



## Pulp non-fiction

Root canals may be the answer to tooth pain. *By Dr. Susan Maples*

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Q: I was told my sensitive tooth might need a root canal. What determines that need? What can I expect from the procedure? And, is there another alternative?

A: In order to understand the progression of a dying tooth, let's start with the anatomy of *healthy* teeth. Imagine fence posts in the ground with the center of the posts being hollow. Beneath the posts are underground life lines (a nerve and blood vessel) that branch up into each one, giving it moisture and sensory perception. We call these lifelines *pulp*.

There are a host of insults that might cause the pulp to die: trauma or fracture (from a blow to the tooth), vertical cracks (from biting trauma), imbalanced biting forces, tooth grinding habits, decay and trauma from a dentist's drill. It's true--every time we pick up a drill to *help* the tooth we temporarily traumatize the pulp. Unlike hard tooth structure, which does not heal, pulp can (and usually does) heal from insult. When it doesn't heal, it dies and usually causes a toothache along the way.

A cold-sensitive tooth indicates an irritated pulp and is often reversible in time. If hot foods stimulate a toothache, however, it's time for a root canal. Likewise, a spontaneous toothache, one that wakes you at night, *or* that's relieved by pain meds but recurs when the meds wear off, spells...root canal. Occasionally, a tooth dies without pain, resulting in either a calcified (solid) canal or an abscess (infection) at the root tip. Both of these conditions are detectable in an x-ray. If facial swelling occurs it means the infection has tunneled its way through bone to soft tissue.

The procedure is generally easy for the patient. First the endodontist (root canal specialist) or your dentist will numb the tooth, as if for a filling. Next he/she will drill a small opening, and clean out the canal(s), removing all remnants of the pulp. Canals can be maze-like, with multiple branches in multiple roots. The long-term success of a root canal, which depends on *total* pulp removal, has increased through the advances of scope technology (a live camera that guides through the maze). Finally, the canals are filled with a rubber-stopper like material, gutta percha.

After "endo" the tooth (above ground portion) must be restored—often with a "core buildup and a crown". Without it the tooth becomes more fracture prone, as it is now missing its moisture source. In a tooth that already has a crown, or doesn't require one, the small opening in the tooth must be filled to create a permanent seal.

Is there another alternative? Yes... extraction! Dentists are in the tooth saving business—just so you know where our bias lies. A tooth with a root canal feels just like the rest of your teeth and, if permanently restored, it can serve you for a lifetime.

