rivotril™	2-3 hours	22-54 hours	0.5mg
Chlordiazepoxide	Librium™		15 hours	15-20mg
Flunitrazepam	Hypnodorm™ Rohypnol™	1-2 hours	20-30 hours	1mg
Chlorazepate	Tranxene™		60 hours	7.5mg
Lorazepam	Ativan™	2 hours	12 hours	1-2mg
Flurazepam*	Dalmane™		70 hours	20mg
Nitrazepam	Alodorm™ Mogadon™	2 hours	28 hours	5mg
Clobazam	Frisium™		18 hours	15mg
Oxazepam	Murelax ™ Alepam™ Serepax™	2-3 hours	8 hours	15-30mg
Temazepam	Euhypnos™ Normison™ Nomapam™ Temaze™ Temtabs™	30-60 min	10 hours	20mg

* Based on manufacturer's product information.

** Elimination half-life: time for the plasma drug concentration to decease by 50%

*** Equivalent dose: dose that is equivalent to Diazepam 5mg. [4]

Benzodiazepine intoxication

People who use benzodiazepines on a regular basis may develop tolerance to the sedative effect. In some people benzodiazepines produce a paradoxical reaction of violence and disinhibited behaviour. (See Section 2.4: Managing intoxication).

Effects of benzodiazepines

- decreased anxiety
- hypnotic effects (sleepiness)
- sedation
- anti-convulsant effects.

Side effects

- poor motor coordination
- slurred speech
- blurred vision
- poor memory recall
- drowsiness
- in rare cases, agitation, hostility, bizarre uninhibited behaviour
- ataxia
- vertigo
- lethargy
- confusion
- stupor.

Benzodiazepine withdrawal

The use of therapeutic doses of benzodiazepines, for as little as six weeks, can result in neuro-adaption and withdrawal syndrome (that lasts from one to six weeks) on cessation. If a therapeutic dose is prescribed, and continued for longer than six weeks, physical dependence and symptoms of withdrawal will affect 15-50% of people (studies vary). Not everyone will experience symptoms, and of those who do, the symptoms are not always disabling. This information can be reassuring when discussing the need for withdrawal.

Longer-term use may result in withdrawal symptoms that can last from six months to one year, with gradual diminishing intensity of symptoms. Withdrawal from short-acting benzodiazepines generally occurs earlier and is more severe than withdrawal from longer-acting benzodiazepines. Onset of withdrawal depends on the half-life of the particular benzodiazepine used by the person.

Abrupt withdrawal from high doses use (greater than 50mg diazepam or equivalent per day) without withdrawal symptoms has been observed clinically, but the incidence is unknown. Use of higher doses is more likely to produce a withdrawal syndrome with more severe symptoms.

Many people who are using high doses of benzodiazepine, and who also use opioids, report that benzodiazepine withdrawal is worse than opioid withdrawal, commenting that benzodiazepine withdrawal is ‘mentally’ worse. Withdrawal symptoms may be more severe for people who use more than one kind of benzodiazepine, perhaps because of the unpredictable effects of withdrawal from drugs with varying half-lives.

The person's expectations

The number of symptoms experienced, and their magnitude, will vary with the severity of withdrawal. If the person is receiving a long-term prescription of methadone or buprenorphine for concomitant opiate dependency, the dose should be kept stable throughout the benzodiazepine reduction period. Concurrent withdrawal of both drugs is not recommended without specialist support and medical supervision in an inpatient setting.

Signs and symptoms of benzodiazepine withdrawal

Subjective symptoms with few observable signs of withdrawal are a feature, particularly of low dose withdrawal. Individuals may report feeling extremely mentally distressed (as though they are 'going mad'), although they may not have any obvious signs of physical discomfort. This may result in the person not receiving the care that would be appropriate during this time.

Common symptoms

- anxiety
- restlessness
- irritability
- poor memory
- increased muscle tension
- sweating
- insomnia
- agitation
- poor concentration
- depression
- aches and twitching.

Less frequent symptoms

- nightmares
- feelings of unreality
- panic attacks
- dry retching
- decreased appetite
- sweating
- increased sensory perception (e.g. metallic taste)
- headaches
- tremor
- raised body temperature
- gastrointestinal upset
- agoraphobia
- depersonalisation
- nausea
- light-headedness/dizziness
- weight loss
- lethargy
- aches and pains
- palpitations
- blurred vision
- ataxia.

Uncommon symptoms

- delusions
- hallucinations
- persistent tinnitus
- paranoia
- seizures (more common with concurrent alcohol withdrawal)
- confusion.

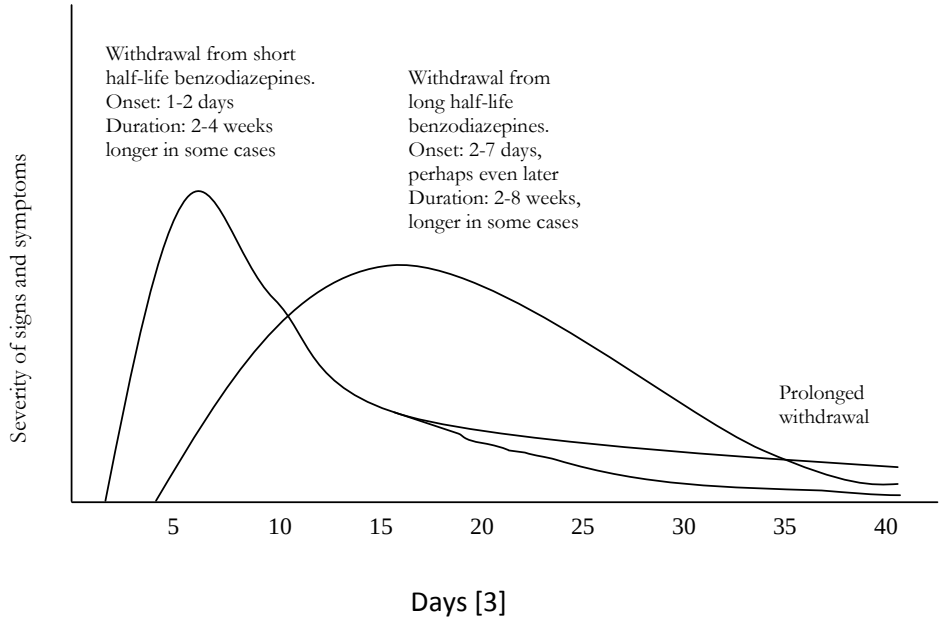
Major complications

- progression to severe withdrawal
- risk of injury (to self or others) or self-destructive behaviour due to altered mental state
- risk of dehydration or electrolyte imbalance
- potential for seizures
- presence of concurrent illness which masks or mimics withdrawal
- accidents due to orthostatic hypotension.

Course of withdrawal from short-acting and long-acting benzodiazepines

Withdrawal from short-acting benzodiazepines (e.g. oxazepam, temazepam, alprazolam, and lorazepam) typically produces a faster and more severe onset of symptoms than withdrawal from long-acting benzodiazepines (e.g. diazepam, nitrazepam), and may be more difficult to undergo and complete. Some people who use benzodiazepines, particularly at low-doses, do not experience any withdrawal symptoms.

Figure 8: Severity of signs and symptoms



Nursing management

(See Section 2.6: Withdrawal Management).

Undertake nursing observations to identify and manage withdrawal symptoms and prevent the progression to severe withdrawal.

There is no validated tool for recording benzodiazepine withdrawal symptoms in an inpatient setting. There is a tool currently being trialled by the Drug and Alcohol Services, South Australia.

(See Appendix 12: Benzodiazepine Withdrawal Assessment Scale).

In particular offer:

- reassurance regarding distorted sensory stimuli
- heat and massage for muscle aches
- symptomatic management to reduce the severity of symptoms.

Pharmacological treatment

The availability of nursing and medical supervision in a hospital setting enables a more rapid reduction of the diazepam dose than in a community setting (e.g. at home). The pharmacological management of benzodiazepine withdrawal usually occurs by converting the average daily dose (e.g. Serepax) to the equivalent diazepam dose (maximum 80mgs per day), and implementing a gradual or rapid diazepam reduction regime.

The usual tapered dose is for an inpatient to reduce the dose from 80mg per day by 10mg daily until 40mg per day is achieved, and then reduce by 5mg per day until zero is achieved.

The reductions from 40mg per day may be undertaken as an outpatient with daily, second daily or twice per week dispensing by a community pharmacist. Reductions as an outpatient can be more gradual over several weeks or even months in some instances.

The optimal dosage should reduce severity of withdrawal symptoms without over-sedating, and this requires monitoring of the person and individualising the regime accordingly.

- Mild to moderate withdrawal is usually adequately controlled by administration of oral diazepam.
- The person may need assistance with emergent anxiety symptoms as doses are slowly tapered.
- Severe withdrawal may require administration of intravenous diazepam. Beware of the possibility of apnoea during the first few minutes of administration.

Note: Caution is required. Diazepam needs to be used with extreme caution and may even be contraindicated in certain conditions (e.g. respiratory failure, liver disease). In some cases, use of a short-acting benzodiazepine may be considered**.**

Maternal and Neonatal care

Regular consumption of benzodiazepines is contraindicated in pregnancy. There is an increased risk of congenital malformations (see above*), regular use can also be associated with neonatal withdrawal and use immediately prior to delivery may result in neonatal hypotonia, hypothermia, sedation and respiratory depression.

Women who are pregnant and dependent on benzodiazepines should not abruptly cease using the drug. A slow gradual reduction regime, using long acting benzodiazepine under close medical supervision, is essential.

Withdrawal Management

Withdrawal is usually managed with a diazepam reducing regime. The preferred approach is one of slow reduction and the protocol for managing benzodiazepine withdrawal may be followed (commencing in inpatients then completed as an outpatient).

If there are no reasonable options for managing the withdrawal slowly, the reduction may be completed as an inpatient over a 2-week period.

Neonates

Neonatal withdrawal

Newborns can have shown a variety of symptoms related to benzodiazepine intoxication or withdrawal such as:

- respiratory distress secondary to hypoventilation
- hypotonia or hypertonia
- poor temperature regulation
- disturbed sleep
- diarrhoea
- poor sucking
- tremors
- irritability
- seizures.

Neonatal Abstinence Syndrome may be delayed onset – usually 1-10 days after delivery and can last 7-28 days. It can persist for several weeks.

- nursing withdrawal observations – Finnegan scale is used
- provide supportive treatment as primary management of baby
- observe and monitor baby in hospital for one week in hospital
- weekly review for first month of life as outpatient
- educate parents to observe and seek assistance for withdrawal in the newborn
- pharmacological treatment may not be needed if it is indicated the usual drug of choice is phenobarbitone
- symptomatic medication management.

Breastfeeding

- safety of benzodiazepines in breast milk is unknown
- women using higher than therapeutic doses should not breastfeed
- it is essential that benzodiazepines are not stopped abruptly. The woman needs to be advised of this necessary. She will need close supervision and support for her gradual and safe reduction of her particular benzodiazepine medication (preferably during pregnancy)
- if breast feeding avoid feeding baby for 1 - 2 hours after taking benzodiazepine tablet (peak plasma period) to prevent maternal drowsiness /sleep and potential dropping/ smothering of infant and infant drowsiness
- monitor baby's condition & cease that feed if baby seems sedated.

Sedative drugs & sleeping accidents

There is a risk with any CNS depressant that the person becomes sedated - women who use these drugs should therefore be advised:

- not to have baby sleep with her
- that if she is heavily sedated she may not wake for baby's feed or if baby becomes distressed
- consider a safety plan i.e. have another responsible adult to care for baby if she decides to use ATOD.

3.1.5 Gamma hydroxybutyrate (GHB)

Introduction

Gamma hydroxybutyrate (GHB) is known as *fantasy*, *grievous bodily harm*, *GBH*, *liquid E*, *liquid ecstasy*, and *liquid X*.

GHB is a central nervous system depressant with similar action to benzodiazepines. Its effects are known to be highly dose dependent.

GHB is used mainly for its euphoric effect. In high doses, profound sedation and seizures can occur [122].

Drug combinations and interactions

Poly drug use is common. It is known that many people who use drugs use more than one at a time e.g. combining alcohol with amphetamine, heroin or benzodiazepines or hallucinogens.

The effect of any drug cannot be assured. Effects of using different drugs in combination are unpredictable. The effects of combined drugs can be exaggerated e.g. severe depression, anxiety or other. These may last for weeks instead hours or days [123].

Drugs may interact thus increasing the effects of each other with an increased potential for toxicity and overdose e.g. GHB and heroin; GHB and alcohol; and GHB and any other CNS depressant [123].

The effects of drugs when combined are unpredictable and have synergistic effects

Assessment and quantification

(See Section 2.2: Assessment).

Particular attention needs to be paid to the types of drugs the person may have used in combination with GHB. Where other CNS depressants (particularly alcohol, opioids) have been used, the person may need close monitoring to identify risks related to CNS depression.

GHB intoxication

- Short-term effects (low dose) include: euphoria
- calmness
- dizziness
- decreased inhibition
- nausea
- placidity
- blurred vision
- hot/cold flushes
- relaxation and tranquillity
- drowsiness
- increased sociability
- enhanced sense of touch
- increased confidence
- tendency to verbalise
- sweating.

Short-term effects (high doses) include:

- rapid onset intense drowsiness
- impaired movement and speech
- disorientation/confusion
- vomiting and nausea
- muscle stiffness
- coma of short duration
- aggression if stimulated despite near respiratory apnoea
- uncontrollable twitching
- agitation
- hallucinations
- seizures (myoclonic)
- respiratory collapse/arrest/death.

Long-term use

Little is known of the consequences of long-term use. There is high potential for abuse, as well as for physical and psychological dependence.

Nursing management of GHB intoxication

(See Section 2.4: Managing intoxication).

Nursing interventions are the management of symptoms arising from the drug and its effects and/or the effects of the use of more than one drug.

Harm minimisation information:

- do not mix drugs including prescribed medication, alcohol, herbal preparation, caffeine and antidepressants
- poly drug use to control the effects of one or another drug is dangerous and can place the person at greater risk of toxic overdose and intensify the 'come-down' period
- do not mix GHB with HIV medications as effects are increased
- avoid using caffeine, e.g. guarana, caffeine-based drinks due to risk of dehydration
- avoid using alcohol with GHB due to the potentiation of CNS depressant properties.

GHB overdose

Concurrent use of alcohol or other CNS depressants is common in GHB overdose. People typically regain consciousness spontaneously within five hours of ingestion.

GHB overdose should be considered in any case of unexplained sudden coma, i.e. without any evidence of head injury, intake of coma-inducing drugs or increasing intracranial pressure [124].

Symptoms

- decreased level of consciousness/coma
- severe respiratory depression
- respiratory acidosis
- hypotension (occasionally)
- acute delirium
- hypothermia
- vomiting
- bradycardia.

Nursing management of GHB overdose

(See Section 2.5: Managing overdose).

Medical management of GHB overdose

- Generally presents with sedation similar to alcohol.
- No specific antidote.
- Management is supportive with attention to airway management and cardio-respiratory support if necessary

GHB withdrawal

(See Section 2.6: Managing withdrawal).

Drink Spiking

It is important to know that in most instances of drink spiking it is additional alcohol that has been put in the person's drink. Drink spiking is also known to occur with GHB and while GHB has been implicated in some cases of date rape but is very rare.

If someone believes their drink has been spiked, a urine screen undertaken as soon as possible can assist in gaining evidence for the person's suspicions and may also assist police in any investigations that may need to occur.

Because of these CNS depressant effects and possibility of poly drug use, combined GHB use with opioids or other depressant (e.g. alcohol and benzodiazepines) is highly dangerous and can result in toxicity, overdose and death.

Note: A person who presents to the hospital as confused, or their companion reports that they have had a recent period of unconsciousness or no memory of what has happened (amnesia), consider that they may have been raped or assaulted. The person needs to be carefully assessed for signs of injury and/or rape, as well as GHB intoxication, and adverse effects of other psychoactive drugs, particularly alcohol.

Preventing drink spiking

The following strategies can be given to people to assist them to prevent their drinks from being spiked:

- party with a trusted companion who is not drinking or drink considerably less and watch out for each other
- buy your own drinks
- watch your drink being poured or pour your own
- never accept a drink from a stranger
- never leave your drink unattended
- don't drink your drink if it tastes funny, different or more bitter than usual
- avoid getting drunk, remain in control and be aware of what is happening around you
- drink sensibly, stay safe.

An early sign of spiking is feeling intoxicated to a level that is not in keeping with the amount of alcohol consumed. If the person believes that they or their friend's drink has been spiked they need to:

- stay with their friend
- alert bar staff or other responsible person
- seek medical help as required
- notify police of the incident
- notify nursing and medical staff if at hospital or clinic.

Maternal and neonatal care

Little is known of the effect of GHB on pregnancy. The use of GHB during pregnancy is not recommended.

3.2 Cannabis

Introduction

It is difficult to classify cannabis due to its mixture of mood, cognitive, motor and perceptual effects. It therefore does not clearly belong to any other drug class and has therefore been presented here separately [125].

Cannabis is the generic name given to the psychoactive substances found in the marijuana plant *Cannabis sativa*. The main active constituent is Delta 9-tetra-hydrocannabinol (THC). The psychoactive effects of cannabis are caused by THC. These include:

- perceptual changes which may in some cases be frank hallucinations
- psychomotor changes with slowed reaction time, distance judgement and impaired coordination
- cognitive impairment with sedation, slowed thinking, difficulty concentrating and impaired memory.

Note: Psychosis may be triggered by the use of cannabis in prone individuals.

Assessment and quantification

Nurses must record the duration of use, frequency, quantity, date and time of last use, positives and negatives and the person's goals related to their use.

Cannabis is difficult to quantify. In Australia it is usually smoked either on its own or mixed with tobacco. It can be smoked as a cigarette (*joint* or *spliff),* or with a water pipe (*bong).* People who use cannabis usually talk about *cones* which refers to the small combustion chamber of the water pipe. One cone = about 0.1g. therefore the clinician could ask how many cones the person uses a month, a week, a day etc.

To estimate actual quantity used over a period of time it can be useful to ask the person how much money they spend on cannabis per week (e.g. money bag a week; an ounce or gram a week, divided by the number of days they use).

Long-term health effects

As with tobacco smoking, cannabis smoking holds an increased risk of respiratory disease (e.g. cancer, asthma, chronic bronchitis and emphysema). There may be problems related to attention, concentration and memory and motivation.

Cannabis intoxication

Time of onset and duration of effects

When smoked, THC is delivered rapidly into the bloodstream with plasma peaks at end of smoking, and falling to low levels within two hours, lasting for up to four hours. The effect of one bong/joint may last 3-5 hours.

Cannabis urine or blood testing

It is the presence of the cannabis metabolite, 11-nor-THC-9 carboxylic acid that is measured in blood or urine tests. The metabolite is inactive. This means that testing merely confirms the person has used cannabis at some time recently (e.g. usually in last few weeks), and neither confirms or refutes intoxication.

THC is lipophilic and rapidly taken up by body lipids resulting in slow elimination of metabolites. Where a person has used cannabis in high amounts over long periods of time, the person may show traces of the metabolite in their urine for up to a few weeks to a few months.

Tolerance and neuro-adaption occur with prolonged regular use of cannabis, resulting in dependence. Withdrawal will occur on cessation and symptoms include relatively weak effects on cardiovascular, respiratory and thermo-regulatory systems. These usually only result in a slight increase in heart rate to about 20bpm above base line.

Acute effects include:

- euphoria
- sleepiness
- feeling of wellbeing
- impaired memory, cognition and task performance even though person feels creative and confident
- relaxation
- hunger (munchies)
- perceptual distortions (e.g. sharpened senses and altered sense of time)
- depersonalisation.

Physical effects include:

- raised pulse (increase by approx 20bpm above baseline)
- orthostatic hypotension
- bronchodilatation
- muscle relaxant
- anticonvulsant effects
- vasodilation (especially conjunctiva—red eyes)
- reduced intra-ocular pressure
- anti-emetic
- analgesia.

Acute toxicity can result in:

- anxiety
- panic attacks
- visual hallucinations
- impaired short term memory and attention
- confusion
- persecutory delusions
- overt psychotic reactions in vulnerable people
- impaired motor skills, reaction time, ability to perform skilled tasks.

A short-lived psychotic state can occur associated with use of high doses (e.g. hydroponically grown cannabis). This generally resolves within a week after cessation of cannabis. Cannabis-induced psychosis can be difficult to distinguish from precipitation of a psychosis in those with a predisposition to mental illness [125].

Management of cannabis intoxication

(See Section 2.4: Managing intoxication).

Cannabis withdrawal

(See Section 2.6: Managing withdrawal).

Cannabis withdrawal is now considered a clinical entity, with considerable individual variation in severity and duration.

It has been estimated that some may experience withdrawal after only three weeks of smoking two cones per day while others may smoke daily for several years with no evidence of withdrawal on cessation. Overall the likelihood of symptomatic THC withdrawal increases with duration and frequency of use.

Withdrawal symptoms

The withdrawal syndrome may be relatively mild or severe, but it is not life-threatening. In general, inpatient admission for withdrawal is usually scheduled for 5 days; however people with severe dependence may require a longer admission.

The most common symptoms are:

- anxiety
- weight loss
- sleep disturbances (e.g. insomnia)
- mild depressive features
- vivid dreams or nightmares
- anorexia
- mood swings (e.g. sudden depression or anger outbursts)
- abdominal pain
- tremor
- increased body temperature
- restlessness
- panic attacks
- headaches
- irritability (may persist for several weeks to months)
- salivation [126].

Withdrawal observations

There is currently no validated assessment tool for monitoring the severity of cannabis withdrawal. Withdrawal severity is monitored using a cannabis withdrawal chart developed by DASSA in South Australia. (See Appendix 13: Cannabis Withdrawal Assessment Scale).

Nursing Management

(See Section 2.6: Managing withdrawal).

Nursing management includes:

- withdrawal monitoring and observations 4 hourly
- reassurance
- medications as ordered and on time
- drug information and self-help materials provided as appropriate [126].

Some people may use cannabis while in hospital to control withdrawal, anxiety, nausea or pain. Non-punitive management of the person can assist in clarifying what they are experiencing and preventing difficult behaviours.

Pharmacological management of cannabis withdrawal

There are no specific pharmacological treatment regimes at this time. Symptoms are treated with similar medications used for stimulant withdrawal. Timely administration of symptomatic medication is critical to reduce withdrawal discomfort.

Ordered medications may include:

- diazepam 5-10mg qid prn - may be useful, particularly with severe agitation and aggression or insomnia
- olanzepine: 2.5mg-5mg BD prn (for severe agitation/racing thoughts not relieved by diazepam) (Other atypical anti-psychotic may be used if appropriate)
- metoclopramide 10mg oral or IM tds prn for nausea
- temazepam 10-20mg oral nocte prn for sleep
- paracetamol 500 - 1000mg oral qid prn + naproxen 250mg tds prn [126].

On discharge

For some people, withdrawal symptoms may persist following discharge. A medical officer may offer discharge medications to cover any residual withdrawal symptoms for up to 3 days maximum following discharge using an internal pharmacy script depending on the symptoms still being experienced on discharge.

For example: Diazepam 5mg qid prn and or Olanzapine: 2.5mg-5mg BD prn [126].

It is recommended that medications should not continue beyond a total of 7-10 days [126].

Depending on the person's needs and decisions their discharge care plan should involve a planned referral to specialist drug and alcohol services, and their local GP or health service for general health support. If they have been combining tobacco with cannabis, and they wish to stop smoking, they should be referred to the QUIT line and provided with self-help resources.

