

# roots

international magazine of endodontics



## trends & applications

Root canal therapy  
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## industry report

Laser-enhanced endodontic treatment

## patient communication

Cracking the code of fractured teeth

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**Dr Freddy Belliard**

Guest Editor



## Dear readers,

There have never been more exciting times in endodontics. We live in an era in which almost all manufacturers deliver excellent products that allow us to recreate predictable shapes in the root canal systems that we treat. As such, there is room for creativity and big rewards for discipline. Having this advantage also brings responsibilities. As a specialty, we need to focus now on the value of a well-educated clinician. One that not only has a deep understanding of shapes, tapers and sizes, but dental anatomy. A dentist that gathers the much needed human skill to diagnose wisely and understand what teeth represent and the role they play on the patient's well-being.

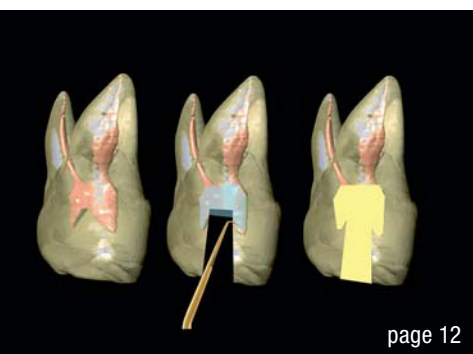
Our challenge is not to allow newer generations of clinicians to "get drunk" on the beauty of shapes, curvatures and white lines and associate those images with success, but to gain from the advantages of clinicians trained in the era of memory-controlled instruments, CBCT and 3-D guided concepts. Blending the technical advantages of this era with the deeper understanding of biology, scientific resources and the plethora of information available will help us evolve into a more mature specialty. We owe this to our generation.

The **roots** community understands this commitment and embraces it with joy. We are a relentless and untiring group that envisions endodontics and its relationship with the rest of the branches of dentistry as one of the most important links in the chain of the patient-centred dental services that need to be provided.

I would like to take this opportunity not only to welcome you to this wonderful issue of the **roots** magazine, but also to extend an invitation to our ROOTS SUMMIT 2018, which will take place in Berlin in Germany from 28 June to 1 July. We have invested great effort in bringing you the best scientific programme possible, with some of the world leaders in science-based endodontics, but with a very clinical approach to the challenges we have to face in our offices every single day.

See you in Berlin amigos!

Dr Freddy Belliard  
Guest Editor



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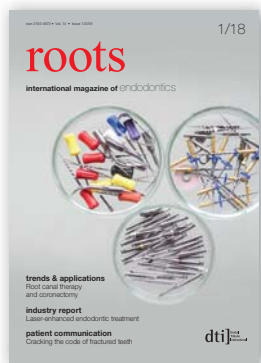


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# Facebook & Co.: Could 2018 be the death of digital advertising?

Chris Barrow, UK

In an article by business author Jaron Lanier in the Jan/Feb 2018 edition of *WIRED* UK magazine, he reminds us that Facebook and Google now account for 75 per cent of online advertising spend, globally. In the same article, there is also a fascinating quote about the current problems with the Internet.

Lanier writes: “Something has gone very wrong: it’s the business model. Specifically, it’s what is called advertising. We call it advertising, but that name in itself is misleading. It is really statistical behaviour-modification of the population in a stealthy way. Unlike (traditional advertising), which works via persuasion, this business model depends on manipulating people’s attention and their perceptions of choice. Every single penny Facebook makes is from doing that and 90 per cent of what Google makes is from doing that.”

A prediction for 2018 is that Amazon is determined to get in on the act and carve out a major position for itself in the market. So, if like me, you were busy deleting a flurry of e-mails, between Christmas and New Year, inviting you to partake in all sorts of indulgence and expenditure, please know that those e-mails and other social media messages were not reaching you by chance, but by design.

We are all the targets of algorithms, created to watch over us as we surf the web, noting our habits, bookmarking what we watch or read, remembering where we linger and what catches our attention for more than a few seconds—even anticipating our next move with creepy accuracy. The phrase “statistical behaviour-modification” has me thinking that we are all being assimilated into a “consumer Borg” (Star Trek fans will know what I mean).



