

# A Simple Method to Treat Asymmetric Expansions in Three-Segment Surgically Assisted Rapid Maxillary Expansion

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Surgically assisted rapid maxillary expansion (SARME) is a well-documented and established procedure indicated to treat maxillary transverse deficiencies in the adult patient. Currently, the most popular SARME technique consists of performing a Le Fort I osteotomy without downfracture and a midline osteotomy that splits the maxilla into 2 halves between the central incisors. It is supposed that the 2 halves expand equally during the activation phase. However, after completion of the osteotomies, the expander is supported by only mobile segments; thus, if 1 side remains more resistant than the other, the less resistant side expands more than the other, resulting in asymmetric expansion of the maxilla. When this complication occurs in SARME, an open revision surgery is necessary to remove bone interferences that prevent bone movement on the resistant segment or to create resistance on the other half. An alternative SARME technique consists of performing an osteotomy above the maxillary apical roots, similar to the Le Fort I osteotomy, and bilateral transalveolar osteotomies between the lateral incisors and canines, dividing the maxilla into 3 segments: a central fixed segment containing the incisors and 2 lateral segments that are expanded. Some advantages of 3-segment SARME have been described, such as a less esthetic compromise resulting from the midline diastema, less midline dental papilla compromise, preservation of the nasopalatine bundle, and greater acceptance of the procedure. This article describes another advantage of 3-segment SARME: the possibility to treat asymmetric expansions of the maxilla with an easy and conservative technique.

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Surgically assisted rapid maxillary expansion (SARME) is a well-documented and established procedure indicated to treat maxillary transverse deficiencies in the adult patient. The simplicity and low rate of complications have made this procedure very popular among orthodontists and oral and maxillofacial surgeons.<sup>1-4</sup>

Different techniques and modifications have been described. Currently, the most popular SARME technique consists of performing a Le Fort I osteotomy without downfracture and a midline osteotomy that splits the maxilla into 2 halves between the central incisors.

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only mobile segments; thus, if 1 side remains more resistant than the other, the less resistant side expands more than the other, resulting in an asymmetric expansion of the maxilla. Asymmetric expansions have been described as a very common complication in SARME.<sup>5,6</sup> It usually occurs when 1 side is mobilized more than the other during surgery, when bone resistance areas are not equally removed between sides, or when bone impediment prevents movement in 1 segment during activation.<sup>7</sup>

When this complication occurs in SARME, an open revision surgery is necessary to remove bone interferences that prevent bone movement on the resistant segment or to create resistance on the other half.

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