Maternal and neonatal care

Cannabis use in Pregnancy

Smoking cannabis during pregnancy is not recommended due to effects on foetus and mother (similar to tobacco) [60] (Refer to Section 3.6: Tobacco).

The use of cannabis in pregnancy is associated with neonatal withdrawal. There is controversy about other effects on foetal growth and development, and a possible link has been found with childhood leukaemia and transient developmental delay in the neonate's visual system.

There is little published literature about the effects of the active chemical THC and stimulant withdrawal in pregnancy, however it is reasonable to assume that substantial physical and psychological distress are best avoided. Nursing care should focus on the provision of a safe and comfortable environment with the provision of support and reassurance.

Possible health effects

The health effects of cannabis on the developing foetus are not clearly established. There is controversy about other effects on foetal growth and development. A possible link has been found with childhood leukaemia and transient developmental delay in the neonate's visual system and there have been reports of developmental problems in children born to cannabis-dependent parents.

Effects on the mother may include respiratory effects similar to tobacco, mood disturbances, financial, social and psychological problems.

Management

Women and their families should be advised of the physical, psychological and social implications for themselves and their baby from regular cannabis use. In particular mothers should be advised that heavy exposure to cannabis in utero may influence newborn infant behaviours in first weeks of life.

Nursing care should focus on the provision of a safe and comfortable environment with the provision of support and reassurance.

If a woman identifies herself as a regular cannabis user, she should be encouraged and supported to cease use. She needs to be offered the range of interventions to assist her to cease. This should include:

- support & non judgmental care
- information
- brief intervention
- counselling
- monitoring of mental health [60].

Cannabis withdrawal in pregnancy

Medical management may include minimal use of medications as the preferred option but if required the following may be used:

- Metoclopramide
- Diazepam
- Paracetamol
- Pericyazine (is used only where diazepam is unsuccessful, use small doses ie ≤5mg tds and avoid in last trimester as during late pregnancy, high doses have caused prolonged neurological disturbances in the newborn.

Neonatal withdrawal

The use of cannabis in pregnancy is associated with neonatal withdrawal.

- There is low evidence of mild neonatal abstinence syndrome solely from cannabis use – not apparent until second week of life
- Unlikely to require care in neonatal nursery [60].

Breastfeeding

Potential risks should be weighed against the benefits of breast feeding when the mother is using amphetamines. Women should be supported in their decision to breastfeed.

THC is found in the breast milk of mothers who use cannabis, but effects on baby are not known. There is not enough information to make recommendations about cannabis and breastfeeding. As cannabis is a long acting drug, advice to breastfeed before drug use is not helpful.

Advice to mothers should be as for tobacco which is to:

- never smoke while feeding baby
- always smoke away from the infant, out of the house and not in the car [60].

3.3 Psycho-stimulants

In this chapter:

3.3.1 Nicotine

Introduction

Tobacco is the major cause of drug-related deaths in Australia. There are over 4000 chemicals in tobacco smoke, many of which are poisonous, and 43 that have been proven to be carcinogens. These chemicals include nicotine, tar and carbon monoxide.

Nicotine

Nicotine is the short-acting psychoactive drug in tobacco that causes addiction among smokers. The strength of addiction is said to be as powerful as or more so than that of heroin. Nicotine is a poison. Swallowing one drop of pure nicotine can kill an adult.

Tar

When a cigarette burns, tar is released. Tar is the main cause of lung and throat cancer in smokers.

Carbon monoxide

Carbon monoxide is a colourless, odourless and very toxic gas, which is taken up more readily by the lungs than oxygen. High levels of carbon monoxide in the blood is typical of smokers and, together with nicotine, increases the risk of heart disease, hardening of the arteries and other circulatory problems.

Assessment and quantification

All smokers need assessment, information and education about the risks of smoking. All smokers should be encouraged to cease smoking, or at least greatly reduce their intake. A person who is dependent on nicotine will experience withdrawal symptoms when they cut down or stop smoking. These can include increased nervousness and tension, agitation, loss of concentration, changes to sleep patterns, headaches and cravings.

Assessment

Tobacco consumption is measured by the actual number of cigarettes smoked per day (not the number of packets). The strength of cigarettes (i.e. the tar content and nicotine level) is also important to record. Record the duration of use, frequency, quantity, date and time of last use, positives and negatives and the person's goals related to their tobacco use.

These questions are useful in identifying nicotine dependence. Does the person:

- Smoke 10-15 or more cigarettes a day?
- Smoke their first cigarette within 30 minutes of rising?
- Experience craving or withdrawal symptoms when trying to give up?

A yes answer to any of the above has been reliable in identifying nicotine dependence [127]. A useful assessment tool is the Fagerstrom Test for Nicotine Dependence (See Appendix 7).

This test is relevant for any smokers admitted to hospital – to raise the issue and discuss their potential for giving up. Supports may be needed to help them manage being prohibited from smoking during admission.

This tool is easily administered, identifies the severity of dependence and can be used to determine the dose and types of nicotine replacement therapy that might be offered to the person whilst they are in hospital. This information is useful for the medical officer considering prescribing nicotine replacement therapy.

Table 18: Fagerstrom Test Score - level of NRT according to level of dependence

Dependence level	NRT Dosage – combination therapy Refer to Nurse Initiated medication Formulary
High	Patches 21mg/24hr and/or Lozenge or Gum 4mg/1hr to maximum of 10 per day in total or Varenicline (Champix®)
Moderate	Patches 21mg/24hr Lozenge or Gum 4mg/1hr to maximum of 10 per day in total
Low to Moderate	Patches 14mg/24hr Lozenge or Gum 2mg/1hr to maximum of 10 per day in total
Low	May not need NRT Monitor for withdrawal symptoms

[128]

See below for contraindications and precautions in the use of nicotine replacement therapy. Clients' previous attempts to stop smoking may also provide assistance in identifying which products may be suitable.

Effects of cigarette smoking

The effects of smoking will vary from person to person and depend on such things as:

- a person's susceptibility to chemicals in tobacco smoke
- the number of cigarettes smoked per day
- the age when the person began smoking
- the number of years of smoking.

Immediate effects of cigarette smoking

- smoking one cigarette immediately raises a person's blood pressure and heart rate and decreases the blood flow to body extremities
- a smoker may also experience dizziness, nausea, watery eyes and acid in the stomach
- paralysed cilia in lungs and airways
- brain and the nervous system activity is stimulated for a short time and then reduced
- appetite, taste and smell are weakened
- kidneys produce less urine.

Long term effects of cigarette smoking

- smokers typically experience shortness of breath, persistent coughs, reduced fitness, yellow stains on fingers and teeth and decreased sense of taste and smell
- smoking can cause impotence in men, while women who smoke are less fertile than non-smokers
- respiratory infections such as pneumonia and chronic bronchitis
- heart attack and coronary disease
- stomach ulcers
- narrowing/hardening of blood vessels, particularly heart / lungs
- smokers have more colds and flu than non-smokers and find it harder to recover from minor illnesses
- people who smoke tend to have facial wrinkles appearing much earlier and, in general, look older than non-smokers of the same age
- emphysema, a progressive and potentially fatal lung disease
- cancer of the lung, throat, mouth, bladder, kidney, pancreas, cervix, stomach
- peripheral vascular disease due to decreased blood flow to the legs
- may inhibit some symptoms of Parkinson's disease.

Other risks of cigarette smoking

- smoking during pregnancy can affect the unborn child and babies are more likely to be born underweight, premature or stillborn
- passive smoking, where a person is subject to breathing in the cigarette smoke of others, can cause lung damage, including cancer and heart disease
- 50 Australians die every day from smoking compared to 10 who die from alcohol-related conditions or four who die from road accidents.

Benefits of smoking cessation

There are immediate benefits at any age. For example:

Within a week:

- nicotine and carbon monoxide out of the system
- lungs working more efficiently
- taste buds functioning better
- sense of smell improves
- breath, hair, fingers, teeth, clothes cleaner.

Within three months:

- blood flow to the hands and feet improves.

After twelve months:

- the risk of cancer and heart disease is reduced [129].

Abstinence rates from nicotine replacement therapy (pharmacotherapy) are much higher for hospital clients, community volunteers, and people attending smoking clinics than others in the general community [130]. Nurses and midwives have a critical role in assessing and assisting their clients and other persons wishing to stop smoking with the help of nicotine replacement.

For support and information contact QUIT (131 848) for free self-help materials—books, videos, courses and a telephone counselling service.

Early/brief intervention

(See Section 2.3: Early and brief intervention)

Although people may tell health professionals that they do not want to stop smoking, it is still important to offer brief intervention. This may be limited to raising concern for their health, linking smoking to their current admission (e.g. respiratory or heart disease, or other health issues. Providing information about harms from smoking is needed, tobacco related harms.

Where the person is concerned about their smoking and is thinking about change, discussion about times, places and other triggers for smoking can help identify the cues to smoke and enable the smoker to start developing strategies to overcome these and begin self management, cessation and relapse prevention. Discussion of the costs of smoking and the benefits of quitting can assist the person to make decisions to quit.

The following strategies can be used to combat craving when giving up smoking:

- delaying the next cigarette by 20 minutes
- deep breathing instead of lighting a cigarette
- distracting oneself at ‘trigger’ times—for example, going for a walk instead of coffee with friends who smoke, changing what you usually drink when smoking (e.g. substituting tea with juice)
- drinking a glass of water when a craving starts.

Nicotine replacement therapy using patches, gum and or lozenges is a very useful adjunct to behavioural self management strategies such as those listed above.

While giving up is the only effective strategy against tobacco-related harm, there are some measures that can encourage the person to begin the process of quitting even if the person is not yet ready to stop. These include smoking fewer cigarettes and having the first cigarette later in the day as a way of cutting down.

The Quitline is a 24-hour national service and provides ongoing support and self-help information phone.

Nicotine withdrawal

(See Section 2.6: Managing Withdrawal).

Nicotine withdrawal occurs when the dependent smoker reduces intake or stops smoking.

Signs and symptoms

Nicotine withdrawal starts a few hours after last intake and peaks at between 24 - 72 hours. While not life-threatening, it is characterised by a set of symptoms including:

- increased nervousness
- tension, agitation
- changed sleep pattern
- bowel disturbance
- changes in taste buds
- irritability
- loss of concentration
- headache
- stomach upsets
- muscle spasm
- craving.

Management of nicotine withdrawal

Provide support and self-help information. The person may wish to use patches, lozenges or gum as pharmacological assistance in managing withdrawal through gradual cessation. Where a person has severe dependence, concurrent use of more than one form of nicotine replacement therapy may be required. (See Table 17: Fagerstrom Test Score - level of NRT according to level of dependence).

Pharmacological management

Nicotine replacement therapy (NRT)

NRT comes in various forms, e.g. nicotine patches, nasal spray, nasal inhaler, lozenges and gum.

NRT is useful for people who are dependent on nicotine, motivated to reduce and cease use and are free from medical contraindications.

Nurses should explain why and how NRT can be beneficial.

Possible side effects of NRT

The most common side effects are skin reactions (transient itching, burning and tingling), occurring in up to half of nicotine replacement therapy users. These are usually minor and relieved by rotating the patch site on the skin.

- Some skin reactions can be more serious, e.g. dermatitis or skin sensitisation—and may require cortisone or cessation of nicotine replacement therapy
- Most skin reactions tend to occur after three to four weeks of use

Most common systemic side effects are disturbed sleep and vivid dreams, however these do not occur using the 16-hour patch.

The 24-hour patch can be removed at bed time, or a lower strength patch can also be used to reduce sleep difficulties.

NOTE: Where a 16 hour patch is used, people should be advised that it takes a couple of hours to absorb through the skin. This is important as cravings are usually strongest in the morning. To avoid this high risk time, people using NRT should be advices to place the patch as soon as possible on wakening and to use another form of NRT vas required over the first two hours e.g. gum, lozenges.

Absolute contraindications to NRT

- recent myocardial infarction
- unstable angina pectoris
- severe cardiac arrhythmia
- recent cardiovascular accident
- pregnancy and lactation.

Relative contraindications to NRT

- stable ischaemic heart disease, peripheral vascular disease or cerebrovascular disease
- psoriasis, eczema, urticaria
- hyperthyroidism, insulin dependent diabetes mellitus, phaeochromocytoma
- liver or renal disease
- peptic ulcer.

Zyban® (Bupropion Hydrochloride)

Non-nicotine based therapy: an atypical antidepressant known as bupropion (Zyban®).

Zyban® is used as a short term adjunct in the treatment of nicotine dependence in people over the age of 18 years, within a comprehensive treatment program where the goal is abstinence.

Combination NRT such as patches supplemented with bupropion (Zyban®) or nicotine gum can relieve intermittent craving. The combination of patch and gum decreases withdrawal symptoms more than either alone [127].

Absolute contraindications for bupropion (Zyban®)

- history of seizures
- central nervous system tumour
- abrupt alcohol or benzodiazepine withdrawal
- bulimia or anorexia nervosa
- concurrent use of monoamine oxidise inhibitors (MAOIs).

Relative contraindications for bupropion (Zyban®)

- lowered seizure threshold
- renal impairment
- hepatic impairment
- bipolar disorder
- latent psychosis
- concurrent nicotine replacement therapy
- elderly or children
- pregnancy or lactation.

Possible side effects

- headache
- tachycardia
- insomnia
- anxiety
- seizures
- gastrointestinal upset
- rash
- taste disorders
- flushing
- hypertension
- impaired concentration
- depression
- anorexia
- dry mouth
- fever

Varenicline tartrate (Champix®)

Varenicline tartrate is non-nicotine oral therapy for smoking cessation. It is approved as a nicotinic receptor partial agonist. It has been shown to be efficacious and well-tolerated smoking cessation pharmacotherapy in most people. It is superior to placebo and bupropion in helping maintain long-term abstinence.

Interactions with other drugs may be minimal. However, safety of the combination of varenicline tartrate and bupropion is not established. The combination of varenicline tartrate and NRT has caused the discontinuation of treatment due to side effects such as nausea, headache, vomiting, dizziness dyspepsia and fatigue and should not be used.

Side effects of varenicline tartrate

The most common side effect of varenicline tartrate is nausea. This has been described as mild to moderate and often transient. Other adverse effects which occurred more frequently with varenicline tartrate than placebo include vomiting, constipation, abnormal dreams and insomnia. In addition there have been post-marketing reports of mood and behavioural changes.

Contraindications to varenicline tartrate

Varenicline tartrate is contraindicated, or its use needs be taken under strict consideration, in the following situations:

- renal disease
- pregnant or breast-feeding women.

For full prescribing information on varenicline, please visit: www.pbs.gov.au/pbs/

Maternal and neonatal care

There are significant risks from smoking to maternal health generally (as for any smoker) and particularly during pregnancy. There are also significant risks to the foetus and newborn. Any woman smoking during pregnancy should be encouraged to quit and offered support.

Smoking contributes to increased rates of low birth weight, incidence of spontaneous abortion, prematurity and sudden infant death syndrome [131], and a higher rate of ectopic pregnancy [132].

Possible adverse effects to mother and baby

- pregnancy complications, including ectopic pregnancy, miscarriages, stillbirth, placental problems, bleeding during pregnancy and premature birth
- increased foetal heart rate, decreased foetal movements
- respiratory complications
- asthma, possibly related to passive smoking effects
- low birth weight
- impaired 'rehearsal breathing' in the foetus
- middle ear infections in the baby's first weeks
- sudden infant death syndrome ('cot death') [60].

Mental Health

If a pregnant woman is prescribed anti psychotic medicines, and wants to quit smoking, her prescribing psychiatrist must be consulted to adjust her doses as necessary.

Women with history of depression should be monitored following tobacco cessation for:

- increasing symptoms of depression
- new episode of depression
- smoking relapse.

Breastfeeding

- Tobacco smoking reduces breast milk supply. Nicotine is present in breast milk which can cause gastric irritation in the baby.
- Research suggests that breast-feeding is still safer for both mother and baby.
- Smoking is best avoided prior to and during feeds and around a feeding infant. Following a cigarette, at least 20 minutes should elapse before feeding [60].

Women should be informed that:

- breast feeding is safest option
- nicotine reduces breast milk supply
- nicotine is present in breast milk – but there is minimal absorption from the gut
- mothers who smoke are less likely to start breast feeding than mothers who don't smoke and are more likely to breastfeed for a shorter period of time
- avoid smoking at least 20 minutes before feeds, and never smoke during feeds
- do not smoke inside house or car, or near baby & other children [60].

Nicotine Replacement Therapy (NRT) in Pregnancy

- neither bupropion or varenicline tartrate are suitable for use in pregnancy or whilst breastfeeding.
- lack of safety evidence of NRT use in pregnancy

However NRT is recommended in specific circumstances e.g.:

- if the woman is otherwise unable to quit and benefits of cessation outweigh her risks of NRT and continued smoking.

Guidelines

- therapy should begin and be completed earlier in pregnancy rather than close to delivery
- dose should be the lowest possible
- intermittent dose from gum and inhalants are preferred over patches which deliver constant dose
- monitor for smoking relapse following therapy completion [60].

Breastfeeding and NRT

Women on NRT should be advised to breastfeed first and then as soon as possible after breastfeeding use one of the intermittent NRT delivery methods (e.g. inhaler, gum) to maximise time until next feed and minimise baby's exposure to nicotine.

3.3.2 Amphetamines

Introduction

Amphetamine type stimulants (ATS) belong to a drug group known as 'psychostimulants'. These are a diverse range of central nervous system (CNS) stimulants e.g. nicotine, caffeine, pseudo-ephedrine, amphetamine (*speed*) and cocaine (*coke*, *snow*), methamphetamine (*crystal meth*, *speed*, *ice*), methylphenidate (Ritalin®), and methylene dioxy-methamphetamine (MDMA) – e*cstasy*. Nicotine is also a psychoactive stimulant (See Section 3.6).

As a psycho-stimulant, amphetamines action on the CNS to raise and sustain neurotransmitters, particularly dopamine, that are responsible for memory attention, purposeful behaviour and feelings of pleasure [133].

Stimulants also have peripheral sympathomimetic action. They are often used for effects such as euphoria, increased sense of well-being, energy, confidence or over-confidence, improved cognitive and psychomotor performance, suppression of appetite and to remain awake [134]. Over time and with repeated use, neurotransmitters become depleted leading to poor concentration, depressed mood, lethargy, fatigue, sleep disturbance and amotivation [133].

Assessment and quantification

Next to cannabis use, amphetamines are the most commonly-used group of illicit drugs used amongst young Australian women and men, usually commencing during late adolescence with significant rate of injecting use. Therefore it is very important when taking the ATOD history to include amphetamine and other psychostimulant use.

Quantification of illicit drugs used, including amphetamines, can be difficult as they are commonly 'cut' – mixed – with other substances including other drugs, glucose and sucrose meaning that the actual dose is always unknown. Try to find out and record:

- usual pattern of use (e.g. occasional vs. bingeing over several days and if this time is different)
- type of amphetamine used (e.g. MDMA, methamphetamine)
- last dose/use (date and time)
- route/s of administration (injecting, snorting, swallowing)
- quantity and frequency (e.g. number of tablets/per time, frequency of use – daily, weekly, binges/runs)
- dollar cost of the drug/'deal' (at least estimated 'street' weight in grams)
- form (powder, paste, crystal or tablet)
- risk of dependence and withdrawal
- other medical problems e.g. hepatitis from sharing injecting equipment,
- any psychiatric comorbidity (may be causally related or coincidental) [135].

Also record what other drugs (legal, medicinal and illicit) taken in association with their amphetamine use (poly drug use) and efforts to self-medicate for unwanted effects of amphetamines. E.g. use of major tranquilisers such as olanzepine to soften the come down from stimulant effects.

If appropriate, and depending on the mental and physical state of the person, try to determine and record why the person uses this drug—what does it do for them (e.g. performance-enhancing) and any harm they believe it has caused.

Amphetamine intoxication

Onset of action when taken orally is about 30-60 minutes, with peak cardiovascular effect at 60 minutes and CNS effects about two hours. Duration of effect is about 4-6 hours. Intranasal (snorting) produces effects within a few minutes; smoking and intravenous use produces even faster effects.

The signs and symptoms of intoxication vary depending on the type and amount (dose) of amphetamine used, and whether any other drug has also been used [133].

Signs of intoxication include:

- increased blood pressure, pulse, respiration, temperature
- suppression of appetite
- talkative, rapid or pressured speech
- euphoria and or exhilaration
- stereotypical, repetitious movement or behaviour
- teeth grinding
- wakefulness and inability to sleep
- increased libido
- anger, aggression, hostility, impulsivity and or recklessness
- dry mouth
- increased alertness and activity—constant movement, fidgety or restlessness
- enhanced self-confidence
- mood swings
- clenched jaw
- panic
- pupils may be enlarged
- suspiciousness or paranoia
- in rare cases dysphoria and delirium.

With higher doses, in addition to the above, the following may be evident:

- agitation, tension, irritability or loss of behavioural control or aggression
- tremors
- anxiety or panic
- paranoia
- increased respiration
- hallucinations e.g. visual or auditory
- sweating
- teeth grinding or jaw clenching
- palpitations
- dizziness
- confusion
- illusions – tactile [133].

In addition to tolerance and psychological dependence, long term effects of regular amphetamine use may include:

- weight loss
- poor appetite or malnutrition
- mood swings including depression, anxiety or paranoia, thought and emotional disturbances
- psychosis including hallucinations and delusions
- dehydration
- kidney problems
- chronic sleep disturbance
- irregular menses or amenorrhoea [133].

Potential harms

As well as the harms from using an unknown dose, actual chemical nature of the drug and other ingredients, unsafe injecting practices of amphetamines carry a high risk of contracting bacterial infections causing endocarditis and septicaemia, and blood borne viruses such HIV, hepatitis B or hepatitis C).

Any amphetamine use, whether injected or not, is associated with an increased risk of:

- cardiomyopathy, myocardial infarction
- CVA, burst aneurysm
- poor oral health e.g. gingivitis, caries (due to dry mouth) damaged teeth from grinding and jaw clenching
- formication leading to compulsive picking at skin (face and arms).

Acute toxicity

Acute toxic effects of amphetamines are 'an extension of the pharmacological properties of the drugs, and are determined by the dose, route of administration, mental state and personality of the user' [134]. The person's environment at the time of use is also relevant [1].

Manufacture of these illegal drugs involves poor quality control resulting in extreme variability the quality and chemical composition of these drugs. These factors place anyone who uses amphetamines at risk of being exposed to adulterants, unknown doses, questionable ingredients, unpredictable side effects and toxicity [134].

Note: The possibility of psycho-stimulant use should be considered in a young person presenting with seizures or cerebrovascular accident. This is not dependent on length of time used, as it can occur with once off or occasional use.

Constellation of serious symptoms includes:

- **Skin:** Sweating and hyperpyrexia, hot and cold flushes
- **CNS:** Tremor, restlessness, agitation, muscle twitching, repetitive behaviour
- **Neuropsychiatric:** Manifestations include paranoia, hallucinations, delusions, hyper-arousal, and bizarre, violent and erratic behaviours

- **Cardiovascular:** Chest pain, hypertension, tachycardia, dysrhythmias, arrhythmias, myocardial infarction, cerebral vascular accident and sudden death
- **Respiratory:** Shortness of breath
- **Neurological:** Seizures
- **Muscular-skeletal:** Muscle rigidity
- **Infection:** Bacterial endocarditis may result from intravenous use
- **Gastro-intestinal system:** Severe abdominal pain, bloody stools, bowel ischaemia and infarction.
- **Severe headache** [133, 134].

