

RESEARCH OF VARIOUS SYSTEMS FOR INTRAORAL SCANNING OF DENTITIONS

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Defects in hard tissues of teeth are one of the most common types of pathology in orthopedic dentistry [26]. Treatment of the consequences of carious and non-carious lesions consists in restoring the crown part of the tooth using ceramic inlays, veneers, crowns and other types of indirect restorations [23; 36; 43; 66; 110]. Currently, automated production, controlled by special software, has replaced manual methods for manufacturing prostheses, which undoubtedly improves the quality of orthopedic care for the population [99]. However, regardless of the chosen technique for making prostheses, the primary task of successful prosthetics is to make the most accurate impression [37; 41; 107]. Traditional methods of obtaining an impression do not always meet the high requirements of accuracy and can be used in all patients [2; 27; 38; 58; 96]. That is why intraoral digital scanning is becoming increasingly relevant in modern dentistry [81]. The main objectives of intraoral 3D digital model acquisition are to simplify the work and reduce its duration, as well as a departure from traditional methods of obtaining impressions. The last of these tasks is related to the fact that the traditional method of obtaining impressions has a number of significant drawbacks, such as instability of the impression shape, pores and chips on plaster models, geometric and dimensional discrepancies between the model and the impression.

The aim of the study was to study the improvement of the quality of orthopedic treatment based on the use of intraoral systems for scanning teeth and dentition.

Research materials and methods: Laboratory, experimental and statistical research methods were used. The objects of study were 6 intraoral and 4 laboratory scanners. The subject of the study are 3D models of the tooth stump and the complete dentition, obtained by scanning phantom models of the upper jaws with prepared teeth 1.6 and 2.6.

Conclusions: The information we have obtained demonstrates the technical feasibility of replacing the traditional method with digital intraoral scanning. Intraoral scanners are accurate enough for use in clinical practice. The truth of digital models of the full dental arch obtained with some intraoral scanners is close to that of laboratory scanners, which opens up new possibilities for using intraoral scanners in dental practice. The development and improvement of methods for digital scanning of the oral cavity as a stage in achieving high-quality treatment is an urgent task of modern dentistry.

List of literature:

1. Акбаров, Авзал Нигматуллаевич, et al. "ПРЕИМУЩЕСТВА ВРЕМЕННЫХ НЕСЪЕМНЫХ ФРЕЗЕРОВАННЫХ И ПОЛИМЕРИЗОВАННЫХ ПЛАСТМАССОВЫХ ПРОТЕЗОВ НА ИМПЛАНТАТАХ." БАРҚАРОРЛИК ВА ЕТАКЧИ ТАДҚИҚОТЛАР ОНЛАЙН ИЛМИЙ ЖУРНАЛИ 1.5 (2021): 239-242.
2. Ирсалиев, Х., Ф. Ирсалиева, and Ф. Валиева. "СТРУКТУРНАЯ ОРГАНИЗАЦИЯ ТВЕРДЫХ ТКАНЕЙ ИНТАКТНЫХ ЗУБОВ." Stomatologiya 2 (83) (2021): 52-58.