

## veneers, bonding, bleaching & composite fillings

A combination of lifestyle and personal factors can result in teeth showing various faults or blemishes over the years. Your dentist can offer a variety of modern treatments to improve the appearance of your teeth and smile.

### Changes in the appearance of teeth can be due to:

- inherited traits - some people have a family history of dental irregularities such as gaps, misaligned teeth, spots or blemishes
- staining that can result from certain foods or beverages, especially tea, coffee and cola
- smoking, which causes discolouration of teeth
- the use of some antibiotics in children, which can lead to permanent colour changes in permanent teeth
- chips or cracks, which may be due to trauma such as sporting injuries or accidents
- broken-down restorations, and age.

### Procedures

- **Veneers:** These cover the front teeth and can significantly improve the appearance of your teeth and smile.
- **Bonding:** Bonding can correct blemishes and irregularities of the front teeth without removing tooth structure.
- **Bleaching:** This is a method used to whiten teeth.
- **Tooth-coloured composite fillings:** These can be an alternative to amalgam fillings in many cases.
- **Inlays and Onlays:** These repair larger cracks or cavities in the chewing surfaces of the back teeth, increasing their strength while maintaining their appearance.

### Porcelain veneers

These are thin, tooth-coloured porcelain (ceramic) shells carefully crafted to bond to and cover the front of unsightly teeth. They are a more conservative treatment than a crown and can often be used as an alternative if the underlying tooth is strong and healthy.

Veneers are excellent for treating chipped, discoloured, slightly misaligned or misshapen teeth or gaps between the teeth, especially if these defects affect the front teeth. A tooth that is too small or has irregularities can be successfully treated with a veneer. Two or three visits to your dentist will usually be required to prepare the teeth and fit the veneers. Your dentist will discuss your needs with you and plan the treatment that suits you best.

An appointment typically takes from one to two hours depending on the number of teeth to be treated.

To prepare each tooth, your dentist will remove a thin layer, about the thickness of a fingernail, from the surface of the tooth. This allows room for the veneer to be glued into place later. A local anaesthetic may be required during this step.

An impression is taken of your teeth and sent to a dental ceramist, who manufactures the veneers to fit your teeth.

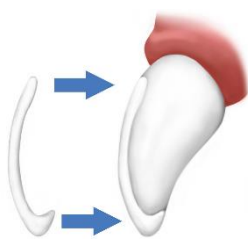
Cementing of the new veneers occurs at the next appointment and may take a few hours. Your dentist will check on the colour and fit before finally bonding them into place. The teeth are cleaned with a chemical that helps bond the veneer to the tooth.

After a cement is placed between the veneer and your tooth, a light beam activates the cement to bond the veneer firmly.

Colour can be altered by using varying shades of cement, so it is important that you discuss any changes you require before the final cementing is done. Once the veneer is bonded to the teeth, the colour cannot be changed. After the veneer has been bonded, it is trimmed and polished.



Rear view of veneers for the front teeth, showing shape and structure.



The veneer is bonded to the front surface of the tooth.



Discoloured, misshapen or damaged teeth (left) can be effectively covered by veneers (right).

### The care of veneers

- Caring for your veneers will ensure that they last longer. Regular checks with the dentist who fitted them, or one who is experienced in the care of veneers, is recommended. During your visit, the veneers will be polished, and any irregularities will be trimmed. Mention to your dentist if you have noticed any problem during brushing or flossing.
- Excessive chewing or biting, especially on foods like hard lollies, ice or bones may break the porcelain. Holding other hard objects in your teeth such as nails, pens or bottle tops may damage the veneers.
- If they are struck by sharp objects, porcelain veneers can fracture, just like normal teeth. Wear a mouthguard for protection during sport.
- Good dental hygiene is important to extend the life of the veneers. Regular brushing with a fluoride toothpaste and flossing after meals will help to prevent decay.

### Advantages of veneers

- Application is relatively painless.
- If the tooth underneath is strong enough, veneers can be a simpler and cheaper alternative to crowns.
- Veneers are resistant to staining due to age, tea, coffee or smoking.
- The porcelain and the cement used in the cementing process are strong, making veneers comparable in strength to normal teeth.
- When applied professionally and cared for regularly, veneers can last for many years.
- Porcelain will not decay.

### Disadvantages of veneers

- A veneer cannot be repaired if it is damaged or if the gum shrinks away from the top edge.
- Veneers tend to be relatively expensive.
- A small amount of tooth must be removed during preparation.

