

Title: Endodontic Microsurgery Using 3D Surgical Guide

Author: Prof. Kim Eui-Sung, DDS, Ph D

Affiliation: Department of Conservative Dentistry,
Yeon-se dental university, Korea



Abstract

Nowadays the incorporation of microsurgical principles has allowed improved success rates of endodontic surgery. However, surgical advances, anatomically challenging scenarios can preclude EMS in certain cases. A mandibular molar with a thick buccal bone plate is a challenging problem in endodontic surgery despite the increase in the success rate of endodontic surgery nowadays.

Computer-aided design/ computer-aided manufacturing (CAD/CAM) and 3-dimensional (3D) printing technology were first developed and applied in the late 1980s and 1990s. Currently, CAD/CAM and 3D printing have diverse applications in dentistry including the fabrication of dental models, temporary restorations, surgical guides for orthognathic surgery, and trays for indirect bonding of orthodontic brackets. Surgical guide templates using CAD/CAM and 3D printing, in particular, are commonly used in implant surgery. These templates have also been recently introduced in endodontic fields. In this lecture, application of surgical template to guide osteotomy and facilitate apex localization in endodontic microsurgery will be discussed.

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Department of Conservative dentistry, Yonsei University Dental Hospital
Department of Endodontical dentistry, University of Pennsylvania
Adjunct Assistant Professor, University of Pennsylvania
Councilor, Asia-Pacific Endodontic Confederation
Scientific Advisory Board, Journal of Endodontics