PROCEDURE

Dental crowns

A dental crown is a fitted cover that restores and protects a damaged tooth.

PURPOSE
Restore and protect a weakened or badly damaged tooth

PROCEDURE TYPE
Therapeutic; minimally invasive dental restoration

WHERE IT IS DONE
Outpatient dental clinic

ANAESTHESIA
Local anaesthesia; sedation is uncommon

HOW LONG IT TAKES
30-90 minutes per visit, often over two visits

PREPARATION
Dental assessment; fasting only if sedation is planned

RECOVERY
Same day; avoid driving if sedated

MAIN RISKS
Sensitivity, pulp injury, crown fracture, loosening or decay

RESULTS
Fit and appearance assessed immediately; durability reviewed over time

Overview

A dental crown is a cap made to fit over a prepared tooth. It restores the tooth's shape, appearance and chewing surface. It can also help protect a tooth that has been weakened by decay, a large filling, a crack or root canal treatment.

Crowns may be made from ceramic, porcelain fused to metal, metal, resin or a combination of materials. The best choice is influenced by the tooth's position, how strongly you bite, appearance, available tooth structure, cost and any known material sensitivities.

Traditional crowns are usually completed over two appointments. The dentist prepares the tooth and places a temporary crown at the first visit. A dental laboratory then makes the permanent crown. Some clinics can design and make certain ceramic crowns during one longer appointment.

Preparing a tooth for a full crown is usually irreversible because some natural tooth structure must be removed.

Why the procedure is performed

A crown may be offered when a tooth needs more coverage than a filling can provide. Reasons include:

A crown does not treat infection inside a tooth. If the tooth's pulp-the soft tissue containing nerves and blood vessels-is infected or badly inflamed, root canal treatment may be needed before the crown is fitted.

- Extensive decay or a filling that has left little natural tooth
- A cracked, worn or broken tooth
- Protection after root canal treatment, especially for a back tooth
- Improvement of a tooth's shape, colour or position
- Attachment of a dental bridge
- Completion of a dental implant used to replace a missing tooth

Who should and should not have it

A crown may be reasonable if the tooth can be restored and has enough support from its root, surrounding bone and gums. Your dentist should explain why a crown is being recommended and how much healthy tooth must be removed.

Treatment may be delayed while active tooth decay, gum disease or infection is addressed. Better plaque control may also be needed first because decay can develop where the crown meets the tooth.

A crown may not be the right option if the tooth is split deeply, decay extends too far below the gum, or the root and supporting bone cannot provide a stable base. Extraction may then be considered.

Tell the dentist if you grind or clench your teeth, have reacted to dental materials, are pregnant, or take medicines that affect bleeding. Do not stop a prescribed blood thinner like warfarin or apixaban unless the dentist and prescribing healthcare professional give you specific instructions.

For a tooth being treated only to change its appearance, ask about options that remove less

natural tooth. These may include whitening, bonding or a veneer.

How to prepare

The dentist will examine the tooth, gums and bite. Dental X-rays may be used to look at the roots, surrounding bone and areas that cannot be seen directly. You may also discuss crown materials, colour, expected costs and whether treatment will take one or two visits.

Tell the dental team about your health conditions, allergies and all medicines or supplements you take.

Local anaesthesia alone usually does not require fasting. If sedation is planned, you may need to stop eating and drinking beforehand and arrange for an adult to take you home. The treating facility's own instructions take priority because preparation differs according to the type of sedation and your health.

Brush and floss as usual unless told otherwise. If you are anxious about dental treatment or have difficulty keeping your mouth open, discuss this before the appointment so the team can plan support.

What happens during the procedure

The dentist usually numbs the tooth and nearby gum with local anaesthetic. You remain awake, but the area should not feel sharp pain.

Any decay or weakened filling material is removed. The tooth is then shaped so the crown can fit over it. If much of the tooth is missing, a filling material may first be used to build up a stable foundation.

For a laboratory-made crown, the dentist takes a mould or digital scan of the prepared tooth and nearby teeth. The colour may be matched to your natural teeth. A temporary crown is fitted with weaker cement while the permanent one is made.

At the second visit, the temporary crown is removed. The dentist checks the permanent crown's fit, appearance and contact with nearby teeth. You may be asked to bite on marking paper so high areas can be adjusted. The crown is then bonded or cemented in place.

With a same-day system, the tooth is scanned, the crown is designed and it is made in the clinic. It can then be fitted during the same appointment.

Recovery and what to expect afterward

Mild gum soreness or tooth sensitivity is common after preparation or fitting. It should generally settle. A crown that feels too high when you bite may remain uncomfortable and usually needs an adjustment.

