



Dental Materials Fact Sheet

Patient health and the safety of dental treatment are the primary goals of California's dental professionals and the Dental Board of California. The purpose of this fact sheet is to provide you with information concerning the risks and benefits of all the dental materials used in the restoration of teeth.

Allergic Reactions to Dental Materials - the risk of allergic reaction from dental materials is very low for all types of dental materials, but can occur due to allergies to components of mercury, nickel, and chromium found in some materials. Usually an allergy will reveal itself as a skin rash. There are no documented cases of allergic reactions to composite resin, glass ionomer, resin ionomer or porcelain.

Composite Resin Fillings (white or tooth-colored) - glass and plastic resin used for fillings. Advantages include: excellent esthetics, strong, durable, minimal tooth preparation required. Disadvantages include: material shrinks when hardened, may leak over time, could lead to further decay or sensitivity, may wear faster than tooth enamel.

Nickel or Cobalt-Chrome Alloys - in Pediatric Dentistry used for Stainless Steel Crowns (SSC's); has been used effectively since 1950. Advantages include: excellent durability, does not fracture under stress, good resistance to further decay and leakage, minimal tooth preparation required. Disadvantages include: not tooth colored, can be abrasive to opposing teeth.

Zirconia (Ceramic) - composed of zirconium oxide. Used since 2010 to restore primary teeth. Advantages include: esthetics (tooth colored), lower gingival plaque accumulation than SSC's. Disadvantages include: maximum tooth removal required, more likely to fracture or detach from tooth than SSC's, abrasive to opposing teeth.

Glass Ionomer Cement - self-hardening mixture of glass and organic acid used for small fillings and to cement crowns. Advantages include: may help against decay as it releases fluoride, minimal amount of tooth needs to be removed. Disadvantages include: limited uses, exposed surfaces do not wear well/cracks over time.

Resin Ionomer Cement - a mixture of glass and resin polymer with organic acid that hardens with the exposure to a blue light, used for fillings and to cement crowns. Advantages include: very good esthetics, may help against decay as it releases fluoride, minimal tooth preparation required, good resistance to leakage. Disadvantages include: not recommended to restore biting surface of adult teeth, it wears faster than composite and amalgam.

Dental Amalgam Fillings - a mixture of silver-tin-copper alloy powder and liquid mercury used for fillings or to repair portions of broken teeth*

Porcelain (Ceramic) - glass-like material used for crowns on adult teeth*

*Not Used at Visalia Pediatric Dentistry