

Guide to root canal therapy

- ◆ What is root canal (endodontic) therapy?
- ◆ What is the procedure?
- ◆ Tips for healthy teeth and gums

What is root canal (endodontic) therapy?

The inside of a tooth contains living, dental **pulp**, which consists of blood vessels, nerves, and connective tissue. The pulp is housed in the **pulp chamber** in the top portion (crown) of the tooth, and in one or more **root canals** in the root/s.

A tooth that has infected, injured, or dead pulp can be saved by **root canal therapy**, which is performed by dentists and specialists called **endodontists**. All of the pulpal tissue is removed, the pulp chamber and root canal/s are cleaned, and the pulp is replaced with a filling material. Without treatment, infected pulp leads to the build-up of pus (an **abscess**) in the bone at the root tip, causing pain, swelling, and eventually bone damage and tooth loss. Badly damaged or decayed teeth may need to be extracted.

What is the procedure?

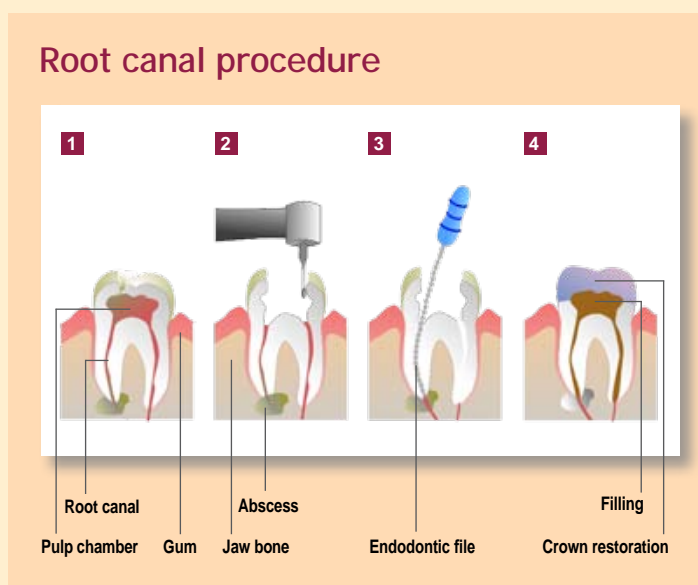
Usually, more than one dental visit is needed. The typical procedure in root canal therapy is as follows (see **Box**):

(1) The most common cause of pulp injury/ infection is a cracked tooth or deep decay. Your dentist or endodontist will first examine your teeth and gums, take X-ray photos, and discuss treatment options.

(2) After a local anaesthetic is given, a hole is made in the crown of the tooth to access the pulp chamber.

(3) The pulp is removed from the pulp chamber and root canal/s, which are then cleaned, disinfected, enlarged, and shaped. Certain drugs can be applied or prescribed to help eliminate infection. A temporary filling is placed in the tooth.

(4) At the next visit, the temporary filling is removed and replaced by the permanent filling, which fills and seals the root canal/s and pulp chamber; metal or plastic rods may also be inserted to help support the roots. If needed, the final step is the placement of an artificial crown.



Tips for healthy teeth and gums

Teeth restored by root canal therapy can last a long time as long as the roots are kept healthy and nourished by their surrounding tissues; so, good care of teeth and gums and regular dental check-ups are important. Visit a dentist if you have toothache, pain when biting, gum swelling or pus, or sensitive, broken, cracked, or discoloured teeth. Also see your dentist if a filling feels loose or falls out, or if you are undergoing root canal therapy and the temporary filling falls out between visits.

To keep your teeth and gums healthy, maintain good oral hygiene at home by brushing at least twice a day with fluoride toothpaste and flossing once a day. Visit your dentist regularly. Deep grooves in back teeth are prone to dental decay, but they can be protected with a fissure sealant applied by your dentist.

Sources: HK Department of Health Tooth Club, <www.toothclub.gov.hk>; American Dental Association, <www.ada.org>; bottom figure, <www.wikipedia.org>.

Written by Trevor Lane, DPhil; edited by Gary SP Cheung, FHKAM (Dent Surg), FCDSHK (Endo). This Patient Page is for general informational use and is not a substitute for diagnosis; for specific advice, please consult a dentist.