The evaluation of soft tissues is an integral part of orthodontic and maxillofacial diagnosis and treatment planning of patients with orthognathic defects. The forehead, nose, upper and lower lip, and chin are the anatomical structures that create facial profile. Both corrective surgery and orthodontic treatment affect the patients’ appearance and facial contours. Many authors emphasized the significance of soft tissue analysis in the proper evaluation of skeletal discrepancy, which could be altered by individual differences in soft tissue thickness. Different cephalometric soft tissue analyses have been developed for clinical and experimental purposes to quantitatively and more reliably evaluate the facial morphology. Soft tissue assessment on lateral cephalograms is not as straightforward and easy to reproduce as the analysis of hard tissue structures of the face. Such quantification requires the curved surfaces of patients’ profile to be reduced to distances, angles and ratios, which makes such a procedure less precise. Soft tissue profile analyses are variable also because their measurements involve the construction of straight lines of facial contours between anatomic landmarks located along the soft tissue profile or by lines tangent to the curved surfaces. These lines form the angles and distances of cephalometric methods. There are also 3D cephalometric methods that include soft tissue landmarks, angles and distances. McNamara’s analysis is well-established and is believed to be a very practical cephalometric tool. Its norms have been studied in various populations due to their optimal efficacy. This method, through the measurement of angles, describes the thickness of soft tissue facial profile.

Data on the shift of the facial profile and on hard-to-soft tissue ratio after surgical corrective procedures affects treatment planning and is of a great im-
portance in predicting the aesthetic treatment outcome. Orthognathic surgery affects lips positions. Ayoub indicated that the response of soft tissues of the upper lip region to anterior maxillary osteotomy is related to their thickness – the thicker they are, the lower is the post-operative change. After mandibular setback surgeries, the position of the upper and lower lips is also changed. The changes in the upper lip position after mandibular surgery were explained by the contraction of the orbicularis oris muscle and soft tissue traction. Some authors hypothesized that the thickness and posture of presurgical soft tissue may affect the post-treatment position of the upper lip. The relation of incisors before the surgery should also be considered. Several factors may contribute to the postoperative position of the lower lip. It should be emphasized that lower lip position is determined by upper and lower incisors, perioral muscles, their thickness and tonicity. In our article, in the analyzed groups of patients (after EVRO and BSSO), men and women did not differ significantly in terms of pre-surgical soft tissue profile assessed with Hwang, Kim and McNamara analysis. The measurements were performed with an anatomical-based method.

We believe that more prospective studies are still needed that would stratify such confounding factors as the magnitude of movement, method of osteosynthesis, sex, age, race, quality and quantity of soft tissues with sufficient sample sizes.

References