Policy on Alternative Restorative Treatment (ART)

Originating Council
Council on Clinical Affairs

Review Council
Council on Clinical Affairs

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Purpose

The American Academy of Pediatric Dentistry (AAPD) recognizes that unique clinical circumstances can result in challenges in restorative care for infants, children, adolescents, and persons with special health care needs. When circumstances do not permit traditional cavity preparation and/or placement of traditional dental restorations, use of an alternative restorative treatment (ART)[1] may be beneficial.

Methods

This policy is based upon a review of current dental literature. A MEDLINE search was performed using key words "dental caries", "atraumatic restorative treatment", and "glass ionomer cement".

Background

Alternative restorative treatment, formerly known as atraumatic restorative treatment, is defined as "a dental caries treatment procedure involving the removal of soft, demineralized tooth tissue using hand instrument alone, followed by restoration of the tooth with an adhesive restorative material, routinely glass ionomer".[2] This technique may be modified by the use of rotary instruments. It has been endorsed by the World Health Organization and the International Association for Dental Research as a means of restoring and preventing caries. ART may be used to restore and prevent caries in young patients, uncooperative patients, or patients with special health care needs or when traditional cavity preparation and/or placement of traditional dental restorations are not feasible.

Success rates for ART restorations depend on the material used, training of the operator, and extent of caries.[3-7] Glass ionomer cement is the material of choice for ART because of its bonding to enamel and dentin, fluoride release, and ease of use.[8,9] Resin-modified glass ionomer material has been shown to have a higher success rate than low-viscosity glass ionomer cements due to increased strength and greater resistance to loss.[5,8,10] ART has the greatest success when applied to single surface or small 2 surface restorations. Inadequate cavity preparation with subsequent lack of retention and insufficient bulk can lead to failure.[5] Use of a slow-speed rotary instrument may be indicated to enhance cavity preparation and restorative retention. Follow-up care with topical fluorides and oral hygiene instruction improve the treatment outcome of high caries-risk dental populations.

Policy statement

The AAPD recognizes ART as an acceptable treatment for the management of caries when traditional cavity preparation and/or placement of traditional dental restorations are not possible.

References

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