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Atraumatic Restorative Treatment: Foundational Articles and Consensus Recommendations, 2021

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IAPD Consensus Recommendations

Atraumatic Restorative Treatment (ART) is a minimally invasive treatment intended to arrest the progression of carious lesions. The procedure involves removal of decayed tissue using hand instruments alone, often without the use of local anesthesia and electrical equipment followed by placement of a glass ionomer or other cements. The treatment modality was initially developed to preserve teeth affected with caries, primarily aimed at communities having little or no electricity, piped water and oral healthcare and with limited financial resources. Developed countries began to use the same approach in cases of severe early childhood caries, in order to control the progression of caries through the fluoride-releasing property of the glass ionomers cements renaming the technique as Interim Therapeutic Restoration (ITR). Several systematic studies have demonstrated that ART or ITR, using high-viscosity glass ionomer cement, provides reliable results for one-surface restorations in primary and permanent molars.

1. ART is recognized as an appropriate option for management of dental caries, especially, caries involving single-surface cavities in primary and permanent teeth.

2. In settings where radiographs are not available, ART should not be used for asymptomatic teeth that have deep caries encroaching the pulp, those already with pulpal exposure, or those with signs of irreversible pulpitis or abscess.

3. ART conforms to the contemporary philosophy of minimal invasive dentistry (MID) for caries management.

4. Since ART technique relies on the use of hand instruments, it is less expensive, less traumatic, and requires no local anesthesia. It may therefore be considered as a treatment option for very young or uncooperative patients and some patients with special health care needs where conventional treatment options are not possible.

5. High-viscosity glass ionomer cement is the material of choice for ART because of its properties of higher survival rate, biocompatibility, less sensitive to moisture, favorable setting time, chemical bonding to enamel and dentin and fluoride release.

6. The survival rates for the multiple- surface ART restorations for posterior teeth remain low.

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