

> **SPRING BREAK
ROOT FRACTURE**

**MAR
2013**

Vertical root fractures (VRF) are difficult to diagnosis and typically their discovery does not bring good tidings. Three important clues for their presence are:

- Coronal Sinus Tract –Trace all sinus tracts with a GP point and take a radiograph. If the point does not trace to the apex then suspect a VRF.
- Lateral Radiolucency –An endodontic lesion is typically centred at the apex of a root. Most VRF's are in the B-L plane and are not easily detected; take off-angle radiographs and look for a thin vertical line associated with the canal or a thin vertical gap between the obturation material and canal wall. Approximately 12% of all VRF's provide absolutely no radiographic clues. The resolution of a cone beam CT is not sufficient for both a reliable and accurate VRF detection.
- Isolated and Narrow Probing Defect – Such defects are narrow and not easily probed; the surrounding tissue is healthy and taugt. It is advisable to use a flexible plastic probe when searching for a VRF; it can negotiate around the bugle of the emergence profile. A typical metal probe is sufficient for periodontal probing as these defects are wide and the surrounding tissue is inflamed and flexible.

If two of the three above are detected then it is possible a VRF is present. If all three of the above are detected then it is very likely a VRF is present.

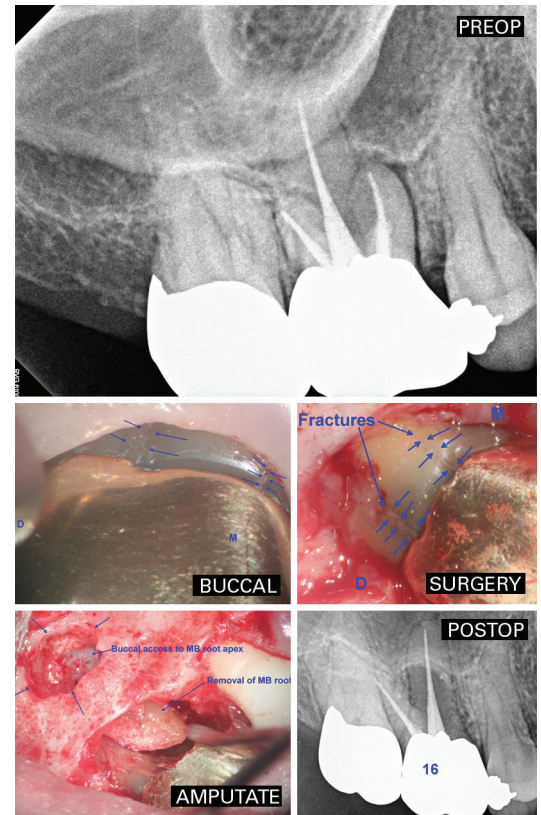
The images on the right are from a case I recently came across in my office. The MB root had a narrow 6mm probing defect. The magnification of my microscope allowed visualisation of two fractures on the B surface of the MB root. The pros and cons of various treatment options were discussed and the patient chose to have the MB root amputated. The coronal section of the MB root was sectioned from the clinical crown; the apex was surgically accessed and the root extracted by elevating it with pressure from an instrument in the cortical window. Care was taken to preserve the coronal cortical plate and socket preservation procedures were also performed. In the right circumstances a root amputation is a reasonable option. However, case selection is critical and the procedure is technically demanding.

Vertical root fractures are often more difficult to diagnose than the case presented in this newsletter. In addition, the treatment options are usually limited to extraction with either a bridge or implant. With an early detection of a VRF this patient benefited from efficient cost-effective treatment that allowed her to keep her tooth. In essence, she had break, we found the break, and gave her a break without breaking the bank. Enjoy your spring break!

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

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