



ROOT CANALS VERSUS IMPLANTS

What is a Root Canal?

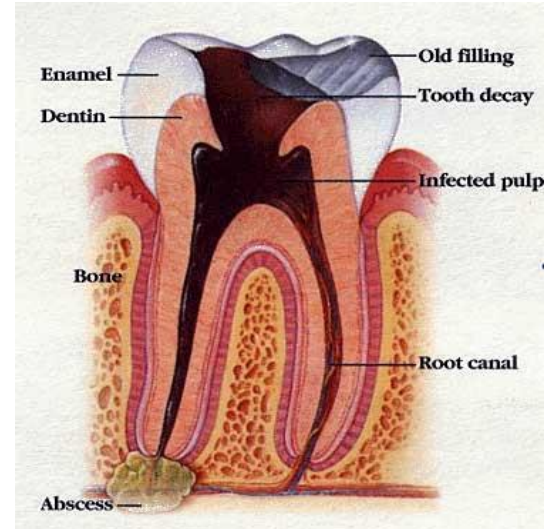
A “root canal” is an actual canal in the middle of a tooth’s root which contains nerves and blood vessels (soft tissues). If these tissues become infected, they must be removed. The elimination of the nerves and blood vessels, followed by the cleaning and filling of these canals, is commonly called a “root canal,” properly termed “endodontic therapy.” You should note that a tooth will typically have between 1 and 3 roots, with 1 to 4 canals.

Definitions:

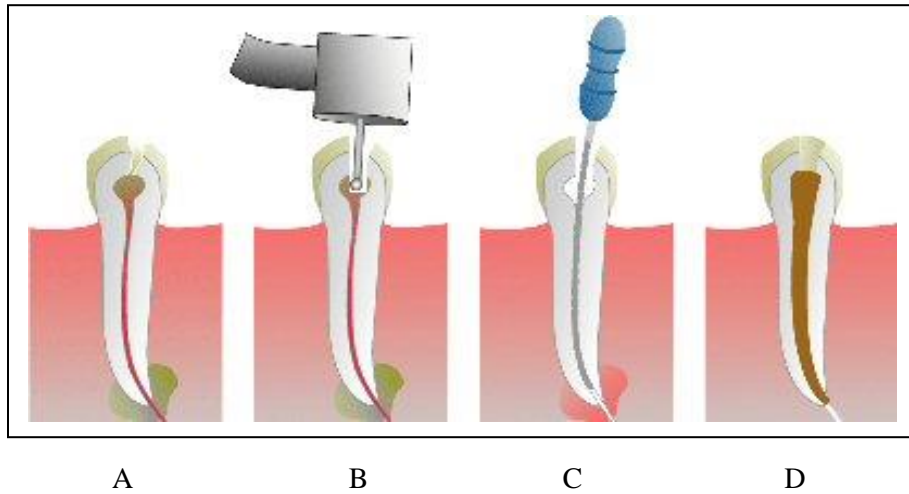
Pulp: The soft tissue located in the tooth’s center. It is an extension of the same vessels and nerves located in the canals.

Soft tissue: The nerves and blood vessels, regardless of their location (pulp chamber or canals).

Abscess: A pus-filled sac at a root tip (see picture above) which is the result of soft tissue death, typically from an infection. The infection can be caused by untreated decay, cracked fillings, or cracked roots which allow bacteria to invade the pulp. Deep fillings are another cause which can result in pulp irritation followed by pulp death and bacterial invasion.



What is the actual process of a root canal (endodontic therapy)?



Picture A shows a tooth with an abscess and infected nerve. The first step is to access the nerve (picture B). Next, the nerve is removed with a file (picture C), and the canal is cleaned. The final step is to fill the cleaned canal with a rubber-like material called gutta-percha (picture D), and a temporary filling is placed into the access for evaluation.

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It is important to understand the temporary filling is just that: temporary. Failure to restore the tooth can lead to additional problems such as:

- Additional decay
- Re-infection of the tooth through leakage around the gutta percha or other cracks in the tooth,
- Fracture of the tooth: the lack of nutrients through the blood stream makes it brittle.

How is the tooth restored after the root canal is completed?

The tooth is usually crowned (commonly called a “cap”). Oftentimes, a “post & core” are added to give additional support to the cap. Sometimes all that is required is a standard filling. It should also be understood the final restoration (whether a crown or a filling) is a separate procedure from the root canal, so there are additional fees.



I heard root canals are painful!

This is not usually the case. Root canals usually become painful if a patient has let an infection go for so long that they now are experiencing an “acute” infection and possibly swelling, and it is the pain that makes them go to the dentist. In this case, it is very difficult to get the pain under control. Believe it or not, most patients, after having a root canal performed, never experience ANY discomfort!

I heard root canals don't have a very high success rate.

A recent study indicates success rates between 62.9% and 93%.¹ Some of the factors that create this range are: 1) vital vs non-vital teeth (is the nerve alive or dead), 2) acute vs chronic infection (has the infection been present for a short or long period of time), and 3) the size of the infection.

1 – When To Restore Or Extract: Kendrick S, Wong D: Inside Dentistry: January 2011: pgs 42-50.

I would rather extract the tooth than have a root canal performed.

This is always an option. But there are consequences, such as teeth shifting and bone loss. Please refer to the “Why Replace Missing Teeth” information sheet.

Can I extract the tooth and place an implant instead of doing the root canal?

This is most definitely an option, and one that should be considered. 3 main issues include:

- 1) Restorability of the tooth: If the tooth has very little structure remaining above the bone level, it becomes very difficult to fabricate a properly fitting crown. Also, if the edge of the crown is less than 2 millimeters away from the bone level, there can be significant irritation to the gum and bone causing bone loss and gum disease over time.
- 2) Long term success rates: an implant has over a 97% success rate, as opposed to a range of 63%-93% for a root canal.
- 3) Lack of future decay: a root-canaled tooth can still develop a cavity. An implant cannot.

What is the cost comparison between a root canal and an implant.

Assuming you require a root canal for a molar, a post & core, and a crown, you could be looking at a cost between \$2,400 and \$3,000. Variables include: 1) the fees for your area, 2) if the root canal needs to be performed by a specialist, and 3) the tooth (molar vs. premolar vs. incisor). Insurance will typically cover a portion of all three procedures. If any “crown lengthening” is necessary (please see the Crown Lengthening Information Sheet), there will be additional costs.

If you opt for the implant, you would be looking at a number between \$3,500 and \$4,000. Again, variables include: 1) the actual fees for your area, and 2) if a specialist is required for the extraction. Insurance will typically NOT cover any of the implant procedure (with the exception of the final crown). Grafting, if even necessary, will vary greatly on cost, and should be discussed on an individual basis. The description above does NOT include any grafting expenses.

Another cost to consider is future maintenance. Again, a natural tooth with a root canal is most likely to require future treatment such as fillings, a new crown, or an extraction, due to recurrent decay (cavities), fractures, or porcelain wear. An implant, if it requires anything at all, will usually need a new crown due to porcelain wear.