

Various Clinical Application of Miniscrew Assisted Rapid Palatal Expansion (MARPE)

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Skeletal discrepancy between the maxilla and mandible can lead to various forms of malocclusion. This disharmony can be broadly classified into anteroposterior, vertical, and transverse discrepancies. Among these, transverse discrepancy often arises when the width of the maxilla is relatively narrow, causing issues. To resolve this problem, various methods of maxillary expansion, such as RPE (Hyrax or Haas type), bilateral expansion plates, quad helix, have been reported, and each method is still used clinically to good effect. However, traditional maxillary expansion methods have been criticized for their limitations in terms of the potential for success, stability, and possible side effects. To improve this issues, a method of maxillary expansion using orthodontic miniscrews (Miniscrew Assisted Rapid Palatal Expansion, MARPE) has been proposed, and its effectiveness has been reported in various studies.

MARPE typically requires an expansion device and at least two orthodontic screws for fabrication. Additionally, significant costs are involved in the preparation process due to the need for laboratory procedure, so considerable expenses are incurred. Therefore, if the decision to use MARPE has been made despite the costs, it is important to fully understand the advantages of MARPE compared to traditional maxillary expansion devices and to be aware of the points to be cautious about at each clinical stage to maximize its effectiveness. Furthermore, as MARPE is similar in structure to bone-anchored plates applied to the palatal side, various applications are possible after completion of maxillary expansion by adding appropriate structures during the laboratory process.

In this presentation, I will examine the characteristics and clinical effects of maxillary expansion using MARPE through various clinical cases. Additionally, I would like to report on various methods of utilizing MARPE by adding appropriate structures, along with clinical cases.

Profile

- * Graduated from Chosun University, School of Dentistry
- * Internship and residency at Chosun University Dental Hospital (Orthodontics)
- * Ph.D. from Yonsei University Graduate School.
- * Adjunct professor at Yonsei University, College of Dentistry (Orthodontics)
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