Special Issue

Advances in Dental Adhesive Technology

Message from the Guest Editor

This Special Issue explores new and improved solutions in dental adhesive technology, from the composition of materials to the treatment of tooth substrate and material–tissue interactions. The concept of adhesion continues to evolve from an acid-etch to a self-etch strategy, taking into consideration the complexities of enamel and dentine in normal and pathological conditions. The latest additions to the heterogeneous group of adhesive systems are the universal adhesives, marketed for use with different application protocols on tooth tissues and with materials for indirect restorations. Recent adhesive systems contain 10-MDP, a monomer with a confirmed ability to chemically bond to hydroxyapatite, whose role in long-term bonding has not yet been fully elucidated. Different dentine treatment options are investigated for improved resin–dentine interaction, polymerization, and bond strengths as well as the retarded or mitigated biodegradation of resin-dentine bonds. To this effect, various clinical techniques have been tested. The repair of esthetic restorations requires further scrutiny of adhesive technology for optimized and predictable bonding effectiveness.

Guest Editor

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