Aesthetic Dentistry

Geoffrey M. Knight, a practitioner from Melbourne, Australia, sets out a perspective on aesthetic dentistry and illustrates some of the range of treatment possibilities with cases from his own practice.

Aesthetic dentistry is not a revolution thrust upon the profession but part of an evolution of dental practice linked to advances in dental technology and an increasing public awareness of dental care. Unlike many professions dentistry has undergone a number of major service shifts this century as illustrated diagrammatically in Figure 1.

In the early 1900's the dental profession was primarily engaged in the provision of dentures and aesthetic dentistry was the domain of the removable prosthodontist who exercised complete control over tooth colour, size and form.

Advances in procedures and materials gradually saw restorative dentistry become a preferred alternative to dentures. During this era aesthetic dentistry was predominantly expressed by dentists in terms of technical excellence at the margins of inlays and gold foils.

Improved understanding of the aetiology of dental diseases has gradually involved large numbers of dentists in efforts to achieve fluoridated water supplies and the introduction of comprehensive preventive programmes for their patients. Such activities, which have improved community health standards, have shown another educational benefit, creating an awareness of dental health and a perceived value of a healthy dentition maintained for a lifetime.

In communities in which self image and perfection are considered important, aesthetics play an increasingly central role and dentitions showing, amongst other things, occlusal wear and tooth discolouration have become unacceptable.

Dilemma for patients

Traditional restorative techniques involving extensive tooth preparation create a dilemma for patients who value the retention of their teeth. However, restorative materials which adhere to tooth surfaces give dentists the option of restoring teeth without preparation. This does not preclude all tooth tissue removal but suggests that conservative alternatives should be considered as an integral part of

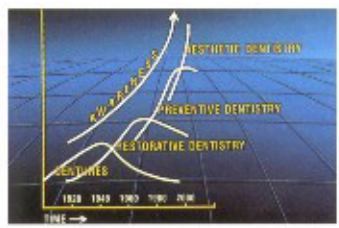


Figure 1
Shifts in dental services in the twentieth century

the diagnostic process.

In this context aesthetic dentistry may be defined as, 'the predictable, aesthetic and functional practise of dentistry, in harmony with the oral environment such that minimum healthy tooth structure is removed during preparation.'

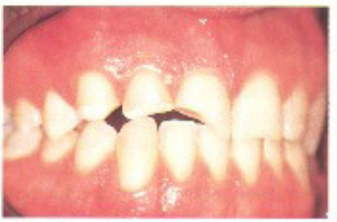
This philosophy, based on technical advances, empowers dentists with a new freedom of practise. Here the possibility exists for a competent practitioner, within established biological guidelines and informed patient consent, to execute creative solutions to dental problems that do not restrict future treatment options.

New materials and techniques pose many ethical and practical problems. The profession cannot hide in the comfortable shadow of out-dated technology while there is demand for affordable, aesthetic dentistry. This, coupled with an increasing pressure for the withdrawal of amalgam by both statutory and public bodies because of real or imagined problems associated with its use. However, change is so rapid that many of the materials become superseded before adequate clinical trials have been performed.

This can mean that dentists have to choose between withholding improvements in care or having to submit their patients to forms of clinical trials.

This choice can be assisted in two ways. Firstly by giving patients sufficient information to make an informed decision within their own circumstances and values. Secondly, the dentist should always apply the criterion of whether or not he or she would allow a member of his or her family to undergo a similar procedure. By keeping within these guidelines dentists meet their professional obligations by delivering a mutually chosen form of care.

