

Dental anxiety... an alternative approach

**ROBERT DONALD LOOKS
AT THE LATEST
ALTERNATIVE IN DENTAL
EQUIPMENT FOR
DEALING WITH ANXIOUS
PATIENTS – AIR
ABRASION**

An article in the *British Medical Journal* estimated that only half of the population attends the dentist either for regular dental treatment or as an emergency approximately once every two years.

Between 30-50% of the adult population are nervous of visiting the dentist.

There are about four million adults in Scotland (March 1996). Of those, only 1.86 million are registered under continuing care (February 1999).

You hardly need to be told but, according to the National Dental Advisory Committee report *The Availability and uptake of services for the Dentally Anxious*, published in August 1998, fear/anxiety is the major barrier to the uptake of dental treatment.

Two of the most common concerns are a dread of injections and a fear of the drill.

WHAT DO THEY MOST DIS-LIKE?

- The fear of analgesic failure
- The anticipated pain of an injection and prolonged anaesthesia
- The vibration of the drill
- The noise of the drill
- The smell (burning of tooth tissue – especially if you do not have enough water coolant).

The National Dental Advisory Committee made a number of recommendations, including research into incentives/disincentives of treating dentally anxious patients and the use of alternative therapies.

Around about the time that the report was published, I was approached by Brian Jackson from Dental Practice Systems (01438 820550) about an alternative method of cavity preparation that is being used increasingly in the USA.

Robert Donald is a full-time general dental practitioner from Nairn, Scotland



Figure 1: Occlusal caries pre treatment

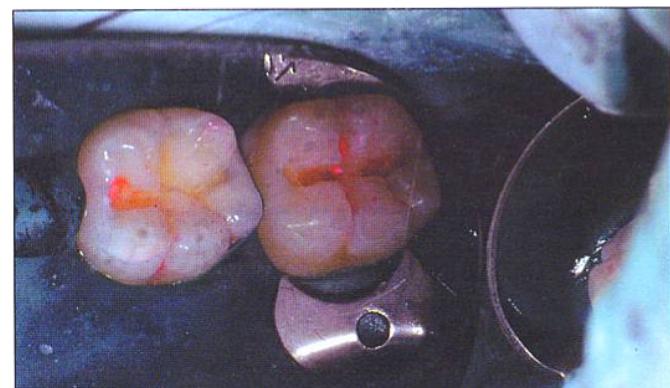


Figure 2: Cavity preparation using caries detector (red stain)

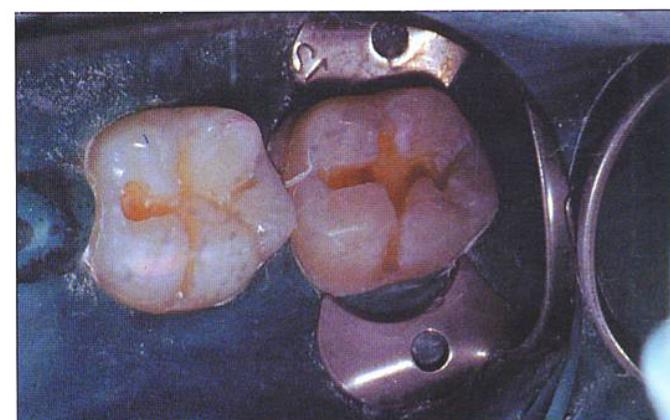


Figure 3: Cavity preparation complete

AIR ABRASION INTRODUCTION

During a visit to Dr Teresa Day's practice in Berkshire, she was able to demonstrate how air

abrasion could be incorporated into dental practice.

I was so impressed with the technique that I decided to buy the Crystal Air Ultralow model and

have been using it successfully for the last three years. In fact, I do not know how I could now manage without it.

Air abrasion technology was developed in the 1950s as an alternative to local anaesthetic and a drill for cavity restorations. However, as amalgam was the most popular filling material, the cavity preparation was unsuitable. Not so now that composite fillings are becoming more sophisticated and more popular. Micro abrasive dentistry is a heatless, less invasive procedure, which overcomes the common fears of local anaesthesia and the drill.

HOW DOES IT WORK?

A spray of air and powder (27-micron aluminium oxide) is directed in a well-defined, sharply focused beam of particles for the removal of the decayed tooth structure. This beam cuts easily through enamel, dentine and composite but slowly through amalgam. The particles turn into a harmless hydroxide (commonly used in baking soda toothpaste) upon contact with saliva. The cutting power can be adjusted by changing the powder flow and air pressure. The Ultralow works off the same compressor as your high-speed drill.

I also use an aerosol evacuator, which means there is minimum dust escaping into the surgery.

After the use of a caries detector (Figure 2), I remove any decayed dentine until the cavity is caries free (Figure 3). I routinely

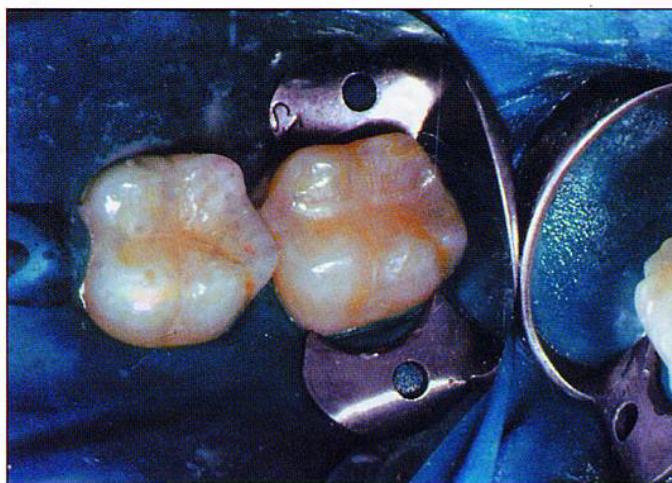


Figure 4: Finished restoration

use my Clearvu intraoral camera with magnification of up to 27x to check the cavity preparation

before restoring (Figure 4). One of the advantages of this technique is that the bond strength

The benefits

- Cost effectiveness
- No local anaesthesia needed in most cases
- Treatment can be carried on all four quadrants during one visit
- No costly handpiece bearing replacement
- No burrs required

Patient-friendly

- Minimum noise
- No smell
- No vibration

Dentist-friendly

- Able to offer an alternative method of cavity preparation to anxious patients
- Stress free dentistry? Not quite but a very positive contribution to this ideal

of the finished restoration is greatly improved.

Since I do not need to use local anaesthetic, I can work on all four quadrants of the mouth in one visit.

OTHER USES

- Intraoral – etching of enamel, dentine and porcelain, preparation of pit and fissure sealing, stain removal, repairing restorations
- Extraoral – cleaning cement from a displaced crown prior to cementation, etch internal surfaces of restorations prior to bonding of cement.

SAFETY

It is important to have good eye protection. Therefore, the dentist, dental nurse and patient should all wear good quality safety goggles.

To reduce the risk of embolism, the nozzle of the unit should never be directed at an open pulp chamber or at a pulpal exposure.

The handpiece should not be placed in direct contact with the gingivae.

IN PRACTICE

I now use air abrasion routinely for the treatment of small to medium sized cavities in both children and adults.

Whilst I still use a conventional drill for the removal of large amalgams and do not use air abrasion for everything, more and more of my restorative work in the practice can be carried out using this technique. ■