Wait until numbness has worn off before eating, especially hot food, so you do not burn or bite your cheek or tongue. With a temporary crown, avoid sticky or very hard foods that could pull it off or break it. Follow the dentist's advice about flossing around it.

Most normal activity can resume immediately. Avoid chewing while your mouth is numb.

You can usually drive after local anaesthesia alone. Do not drive after sedation. Follow the dental clinic's restrictions and arrange an escort if required.

Most people can return to work or school the same day. If you had sedation, a longer appointment or significant soreness, you may prefer to rest for the remainder of the day.

Risks and possible complications

Possible problems include:

A crown cannot prevent future gum disease or decay. Daily cleaning and regular dental care remain important. Teeth grinding can increase the risk of damage; a night guard may sometimes be recommended.

- Temporary sensitivity to pressure, heat or cold
- Gum soreness or irritation around the crown
- A bite that feels uneven or painful
- Chipping, cracking, loosening or loss of the crown
- Decay where the crown meets the natural tooth
- Inflammation or death of the tooth's pulp, sometimes requiring root canal treatment
- Wear or damage to the opposing tooth
- An uncommon reaction to a crown material, cement or anaesthetic

Results and follow up

The dentist assesses the crown's fit, bite and appearance when it is placed. If the tooth had root canal treatment or another underlying problem, further review may be planned.

Contact the clinic if the bite still feels high, sensitivity is not improving, food repeatedly catches around the crown, or the temporary or permanent crown becomes loose.

Continue routine dental check-ups at the interval recommended for your oral health. The dentist may examine the crown edges and use X-rays when needed to look for hidden decay or changes around the root.

Crowns can last for years, but no crown is permanent. Its lifespan is affected by the remaining tooth, crown material, bite forces, grinding, cleaning and decay risk.

Alternatives

The realistic alternatives depend on how much healthy tooth remains and why treatment is being proposed.

Ask what is likely to happen with and without a crown, and whether a less extensive restoration could provide a reasonable result.

- A filling: Removes and replaces less tooth and usually costs less, but may not support a tooth with extensive damage.
- An inlay or onlay: Covers part of the chewing surface and preserves more natural tooth than a full crown, but cannot protect every severely weakened tooth.
- Dental bonding: Can repair small chips or change shape with limited tooth removal, but is less durable and more likely to stain or chip.
- A veneer: Covers mainly the front surface and may suit some cosmetic concerns, but does not protect a heavily damaged tooth.
- Root canal treatment: Treats damaged or infected pulp but does not by itself rebuild the tooth. A crown may still be recommended afterward.
- Monitoring: Avoids immediate treatment, but damage or cracks may worsen and later become harder to restore.
- Extraction: Removes a tooth that cannot be predictably restored, but leaves a gap. Replacement may involve an implant, bridge or removable denture.

When to call your healthcare team

Arrange a routine dental appointment if sensitivity continues, your bite feels uneven, the crown edge irritates your gum, or food collects around it.

Contact the dental clinic promptly if:

If a crown comes off, keep it safe and do not use household glue to replace it.

Seek emergency help for trouble breathing or swallowing, rapidly spreading facial or neck swelling, or a severe allergic reaction with widespread hives, faintness or breathing difficulty.

- A temporary or permanent crown becomes loose or falls off
- Pain is severe, worsening or keeps you awake
- You develop increasing gum or facial swelling
- The crown breaks or the underlying tooth is exposed
- You have fever along with dental pain or swelling

Common questions

Will I be asleep?

Usually not. Most crowns are fitted using local anaesthesia, which numbs the area while you remain awake. Sedation may be available for severe anxiety or complex treatment but is not routine.

Can I drive home?

You can usually drive after local anaesthesia alone. You must not drive after sedation and will normally need an escort.

How painful is getting a crown?

The procedure should not cause sharp pain once the tooth is numb. You may feel pressure or vibration. Mild soreness and sensitivity can occur afterward.

When will I know whether it worked?

The fit, appearance and bite are checked when the crown is placed. Comfort may take a few days to judge, and long-term success is reviewed during dental check-ups.

How long will my crown last?

There is no guaranteed lifespan. Durability is influenced by the crown material, remaining tooth, bite, grinding, oral hygiene and whether decay develops at the edge.

What should I do if my crown falls off?

Keep the crown, avoid chewing on the tooth and contact the dental clinic promptly. Do not force it back on or attach it with household glue.

Sources

- American Dental Association, MouthHealthy: Crowns
- NHS: Dental treatments
- Oral Health Foundation: Crowns
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- Sailer I, Makarov NA, Thoma DS, Zwahlen M, Pjetursson BE. All-ceramic and metal-ceramic tooth-supported fixed dental prostheses, Part I: Single crowns. Dental Materials . 2015;31(6):603-623