

Practical PROCEDURES No. 29

PROVIDING SOLUTIONS FOR CLINICAL CHALLENGES

Clinical Protocol for Rapid, Graftless, Four-Implant Restoration of the Fully Edentulous Patient

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Osseointegration has become a predictable biological response to implant placement, enabling dental professionals to focus on surgical and restorative processes that simplify implant therapy. This has resulted in techniques that improve the predictability of aesthetic implant placement and make such treatment options accessible for a greater portion of the patient population. As shown in the following clinical protocol, the All-on-4™ Technique provides numerous advantages in the management of the edentulous patient or the soon-to-be edentulous patient.

- Ease of the procedure
- Ability to avoid grafting procedures
- Potential of immediate loading at the surgical appointment
- Decreased cost to the patient
- Aesthetics
- Can be performed on the partially or fully edentulous patient
- Ease of maintenance
- Can be flapless when using NobelGuide™ guided surgery.

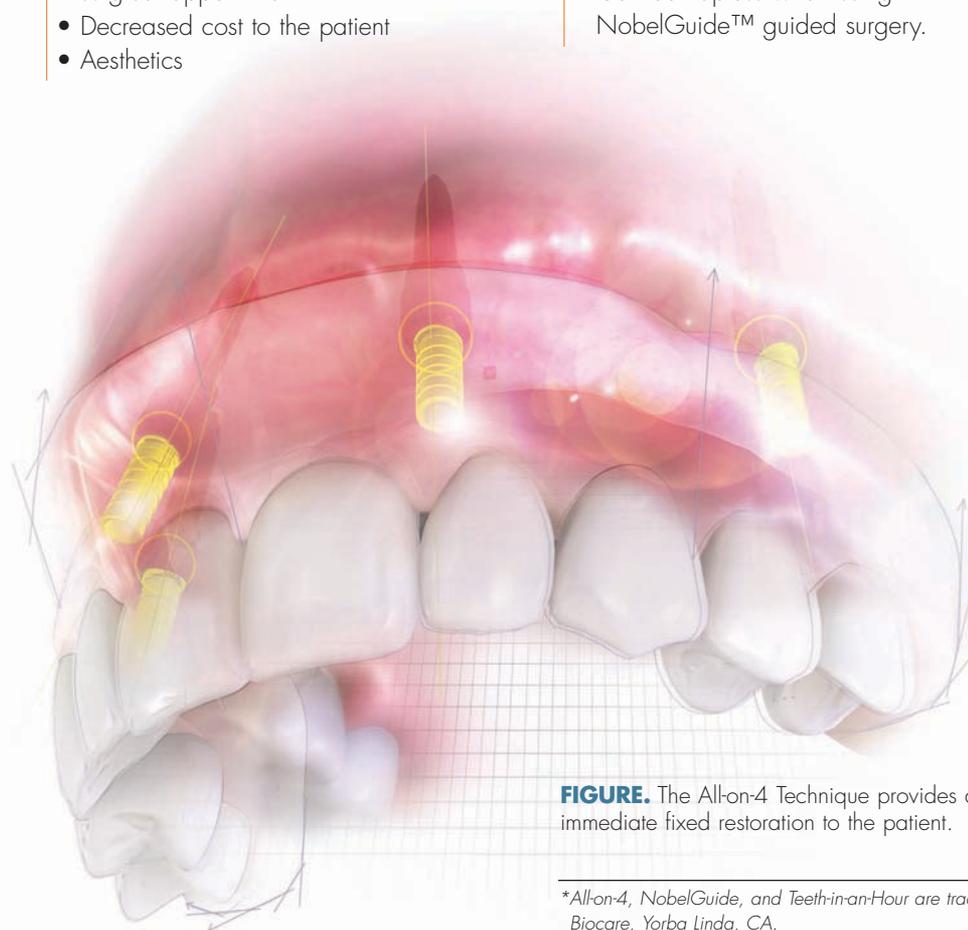


FIGURE. The All-on-4 Technique provides an immediate fixed restoration to the patient.