### Other considerations with veneers

- After your dentist prepares your teeth and you are waiting for the fitting of the veneers, the teeth will feel rough and strange due to their exposed, buffed surfaces.  
At this time, teeth may be more sensitive to air or touch and to hot or cold foods. They are also more likely to stain. Attention to hygiene is important during this time.  
The exposed teeth can be covered with a temporary veneer if you wish, although this is not usually necessary and will increase the cost of the procedure.
- Veneers are not a replacement for corrective dental procedures in people with overcrowded or badly misaligned teeth, or upper and lower teeth that do not meet evenly.
- As healthy gums are essential to the success of veneers, daily attention to oral hygiene is important.

### Bonding

Bonding is useful for improving small irregularities but is less successful than veneers in the treatment of some problems.

The tooth is prepared by etching its surface with a gel. The surface is then painted with a bonding liquid that sets firmly when a special light is shone on it. A putty-like resin is moulded onto the tooth and shaped. The light is again used to harden it. Finally, the set resin is trimmed and polished.



*The appearance of a chipped front tooth (left), for example, can be effectively treated by bonding (right).*

### Taking care of your bonding

- Brush and floss regularly; avoid sweet or starchy foods.
- Regular maintenance by a dentist is recommended. Rough or snagged areas can be smoothed if treated early.
- Some commercially available toothbrushes and toothpastes are too hard on bonded teeth. Your dentist will discuss the best teeth-cleaning materials to purchase.
- Stresses on bonded teeth (such as biting into hard foods) may lead to breakages.
- If the front teeth have bonded edges, bite into foods using the side teeth.
- As alcohol can cause deterioration of the resin, it should be taken in moderation.

### Advantages of bonding

- Bonding is often a satisfactory alternative for small blemishes.
- Tooth preparation is not normally required.
- Only one visit to the dentist is usually needed.
- An excellent colour match can usually be made.
- Bonding may be a less expensive option than veneers in selected cases.
- Bonding can be used as a conservative, temporary measure if a more permanent treatment requiring tooth preparation is planned for a later stage.
- A bonded surface can be repaired in the mouth and can be maintained as long as the person wants the dentist to look after it.

### Disadvantages of bonding

- As bonding material is made of a bonded resin, it is not as strong as a veneer and is more prone to chipping or breaking, but is easily repaired.
- Bonding may need regular touch-up work in some cases.

### Direct laminate veneers

Direct laminate veneers are a conservative alternative to porcelain veneers.

They can be used in a wide variety of cases. First, the tooth's front surface is etched, and an adhesive coating is applied.

Similar to bonding, layers of a putty-like bonded ceramic material are then applied to re-create the natural colour of the tooth's entire front surface.

An intense light is applied intermittently throughout the layering process to cure and harden the ceramic material.

The cured material is then contoured and polished to create a natural looking tooth

### Advantages

- They seldom require any removal of tooth structure.
- They do not require impressions or laboratory manufacturing, and are usually less expensive than porcelain veneers.
- They can sometimes be removed without damage being done to a tooth. This can enable further treatment options if the person's expectations are not met.
- They can be repaired.
- As long as a dentist looks after them, direct laminate veneers may last for many years.

### Disadvantages

- They are not as strong as porcelain veneers and may chip or break if the bite is incorrect.
- They require more maintenance than porcelain veneers.



*Gaps between teeth and poorly shaped teeth (left) can be effectively treated with direct laminate veneers (right).*

### Bleaching

For stained or discoloured teeth, bleaching can lighten teeth that have not responded sufficiently to professional cleaning. It is a safe procedure when done by a qualified dentist. Bleaching may not be appropriate in people who have oral symptoms of some diseases.

Your dentist will take an impression of your teeth so that a custom-made mouth tray can be made. This holds the bleaching gel close to your teeth. The gums do not normally come into contact with the bleach.

Wearing the tray for 30 minutes to two hours every day will gradually lighten the teeth. Some bleaching agents can be used all night, although this may cause irritation of gums and the mouth in some people.

Most mouth trays are light enough to permit talking and working with them in place. Good results usually occur within two weeks. The daily bleaching process can be continued until you are happy with the appearance of your teeth. However, it is not always possible to achieve white teeth. Your dentist will advise you on how long you should use the mouth tray each day and the duration of the overall treatment.

