

28th Annual

American Dentistry Congress

March 20-22, 2017 Orlando, USA

Ultrasonic excavator to easily penetrate and remove caries and defective dentine for decreasing traumatic injury through connecting ultrasonic wave to excavator tip

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The aim of this study is to prove the effectiveness of this device which is under development. The ultrasonic excavator will be used to easily penetrate into caries and defective dentine which will decrease traumatic injury and reduce the feeling of pain for the patient through connecting ultrasonic wave to excavator tip. The objective is to remove the caries and defective dentine with less trauma, and laceration to the pulp tissue, also, to reduce heat generation, vibration, noise and the pressure applied on the tooth that come from air driven hand pieces by using ultrasonic excavator as a solution for all the problems that are mentioned above. According to Laird and Walmsley (1991) it is possible to use ultrasound without the resource of analgesia. And according to A G Antonio, L G Primo and L C Maia (case report 2005) the ultrasonic technique is the only technique which is able to remove dentine caries without the formation of a smear layer and the consequent obstruction of dentinal tubules, and in same case report he said about using the ultrasonic technique for caries removal which provides more safety during the treatment offering comfort to the patient. And according to Ming-shu L (2013 animal study) making perforation on a tooth by ultrasonic device is better than making it by air driven handpieces based on the bleeding level, histologically and time to become a necrotic pulp after perforation. To conclude, according to my experience when I used the ultrasonic excavator to excavate the caries and defective dentine for two molars, it proved me that the devise can remove caries as well as defective dentine. But the device is under development and there is a trial version of it..

Biography

Altukroni Abdulbadea Abdulrahman M has completed his Bachelor's from October 6 University and he is currently working as a Resident Dentist in Ministry of Health, Saudi Arabia.

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