*All-on-4, NobelGuide, and Teeth-in-an-Hour are trademarks of Nobel Biocare, Yorba Linda, CA.

Case 1 — Implant Placement and Prosthesis Conversion

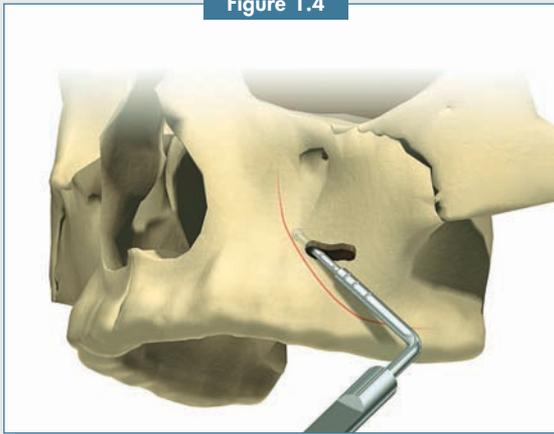
As with any implant procedure, the All-on-4™ Technique depends on standard implant protocols and sound treatment planning. Its use of the patient's existing denture or an immediate denture (for the patient with teeth) enables simple chairside modification, relining, and reseating in the patient on the day of surgery. The primary phases of treatment—implant placement, abutment connection, and prosthesis adaptation—are demonstrated in the following protocol.

Figure 1.1



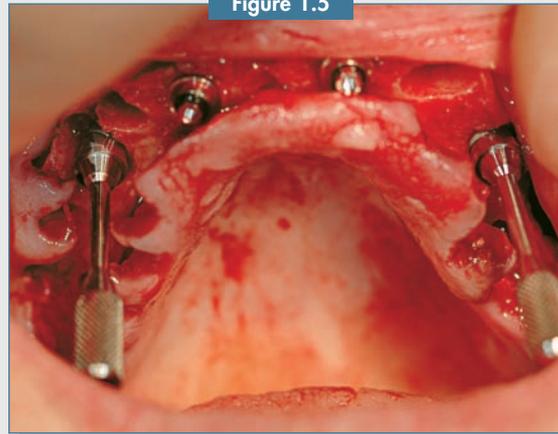
Preoperative clinical view of partially edentulous patient who requests a fixed implant restoration.

Figure 1.4



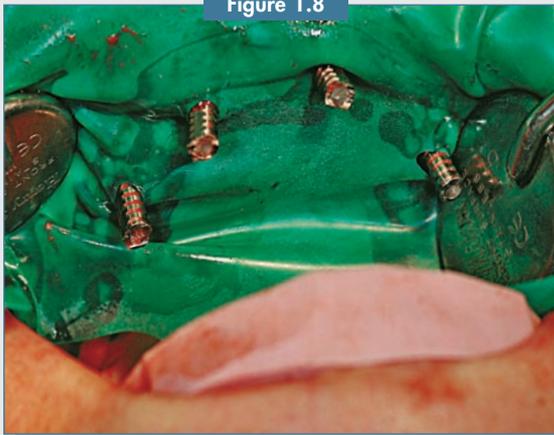
The anterior of the sinus is marked with a periodontal probe in order to identify the mesial wall of the sinus. This affords the posterior implant the most-posterior position to create a favorable anterior/posterior spread without invading the sinus.

Figure 1.5



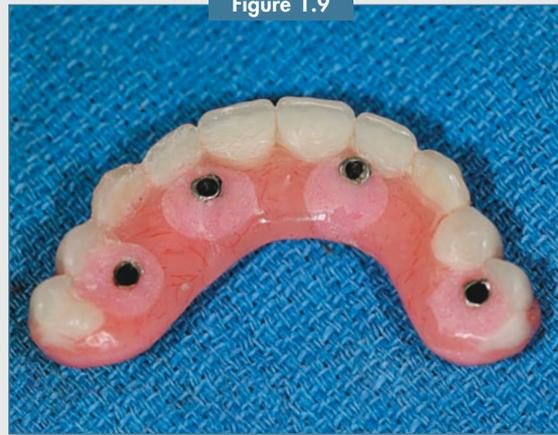
After implant placement, Multi-Unit Abutments (Nobel Biocare, Yorba Linda, CA) are placed with an abutment driver. These abutments help correct the angulation of the dental implants.

