

Happy New Year! The first newsletter of 2013 addresses how Cone Beam Computed Tomography (CBCT) technology can lead to more predictable results.

The diagnosis of a small root fracture is a particular challenge as it is difficult to attain accurate information. If a fracture is missed then a recently treated tooth may require extraction; if a fracture is assumed to be present a treatable tooth may be lost. Research indicates 70% of CBCT images provide additional clinically relevant information not found on periapical radiographs. This does not mean a distinct fracture on a root will always be visible, but one can more accurately evaluate both the root and surrounding bone. A distinct advantage of a CBCT image is the elimination of superfluous anatomical structures; allowing an unimpeded view of all that lies behind the cortical plate.

The images on the right are of a patient referred to our office. The root canal treatment was done over five years ago. Recently slight swelling was noted buccal to tooth 36. There was a 7mm probing defect on the furcal aspect of the mesial root. A widened PDL was present at the apex of the mesial root. Would the probing defect resolve with further endodontic treatment? Was the large post in the distal root a complicating factor? A CBCT evaluation was performed by Orbit Imaging and the findings were:

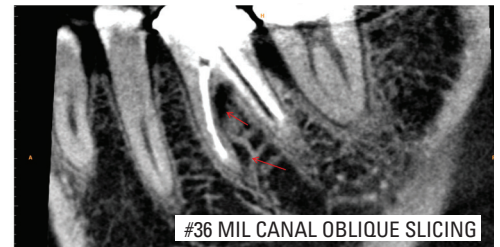
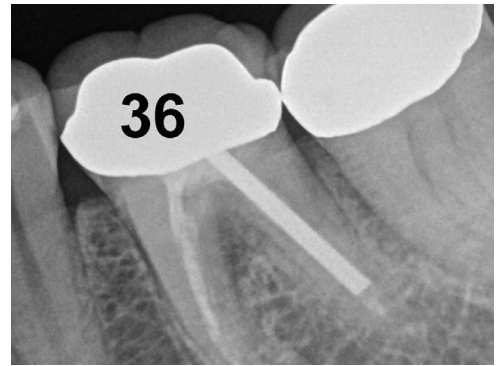
- 36 -Furcal surface of the mesial root indicates a possible root fracture close to the ML canal with a resultant bone defect extending out to the buccal furcation.
- 37 -A widened PDL space on the buccal aspect of the mesial root (the pulp is vital).

The CBCT evaluation confirms the presence of a subtle fracture on the mesial root of 36 and that 37 is currently not a good candidate for additional occlusal load. Not only did the use of CBCT allow an accurate diagnosis of a small fracture it also identified a tooth at high risk of fracture. As this case demonstrates, CBCT technology allows one to gain more accurate information and attain more predictable restorative results, which is a great start to a New Year.

Regards,



Dr. Joel N. Fransen  
BSc(OT), DMD, FRCD(C)  
Certified Specialist in Endodontics



**Richmond Endodontic Centre**  
Dr. Joel N. Fransen

**110-11300 No.5 Rd**  
Richmond, BC V7A 5J7  
office@endodonticcentre.com  
T 604.274.3499  
F 604.274.3477

**Office Hours**  
8am to 5pm - Monday to Friday  
Extended hours are also available

The Richmond Endodontic Centre Boardroom will soon be open; it is available for meetings, lectures, and study clubs. Please come by and have a look at our new presentation centre!



**RICHMOND**  
ENDODONTIC CENTRE  
**BOARDROOM**