

Implants versus the natural tooth

Dr Raphael Bellamy addresses this disturbing new trend in dentistry

My article this month includes a letter from Dr J W Hutter DM, MEd, past president of the American Association of Endodontists, written in October 2001 in the *Journal of Endodontics*. It is reprinted here in *Irish Dentist* with permission from the author.

Implants versus the natural tooth – stand up for what we know is right

One of the most pressing issues that is a concern to the AAE and its members is a change in treatment philosophy we are seeing wherein the natural tooth is being extracted and replaced with an implant in favour of endodontic treatment and subsequent restoration. It is this concern that I would like to address in this month's President's message.

I certainly realise that the dental implant has played and will continue to play an important role in dental healthcare because it allows another treatment option in those situations in which a tooth has been extracted or lost because of its periodontal condition or its non restorability. The implant also allows the patient to choose another treatment option when faced with the possibility of having to wear a full or partially removable prosthesis. I am, however, very troubled when I see or hear of a patient having a restorable and periodontally healthy tooth extracted and replaced with an implant rather than having the tooth endodontically treated and restored. Manufacturers of some implant systems, dental practitioners and dental lecturers have gone so far as to imply that the implant is better than the natural tooth. I continually ask myself and those I hear advocating this, where is the scientific evidence to support this premise?

As you may be aware a recent article in the *Journal of the American Dental Association* (Brisman D, Brisman A, Moses M, Implant failures associated with asymptotically endodontically treated teeth. *J Am Dent Assoc* (2001) 132:191-5), implied that asymptomatic, endodontically treated teeth are implicated in the non integration of endosseous implants. This conclusion was based on just four case reports that upon close scrutiny revealed other more reasonable causes for the implants to fail. Although the article itself lacked any evidence for its conclusions, it did have a positive effect in that it generated a great deal of discussion via numerous letters to the editor, one of which was from the American Association of Endodontists (July 2001 issue)

I was also recently advised of a troubling advertisement that appears in the membership roster of a state dental association. The advertisement from a dental implant manufacturer contains a chart in which the placement of an implant and a full crown is compared to endodontic treatment and subsequent restoration that may include crown lengthening and a post and core. Instead of comparing the procedures by means of clinical studies, the chart compares by number of patient visits, chair time and patient fees. I am sure you can guess the very biased conclusion the advertisement draws. Must I mention that there are no references to support the findings or the implied conclusions?

Realising the need to address this very important issue, the AAE ad hoc committee on Evidence-Based Endodontics included the issue of implant placement in one of the clinical questions it is presently addressing; When indicated, does the provision of endodontic treatment along with an acceptable coronal restoration result in better patient outcomes than no treatment, a restored implant, a fixed or removable prosthesis or an edentulous space? It is hoped that the findings of the evidence-based project will allow us to better address this question with existing clinical evidence or the identification of the need for additional studies to address the question.

As endodontists, we believe, as do most dental providers, that the natural tooth is still a better alternative than the dental implant. As such we must question manufacturers and practitioners who present biased and unscientific information to their customers, patients and colleagues. We must not hesitate to stand up for what we feel is still the best treatment alternative for our patients.

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I formally thank Dr J W Hutter for allowing me to reprint his article in *Irish Dentist* this month. The article bravely outlines the challenge that lies ahead for our profession.



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As stated before in my article of January 2003 on 'Schilder's Biological Objectives', there are three elements that determine the predictability of successful endodontics. The first is knowledge, the second skill and the third is desire. The greatest and most critical of these is desire. It can be done if we want to do it. Successful endodontics is a decision.

There is no doubt in my mind that many within the profession have elected to bypass endodontics as an effective treatment modality. This started at the turn of this century in America and has grown into a compelling force driven by a number of economic and commercial factors. Are we again to enter the dark ages of wanton savagery and destruction like the era following the advent of the focal infection theory? This culminated in 37% of adults in England and Wales with no natural teeth by the year 1968.

Also, there is no doubt in my mind that the provision of implants, implantology as defined as 'The study of the art and science concerned with the surgical insertion and restoration of materials and devices restoring the partially or totally edentulous patient to function' has its place in dentistry today. This does not include the condemnation and removal of teeth that could otherwise be retained indefinitely or for a reasonable period of time. It is an effective treatment for the replacement of the missing tooth. However, we must never forget that any tooth can be saved endodontically if it is periodontally sound, or can be made so, if foramina can be sealed with or without a surgical approach.

It is the absence of desire, easily understood if knowledge and skill are also absent, coupled with the false perception that endodontics does not work, that lures the clinician toward extraction of a restorable tooth. The temptation to avoid the skill demands and travails of endodontics, extract the tooth, and provide an implant is overwhelming. A simple analogy in everyday terms would be the destruction of a period property

that has stood, tried and tested, for 200 years and its untimely replacement with a timber-framed house rather than meticulously restore the property to its former glory. The former is clearly a more demanding and costly procedure. Do not misunderstand my thoughts. Where appropriate implants must have their place but let us never forget the priority of the dental profession is to preserve and maintain a healthy, natural dentition and its function.

