

Problem Solvers 21 Root Canals

Synonyms: Endodontics, root canals, abscessed tooth, saving teeth options

Teeth have nerves in them. If this nerve becomes infected or traumatized, it needs to be removed and this procedure is called root canal or endodontic therapy. The success rate for this procedure is very high and it can be a way to help save an otherwise hopeless tooth. This article will explain the reasons for the procedure, the process and the steps needed to maximize the possibility of saving the tooth long term.

Root Canals are a blessing not a curse!

When a tooth dies, it can be from two primary causes:

- Trauma- when a tooth sustains a blow or is subjected to traumatic occlusion for prolonged periods of time.
- Cavities-the bacteria in our mouths consumes sugar that is present in sugary foods and drinks and over time the acid byproducts can eat its way into the center of the tooth.

The normal course of treatment used to be to pull these teeth. Now we can safely and predictably save the teeth by removing the “pulp” which is the nerve and blood vessels inside the tooth.

Why do teeth die?

If decay infects the center of the tooth, the nerve will die and produce gasses. These gasses have nowhere to go so they create pressure and pain, which is transmitted by the remaining nerve that runs under each tooth. In the case of trauma, the tooth may be sheared off which can expose the nerve chamber and it will die as well.

Do all teeth hurt when they die?

No, sometimes nerves can die quietly and the only way that a dentist will know that it is dead is by seeing an abscess on an x-ray. An abscess will appear as a dark, radiolucent circle that is about the size of a pea and is located at the tip of a root.

What are some symptoms of a diseased or dying tooth?

Sensitivity to hot, cold or sweets can be a sign of advanced decay and pulpal death. Usually this pain will be intense and sharp in nature and will last 8-10 seconds or longer.

The pain associated with a dying tooth can be intense and can radiate up to the ear or down the jaw and neck. There may be swelling associated with the troubled tooth. This swelling can be small and barely noticeable or can be severe and the size of a baseball!

What is a root canal and how is it performed?

The first thing is that the tooth should not be “hot” and painful prior to treatment. Usually the dentist will give a patient antibiotics and pain medication to calm the tooth down prior to initiating treatment.

Next the dentist will gently drill a small opening in the tooth and place a rubber barrier called a “rubber dam.” This will prevent medication and instruments from going into the mouth.

The dentist will now use fine instruments called files to go down in to the canals and clean out the diseased nerve, connective tissue and shape the canals so they can be filled.

During the root canal appointment, x-rays will be taken to insure the canals have been cleaned to length. The dentist will take great care to use bleaching agents and medicaments to lubricate the files and prevent binding of the files as well as helping to clean out all of the diseased tissue in the root canal system.

The last step is to use a rubbery material called gutta percha to seal these canals by inserting them into the canal with a special cement to seal these canals from the oral cavity as well as any bacteria that may be in the bone at the root apex of the tooth. Most of the time a dentist will perform the entire procedure in one visit but at times more visits may be required.

What does my dentist do after the root canal?

A “permanent” filling needs to be placed after the root canal. This may require placing a post in to the canal to help hold on to the filling. That is called a “post and core” procedure. During this procedure, the gutta percha is removed to a certain length and the post is cemented into the root. It is not unlike putting in a screw so that the filling can hold on to the head of the screw to secure the filling to the underlying tooth structure.

Do teeth always need caps after root canals?

Teeth do not always need crowns but they usually do! The removal of the moisture within the tooth by performing a root canal can leave the tooth dry and brittle. This can lead to fracture of the tooth and the need for an extraction. Your dentist can explain to you why a crown is needed for your particular situation.

I had a root canal and the tooth still hurts, what’s wrong?

Complications from root canals can be due to a variety of problems. Below is a list of specific problems and their potential causes and treatments.

I have pain when I bite down, why?

The tooth may be “high”, or hits higher than the other teeth, and require an adjustment to give it a rest. Teeth should be adjusted prior to performing the root canal so that the inflamed ligament can rest without the trauma of constant biting.

I still feel cold and pain, will it stop?

If the dentist did not completely remove the nerve tissue to the end of the root, there can be some vital nerve tissue left. The solution is to remove the remaining tissue. This may require reopening and retreatment of the tooth.

My tooth feels loose will this go away?

Not necessarily. Tooth mobility could be because of an abscess under the tooth. This may require an antibiotic and sometime it must be cleaned out surgically.

If the tooth is loose, it may be because of hitting it too hard or “traumatic occlusion” this must be adjusted immediately to prevent fracture of the tooth.

Lastly, the tooth may already be fractured. This can be diagnosed by using a periodontal probe or “ruler” to check for loss of attachment of the ligament to the tooth. In this case the tooth may need to be removed.

It should be noted that root canals are the dentists’ last attempt to save a sick tooth. It may not always work but it is a highly successful procedure when all steps of the procedure are performed.

What are the steps required to save a tooth?

A root canal is performed first and then the post and core filling is completed. Lastly, a crown is done to protect the remaining tooth structure. It is important to perform all three of these steps to insure long -term success.

Doctor, how long can I wait before I have a crown done?

You can wait until the day before it breaks. While this may seem sarcastic, it is true. People that wait until their tooth breaks and then come to the dentist are incredulous that it must now be removed and replaced with an implant or a bridge. The need to protect a weakened tooth is always explained prior to the root canal visit.

When is it better to pull the tooth and do an implant rather than performing a root canal, post and core and crown?

This is an excellent question and is a question that your dentist can answer by

evaluating the level of the remaining bone around the tooth and the canal morphology of the tooth to be saved. It is also important to look at all the teeth and see whether there are other questionable teeth and what the biting scheme is for all of the teeth. There is no one answer to this question but with a thorough evaluation of the entire dentition, the options can be discussed intelligently prior to selecting a treatment modality. This will be explored in another column in more detail.

Richard B. Winter D.D.S. M.A.G.D. D.I.C.O.I.
Master Academy of General Dentistry
Diplomate International Congress of Oral Implantologists
WWW.WINTERDENTAL.COM