GIC restorations

DMD2

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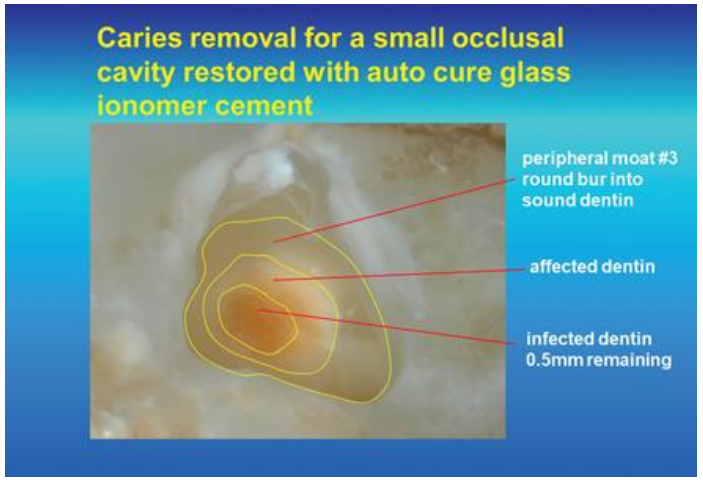
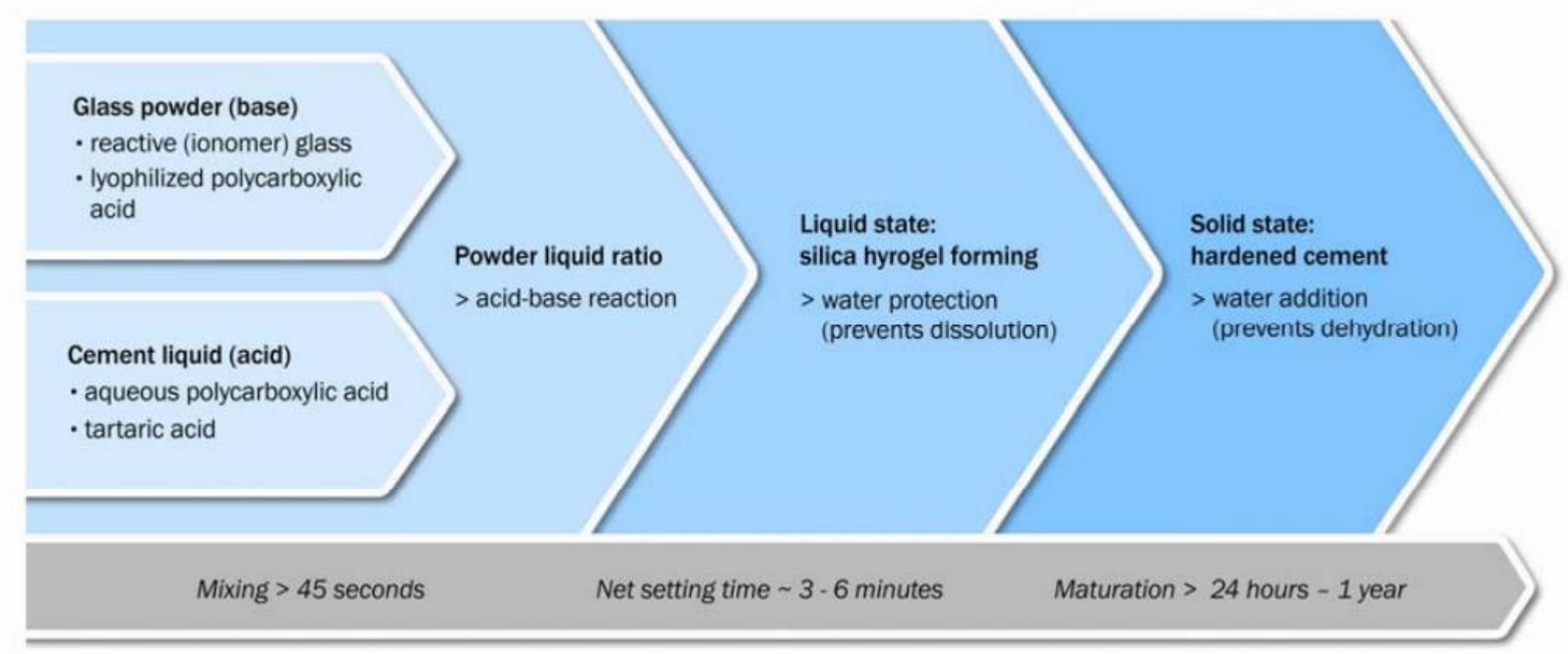


Cavity preparation

Principal setting stages during cement maturation.



