Adhesive dentistry

Over the past few years patient demand for better aesthetics has been met with an amazing spectrum of new materials and techniques.

Nowhere has the revolution in dental materials been more apparent than in the field of adhesive dentistry. The attraction of minimal tooth preparation, coupled with highly aesthetic restorative materials is appealing to patient and dentist alike. However, there is often a price to be paid for these benefits, and one which may not be obvious to the patient unless the dentist takes the time to explain all the advantages and disadvantages of the various options.

Problems frequently arise in adhesive dentistry when the dentist has heavily emphasised the benefits of these materials and techniques without warning the patient of the limitations.

Composite restorations

Patients are demanding tooth-coloured fillings either for aesthetic reasons or because of their own concerns about mercury toxicity in amalgam restorations. In the first instance, there is no doubt that composites provide a more aesthetic solution than amalgams. However, where a patient is requesting the removal of amalgams to cure a medical problem e.g. multiple sclerosis or allergies, the dentist must be wary of representing the proposed composite restorations as a cure, since the evidence to substantiate these claims, is at best, inconclusive.

The decision to restore a tooth with a composite restoration will be dependent on a number of factors, including:
- Patient preference
- Size and shape of the cavity
- Occlusion
- Ability to isolate the tooth to keep it moisture free
- Cost and time

The choice of a composite restoration by a patient should be on an informed basis and some of the problems previously encountered by dentists can serve to highlight areas that should be discussed with patients, perhaps, with the help of a simple information leaflet.

Common problems with composite

Postoperative sensitivity

Amalgam is generally a well tolerated material and is less prone to cause postoperative sensitivity than directly placed composite fillings. Sensitivity can be caused by a variety of factors and a study of the literature will show a number of techniques that attempt to overcome the problem.

The risk of postoperative sensitivity is difficult to eliminate however. So it makes sense to warn a patient of the possibility, even if only to reassure them of its transitory nature. The patient should be advised to return if the sensitivity fails to resolve, and this should be recorded in the clinical notes.

Wear characteristics

Many composites have a wear characteristic that is poorer than amalgam especially in load-bearing areas. Where larger restorations are placed or when patients have a bruxing habit, particular care should be taken. In these cases consideration should be given to the use of alternative materials or even a fixed restoration – particularly when replacing more than one tooth or either premolar or molar teeth.

Discoloration

Unlike porcelain, most composites absorb stains and this can very quickly compromise the aesthetics of an otherwise successful restoration. Patients should be warned of the potential for tobacco, red wine, coffee or tea to stain their new composite fillings. Other food substances (e.g. turmeric in Asian foods) can also stain the restorations, as can mouthwashes containing chlorhexidine. When planning anterior composite restorations, it is important that these factors are considered and the patient warned accordingly so that they can make informed choices about their dental care.

Debonding

To a patient, a filling is often considered to be a permanent solution. Where there is little tooth substance, heavy occlusal forces, or parafunctional activity/health, a patient should be advised that their composites might fail. Incisal edges and corners of anterior teeth are often restored in composite and these can sometimes be problematic when the dentist is adopting a minimally invasive technique and relying on maximal retention from the adhesive bond and etch technique. The risk should be explained to the patient before placing the restoration because an informed patient is more likely to understand and accept an adverse outcome.

The above list of potential problems seems prohibitive but there is no doubt that composites are here to stay, are very effective when used appropriately, and are often an excellent aesthetic alternative to other more radical and invasive treatment options.

Common problems with adhesive bridges

Adhesive bridges or resin-bonded bridges have come a long way from the first Rochette bridge. The considerable advances in adhesive technology enabling metal to be bonded to teeth have made this technique a more realistic alternative to den- tures or implants. Unfortunately they can also be unpredictable despite the research evidence on the longevity of the bond.

There are several factors to consider when planning treatment for a patient with a view to providing adhesive bridge-work.

Location

The upper anterio part of the mouth is the most popular site for