

Operative Dentistry: Mixing Glass Ionomer Cement

Armamentarium

- Cotton roll and small cotton pellets, gauze
- Liquid - poly-acrylic acid
- Glass ionomer powder – calcium fluoro-alumino-silicate glass
- Glass ionomer measuring scoop (provided by the manufacturer)
- Glass ionomer mixing pad
- Calcium hydroxide applicator
- Smallest spoon excavator
- Explorer and cotton pliers
- Dappen dish
- Flexible portion of the spatula
- Curing light

Step 1: Preparation of Dentin

Glass ionomer cement has been proven to be adhesive which means it forms a molecular bond to the tooth structure, fluoride releasing, and cariostatic. Hydrate the dentin surface before placing glass ionomer on it. Use a wet cotton pellet after blotting it. Before placement of glass ionomer, the surface of dentin should be shiny, which is a sign that the dentin is moist.

Step 2: Dispensing and Mixing

After shaking the powder, dispense one scoop. Take special care to level the powder with no extra powder on the scoop. This is not acceptable. It should be exactly level and there should be no excess glass ionomer powder on the handle. There is a platform at the opening that can be used to level the powder.

Swirl the liquid first and then dispense one drop on the mixing pad. Hold the bottle 90 degrees to the mixing pad and let the drop fall under its own weight. Do not help it by squeezing the bottle.

The powder is divided into two increments which are introduced, one at a time, into the liquid. Each increment is mixed for 5 seconds with rapid spatulation. The whole process should not take more than 15 seconds.

Step 3: Placement

Pickup the glass ionomer cement using a calcium hydroxide applicator or spoon excavator. Let the glass ionomer cement flow on the surface of the dentin. Exercise care that the tip of the applicator does not touch the cavity surface. Glass ionomer can be applied as long as the surface of the glass ionomer is shiny. Cure for 30 seconds with the curing light. Check the hardness of the glass ionomer cement by using your explorer with light pressure. If there is an indentation

mark, light cure for an additional 30 seconds. The thickness of the glass ionomer should be approximately 0.5 mm. If you need a thicker base, mix a new batch of glass ionomer.