

Talking with Patients

Ceramic Inlays

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WHAT ARE THEY?

Ceramic inlays are tooth-colored glass-based restorations used as fillings in back teeth (molars and premolars). These fillings are made of dental porcelain in a dental laboratory using a copy or model of the tooth preparation obtained from a mold made by the dentist. After being completed, the inlay is cemented in the tooth preparation with composite cement.

There are many techniques currently available to generate ceramic inlays, but most of them involve an indirect process. The ceramic filling is manufactured by firing, casting, or milling, all processes completed outside of the mouth. The basic components of the dental porcelain used to fabricate ceramic inlays are silica and alumina, elements commonly found in sand. Ceramic inlays represent an esthetic alternative to “silver fillings” (dental amalgam) or gold inlays used to restore relatively large defects in back teeth. Unlike posterior composites (resin tooth-colored fillings) that can be placed in one appointment, ceramic inlays usually require two appointments with the dentist, because of the time needed for laboratory fabrication. The first appointment is used for the tooth preparation and generation of the mold, and the second appointment is when the inlay is tried in and delivered.

WHEN ARE THEY NEEDED?

Ceramic inlays are indicated for the restoration of moderate to large defects in back teeth, such as tooth decay, tooth fracture, or developmental defects, and also for the replacement of broken or lost fillings. Owing to the strength of porcelain, ceramic inlays have been shown, through research, to be durable restorations.

Patients who present allergy to metals and who desire a highly esthetic restoration might benefit from ceramic inlays because these restorations are extremely biocompatible (ceramics are among the most compatible biomaterials) and can mimic the appearance of the natural tooth, when properly made.

SUMMARY

Ceramic inlays are tooth-colored fillings for use in back teeth when a high degree of esthetics is desired. Ceramic inlays are glass-like

ADVANTAGES

- highly esthetic tooth-colored fillings
- adhesively bond to the tooth
- require less removal of tooth structure than crowns
- can strengthen the tooth

DISADVANTAGES

- more difficult for dentist to place than crowns
- require two appointments
- can fracture if not appropriately cemented or if the patient has a heavy bite
- more expensive than direct fillings

porcelain-based fillings, fabricated outside of the mouth. These restorations have to be cemented in the tooth preparation with composite cement. Once cemented, ceramic inlays are strong and wear resistant. When done properly, they can provide years of excellent service.



Clinical example of a defective gold filling (left) replaced with ceramic inlay (right).