Figure 1.8



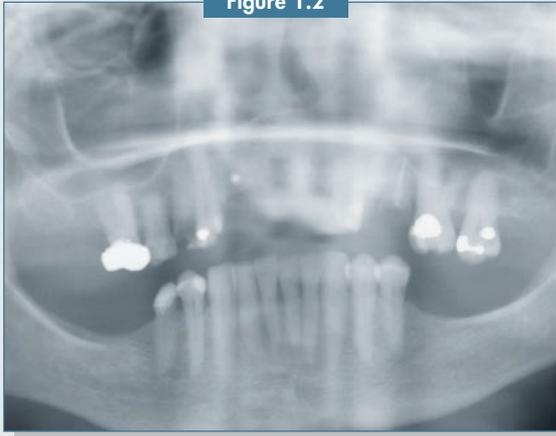
Once the temporary prosthesis is hollowed out chairside, the surgical field is covered with a rubber dam to protect the soft tissues during the restorative phase of treatment.

Figure 1.9



Titanium copings are "picked up" and the temporary fixed detachable prosthesis is modified. First molars are eliminated to reduce cantilever forces during osseointegration.

Figure 1.2



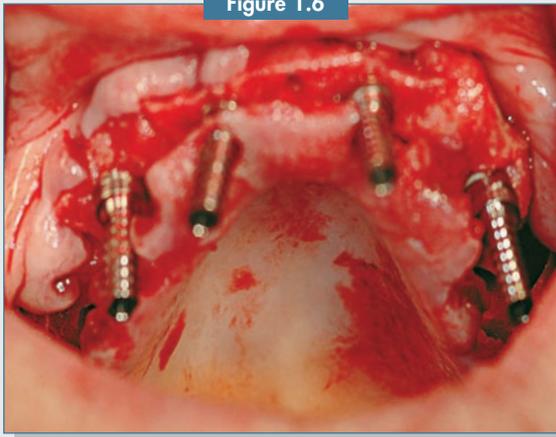
Preoperative panoramic radiograph of the partially edentulous patient, which permits evaluation of the bone levels.

Figure 1.3



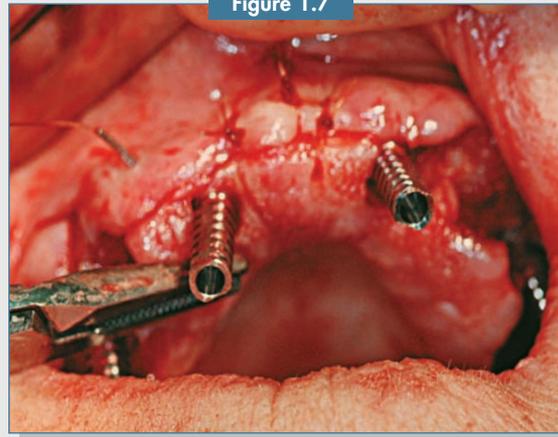
All maxillary teeth are extracted and the alveolar bone is reduced via a "horizontal osteotomy" to a height sufficient to avoid the smile line.

Figure 1.6



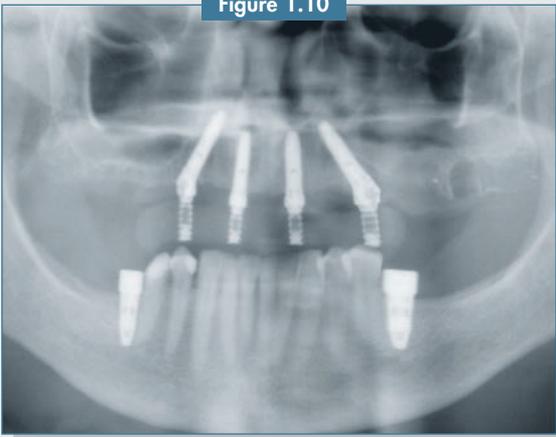
Temporary Copings (Nobel Biocare, Yorba Linda, CA) are placed.

