

**Evaluation of the Reciprocation
Technique of Single (SU) File Versus
the Conventional Rotary Sequence of
the Revo-S Files in Curved Root
Canals
(An In Vitro Study)**

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بسم الله الرحمن الرحيم

قَالُوا سُبْحَانَكَ لَا عِلْمَ لَنَا
إِلَّا مَا عَلَّمْتَنَا إِنَّكَ أَنْتَ
الْعَلِيمُ الْحَكِيمُ

صدق الله العظيم
سورة البقرة الآية (٢٢)

Dedication

*I would like to dedicate my Master thesis
to my Mother, everything started the
moment you taught me how to grasp a
pencil.*

*I dedicate it also to my Father, Brother,
NUB friends and childhood friends who
have given me day by day support when
progress was slow and morale was
flagging and when there was much
disappointment to overcome.*

Acknowledgement

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Introduction

Introduction

Endodontic therapy is quite complex. Each clinical situation is unique, but the final objective remains identical: to preserve the natural tooth functional and asymptomatic.

Achieving this objective depends upon numerous factors among which the most important is probably the shaping performed to optimize the root canal disinfection. It is influenced not only by the clinician's experience, but also by the complexity of the root canal anatomy, as well as the clinician's armamentarium, this includes Nickel-titanium (NiTi) rotary endodontic instruments that gained increased popularity within the dental profession due to their many favorable characteristics compared to their stainless steel hand files predecessor.

Technological advances led to dramatic improvements in the ability to shape root canals with fewer complications; however, few of these actually addressed the inherent problems that have become apparent with this type of instruments. NiTi instruments are expensive, which limits their usage in poorer regions of the world and /or forces practitioners to use instruments repeatedly.

When shaping canals, it should be appreciated that there are both advantages and disadvantages associated with utilizing continuous rotating versus a reciprocating

motion. The greater tactile touch gained and less inward pressure required when continuously rotating NiTi in curved canals must be balanced with the inherent risks associated with torque and cyclic fatigue failures.

On the other hand, file reciprocation reduces the various risks associated with continuously rotating a file through curvatures. It also considerably reduces the learning curve and is more cost effective.

The present study focuses on the applicability of reciprocating the Revo-S Shaping Universal (SU) endodontic instrument. If applicable, this will be extremely feasible because of its asymmetrical cutting profile as well as the manufacturer suggestions that the Revo-S instruments can be used several times.