

Laboratory and Clinical Evaluation of Adhesives used for Dental Restorations

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ABSTRACT

The following body of research is a compilation of published research papers spanning a period of approximately 20 years.

The work outlines developments in adhesive dentistry from the aspects of laboratory studies investigating the influences of factors such as test methodology, effects of varying the bonding environment, the durability of the bond over time and how variations in the bonding substrate may influence adhesion.

The final part of this body of work is a series of clinical evaluations of adhesive materials. This portion of the thesis provides an historical view of how successive improvements of enamel/dentine adhesive systems have shown an associated improvement in the retention and quality of tooth-coloured restorations placed in non-cariou cervical lesions in human patients.

Collectively, this body of work gives a broad overview of the development of resin-based adhesives from both the laboratory and clinical points of view. It also gives a perspective of the important link between the translation of laboratory research to clinical application and evaluation of new materials.

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