Figure 1.7



Soft tissue closure is accomplished with horizontal mattress sutures in order to reposition the tissues for optimum healing.

Figure 1.10



Postoperative panoramic radiograph showing successful placement of four implants in the maxillary arch.

Figure 1.11



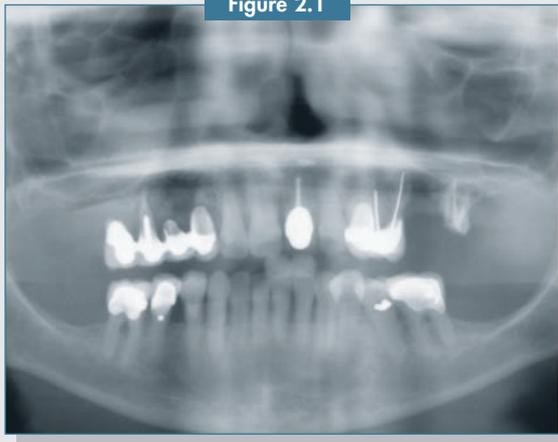
Postoperative facial view of the temporary fixed detachable prosthesis delivered that same day utilizing the All-on-4 Technique.

Additional Evidence of Success

The All-on-4™ Technique represents a viable option for clinicians seeking to bring the advantages of fixed implant prosthodontics to their patients. In proper clinical situations with minor prosthetic involvement, the technique utilizes an immediate loading protocol. The All-on-4 Technique thus constitutes a valuable addition to the practitioner's armamentarium.

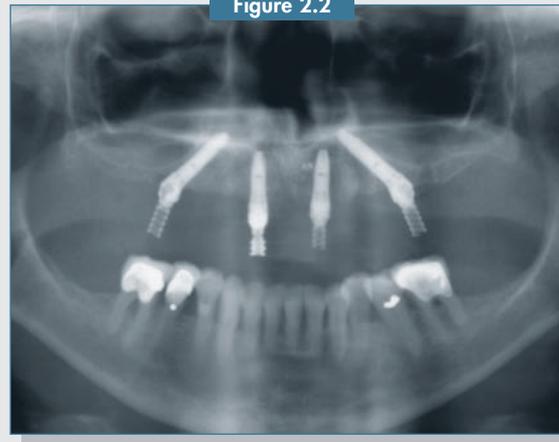
Case 2 — Patient With Hopeless Maxillary Dentition

Figure 2.1



Preoperative view of patient with hopeless dentition in the maxillary arch.

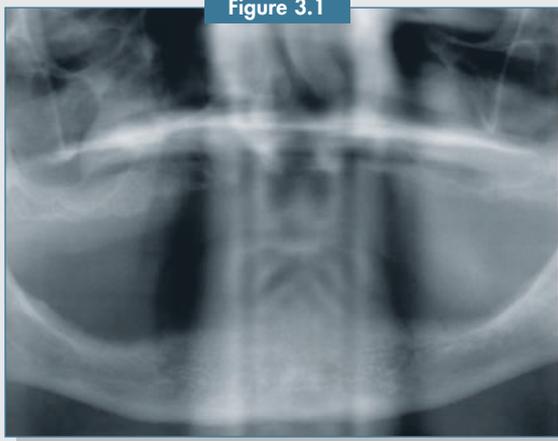
Figure 2.2



Postoperative radiograph following successful placement of four maxillary implants and the temporary fixed detachable prosthesis with the All-on-4 Technique.

Case 3 — Completely Edentulous Patient

Figure 3.1



Panoramic radiograph demonstrates a completely edentulous patient who has worn dentures for 20 years.

Figure 3.2



Postoperative radiograph following successful immediate placement of temporary fixed-detachable dentures using the All-on-4 Technique. The final fixed detachable prostheses will be placed four months following surgery.

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