We may think that in healthcare, generally, and dentistry, specifically, we will be protected from this advertising manipulation, whether at the delivery end or as patients, but I suspect not. It exists today, even in a simple context, with the race for Google page one visibility in SEO, whether it is a battle with competitors in a given area code (the more densely populated, the more expensive) or the search for domination of a particular treatment modality.

Many dentists invest heavily in SEO and PPC even though the latest research by *WIRED* magazine indicates that 20 per cent of people searching on Google click on the number one result and 12 per cent on the second, while the rest are not significant enough to track. Even so, the attraction of the digital advertising drug is difficult to resist, especially because it means that you can hand over your money and get back to work, without having to think too much about the numbers game you are playing.

My best friend is the founder of a leading UK digital advertising agency and, having spent over £1 million per annum of his clients' money on Facebook advertising, has a lot to say about the effectiveness of his methods. He sees the future belonging to those who can tell emotional stories targeted at those "personas" that his tribe now talk about all the time. Indeed, you and I are no longer unique individuals. The agencies and their algorithms want to categorise us by age, gender, education, location and a host of other factors.

A couple of years ago, I said in jest that Facebook was getting me wrong by assuming that, at age 62, I was interested in Saga motor insurance (even though I did not own a car) and Mahabi slippers (even though I already owned a pair). The competition for my attention, and yours, has since evolved greatly over a short period of time. The algorithms are now following the heat map I create as I browse the web and now "they" know that, as I approach 65, I run marathons, read good fiction, take adventure holidays, enjoy red wine and watch excellent TV dramas. My social media channels and my online shopping experiences are littered with a constant stream of interruptions that are based on my browsing history and buying habits. "People like you are buying things like this" has become the advertiser's new mantra.

I admit that the same mantra will become more important in dental practice advertising and marketing over the next year, with perhaps only a small change in emphasis that it could be something like: "Patients like you are investing in treatments like this." Will the statistical behaviour-modification of large cohorts of patients perhaps also appear in dentistry?

Frankly, it is already here, with the use of the effective recall system, the daily use of social media channels to publish photographs and videos, the publication of practice blogs as well as the e-mailing of patient newsletters and end-of-treatment interviews. All of these are designed to identify the characteristics of our favourite patients and include them in the process of spreading our brand message.

So far in dentistry, advertising is a manual exercise undertaken by committed internal marketers and treatment coordinators. Perhaps the algorithms created by the larger corporates and retailers to protect and grow market share will soon also arrive in dentistry. This will make for an interesting angle, including the manipulation of patients' attention and their perception of choice. It sounds ominous, doesn't it? We'd better get ready to compete.

## contact



**Chris Barrow** is the founder of Coach Barrow consultancy practice. An active consultant, a trainer and a coach to the UK dental profession, he regularly contributes to the dental press, social media and online. Chris Barrow can be contacted at [coachbarrow@me.com](mailto:coachbarrow@me.com).



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# “No Anaesthesia” endodontics in children

Dr Imneet Madan, UAE

“Laser Popping Sound” in dentistry for children is one of the best approaches that can help us to overcome the initial fear of the unknown when it comes to first treatment appointments in children. Its uniqueness lies in the fact that the need for numbing is completely exempted. Today’s children like technology playing at its best. Lasers definitely meet that perception of technology.

The routine first visit appointments are usually not a concern as children do not anticipate any intervention. Since they are not in pain, their mindset of approach is not defensive. Rather when there is no pre-biased opinion or fear, there is a pleasant sense of adaptation that allows the smooth flow of the appointment. Any different kind of behavioural exhibit occurs only when kids are anticipating an intervention, when they had been in pain or when in general they come fatigued.

The discussion of needles is considered to be the most common subject just prior to the visit to the dentist. This discussion can become even more intense when there is already a perceived treatment need. Very young children can have the fear of the unknown, anxiety with strange and new places.

The older ones develop extreme fear by talking to peers who have been to the dentist before. Some of them might have had good and some others not so good experience. Sometimes, past unpleasant parental experience can distort the child’s adaptability to the dental appointment. They enter the clinic with the preformed image of the dentist which is not very convincing and helpful to the child. These external experiences can lay the foundation of the child’s coping ability in the dental chair.



