



A technique for fabricating a milled titanium complete-arch framework

using a new CAD/CAM software and scanner with laser probe

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INTRODUCTION Implant dentistry has come a long way since 1982 when Per-Ingvar Brånemark first presented his work on osseointegration of endosseous dental implants (1). In the last 3 decades, the use of dental implants has increased exponentially (2). As the treatment became more predictable, the benefits of therapy became evident. The tremendous demand for implants has fueled a rapid expansion of the market.

ABSTRACT

By using traditional casting procedures, accurately fitting of complete-arch frameworks that are screwed on multiple implants is difficult to achieve. The introduction of computer-aided design and manufacturing (CAD/CAM) techniques for fabricating custom 1-piece titanium frameworks simplifies this challenge and reduces time spent by the restorative dentist. This report presents a milled titanium complete-arch mandibular framework using a new planning software and a new scanner using non-contact laser probe, which eliminates the need for wax pattern fabrication.

KEY WORDS: Implant, Cad/CAM, titanium, framework, fit, Nobel Procera

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Restoration of Congenitally Missing Maxillary Lateral Incisors Using Mini Implants

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INTRODUCTION Traditionally, so-called mini implants were developed to increase retention and stability under full denture restorations. These implants range in diameter from 1.8 mm to under 3 mm and they are constructed as single units that include the threaded implant as well as the supragingival abutment. These implants have been used very successfully for many years for their original intended design and as of late are being used to support single and multiple unit restorations (1).

ABSTRACT

In this author's opinion, the advent of mini implants, or small diameter implants (SDIs) as they are more frequently being called, are becoming in many situations a viable alternative to the more traditional root form implants. They offer advantages of less cost, a more simplified placement technique, usually faster healing times, and generally less post-operative complications. A case presentation is given to demonstrate their usage for a narrow ridge application to restore congenitally missing maxillary lateral incisors.

KEY WORDS: Mini implants, SDI

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Predictable Immediate Loading of Mandibular Implants

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INTRODUCTION Three decades ago, in the field of oral implantology, osseointegration was postulated to require a healing time for at least 3 months in the mandible and 6 months in the maxilla. Early loading has been known to cause fibrous encapsulation that impedes the direct connection between the bone and the dental implant surface (1-3). However, the technological and biomechanical advancements have resulted in modern implant protocols that provide the possibility to immediately load implants in fresh extraction sockets while ensuring an adequate osseointegration. This approach includes a fixed implant-supported prosthesis within 24 hours following the surgical implant placement. This is why this treatment modality has been marketed as the “Teeth-in-a-Day” technique.

ABSTRACT

Technological advancements have resulted in modern dental implant protocols that provide the possibility to immediately load implants in fresh extraction sockets. This article briefly addresses various aspects to be considered such as computed tomography (CT), surgical guides, implant considerations for the edentulous patient, and considerations for immediate implant placement and loading. In this clinical case, immediate post-extraction implant placement with immediate loading was performed accurately because of the planning done with the CT scan. The use of a stereolithographic model and a surgical guide prevented technical difficulties and improved the predictability during the prosthetically driven surgery.

KEY WORDS: post-extraction dental implant, immediate loading, implant-supported, overdenture, computed tomography.

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