

Restorative Dentistry in Children: Foundational Articles and Consensus Recommendations, 2021

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IAPD Consensus Recommendations

Contemporary management of dental caries includes identification of an individual's risk for dental caries, understanding of the disease process for that individual, and management with appropriate preventive measures, supplemented by restorative therapy where indicated. The benefits of restorative therapy include: maintaining tooth vitality, restoring cavitation or defects to eliminate areas that are susceptible to caries, supporting remaining tooth structure, helping to decrease the progression of tooth demineralization, restoring the integrity of tooth structure, preventing the spread of infection into the dental pulp, and preventing the shifting of teeth due to loss of tooth structure. The risks of restorative therapy can include reducing the longevity of teeth by making them more susceptible to fracture and recurrent lesions, pulp exposure during caries excavation, future pulpal complications, and iatrogenic damage to adjacent teeth.

1. High viscosity glass ionomer cements can be used with atraumatic restorative treatment (ART) and interim therapeutic restorations (ITR), as an option for conventional treatment in primary teeth. ART/ITR also can be used to control caries in children that are not cooperative for definitive treatment, or to treat multiple open carious lesions, before rendering definitive restoration.

2. Although dental amalgam, composite, glass ionomer and resin modified glass ionomer restorative materials are efficacious in the restoration of Class I

carious lesions both in primary and permanent teeth,

a. there is less evidence for the efficacy of glass ionomer and resin modified glass ionomer restorative materials for multi surface restorations.

b. Use of dental amalgam has decreased over time due to issues with mercury in the environment, unaesthetic appearance, and contraindication in persons with known mercury sensitivity. Several countries no longer allow amalgam to be used to restore children's teeth.

3. There is evidence showing greater longevity of preformed metal crown restorations as compared to intra-coronal multi surface restorations in primary teeth. Use of preformed metal crowns is recommended for children with high caries risk and having multi-surface or large cavitated lesions on primary molars, especially when children undergo full mouth rehabilitation under general anaesthesia.

4. In cases of grossly carious teeth or severe enamel defects in the permanent dentition, composite or preformed metal crowns may be used as semi-permanent restorations. For molar teeth.

5. Preformed zirconia crowns are an aesthetic alternative to preformed metal crowns and have similar indications. Preformed metal crowns have better retention as compared to zirconia crowns; however, the gingival health and plaque control around zirconia crowns are better than with preformed metal crowns.