## How can lasers help?

Since laser is not commonly available at all practices, there could be a possibility that there had been no real discussion on the use of lasers in the treatment. Another possibility of having a good experience with lasers can change the perception of the child who is in for the first time.

When laser is introduced to the parents, they are informed about details on the functioning of laser and its benefits. While explaining euphemisms to the child, the laser is shown as “Popping Light”. There is a significant number of children who go awe-inspired to come back and get their teeth fixed.

The whole mindset of the child changes when they are told that treatments do not involve any needles approach.

### “No Anaesthesia”

Procedures that can be done without anaesthesia are:

- Restorations: Decays involving occlusal, labial, palatal, buccal or proximal surfaces of the teeth.
- Deep restorations on teeth with decays close to the pulp.
- Pulpotomies in primary teeth.
- Pulpectomies in primary teeth.
- Pulpectomies in primary teeth with abscess, fistula or swellings.

The term “No Anaesthesia” is a misnomer as the procedure is accomplished with few drops of anaesthesia in between, especially when endodontics is involved. The “No Anaesthesia” approach for enamel dentine restorations are the erbium laser Prep mode for restorative dentistry: MX7, 3.25 W, 25 Hz, air, water. There are two commercial settings that can be followed for the most acceptable cavity preparation:

- Rapid Prep: MX7, 5 W, 20 Hz, air 80, water 50. This setting is usually used for enamel caries removal as water content is lesser. Since there is less water in the enamel, higher power is needed for appropriate absorption of laser.
- Comfort Prep: MX7, 3.75 W, 25 Hz, air 60, water 30. This setting is usually advised when we have reached the level of the dentine as the water content in the dentine is higher in comparison to enamel.

Once complete excavation of the decay has been attempted with laser, gentle hand excavation, low speed excavation is attempted. This step should be followed with Bond prep: MX7, 3.25W, 50Hz, air 60, water 30. Following this step, the tooth is isolated and restored with composite (Figs. 1 & 2).

## Pulpotomy procedure with erbium laser

When the carious decay is found deep and in close proximity to pulp, exposure of the pulp canals can happen while removing this decay. In such situations, exposed pulp needs to be treated by removing the affected coronal pulp contents. This procedure is referred to as Pulpotomy.

Deep caries are excavated with pre-adjusted rapid prep settings: MX7, 5W, 20Hz, air 80, water 50; and then comfort prep settings: MX7, 3.75W, 25Hz, air 60, water 30 are used as we approach deep into the dentinal caries. As soon as there is pin point pulp exposure, few drops of Lignospan are dropped inside the coronal pulp chamber. This step is followed by opening partial access into the coronal pulp chamber. As we go further deep into the coronal chamber, more anaesthetic intrapulpal infiltration is used followed by complete laser access opening.

After removing the coronal pulp contents, the chamber is irrigated and dried followed by diode laser sterilisation and coronal pulp filling with zinc oxide eugenol. The tooth is then filled with base Fuji IX and final restoration is done with composite or stainless steel crown.

### Pulpectomy procedure with erbium laser

Teeth that have chronic profound caries, active signs and symptoms, and radiographical signs of pulp involvement, are indicated for Pulpectomy. Pulpectomy involves the removal of both coronal and radicular pulp contents.

When the tooth is indicated for pulpectomy or root canal procedure, deep caries are excavated with pre-adjusted rapid prep settings: MX7, 5W, 20Hz, air 80, water 50; and then comfort prep settings: MX7, 3.75W, 25Hz, air 60, water 30 are used as we approach deep into the dentinal caries. As soon as there is pin point pulp exposure, few drops of Lignospan are dropped inside the coronal pulp chamber. This step is followed by opening partial access into the coronal pulp chamber.

As we go further deep into the coronal chamber, more anaesthetic intrapulpal infiltration is used followed by complete laser access opening. Once access has been done with laser, coronal pulp contents are removed. Before gaining access into radicular pulp chamber, few more drops of anaesthesia are dropped in. Complete extirpation of radicular pulp contents is done with rotary instruments.

Continuous copious irrigation is done with saline and chlorhexidine. Canal measurement is done, and as a final step before obturation, both the erbium and diode laser are used for sterilisation. Final step is zinc oxide eugenol obturation, Fuji IX base filling and composite restoration.