

## ROOT CANAL THERAPY

**Root canal therapy is accomplished to save a dying tooth** by removing the injured blood vessels and nerves that nourish the inside of the tooth. Teeth die because of inflammation at the point of entrance into the canal at the tip of the tooth. The inflammatory process blocks the blood vessels from providing oxygen and sustenance to the living cells within the tooth and the removal of toxic substances that these cells make. When this occurs, the nerves perceive a build-up of pressure and interpret this change as pain. If the tooth has an opening through the top or out the side of the bone, the pain may not occur because the pressure is relieved from these openings. If pain does occur, it is because the nerves perceive stimuli from the outside of the tooth such as hot, cold and the acid attack from sugars. At any rate, you can usually tell when a tooth is dying.

**This inflammatory process is caused by a breakdown of the pulpal** tissues of the tooth from trauma, decay, grinding, cracks and restorations. The best drugs to alleviate this kind of pain are from the NSAID family, non-steroidal anti-inflammatory drugs, such as aspirin, acetaminophen, ibuprofen, toradol and naproxen. Because an infection is present, antibiotics are also recommended. Narcotic pain medications work on your brain but have no effect at the site of the infection where the pain is coming from.

**The removal of the canal and pulpal tissue** is a tedious process involving tiny files with tips as little as 80 microns gaining in size up to 1.5 mm. These canals can bend and branch, so cleaning and sterilizing these canals may take more than one visit before they can be shaped and filled. A number of radiographs must be taken during the procedure to check the number, position and length of the canals. Various chelating agents, sterilizing solutions and pastes are used to clean and open the canals. A rubber dam is used to isolate the tooth so that these materials do not harm the rest of the mouth and so that saliva does not contaminate the inside of the tooth.

**Do not be alarmed if there is pain after the root canal therapy.** This occurs for two reasons. There are ligaments that hold the tooth to the bone. These ligaments are sprained from the inflammation of infection and from the pressure exerted on them during the cleaning and filing process. If you hopped on one foot for an hour you would cause the same kind of damage to your leg. This inflammation may last from several days to several months. Some of the infected tissue is pushed out the tip of the root when the canals are cleaned causing pain and infection. Since this only happens about 10% of the time, antibiotics are only prescribed if I feel that the chances are extremely high that the infection will get worse after therapy. When the tissue from the canals has been removed, the tooth has essentially been embalmed. Since the tooth has lost enervation it tends to become brittle. You can bite on the tooth without pain but can crack or break the tooth. To keep the tooth intact, it is wise to have it crowned, especially molars and premolars.

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