BRINGING A NEW APPROACH TO ENDODONTIC TREATMENT

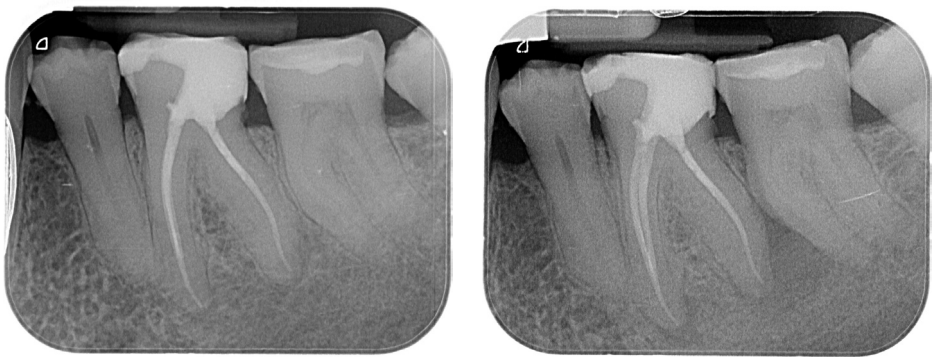
Specialist endodontists, Jon Cowie and Luca Moranzoni, talk to *Private Dentistry* about the philosophy behind Trunatomy - the latest endodontic file system from Dentsply Sirona that is redefining root canal treatment

CD: Trunatomy comes on the back of a long heritage of endodontic systems. What does it offer that's different from its predecessors and how does this fit in with your philosophy of treatment?
JC: We had been looking for a file system that fulfils our philosophy of restorative endodontics for some time when we first heard about Trunatomy.

The main reason root treated teeth fail is because of restorative failure. If we can do anything within our treatment process to preserve dentine in key areas, then we're able to shift the balance towards long-term restorative success. We can also fulfil the biological requirements of the endodontic process with this approach, irrigant can still exchange in the critical areas of the canal to clean and remove the bacterial burden allowing healing and repair of the tissues around the tooth.

CD: How would you describe this approach?
LM: It's about dentine preservation - that's the key. A lot of the time we're treating teeth that have already had extensive work done on them, so it's our philosophy to retain as much dentine as possible yet still clean the canals. It's about minimising the risk of the tooth breaking after treatment.

CD: What's the key factor about Trunatomy that you don't find in other file systems that enables the crucial preservation of dentine?
JC: There are two main factors. Firstly, it's the physical file geometry - the shaping and taper of the files. The variable taper across the working length is a regressive taper so it narrows at the top and the small file diameter coronally of 0.8mm, compared to up to 1.2mm for most generic variable tapered files, is



A nice LL6 case that has 14 month follow-up showing healing

a lot more conservative in the pericervical areas above and below the cementoenamel junction, the critical area where we need to preserve dentine for restorative success.

Secondly, it's the metallurgy of the file. It's a heat-treated nickel titanium alloy which has controlled memory, so when you bend the file, it doesn't return back to shape, allowing better access to the canals. Rather than removing significant dentine in the pericervical area we can be a lot more conservative because the files are stronger, they can be pre-bent and they're much more resistant to cyclic fatigue, working around curvatures in the canal which is not always possible with larger diameter files.

CD: Three of the main elements of the system are the orifice modifier, glide path and shaping files. How are these designed to work together?
JC: The orifice modifier is the critical component of the system. It sets the scene

for the glider and that in turn prepares the way for the Prime shaping file - they all work together hand in hand. The small or medium files can be utilised if the canals are very narrow to provide an extra step between the glider and the Prime in more complex cases or if there's a need for a slightly refined apical preparation.

CD: The Trunatomy literature talks about the system 'respecting the tooth anatomy'. What does this mean and what are the clinical benefits?
LM: Respecting the tooth anatomy means removing less dentine where it matters, not imposing on the shape of the canal and creating fewer errors as you enter the canal. For example, when treating curved canals, a standard, traditional nickel titanium file will tend to straighten the curve as it tries to revert to its original straight shape. This means you can lose more dentine, so the tooth could be more predisposed to cracking, and the clinician at higher risk of iatrogenic error in terms of ledges and elbow formation and indeed strip perforation. With a smaller, more flexible file it will just follow the natural shape of the canal and gently enlarge the channel it's given.

CD: Is Trunatomy more suited to some cases than others?
JC: It's a file system primarily designed for first-time root treatments. Where it can have specific and increased benefits over other file systems, would be in the example of a calcified canal that is already very narrow. You need to expand the canal to get the root filling in, but you don't want to over-widen it as this will subsequently weaken the tooth. It also works really well in highly curved canals as the diameter of the file is narrower. As already mentioned, the file has controlled memory to respect the anatomy of the tooth and reduce the risk of any mishaps during treatment.

CD: Does Trunatomy make endodontics less challenging?
LM: From an instrumentation point of view, it's a very user-friendly system. It gives me more confidence when I have a complex case as I know I can push the limits a bit more. I know how the files are made, how they behave and they have a lot more tolerance in difficult situations. Overall, it's a big step forward in technology and instrumentation so it definitely does make things easier for me.

RESPECTING THE TOOTH ANATOMY MEANS REMOVING LESS DENTINE WHERE IT MATTERS, NOT IMPOSING ON THE SHAPE OF THE CANAL AND CREATING FEWER ERRORS AS YOU ENTER THE CANAL

CD: So, the Trunatomy philosophy seems to be refreshingly well suited to your own view of endodontics.
JC: It is. Trunatomy helps to drive a mindset change away from endodontics being about creating white lines within the root canal, to a greater understanding of the whole continuum and workflow, from the restorative element into the endo element and then back again. It's that interlinked, joined-up thinking in place with this system that's so important for us.

LM: It's a philosophy change, not just a new system. It's a technological step up, as frankly I feel it's the best file system out there in terms of feel and usability. There is a learning curve as with any new system, but it's very nuanced and very straightforward to pick up. It's not just a new system, it alters the old values and beliefs, which will sit well especially with a younger generation of dentists because they have not been as indoctrinated into traditional endodontic methods as we have. I think it's a great leap forward from Dentsply Sirona in setting a new endodontic movement. ●

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