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Soft tissue limitations in orthodontics: Treatment planning guidelines

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ABSTRACT

Orthodontists have traditionally viewed structural discrepancies as the major limitation of treatment. In reality, it is the soft tissues that more closely determine therapeutic modifiability. The boundaries of dental compensation for an underlying jaw discrepancy are established by pressures exerted on the teeth by the lips, cheeks, and tongue; limitations of the periodontal attachment; neuromuscular influences on mandibular position; and the contours of the soft tissue facial mask. The ability of the soft tissues to adapt to changes in tooth-jaw relationships are far narrower than the anatomic limits in correcting occlusal relationships. The tolerances for soft tissue adaptation from equilibrium, periodontal, and facial balance standpoints are in the range of 2 to 3 mm for expansion of the mandibular arch and even less for changes in condylar position. Thus, analysis of the soft tissues is the critical step in orthodontic decision making, and this can only be accomplished through physical examination of the patient. Although quantitative measurements cannot be rigorously applied, guidelines for soft tissue assessment, with particular emphasis on facial esthetics, are proposed. From this perspective, a contemporary philosophy of orthodontic practice is offered, with general indications and contraindications for nonextraction, extraction, and surgical treatment.

KEY WORDS: Esthetic guidelines, Extraction, Nonextraction, Camouflage.

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