
**EUROPEAN INTERNATIONAL JOURNAL OF MULTIDISCIPLINARY RESEARCH
AND MANAGEMENT STUDIES****VOLUME04 ISSUE02**DOI: <https://doi.org/10.55640/eijmrms-04-02-10>

Pages: 56-60



SMARTBURS II – A REVIEW OF THE ADVANTAGES OF SMART BOR***Sattorov Yusufboy****Clinical resident of the 2nd year of the Department of Orthopedic Dentistry, Samarkand State medical University, Uzbekistan****Burxonova Zараfruz Qobilovna****Scientific adviser: Assistant of the Department of Orthopedic Dentistry, Samarkand State Medical University, Uzbekistan*

ABOUT ARTICLE**Key words:** Cavity formation, rotary instrument, pathological and healthy dentin.**Received:** 30.01.2024**Accepted:** 04.02.2024**Published:** 09.02.2024**Abstract:** Advantages of using Smartburs® II for deep cavity formation. When forming deep cavities, it is important to maintain a healthy dentin layer at the bottom of the cavity in order to avoid opening the pulp chamber. Smartburs® II is the only rotary instrument capable of distinguishing pathological and healthy dentin. Unlike conventional carbide, diamond or ceramic burs, it cuts the same way, regardless of whether the dentin is diseased or healthy, which is a serious problem when creating deep cavities.

INTRODUCTION

With the help of Smartburs® II boron, the bottom of the cavity can be formed conservatively, while carious dentin is removed." Dr. Daniel W. Boston, DMD, associate dean for Clinical Integrated Care at Temple University's Cornberg School of Dentistry, said. Smartburs® II burs - Main application steps Use appropriate carbide burs to create direct access to the carious socket. Then switch to SS White Smartburs® II to remove carious dentin. Depending on the class of the pit, access is carried out using SS White Fisrotomy Bars, an abrasive air system or a carbide boron corresponding to the shape and location of the cavity. Use SS White Smartburs® II on the corner tip at low speed (5000-10,000 rpm). Note: Use a low speed (5000 rpm) to extend the service life of the bar. Begin the removal of carious dentin with gentle circular movements. Start from the upper center of the defect towards the periphery. After removing the upper layers, return to the center and prepare deeper tissues, taking care

not to touch the axial wall of the cavity; if the SS White Smartburs® II burs touch healthy dentin, vibration is felt, since the burs do not cut through healthy tissue.

METHODS

Prolonged contact of Smartburs® II with enamel or restorations leads to rapid blunting of the cutting edge. After repeated contact with healthy tissues, the cutting part of Smartburs® II will deform and cease to function. In this case, "smoothness" will be felt when the tool is rotated. Check the correct removal of carious tissue using probing and/or a caries detector*. If necessary, remove the remaining carious dentin using the new Smartburs® II rod. After removing all carious tissues, fill the cavity in the usual way. Discard the used SS White Smartburs® II. Assessment of the degree of removal of carious tissues Stained dentin (beige, brown or black) at the bottom of the cavity can be healthy and does not require removal. Probing the bottom of the cavity is a common method of assessing the quality of carious tissue removal. With the formation of deep carious cavities, it is very difficult to assess the thickness of healthy dentin covering the pulp. In such cases, the risk of accidental opening of the pulp chamber is high; the use of SS White Smartburs® II prevents accidental opening of the pulp chamber.

CONCLUSION

When using conventional diamond or carbide bores, the following may occur: damage to healthy dentin accidental exposure of the pulp injury to the dentine tubules leading to postoperative sensitivity Smartburs® II bores are designed to: preserve healthy dentin, prevent accidental exposure of the pulp and reduce postoperative sensitivity.

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