Title: Dental computer-aided design/computer-aided manufacturing (CAD/CAM) in implant dentistry.

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Abstract: Introduction and aim: CAD/CAM (computer-aided design/computer aided manufacturing) systems have evolved over the last two decades and have been used by dental health professionals for over twenty years. This study aimed to look through CAD/CAM systems used in implant dentistry, especially emphasizing implant abutments and surgical templates manufacturing.

Methods and materials: A search of articles published in English at Medline and Scopus databases at present was conducted, introducing "dental CAD/CAM", "implant abutments" and "surgical guide CAD/CAM" as key words. These systems consist of three components: 1) scanning to obtain the oral information, 2) CAD for the design of the restoration, and 3) CAM to produce the restoration through the information generated by computer.

Results: CAD/CAM abutments present the advantages of being specific to each patient and providing a better fit than the rest of abutments and higher resistance.

Conclusion: In order to improve accuracy during implant placement stereolithography is used to manufacture CAD/CAM surgical templates. Using this method, minimally invasive surgery is performed without a flap, and the prosthesis is delivered, achieving immediate functional loading to the implants.

Key words: Dental CAD/CAM, implant abutments, surgical template, dental implants.

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