Chronic toxicity

Chronic toxicity is manifested by:

- **Nutritional:** weight loss.
- **Neuropsychiatric complications:** poor concentration and attention, memory impairment, sleep disturbances, hallucinations, depression, anxiety, and panic attacks. Suicidal ideation has also been reported.

Chronic and/or excessive amphetamine use can lead to a person having an acute psychotic episode resembling paranoid schizophrenia [134]. Shorter binges or 'runs' of multiple daily doses over several can also result in psychosis similar to acute schizophrenia characterised by:

- severe agitation
- restlessness
- hallucinations—predominantly visual but can be auditory or tactile
- hostility and violence
- anxiety
- paranoid delusions
- repetitive stereotypical behaviours
- loosening of association and ideas in a setting of clear consciousness.

Psychotic symptoms generally subside soon after the drug use ceases some people may experience persistent symptoms for weeks or months [134].

Nursing management of amphetamine intoxication

(Also See Section 2.4: Managing Intoxication).

Nurse the person by:

- maintaining a non judgemental, respectful approach [133]
- listen and respond to needs or requests as timely [133]
- clear, concise communication [133]
- ensure the person has extra personal space [133]
- regularly checking vital signs, physical and psychological status
- interpreting drug screening urinalysis

- being calm and supportive
- ensuring a calm, soothing environment—reducing environmental stimuli
- offering reassurance
- explaining what is happening and that it will pass
- avoiding confrontation and arguments
- creating a sense of security and confidence that the situation is under control
- providing food and fluids to maintain nutritional status and fluid balance
- administer adequate doses of diazepam to control agitation and anxiety as ordered
- administer medications to treat psychotic episodes where sedation is insufficient
- undertake brief intervention and provide person with information about amphetamines, and harms that are associated with use, and services.

Always be alert for the possibility of complications or presence of medical illnesses/ injuries that are either related or coincidental to the person's presentation.

Provide harm reduction strategies and information

Once intoxication has diminished and/or if the person indicates they do not wish to stop amphetamine use, provide them with relevant harm reduction information and where to access clean needle programs. (See Section 1.2 for general harm reduction strategies; and information relating to amphetamines).

Encourage the person to:

- maintain hydration with frequent sips of water to avoid dehydration
- maintain good nutrition and provide health diet information
- ensure adequate rest and sleep
- regular amphetamine free days
- do not inject
- maintain good dental and oral hygiene
- use less than 1/2/ gram per day.

Inform the person about amphetamines toxicity (overdose) and when to call an ambulance, and risks that may not be able to be avoided e.g. cardiovascular effects, mental health effects:

- encourage them to cut down and consider cessation of use
- advise them to avoid other risky behaviours such as combining alcohol, amphetamines and driving [Adapted from 133]
- provide them with information about potential drug interactions with prescribed medication, illicit drugs and alcohol
- See [133] on the following website: www.nationaldrugstrategy.gov.au

Medical Management of Amphetamine Intoxication and complications

Guidelines for the Management of Psychostimulant Toxicity, can be sourced from the National Drug Strategy website [136]:

www.health.gov.au/internet/drugstrategy/publishing.nsf/Content/9DFC79ECB850641ECA2571F40016229F/$File/emergency-book.pdf

- Acute agitation should be managed in a low stimulus environment, with some continuity of staffing.
- Staff safety is of utmost importance. It is important to ensure that adequate health and security staff are available to be used if needed, but on the other it is important to minimize the number of clinicians and others interacting with the patient.

Acute agitation

Use of the Level of Agitation Scale will assist in identifying the severity of agitation, and response required. (See Appendix 12C).

Acute agitation can be managed using an oral diazepam regime or if required an intravenous diazepam regime. No sedation protocol is 100% safe.

Clinical response to sedation falls along a continuum with controlled and acceptable behaviour at one end and rousable drowsiness (not unconsciousness) at the other. Health care providers who administer sedation, regardless of practice setting, should have access to advanced airway assessment and management skills so that successful 'rescue' of patients can be made should an adverse sedation event occur. The most common adverse events of sedation include:

1. airway obstruction
2. respiratory depression including apnoea
3. aspiration
4. significant hypotension
5. laryngo-spasm (particularly in the context of antipsychotic medication
6. administration) [136].

Oral diazepam is the preferred approach as below:

Oral diazepam:

- initial dose of 10-20mgs of diazepam should be administered orally
- if rousable within 30 minutes of first dose, no more sedation required
- if no clinical response or insufficient clinical response is made at 30 minutes, an additional 10 mgs of diazepam should be administered
- repeat this regime until the person is rousable or a total dose of 60mgs of diazepam has been administered
- only exceed 60mg if no obvious signs of respiratory depression are evident. Do not exceed 120 mgs in a 24-hour period) [136].

Alternatively an intravenous protocol should be used if oral medication is not possible.

Intravenous diazepam:

- initial dose of 2.5-5mgs of diazepam* should be administered intravenously (IV)
- if person is rousable within 10 minutes of first dose, no more sedation is required
- if no clinical response at 10 minutes, additional higher 5-10mg boluses of diazepam should be administered
- repeat this regime until the person is rousable or 60mg of diazepam has been administered (Do not exceed 120 mgs in a 24-hour period)
- if no response consider alternate class agent [136].

Paranoia and possible ATS induced or related psychosis

Agitation related to acute toxicity usually settles within a few hours. If there is ongoing paranoia then consider the use of an anti-psychotic such as olanzepine.

An initial dose of 10mg orally or IM if oral refused. This can be repeated in 1 hour if required. ATS related psychosis may take some time to resolve and treatment should be guided by persistent symptomatology [76].

Cardiovascular and cerebrovascular complications of acute toxicity

ATS toxicity can lead to myocardial and cerebral ischaemia due to their positive inotropic effects and to some degree their vasospastic effects. These latter effects are much more intense if cocaine is involved. Hypertension can also lead to cerebral haemorrhage.

Specialist advice should be sought about specific complications.

Serotonin syndrome

This can arise from ATS toxicity. Some ATSs are more likely to cause this problem [e.g. MDMA]. Its features include:

- autonomic signs, tachycardia, hypertension, hyperthermia, sweating
- neuromuscular changes
    - tremor
    - clonus
    - hyper-reflexia
- altered mental status
- delirium

Treatment is largely symptomatic and includes sedation, at times paralysis and ventilation, active cooling measures, intravenous fluids, specific treatment of cardiac arrhythmias and seizures. However specific serotonin antagonists such as cyproheptadine may also be indicated [136].

Amphetamine withdrawal

Repeated and prolonged use of amphetamine leads to marked tolerance, neuro-adaptation and dependence, and withdrawal on cessation. Withdrawal from amphetamines emerges between 8-20 hours after the last dose.

Duration of acute withdrawal symptoms is associated with the type of amphetamine used and its half-life, and duration of excessive use (up to about three weeks for amphetamines). Withdrawal from amphetamines is not life-threatening, but depression resulting from withdrawal can lead to suicidal ideation, self-harm and possibly death.

Cessation results in what is often referred to as the immediate phase—'crash'—whereby the person will experience a range of intense CNS depressant-like symptoms with craving for sleep and feelings of exhaustion replacing craving for the drug [110].

Withdrawal is characterised by three phases: crash, withdrawal and extinction.

Phase I—Crash

The 'crash' (hangover) follows cessation of amphetamines use and lasts one to two days. This may be associated with a binge and may or may not progress to withdrawal.

Crash symptoms include:

- extreme lethargy
- hunger
- formication (feeling of crawling insects on skin)
- headache
- anxiety
- hypersomnia (excessive sleep)
- irritability
- agitation
- aggression
- confusion
- lability of mood.

Phase II—Withdrawal

If neuro-adaptation and dependence have developed the crash will be followed by the second phase—withdrawal. This will be associated with a period of normal moods, little craving for the drug, and normal sleep pattern for one to four days. Withdrawal symptoms reduce in a linear fashion over 7 to 10 days. However then dysphoria and craving for the drug start to increase again in conjunction with:

- flattened mood or depression-related symptoms including inactivity, lack of energy
- poor concentration, fatigue, anhedonia, and dysphoria
- suicidal ideation may also be evident
- mood swings
- vivid unpleasant dreams peaking at day 5 (~11 hours per night) and declining by day 9
- taking longer to fall asleep, awakening while sleep, being unclear on awakening
- increased daytime sleeping
- agitation - aggressive outbursts, irritability, tension may recur
- anxiety
- psychotic symptoms may recur
- craving for the drug can be intense
- increased appetite [135].

Phase III—Extinction (prolonged withdrawal)

This phase lasts at least 2 weeks and is evidenced by:

- depression-related symptoms largely resolved
- continuation of increased sleep (9 hours per night) with reduced quality and depth
- increased appetite but milder than above
- paranoia and suicidal ideation may persist
- bradycardia (not clinically significant).

'Extinction' of withdrawal is characterised by gradual diminishing of the acute symptoms, and may last for weeks or several months. There can be episodic craving in response to environmental stimuli (cues) to use, and a feeling of anhedonia (inability to respond to pleasant events). The frequency of craving and the anhedonia does decrease over time, but likelihood of relapse is high [137].

Nursing management of withdrawal

To date there is little reliable evidence of a particular medication regime that is most effective for psycho-stimulant (including amphetamine) withdrawal management.

Sound symptomatic medical treatment and good nursing are required which include:

- Provide supportive care and safe environment.
- Nursing observations—four hourly.
- Observation and monitoring according to The validated Observer Rated Amphetamine Cessation Symptom Assessment tool currently used in South Australia (see Appendix 12) [138].
- Provide withdrawal medications as ordered and on time.
- Provide self-help information (e.g. booklet titled: Getting through amphetamine withdrawal, Turning Point, Victoria. In SA you can call ADIS on 1300 13 1340 (24hr/7 days week) to ask how to access this and other useful resources.
- Monitor the stages of withdrawal and adapt nursing care to changing needs for sleep, food intake and mood changes (e.g. allow for sleeping during the day).
- Ensure adequate food and fluid intake, allow for hunger and increased appetite.
- Support during angry outbursts can assist the person to complete withdrawal.
- Monitor depressed mood to identify and prevent risk of self-harm.
- Educate the person about ways of coping with craving e.g. delay (delay decision to use for a designated period of time), distract (individual engages in activity of interest to distract from craving), decide (once craving has subsided, individual reviews list of pros and cons of reducing use, reinforcing own reasons to reduce and then makes decision about using) [135].
- Give tips for coping with cravings, to improve sleep, relaxation, coping with mood swings, aches and pains, nutrition and strange thoughts focussing on the present.
- Identify high-risk situations and assist person to develop strategies to prevent relapse.
- Provide harm reduction information and strategies (e.g. safe injecting drugs, nutrition and managing hydration).
- Ensure effective referral for after care and support post discharge.
- Promote exercise and healthy lifestyle [32, 135].

Medical Management - Amphetamine Withdrawal

Simple uncomplicated withdrawal from amphetamine type substances can be undertaken at home, as long as there is available nursing and medical back-up, and a supportive home environment. There are still no established pharmacological treatments based on rigorous evidence for ATS withdrawals.

After the initial neuroamine-depletion driven "crash" patients may develop varying levels of agitation, sleep disturbance and intense cravings.

Pharmacological approaches are largely symptom driven.

Antipsychotics have not been demonstrated in published studies to have efficacy in alleviating amphetamine withdrawal symptoms. However, they are indicated for amphetamine-induced agitation or psychosis complicating withdrawal if control of these symptoms is not achieved with a long-acting benzodiazepine such as diazepam.

Olanzepine, a sedating antipsychotic, is likely to be a first choice for control of marked agitation usually low doses and (in combination with a benzodiazepine regime) [135].

Medication regimes may include the following:

- Diazepam: 5 - 10 mg oral QID prn (for anxiety, agitation, insomnia) in inpatients for 10 - 14 days. Preferably should be stopped before discharge but, if it is considered necessary, decrease to 5 mg TDS prn (total inpatient + outpatient diazepam should be no more than 14 days).
- Olanzepine: 5-10 mg per day prn (for severe agitation/racing thoughts not relieved by diazepam) (other atypical anti-psychotic may be used if appropriate).

Note: Category B3 – insufficient data on risks of use in pregnancy.

Other symptomatic medications may also be useful, for example:

- Paracetamol + naproxen for headaches
- Metoclopramide for nausea
- Temazepam for night-time sedation.

Note: These doses are for oral medications. Be aware that concomitant administration of IM olanzepine and parenteral benzodiazepines may increase the risk of death. It is recommended to delay administration of a benzodiazepine for 1 ½ to 2 hours after IM olanzepine administration.

Antidepressants are clinically indicated based on the patient's history of depression or current presentation. The choice of antidepressant should be based on the same criteria that would be applied with any depressed individual. Where the client is already on an antidepressant, this should be continued [135].

Maternal and neonatal care

Effect of Amphetamine use in Pregnancy

The health risks of amphetamine use in pregnancy have not been clearly established.

A history of intravenous use is a marker of high risk pregnancy.

The use of stimulants in pregnancy may be associated with hypoxia as a result of vasoconstriction and hypertension caused by the drugs' action – may be associated with an increased risk of miscarriage, premature labour and IUGR.

Use of amphetamines is associated with mental health problems and the mother's general health (especially nutrition) and mental health must be closely monitored.

Management

Pregnant women using amphetamines should:

- be advised of the health risks to herself and her baby
- if seeking further support be provided with counselling
- receive care within a multidisciplinary framework
- be encouraged and motivated to cease amphetamine use e.g. build on the pregnant woman's goals to do what is best for the baby
- be monitored for mental illness due to the link between amphetamine use and mental illness [60]
- be encouraged to have regular, supportive antenatal care to improve outcomes for her and her baby [133]
- be encouraged to avoid poly drug use [133].

Always seek specialist advice for pregnant women and mothers and their babies who are at risk because of amphetamine use.

Neonates

If amphetamines are used close to the birth, the baby may be born intoxicated. Signs of intoxication can include hyperactivity and agitation including seizures. Babies may show behavioural disturbances such as:

- increased startle response
- abnormal sleep patterns
- withdrawal symptoms in the first few weeks after birth can include sleepiness and lack of responsiveness [60].

There is no conclusive evidence that stimulant use by the mother causes specific malformations in the foetus.

Breastfeeding

Methamphetamine use reduces breast milk production and is excreted in breast milk. Breastfed

infants of methamphetamine using mothers may become irritable, agitated, cry and have poor sleep patterns [133].

Potential risks should be weighed against the benefits of breastfeeding when the mother is using amphetamines. Women should be supported in their decision to breastfeed.

Breastfeeding is not recommended if mother has regular and unstable use of amphetamines or other drugs. Breastfeeding mothers who use amphetamines rarely or in binges must be:

- informed of the risks
- educated in how to avoid harmful effects to the baby by:
    - breastfeeding being ceased for 24 hrs after cocaine/amphetamines use mothers
- planning for supplementary feeding when intending to use
- breast milk being expressed and discarded for this period.

3.3.3 Cocaine

Introduction

Cocaine is a CNS stimulant similar to naturally occurring adrenaline. It has local anaesthetic effects and is a vasoconstrictor [139]. It is derived from leaves of the coca bush. It was first extracted from coca leaves as an isolated substance in its pure form by the German chemist Albert Niemann, ands he named it cocaine in 1860. Cocaine was an original ingredient of the soft drink Coca Cola® from 1886 to 1903.

In Australia cocaine is usually taken as a white powder, which can be rubbed on gums, swallowed, snorted through a straw or similar object or dissolved in water and injected. This form of cocaine is destroyed at high temperatures and is therefore not smoked [140].

Cocaine can be available as *freebase* or *crack* cocaine (sold as crystals or rocks) which is smoked, however 'crack' use is rare in Australia [139]. It is commonly referred to on 'the street' as *coke*, *Charlie*, *snow*, *blow*, *toot*, *C*, *crack*, *cola*, *nose candy* and *white dust* [140].

Effects

- very short acting with effects lasting up to 30 minutes
- readily absorbed via mucous membranes - rate of absorption limited by local vasoconstriction
- blocks fast sodium channels causing local anaesthetic and pro-arrhythmic effects [141].

Cocaine can be used occasionally or in high-dose 'binges' over several days. Binges are often followed by similar effects to those of an amphetamine binge which is the "crash" in which the person experiences feelings of intense depression, lethargy and hunger [140].

Effects from small doses of cocaine include:

- feeling of well being, increased self confidence and euphoria
- diminished fatigue
- taking risks
- reduced appetite
- increased heart rate
- moving more quickly than usual
- increased talkativeness or overly quiet contemplation and rapture
- increased energy, feeling more awake and alert, reduced need for sleep
- increased energy, alertness, and mental clarity
- becoming excitable
- feeling aggressive or easily upset
- increased body temperature
- increased blood pressure
- reduced appetite
- increased libido
- indifference to pain and localised pain relief [128, 140, 142].

High doses may give rise to:

- headache
- violence or aggression
- chest pain, cardiac arrhythmias and myocardial infarction
- delirium
- psychotic symptoms (e.g. auditory or visual hallucinations or paranoia)
- dizziness
- feelings of restlessness and difficulties with concentration
- hyperthermia (risk of rhabdomyolysis)
- tremor, muscular twitching, overactive reflexes or poor coordination may be present [128, 139, 140, 142].

Note: High doses of cocaine can result in convulsions, cerebrovascular accidents - subarachnoid haemorrhage, cerebral haemorrhage, cerebral infarction, coma, and death [134].

Long-term effects may be related to the method of using cocaine and may include:

- insomnia
- depression, anxiety, paranoia and psychosis (can resemble paranoid schizophrenia), hallucinations, some people may experience formication (feelings of insects crawling under the skin)
- eating disorder and weight loss
- sexual dysfunction
- dependence
- sensitivity to light and sound
- impaired thinking
- seizures
- cerebral atrophy, CVA
- hypertension and irregular heartbeat.

Problems due to route of administration can include:

- damaged nasal mucosa, nosebleeds, nasal sores, sinus problems, damage to the inside of the nose including nasal perforation may occur arising from snorting
- bronchitis, tracheal inflammation with persistent cough form inhalation of hot cocaine vapours from smoking freebase
- injection site abscesses, endocarditis, and blood borne infections such as hepatitis B, C or HIV
- collapsed veins are associated with cocaine injection
- subcutaneous injection can cause severe vasoconstriction and prevent blood flowing to the tissue, potentially resulting in severe tissue damage [128, 139, 140, 142].

Smoking freebase or crack cocaine can cause:

- breathing difficulties
- long-term cough
- chest pain
- lung damage [128].

Health effects

Short-term health effects include:

Cardiovascular

- Hypertension, tachycardia, dysrhythmias, arrhythmias, and sudden death
- myocardial oxygen demand and enhanced platelet aggregation, mesentery artery constriction, and thrombus formation, peripheral ischaemia, gangrene of extremities, arthritis, and vasculitis

Infection (risk of injecting)

- Bacterial endocarditis
- Septicaemia
- Cellulitis
- blood borne viral infection

Respiratory tract

- Inhalation of cocaine leading to asthma, gas exchange abnormalities, non-specific pulmonary oedema, pulmonary haemorrhage, and haemoptysis, due to vasoconstriction
- Pneumothorax, pneumopericardium and pneumomediastinum may occur after free base smoking with deep, forced and prolonged inhalation. Sudden death can result from cardiac arrest.

Liver

Cocaine and MDMA have been associated with:

- hepatic ischaemia
- acute hepatitis
- hepatic necrosis
- and with MDMA - liver failure [134].

Chronic toxicity

Effects of chronic toxicity include:

Nutritional

- weight loss

Neuropsychiatric complications

- poor concentration and attention
- memory impairment
- sleep disturbance
- hallucinations
- flashbacks (vivid sense of reliving the past drug use experience)
- depression, anxiety, and panic attacks
- suicidal ideate - has been reported

Nasal tract

- rhinorrhoea, nasal ulcers, epistaxis, sinusitis
- perforation of nasal-septal from chronic intranasal cocaine use.

Dependence

Cocaine is addictive, inducing tolerance with frequent use over a relatively short time of weeks or months depending on the individual. Tolerance causes the person to need more of the drug to achieve the same effects previously achieved with smaller amounts.

Dependence means that cocaine becomes central to the person's life, and they find it difficult to abstain or cut down. Some people may develop 'reverse tolerance', where adverse effects of cocaine can be experienced more intensely [140].

Poly Drug Use and Concomitant drug use

People who use cocaine sometimes also use other drugs to cope with some of the effects of cocaine (e.g. tranquillisers, alcohol, marijuana or heroin) to help them sleep. This could lead to dependence on several drugs or leading to serious physical and psychological problems and increasing the risk of overdose. One such risk arises from '*speedballing*' which involves mixing cocaine with heroin which is taken at the same time.

Likewise, there is a risk of interactions among over the counter and prescribed medications, for example serotonin toxicity may occur with concomitant use of amphetamines, MDMA or monoamine oxidase inhibitors (MAOI's) including mocolobemide [141].

Assessment and quantification

(See Section 2: Assessment).

Undertake and record general observations:

- temperature, blood pressure and pulse (particularly abnormalities which may mean risk of overdose or complications e.g. arrhythmias, CVA or MI)
- signs of potential complications

Undertake and record the recent cocaine history as well as ATOD history including concomitant cocaine use with other drugs (polydrug use):

- dose, quantity and frequency
- usual pattern of use and if this time is different (e.g. number of tablets/per time, frequency of use - daily, weekly, binges/runs)
- last dose/use (date and time)
- asking the person about the cost of their last dose will also give an estimation of the most recent amount taken
- any difference in the last dose (more or less) than usual - may be critical for early identification of risk for overdose or other complications
- asking about how much is usually spent over what time period gives an estimation of the usual dose taken
- route/s of administration e.g. injecting, snorting, swallowing
- form (powder that is dissolved and injected, single or multiple tablets)
- risk of dependence and withdrawal
- drugs usually taken with cocaine -legal, medicinal and illicit (due to concerns about potentiation and drug interactions) Also ask about what prescription or over the counter medicines or other substances they take to self medicate for unwanted cocaine effects or “come down” [141]
- risk of complications from acute or chronic toxicity.

As well as asking about and recording all drugs used – legal, medicinal and illicit – in association with cocaine (polydrug use) ask if the person if they use any of these to self-medicate any unwanted effects of cocaine.

Absorption

Cocaine is readily absorbed through the mucous membranes such as in the nasal passage, with the rate of absorption being limited by localised vasoconstriction.

Time of onset and duration of effects

Cocaine is highly fat soluble resulting in rapid crossing of the blood-brain barrier and onset of intoxication.

Onset of action according to route of administration, when:

- snorted - within minutes
- inhaled or intravenous - within seconds

Effects:

- immediate and marked ‘rush’
- highly pleasurable with heightened cognitive awareness, energy and euphoria lasting for about 30 minutes
- rapidly diminish due to short half-life
- rapidly metabolised by the liver [134].

As an adrenergic stimulant cocaine use results in a short lived ‘rush’ characterised by euphoria, energy and alertness. However these desired effects quickly merge into intoxication characterised by:

- CNS effects: agitation, increasing levels of anxiety, paranoia and thought disorder, as well as seizures
- Motor effects: such as teeth-grinding, repetitive movements and tremor
- Noradrenergic effects: tachycardia and hypertension. These may result in myocardial ischaemia, or stroke
- Hyperthermia and metabolic disturbance
- Having a fairly short half life, these effects will generally subside rapidly after ingestion.

