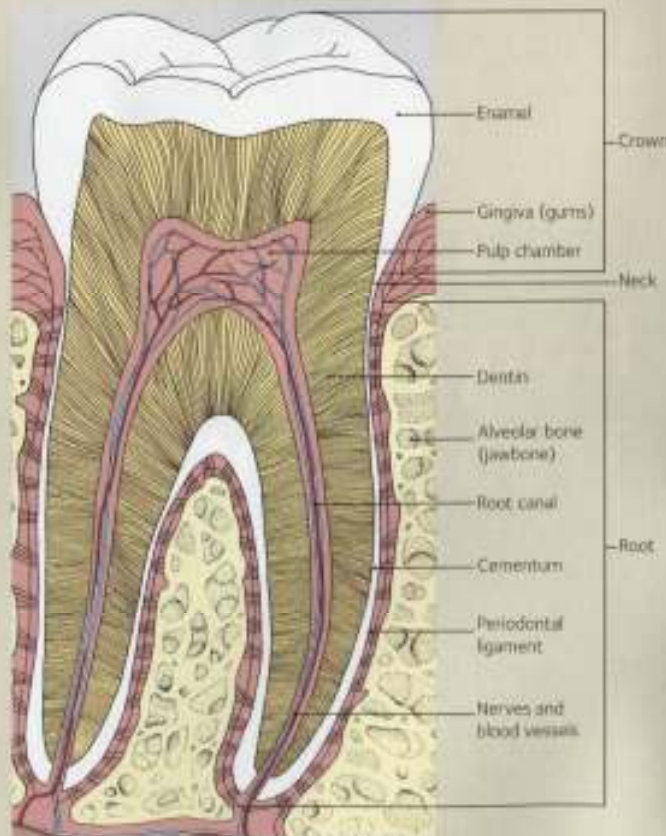




Understanding Root Canal Treatment

Natural teeth are meant to last a lifetime. Years ago, diseased or injured teeth frequently were extracted. But today, even if the pulp in one of your teeth becomes injured or infected, the tooth often can be saved through root canal (*endodontic*) treatment. Endodontics is the branch of dentistry concerned with the prevention, diagnosis and treatment of diseases or injuries to the dental pulp. An endodontist is a dentist who specializes in root canal treatment.

Diagram of a Healthy Tooth



How long will the restored tooth last?

A tooth with a root canal filling can provide years of service similar to nearby teeth that have not been treated. However, teeth with root canal fillings may become decayed, develop fracture lines, or gum disease can develop around the treated tooth, just like any other tooth. Good daily cleaning habits and regular dental exams will help you keep and maintain your teeth.

What materials are used for the crown?

Crowns are made from a number of materials, including gold or non-precious alloys, porcelain or ceramic, acrylic or composite resin, or combinations of these. The type of material chosen depends on a number of factors including where the tooth is located in your mouth, the color of the tooth, and the amount of natural tooth remaining. Your dentist will assist you with this decision.

Good daily cleaning habits and regular dental exams will help you keep and maintain your teeth.

What does treatment involve?

Treatment involves one or more visits. There are several steps in the process of endodontic treatment that your general dentist or endodontist will perform to save your tooth.

- First, local anesthesia is usually given so that you will be more comfortable. To isolate the tooth, the dentist will use a dam, which is a thin sheet of latex rubber or plastic that keeps the tooth dry during treatment. An opening is made through the crown of the tooth into the pulp chamber.

- The pulp or remaining tissue is then removed carefully from both the pulp chamber and root canal(s). Each root canal is cleaned and shaped to allow it to be filled.

Medication may be placed in the pulp chamber and root canal(s) to help eliminate bacteria.

- A temporary filling may be placed in the crown opening to prevent saliva from entering the chamber and root canals, or your dentist may immediately begin the next stage of filling the root canal(s) (described below). You might also be given antibiotics if infection is present and has spread beyond the end of the root(s). *If your dentist has prescribed medication, use it only as directed. If you have any problems with the medication, call your dentist.*

- During the next stage of treatment, after placement of a rubber dam, the temporary filling is removed (if one was placed at an earlier visit). The root canal(s) are usually filled with gutta-percha, a rubber-like material made from various tropical trees.



It is very important to follow your dentist's directions regarding the scheduling of your dental appointments so that your root canal treatment will be successful.

- In the final step, the temporary filling is removed and the tooth may be restored by a crown or a filling to strengthen it and improve its appearance. A crown may be made of porcelain or metal alloy, and the filling may be made of many different materials. If an endodontist performs the root canal treatment, he or she will usually recommend that you return to your general dentist for the final restoration.

Root Canal Treatment



Tooth decay can cause an abscessed (infected) tooth.



The decay is removed and an opening is made through the crown of the tooth into the pulp chamber.



The pulp is removed, and the root canals are cleaned and shaped.



The root canals and pulp chamber are filled.



A metal or plastic rod or post may be placed in the root canal to help retain the core (filling) material, which supports the restoration (crown).



The crown of the tooth is then restored. If bone is lost due to infection at the root tip, this will heal over several months after the root canal is cleaned and sealed.

What is the dental pulp?

The **pulp** is soft tissue inside the tooth that contains blood vessels and nerves. It lies in a canal that runs through the center of the **dentin** — the hard tissue on the inside of the tooth that supports the **enamel** — the outer layer of tooth structure. The **crown** (the portion of the tooth visible above the gums) contains the **pulp chamber**. The pulp extends from this chamber down through the **root canal** to the tip of the root that lies in the bone of the jaws. Teeth have only one pulp chamber but may have more than one root and several root canals.

What happens if the pulp is injured?

When the pulp is diseased or injured and unable to repair itself, it loses its strength. The most common causes of the pulp dying are a cracked tooth, a deep cavity requiring large fillings, or traumatic injuries to the tooth, all of which may allow bacteria and their products to enter into the pulp.

Why should the pulp be removed?

If the injured or diseased pulp is not removed, the tissues surrounding the root of the tooth can become infected, resulting in pain and swelling. Even if there is no pain, certain substances released by bacteria can damage the bone that anchors the tooth in the jaw. Without treatment, the tooth may have to be extracted.

Removing a tooth can create problems

There are downsides to losing a natural tooth. When a tooth is removed and not replaced, the nearest teeth may begin to shift from their normal position. This may cause the teeth to become crooked or crowded, which makes biting and chewing more difficult. Crooked or crowded teeth are more likely to have gum disease because they are harder to keep clean than straight teeth. A replacement tooth (an implant or bridge) is usually more expensive than endodontic treatment and can involve more extensive dental procedures on nearby teeth. A natural tooth is normally better than an artificial tooth.