

Dear Reader,



Dr Yoshio Yahata

The objectives of root-canal preparation are to remove all pulp tissue, bacteria and their by-products and to produce sufficient canal space for disinfection and 3-D obturation. Many techniques have been introduced for proper preparation, one of which is the balanced force technique. This technique uses hand files with alternating clockwise and counter-clockwise motion in an attempt to minimise canal transportation and decrease the amount of stress placed on a file during use.

Recently, on the basis of the principles of the balanced force technique, a new canal preparation technique using rotary NiTi files with reciprocal motion has been advocated. Previous studies have demonstrated that by using asymmetric reciprocal motion, the technique is capable of canal-centring when preparing root canals, especially in curved canals. Furthermore, working time, over-instrumentation, apical extrusion of debris and incidence of file fracture can be significantly lower using NiTi files with reciprocal motion than with conventional continuous rotation.

As has been indicated by numerous studies, fracture of NiTi files is still a major concern. File fracture occurs in two ways: fatigue or torsional failure. Fatigue failure is the result of repeated compression and tension on files, especially in curved canals, while torsional failure occurs when a file tip binds and the remainder continues to rotate. In a clinical setting, these two failures have an influence on one another.

The incidence of NiTi file fracture is reported to be lower with reciprocal motion than continuous rotation. With the newly proposed technique, the file would frequently engage dentine at its tip, but counter-clockwise rotation would immediately disengage the file, resulting in the reduction of deformation and torsional fracture.

As clinicians, we should consider and weigh the advantages and disadvantages of any new technique. Furthermore, it is imperative that we constantly seek better treatment strategies to reduce the risk for the patient. The proposed new system using a single file claims to be a promising method, but few studies have demonstrated the effectiveness of this technique. Therefore, further studies and discussion on this system are necessary.

Yours faithfully,



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