Managing intoxication and complications

(See Section 2.4: Managing intoxication; Section 3.4 Amphetamines - managing intoxication).

Complications

Acute toxic complications from cocaine use are rare. However, they can occur at any time and are not necessarily dose related.

Some people may only need general monitoring and nursing care. Others will need interventions for specific complication [141].

The term ‘overdose’ from cocaine relates to the acute toxicity that can arise. Small amounts (doses) can cause overdose in people who are especially sensitive [141].

Safe management relies on:

- regular observation and monitoring
- prevention and early detection of complications
- ensuring safety
- some people may only need general monitoring and nursing care. Others will require medical intervention for specific complications [141].

Signs and symptoms of complications

Early signs include:

- sudden rise in body temperature
- chest pain
- flushed face
- hot skin with no sweating
- muscle cramps
- stiffness in arms or legs [142, 143].

And:

- tachycardia, irregular or weak heart beat
- breathing problems
- heart failure, cardiac arrest, myocardial infarction
- seizures
- cerebral haemorrhage (CVA)
- death
- cardiac ischaemia
- hyperthermia
- rhabdomyolysis [141].

Complications can be characterised by:

CNS effects

- agitation
- increasing anxiety
- paranoia
- thought disorder
- seizures
- cocaine induced psychosis

Motor effects

- teeth-grinding
- repetitive movements
- tremor

Noradrenergic effects

- tachycardia and hypertension – can result in myocardial ischaemia; stroke
- hyperthermia
- metabolic disturbance.

Cocaine induced psychosis

Cocaine psychosis usually occurs following a binge of several days whereby the person has not slept or eaten properly. Symptoms are similar to other acute psychotic conditions and include:

- suspicion and paranoia
- paranoid delusions
- auditory and visual hallucinations
- formication '*coke bugs'* resulting in scratching and sores
- high risk behaviour such as driving a car, jumping from heights, excessive drinking
- aggressive or violent behaviour [139, 140].

Nursing Management

Nursing management includes:

- nurse the person in a safe, cool, quiet and low stimulus environment and approach them calmly and with quiet confidence
- assist person to remove any warm, heavy or restrictive clothing to avoid overheating
- provide support and reassurance
- avoid confrontation or arguments
- encourage normal fluid intake
- provide timely medications as prescribed
- undertake usual nursing assessment and monitoring of vital signs especially TPR & BP
- monitor for signs of overheating, cardiovascular or cerebral complications
- encourage or offer to contact family/friend to sit quietly with them
- allow the person to talk (effect of the drug) and actively listen to them so as to reassure them that they are being cared for and listened to
- cocaine psychosis and other symptoms can occur – usually resolve as effects wear off
- reassess symptoms during the 'come down' period
- provide nursing care as for any other psychotic event.

Note: Monitor for signs of serotonin syndrome [139].

People who use cocaine may seek high calorie sweet foods during the come down period.

People who use cocaine may be nutritionally compromised making them vulnerable to Wernicke's encephalopathy. Implement the Wernicke's encephalopathy prevention thiamine regime prior to glucose loading.

Following initial administration of thiamine offer and provide frequent tasty, easy to swallow low acidic snacks and high calorie foods such as ice-cream and custard.

In a 'nutshell':

- reassurance and supportive care in a quiet calm environment
- observation and maintenance of airway, breathing and circulation
- assessment of any evidence of injury or illness
- obtaining specimens for investigations
- ensuring all medications are given as prescribed on time.

Medical management of intoxication and complications

Medical management is symptomatic and should NOT be based on urine or blood toxicology. Treat the patient, not the test. General approaches include:

- stabilisation and maintenance of vital signs including temperature, oxygen, IV access and cardiac and pulse oximetry monitoring
- monitoring and early intervention for hyperthermia
- administering intravenous Thiamine, glucose, and naloxone in the confused or unconscious person in the event that Wernicke's encephalopathy, hypoglycaemia or opioid overdose may be causing or confusing the presentation.

Note: Ensure safety and offer reassurance at all times.

General medical approaches

Monitor until the person is:

- no longer tachycardic and hypertensive
- calm and cooperative.

Medical management of Toxicity

People with cocaine toxicity need initial evaluation and stabilisation including attention to:

- removing any residual cocaine from nostrils
- ABCs
- oxygen
- intravenous access
- cardiac and pulse oximetry monitoring.

Temperature and glucose levels

- temperature may reach critical level – close monitoring and early intervention indicated
- temperature of a hyperthermic person can keep rising secondary to agitation and continuous attempts to remove any physical restraints
- monitor for hypoglycaemia which can present as any neuropsychiatric abnormality.

Restraint

- avoid physical restraints if possible
- benzodiazepines are an effective and safe pharmacologic restraint if required.

Pregnancy

Prevalence of unrecognised (unknown) pregnancy is about 6% in females presenting to ED affected by cocaine. Therefore:

- perform routine pregnancy testing as physiologic changes in pregnancy may increase cocaine toxicity
- cocaine may induce miscarriage, premature labour, or foetal toxicity
- modifications may be necessary for acute management [144].

Table 19: Commonly prescribed medications to manage complications

Agitation	Benzodiazepines preferred (due to the added benefit of reducing risk of seizures and control of hypertension and arrhythmias) where sedation is required to manage e.g. risk of self harm, agitation or aggression.
Severe psychosis	Antipsychotics for severe psychosis (monitor for respiratory compromise or hypotension). Caution is required where the person is intoxicated with psychostimulants as some antipsychotic medications e.g. haloperidol or pericyazine may lower the seizure threshold.
Seizures	Benzodiazepines initially and then phenobarbitone if persistent or recurrent. NOTE: Phenytoin Sodium is generally not used in drug-induced seizures.
Severe hypertension	Vasodilators, benzodiazepines are also used as they minimise the CNS effect of cocaine on the CNS.
Hypotension	Parenteral fluids and if refractory to fluids, pressor agents may be prescribed.
Arrythmias	Oxygen, benzodiazepines, and anti-arrythmics as required.
Chest pain	Aspirin, oxygen and vasodilator such as nitroglycerin and benzodiazepines may be ordered as a first-line response, usually in association with monitoring cardiac enzymes and ECG's and cardiac imaging. Phentolamine Mesylate may be used as a second line response (corrects vasoconstriction effect of cocaine).
Concomitant heroin use	With respiratory depression – may require administration of naloxone which can increase cocaine toxicity and remove the moderating effect on unopposed cocaine effects.
Cardiac arrest	Vasopressin is commonly used as it increases coronary blood flow and myocardial oxygen availability [144].

Clinical investigations

The following investigations can be useful:

- blood and toxicological screening to confirm or refute diagnosis and reveal the presence of any other drugs used
- CT scans and lumbar puncture in the confused, unconscious, or otherwise neurologically impaired cocaine user [145].
- severe headache, seizures, localising signs or ongoing confusion may also warrant CT scanning to exclude haemorrhagic or non-haemorrhagic stroke and traumatic injury secondary to the confused state
- electrocardiogram (ECG)
- serum electrolytes
- liver function tests
- creatinine kinase concentration
- urine drug screen to confirm exposure to particular drugs [141].

Note: Beta blockers are contraindicated as unopposed alpha-receptor stimulation can worsen vasoconstriction and increase blood pressure. Phenytoin has no role in the treatment of drug-induced seizures.

Note: for management of acute complications consult ED physician or intensivist.

Serotonin Syndrome

Serotonin syndrome is a drug induced dose related range of symptoms attributable to increasing serotonin concentrations in the central nervous system which cause a toxic state. Symptoms can vary from mild to life threatening. Concomitant use of cocaine, MDMA, amphetamines, MAOI, ir SSRI antidepressants can induce serotonin syndrome. Mild to moderate syndrome usually resolves in 24 – 72 hours [146].

Serotonin syndrome can also occur due to psycho-stimulant (e.g. cocaine) toxicity and higher dose tramadol.

This syndrome is characterised by:

- clonus
    - symmetrical and more dramatic in lower limbs
    - inducible/spontaneous/ocular
    - muscle spasms
    - hyperreflexia
    - confusion
    - delirium
    - agitation

    - hypomania
    - hyperactivity
    - restlessness
- hyperthermia and excessive sweating
- hypertension, tachycardia
- mydriasis
- flushing
- shivering
- teeth-grinding,
- dehydration,
- metabolic problems e.g. electrolyte disturbance and metabolic acidosis [146].

Nursing Management:

- monitoring for symptoms, early identification and intervention
- supportive care
- monitoring vital signs (temperature, pulse , respiration, blood pressure, urine output)
- aggressive cooling techniques for hyperthermia such as cool water sprays, ice packs
- administration of prescribed medications and symptomatic relief as ordered

Medical management may require:

- intravenous hydration
- withdrawal of the implicated drug(s)
- aggressive supportive care
- administration of serotonin antagonist drugs such as cyproheptadine (periactin)
- review of treatment for the condition for which the seratonergic drugs were prescribed
- specific interventions for the hyperthermia – may require paralysis and ventilation artificial cooling procedures
- benzodiazepines may be used to control seizures and muscle hyperactivity [146].

Note: In severe cases, people require intensive care if there are complications such as severe hyperthermia, rhabdomyolysis, disseminated intravascular coagulation or respiratory distress syndrome [146].

Withdrawal

(See Section 2.6: Managing Withdrawal, and Section 3.2.2: Managing Amphetamine Withdrawal).

Cocaine withdrawal is similar to amphetamine withdrawal. This involves a 'crash' period from well established dependence (tolerance), often involving prolonged or shorter sleep periods, and difficulty sleeping at night [147].

Withdrawal occurs due to cessation or rapid reduction in the regular amount used.

Withdrawal from cocaine is not life threatening but mood swings and depression can arise and lead to suicidal ideation, self harm and possibly death. Suicidal ideation should be managed as per organisational procedures [147].

Withdrawal symptoms

Phase 1 - Crash (period immediately prior to withdrawal)

Onset - 1 to 4 days after last dose. The crash is characterised by:

- agitation and restlessness (arising from neuroamine depletion)
- depression, low mood and/or anxiety
- feelings of intense hunger
- intense craving
- insomia or prolonged, disturbed sleep
- extreme fatigue and exhaustion [140].

Phase 2 – Acute withdrawal

These symptoms emerge after the crash phase and are usually short lived (4-5 days). Some symptoms are longer lasting e.g. cravings can persist over several weeks.

- intense cravings
- nausea and or vomiting
- tremor
- anxiety
- deep depression with suicidal thoughts or anhedonia or (no enjoyment in any activities)
- angry outbursts
- hunger
- lethargy , lack of energy, feeling weak,
- muscle pain
- disturbed sleep [140].

Phase 3 – Extinction

On completion of Phase 2 the person may experience the following symptoms which may persist for some months:

- intense cravings
- anhedonia
- depressed mood
- inability to make decisions
- short term memory problems [140].

Nursing Management

- ongoing monitoring for symptoms related to the 'crash' or 'extinction' phases
- monitor for hypertension
- monitor temperature – observe sweating or feeling hot and cold
- timely provision of prescribed medications e.g. to manage physical or mental health symptoms, sleep etc.
- monitor for signs of serotonin syndrome particularly if taking MAOI or SSRI antidepressants
- reassess any mental health symptoms e.g. anxiety, depression and paranoia after 48 hours
- closely monitor for depression and suicidal ideation
- if present, respond immediately and manage accordingly
- assess and reassess memory and concentration as this can be compromised
- repeat any conversation or instructions as needed
- person may need reassurance that this may persist for some time, but will resolve over time if they are drug free
- if person has been snorting, monitor for (severe) sinus or nose pain
- seek medical assessment for pain management
- nasal tissue is slow to heal.

Monitor intensity of cravings for drug. Discuss with the person the nature of cravings (due to changes to the brains biochemistry whilst the brain is trying to readjust to normal function) and subsequent risk of using other drugs (including those not previously used or preferred), particularly during the first few weeks following acute withdrawal as this can drive relapse.

- encourage healthy, low acidic, light, tasty and easily digestible foods e.g. custard and ice-cream
- person may have gastric upset or indigestion (particularly if they have been snorting), may crave high calorie sweet foods.

Discuss the risk of using other drugs (including those that are not previously used nor preferred) during the first few weeks after withdrawal. This is an insidious effect arising from the brain wanting to be intoxicated. Assist person to establish supports to help and assist them maintain abstinence and lifestyle change after discharge.

Assist the person to help develop an achievable post discharge plan, including:

- strategies for relapse prevention
- offer advice about the need to be drug free to give their brain a rest
- referral to specialist ATOD service, GP or other relevant agency. Advise the person to see a specialist ATOD professional prior to using cocaine again and if they would like assistance to cease use
- discuss cravings and how to manage them
- discuss cues and triggers that could lead to relapse and strategies to manage them [147]
- where to obtain information (ADIS 24 hr phone line 1300 13 1340).

Risk reduction information

The person should be provided with a clear message that it is always safer not to use drugs, but there are ways to reduce the risk. These include:

- it is safer not to inject cocaine

if injecting, be aware of the risk of :

- blood-borne viruses such as Hepatitis B & C, HIV
- other infections due to injecting such as e.g. bacterial endocarditis, abscesses
- blocked or inflamed blood vessels
- use clean equipment (e.g. needles & syringes, spoons, water, swabs, filters etc).

Never:

- drive or undertake dangerous activities while using cocaine
- use when you are on your own
- use while pregnant - can affect the unborn child
- use large amounts
- use on a daily basis.

Medical Management

Medical management is symptomatic and may include:

- Benzodiazepines for agitation -beware of using these beyond three to four days due to the risk of development of tolerance and physical dependence.
- Antipsychotic medication for symptoms of psychosis e.g. paranoia, delusions, hallucinations. Psychiatric consultation is recommended where symptoms of psychosis are severe or do not resolve within days of cessation of use.
- Antidepressants for depression that persists following withdrawal. Specialist assessment and a treatment plan combining counselling (e.g. cognitive behavioural therapy) and antidepressant medication may be considered. The side effect profile may be important in choosing an antidepressant.
- Aspirin or paracetamol may be ordered for headache.

Maternal and Neonatal Care

Effect of Cocaine on pregnancy

There are adverse effects due to drug impurity, unknown dose & presence of other drugs.

A history of intravenous use is an indicator of high risk pregnancy.

Increased risk (may also be due to concurrent tobacco/cannabis use.

Complications

- vasoconstriction & hypertension – foetal hypoxia
- miscarriage
- pre-term labour- e.g. rupture of membranes
- low birth weight
- growth retardation
- abrupto placentae
- still birth
- genitourinary malformations [60].

Management

Women using cocaine should:

- be advised of the health risks to herself and her baby
- if seeking further support be provided with counselling.

Neonates

If cocaine is used close to the birth, the baby may be born intoxicated. Signs of intoxication can include hyperactivity and agitation including seizures. Babies may show behavioural disturbances such as:

- increased startle response
- abnormal sleep patterns
- withdrawal symptoms in the first few weeks after birth can include sleepiness and lack of responsiveness
- an increased risk of genito-urinary malformations in the foetus with cocaine [60].

Neonatal Withdrawal - Cocaine

Exposure to regular cocaine use by the mother places the neonate at risk of Neonatal Abstinence Syndrome (NAS)

NAS symptoms may be mild and not require medication. However more severe symptoms could require medication and supportive care [60].

Breastfeeding

Cocaine use while breastfeeding has induced intoxication and seizures in infants.

Breastfeeding should stop for seven days after cocaine use. Breast milk should be expressed and discarded for this period [60].

3.4. Other Drugs

In this chapter:

3.4.1 Hallucinogens

Introduction

Hallucinogens (also known as psychedelics) include naturally occurring compounds and synthetic chemicals. They produce distortion in thoughts, mood and perceptions - typically inducing illusions or hallucinations. They are most commonly used 'once off' or recreationally in social settings such as homes, dance parties, rave parties, clubs and pubs. These drugs are not usually associated with dependence arising from long-term, high-level use.

There are a number of drugs that come into this category. They include lysergic acid diethylamide (LSD), phencyclidine (PCP), psylocibin (magic mushrooms).

Note: MDMA (ecstasy) and methylene dioxy-amphetamine (MDA) are psychostimulants that also have hallucinogenic properties.

Assessment and quantification

Quantification of hallucinogens is difficult because purity and actual ingredients are uncertain.

In assessing hallucinogen use, ask about and record:

- how often the person uses the substance
- what they think the substance is
- the dollar cost of the drug
- how much extract, fibre (e.g. mushrooms), or how many tabs are used
- duration of use
- frequency
- quantity
- date and time of last use
- positives and negatives
- goals related to their use
- how long the person has been using the drug.

Hallucinogen intoxication

Signs of intoxication:

- altered perception, thought, emotions
- unusual and vivid perception of shapes, colours, sounds
- blurred boundary between self and surroundings
- feeling of detachment, one part of self passively observes the other part experiencing psychedelic illusions
- dizziness
- weakness
- nausea.

In some cases users can experience pronounced mood swings—detachment may alternate with fear, paranoia, distress and panic. The nurse will need to provide reassurance and supportive care so such people do not injure themselves or others during a panic episode (this episode usually ends when the drug wears off).

Hallucinogen overdose

Overdose from hallucinogens is rarely seen. However, death due to overdose in animal studies resulted from respiratory failure and hyperthermia.

Hallucinogen withdrawal

There is no evidence of a withdrawal syndrome from hallucinogens even after abrupt cessation or substantial reduction in their use.

3.4.2 LSD

LSD Intoxication

Subjective effects of LSD typically peak several hours after ingestion. While pleasant, it can induce dysphoric experiences. LSD:

- generally taken as a 'ticket' which is a piece of paper that has been soaked in the dilute LSD solution and dried
- is absorbed orally and difficult to detect in the blood
- highly potent, so the usual dose is small
- causes high level tolerance to behavioural effects after three to four daily doses but this dissipates with abstinence
- involves less tolerance to cardiovascular effects
- has cross-tolerance between mescaline and psilocybin; but none with amphetamines or its derivatives, anticholinergics, ketamine or phencyclidine (PCP).

Acute toxicity

Somatic effects—sympathomimetic:

- pupillary dilatation
- tachycardia
- tremor
- piloerection
- increased body temperature
- increased blood pressure
- hyper-reflexia
- nausea
- muscular weakness.

Non-sympathomimetic effects:

- dizziness
- drowsiness
- paresthesia
- weakness
- nausea
- emotional lability.

Chronic toxicity (largely unknown)

- flashbacks (like drug effects, sometime after use of drug); may persist for years after use depending on the number of magnitude of doses the person has taken over the previous months or years
- flashbacks are precipitated by a number of factors including cannabis use, anxiety and fatigue
- may cause reduced capacity for abstract thinking with repeated use [75].

3.4.3 Psilocybin (magic mushrooms)

Psilocybin Intoxication

Effects from an oral dose (e.g. 0.2mg/kg) develop in 30 minutes after eating mushrooms or five minutes after drinking extract. These last for 4-8 hours and are followed by drowsiness and sleep. The effects can produce symptoms that resemble psychosis.

Acute toxicity

Active ingredients in these mushrooms cause CNS and cardiac toxicity.

Common effects of lower dose:

- agitation
- panic attacks
- psychosis
- ataxia.

Chronic toxicity

As magic mushrooms are seasonal and not usually taken on a regular long-term basis, chronic toxic effects have not been well documented in humans.

3.4.4 Phencyclidine (PCP)

PCP was briefly used as a dissociative anaesthetic but delirium and hallucinations during recovery were troublesome [75].

There are sporadic reports of PCP use in Australia.

Intoxication

PCP can be smoked, swallowed, snorted or injected.

Onset of effects varies in relation to method of use. Effects depend on dose taken.

Typical duration of action is 4-6 hours but may be much longer following high doses. The half-life for PCP is 7-16 hours.

Acute effects

Common effects of lower dose:

- may resemble alcohol intoxication
- slurred speech
- numbness of extremities
- disorientation
- ataxia
- nystagmus
- euphoria
- depersonalisation and a sense of detachment from one's body.

Prominent symptoms of higher dose:

- distorted sensory processing
- drowsiness
- hostile and bizarre behaviour
- increased heart rate and blood pressure
- sweating
- myoclonus
- respiratory depression
- disorganised thinking
- apathy
- marked anaesthesia and catatonic-like muscular rigidity
- hypersalivation
- fever
- convulsions
- coma.

Note: PCP is an acid seeking drug, lowering urinary Ph (acidification) speeds up excretion.

- Other symptoms reported have been sinus tachycardia, arrhythmias, hypotension, and bradycardia
- Altered pupils, nystagmus, decreased pupillary light reflexes, absent corneal reflexes, and bilateral ptosis may occur at any level, and are usually accompanied by cholinergic symptoms such as dilated pupils, hyper-salivation, sweating and flushing.

Chronic toxicity

Chronic effects are not well known. There is some evidence of adverse changes such as chronic psychotic sequelae in the form of organic brain dysfunction and/or behavioural effects that may manifest as:

- personality changes
- persistent difficulties with memory, speech and thinking
- “flashbacks” have been reported following cessation [75].

3.4.5 Methylene dioxy-methamphetamine (Ecstasy) and other amphetamine types

These drugs are related to amphetamines and have hallucinatory and stimulant properties. They cause pleasant emotional effects, euphoria and increased energy.

Ecstasy—MDMA: Onset of action when taken orally is 30-60 minutes with peak effect at 90 minutes. Duration of effect is about 4-6 hours.

Autonomic effects are:

- hypertension
- tachycardia
- hyperthermia
- possible toxicity to serotonergic neurones [75].

Intoxication

Acute complications from MDMA use is unpredictable. The management of these symptoms is a medical emergency.

Toxicity may present as follows:

- cardiovascular complications with hypertension, tachyarrhythmia and ischaemia
- CNS complications with haemorrhagic and non-haemorrhagic stroke, seizures and vasculitis
- Metabolic problems such as:
    - Hyperthermia
    - Hyponatraemia
    - Rhabdomyolysis
    - Acute renal failure secondary to Rhabdomyolysis
- Psychiatric presentations with
    - Acute psychosis with agitation
    - Anxiety
    - Delirium

The possibility of amphetamine use should be considered in a young adult presenting with seizures or a cerebrovascular accident [133] [134].

Toxicity is much more likely with concurrent use of anti-depressant monoamine oxidase inhibitors such as moclobamide.

Nursing management

(See Section 2.4: Managing intoxication, Section 3.2.2: Amphetamines for further information and 'Management').

Medical Management

The medical management of acute MDMA intoxication is '… as for amphetamines and cocaine, with treatment of the symptom complexities as they emerge'[145].

MDMA and other amphetamine type substances have many features in common due to their overlapping pharmacological effects.

Treatment is targeted at symptoms and supportive, rather than specific to type of substance.

Initial assessment should include:

- recent ATOD drug history
- what and when last dose/use
- any cardio- and cerebro- vascular symptoms e.g.
    - chest pain, headache, neck stiffness or photophobia

Observations to include:

- pulse, BP, temperature, respiratory rate,
- airway security
- pupil size,
- mental state, level of agitation [76]
- signs of injury or other illness.

Investigations to include:

- electrolytes, liver function tests, blood count, glucose, CPK, ECG.
- urine drug screen if available but not essential as treatment is symptomatic

Specific features requiring immediate and direct attention:

- confusion
- delirium
- hyperthermia
- hypertension
- acute agitation and or psychosis
- cardiovascular complications such as stroke and myocardial ischaemia
- metabolic problems e.g. hyponatremia, rhabdomyolysis

For a more detailed discussion of the above recommendations, as well as dosage, indications and contraindications of specific medications (e.g. as listed above), seek latest evidence by going to www.dassa.sa.gov.au and refer to Wickes encephalopathy [148].

