Cyberspace and endodontics

As I write this article, Google has just posted its profits, and behavioural advertising is in vogue. But what has all this to do with endodontics? Read on urges Jan Skrybant

Endodontics: the definition is derived from the Greek words (inside) and odons (tooth). The current thinking is that the root canal treatment begins at the canal orifice and ends at the apex. This is just the beginning, the correct diagnosis and appropriate treatment plan is essential for treatment to succeed optimally.

Optimising the treatment is compromised of various modalities. But where do we as general practitioners source our information to enable us to make the correct diagnosis and effect the correct treatment? What are the options open to us?

• Current teaching
• Textbooks
• Personal tuition
• Professional development courses
• Manufacturers’ instructions.

All these aids help us to formulate our approach to the art of practising endodontics. One very recent concept is utilising cyberspace and ongoing peer review of our work. Cyber tuition is here to stay. In many cases it’s free and there is a plethora of top endodontists out there ready and willing to offer help to the junior operator; a second opinion for the more experienced practitioner and perhaps more importantly help with the differential diagnosis. Very few concepts of endodontic pathology are absolute. There is usually an endo-peri-al space to consider. Only the final solution of forceps to tooth is absolute, all previous treatment modalities are transitional.

So where do we start?

As dentists wishing to educate our patients, it is possible if using a microphone with a video feed to record ‘on video’ the diagnostic tests, for example: gingival pocketing, sinus probing, gingival bleeding, and open margins on restorations. The last can be exhaustive; the video can then be suitably edited for size and posted on a cyber adjunct such as YouTube. This will enable the patient to view the video at their leisure. In this way, patient education will be optimised.

Secondly, we can join a newsgroup. One prominent newsgroup available easily via the internet is ‘Roots’. On this newsgroup, esteemed clinicians all post on a regular basis and are only too happy to share their expertise with the less experienced operator.

What does this all mean for the average dentist wishing to provide the ‘best’ Endodontic algorithm for the patient? By sharing the clinical case and discussing the options the operator will arrive at the most accurate attempt to what is in effect evidence-based treatment.

What does it entail?

Early diagnosis: The mechanical considerations of treatment: can the root treated tooth take the loading. Did excessive loading cause pulpal death? Will the tooth be functional?

Below is a case that appeared hopeless. The lower right central appears to have very little bone and is mobile grade three. The first x-ray is dated 8.10.2005 and the second is dated 10.05.2006. Mobility is now grade one and the bone support appears much more stable.

The above x-rays show the difficulty of removing a silver point root filling. The previous operator sealed the two silver points in with composite resin. They were removed by ultrasonic filing and the apical fill is mta followed by a gutta percha seal and a gold post together with ferrule.

• Is a calcium sulphate extra radicular matrix advisable?

The above are all concepts and need up-to-date answers. Only current ideology can answer these questions.

Using new tools

The internet has by default given operators a technology to assist them in the utilisation of new tools and concepts in the treatment of peri-radicular disease. In some cases this peri-radicular disease needs anti-biotic intervention. The resultant root canal infection is usually polymicrobial. Previously there was a very large choice of canal medicaments that could be applied but studies have shown that calcium hydroxide is the most infective canal-dressing agent. Leaving the tooth on open drainage is no longer an option. Should antibiotics be prescribed as a chemotherapeutic adjunct? The answer is only if certain criteria are present, as a broad guide these are:

• Fever
• Malaise
• Lymphadenopathy
• Trismus
• Increased swelling/cellulitis.

So, now the treatment modalities move onto gaining access and preparing the canal. Orifice openers are utilised, glide paths prepared and the decision to proceed further is taken.

Rotary, reciprocation or hand files are taken. Apical size is determined and this is critical to allow for the effective irrigation to proceed. The taper is chosen. It is often the case that the operator has to take what the canal will give; nevertheless some subjective decisions will have to be made.

The role of intra canal irrigation is fundamental. It is generally accepted that sodium hypochlorite and chlorhexidine are two of the most common and effective irrigating agents available. The irrigation sequence is critical as these two agents are known to interact. Our internet colleagues will advise and fine tune rotary and irrigation protocols if asked to do so.

Dressing the canal

Having prepared the canal the operation now moves onto either dressing or filling the canal. As mentioned previously, the most effective canal dressing is calcium hydroxide. How long does the canal need to be dressed for? This is another good point for group discussion.

Below are two x-rays taken six months apart. The patient had the misfortune to suffer a coronary between the first visit and the second. The canal was dressed with calcium hydroxide after the first visit with an IRM seal. As can be seen the six-month period allowed for healing to progress.

Lower premolar showing healing after dressing with calcium hydroxide.

Having decided to fill the canal, what method does one use?

• Single cone gutta percha
• Multiple cone gutta percha
• Hot or cold vertical or lateral condensation
• Perhaps the gutta percha alternative “Real Seal” is to be used.
• Perhaps coneless obturation is to be used
• So many variables. A plethora of choices.
• Once filled how is the tooth to be restored.
• Post and core?
• Core alone?
• Full veneer coverage or filling alone?

There are many questions that need addressing. Can we honestly say we have all the answers ourselves? I would suggest not. This is why the multitude of fellow endodontists out there in cyberspace is so valuable. They will give us the answer to the difficult questions we cannot answer ourselves.

As Dr Joyce Brothers said: ‘In each of us are places where we have never gone. Only by pressing the limits do you ever find them’.

Cyberspace is here and the question that has to be asked is it being utilised to enhance the skills needed for today’s dental demands? 

About the author

Jan Skrybant

graduated in November 1972 and has worked in general practice ever since. He has a particular interest in endodontics, but is not a specialist.

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