

A. Wasserstein, N. Shpack, A.D Y. Ben Yoseph, S. Geron, M. Davidovitch, A.D. Vardimon

Comparison of lateral photographic and radiographic sagittal analysis in relation to Angle's classification.

Journal of Orofacial Orthopedics, Vol. 76(4), pp. 294-304, 2015

Objective. The goal of this study was to compare sagittal jaw relationships derived from standardized profile photographs (soft tissue) to those derived from lateral cephalograms (hard tissue) with respect to Angle's classification of malocclusion. **Methods.** A total of 110 randomly selected subjects (mean age: 13.75 ± 1.46 years) undergoing treatment (Postgraduate Program in Orthodontics at Tel Aviv University) were assigned to three groups based on Angle's classification (Class I: $n=30$; Class II: $n=50$; Class III: $n=30$). Standardized profile-view photographs and lateral radiographs (cephalograms) were compared using 11 soft tissue and 8 skeletal measurements, respectively. **Results.** Tragus, infra-orbital, nasion, A point, B point, and pogonion were found to be the most reliable soft tissue reference points. A similar pattern of diversity was found between the three groups of Angle's classification (Class I/II/III) for the photographic soft-tissue and the radiographic skeletal measurements (e.g., soft tissue A'N'B' = $11.43^\circ/13.30^\circ/8.85^\circ$ and hard tissue ANB = $3.13^\circ/4.64^\circ/-1.31^\circ$). Soft tissue A'N'B' measurement provides complementary information to hard tissue ANB measurement. **Conclusion.** Analyzing profile photographs for evaluating sagittal jaw relationships is a practical tool in determining soft tissue harmony. Soft tissue measurements provide a sagittal differential diagnosis in relation to Angle's classification of malocclusion.