3.5 Other drugs

In this chapter:

3.5.1 Ketamine

Introduction

Ketamine is often called *K*, or *Special K.* The effects of ketamine appear subjective depending on individual characteristics of the user and setting in which it is used.

Ketamine is a drug with multiple mechanisms of action, but the degree to which each contributes to the different effects experienced through the use of ketamine is not clear [149].

Ketamine is a dissociative anaesthetic with stimulant properties in low doses. It is commonly swallowed, snorted, smoked or injected. Ketamine is used mainly for its euphoric effect.

Drug combinations and interactions

The effects of a drug can never be predictable, and when combinations of drugs are used their effects can be more extreme and unpredictable. Mixing drugs may result in a "come-down" period being more severe and feelings of depression and anxiety may last for weeks instead of a few days [123].

Ketamine and alcohol can act together, increasing the effect of both each other and the potential for drug related toxicity and overdose [123].

Drugs that appear to have opposite actions, e.g. stimulants and depressants, seem to cancel each other out. However, drug combinations place stress on a body that is trying to maintain a functional balance [123].

Assessment and quantification

(See Section 2.2: Assessment).

Ketamine intoxication

Acute Effects

Peak effects depend on route of administration, and occur from 30 seconds (IV) to 20 minutes (oral) after usage. Duration of effect is typically 1-3 hours. The half-life is three hours [75].

Potential dangers of ketamine use are drug-induced psychosis, violence, accidents and marked psychomotor and cognitive impairment [149].

Use of ketamine can produce a range of schizophrenic-like symptoms, including:

- flattened affect
- thought disorders
- depersonalisation
- catatonia [75].

Short term effects at low doses produce a state resembling alcohol intoxication with:

- ataxia
- euphoria
- slurred speech
- nystagmus
- numbness of extremities
- cardiovascular and respiratory stimulation.

At higher doses the predominant acute effects include:

- sweating
- hyper-salivation
- myoclonus
- apathy
- muscle rigidity
- risk of respiratory collapse and failure
- hostile and bizarre behaviour
- disorganised thoughts
- hallucinations (distorted sensory processing)
- seizures
- coma
- drowsiness
- fever
- blurred vision
- dissociative 'out of body' sensations (flying or floating)—detachment from immediate environment
- reduced response to pain
- feelings of aggression
- stimulation
- temporary paralysis
- euphoria
- confusion and disorientation.

Longer term effects:

- weight loss
- loss of appetite
- flashbacks
- possible memory, attention and vision impairment
- possible psychological dependence
- possible development of tolerance to some behavioural and toxic effects [75]
- Physical dependence can occur [150].

Nursing management of ketamine intoxication

(See Section 2.4: Managing intoxication).

Nursing interventions are the management of symptoms arising from the drug and its effects and/or the effects of the use of more than one drug.

Harm reduction information:

- Do not mix drugs including prescribed medication, alcohol, herbal preparation, caffeine and antidepressants.
- Trying to counterbalance one drug with another does not work, and taking more drugs to try and do this is likely to place the person at greater risk of toxic overdose and intensify the 'come-down' period.
- Avoid using caffeine, such as guarana and other caffeine-based drinks due to risk of dehydration.

Ketamine overdose

Possible symptoms of ketamine overdose

Respiratory depression may occur where there has been rapid intravenous administration, but can occur in slower administration hyperthermia seizures may occur in people with known seizure disorders (literature reports that ketamine use may induce or terminate seizures) [149].

Nursing management of ketamine overdose

(See Section 2.5: Managing overdose).

Ketamine withdrawal

(See Section 2.6: Managing withdrawal).

Abrupt withdrawal can occur after cessation of long-term daily use [75].

Withdrawal from ketamine has not been accurately characterised.

Maternal and neonatal care

Little is known of the effect of ketamine during pregnancy. The use of ketamine during pregnancy is not recommended.

3.5.2 Inhalants (solvents)

Introduction

Inhalants, also known as 'solvents' or 'volatile substances' include gases and other volatile compounds or mixtures of compounds such as petrol, sealants, 'super glue', paint - 'chroming', glues, aerosol propellants, acetone and paint thinners. These products vaporise, and when inhaled cause the person to rapidly become intoxicated. Commonly used terms for inhalant use include 'sniffing'; 'bagging', 'huffing' or 'petrol-sniffing'.

These substances are inhaled through the nose or mouth. They are usually sprayed into and inhaled from a plastic bag, soaked rag or sleeve, or inhaled from the product container or empty drink or other containers.

Inhalants:

- are not classified medically as drugs
- are chemicals that when exposed to air change from liquid or semisolid states to vapour
- can contain CNS depressants; slowing and altering brain activity
- can contain nitrites which are stimulants that speed up brain activity.

Why people inhale

(See Section 1.4: Understanding ATOD problems).

Reasons are individual, varied, and complex, with no single reason for people's decision to use inhalants, as with all other drug use [1].

Inhalant use can occur amongst people from any social, demographic, economic, cultural background, and always serves a purpose. Commonly people who use inhalants are children, adolescents and young adults. Reasons for inhalant use include:

- low cost
- easily accessible
- experimentation
- pleasure, excitement, fun
- connection with peers
- increased confidence
- relief from boredom
- relief from hunger - appetite suppressant
- escape from bad memories, grief, pain or trauma
- coping with fear, anxiety, unwanted thoughts, bad experiences and situations [151].

Patterns of inhalant use:

- Once off
- Occasional (irregular)
- Opportunistic
- Chronic use daily or almost daily – dependent use [151].

For further information go to:

www.nhmrc@nhmrc.gov.au

NHMRC reference code: CP136.

Health effects

While some people may experience minimal harm to their health from inhalant use others develop serious problems. These include injuries, physical tolerance and dependence, chronic health problems including, lowered immunity, nerve and organ damage and cognitive disability. For some individuals serious mental health problems may also co-exist including psychosis, mood disorders, self-harm and suicidal ideation. Other harms include interrupted physical, mental, emotional, educational, social, cultural and overall development, and worsening social and emotional capacity.

Recovery from the short-term physical effects of inhalant use tends to be rapid. Prognosis is generally good for people who only use inhalants occasionally and do not inhale an excessive amount when using [151].

Acute effects

The acute effects of inhalant user are unpredictable and range from mild to serious, and acute and longer term health problems.

Intoxication in itself has associated life threatening risks from injury or complications from inhaling. There can be milder adverse effects such as nausea or headache or serious effects such as seizures, organ damage, neurological deficits, and cognitive impairment.

Signs and symptoms of adverse effects include:

- sores on and around nose and mouth
- nosebleeds
- diarrhoea
- fatigue
- poor appetite
- bronchio-spasm
- asthma
- muscles/joint pain

Note: Sudden death has been reported in people with no previous history of volatile substance use. It unpredictable and can occur from 'once off' use. It is caused by the direct toxic effects, asphyxia from using plastic bag), inhalation of vomit, injury and other causes [151].

Acute effects:

- euphoria
- light-headedness – dizziness
- headache
- blurred or double vision
- ataxia
- red conjunctivae
- nystagmus
- cough
- slurred speech
- excess salivation
- abdominal cramps
- nausea, vomiting, diarrhoea

Serious complications:

- injury
- tachycardia, arrhythmia, dysrhythmias, cardiac arrest
- seizures
- stroke
- brain damage
- psycho-motor retardation
- increasing drowsiness to unconscious
- unstable mood
- bizarre or reckless behaviour
- hallucinations
- impaired cognitive function
- respiratory distress
- pneumonia
- suffocation
- dehydration and electrolyte imbalance
- sudden death [151].

Sudden Sniffing Death Syndrome (SSDS)

SSDS is unpredictable and can occur with first time use or episode of repeated use.

A person who is inhaling is at increased risk of SSDS if startled, emotionally stressed or engaging in extreme physical activity (e.g. running) while intoxicated. This is due to release adrenaline (for fight - flight response) with increased blood pressure, heart rate and cardiac output. Death can also occur due to the chemicals in some inhalants sensitising the heart to adrenaline.

Note: Any sudden surge of extra adrenaline to heart leading to disturbances in cardiac rhythm can be fatal (ventricular fibrillation).

Longer term effects

There is a range of longer term, often serious, health conditions associated with inhalant use. These are:

- chronic headaches
- chronic fatigue
- recurrent tinnitus
- poor balance and co-ordination – ataxia
- weight loss and malnutrition
- anaemia craving
- liver damage
- kidney damage
- immune deficiencies

- nasal bleeding and mucosa erosion
- sinus problems
- gastrointestinal disorders
- cardiac complications
- respiratory disease
- poor muscle tone
- chronic infections
- depression
- anxiety
- poor cognitive function
- brain damage [151].

Table 20: Various inhalants and their affects in the body

Toluene	Can cause damage to the brain that can result in: impaired coordination, loss of hearing and blurred vision. Impaired cognition, liver and kidney damage. Spasms to limbs.
Benzene	Suppression of bone marrow, increased risk of leukaemia, suppression of immune system.
Trichlorethylene	Cirrhosis of the liver, loss of hearing and vision, Sudden sniffing death syndrome.
Butane	Burns, SSD
Nitrous Oxide	Limb spasms, depression of heart muscle, altered perception, reduces oxygen to brain which can result in brain damage or death. Altered motor coordination, blackouts. Altered blood pressure.
Amyl & Butyl Nitrite	Suppressed immune system, damage to blood cells which effects oxygen supply to vital tissues and organs.
Freon	Obstruction to airway and injury to airways, SSD, liver damage.
Lead (Petrol) Affects all systems of the body – large number of health issues can arise from exposure.	**Effects** - dose related. Can cause death. **Brain damage** - cognitive impairment, reduced visual & motor skills deficits, reduced reaction time. **Psychological impairment** - reduced IQ, anxiety, learning difficulties, attention deficit disorders, behavioural problems. Physical e.g stunted growth, impaired hearing, kidney damage, loss of appetite, vomiting, high blood pressure, reduced Vitamin D & calcium metabolism, abdominal cramps. **Foetal effects** - e.g. miscarriage, neonatal death, premature birth, reduced birth weight. **Reproductive effects** - e.g. altered testicular functioning, erectile dysfunction, decreased libido, and fertility problems.

Adapted from [151].

Absorption, metabolism and excretion

As the inhalant enters the bloodstream the chemicals are rapidly distributed via the lungs to the brain, liver, kidneys and bone marrow. Inhalants are metabolised by the liver.

Many inhalant chemicals are excreted by the kidneys. Others are eliminated unchanged from the body, primarily through the lungs. As most inhalant chemicals are fat-soluble, complete elimination can take some time as these are released from fatty tissue into the blood.

Not all inhalant chemicals can be excreted e.g. some metals such as lead and vinyl chloride may accumulate permanently in the brain and other organs, and causing permanent damage and chronic illness.

Onset and time-frame of effects

Onset is rapid from about 1 to 5 minutes from start of inhalation or after between 15 to 20 inhalations. After the person has become intoxicated the acute effects will continue to for several minutes after inhalation has stopped. If they continue to inhale the substance acute intoxication will be extended and may persist for hours after cessation. This is due to the generally longer half-lives and time of elimination of inhaled substances, which vary widely. Therefore the actual time that a particular chemical remains in the body is not easily predicted.

Trajectory of effect:

- **Initial stage** – excitement, dizziness, exhilaration, nausea, visual and auditory hallucinations
- **Early CNS depression** – dullness, disorientation, loss of self control and blurred vision
- **Medium CNS depression** – drowsiness, lack of muscular co-ordination and slurred speech
- **Late CNS depression** – Stupor, delirium, epileptic type seizures.

Assessment and quantification

Inhalant assessment is needed to determine the pattern of use, type/s and effects of inhalant used and clinical symptoms. The main areas to cover are:

- type of inhalant/s they have recently used
- amount of inhalant recently used (can be difficult to quantify)
    - If the person has the inhalant with them you could ask them to show you how much remains so as to make an estimate of amount used
- pattern of inhaling
- frequency of inhaling during a session
- method of inhaling (bagging, sniffing).

Advise not to use:

- explain links of inhaling with current problems e.g. illness, injuries, impact on family, learning or behaviour problems, legal or other issues – this may increase motivation to consider change

- provide holistic health care and offer ongoing support through to services on discharge e.g. specialist ATOD agency
- offer 'shared' care with other key services
- offer referral for support and counselling to family.

You may decide to seek specialist consultation Where appropriate you can suggest a referral or support from a specialist Drug &Alcohol nurse or service to assist the person.

Before undertaking this assessment it is important to:

- explain reasons and purpose of assessment
- explain that this is standard procedure.

Assessment should include (if possible):

- risk assessment - injury, self-harm, suicide
- medical - physical examination
- drug use history including all inhalants, alcohol, drugs or other substances
- laboratory investigations e.g. full blood screen, urine drug screen, ECG if possible
- psycho-social history
- brief cognitive assessment e.g. Mini-Mental State Examination
- further investigations as indicated [151].

Based on their assessment it can be useful to provide the person feedback, and reassure them you are there to assist. Considering their physical and psycho-social needs is important and will provide important information that needs to be incorporated into their immediate and after care plan.

An integrated team approach will be effective in planning and implementing future support and intervention – including the clinical team, Aboriginal workers (if person is Aboriginal), social workers and community groups. Education, harm reduction strategies will also be necessary.

Note: It is important to attend to any statutory obligations concerning the welfare of children affected. These obligations vary according to state and territory legislation.

Table 21: Key domains of clinical assessment of inhalant use

Type (s) of substance (glue, spray paint (colour), petrol, deodorants, cooking spray). Gather information about all substances inhaled.	**Method of administration** (bagging, sniffing).
Quantity (if they can – ask in bags, cans, puffs, volume or container size if petrol).	**Frequency** (daily, number of times per day, weekly).
Pattern (time of day, binge, week-ends).	**Duration** (first use, most recent use, periods of abstinence).
With Whom (alone or in group).	**Where** (at home, the beach).
Desired effects (what they want from use – not same as what they get).	Effects experienced.
Unwanted effects experienced (from use, include behaviour, how long effects last), outcomes of inhaling substances.	**Adverse effects** – If yes, is it likely to happen again, and if so how and when?
Recovery Time (how long it take for effect to wear off, how long before reusing).	**Other drugs used** (list in order of preferences. This may include drugs such as cannabis, are they using together).
Changes in use or patterns of use (more then when first started / less).	**Symptoms Experienced** (if cease or significantly reduce use, time frame e.g. 24-48 hours after last use).
Seizures or Passing out (while using or after use, ask if using in a group what others may have witnessed).	**Accidents** while intoxicated (head injuries).
History of inhaling (first use, any treatment or interventions, supported or not supported when ceased use, reason for resuming use, or change of substance, what helped and what did not).	**Appearance** (gait, dress, groom, facial expressions).
Behaviour (agitation, panicky, eye contact, relaxed).	**Speech** (rate, volume, rhythm, pressured, stammering).
Mood (how they are feeling – any changes, difference when using alone or in group).	**Affect** (as observed by you).
Perception (hallucinations, auditory, tactile, gustatory or olfactory. Does this occur when using or not using, before use or after starting).	Concentration, Attention, Orientation (time, place, person, span).
Memory (short and long term).	**Sleep** (continuous, broken, time frame)
Pro's and Con's of Use (this can identify if use is for e.g. emotional or physical pain, enjoyment, boredom).	**Appetite** (increased, decreased, weight loss or gain, deliberate or not).
Energy and Motivation (low, high, too much too little).	**Insight** (ability to understand their situation).
Risks (to self, others, from others).	**What they would like to do about use** (stop, cut down, continue use, motivation to change)

Note: Reports of coordination problems in the absence of intoxication, poor memory/problem solving, and any abnormal visual, hearing or psychotic symptoms require immediate medical assessment.

In a 'nutshell':

Inhalant intoxication involves:

- rapid onset - within seconds
- time frame of action with 15 –20 breaths with intoxication lasting up to 6 hours
- resembles alcohol intoxication
- unpredictable effects

Note: Consider inhalant use - if asthma, allergies, hay fever do not improve with treatment and good compliance with medications [152].

Inhalant intoxication

(See Section 2.4: Managing intoxication).

Inhalant intoxication can resemble alcohol intoxication. While individual components of compounds can differ in their psycho-active effects, the overall action of most is depression of the central nervous system (CNS).

Initial feelings of exhilaration and euphoria are commonly followed by:

- tinnitus
- headache
- drowsiness
- disorientation
- confusion
- perceptual dysfunction

The effects and signs of inhalant intoxication are influenced by the:

- type of inhalant/s used (variable half-life)
- dose and time frame of inhalant used e.g. number of consecutive inhalations and length of time inhaling during the episode)
- method of inhalation
- age and gender of person
- physical fitness and general health of person
- person's previous experience
- where they were when inhaling e.g. alone; with friends; inside or outside a building; in a safe place/unsafe place etc).

Note: If polydrug use has occurred involving alcohol, medicines or other drugs the time to recover from acute intoxication can be lengthened. There is also serious risk of drug interactions, toxicity, gross intoxication and overdose.

Signs of recent inhalant use:

- possession of inhalant items e.g. aerosol container, cloth, plastic bag, balloon
- dilated pupils
- odour of inhalant on clothing or person
- tremor
- slurred speech
- ataxia
- poor concentration
- unstable mood
- not 'themselves

Safety issues during acute intoxication

If a person is still inhaling at this time

- remain calm – ensure you are safe
- approach the person slowly and calmly
- adjust pace of your movements to the person's
- stand to their side at a distance
- speak slowly, quietly using short simple sentences - in reassuring manner
- ensure good ventilation e.g. stay outside, open doors and windows
- do not remove the container
- ask for matches and or lighters
- once safe to do so, help person to a safe, low stimulus environment to avoid over-stimulation, shock, hallucinations, SSDS
- keep the person still and quiet –offer small amounts of fluids
- assess and obtain medical assistance if required
    - arrange transport to medical aid or safe place
    - report their very recent inhalant use, and if possible time of last use
- if medically safe – wait until person is settled and more at ease then gently persuade them to give you the container - do not remove if person is agitated or aggressive
- remain with the person to ensure their safety and well being
- do not argue, give information about risks of inhaling or try to counsel while person is intoxicated.

Inhalant overdose

(See Section 2.5: Managing overdose).

Inhalant overdose is rare providing no other solvents, alcohol or drugs have also been used (polydrug use).

Toxicity varies greatly, depending on the substance. Generally, signs are cardiac arrhythmias, hypoxia, and neurological impairment.

Note: Immediate first aid is required. Family and associated should be trained and encouraged in recognising and giving emergency care and cardiopulmonary resuscitation wherever possible.

Inhalant withdrawal

(See Section 2.6: Nursing management of withdrawal).

A person who inhales regularly can develop tolerance and become physically dependent [151]. As a result Inhalant withdrawal can occur on rapid reduction or cessation of regular use. Physical tolerance will decrease after a short period of abstinence (See Glossary for definitions of tolerance and dependence).

Symptoms of inhalant withdrawal:

- runny eyes or noses
- rapid heart beat
- tremor/trembling
- twitching
- irritability
- headache
- nausea
- craving
- poor concentration
- lethargy
- poor sleep
- anxiety
- depression
- hallucinations [145].

As there is no validated scale for measuring inhalant withdrawal symptoms or standardised prescribed medication regime, clinical practice suggests that sound clinical observation, monitoring and judgement are required [153].

Observations and monitoring inhalant withdrawal require particular attention to:

- blood pressure
- temperature
- pulse
- respiration
- oxygen saturation
- dehydration

Arrange immediate medical assessment for:

- toxicity
- head or other injury
- infection e.g. pneumonia
- difficulty breathing
- unusual behaviours
- worsening of physical symptoms
- increasing agitation or anxiety
- diminishing consciousness

- panic [151].

Symptomatic medications

It is also important to provide medications for symptoms such as headache, muscle pain nausea and fever. If pain is not easily relieved seek medical assessment [154].

If the person is experiencing anxiety, panic, or is agitated they may be prescribed a benzodiazepine providing their medical assessment deems this to be safe.

Screening and medical investigations

Particular screening may be required, and include:

- cognitive function
- nutritional status
- mental health status

Various medical investigations may be ordered depending on the substance(s) inhaled. These may include:

- complete blood count
- urinalysis
- pregnancy
- EEG
- CT scan head
- Blood Urea Nitrogen (BUN)
- liver function
- other tests as necessary
- heavy metal screening
- drug screen
- chest x-ray
- electrolytes
- MRI head
- creatinine level
- anion gap measurement.

Note: With investigation for serum levels of Nitrous Oxide Vitamin B12 deficiency using the Schillings test results are almost always normal. It is suggested that further tests include Homocysteine levels which seem more sensitive in detecting vitamin B12 deficiency

Other interventions

(See Section 2.3: Early and brief intervention).

Inhalant Harm Reduction Strategies

Inform the person who may continue using inhalants to never:

- inhale in unsafe places e.g. near water, roads or high places
- inhale alone – stay with friends or someone who can offer first aid if something goes wrong
- use inhalants with alcohol or other drugs
- inhale when near flames e.g. near cigarette lighters, lit matches or candles or open campfire - risk of burns and explosions

- spray aerosols directly into the mouth as this can freeze the airways to lungs, or cause choking and asphyxiation
- inhale from plastic bags over the head – risk of suffocation
- smoke tobacco or cannabis during or immediately after inhaling – danger of burns
- drive, ride or operate machinery while intoxicated

Inform the person who may continue using inhalants to:

- always inhale outside or in well ventilated areas e.g. near open window/door
- inhale from paper, cloth bags, rag, or soft drink bottle to help prevent suffocation
- if 'chroming' (inhaling aerosol paint) – turn can upside down to reduce spilling residue chemicals on body or clothes
- take frequent breaks from inhaling – give time for body and brain to recover
- drink plenty of water or non-alcoholic fluids – to prevent dehydration
- have emergency numbers in pocket or nearby to get help if needed
- know how to give first aid to others with you

If the person comes to the emergency department it is important to determine what produce they have inhaled and the time of last episode. Dangerous drug interactions can occur between prescribed medications that may be required and the inhalant they have used.

Maternal and Neonatal Care

Mother and baby at risk from:

- sudden death
- organ damage
- low birth weight for gestational age
- birth defects
- intoxication
- weight loss & poor nutrition
- miscarriage or death of foetus

Neo-natal withdrawal

Withdrawal syndrome is characterised by typical odour (from pulmonary excretion of the inhalant), excessive high pitched cry, sleeplessness, hyperactive moro-reflex, tremor, Hypotonia, poor feeding [60].

Inhalants and Breastfeeding

- many inhalants can be detected in breast milk e.g. lead, acetone and benzene
- most inhalants are lipophilic (fat stored), excreted in breast milk and ingested by breast fed babies
- chronic exposure to petrol may decrease breast milk production [60]

3.5.3 Anabolic androgenic steroids (AAS)

Introduction

Steroids are available illegally on the “black” market and are commonly veterinary preparations.

People who use of anabolic steroid may not consider themselves as illicit drug users and are generally older than other illicit drug users.

Many steroid users are health conscious, some to the point of obsession, and use of other illicit drugs is low. Some groups may also use amphetamines or other psychostimulants.

Steroid users tend not to access health programs and do not receive messages aimed at illicit drug users, e.g. harm reduction information related to injecting drugs, even though this group is at risk [155].