### Follow-up during and after bleaching

See your dentist periodically while you are using the dental tray. The health of your gums can be checked during this visit. Any irritation that occurs is usually minor and settles once the treatment stops. When the lightening process has finished, you can keep the teeth white by bleaching them regularly for a short time.

### Advantages of bleaching

- Bleaching is ideal for undamaged teeth that only need lightening in colour.
- Once the custom-made tray has been fitted, you are able to do the bleaching at home, and the tray can be re-used later.
- The upper and lower teeth can be bleached.
- Approved tooth-bleaching products are safe to use.

### Disadvantages of bleaching

- Some blemishes will not improve. Bleaching works best for teeth that are stained yellow, brown or orange. Teeth with grey stains may lighten a little, but results will not be as good.
- Care needs to be taken so that the bleach does not come into prolonged contact with the gums. This may cause short-term irritation or burning.
- If your teeth are very sensitive, or if you have gum disease or worn teeth, bleaching may not be suitable.
- Some over-the-counter preparations are very abrasive, and although they work in the short term, they can damage teeth over the long term. Dentists do not recommend these treatments.
- Some white fillings may need to be replaced after bleaching.
- Some teeth do not bleach evenly.



*Bleaching can be effective in treating some stained or discoloured teeth.*

### Composite fillings and glass ionomer cement fillings

Composite fillings can be an alternative to amalgam fillings. They are made of a plastic material mixed with small glass particles and are tooth coloured, rather than silver. They are suitable for repairing both the front and the back teeth.

After preparing the tooth, your dentist will place layers of the composite filling into the area to be repaired. Each layer of the composite material is hardened by exposure to a special light.

Once the cavity or defect is filled, your dentist can trim the composite to fit the tooth and then polish it to reduce discolouration or staining.

### Advantages of composite fillings

- Composite fillings are more attractive than amalgam fillings.
- Teeth filled with composite material tend to be stronger, as it bonds to the surrounding tooth, while a tooth filled with amalgam may sometimes be weaker.
- Composite fillings can be fitted into very small holes, so less drilling is needed in preparation for the fillings.
- These types of fillings can help insulate the tooth from major temperature changes.

### Disadvantages of composite fillings

- Composite fillings take slightly longer to place than amalgam, and the technique your dentist uses is more complex.
- Composites are usually more expensive than amalgam.
- If used in larger cavities, composite fillings can wear out sooner than amalgam fillings. However, this may not occur if they are used in smaller cavities.
- A tooth filled with composite material may be sensitive for a time after the procedure.
- Some foods and drinks can stain composite fillings.



*Amalgam fillings (right) can be replaced by composite fillings.*

### Inlays & onlays

#### Inlays

Inlays are fillings that were traditionally made of gold but now are often made of porcelain, ceramic or composite material. They are used to repair moderately damaged back teeth and need to be extremely strong to withstand the grinding pressures of these teeth.

Inlays are glued into place and are contained within the cusp tips of the tooth. A special glue is used to increase the strength of the bond.

#### Onlays

Made of the same materials as inlays, an onlay is a more extensive repair that covers the tooth cusps.

An onlay is much stronger than any other type of filling and actually increases the strength of the tooth.

### Application of inlays and onlays

The fitting of inlays and onlays usually requires two dental visits.

The first visit involves removing the old filling or the decayed area and preparing the surface for the new filling. An impression is made of the area and sent to the dental laboratory so the inlay or onlay can be constructed. A temporary cover or filling is applied until the next visit.

At the second visit, the temporary cover or filling is removed and the new inlay or onlay is fitted. Your dentist will ensure that it is a proper fit and does not interfere with your bite. It is then bonded into place with a powerful glue and polished.

### Advantages of inlays and onlays

- Strength is one of the major advantages of inlays and onlays. Fillings usually weaken a tooth, but because inlays and onlays are bonded directly into the tooth, they can increase the overall strength of the tooth.
- Porcelains, ceramics and composite material can be made in colours to match natural teeth.
- They are durable and may last 10 years or more, unless they get decay under them.
- In some cases, they are a good alternative to the more complex crown.

### Disadvantages of inlays and onlays

- Inlays and onlays can be costly due to the high-quality materials used in their manufacture and the precision required in their fitting.
- They require removal of tooth material.



*Inlays (left) are used to repair moderately damaged back teeth and need to be extremely strong. An onlay (right) is a more extensive repair that covers the tooth cusps.*