

Atraumatic Restorative Treatment: Foundational Articles and Recommendations

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Background

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 successful one-surface restorations in primary and permanent molars.

IAPD Recommendations

1. Atraumatic restorative technique (ART) is a minimally invasive dental approach that may be used as an alternative treatment option for very young or uncooperative children, some children with special healthcare needs, or in areas of limited health resources.

Consensus-based statement › Global agreement 94%

2. ART technique is indicated for use in the management of caries involving single-surface cavities for both primary and permanent dentition.

Consensus-based recommendation › Global agreement 76%

3. High-viscosity glass ionomer cement is the preferred restorative material for ART restorations

because of biocompatibility, less sensitivity to moisture, favorable setting time, chemical bonding to enamel and dentin, and fluoride release.

Consensus-based statement › Global agreement 88%

4. ART should not be used in teeth with deep caries, teeth with potential pulpal exposure, or teeth with signs of irreversible pulpitis or abscess.

Consensus-based statement › Global agreement 94%

5. Since the ART approach often uses hand instruments for caries excavation, the procedure is inexpensive, atraumatic and does not require local anaesthetics.

Consensus-based statement › Global agreement 82%