CROWNS AND BRIDGES

When teeth are heavily decayed they may be too weak to survive with just a filling. By placing a crown, a tooth may be given a new lease of life. Even when a single tooth is lost a denture may not be required as a bridge can be made which spans the gap with a tooth attached to those next to the space. Sometimes when a single small tooth is lost at the front of the mouth a simple bridge can be made which has 'wings' that are glued to the back of the adjacent teeth. This results in less tooth being damaged by the drill.

A bridge allows the dentist to replace lost teeth without the use of a denture or dental implant. Basically a false tooth is held in place by being attached to a tooth next door. The disadvantage is that the teeth next to the space have to be prepared in a similar way to a crown in order to accept the bridge. If these teeth already have crowns or big restorations then this is not a problem, the major concern however is when these teeth have small or no restorations (fillings). One compromise is the 'acid etched bridge', with this type a fine ledge is placed on the back of the adjacent teeth.

One disadvantage of a bridge is that the patient should wait three months before placement as the 'gum' shrinks' after a tooth is extracted. If the bridge was fitted early a gap would appear underneath the pontic (the false tooth).

At the back of the mouth this may not be a problem, at the front of the mouth however this may appear as a black line along the gum.

Reasons to recommend a dental crown:

- To replace a large filling that no longer has enough tooth structure to continue to fill the cavity
- To protect a weak tooth from further chipping, breaking or fracturing
- To restore a fractured/cracked tooth
- To cover a poorly shaped tooth or discolored tooth
- To attach a dental bridge (see more below)
- To protect and restore a tooth that has had a root canal
- To cover a dental implant

How are Crowns and Bridges Made?

Before either a crown or a bridge can be made, the tooth (or teeth) must be reduced in size so that the crown or bridge will fit over it properly. After reducing the tooth/teeth, your dentist will
take an impression to provide an exact mold for the crown or bridge. If porcelain is to be used, your dentist will determine the correct shade for the crown or bridge to match the color of your existing teeth.

Using this impression, a dental lab then makes your crown or bridge, in the material your dentist specifies. A temporary crown or bridge will be put in place to cover the prepared tooth while the permanent crown or bridge is being made. When the permanent crown or bridge is ready, the temporary crown or bridge is removed, and the new crown or bridge is cemented over your prepared tooth or teeth.

**What Types of Crowns Are Available?**

Permanent crowns can be made from stainless steel, all metal (such as gold or another alloy), porcelain-fused-to-metal, all resin, or all ceramic.

Stainless steel crowns are prefabricated crowns that are used on permanent teeth primarily as a temporary measure. The crown protects the tooth or filling while a permanent crown is made from another material. For children, a stainless steel crown is commonly used to fit over a primary tooth that’s been prepared to fit it. The crown covers the entire tooth and protects it from further decay. When the primary tooth comes out to make room for the permanent tooth, the crown comes out naturally with it. In general, stainless steel crowns are used for children’s teeth because they don’t require multiple dental visits to put in place and so are more cost-effective than custom-made crowns and prophylactic dental care needed to protect a tooth without a crown.

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, metal crowns 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 better 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.

Temporary versus permanent. Temporary crowns can be made in your dentist's office, whereas permanent crowns are made in a dental laboratory. Temporary crowns are made of acrylic or stainless steel and can be used as a temporary restoration until a permanent crown is constructed by a lab.

Zirconia or milled crown which are digitally constructed either in an office that has the software and hardware to produce them or in a dental lab. Dental offices that have the software and hardware have the ability to produce a crown in one visit with no need for a temporary. These crowns require no impression.

What Are "Onlays" and "3/4 Crowns?"

Onlays and 3/4 crowns are variations on the technique of dental crowns. The difference between these crowns and the crowns discussed previously is their coverage of the underlying tooth. The "traditional" crown covers the entire tooth; onlays and 3/4 crowns cover the underlying tooth to a lesser extent.

How long do Crowns and Bridges Last?

While crowns and bridges can last a lifetime, they do sometimes come loose or fall out. The most important step you can take to ensure the longevity of your crown or bridge is to practice good oral hygiene. A bridge can lose its support if the teeth or bone holding it in place are damaged by dental disease. Keep your gums and teeth healthy by brushing with fluoride toothpaste twice a day and flossing daily. Also see your dentist and hygienist regularly for checkups and professional cleanings.

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

Preparing a tooth for a crown usually requires two visits to the dentist -- the first step involves examining and preparing the tooth, the second visit involves placement of the permanent crown.

First Visit: Examining and preparing the tooth.

At the first visit in preparation for a crown, 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 a crown begins, your dentist will anesthetize (numb) the 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 and require 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 a 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 lab where the crown will be manufactured. The crown is usually returned to your dentist’s office in two to three weeks. If the 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 the second visit, your dentist will remove the 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.