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Predicting soft tissue changes in maxillary impaction surgery: A comparison of two video imaging systems

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ABSTRACT

The purpose of this retrospective study was to investigate the accuracy of two video imaging systems, Orthognathic Treatment Planner (OTP) and Prescription Portrait (Portrait), in predicting soft tissue profile changes after maxillary impaction surgery. Computer-generated line drawing predictions were compared with actual postsurgical profiles. Neither program was very accurate with vertical measures and lower lip contour. Portrait was more accurate at pronasale, inferior labial sulcus, and pogonion in the y-axis direction ($P < 0.05$). Video image predictions produced from the presurgical photographs were rated by orthodontists, surgeons, and lay people, who compared the predictions with the actual postsurgical photographs using a visual analog scale. Portrait's prediction images were scored higher than OTP's for five of eight areas. Orthodontists were most critical of the lips and the overall appearance. Lay people were most critical of the chin and submental areas.

KEY WORDS: Video imaging, Prediction, Orthognathic surgery.

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