

Glabella vertical line as a reference goal for anteroposterior maxillary position

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Objective: The aim of this study was to evaluate the use of glabella vertical line (GVL) as the anteroposterior maxillary position goal.

Methods: A cross-sectional study was conducted assessing 129 participants (20.21 ± 1.99 years): 67 women (20.16 ± 1.99 years), and 62 males (20.26 ± 2.06 years). The facial profile photographs were taken with a posed smile in natural head position. The linear distance from the most facial convexity of the upper central incisor (FA) to the goal anterior-limit line (GALL) and also from FA to GVL were measured and compared. Wilcoxon signed-ranks test was applied. To determine the correlation between the distances, Spearman's correlation coefficient was used. Simple and multiple linear regression were also performed.

Results: The GALL-GVL separation was 0.54 ± 1.14 mm (95%CI: 0.34-0.74). A strong correlation between FA-GALL and FA-GVL distances (Spearman's $\rho=0.983$ (95%CI: 0.976-0.988), $p < 0.01$) was identified. The FA-GVL distance explains almost all the total variation of FA-GALL ($R^2=95.84\%$, $p < 0.01$). The FA-GALL distance can be predicted by using the formula: $FA-GALL=0.5+0.9*(FA-GVL)$.

Conclusion: These findings suggest that GVL could be used as an easier-to-use treatment goal to determine the maxillary anteroposterior position, compared to GALL, to improve facial harmony profile goals in cases where the maxillary incisors are properly positioned anteroposteriorly.

Keywords: Facial profile. Diagnosis. Orthodontics. Orthognathic surgery.

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» Patients displayed in this article previously approved the use of their facial and intraoral photographs.

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