COMPARISON OF ARCH DIMENSIONS MEASUREMENTS MADE ON DIGITAL AND 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.

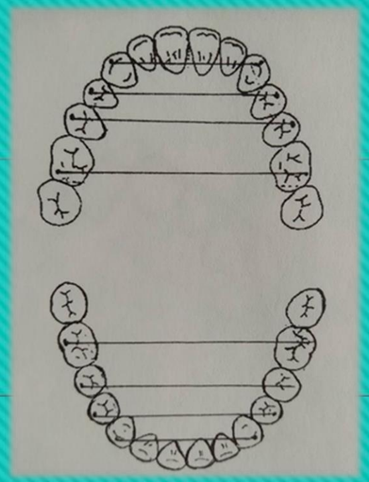


Fig.1 Width of the dental arches by Harper

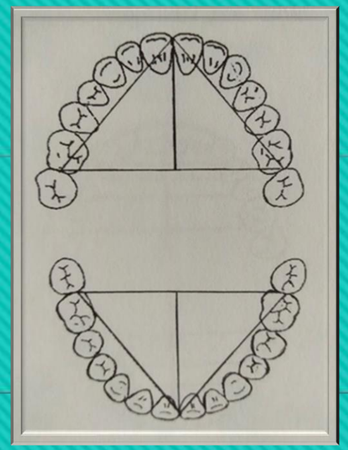
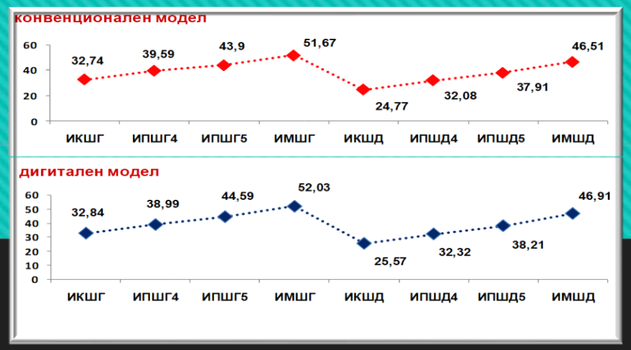
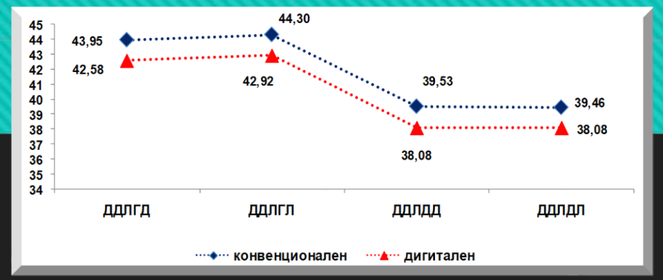


Fig.2 Length and hight of the dental arches by Harper

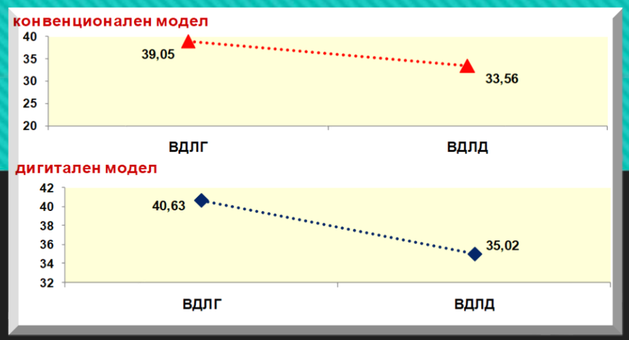
Material and methods: Orthodontic plaster models of 60 patients with dental crowding, aged 13-18 year were observed. Linear measurements of arch dimensions was performed first manually with a digital caliper and than digitaly with 3Shape's OrthoAnalyzer TM software program on the scanned plaster models with 3Shape D800 TM scanner.Dental arch width, length and height by Harper were performed. Arch width was measured as: intercanine, interpremolar (IPM4,IPM5) and intemolar (IM6) distance.Arch length was measured as measured as the distance between the distal surface of the first permanent molar and the point of contact between the central incisors.Arch height was measured as the distance between the distal surfaces of the first permanent molars and the septal margin of the central incisors, following the linea mediana.



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



Graph 2. Comparison of the lenght of dental arches between conventional and digital models



Graph 3 Comparison of the height of dental arches between conventional and 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.

The authors declare that there is no conflict of interest.