

# Endodontic Surgery

A guide for patients

**E**ndodontic surgery is a minor operation on the end of the tooth root and the bone that surrounds it. The aim is to remove inflamed tissue and infection so the tooth can be saved. Endodontic surgery may be used when root canal treatment alone is not enough to save the tooth.

There are many good reasons to treat an abscess and save a natural tooth. A natural tooth almost always functions better than an artificial tooth. Your own tooth is usually stronger and more efficient for biting and chewing. Cleaning and maintenance of a natural tooth is much easier and cheaper. Also, problems with biting, chewing and oral health can be associated with losing a tooth. For example, nearby teeth can move out of their normal position and tilt into the space left by a missing tooth. This often causes many problems in the long term.

With proper care, a surgically treated tooth can last many years, sometimes for the rest of your life.

Endodontic surgery may be required to:

- treat infection that cannot be treated with root canal treatment (see "Root Canal Treatment", an ADA patient education pamphlet available from your dentist or endodontist)
- clean and fill the end of narrow canals after root canal treatment. In some cases, the root canal may be calcified, or there may be complex canal systems that prevent your dentist from being able to completely clean, disinfect and fill the inside of the root to the end
- take a biopsy to diagnose problems that show up on X-ray films
- treat problems in the surrounding bone
- treat some specific problems with the tooth root
- retreat a tooth that has had endodontic treatment in the past.

## Endodontic Surgical Procedures

### APICECTOMY AND RETROGRADE ROOT (OR ROOT-END) FILLING

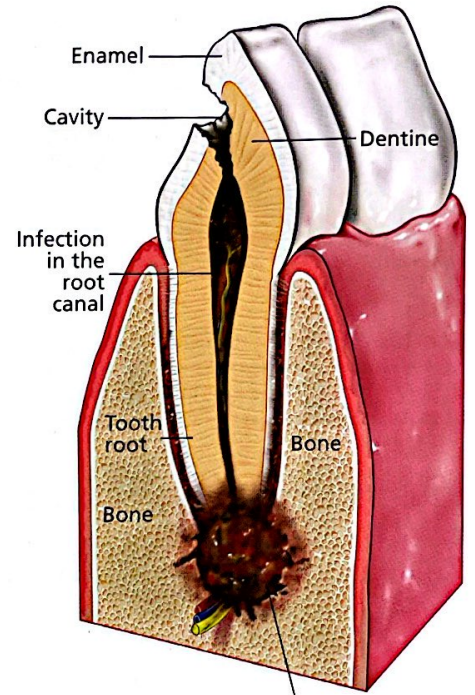
An apicectomy is an endodontic surgical procedure to treat an abscess, persistent inflammation or cyst, as shown on page 2 in the illustrations.

If an infection develops or persists after root canal treatment, it is typically due to a problem at the tip of the tooth root.

If further root canal treatment is not advisable, an apicectomy may be performed to save the tooth.

A local anaesthetic is given to the patient to prevent pain during the operation. There may be little, if any, pain and discomfort afterwards. Most patients report that they only experience a vague "awareness".

An apicectomy is also called an apicoectomy or root-end resection.



Abscess, inflamed tissue or cyst at the end of the root

An abscess is a collection of pus that surrounds the end of the root. It can cause severe pain and swelling. If left untreated, the infection can worsen and affect the bone surrounding the root. Without treatment, the tooth will have to be removed.

## Talk to your dentist or endodontist

This pamphlet is intended to provide general information about endodontic surgery. It does not replace advice from your dentist or endodontist, and does not contain all known facts on this subject.

If you are not sure about the benefits, risks and limitations of endodontic surgery, your dentist or endodontist will be pleased to answer questions or concerns you may have.

Be certain to provide your complete medical and dental history, including medicines you have taken or are taking, any reactions you have to medicines (especially antibiotics), any major illnesses, heart problems or surgery. Any of these conditions may affect your treatment.

**Important:** Fill in all details on the sticker below.

**Dear Dentist or Endodontist:** When you discuss this pamphlet with your patient, remove this sticker and put it on the patient's dental records. This will remind you and the patient that this pamphlet has been provided. Some dentists ask their patients to sign the sticker to confirm receipt of the pamphlet.

