

Dental Health: Dental Crowns

A dental crown is a tooth-shaped "cap" that is placed over a tooth – covering the tooth to restore its shape and size, strength, and/or to improve its appearance. The crowns, when cemented into place, fully encase the entire visible portion of a tooth that lies at and above the gum line.

Why Is a Dental Crown Needed?

A dental crown may be needed in the following situations:

1. To protect a weak tooth (for instance, from decay) from breaking or to hold together parts of a cracked tooth
2. To restore an already broken tooth or a tooth that has been severely worn down
3. To cover and support a tooth with a large filling when there isn't a lot of tooth left
4. To hold a dental bridge in place
5. To cover misshaped or severely discolored teeth
6. To cover a dental implant

What Types of Crown Materials Are Available?

Permanent crowns can be made from all metal, porcelain-fused-to-metal, all resin, or all ceramic.

- **Metals** used in crowns include gold alloy, other alloys (for example, palladium) or a base-metal alloy (for example, nickel or chromium). Compared with other crown types, less tooth structure needs to be removed with metal crowns, and tooth wear to opposing teeth is kept to a minimum. Metal crowns withstand biting and chewing forces well and probably last the longest in terms of wear down. Also, they rarely chip or break. The metallic color is the main drawback. Metal crowns are a good choice for out-of-sight molars.
- **Porcelain-fused-to-metal** dental crowns can be color matched to your adjacent teeth (unlike the metallic crowns). However, more wearing to the opposing teeth occurs with this crown type compared with metal or resin crowns. The crown's porcelain portion can also chip or break off. Next to all-ceramic crowns, porcelain-fused-to-metal crowns look most like normal teeth. However, sometimes the metal underlying the crown's porcelain can show through as a dark line, especially at the gum line and even more so if your gums recede. These crowns can be a good choice for front or back teeth.
- **All-resin** dental crowns are less expensive than other crown types. However, they wear down over time and are more prone to fractures than porcelain-fused-to-metal crowns.
- **All-ceramic or all-porcelain** dental crowns provide the best natural color match than any other crown type and may be more suitable for people with metal allergies. However, they are not as strong as porcelain-fused-to-metal crowns and they wear down opposing teeth a little more than metal or resin crowns. All-ceramic crowns are a good choice for front teeth.

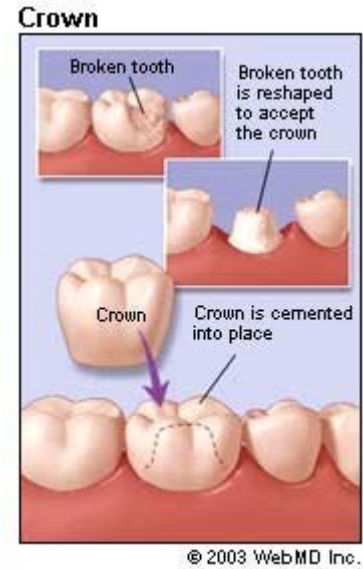
What Steps Are Involved in Preparing a Tooth for a Crown?

First Visit: Examining and preparing the tooth.

At the first visit, your dentist may take a few X-rays to check the roots of the tooth receiving the crown and surrounding bone. If the tooth has extensive decay or if there is a risk of infection or injury to the tooth's pulp, a root canal treatment may first be performed.

Before the process of making your crown is begun, your dentist will anesthetize (numb) your tooth and the gum tissue around the tooth. Next, the tooth receiving the crown is filed down along the chewing surface and sides to make room for the crown. The amount removed depends on the type of crown used (for instance, all-metal crowns are thinner, requiring less tooth structure removal than all-porcelain or porcelain-fused-to-metal ones). If, on the other hand, a large area of the tooth is missing (due to decay or damage), your dentist will use filling material to "build up" the tooth to support the crown.