Counterfeit steroids (AASs) are sold from time-to-time, with variable dose, constituents, quality and safety.

Steroid users may have a distorted ‘body image’, often described as a reverse anorexia, where they see themselves as underweight [156].

Steroid users may use AASs in combination with other medical drugs, e.g. growth hormones, reproductive hormones, diuretics, beta two agonists, thyroxin, insulin, creatinine monohydrate. Oestrogen antagonists may be used to reduce unwanted side effects, and medical indications for the use of AAS are limited [155].

Definition

AASs are synthetically modified derivatives of testosterone available in oral or parenteral form.

Anabolic substances are those that have the ability to synthesise body tissue and increase muscle mass and/or strength. Androgenic substances promote the development of male sexual characteristics.

Purpose for use

Steroids may be used to enhance performance in sport, enhance physique in various occupations, or enhance body image. People use steroids for many reasons. These include:

- pursuit of body excellence
- improved athletic performance
- capacity to train at high levels—high intensity workouts with rapid recovery, diminished fatigue
- increased strength
- lean muscle mass
- heightened libido

- greater self confidence
- a sense of well being
- sexual arousal
- social acceptability amongst peers [106, 157, 158].

Population groups identified as possibly using steroids include:

- body builders and power lifters
- track and field athletes and swimmers
- martial arts athletes
- motorcyclists
- actors, models
- male sex workers
- manual labourers
- adolescent males
- gymnasium users
- footballers and other sportsmen and women
- occupational groups (e.g. security/crowd controllers, firemen, army personnel, police)
- amphetamine or heroin users wishing to regain weight loss as a result of their other A&OD use [151, 155, 156].

Forms of anabolic steroids

Pharmaceutical steroids are prepared for human use and are only available on prescription. Steroids with high anabolic effects are preferred, and steroids with androgenic effects should be avoided.

Water based, e.g. Stanazol

The water and steroid is rapidly absorbed and more rapidly excreted then oil-based steroids, may have to be administered twice a week, and is often used with a 23-gauge or 21-gauge needle, as the powder in the suspension can clog a narrower needle.

Oil based, e.g. Deca 50

Oil-based preparations take longer to be absorbed and take effect, and can be effective for longer than water-based steroids, e.g. two to three weeks. Some people may use them more frequently than every two to three weeks. Oil-based steroids are usually used with a 25-gauge needle.

Tablets, e.g. Anapolon® 50

The effects of this form of steroid are short-acting, and are often taken twice a day.

Tablets are generally associated with more adverse side effects due to the pharmacokinetics of this drug the 'first pass' is through the digestive system, where the steroid may lose some of its potency, and can cause liver damage.

Some steroid tablets have a coating that is designed to prevent it from being destroyed by acidity in the stomach, and these are categorised as C-17 alphalkylated and the coating used is toxic to the liver.

Anapolon® may be more toxic than injectable steroids but this is as yet unclear.

Administration of AAS

There is a common practice amongst steroid users of drawing up the drug from the same vial, thus increasing their exposure to blood-borne viruses. This occurs in a context of disbelief amongst this group who tend to perceive themselves as different from other groups of drug users and therefore 'immune' [106].

There is no scientific evidence demonstrating the superiority in effect or safety of one form of administration over another, such as oral versus injectable. The 'evidence' that exists appears to be anecdotal in origin.

Common terms relating to patterns of AAS use

Cycling: Steroids are commonly used in time cycles of between six to 12 weeks, often with a break of an equal period of time in between each cycle.

Fast tapering: Starting on a mid-range dosage and reducing to nothing over four to six weeks. A break of four to six weeks is usually taken before the cycle is repeated.

Long increasing cycle: Commencing with one third (1/3) of the dose, the person plans to finish the cycle with, then they increase the dose slowly over 10-14 weeks. This longer cycle is claimed to produce large muscle mass gains, but some users report that it produces the most unwanted side effects.

Plateauing: This is similar to the tolerance phenomena where the CNS has adapted and larger doses are required to achieve the same results/drug effect.

Pyramid cycle: Increasing the dose over four to five weeks, then decreasing over the next four to five weeks. Having eight weeks rest before repeating the cycle.

Shot-gunning: Using one off doses.

Stacking: Using more than one type of steroid at a time.

Tapering: Initiating a high dose followed by gradual reduction.

Therapeutic uses of AAS

AASs facilitate the development and repair of muscle tissue and the androgenic effects relate to the development of male sexual characteristics [159].

There are a number of steroidal drugs that are scheduled S4 for prescription for medical use. These include:

- treatment of male gonadal failure, proven gonadotrophin deficiency and hypogonadism
- androgen therapy for refractory anaemia's, wasting as a result of malignancies (including radiation therapy), or other illnesses (e.g. AIDS, burns, major trauma, chronic illnesses, eating disorders, osteoporosis), and rehabilitation after muscle injury [158, 160].

Effects of AAS use

Risks associated with AAS use

Risks may increase with the type of steroid used, dose, duration of use, route of administration, and the number and types of steroids and other drugs used simultaneously. The physical and psychological status of person is also influential. There are a number of direct risks associated with the use of anabolic steroids. These include:

- the range of physiological responses to abnormal hormone levels
- the risks related to the route of administration (e.g. exposure to blood-borne viruses, and bacterial infections resulting in abscesses at the injection site, cellulitis and endocarditis due to unsafe injecting practices)
- unsafe intramuscular injection techniques
- problems arising from using supplies for veterinary use only and the unknown effects on the human male or female body
- unreliable labelling and accuracy, purity, dose, ingredients and sterility of the drug
- not checking drug expiry dates
- combining anabolic steroids with other drugs (e.g. psychostimulants, diuretics or other performance-enhancing drugs)
- not practicing safe sex (condoms).

Wanted effects of AAS use

All drug use is functional as there are always reasons why people take drugs, including AAS [1]. These can include wanting to:

- look better (increase self image)
- increase muscle bulk and strength
- alter mental state to feel more powerful/assertive
- prevent muscle breakdown related to increase training or need to be more competitive
- increase appetite [161].

Unwanted/adverse effects of AAS use

Adverse effects may be exaggerated by those wanting to deter people from using AAS. Care should be taken to avoid this when discussing the possible adverse effects with people [156]. However it is important that people have current research-based information from which to make their decisions regarding AAS use.

These factors need attention:

Musculo-skeletal

- premature closing of the epiphysis of the long bones resulting in stunted growth in adolescents
- tendon or ligament damage.

Reproductive

- reduction in testosterone and sperm production
- adenocarcinoma of the prostate
- adenocarcinoma of the colon
- Wilm's tumour
- decreased breast size and altered fat distribution in women
- hairline recession in men
- male pattern baldness in women—irreversible
- transient infertility
- increased libido (at least initially, or a reduction in libido)
- impotence in men (usually reversible)
- involuntary and long-lasting erection (can be days)
- testicular atrophy (usually reversible)
- hirsutism in men and women
- gynaecomastia in men
- irregularities or cessation of menstrual periods, infertility (usually reversible)
- clitoral enlargement (usually permanent and not reversible)
- deepening voice in women (permanent).

Cardiovascular

- hypokalaemic-induced arrhythmia due to concomitant diuretic use
- hypertension
- oedema
- salt and fluid retention with bloating of face and elsewhere
- increased low density lipid proteins and decreased high density lipid proteins, which may lead to heart disease (relationship between AAS and cholesterol is poorly understood).

Psychological and behavioural

- Causality is unclear but the following effects have been described:
- increased aggressiveness
- increased irritability
- labile mood
- depression
- mania
- psychosis
- psychological dependence
- increased confidence in some, and depression and lowered mood in others [158, 160, 162].

Endocrine

- insulin resistance or impaired glucose tolerance
- diabetes.

Liver

- liver damage, e.g. jaundice, cirrhosis, tumours
- reversible liver function test abnormalities.

Other

- immunological changes
- male characteristics in unborn female foetus
- sleeping difficulties
- abscesses—bacterial infection from unsafe injecting or if too short a needle is used
- acne—permanent scarring possible
- more frequent colds
- foetal abnormalities.

Uncertain or debated harmful effects include:

- aggression ‘roid rage’
- cancer of the liver, kidneys, prostate
- hypertension
- loss of body hair.

Possible social effects

- breakdown of relationships or legal problems due to aggression, moodiness, sexual dysfunction, obsession with body building affecting the partner
- legal issues arising from using/dealing/supplying illicit drugs
- loss of career if a sportsperson or employed in particular profession/job.

Myths and misinformation

A number of myths exist regarding AAS use, and the methods of administration that apparently work better, none of which are based on scientific evidence.

Research evidence on the best approach to taking anabolic steroids for positive effects is scant. There are a range of issues and perspectives that appear to guide people in their choice of steroid, dosing regime, and route of administration. Others may claim that:

- there is an effective dose that is below that which causes unwanted side effects
- if there are no side effects there will be no primary or long term effects, e.g. anabolic gains
- that a 'flat' dosing regime, accompanied by abrupt cessation, causes the least disruption to normal body function, and allows a return to normality more rapidly
- the pyramid cycle is the safest as the gradual increase in dose allows the body to adjust to increasing doses, and the tapering dose in the second half of the cycle allows the body to readjust gently thus avoiding a cessation reaction. It should be noted that many steroids are metabolised and eliminated slowly from the body so there is an inbuilt taper in blood levels even if administration of the substance is suddenly ceased
- higher doses work better
- using more than one anabolic steroid is better
- using steroids will prolong life
- injecting into muscle rather than a vein reduces the likelihood of contracting a blood-borne virus infection
- one six week cycle will achieve the goal [159].

AAS and other drug interactions

The concomitant use of steroids with other drugs is not recommended. These are examples of AAS polydrug interactions.

Stimulant effects are similar to those caused by steroids—although physiological processes are different. When combined there may be:

- increased heart rate
- increased blood pressure
- depression.

These may be dangerous and can be fatal.

Cocaine causes similar effects to amphetamines although for a shorter period of time.

When combined there may be:

- increased heart rate, blood pressure and body temperature
- euphoria.

When used together steroids and cocaine can:

- mask pain
- increased pressure on the heart leading to convulsions and cardiac arrest
- provoke feelings of aggressiveness and competitiveness
- increase libido.

Psychological depression may occur when ceasing combined use of cocaine with steroids.

CNS depressant drugs

Use of CNS depressants e.g. benzodiazepines, opiates, alcohol can:

- reduce responsiveness to pain that can cause athletes to rupture muscles and damage the skeletal system.

Use of steroids with diuretics can:

- alter the sodium/potassium balance in the body. This may cause, exhaustion, kidney damage, muscle weakness, cardiac arrest and death
- increase sodium levels and cause fluid retention.

Nolviadex (Tamoxifen): An anti-oestrogen drug that is used concurrently with AAS to prevent the effects of oestrogen metabolites which result in steroids being aromatised. It may not be reliably effective in preventing gynaecomastia because there may be a number of physiological mechanisms that cause this disorder. Women using Nolviadex with steroids can experience menopausal symptoms.

Clonidine: If used in combination with AAS there is an increased risk of kidney and liver disease and impotence.

Insulin: Does not assist in an increase in muscle mass and definition. There have been reports of several insulin-related deaths in Australia and other parts of the world due to the ill informed belief that insulin, when used in combination with AAS, will increase muscle mass and definition [160].

Dependence

Generally physical dependence (neuro-adaption) does not appear to occur with steroid use. There are some reports of cases of psychological dependence, but this is so far controversial [158]. There is some evidence that particular people may become dependent on steroids, as defined in the standard international classification systems (e.g. DSM-IV and ICD-10).

For example, those users whose:

- continued use has become more important than family, friends, health or work
- fear prevents them from stopping due to a need to maintain strength or size gains despite obvious harmful consequences [160].

Assessment and quantification

- Ask the person about type of steroid/s—include multiple steroid use
- type of AAS—number and type taken simultaneously
- doses used
- administration regime (e.g. tablets or injecting—ask size of needle)
- periods of abstinence or 'spells'
- adverse effects
- time of last dose
- when first commenced or recommenced steroid use
- beliefs about use
- pattern and duration of use (e.g. cycling)
- wanted effects (reason for using)
- risk factors (e.g. unsafe injecting techniques such as sharing of steroid solution and injecting equipment, skin hygiene, poly drug use such as multiple AAS and/or other drugs).

Nursing management of AAS use

- nursing observations for drug effects and side effects
- provide supportive care (psychological effects)
- provide supportive nursing care in relation to minimising and relieving unwanted physical side effects
- attend to psychological issues
- management of behavioural issues (e.g. aggression)
- provide harm reduction information and strategies.

Harm reduction information AAS use

Avoid sensationalism and provide factual and practical information. Advise the person that:

- AAS use cannot be considered risk-free for anyone
- it is best not to ever use/to cease use
- there can be temporary and permanent adverse effects
- seek advice on specific training regimes and diet as alternatives to steroid use is available
- never purchase products as counterfeit steroids are sold. Authentic steroids are sealed in the original packaging with a clear 'use by date'. If the seal is damaged or removed, or there is no label or the label may be a photocopy, this is likely not authentic

- contents may be contaminated or replaced with other substances
- monitor health in consultation with a general practitioner
- use of steroids in high doses is dangerous. Supervision and advice from a medical doctor may assist in reducing AAS risks and harms
- safety and effectiveness of oral versus injectable steroids is questionable due to liver metabolism
- there is information about AAS effects and possible adverse effects
- non-prescribed use of steroids is not recommended, risky and illegal.
- it is wise to avoid use of AAS with other drugs can result in drug interactions
- to have blood tests prior to an AAS cycle and on completion of AAS cycle to screen for liver, kidneys and heart function. Other pathology tests may be useful, e.g. serum electrolytes, cholesterol, blood pressure, oedema, and blood-borne viruses (if at risk). The person needs careful pre-test and post-test counselling

Note: pathology tests of doubtful benefits include full blood count—except where specifically indicated by clinical history, and gonadotrophin, oestrogen and testosterone levels

- they need to always use new needles and syringes and other injecting equipment such as swabs
- they should to never share steroid solution—use your own
- they should never share any injecting equipment
- using safe injecting techniques is safest —never inject a steroid into a vein or artery (intramuscular injection should be used) as oil-based steroids can cause clots if injected into an artery
- using steroids in combination with diuretics 'water pills' is risky. This can be fatal due to marked electrolyte disturbances
- avoiding use of higher doses as these are unlikely to achieve greater performance/appearance or other enhancing effects due to saturation of steroid receptors—dose should be kept to a minimum
- if side effects are experienced, cease use immediately and do not treat the effects with other drugs, seek medical advice
- using any tablet or substance that you cannot confidently identify is very risky [156, 157, 160].

The person must be advised not to use insulin. However, if they are determined to use insulin give them the following advice to reduce the risks:

- consider using a natural method of raising the blood insulin levels during workouts (e.g. consuming glucose containing fluids at intervals during exercise) which may have a protein sparing effect, help maintain blood glucose and insulin levels
- always use insulin in the presence of another person (who will stay for the time of insulin effect not only at the time of injection) who knows the risks of insulin use and can administer first aid
- always use clean injecting equipment and technique—inject subcutaneously into the abdomen or outer thigh
- rotate injecting sites to protect tissues
- always use short-acting insulin
- use human insulin not animal insulin
- take care in measuring the dose of insulin as it is very concentrated
- do not believe that more insulin is better
- only use once a day, immediately before breakfast
- consult an experienced professional sports nutritionist to discuss the use of insulin
- use low glycaemic index foods at regular intervals throughout the day [156, 157, 160].

Cycle completion

There is a period at the completion of an AAS cycle when steroid users experience a temporary 'shut down', where synthetic testosterone is no longer available and their own body is not yet producing testosterone (or is doing so at a greatly reduced rate).

This results in loss of muscle size and weight, reduced strength, loss of lean muscle, and gain in body fat. As steroids relieve joint pain, joint pain may be experienced. The person may feel small, fat, weak, mentally depressed and have general aches and pains.

These factors and negative comments from others may encourage the person to recommence use.

Ceasing AAS use

Most wanted and unwanted effects are reversible with cessation of use.

There is no need to taper dose to cease use, however idiosyncratic symptoms due to cessation can arise (e.g. mood swings and depression) which should be monitored and if necessary treated.

As with people who use other drugs, AAS users may find it difficult to cease their use. They need to be educated and supported in using as safely as possible, and encouraged to consider cessation at some time [160].

Signs and symptoms of cessation of AAS use

Some users report that length of time they have been using steroids and doses used affects how they feel when they cease use.

There is evidence that if a person has been using steroids for a long time at high doses, it takes up to four months or more for the body's natural testosterone production to return to normal. However the precise relationship between dose, duration of use and symptoms on cessation remains unclear. When a steroid cycle is completed the effects of abnormally low testosterone levels may be experienced.

These include:

- mood swings
- rage
- lethargy
- weight loss
- decrease in libido [156, 160]
- violent behaviour
- depression and suicidal ideation
- decreased appetite
- decrease in physical strength.

Some people who use steroids may have damage to testosterone production and need hormone replacement therapy [163].

Maternal and neonatal care

Steroids can be teratogenic and masculinise female foetuses. Women should be advised not to use before, during or after pregnancy or while breastfeeding.

For further information on steroid use go to:

www.directionsact.com/pdf/drug news/The Steroid Book.pdf

Section 4
Appendices & References

Screening Tools

Assessment Tools

Overdose Monitoring Tool

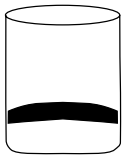
Withdrawal Monitoring Tools

Appendix 1: Alcohol Use Disorders Identification Test (AUDIT)

Australian Government
Department of Veterans' Affairs

Alcohol Screen (AUDIT)

THE RIGHT MIX

Light Beer 425ml 2.9% Alcohol	Full Strength Beer 285ml 4.9% Alcohol	Wine 100ml 12% Alcohol	Fortified Wine 60ml 20% Alcohol	Spirits 30ml 40% Alcohol	Full Strength Can or Stubbie 375ml 4.9% Alcohol
					

*The guide above contains examples of **one standard drink**.* A full strength can or stubbie contains ***one and a half standard drinks***.

Introduction

Because alcohol use can affect health and interfere with certain medications and treatments, it is important that we ask you some questions about your use of alcohol. Your answers will remain confidential, so please be as accurate as possible. Try to answer the questions in terms of **'standard drinks'**. Please ask for clarification if required.

AUDIT Questions Please tick the response that best fits your drinking.

						Score	Sub totals
	Never	*Monthly or less*	*2 - 4 times a month*	*2 - 3 times a week*	*4 or more times a week*		
1. How often do you have a drink containing alcohol?	☐ Go to Qs 9 & 10	☐	☐	☐	☐	☐	
	1 or 2	*3 or 4*	*5 or 6*	*7 to 9*	*10 or more*		
2. How many standard drinks do you have on a typical day when you are drinking?	☐	☐	☐	☐	☐	☐	
	Never	*Less than monthly*	*Monthly*	*Weekly*	*Daily or almost daily*		
3. How often do you have six or more standard drinks on one occasion ?	☐	☐	☐	☐	☐	☐	☐
4. How often during the last year have you found that you were not able to stop drinking once you had started?	☐	☐	☐	☐	☐	☐	
5. How often during the last year have you failed to do what was normally expected of you because of drinking?	☐	☐	☐	☐	☐	☐	
6. How often during the last year have you needed a first drink in the morning to get yourself going after a heavy drinking session?	☐	☐	☐	☐	☐	☐	☐
7. How often during the last year have you had a feeling of guilt or remorse after drinking?	☐	☐	☐	☐	☐	☐	
8. How often during the last year have you been unable to remember what happened the night before because you had been drinking?	☐	☐	☐	☐	☐	☐	
	No		*Yes, but not in the last year*		*Yes, during the last year*		
9. Have you or someone else been injured because of your drinking?	☐		☐		☐	☐	
10. Has a relative, friend, doctor, or other health care worker been concerned about your drinking or suggested you cut down?	☐		☐		☐	☐	☐
						TOTAL	

Supplementary Questions

	No	*Probably Not*	*Unsure*	*Possibly*	*Definitely*
Do you think you presently have a problem with drinking?	☐	☐	☐	☐	☐
	Very easy	*Fairly easy*	*Neither difficult nor easy*	*Fairly difficult*	*Very difficult*
In the next 3 months, how difficult would you find it to cut down or stop drinking?	☐	☐	☐	☐	☐

How to score and interpret the AUDIT

The World Health Organization's Alcohol Use Disorders Identification Test (AUDIT) is a very reliable and simple screening tool which is sensitive to early detection of risky and high risk (or hazardous and harmful) drinking. It has three questions on alcohol consumption (**1 to 3**), three questions on drinking behaviour and dependence (**4 to 6**) and four questions on the consequences or problems related to drinking (**7 to 10**).

The **Supplementary Questions** do not belong to the AUDIT and are **not** scored. They provide useful clinical information associated with the client's perception of whether they have an alcohol problem and their confidence that change is possible in the short-term. They act as an indication of the degree of intervention required and provide a link to counselling or brief intervention following feedback of the AUDIT score to the client.

Scoring the AUDIT

- The columns in the AUDIT are scored from left to right.
- **Questions 1 to 8** are scored on a five-point scale from **0, 1, 2, 3,** and **4**.
- **Questions 9 & 10** are scored on a three -point scale from **0, 2** and **4**.
- Record the score for each question in the **"score"** column on the right, including a zero for questions **2 to 8** if 'skipped'.
- Record a total score in the **"TOTAL"** box at the bottom of the column. The maximum score is 40.

Consumption score

Add up **questions 1 to 3** and place this sub-score in the adjacent single box in the far right column (maximum score possible = 12). A score of 6 or 7 may indicate a risk of alcohol-related harm, even if this is also the total score for the AUDIT (e.g. consumption could be over the recommended weekly intake of 28 for men and 14 for females in the absence of scoring on any other questions). Drinking may also take place in dangerous situations (e.g. driving, fishing/boating). Scores of 6 to 7 may also indicate potential harm for those groups more susceptible to the effects of alcohol, such as young people, women, the elderly, people with mental health problems and people on medication. Further inquiry may reveal the necessity for harm reduction advice.

Dependence score

Add up **questions 4 to 6** and place this sub-score in the adjacent single box in the far right column (maximum score possible = 12). In addition to the total AUDIT score, a secondary 'dependence' score of 4 or more as a subtotal of questions 4 to 6, suggests the possibility of alcohol dependence (and therefore the need for more intensive intervention if further assessment confirms dependence).

Alcohol-related problems score

Any scoring on **questions 7 to 10** warrants further investigation to determine whether the problem is of current concern and requires intervention.

AUDIT Total score	*Dependence score*	*Risk level*	*Possible Interventions*
0 - 7	below 4	**Low-risk**	• Use 'Right Mix' materials to reinforce low-risk drinking, particularly for those who previously had alcohol problems or whose circumstances may change. • Harm reduction advice may be appropriate for those in susceptible groups (see 'Consumption Score' above).
8 - 15	below 4	**Risky** or **hazardous level.** Moderate risk of harm. May include some clients currently experiencing harm (especially those who have minimised their reported intake and problems).	• Brief Intervention - feedback of AUDIT and harm reduction advice may be sufficient Ideally also: - setting goals and limits - a motivational interview - self-monitoring of drinking - use of "The Right Mix" self-help guide
	4 or more	Assess for dependency	• Counselling may be required.
16 - 19	below 4	**High-risk** or **harmful level.** Drinking that will eventually result in harm, if not already doing so. May be dependent.	• Brief Intervention (all components) is a minimum requirement. • Assessment for more intensive intervention. • Counselling using CBT principles and motivational interviewing in individual sessions and/or in groups. • Follow-up and referral where necessary.
	4 or more	Assess for dependence	
20 or more	below 4	**High-risk** Definite harm, also likely to be alcohol dependent. Assess for dependence.	• Further assessement preferably including family and significant others. • More intensive counselling and/or group program. • Consider referral to medical or specialist services for withdrawal management.
	4 or more	**Almost certainly dependent.** Assess for dependency.	• Pharmacotherapy to manage cravings. • Relapse prevention, longer-term follow-up and support.