YOUR DENTIST OR ENDODONTIST

**TREATMENT INFORMATION PAMPHLET**

**PEEL HERE**

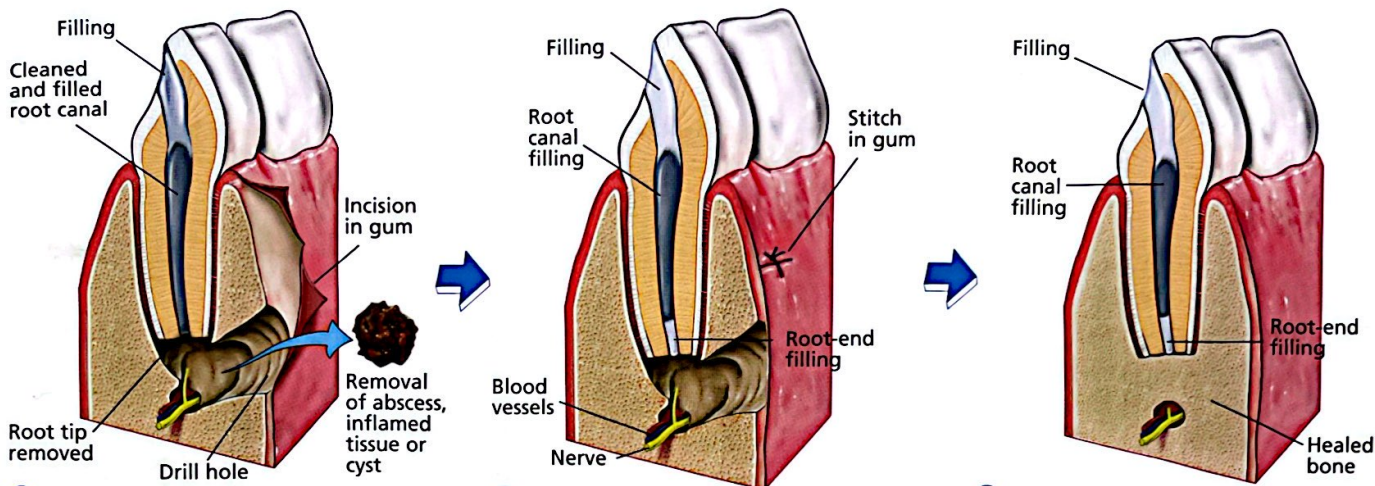
PROCEDURE: \_\_\_\_\_

PATIENT'S NAME: \_\_\_\_\_

DOCTOR'S NAME: \_\_\_\_\_

EDITION NUMBER: \_\_\_\_\_ DATE: DD / MM / YYYY

## APICECTOMY AND ROOT-END FILLING



① Gum tissue is cut and retracted to give good access to the bone near the end of the root. A hole is drilled, and the infected root tip, abscess, inflamed tissue or cyst are removed.

② The end of the root canal is cleaned, and a filling is placed at the end of the root canal. A few stitches are placed in the gum to close the wound and aid the healing process.

③ With the abscess removed, the tooth and surrounding tissues usually heal well. Over the next few months, the bone heals around the end of the root.

### OTHER ENDODONTIC PROCEDURES

**PERIAPICAL CURETTAGE** (or apical curettage): Infected material is removed from around the root tip with a curette. This procedure is always done as part of an apicectomy (as above). It may also be done alone to remove inflamed or infected tissue from around the end of the root. The root tip is not removed if curettage is done alone.

**HEMISECTION:** The tooth is divided in half between the roots, and the diseased or decayed half is removed. The remaining half is saved as a "one-root" tooth. Sometimes, both halves are kept and restored as separate teeth.

**ROOT RESECTION:** One root, or a major portion of the root in a multi-rooted tooth, is removed.

**INTENTIONAL REPLANTATION:** The tooth is extracted, treated while out of the mouth, and then replaced into the original socket in the bone and gum.

### Aftercare and follow-up

You will be given postoperative instructions about how to keep the area clean and whether to take medications.

You may have some bruising and swelling during healing. This should subside in about 10 to 14 days. Pain-relieving medication can be taken if needed; you will be advised what to use.

Stitches are sometimes resorbable, but if not, they are removed in four to seven days. To help the healing process, you should continue to practise good oral hygiene.

Follow-up visits will be required to check that the operation site is healing properly.

### Possible complications of endodontic surgery

All surgical procedures are associated with some risk. Despite the highest standards of surgical practice, complications are possible.

It is not usual for a dentist or endodontist to dwell at length on every possible side effect or rare but serious complication of any dental procedure. However, your dentist or endodontist will inform you of any likely problems that may occur in your particular case. It is important that you have enough information to weigh up the benefits and risks of endodontic surgery.

Most patients will not have complications, but if you have concerns about possible side effects, discuss them with your dentist or endodontist. The following list of possible complications is intended to inform you, not to alarm you. There may be others that are not listed.

**LOSS OF TOOTH:** While endodontic surgery can save most teeth, your dentist or endodontist cannot guarantee that it will be successful in every case.

It is not possible to predict how long the treated tooth will last, but it usually lasts for many years.

Success may depend on a patient's general health, age, oral hygiene, and other specific factors affecting the tooth, particularly the amount and strength of the remaining tooth structure, and the amount of bone that surrounds the root. This cannot be fully assessed prior to surgery.

**INFECTION:** Infection in the damaged tooth and surrounding tissues is likely to resolve completely once treatment is undertaken. The risk of re-infection is low. However, if the infection occurs again, the tooth may have to be treated again or removed.

**PAIN OR DISCOMFORT:** Some people may have pain or discomfort around the tooth following treatment. Your dentist or endodontist may recommend a pain reliever. If the pain is severe or lasts more than a few days, tell your dentist or endodontist. Additional medication or treatment may be needed.

**ALTERED FEELING:** After surgery, the tooth may feel slightly different from other teeth. This should resolve.

If the difference in feeling persists, inform your dentist or endodontist, as further treatment may be needed.

**RE-TREATMENT:** Pain or infection may occur months or years after a tooth has been treated. This is usually because of further decay, trauma, a cracked tooth or a broken-down filling that allows bacteria to enter the tooth and cause a new infection.

More endodontic treatment may be needed to save the tooth, or the tooth may need to be removed.

**THE GUM:** Uncommonly, the gum around the tooth may recede or change shape. Also, the area near the incision may feel numb or different for several days or weeks. This will usually resolve over time, but if it persists, then inform your dentist or endodontist.

### Costs of Treatment

Ask your dentist or endodontist for an estimate of the costs of the treatment and follow-up visits. As the treatment and its outcome may become different from what was first proposed, the final account may be different from the original estimate. It is best to discuss costs before and during treatment rather than afterwards.