



The MARPE - facts and fallacies

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Non-surgical treatment in adults inevitably involves the beyond-the-bone tooth movement. Hence it is crucial to integrate the understanding on the tissue tolerance at each area and on the biomechanics for adequate manipulation of the hard tissue, according to the preliminarily visualized treatment plans. In particular, transverse discrepancy is not easily recognized by the patient but the orthodontic envelope of discrepancy is reportedly narrow in the transverse direction, which is why surgically assisted palatal expansion is recommended for the correction of maxillary transverse deficiencies in grown-up patients. Due to the inherent invasiveness and morbidity, an alternative has always been sought for. However, the evidences reveal possibilities of orthopedic change on adults based on suture biology and biomechanics from the up-to-date experimental outcomes.

In this presentation, the biological and biomechanical rationale, appliance fabrication and clinical manipulation of the miniscrew-assisted RPE (MARPE) will be extensively discussed, with special focus on the feasibility and tissue response. A number of clinical cases indicating the use of MARPE including Class III, asymmetry nonsurgical cases and surgery first cases will be demonstrated. Troubleshooting in failure cases will also be explained. According to the theoretical background and clinical examples, it appears that deficiency in the maxillary posterior region, not necessarily the anterior region necessitates true orthopedic expansion which secures the quality and stability of occlusal outcomes.

This presentation is answering the following questions:

- Is the MARPE must for orthopedic expansion in adults? Can regular RPE split the suture?
- If yes, then why bother to use MARPE, using additional miniscrews?
- Do we need 'bicortical' penetration?

- What are the solutions for possible non-separation?
- Does failure of separation mean SARPE? If not, what is in-between?
- What is the expansion protocol? 'rapid for adult' and 'slow for child'? Or the opposite?
- Is there 'maximum age' for MARPE? Expansion in 20's different from that in 40's and 60's?
- How about the stability after MARPE?

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