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London
City Dental

Tooth coloured materials... your choice

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What do people want from their dental restorations? Strong, safe and durable materials. Colours that blend with their natural teeth. That's why synthetic tooth-coloured materials are replacing metals such as amalgam and gold. But how good are these materials, new and old? Here's a useful guide.



Porcelain fillings are stronger than amalgam, and far more aesthetic.

● Changing times

One of the aspects of modern dentistry is the kind of restorative materials used. Take fillings, for example. Many people show a mouthful of dark grey that darkens the teeth. Often they don't choose the filling material used, so 'in goes the silver amalgam'. But times and resources change. Now you can benefit from advanced and aesthetic materials for fillings and a wide range of other dental work.

● Fillings

Silver-Mercury Amalgam

For decades this has been the standard material for smaller fillings. It consists of silver powder and liquid mercury, mixed into a metallic putty and pressed into the cavity, which then hardens fairly quickly.

- *Advantages:* Inexpensive, easy to use and generally long lasting.
- *Disadvantages:* Unaesthetic dark grey colour. Tends to discolour the surrounding white tooth enamel. Prone to crack and leak over time. The mercury component of this material is a point of health concern for some people.

Gold

Until now, a gold inlay has been the ideal material for fillings, especially large ones. It is precisely made to fit an accurate model of the tooth cavity, using a casting process similiary used in making jewellery.

- *Advantages:* Strong, completely safe, adaptable extremely durable. Very unlikely to leak when well fitted.
- *Disadvantages:* Unaesthetic yellow colour. Requires two dental visits, plus special laboratory charges, so it is expensive.

Quartz Composite

This ready-made putty is suitable for small to medium fillings. After choosing the closest matching shade (there are many), the dentist inserts it into the cavity and hardens it with a special light.

- *Advantages:* Aesthetic blend tooth colour. Bonds to the tooth structure, thereby strengthening a weak tooth. Safe to use, fast to apply and inexpensive.
- *Disadvantages:* Not suitable for large fillings. Prone to wear and leak over time. Surface can also become porous and lose some of its aesthetic quality.

A super hardened version of this material, called a 'cast composite', can be made in a laboratory. Since it much more hard-wearing and resilient than 'in-surgery' putty, it is often the material of choice. It certainly does cost more (due to laboratory fees) but not as much as porcelain (see below).

Porcelain

This material similar to china, is the ideal alternative for a gold inlay on medium to large fillings. It is custom-made in a dental lab on a model of the prepared tooth. It is then bonded into the tooth cavity in a similar way to quartz composite.

- *Advantages:* Aesthetic, hard-wearing, safe and strong – most closely resembling tooth enamel. The bonding process strengthens the whole tooth.
- *Disadvantages:* Requires two dental visits, plus special laboratory charges, so it is more expensive than composite. Initially brittle, it achieves its strength only after bonding to the tooth. Occasionally it can fracture.

● Veneers

This is a bonding of tooth coloured material (the veneer) which changes the colour, shape or position of natural teeth. Veneers are made from two different materials.

Composite

This is the more lower-priced option as it does not have to be made on a model by a technician. Composite veneers will look good for several years but eventually degrade and need to be replaced. In some cases the veneers can be repaired.

Porcelain

This veneer is higher priced, because it is custom-made in a dental laboratory. However it is a much more 'permanent' solution and come the closest to natural teeth. A fractured veneer will need replacement since it generally cannot be repaired.

● Crowns

Crowns are fitted when the tooth has been weakened through heavily filling, root treatment, or where the remaining tooth structure is too thin. All permanent crowns are made in a dental lab and require two visits.

Gold

While this is excellent material for a crown, its yellow colour makes it very unaesthetic.

Full porcelain

This looks the most like a natural tooth, but can fracture if subjected to heavy jaw pressure. So it is used more for front teeth rather than back teeth.

Porcelain bonded to gold

A gold base is faced with porcelain. While it looks good, it is not as 'natural' as an all-porcelain crown. In heavily loaded areas, such as the back teeth, it is the optimum standard.

● Implants

Pure titanium is the only material that is biocompatible with the body for use as an implant. When correctly inserted, the titanium 'root' bonds to the bone and creates a very strong anchor to which a crown can later be attached.

● Dentures

Acrylic

Traditionally, an acrylic plastic has been used in dentures. Light but weak, it had to be made quite thickly to avoid breaking. Unless highly polished and well adapted to the mouth, acrylic tends to irritate the soft tissues of the gums or palate.

Chrome Cobalt

This metal is strong, even when thin, and so is more comfortable than acrylic. If well fitted, it is fairly well tolerated in the mouth. It can be unaesthetic in areas where the metal 'bits' show. It is more expensive than plastic, but its durability makes it a better choice.

With modern 'white' materials, you can have tooth restorations that last as long as their metal equivalents but are more aesthetic.

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