

THE POSSIBILITY OF USING ULTRASOUND IN ENDODONTICS: A REVIEW

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Abstract

Over the past few decades, endodontic treatment has benefited from the development of new techniques and using newer instruments. The use of ultrasonics in endodontics gives better predictability and outcome of endodontic root treatment. The purpose of this study is to review the literature regarding the use of ultrasound in certain phases of endodontic treatment of root canals, and critically evaluate the benefits and possible unwanted consequences on the outcome of endodontic treatment.

In preparing this paper, research from relevant databases was done (MEDLINE, PubMed, ScienceDirect), using the following keywords: ultrasonics in endodontics, ultrasonic irrigation, ultrasonic files, ultrasonic cavity preparation, root canal and obturation by ultrasonic condensation, ultrasonic retreatment, ultrasonic root-end preparation in apical surgery. The results of the review revealed that the ultrasound: has been proven to provide better visualization, and better access, and considerably shortens the duration of endodontic treatment. During ultrasound work we will have better irrigation compared to traditional irrigation with a syringe, ultrasound removes more organic tissue, planktonic bacteria, and dentin particles in the root canal. The ultrasonic method of placing the sealer in the root canal is more thorough than placing the sealer with manual instruments, and ultrasonically condensed gutta-percha is more homogeneous and has fewer cavities than gutta-percha condensed by classical lateral condensation. The audit of root canal filling is facilitated by ultrasound, and also instrumentation is more successful in removing broken instruments and intracanal extensions.

The ultrasound device has the potential to become routinely incorporated into almost every step of endodontic treatment and retreatment. The evolution of dentistry is strongly correlated to the development of science and technology.

Key words: *Ultrasonic irrigation, Ultrasonic files, Ultrasonic cavity preparation, Ultrasonic retreatment.*