After reshaping the tooth, your dentist will use impression paste or putty to make an impression of the tooth to receive the crown. Impressions of the teeth above and below the tooth to receive the dental crown will also be made to make sure that the crown will not affect your bite. The impressions are sent to a dental laboratory where the crown will be manufactured. The crown is usually returned to your dentist's office in 2 to 3 weeks. If your crown is made of porcelain, your dentist will also select the shade that most closely matches the color of the neighboring teeth.



During this first office visit your dentist will make a temporary crown to cover and protect the prepared tooth while the crown is being made. Temporary crowns usually are made of acrylic and are held in place using a temporary cement.

Second Visit: Receiving the permanent dental crown.

At your second visit, your dentist will remove your temporary crown and check the fit and color of the permanent crown. If everything is acceptable, a local anesthetic will be used to numb the tooth and the new crown is permanently cemented in place.

How Should I Care for My Temporary Dental Crown?

Because temporary dental crowns are just that – a temporary fix until a permanent crown is ready, most dentists suggest that a few precautions be taken with your temporary crown. These include:

- Avoid sticky, chewy foods (for example, chewing gum, caramel), which have the potential of grabbing and pulling off the crown.
- Minimize use of the side of your mouth with the temporary crown. Shift the bulk of your chewing to the other side of your mouth.
- Avoid chewing hard foods (such as raw vegetables), which could dislodge or break the crown.
- Slide flossing material out-rather than lifting out-when cleaning your teeth. Lifting the floss out, as you normally would, might pull off the temporary crown.

What Problems Could Develop With a Dental Crown?

- **Discomfort or sensitivity.** Your newly crowned tooth may be sensitive immediately after the procedure as the anesthesia begins to wear off. If the tooth that has been crowned still has a nerve in it, you may experience some heat and cold sensitivity. Your dentist may recommend that you brush your teeth with toothpaste designed for sensitive teeth. Pain or sensitivity that occurs when you bite down usually means that the crown is too high on the tooth. If this is the case, call your dentist. He or she can easily fix this problem.
- **Chipped crown.** Crowns made of all porcelain can sometimes chip. If the chip is small, a composite resin can be used to repair the chip with the crown remaining in your mouth. If the chipping is extensive, the crown may need to be replaced.
- **Loose crown.** Sometimes the cement washes out from under the crown. Not only does this allow the crown to become loose, it allows bacteria to leak in and cause decay to the tooth that remains. If your crown feels loose, contact your dentist's office.
- **Crown falls off.** Sometimes crowns fall off. Usually this is due to an improper fit or a lack of cement. If this happens, clean the crown and the front of your tooth. You can replace the crown temporarily using dental adhesive or temporary tooth cement that is sold in stores for this purpose. Contact your dentist's office immediately. He or she will give you specific instructions on how to care for your tooth and crown for the day or so until you can be seen for an evaluation. Your dentist may be able to re-cement your crown in place; if not, a new crown will need to be made.
- **Allergic reaction.** Because the metals used to make crowns are usually a mixture of metals, an allergic reaction to the metals or porcelain used in crowns can occur, but this is extremely rare.
- **Dark line on crowned tooth next to the gum line.** A dark line next to the gum line of your crowned tooth is normal, particularly if you have a porcelain-fused-to-metal crown. This dark line is simply the metal of the crown showing through.

How Long Do Dental Crowns Last?

On average, dental crowns last between 5 and 15 years. The life span of a crown depends on the amount of "wear and tear" the crown is exposed to, how well you follow good oral hygiene practices, and your personal mouth-related habits (you should avoid such habits as grinding or clenching your teeth, chewing ice, biting your fingernails and using your teeth to open packaging).

Does a Crowned Tooth Require any Special Care?

While a crowned tooth does not require any special care, remember that simply because a tooth is crowned does not mean the underlying tooth is protected from decay or gum disease. Therefore, continue to follow good oral hygiene practices, including brushing your teeth at least twice a day and flossing once a day-especially around the crown area where the gum meets the tooth.

Reviewed by the doctors at [The Cleveland Clinic Department of Dentistry](#).

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