Why is there a perception in these islands that endodontics does not work?

Dental practitioners are encouraged to perform endodontic treatment consistent with their educational training and clinical experience. Keeping in mind that dentistry's main goal is for the public to maintain a healthy and natural dentition, every dental practitioner is expected to be able to recognise and to treat diseases and pulpal injuries that are commonplace and within the skills acquired by graduates of dental schools.

I can think of several reasons why endodontics might not be successful without too much searching. Here are a few:

1. The absence of knowledge, skill or desire
2. The fee for molar root canal therapy within the state systems in England, Ireland, Scotland and Wales is less than £100. This would represent approximately 30 minutes of chair time in the average dental practice. Draw your own conclusion
3. The clinician often attempts



Does complicated anatomy justify the removal of a healthy tooth?

endodontic cases that are inconsistent with their educational training and clinical experience

4. The failure to complete root canal therapy with the correct definitive restoration.

Yet a recent study in the United States carried out by Salehrabi and Rotstein on behalf of dental insurers Delta Dental involving the scrutiny of over 1.4 million root canals came to the conclusion that 97% of these teeth were retained and functioning in the oral cavity for a minimum of eight years (the study is ongoing).

Shimon Friedman from the University of Toronto has an ongoing series of studies beginning in 1993 titled 'Treatment Outcome in Endodontics The Toronto Study'. To date they have four- to six-year results of endodontic treatment completed by graduate dental students. They have been

published in the *Journal of Endodontics*. His results with initial treatment demonstrate a 79-93% healing rate depending upon presence of an initial lesion and/or the technique used for treatment. Teeth with apical lesions had the lowest rate and warm vertical compaction (Schilder Technique) demonstrated 10% higher success rate than lateral condensation. If the criteria for success used were only clinical (retained and asymptomatic), the rate increases to 95%.

Results for orthograde retreatment were a similar 81-93% healing rate depending on presence of an apical lesion. Clinical success was 97%.

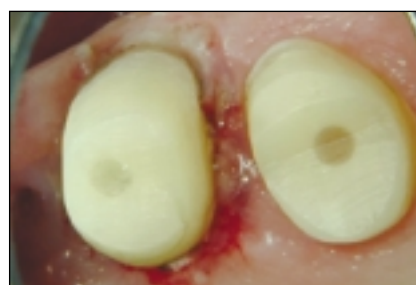
Results for apical surgery showed a 74% healing rate, however this included teeth that had fractured. Ninety-one per cent were functional and asymptomatic.

Bradley S Alley (2004) reviewed records of private general practices and compared their success rates with that of specialists for a period of at least five years. Success was categorised as presence of the tooth at the time of the review. Tooth loss was not determined. Loss could have been due to fracture, restorative failure or other non-endodontic reason. Specialists demonstrated a 98.1% success rate, whereas GPs demonstrated an 89.7% rate of success.

Till Dammaschke reviewed 144 endodontically treated patients after 10 years. The teeth were treated by dental students in 1987-88. Although the canals were sealed 0-2mm short of the radiographic apex, the survival



'... meticulously restore the property to its former glory...' Teeth restored with fibre-reinforced composite cores retained with glass fibre posts prior to crowning in the company of implants



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rate was still 85.1%. It certainly appears that initial non surgical endodontic treatment is a predictable procedure with high incidence of tooth retention.

Unfortunately, clinicians are often presenting implants to patients as a more predictable alternative than endodontic treatment. They report very poor long-term success rates for root canal therapy and often state that there are no long-term studies on endodontic success rates. These quoted studies and others clearly demonstrate that endodontics is highly successful. Dental students treated many of these teeth and microscopes were not utilised in their treatment. If one were to assume that experienced dentists or specialists are more likely to provide a better treatment on average than a dental student or an inexperienced general dentist, and that using a microscope will increase the success rate of treatment, then success rates would be even higher. The



A good reason why endodontic therapy fails is never far away. Appalling endodontics is illustrated above

bottom line is that endodontic treatment has been proven, over the long haul, to be a very successful and cost-effective treatment modality and those preaching otherwise are simply uninformed or dishonest.

In conclusion, let us not lose



The same tooth meticulously retreated and stabilised with a copper band

sight of our goals as clinicians. Let us remain steadfast in the knowledge of what is right and what is the right thing to do. It occurs to me that there may well be a fourth requisite after knowledge, skill and desire – that is judgement. Good judgement leads to the place we

call wisdom. Be certain that the integrity of our profession is at risk and it will be damaged irreparably if we are seen to bow to the gods of commercialism.

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