Appendix 2A: The Alcohol, Smoking and Substance Involvement Screening Test (ASSIST)

WHO - ASSIST V3.1

CLINICIAN ID		**CLINIC**	
CLIENT ID OR NAME		**DATE**	

INTRODUCTION (*Please read to client. Can be adapted for local circumstances*)

The following questions ask about your experience of using alcohol, tobacco products and other drugs across your lifetime and in the past three months. These substances can be smoked, swallowed, snorted, inhaled, injected or taken in the form of pills (show response card).

Some of the substances listed might have been prescribed to you by a doctor (such as sedatives, pain medications or amphetamine-based products). For this interview, medications that are used as prescribed by your doctor are not recorded. However, if you have taken such medications for reasons other than prescription, or taken them more frequently, or at higher doses than prescribed, please let me know.

While some of the questions that will be asked are about your use of drugs other than alcohol or tobacco, please be assured that information on such use will be treated as strictly confidential.

NOTE: BEFORE ASKING QUESTIONS, GIVE ASSIST RESPONSE CARD TO CLIENT

Question 1 (please circle the response for each category of substance)·

In your life, which of the following substances have you ever used? *(NON-MEDICAL USE ONLY)*		
a. Tobacco products (cigarettes, chewing tobacco, cigars, etc.)	No	Yes
b. Alcoholic beverages (beer, wine, spirits, etc.)	No	Yes
c. Cannabis (marijuana, pot, grass, hash, etc.)	No	Yes
d. Cocaine (coke, crack, etc.)	No	Yes
e. Amphetamine type stimulants (speed, meth, ecstasy, ice etc.)	No	Yes
f. Inhalants (nitrous, glue, petrol, paint thinner, etc.)	No	Yes
g. Sedatives or Sleeping Pills (Valium, Serepax, Rohypnol, Temazepam, Normison, Stilnox, etc.)	No	Yes
h. Hallucinogens (LSD, acid, mushrooms, trips, Ketamine, etc.)	No	Yes
i. Opioids (heroin, morphine, methadone, opium, Buprenorphine, codeine, etc.)	No	Yes
j. Other - specify:	No	Yes

Probe if all answers are negative:
"Not even when you were in school?"

If "No" to all items, stop interview.

If "Yes" to any of these items, ask Question 2 for each substance ever used.

Question 2

In the <u>past three months</u>, how often have you used the substances you mentioned *(FIRST DRUG, SECOND DRUG, ETC)*?	**Never**	**Once or Twice**	**Monthly**	**Weekly**	**Daily or Almost Daily**
a. Tobacco products (cigarettes, chewing tobacco, cigars, etc.)	0	2	3	4	6
b. Alcoholic beverages (beer, wine, spirits, etc.)	0	2	3	4	6
c. Cannabis (marijuana, pot, grass, hash, etc.)	0	2	3	4	6
d. Cocaine (coke, crack, etc.)	0	2	3	4	6
e. Amphetamine type stimulants (speed, meth, ecstasy, ice etc.)	0	2	3	4	6
f. Inhalants (nitrous, glue, petrol, paint thinner, etc.)	0	2	3	4	6
g. Sedatives or Sleeping Pills (Valium, Serepax, Rohypnol, Temazepam, Normison, Stilnox, etc.)	0	2	3	4	6
h. Hallucinogens (LSD, acid, mushrooms, trips, Ketamine, etc.)	0	2	3	4	6
i. Opioids (heroin, morphine, methadone, opium, Buprenorphine, codeine, etc.)	0	2	3	4	6
j. Other - specify:	0	2	3	4	6

If "Never" to all items in Question 2, skip to Question 6.

If any substances in Question 2 were used in the previous three months, continue with Questions 3, 4 & 5 for <u>each substance</u> used.

Question 3

During the <u>past three months</u>, how often have you had a *strong* desire or urge to use *(FIRST DRUG, SECOND DRUG, ETC)*?	**Never**	**Once or Twice**	**Monthly**	**Weekly**	**Daily or Almost Daily**
a. Tobacco products (cigarettes, chewing tobacco, cigars, etc.)	0	3	4	5	6
b. Alcoholic beverages (beer, wine, spirits, etc.)	0	3	4	5	6
c. Cannabis (marijuana, pot, grass, hash, etc.)	0	3	4	5	6
d. Cocaine (coke, crack, etc.)	0	3	4	5	6
e. Amphetamine type stimulants (speed, meth, ecstasy, ice etc.)	0	3	4	5	6
f. Inhalants (nitrous, glue, petrol, paint thinner, etc.)	0	3	4	5	6
g. Sedatives or Sleeping Pills (Valium, Serepax, Rohypnol, Temazepam, Normison, Stilnox, etc.)	0	3	4	5	6
h. Hallucinogens (LSD, acid, mushrooms, trips, Ketamine, etc.)	0	3	4	5	6
i. Opioids (heroin, morphine, methadone, opium, Buprenorphine, codeine, etc.)	0	3	4	5	6
j. Other - specify:	0	3	4	5	6

Question 4

During the <u>past three months</u>, how often has your use of *(FIRST DRUG, SECOND DRUG, ETC*) led to health, social, legal or financial problems?	**Never**	**Once or Twice**	**Monthly**	**Weekly**	**Daily or Almost Daily**
a. Tobacco products (cigarettes, chewing tobacco, cigars, etc.)	0	4	5	6	7
b. Alcoholic beverages (beer, wine, spirits, etc.)	0	4	5	6	7
c. Cannabis (marijuana, pot, grass, hash, etc.)	0	4	5	6	7
d. Cocaine (coke, crack, etc.)	0	4	5	6	7
e. Amphetamine type stimulants (speed, meth, ecstasy, ice etc.)	0	4	5	6	7
f. Inhalants (nitrous, glue, petrol, paint thinner, etc.)	0	4	5	6	7
g. Sedatives or Sleeping Pills (Valium, Serepax, Rohypnol, Temazepam, Normison, Stilnox, etc.)	0	4	5	6	7
h. Hallucinogens (LSD, acid, mushrooms, trips, Ketamine, etc.)	0	4	5	6	7
i. Opioids (heroin, morphine, methadone, opium, Buprenorphine, codeine, etc.)	0	4	5	6	7
j. Other - specify:	0	4	5	6	7

Question 5

During the <u>past three months</u>, how often have you failed to do what was normally expected of you because of your use of *(FIRST DRUG, SECOND DRUG, ETC*)?	**Never**	**Once or Twice**	**Monthly**	**Weekly**	**Daily or Almost Daily**
a. Tobacco products					
b. Alcoholic beverages (beer, wine, spirits, etc.)	0	5	6	7	8
c. Cannabis (marijuana, pot, grass, hash, etc.)	0	5	6	7	8
d. Cocaine (coke, crack, etc.)	0	5	6	7	8
e. Amphetamine type stimulants (speed, meth, ecstasy, ice etc.)	0	5	6	7	8
f. Inhalants (nitrous, glue, petrol, paint thinner, etc.)	0	5	6	7	8
g. Sedatives or Sleeping Pills (Valium, Serepax, Rohypnol, Temazepam, Normison, Stilnox, etc.)	0	5	6	7	8
h. Hallucinogens (LSD, acid, mushrooms, trips, Ketamine, etc.)	0	5	6	7	8
i. Opioids (heroin, morphine, methadone, opium, Buprenorphine, codeine, etc.)	0	5	6	7	8
j. Other - specify:	0	5	6	7	8

Ask Questions 6 & 7 for all substances ever used (i.e. those endorsed in Question 1)

Question 6

Has a friend or relative or anyone else ever expressed concern about your use of *(FIRST DRUG, SECOND DRUG, ETC.)?*	**No, Never**	**Yes, in the past 3 months**	**Yes, but not in the past 3 months**
a. Tobacco products (cigarettes, chewing tobacco, cigars, etc.)	0	6	3
b. Alcoholic beverages (beer, wine, spirits, etc.)	0	6	3
c. Cannabis (marijuana, pot, grass, hash, etc.)	0	6	3
d. Cocaine (coke, crack, etc.)	0	6	3
e. Amphetamine type stimulants (speed, meth, ecstasy, ice etc.)	0	6	3
f. Inhalants (nitrous, glue, petrol, paint thinner, etc.)	0	6	3
g. Sedatives or Sleeping Pills (Valium, Serepax, Rohypnol, Temazepam, Normison, Stilnox, etc.)	0	6	3
h. Hallucinogens (LSD, acid, mushrooms, trips, Ketamine, etc.)	0	6	3
i. Opioids (heroin, morphine, methadone, opium, Buprenorphine, codeine, etc.)	0	6	3
j. Other – specify:	0	6	3

Question 7

Have you ever tried to cut down on using *(FIRST DRUG, SECOND DRUG, ETC.)* but failed?	**No, Never**	**Yes, in the past 3 months**	**Yes, but not in the past 3 months**
a. Tobacco products (cigarettes, chewing tobacco, cigars, etc.)	0	6	3
b. Alcoholic beverages (beer, wine, spirits, etc.)	0	6	3
c. Cannabis (marijuana, pot, grass, hash, etc.)	0	6	3
d. Cocaine (coke, crack, etc.)	0	6	3
e. Amphetamine type stimulants (speed, meth, ecstasy, ice etc.)	0	6	3
f. Inhalants (nitrous, glue, petrol, paint thinner, etc.)	0	6	3
g. Sedatives or Sleeping Pills (Valium, Serepax, Rohypnol, Temazepam, Normison, Stilnox, etc.)	0	6	3
h. Hallucinogens (LSD, acid, mushrooms, trips, Ketamine, etc.)	0	6	3
i. Opioids (heroin, morphine, methadone, opium, Buprenorphine, codeine, etc.)	0	6	3
j. Other – specify:	0	6	3

Question 8 (please circle the star as per the response)

	No, Never	Yes, in the past 3 months	Yes, but not in the past 3 months
Have you <u>ever</u> used any drug by injection? ***(NON-MEDICAL USE ONLY)***	*	*	*

IMPORTANT NOTE:

Clients who have injected drugs in the last 3 months should be asked about their pattern of injecting during this period, to determine their risk levels and the best course of intervention.

PATTERN OF INJECTING	INTERVENTION GUIDELINES
4 days per month, on average, over the last 3 months (or less) →	**Brief Intervention including the "Risks of Injecting" card**
More than 4 days per month, on average, over the last 3 months →	**Further assessment and more intensive treatment***

HOW TO CALCULATE A SPECIFIC SUBSTANCE INVOLVEMENT SCORE.

For each substance (labelled a. to j.) add up the scores received for questions 2 through 7 inclusive. Do not include the results from either Q1 or Q8 in this score. For example, a score for cannabis would be calculated as: **Q2c + Q3c + Q4c + Q5c + Q6c + Q7c**

Note that Q5 for tobacco is not coded, and is calculated as: **Q2a + Q3a + Q4a + Q6a + Q7a**

THE TYPE OF INTERVENTION IS DETERMINED BY THE PATIENT'S SPECIFIC SUBSTANCE INVOLVEMENT SCORE

	Record specific substance score	no intervention	receive brief intervention	more intensive treatment *
a. tobacco		0 - 3	4 - 26	27+
b. alcohol		0 - 10	11 - 26	27+
c. cannabis		0 - 3	4 - 26	27+
d. cocaine		0 - 3	4 - 26	27+
e. amphetamines		0 - 3	4 - 26	27+
f. inhalants		0 - 3	4 - 26	27+
g. sedatives		0 - 3	4 - 26	27+
h. hallucinogens		0 - 3	4 - 26	27+
i. opioids		0 - 3	4 - 26	27+
j. other drugs		0 - 3	4 - 26	27+

Now use ASSIST FEEDBACK REPORT CARD to give client feedback about their risk scores as part of the brief intervention.

Appendix 2B: (ASSIST) Response Card for Client

WHO ASSIST V3.0/3.1 RESPONSE CARD (FOR CLIENT)

SUBSTANCES

a. Tobacco products (cigarettes, chewing tobacco, cigars, etc.)
b. Alcoholic beverages (beer, wine, spirits, etc.)
c. Cannabis (marijuana, dope, pot, grass, hash, etc.)
d. Cocaine (coke, crack, etc.)
e. Amphetamine-type stimulants (speed, ecstasy, meth, ice, paste, crystal, base, diet pills, etc.)
f. Inhalants (nitrous, NOS, glue, petrol, sprays, paint thinner, amyl, etc.)
g. Sedatives or Sleeping Pills (Valium, Serepax, Rohypnol, Normison, diazepam, temazepam, etc.)
h. Hallucinogens (LSD, acid, mushrooms, trips, Ketamine, etc.)
i. Opioids (heroin, opium, morphine, methadone, codeine, etc.)
j. Other - specify:

Response Card (ASSIST Questions 2 – 5)

Never: not used in the last 3 months.

Once or twice: 1 to 2 times in the last 3 months.

Monthly: average of 1 to 3 times per month over the last 3 months.

Weekly: 1 to 4 times per week.

Daily or almost daily: 5 to 7 days per week.

Response Card (ASSIST Questions 6 to 8)

No, Never

Yes, but not in the past 3 months

Yes, in the past 3 months

Appendix 2C: (ASSIST) Feedback Report Card for Client

WHO ASSIST V3.0/3.1 Feedback Report Card (for Clients)

Name_____ **Test Date** _____

Risk Scores

Substance	Score	Risk Level
a. Tobacco products		0-3 Low 4-26 Moderate 27+ High
b. Alcoholic Beverages		0-10 Low 11-26 Moderate 27+ High
c. Cannabis		0-3 Low 4-26 Moderate 27+ High
d. Cocaine		0-3 Low 4-26 Moderate 27+ High
e. Amphetamine type stimulants		0-3 Low 4-26 Moderate 27+ High
f. Inhalants		0-3 Low 4-26 Moderate 27+ High
g. Sedatives or Sleeping Pills		0-3 Low 4-26 Moderate 27+ High
h. Hallucinogens		0-3 Low 4-26 Moderate 27+ High
i. Opioids		0-3 Low 4-26 Moderate 27+ High
j. Other - specify		0-3 Low 4-26 Moderate 27+ High

What do your scores mean?

Low: You are at low risk of health and other problems from your current pattern of use.

Moderate: You are at risk of health and other problems from your current pattern of substance use, both now and also in the future if you continue the same pattern of use.

High: You are at high risk of experiencing severe problems (health, social, financial, legal, relationship) as a result of your current pattern of use and could be dependent.

Are you concerned about your substance use?

a. tobacco	Your risk of experiencing these harms is:……. **Low** ☐ **Moderate** ☐ **High** ☐ (tick one) **Regular tobacco smoking is associated with:**
	Premature ageing, wrinkling of the skin
	Respiratory infections and asthma
	High blood pressure, diabetes
	Respiratory infections, allergies and asthma in children of smokers
	Miscarriage, premature labour and low birth weight babies for pregnant women
	Kidney disease
	Chronic obstructive airways disease
	Heart disease, stroke, vascular disease
	Cancers

b. alcohol	Your risk of experiencing these harms is:……. **Low** ☐ **Moderate** ☐ **High** ☐ (tick one) **Regular excessive alcohol use is associated with:**
	Hangovers, aggressive and violent behaviour, accidents and injury
	Reduced sexual performance, premature ageing
	Digestive problems, ulcers, inflammation of the pancreas, high blood pressure
	Anxiety and depression, relationship difficulties, financial and work problems
	Difficulty remembering things and solving problems
	Deformities and brain damage in babies of pregnant women
	Stroke, permanent brain injury, muscle and nerve damage
	Liver disease, pancreas disease
	Cancers, suicide

c. cannabis	Your risk of experiencing these harms is:……. **Low** ☐ **Moderate** ☐ **High** ☐ (tick one) **Regular use of cannabis is associated with:**
	Problems with attention and motivation
	Anxiety, paranoia, panic, depression
	Decreased memory and problem solving ability
	High blood pressure
	Asthma, bronchitis
	Psychosis in those with a personal or family history of schizophrenia
	Heart disease and chronic obstructive airways disease
	Cancers

d. cocaine	Your risk of experiencing these harms is:…. **Low** ☐ **Moderate** ☐ **High** ☐ (tick one) **Regular use of cocaine is associated with:**
	Difficulty sleeping, heart racing, headaches, weight loss
	Numbness, tingling, clammy skin, skin scratching or picking
	Accidents and injury, financial problems
	Irrational thoughts
	Mood swings - anxiety, depression, mania
	Aggression and paranoia
	Intense craving, stress from the lifestyle
	Psychosis after repeated use of high doses
	Sudden death from heart problems

e. amphetamine type stimulants	Your risk of experiencing these harms is:……. **Low** ☐ **Moderate** ☐ **High** ☐ (tick one) **Regular use of amphetamine type stimulants is associated with:**
	Difficulty sleeping, loss of appetite and weight loss, dehydration
	jaw clenching, headaches, muscle pain
	Mood swings –anxiety, depression, agitation, mania, panic, paranoia
	Tremors, irregular heartbeat, shortness of breath
	Aggressive and violent behaviour
	Psychosis after repeated use of high doses
	Permanent damage to brain cells
	Liver damage, brain haemorrhage, sudden death

f. inhalants	Your risk of experiencing these harms is:……. **Low** ☐ **Moderate** ☐ **High** ☐ (tick one) **Regular use of inhalants is associated with:**
	Dizziness and hallucinations, drowsiness, disorientation, blurred vision
	Flu like symptoms, sinusitis, nosebleeds
	Indigestion, stomach ulcers
	Accidents and injury
	Memory loss, confusion, depression, aggression
	Coordination difficulties, slowed reactions, hypoxia
	Delirium, seizures, coma, organ damage (heart, lungs, liver, kidneys)
	Death from heart failure

g. sedatives	Your risk of experiencing these harms is: Low ☐ Moderate ☐ High ☐ (tick one) **Regular use of sedatives is associated with:**
	Drowsiness, dizziness and confusion
	Difficulty concentrating and remembering things
	Nausea, headaches, unsteady gait
	Sleeping problems
	Anxiety and depression
	Tolerance and dependence after a short period of use.
	Severe withdrawal symptoms
	Overdose and death if used with alcohol, opioids or other depressant drugs.

h. hallucinogens	Your risk of experiencing these harms is:…….. Low ☐ Moderate ☐ High ☐ (tick one) **Regular use of hallucinogens is associated with:**
	Hallucinations (pleasant or unpleasant) – visual, auditory, tactile, olfactory
	Difficulty sleeping
	Nausea and vomiting
	Increased heart rate and blood pressure
	Mood swings
	Anxiety, panic, paranoia
	Flash-backs
	Increase the effects of mental illnesses such as schizophrenia

i. opioids	Your risk of experiencing these harms is: Low ☐ Moderate ☐ High ☐ (tick one) **Regular use of opioids is associated with:**
	Itching, nausea and vomiting
	Drowsiness, constipation, tooth decay
	Difficulty concentrating and remembering things
	Emotional problems and social problems
	Reduced sexual desire and sexual performance
	Relationship difficulties
	Financial and work problems, violations of law
	Tolerance and dependence, withdrawal symptoms
	Overdose and death from respiratory failure

Appendix 3: IRIS

Indigenous risk impact screen (IRIS) and brief intervention

The Indigenous Risk Impact Screen and Brief Intervention program provides a culturally secure and validated screening instrument and brief intervention designed to meet the specific needs of Aboriginal and Torres Strait Islander communities in Queensland and across Australia.

The Indigenous Risk Impact Screen (IRIS) is a two factor screening instrument that assesses risk for alcohol and other drug use and associated mental health issues in a culturally appropriate and timely manner.

To access further information go to:
http://www.health.qld.gov.au/atod/prevention/iris.asp#irismaterials

Appendix 4: Taking a Drinking History (Example 1)

Taking a Drinking History (Example 1)

It is useful to ask the person to fill in this form. You may need to assist them.

Over the next _____ weeks, please write down how you drink. Fill out the sheet each night before going to bed.

Look at column number one.

Write down what day it is today.

How many drinks have you had all day today? Record number of standard drinks for each type of drink. If you did not have any beer today, put a dash in that square. If you drank beer write down the number of standard drinks you had.

Use the guide below to calculate how many standard drinks are in each type of beverage

STANDARD DRINKS

A standard drink contains 10 grams of alcohol. Beer, wine and spirits vary in the amount of alcohol they contain.

Sparkling wine (100ml)	Wine (100ml)	Light beer (425ml)	Regular beer (285ml)	Fortified wine (60ml)	Spirits (30ml)

[164]

Beverage	**Day of the week**						
	___day	___day	___day	___day	___day	___day	___day
Beer							
Table Wine							
Spirits							
Fortified Wine							
Other							

[Adapted from 165]

Appendix 5: ATOD Assessment Form - Drinking History (Example 2)

ATOD Assessment Form - Drinking History (Example 2)

The alcohol assessment process should be incorporated into the nursing assessment form. The suggestions that follow assume the usual nursing assessment includes general nursing observations, medical and social and mental health history, contact with other services or agencies including alcohol and other drug services.

Recent drinking (last three months, in particular last two weeks)

Alcohol type	**How much (gms per day)**	**How often**	**How long/ Age commenced**	**With whom (friends, partner)**	**Length of last period of abstinence and date**

- Other relevant information (include person's concerns, pros and cons of use, purpose of use and need it fulfils, wanting to reduce or stop).

Last use	**Date:**	**Comments**
	Time:	
	Amount:	
	BAC on admission:	
Changes in drinking patterns over last 2 weeks:		
Imminent withdrawal (history of seizures, severe withdrawal or Wernicke's withdrawal symptoms:		

Note: Place on CIWA-Ar if:

- Adult male consuming eight standard drinks (80gms) or more on a regular basis
- Adult female consuming six standard drinks (60gms) or more on a regular basis
- Previous alcohol withdrawal history

If score reaches 8 on CIWA-Ar contact medical officer.

Appendix 6: ATOD Assessment Form - Drug History

(Prescribed, over the counter and herbal/complementary medicines, tobacco and illicit substances including inhalants)

Recent drug use (last three months, in particular last two weeks)

Drug used	Days used last month	Average amount per day $	Route (IV orally)	Date and time last used	Age began regular use/ injecting	Length of person's abstinence and date

Other relevant information (include pros and cons of use, purpose of use and need it fulfils, concerns want to reduce or cease use).

Changes in drug use pattern over last two to three weeks:

_____

_____

Risk factors (e.g. imminent withdrawal, blood-borne viruses, needle or equipment sharing, unsafe sex):

_____

_____

Note: Place on appropriate Drug Withdrawal Assessment Scale if there is suspicion of emergence of drug withdrawal or if there is a past history of withdrawal symptoms and recent use has not decreased.

Appendix 7: Fagerstrom Test for Nicotine Dependence

FAGERSTROM TEST for NICOTINE DEPENDENCE

This tool is used to score a clients level of nicotine dependence once they have been identified as a current or recent smoker.

