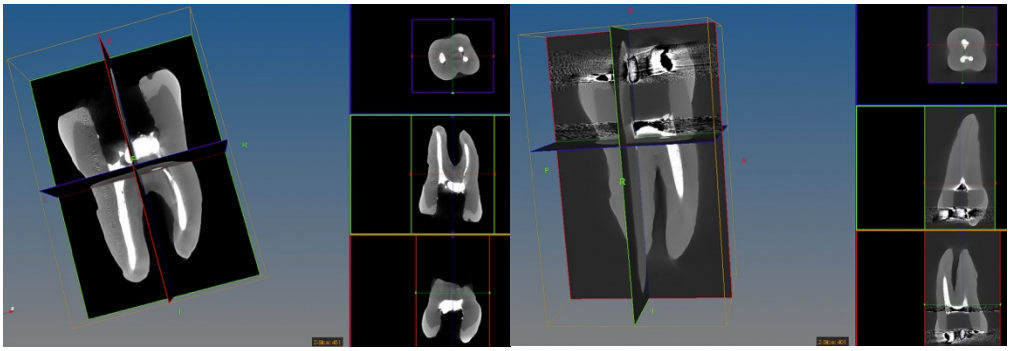
A PRELIMINARY INVESTIGATION OF A NOVEL ENDODONTIC OBTURATOR

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Abstract (not more than 300 words)

Conventional endodontic treatment requires the removal of the pulp and dentin by shaping the inside of the tooth. The shaping occurs with the use of drills to a geometry that is directly related to a predetermined form of material that will obturate the tooth's interior. The aim of this study was to investigate a novel device that applies sonic energy during the obturation of the tooth's interior. Extracted human teeth underwent endodontic treatment. Half of the group were conventionally obturated and the other half were obturated with the novel device. Post-treatment radiographs were evaluated utilizing Schulich dental school endodontic marking criteria. No statistical significance ($\alpha = 0.05$) was determined between each group. A higher incidence of filled space (60%) occurred with sonic obturation when compared to conventional obturation (33%). Micro-computer tomography (CT) images were obtained of one sample from each group to assess the three-dimensional obturation. The novel device facilitated easy handling and demonstrated potential for effective obturation. Further tests are required for device refinement, larger sample sizes and clinical validation.



Keywords—endodontics, medical device, obturation, sonic energy

Professional Biography (100-150 words)

Les completed a BSc (Hon) & DDS at Western followed by a GPR at the London Health Sciences Centre. He maintained a full-time solo private practice with an emphasis on digital dentistry, prosthodontics and medical device research. Kalman transitioned to full-time academics as an assistant professor and outreach coordinator. Kalman's research focuses on medical devices & technologies relevant to clinical dentistry. He has authored over 30 articles, holds two patents and has translated two technologies. He is an active member of the Academy of Osseointegration, the International Congress of Oral Implantologists, the Standards Council of Canada and serves on the Board of Directors for the University of Western Ontario Faculty Association. He has been recognized as an Academic Associate Fellow (AAID), Fellow, Master and Diplomate (ICOI), has been awarded the Schulich Alumni of Distinction Award and most recently the Merck *Patients First* award.



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Any Comments:

This is original exploratory research.