



IS THERE ANY DIFFERENCE IN ARCH DIMENSION MEASUREMENTS IN DIGITAL VS. PLASTER MODELS?

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Introduction: Digital models are a reliable alternative to conventional plaster models that is accurate, efficient, easy to use and allows visualization of the planned treatment results.

Aim: To make a comparison of arch dimensions measurements (width, length and height) made on digital and plaster models.

Material and methods: Orthodontic plaster models of 60 patients with dental crowding, aged 13-18 year were observed. Linear measurements of arch dimensions was performed first manually with a digital caliper and then digitally with 3Shape's OrthoAnalyzer TM software program on the scanned plaster models with 3Shape D800 TM scanner. Dental arch width, length and height by Harper were performed.

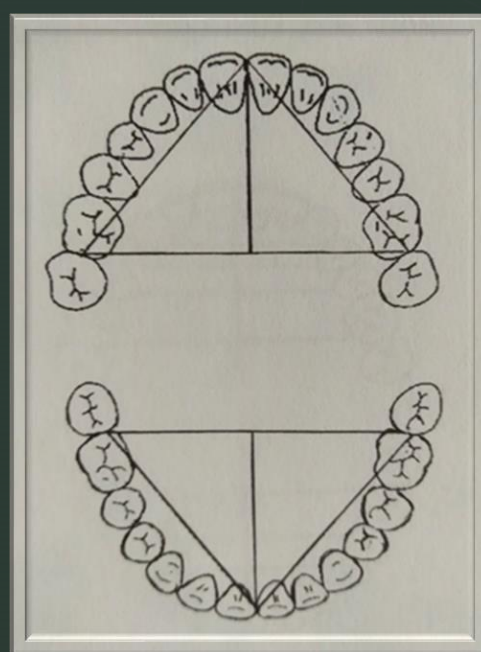
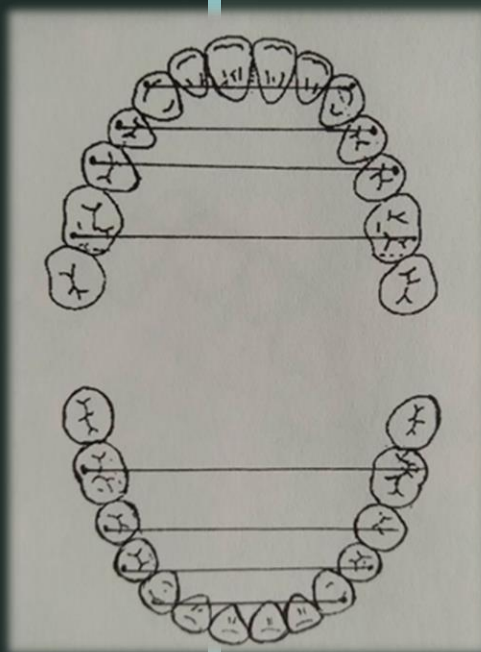
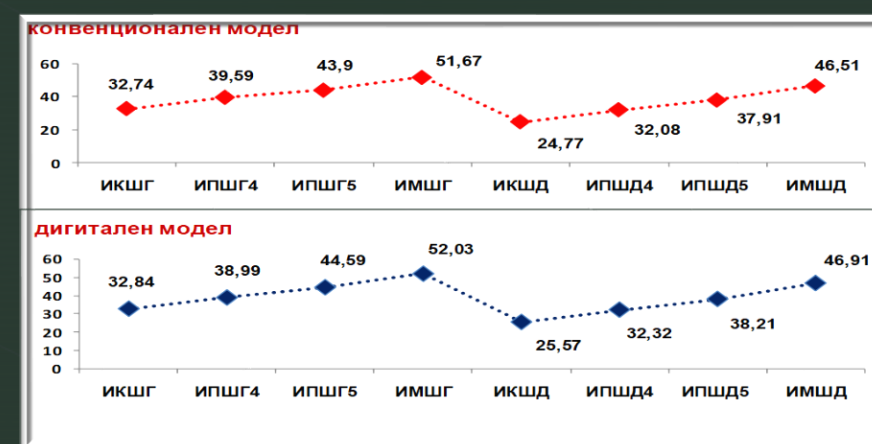
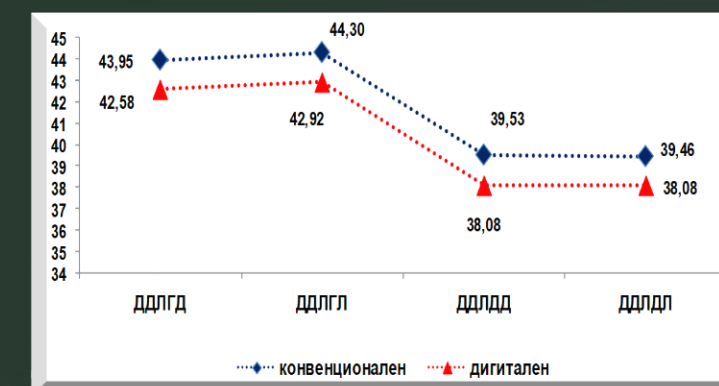


Fig.1 Width of the dental arches by Harper

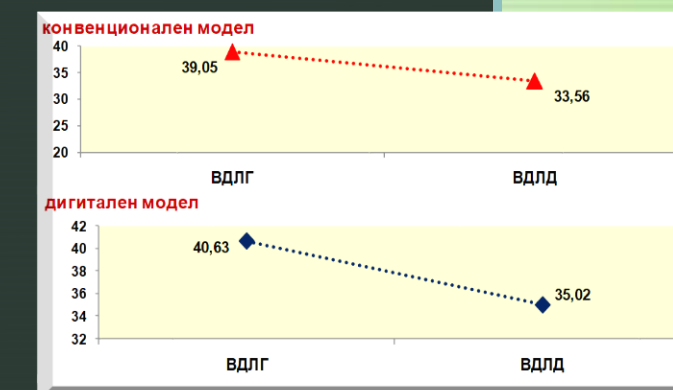
Fig.2 Length and height of the dental arches by Harper



Graph 1. Comparison of the width of dental arches btw conventional and digital models



Graph 2. Comparison of the length of dental arches btw conventional and digital models



Graph 3 Comparison of the height of dental arches btw conventional and digital models

Results: There is no statistically significant difference in width of the both dental arches between plaster and digital models. There is statistically significant difference, in the length and height of the both dental arches in favor of smaller length dimensions in digital models, and in addition to larger height dimensions in digital models.

Conclusion: Measurements on digital models are suited for reliable diagnostic measurements, which compare well to those obtained from plaster casts, the current gold standard.