

Prosthetic-Driven Implant Planning

Anterior Single Implant-supported Restoration in the Aesthetic Zone Using Guided Surgery

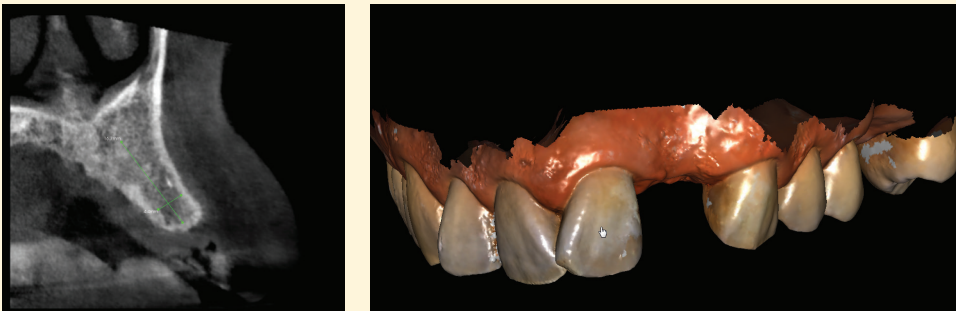
Dr. Nicolas Boutin

A 35-year old male patient presented at the office with a missing maxillary lateral incisor. Visual examination revealed limited space for the restoration as well as a supraclusion.



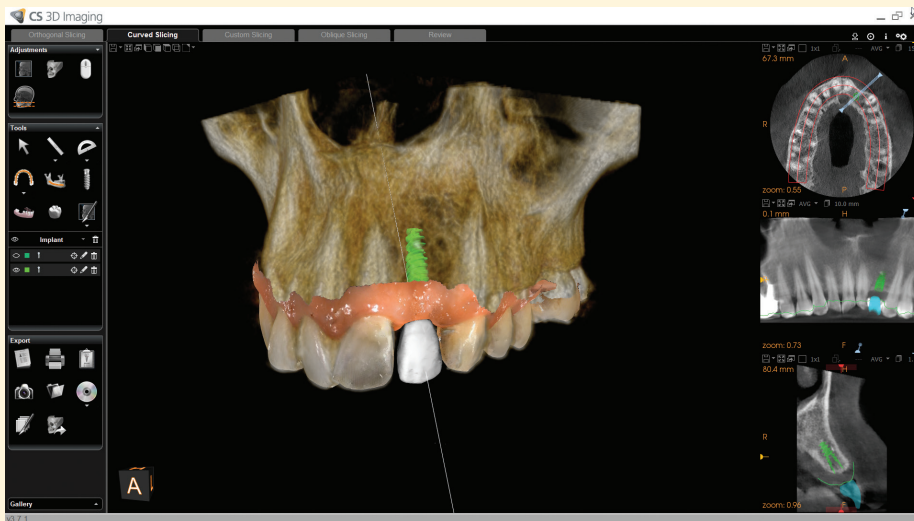
Initial clinical situation

A cone beam computed tomography (CBCT) scan was taken to validate the bone volume. The implant was planned in the CS 3D Imaging software using a virtual tooth to determine if the prosthetic emergence would be compatible with the underlying bone volume. When the feasibility of the treatment was validated, digital impressions were acquired using the CS 3600 intraoral scanner. The impression file was sent to the dental laboratory to create a wax up, which was then used to generate a second digital model. Using NobelClinician™ software, this file was merged with the patient's CBCT scan to complete implant planning and create and order a surgical guide.



The clinical situation including both the bone information and the soft tissue

CLINICAL CASE STUDY



The treatment plan with all the information on one screen: virtual crown, virtual implant, bone structure and soft tissue

Treatment plan

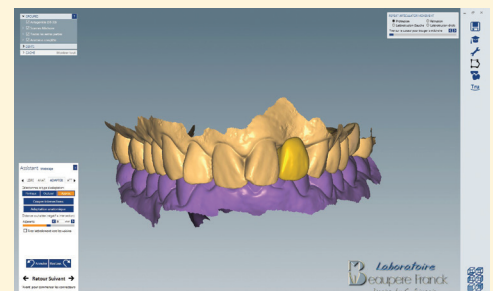
The surgery was performed using a pilot drill guide to position the axis of implants and was then completed free-hand. The digital impression was taken with the CS 3600 intraoral scanner, which allowed the implant network to quickly create the temporary restoration for immediate loading. Once the digital impression was transferred to the laboratory, the restoration design was validated live through an online video conference before milling took place. Less than two hours later, the patient received the temporary crown.



Pilot drill guide used to initiate the placement of implants



The emergence profile



Temporary crown designed using third party CAD software (laboratory)



The milled crown (Laboratoire Beaupère - Quincy Voisins - France. Crown milled with Amann Girschbach Motion 2)



The temporary crown one month after the surgery

Testimonial

On an aesthetic zone with limited space between teeth, the prosthetic-driven planning enabled us to determine accurately the implant axis in order to place the screw-retained implant in a more palatal position. With CBCT imaging and 3D implant planning software, we were able to effortlessly plan and validate this case. By combining implant planning with guided surgery, we achieved a successful prosthetic outcome. Digital impression complements the digital workflow with the capability to immediately place the temporary restoration—thanks to CAD/CAM design and milling.

About Dr. Nicolas Boutin



An implant specialist in Paris, Dr. Boutin is the coauthor of a publication about the anatomical risks of implant treatment, as well numerous publications about immediate loading protocols. He is a lecturer in multiple international courses and congress in anatomy, implant surgery and prosthesis.

- Graduated from Paris V University and SAPO IMPLANT
- Instructor, SAPO IMPLANT
- Teaching fellow at University Paris VII, Post Graduate in Implant Surgery and Periodontology
- Founder of Paris Graft Less Center and Live Implant Surgery Center



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