

# Filling materials for anterior teeth

## Filling materials for anterior teeth (Black's 4th and 5th )

- The majority of anterior teeth with approximal caries, caries or trauma affecting the incisal edge and many developmental disorders can be healed by composite alone
- Composite materials for anterior teeth are available in a variety of shades however, composite is limited in its use by the fact that it has a relatively low abrasion resistance and it also sometimes becomes stained or develops a rough surface
- Anterior composite materials should always be retained to the enamel by acid-etch technique, because this increases the marginal seal and reduces staining at the margin
- However, composite is not retentive to dentine, which is required for larger cavities in which dentine is affected.
- This is achieved in 3 ways
  1. by retentive grooves/pins
  2. by an intermediate layer of glass ionomer cement
  3. by means of a dentine bonding agent
- Porcelain veneers can also be cemented with composite resin to cover all or part of the labial surface of an anterior tooth. Porcelain maintains its color and surface gloss and is compatible with soft tissues. Indications for porcelain veneers are where one or a number of anterior teeth are discolored or misshaped in a way that is necessary to cover the entire labial surface to disguise the problem but other surfaces are sound.
- Acrylics used as direct filling materials have a very high coefficient of thermal expansion and so expanded and contracted more than the adjacent tooth tissue, producing rapid marginal leakage leading to secondary caries.
- Silicate cements and acrylic resins (poly methyl methacrylate) have also been used to restore anterior teeth but are not routinely used for permanent restorations now
- Silicate has the advantage of releasing fluoride, similar to glass ionomer in producing caries resistance. Its main disadvantages were its poor strength making it unsuitable for incisal edge restorations, its poor solubility meaning that the surface was progressively lost in many cases and its low pH before setting so that careful precautions had to be taken to avoid pulpal damage