Figure 2
Traumatised teeth requiring temporary restorations as a minimum treatment



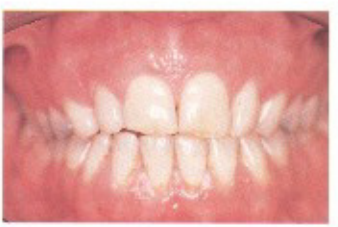
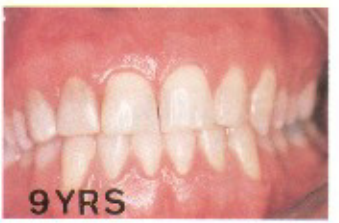


Figure 3
The same mouth nine years later with the Temporary" restaurations still in place



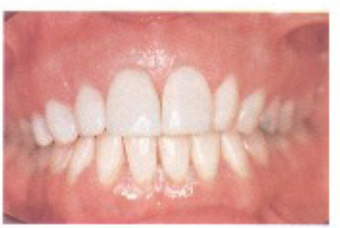


Figure 4
A worn and discoloured dentition

Figure 5
The same case as illustrated in figure 4, but rejuvenated

Adhesive materials

Adhesive materials have had clinical exposure for many years and demonstrate that they can perform over a wide range of restorative services that continues to grow with each new innovation.

Bonded composite resins have multiple applications for the repair of fractured teeth (Figure 2). Repairs are often undertaken on the understanding that the composite is a temporary restoration and a permanent one will be placed at a future date. The time at which a restoration may be considered to be permanent may vary. However, after nine years it can no longer be regarded as temporary, as the restoration in Figure 3 illustrates!

Successful bonding is both a science and an art. No only does it require an understanding of anatomy, physiology, occlusion and material

science, but also the discipline of creating a tooth form that enhances the aesthetics of a smile and remains stable in a hostile environment for many years.

The ability to rejuvenate a worn and discoloured dentition (Figures 4 and 5) is a rewarding experience for dentists and patients alike. Patients enjoy maximum future treatment options and the absence of laboratory fees enables dentists to lower the cost barriers for the service.

Limited only by imagination

Once a dentist has mastered the basic principles of bonding an expanded range of treatments becomes available. Patients who wear a single tooth denture (Figure 6) have the opportunity of replacing it with a composite bridge (Figure 7) that requires no preparation.

Diastemas can be closed, minor orthodontic corrections achieved, the opportunities are limited only by the imagination of the clinician. With a little experience multiple unit bridges are possible and complex cases of occlusal collapse (Figure 8) can be restored to a functioning and aesthetic dentition (Figure 9).

The possibilities created by technology and patient awareness mean that this is not a time for pessimism but a time to celebrate all that the present has to offer in aesthetics. Dentists who keep pace with technology and continually strive for perfection can look forward to the most exciting era that the profession has ever known.

Figure 6
The mouth of a single-tooth denture wearer

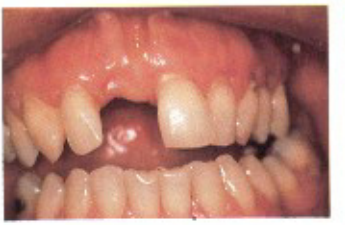
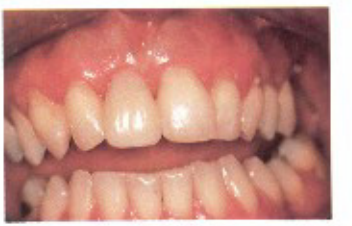


Figure 7
The same mouth with the provision of an adhesive bridge



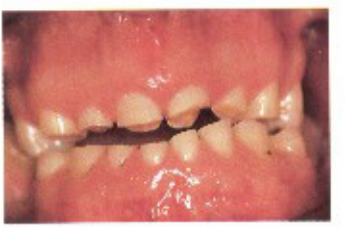


Figure 8
Occlusal collapse

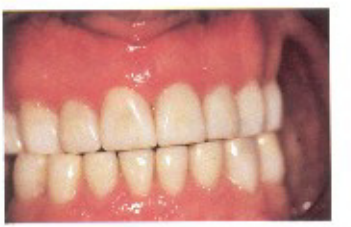


Figure 9
The collapsed occlusion from figure 8, restored

Aesthetic dentistry may be defined as, 'the predictable, aesthetic and functional practise of dentistry, in harmony with the oral environment such that minimum healthy tooth structure is removed during preparation'.