Please Tick one box for each question		
How soon after waking do you smoke your first cigarette?	Within 5 minutes 5-30 minutes 31-60 minutes	☐ 3 ☐ 2 ☐ 1
Do you find it difficult to abstain from smoking in places where it is forbidden? e.g. shops, public transport	Yes No	☐ 1 ☐ 0
What cigarette would you hate to give up?	The first one in the morning Any other	☐ 1 ☐ 0
How many cigarettes a day do you smoke?	10 or less 11 to 20 21 to 30 31 or more	☐ 0 ☐ 1 ☐ 2 ☐ 3
Do you smoke more frequently in the morning?	Yes No	☐ 1 ☐ 0
Do you smoke even if you are sick in bed most of the day?	Yes No	☐ 1 ☐ 0
Add total score		
SCORE	1-2 = Low dependence 3-4 = Low to moderate dependence	5-7 = Moderate dependence 8+ = high dependence

Appendix 8A: Glasgow Coma Scale Neurological Chart

Neurological observation chart

For adults and children aged 5 years and older

Date DD / MM / YY

Patient details

Full name

DoB

Unit number

(use sticker if available)

Time	H															
	M															

Glasgow Coma Scale

Best **Eye** Response Record 'C' if no response possible due to bilateral periorbital swelling	Eyes open spontaneously	**4**														
	Eye opening to verbal stimuli	**3**														
	Eye opening to pain	**2**														
	No eye opening	**1**														
Best **Verbal** Response Record 'D' if dysphasic 'T' if intubated	Orientated	**5**														
	Confused	**4**														
	Inappropriate words	**3**														
	Incomprehensible sounds	**2**														
	No verbal response	**1**														
Best **Motor** Response See reverse for guidance on how to determine best motor response	Obeys commands	**6**														
	Localising pain	**5**														
	Withdrawal from pain	**4**														
	Abnormal flexion to pain	**3**														
	Abnormal extension to pain	**2**														
	No motor response	**1**														
Total Score																

Pupils

Record reaction to light as
'+' if normal
'S' if sluggish
'-' if none
'C' if eye closed by swelling

R	Size (mm)															
	Reaction															
L	Reaction															
	Size (mm)															

Limb Movements

Record findings for RIGHT ('R') and LEFT ('L') separately if different

Arms	Normal power															
	Mild weakness															
	Severe weakness															
	Spastic flexion															
	Extension															
	None															
Legs	Normal power															
	Mild weakness															
	Severe weakness															
	Extension															
	None															

Determining Best Motor Response

Step 1

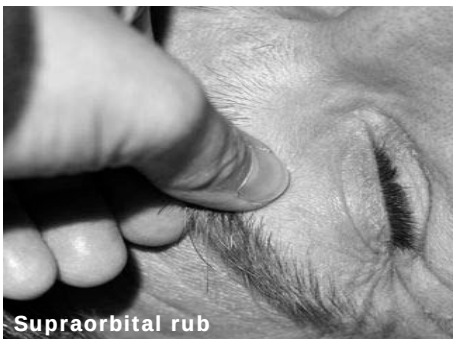
Ask the patient to '**obey a command**' that requires a specific response, such as 'please wiggle the fingers of your LEFT hand'.

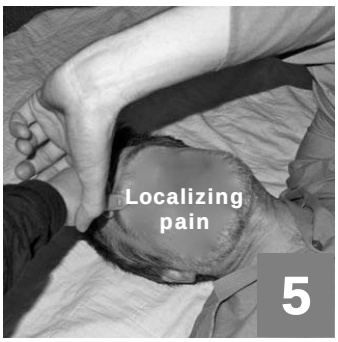
NB: Avoid asking patient just to squeeze your hand as a response may just represent reflex action.

If appropriate response is not seen, go to next step

Step 2

Rub one of the superior orbital margins (eyebrow) while applying firm pressure. Patients able to **localize pain** will respond by moving a hand above the chin.





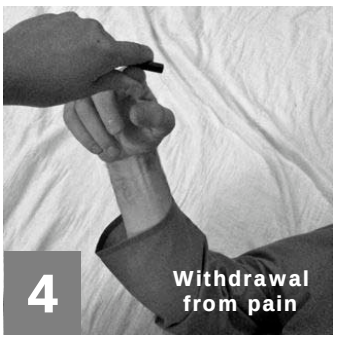
NB: Intoxicated patients will often require considerable and sustained stimuli.
If appropriate response is not seen, go to next step.

Step 3

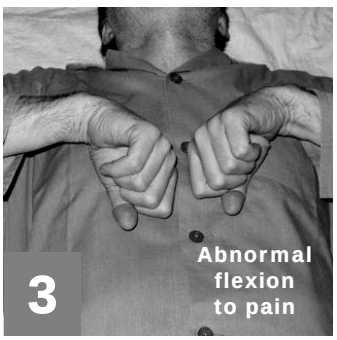
Apply firm pressure to a fingernail bed and look for one of the responses shown on the right.

NB: Rubbing the sternum is not a good way to determine best motor response as it may not help to distinguish between 'localizing pain' and 'abnormal flexion'. It may also leave bruise marks.

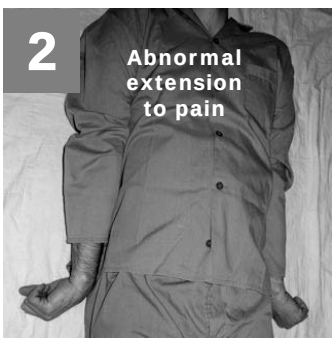
Withdrawal from pain of the limb by flexion at the elbow and external rotation at the shoulder joint.



Abnormal flexion to pain of the elbow and wrist (usually both arms) with internal rotation of the shoulder and simultaneous extension of the legs. This is also known as 'decorticate response'.



Abnormal extension to pain of (usually both) arms and legs. This is also known as 'decerebrate response').



If no response is seen, record 'no motor response' (1)

Appendix 8B: Glasgow Coma Scale Website

http://www.traumaticbraininjury.com/content/symptoms/glasgowcomascale.html

Appendix 9: CIWA-Ar

CIWA-Ar

ALCOHOL WITHDRAWAL ASSESSMENT

OBSERVATIONS

DATE												
TIME												
Breath alchohol reading												
Blood glucose reading												
Temperature (per axilla)												
Pulse												
Respiration rate												
Blood pressure												

ALCOHOL WITHDRAWAL ASSESSMENT SCORE

Nausea and vomiting												
Tremor												
Paroxysmal sweats												
Anxiety												
Agitation												
Tactile disturbances												
Auditory disturbances												
Visual disturbances												
Headache, fullness in head												
Orientation and clouding of sensorium												
Total score												

Nursing Management:

- Nurse in a quiet, evenly lit environment
- Provide reassurance and explanation
- Re-orientate the person if confused
- Ensure adequate hydration

ALCOHOL WITHDRAWAL ASSESSMENT SCALE

Nausea and vomiting

Ask "Do you feel sick in the stomach? Have you vomited?" Observation

0 No nausea and no vomiting
1 Mild nausea with no vomiting
2
3
4 Intermittent nausea, with dry retching
5
6
7 Constant nausea, frequent dry retching and vomiting

Tremor

Arms extended, elbows slightly flexed and fingers spread. Observation

0 No tremor
1 Not visible, but can be felt fingertip to fingertip
2
3
4 Moderate
5
6
7 Severe, even with arms not extended

Paroxysmal sweats

Observation

0 No sweat visible
1 Barely perceptible sweating, palms moist
2
3
4 Beads of sweat obvious on forehead
5
6
7 Drenching sweats

Anxiety

Ask "Do you feel nervous?" Observation

0 No anxiety, at ease
1 Mildly anxious
2
3
4 Moderately anxious or guarded so anxiety is inferred
5
6
7 Equivalent to acute panic states as seen in severe delirium or acute schizophrenic reactions

Agitation

Observation

0 Normal activity
1 Somewhat more than normal activity
2
3
4 Moderately fidgety and restless
5
6
7 Paces back and forth during most of the interview or constantly thrashes about

Tactile disturbances

Ask "Have you any itching, pins and needles sensations, any burning, any numbness or do you feel bugs crawling on or under your skin?" Observation

0 None
1 Very mild itching, pins and needles, burning or numbness
2 Mild itching, pins and needles, burning or numbness
3 Moderate itching, pins and needles, burning or numbness
4 Moderately severe hallucinations
5 Severe hallucinations
6 Extremely severe hallucinations
7 Continuous hallucinations

Auditory disturbances

Ask "Are you more aware of sounds around you? Are they harsh? Do they frighten you? Are you hearing anything that is disturbing to you? Are you hearing things you know are not there?" Observation

0 Not present
1 Very mild sensitivity
2 Mild sensitivity
3 Moderate sensitivity
4 Moderately severe hallucinations
5 Severe hallucinations
6 Extremely severe hallucinations
7 Continuous hallucinations

Visual disturbances

Ask "Does the light appear to be too bright? Is its colour different? Does it hurt your eyes? Are you seeing things you know are not there?" Observation

0 Not present
1 Very mild sensitivity
2 Mild sensitivity
3 Moderate sensitivity
4 Moderately severe hallucinations
5 Severe hallucinations
6 Extremely severe hallucinations
7 Continuous hallucinations

Headache, fullness in the head

Ask "Does your head feel different? Does it feel as though there is a band around your head?" Do not rate for dizziness or light headedness. Otherwise rate severity.

0 Not present
1 Very mild
2 Mild
3 Moderate
4 Moderately severe
5 Severe
6 Very severe
7 Extremely severe

Orientation and clouding of sensorium

Ask "What day is this? Where are you? Who am I?" Observation

0 Orientated and can do serial additions
Ask person to perform serial addition of 3s up to 30 eg 3,6,9.....
1 Cannot do serial addition or is uncertain about date
2 Disorientated by date by no more than 2 calendar days
3 Disorientated for date by more than 2 calendar days
4 Disorientated for place and/or person

This Withdrawal Assessment Scale for Alcohol (CIWA-Ar) was developed by the Addiction Research Foundation Clinical Institute, Toronto

Guide to scoring risk of alcohol withdrawal in general hospital setting:

Severity	**CIWA-Ar score**	**Action**
Mild	Less than 10	Under 8 Offer symptomatic medications as needed e.g. for headache and nausea 8 or over notify MO immediately Diazepam protocol + symptomatic medications unless contraindicated
Moderate	10 – 20	Diazepam protocol + symptomatic medications unless contraindicated
Severe	20+	As above

Maximum possible score = 67

Appendix 10: Clinical Opiate Withdrawal Scale (COWS)

Clinical Opiate Withdrawal Scale

(Wesson & Ling 2003)

For each item, circle the number that best describes the patient's signs or symptoms. Rate on just the apparent relationship to opiate withdrawal. For example, if heart rate is increased because the patient was jogging just prior to assessment, the increased pulse rate would not add to the score.

Patient's Name	Date and Time
Reason for this assessment	
Resting Pulse Rate ……beats/minute *Measured after patient is sitting or lying for one minute* 0 pulse rate 80 or below 1 pulse rate 81-100 2 pulse rate 101-120 4 pulse rate greater than 120	GI Upset: *over last ½ hour* 0 no GI symptoms 1 stomach cramps 2 nausea or loose stool 3 vomiting or diarrhea 5 multiple episodes of diarrhea or vomiting
Sweating: *over past ½ hour not accounted for by room temperature or patient activity* 0 no report of chills or flushing 1 subjective report of chills or flushing 2 flushed or observable moistness on face 3 beads of sweat on brow or face 4 sweat streaming off face	Tremor: *observation of outstretched hands* 0 no tremor 1 tremor can be felt, but not observed 2 slight tremor observable 4 gross tremor or muscle twitching
Restlessness: *Observation during assessment* 0 able to sit still 1 reports difficulty stilling still, but is able to do so 3 frequent shifting or extraneous movements of legs/arms 5 unable to sit still for more than a few seconds	Yawning: *Observation during assessment* 0 no yawning 1 yawning once or twice during assessment 2 yawning three or more times during assessment 4 yawning several times/minute
Pupil size 0 pupils pinned or normal size for room light 1 pupils possibly larger than normal for room light 2 pupils moderately dilated 5 pupils so dilated that only the rim of the iris is visible	Anxiety or Irritability 0 none 1 patients reports increasing irritability or anxiousness 2 patient obviously irritable or anxious 4 patient so irritable and anxious that participation in the assessment is difficult
Bone or Joint aches: *If patient was having pain previously, only the additional component attributed to opiate withdrawal is scored* 0 not present 1 mild diffuse discomfort 2 patient reports severe diffuse aching of joints/muscles 4 patient is rubbing joints or muscles and is unable to sit still because of discomfort	Gooseflesh skin 0 skin is smooth 3 piloerection of skin can be felt or hairs standing up on arms 5 prominent piloerection
Runny nose or tearing: *Not accounted for by cold symptoms or allergies* 0 not present 1 nasal stuffiness or unusually moist eyes 2 nose running or tearing 4 nose constantly running or tears streaming down cheeks	Total Score…….. The total score is the sum of all 11 items Initials of person completing assessment ……

Score: 5-12 = mild; 13-24 = moderately severe; more than 36 = severe withdrawal

Appendix 11: Benzodiazepine Withdrawal Assessment Scale (DASSA, 2010)

Benzodiazepine Withdrawal Assessment Scale

Vital signs to be taken daily—otherwise at the discretion of clinical staff.

Note: Total Score is indicative of increasing of decreasing severity of withdrawal. Scores are not directly linked to pharmacological management as occurs with alcohol scores based on the CIWA-Ar.

Surname:		Given name:	
Date		UR No.	

Date													
Time													
Blood pressure													
Temperature													
Pulse													
Respiration rate													

Benzodiazepine assessment score—Range 0, 1, 4 or 7 (see next page)

1	Anxiety													
2	Restlessness/agitation													
3	Palpitations													
4	Headache													
5	Concentration													
6	Appetite													
	TOTAL													

	Sleep (0700) Staff observation													
	Sleep (0800) Client observation													
	Other symptoms													

These questions refer to how the person is feeling right now, at the present moment.

1.	**Anxiety** Ask 'Do you feel nervous?'	4.	**Headache** Ask 'Do you have a headache or feeling of fullness in the head?'
	0 No anxiety—at ease 1 Mild 4 Moderately anxious or guarded so anxiety is inferred 7 Equivalent to acute panic states as seen in severe delirium or acute schizophrenic reactions		0 No headache 1 Mild 4 Moderate 7 Severe
2.	**Restlessness/Agitation- Observation** Ask 'Do you feel more restless or agitated than you are normally?	5.	**Concentration** Ask 'Do you have any difficulty concentrating?'
	0 Normal activity 1 Somewhat more than normal 4 activity 7 Moderately fidgety or restless Unable to sit or stand still		0 No difficulty concentrating 1 Mild 4 Moderate 7 Severe
3.	**Palpitations** Ask 'Are you aware of your heart racing in your chest?'	6.	**Appetite** Ask 'Have you noticed any change in your appetite?'
	0 No palpitations 1 Mild palpitations 4 Moderate awareness of heartbeat 7 Aware of heart racing constantly		0 No loss of appetite 1 Slight loss 4 Moderate loss 7 Complete loss of appetite, unable to eat at all
		7.	**Sleep** (0800 observations only—not to be included in total score) Ask 'How did you sleep last night?'
			0 Sufficient sleep 1 Some sleep 4 Moderately/restless sleep 7 No sleep

Appendix 12A: Amphetamine Cessation Symptom Assessment Observer rated (DASSA, 2010)

Government of South Australia
Southern Adelaide Health Service

DRUG & ALCOHOL SERVICES SOUTH AUSTRALIA

AMPHETAMINE CESSATION SYMPTOM ASSESSMENT OBSERVER RATED (ACSA_OR)

(Label)
SURNAME: ……

GIVEN NAMES: ……

DOB: …… /……/ ……..

REG NO: ……

Date:																	
Time:																	
Temperature																	
Pulse																	
Respirations																	
Blood Pressure																	
Weight																	

OBSERVE THE CLIENT FOR FIVE MINUTES THEN USE THE KEYS BELOW AS A GUIDE TO YOUR CLINICAL ASSESSMENT (SCORE RANGE 0 - 4)

1	**Tension**																
2	**Depression**																
3	**Agitation**																
4	**Irritability**																
TOTAL																	

1: TENSION	**2: DEPRESSION**	**3: AGITATION**	**4: IRRITABILITY**
0. **Not at all tense** 1. **A Little** 2. **Moderately** 3. **Quite a lot** 4. **Extremely**	**0. No sadness or depression** **1. Affect a little blunted** **2. Moderately blunted but reactive** **3. Affect flat but reactive** **4. Withdrawn, unresponsive**	0. **Not at all agitated** 1. **A little** 2. **Moderately** 3. **Quite a lot** 4. **Extremely agitated**	**0. Not at all irritable** **1. A little** **2. Moderately** **3. Quite a lot** **4. Extremely irritable**

Appendix 12b: Amphetamine Cessation Symptom Assessment Subjective(DASSA, 2010)

Government of South Australia
Southern Adelaide Health Service

DRUG & ALCOHOL SERVICES SOUTH AUSTRALIA

AMPHETAMINE CESSATION SYMPTOM ASSESSMENT SUBJECTIVE (ACSA_S)

(Label)
SURNAME: ……

GIVEN NAMES:……

DOB: …… /……/ ……..

REG NO: ……

PLEASE SCORE EACH ITEM BELOW ACCORDING TO HOW YOU FEEL NOW: 0 = NOT AT ALL 1 = A LITTLE 2 = MODERATELY 3 = QUITE A LOT 4 = EXTREMELY

Date:																	
Time:																	
1	**Do you have difficulty concentrating?**																
2	**Are you sleeping (or wanting to sleep) a lot?**																
3	**Are you feeling tense?**																
4	**Have you had vivid, unpleasant dreams?**																
5	**Do you feel irritable?**																
6	**Do you feel tired?**																
7	**Do you feel agitated?**																
8	**Do you feel that life is not worth living?**																
9	**How active are you compared to your usual level of activity?**																
10	**Do you feel anxious?**																
11	**Have you lost interest in things, or no longer take pleasure in them?**																
12	**Is it difficult for you to trust other people?**																
13	**Do you feel sad?**																
14	**Do you feel as if your movements are slow?**																
15	**In the past 24 hours, how much of the time have you been craving for amphetamines?**																
16	**How strong is your craving for amphetamines?**																
	TOTAL																

Appendix 12C: Level of Agitation Scale (Amphetamine withdrawal)

Level of Agitation Scale (Amphetamine withdrawal)

Score from 1 – 5 by circling the relevant number in the score column.

Item	Score
Patient is asleep.	1
Patient is awake but calm, without verbal aggression or agitation.	2
Patient is angry, but this is primarily focused on the situation, and requests are not delivered in an obviously threatening or aggressive manner	3
Patient is awake and agitated with some verbal outbursts but no physical aggression	4
Patient is severely agitated with extreme verbal outbursts and/or physical aggression.	5

Appendix 13: Cannabis Withdrawal Scale (CWS) (DASSA, 2010)

Government of South Australia
Southern Adelaide Health Service

DRUG & ALCOHOL SERVICES SOUTH AUSTRALIA

(Label)
SURNAME: ……

GIVEN NAMES: ……

DOB: …… /……/ …….. **SEX** **M**☐ **F**☐

REG NO: ……

Photo

Cannabis Withdrawal Scale (CWS)

BD OBSERVATIONS

Date														
Time														
Temperature														
Pulse														
Respiration Rate														
Blood Pressure														
Pupil Size and Reaction														
Sclera (red Y/N)														
Weight (daily) - Morning														

PLEASE SCORE EACH ITEM BELOW ACCORDING TO HOW YOU FEEL **NOW**

0=NONE **1=MILD** **2=MODERATE** **3=SEVERE**

1	Shakiness/Tremulousness													
2	Depressed Mood													
3	Decreased Appetite													
4	Nausea													
5	Irritability													
6	Sleep Difficulty													
7	Sweating													
8	Craving to Smoke Marijuana													
9	Restlessness													
10	Nervousness/Anxiety													
11	Increased Aggression													
12	Headaches													
13	Stomach Pains													
14	Strange/Wild Dreams													
15	Increased Anger													
16	Other (list)													
	TOTAL SCORE													

Appendix 14: Neonatal Abstinence Syndrome Scoring Chart (Finnegan)

Modified Finnegan Withdrawal Scale		WARD MRN SURNAME OTHER NAMES DOB/SEX										NEONATAL WITHDRAWAL SCORING CHART (TERM INFANTS)
DATE AND TIME IN HOURS												
SYSTEM	**SIGNS & SYMTOMS**	**SCORE**										
CENTRAL NERVOUS SYSTEM DISTURBANCES	High-Pitched Cry Continuous High-Pitched Cry	2 3										
	Sleeps <1 hour after feeding Sleeps <2 hours after feeding Sleeps >3 hours after feeding	3 2 1										
	Mild Tremors Disturbed Mod-Severe Tremors Disturbed	1 2										
	Mild Tremors Undisturbed Mod-Sever Tremors Undisturbed	3 4										
	Increased Muscle Tone	2										
	Excoriation (Specify area)	1										
	Myocionic Jerks	3										
	Generalised Convulsions	5										
METABOLIC/VASOMOTOR/ RESPIRATORY DISTURBANCES	Fever (37.3°C – 38.3°C) Fever (38.4°C and higher)	1 2										
	Frequent Yawning (>3-4 times)	1										
	Nasal Stuffiness	1										
	Sneezing (>3-4 times)	1										
	Nasal Flaring	2										
	Respiratory Rate >60/min Respiratory Rate >60/min with retractions	1 2										
GASTROINTESTINAL DISTURBANCES	Excessive Sucking	1										
	Poor Feeding	2										
	Regurgitation Projectile Vomiting	2 3										
	Loose Stools Watery Stools	2 3										
	Max Score: 41 **TOTAL SCORE**											
	SCORER'S INITIALS											

Neonatal Abstinence Syndrome Scoring Chart (Finnegan)

Guidelines for Neonatal Abstinence Syndrome (NAS) Scoring

Score 1 for each of the following (except 1).

1. **High-pitched cry:** Score 2 if a cry is high-pitched at its peak, score 3 if a cry is high-pitched throughout.
2. **Sleep:** Consider total amount of time baby was asleep between feeds.
3. **Tremors:** This is a scale of increasing severity, and only one score should be made from the four categories. Undisturbed sleep means when the baby is asleep or at rest in a cot.
4. **Increased muscle tone:** Score if the baby has a generalised muscle tone greater than the upper limit of normal.
5. **Excoriation:** Score if excoriation occurs more than three to four times in 30 minutes.
6. **Nasal flaring:** Score if nasal flaring is present without other evidence of airways disease.
7. **Respiratory rate:** Score if respiratory rate of greater than 60 per minute is present without other evidence of airways disease.
8. **Excessive sucking:** Score if the baby sucks more than average.
9. **Poor feeding:** Score if the baby is very slow to feed or takes inadequate amounts.
10. **Regurgitation:** Score only if the baby regurgitates more frequently than usual in newborn infants.

Modifications for prematurity are mainly necessary in the sections on sleeping, e.g. a baby who needs three-hourly feeds can only sleep at most 2.5 hours between them. Scoring should be one if baby sleeps less than two hours, 2 if sleeps less than one hour, and 3 if the baby does not sleep between feeds. Many premature babies require tube feeding. Babies should not be scored for poor feeding if tube feeding is customary for their period of gestation.

If the baby has three consecutive scores averaging more than eight (8), the child should be treated for Neonatal Abstinence Syndrome (NAS).

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