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[\[PDF \(592K\)\]](#) [\[References\]](#)**Efficacy of a new jet nozzle for removal of carious dentin with an air abrasion system**[Kosuke HONDA](#)¹⁾, [Naoto KINOSHITA](#)¹⁾, [Tetsuya ABE](#)¹⁾, [Makoto HASEGAWA](#)¹⁾ and [Akihiko SHIMIZU](#)¹⁾

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Abstract:

A new version of an air abrasion device, which expelled abrasive sodium bicarbonate powder, was fabricated to remove carious tissue. This device had a motor-driven mechanism to control the amount of powder expelled. The purpose of this study was to estimate the abrading efficacy of this device, in particular the new jet nozzle, for removal of carious dentin. Powder was supplied to the handpiece by a rotary gear attached to the powder control motor. Two types of jet nozzles, a cylinder-type and a bugle-type, were fabricated and evaluated. The duct of bugle-type nozzle had an isthmus to increase the air pressure on the powder and to spread it out in a cone-shaped flow. Results obtained showed that the bugle-type jet nozzle exhibited a more prominent abrasive capability. Compared to the cylinder-type nozzle, it was thus more effective in removing the carious dentin which remained in the undercut region of the cavities.

Key words:[Air abrasion](#), [Jet nozzle](#), [Caries removal](#), [Sodium bicarbonate powder](#)[\[PDF \(592K\)\]](#) [\[References\]](#)Download Meta of Article [\[Help\]](#)[RIS](#)[BibTeX](#)

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