

## **Patient preference: conventional rotary handpieces or air abrasion for cavity preparation.**

[Malmstrom HS](#), [Chaves Y](#), [Moss ME](#).

Division of General Dentistry, University of Rochester, Eastman Dental Center, Rochester, NY, USA. [Hans\\_malmstrom@urmc.rochester.edu](mailto:Hans_malmstrom@urmc.rochester.edu)

It has been suggested that patients should accept the use of the air abrasion technique over the conventional handpiece due to the reduced need for anesthesia. Technologies for both air abrasion and the conventional rotary handpiece have, in recent decades, seen major improvements, but there are no recent scientific publications that evaluate the patient's preference for these two technologies when performing a cavity preparation. This study determined the patient's preference for air abrasion or the rotary handpiece for removing occlusal fissure carious lesions in mandibular premolars. Ten healthy subjects 18 years of age or older were recruited from the General Dentistry Clinic of the University of Rochester Eastman Dental Center, with fissure caries at a DEJ depth of similar size (determined by radiographs and clinical examination) in any two mandibular premolars in opposite quadrants. Within each subject, the two methods of caries removal were randomly assigned. In one premolar, air abrasion was used for cavity preparation, and in the other premolar, a conventional rotary handpiece was used. At each visit prior to treatment, the patients were instructed to complete the Emotional Status (ES) questionnaire (SUNY University at Buffalo Craniofacial Pain Clinic) to assess differences in their emotional status between appointments. At each appointment, when the restorative treatment was completed, patients were instructed to rate their pain on the Visual Analogue Scale (VAS). A technique preference questionnaire was given after the second appointment. The subjects rated the perception of pain as significantly lower ( $p < 0.05$ ) when using air abrasion (6.0 mm versus 29.6 mm). All of the patients preferred air abrasion over conventional rotary handpieces. None of the patients required anesthesia and there was no indication that the emotional status influenced the result. Air abrasion was the preferred method of cavity preparation when removing fissural caries in mandibular premolars and most subjects did not experience any pain when air abrasion was used.

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- [Clinical Trial](#)
- [Randomized Controlled Trial](#)

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