Mechanism of GIC adhesion

- The mechanism of GIC adhesion to the tooth's inorganic structure involves a chelation reaction between the carboxyl groups of the polyacrylic acid and the calcium in the hydroxyapatite crystals of the tooth.
- In completely set cement, fluoride ions are not an essential part of the matrix and are in an unbound form. These ions are released into the saliva by diffusion.

Preparation and Restoration of the Tooth

- Cleaning: A pumice slurry should be applied to the tooth surface using a prophy cup.
- Conditioning of tooth: after rinsing and drying the tooth, 10% polyacrylic acid is applied for 10 seconds to increase the surface energy and wettability of the tooth, which improves chemical bonding.
- Placement of restoration: the mixed GIC is carried to the cavity with the help of a cement carrier and adapted using a condenser. Cement sticking to the spatula should be avoided as it is difficult to remove.
- Protection of the cement: the setting cement should be covered by a matrix band during the initial setting and by varnish, cocoa butter, or vaseline after the initial set because GIC is moisture sensitive during the first 24 hours of setting.
- Finishing and polishing: initial finishing includes the removal of gross excess with a sharp hand instrument. Final finishing is done after 24 hours.

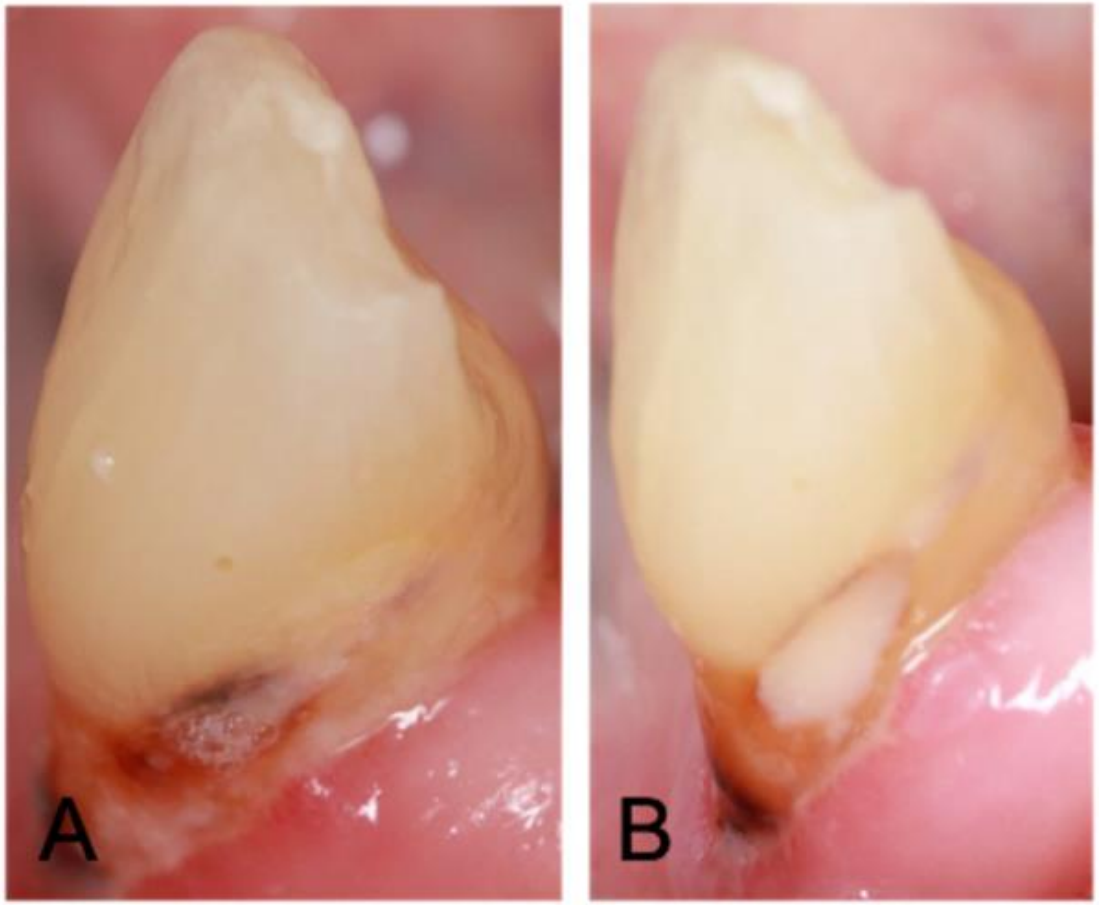
Cervical margin restorations


A
B

Cervical re-restorations

Abrasions with recession

Root caries



Cervical Caries