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Surface Treatments and Luting Considerations of Lithium Disilicate Restorations: A literature review

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Introduction


The longevity and success of indirect restorations are influenced by patient and operator. The patient dictates oral hygiene, diet and functional habits. The operator manages tooth preparation, impression and cementation. Cementation is a crucial step in the process of ensuring the retention, marginal seal and durability of indirect restorations.

Dental luting agents bind restorations to prepared teeth through surface attachment, which might be mechanical, micromechanical, chemical, or a combination. Luting is a micromechanical locking mechanism that joins items together. The term bond refers to a chemical or physical connection between two surfaces that are to be attracted. Cement is a general word for a joining medium that provides adhesion and/or micromechanical locking between two surfaces to be joined. A luting agent is a dental cement application that binds an underlying tooth structure to a fixed prosthesis, hence the word "luting agent," because it lutes, or glues, two distinct structures together.^{1,2}

All definitive cements can be further separated in 2 subgroups: luting cements and bonding cements. The only type of bonding cement is resin cement, which is composed of different subtypes. Cementing procedures are either adhesive or nonadhesive. Adhesive cementation involves the use of an agent to promote bonding of the restorative material to the substrate; it is a combination of adhesive chemical bonding and micromechanical interlocking. Non adhesive (conventional) cementation involves the use of a luting agent to fill the space between the restoration and the natural tooth and relies solely on micromechanical retention.³ Indications for each type of cementation are dictated by the composition of the ceramic, the available preparation retention and resistance form, and the field control at the time of

cementation. Short, tapered preparations will benefit from cementation via adhesive techniques, because this process creates a dentin hybrid layer that improves the mechanical retention of the restoration.⁴

The luting consideration of Glass Ceramics like Lithium Disilicate include Surface treatment of the Ceramic as well as the Tooth Structure its being Adhesively bonded to and its Luting agent used in the process.

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