

SISTEMAS CAD/CAM: REVISÃO SISTEMÁTICA

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RESUMO: Introdução: As tecnologias digitais têm alcançado grandes progressos, influenciando de maneira positiva os procedimentos restauradores. Os sistemas CAD/CAM (Computer Aided Design - Computer Aided Manufacturing), surgiram a partir da década de 70, promovendo um grande impacto positivo na odontologia devido a sua vasta aplicabilidade clínica. Sendo estes, utilizados para auxiliar a fabricação de coroas, facetas laminadas, próteses dentárias fixas (FDP), próteses removíveis, fabricação de modelos de trabalho, próteses maxilofaciais e implantes. **Objetivo:** O objetivo desse estudo foi realizar uma revisão sistemática da literatura para comparar a precisão do sistema CAD/CAM utilizando a digitalização direta com scanner intraoral ou indireta com scanner de mesa e avaliar a preferência da forma de escaneamento pelos pacientes e cirurgiões-dentistas. **Metodologia:** Este estudo trata-se de uma revisão da literatura, utilizando as bases MEDLINE e PubMed em que foi empregado os descritores “Ceramics”, “Technology dental”, “Computer Aided Design - Computer Aided Manufacturing (CAD/CAM)”. Os critérios aplicados para seleção dos estudos decorreram de periódicos completos disponíveis eletronicamente e internacionalmente, no idioma inglês, realizados, publicados e indexados nas referidas bases de dados nos últimos seis anos (2014-2020), e que retratassem a comparação entre os processamentos dos sistemas CAD/CAM. Os critérios de exclusão foram: artigos incompletos na íntegra, artigos em português e estudos com mais de 6 anos. **Resultados:** Dez artigos foram selecionados para compor estes resultados. Assim, quanto aos tipos de estudos analisados, um estudo é referente a ensaio clínico controlado comparativo, uma revisão sistemática, dois estudos experimentais, dois ensaios clínicos randomizados, dois estudos clínicos, um estudo clínico comparativo e um estudo observacional. Logo, não foram observadas diferenças entre os gaps marginais e as lacunas internas com os dois scanners. Em impressões de arco completo, o scanner de mesa favorece uma cópia precisa, em quadrantes a situação é o inverso. Para implantes, as duas formas de digitalização estão dentro da faixa de tolerância clínica. A preferência pela digitalização direta correspondeu a 100%. **Conclusão:** Conclui-se que o scanner intraoral ou

scanner de mesa possuem padrões clinicamente aceitáveis em implantes, coroas totais unitárias, FPS e impressões de quadrantes, já em arco completo o scanner de mesa obteve maior precisão nas imagens. Além disso, os estudos analisados sugerem uma maior preferência pelo escaneamento intraoral tanto para os pacientes quanto para os cirurgiões-dentistas por se tratar de um fluxo totalmente digital o que eventualmente causa um maior conforto ocasionado pela ausência do processo de moldagem e ganho do tempo de cadeira.

Palavras-chave: CAD/CAM, Cerâmica, Tecnologia dental.

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ABSTRACT: Introduction: Digital technologies have made great strides, positively influencing restorative procedures. CAD/CAM (Computer Aided Design - Computer Aided Manufacturing) systems emerged from the 1970s, promoting a great positive impact on dentistry due to their vast clinical applicability. These being used to assist the manufacture of crowns, laminated facets, fixed dental prostheses (FDP), removable prostheses, manufacture of work models, maxillofacial prostheses and implants. **Objective:** The aim of this study was to conduct a systematic review of the literature to compare the accuracy of the CAD/CAM system using direct scanning with intraoral or indirect scanner with table scanner and to evaluate the preference of the form of scanning by patients and dentists. **Methodology:** This study is a literature review, using medline and pubmed databases in which the descriptors "Ceramics", "Dental Technology", "Computer Aided Design - Computer Aided Manufacturing (CAD/CAM)" were used. The criteria applied for the selection of studies were based on complete journals available electronically and internationally, in The English language, performed, published and indexed in these databases in the last six years (2014-2020), and that portrayed the comparison between the processing of CAD/CAM systems. Exclusion criteria were: incomplete articles in full, articles in Portuguese and studies older than 6 years. **Results:** Ten articles were selected to make these results. Thus, regarding the types of studies analyzed, one study refers to a comparative controlled clinical trial, a systematic review, two experimental studies, two randomized clinical trials, two clinical studies, a comparative clinical study and an observational study. Therefore, no differences were observed between marginal gaps and internal gaps with the two scanners. In full arc prints, the flatbed scanner favors a precise copy, in quadrants the situation is the reverse. For implants, the two forms of scanning are within the clinical tolerance range. The preference for direct scanning corresponded to 100%. **Conclusion:** It is concluded that the intraoral scanner or table bedside scanner have clinically acceptable standards in implants, total unit crowns, SPF and quadrant prints, while in full arc the table scanner obtained greater accuracy in the images. Furthermore, the studies analyzed suggest a greater preference for intraoral scanning for both patients and dentists because it is a totally digital flow, which eventually causes greater comfort caused by the absence of the molding process and gain of chair time.

Keywords: CAD/CAM, Ceramics, Dental Technology.

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