

"I Want to be Able to Enjoy my Meals for the Next 10 Years!"

Improving the Quality of Life of a 93 Year-Old Man

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The therapeutic goal of implant dentistry is more than tooth replacement; it's total oral rehabilitation. This cannot be more dearly demonstrated than in this case, which describes the use of dental implants to dramatically improve the quality of life of the individual. The continually evolving science of implant dentistry has led to a growing recognition that this treatment option provides predictable results, is relatively painless and can improve function and esthetics for our patients like no other modern therapy.

If you take a holistic approach to medicine, everything we eat affects our overall health and well being. Not being able to chew food properly, or simply eliminating difficult to chew foods from our diet can affect how nutrients are absorbed by our system. We are also a social society; for example, going out to dinner is an important aspect of everyday life. Being able to laugh, speak and enjoy a meal with family and friends is critical to a full life. Of course optimizing esthetics is one of the goals of implant therapy, along with providing excellent support for some type of fixed appliance. Fixed prostheses increase function more advantageously compared to conventional removable dental appliances and allow our patients to chew more normally, as if they retained their natural dentition.

The Nobel Replace dental implant system (Nobel Biocare, Yorba Linda, CA) relies on color coded surgical and prosthetic components that allow the clinician to identify, at a glance, which restorative parts go with which size implant placed. Three orientation lobes within the implant provide the internal connection which simplifies the impression technique and allows for abutments to be torqued into place with no concern of loosening.

Stabilization

Primary stability is the key factor for successful early and immediate loading. The tapered design of the Replace system gives placement alternatives in sites with anatomical limitations, such as labial concavities in the premaxilla. Prepared abutments create the most natural form and emergence profile. Every aspect of the implant system makes the restoration of teeth on implants as easy as conventional crown and bridge.

Case Study

The patient presented here is a 93 year-old male with some relatively minor medical findings. He is a diabetic controlled with oral medications and takes Synthroid for his hypothyroidism. No absolute contraindications were recognized. The premaxillary bone appeared rather thin, and the maxillary sinuses were relatively large. These would be the only limitations to meeting our objectives. He did have some very specific requests prior to moving forward with his treatment.

Years earlier, two implants were placed in the mandibular symphysis area. The implants appear to have integrated well, but were used exclusively as retainers for a mandibular implant retained overdenture.



Fig. 1: Pre-operative smile.

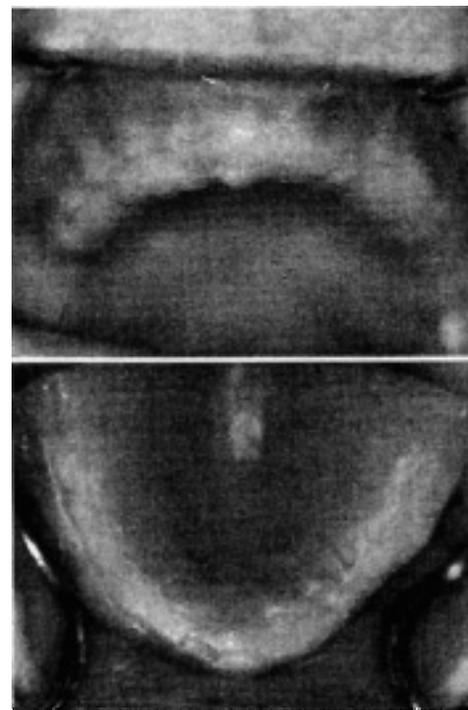


Fig. 2-3: Maxillary edentulous ridge.

A maxillary complete denture was also fabricated.

Unfortunately the two mandibular implants were not placed parallel to each other so the retentive devices did not retain well. No attempt was made to discuss an implant retained bar and overdenture with the patient. Rather, the patient decided simply not to wear the mandibular appliance. The patient's expectations were not met by the previous clinician and, therefore, the case can be deemed a functional failure. He came to me wanting "fixed teeth." He planned on "living another 10 years and wanted to be able to enjoy a meal with his friends." He wanted no more adhesives and flapping dentures!



Fig. 4: Mandibular ridge with two free standing implants.

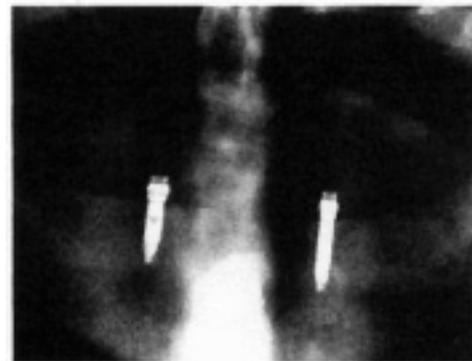


Fig. 5: Pre-operative panoramic.

Treatment Planning

Proper diagnosis for dental reconstruction is the most critical aspect of any surgical intervention. Determining the design of the final prosthetic reconstruction may be the most difficult procedure, especially when the patient has very specific requirements. It is this author's belief that the restoring dentist should be dictating dental implant position and angulation prior to surgical placement. To help achieve this goal, diagnostic wax-ups, modern computer generated scanning or simple common sense design should be considered.

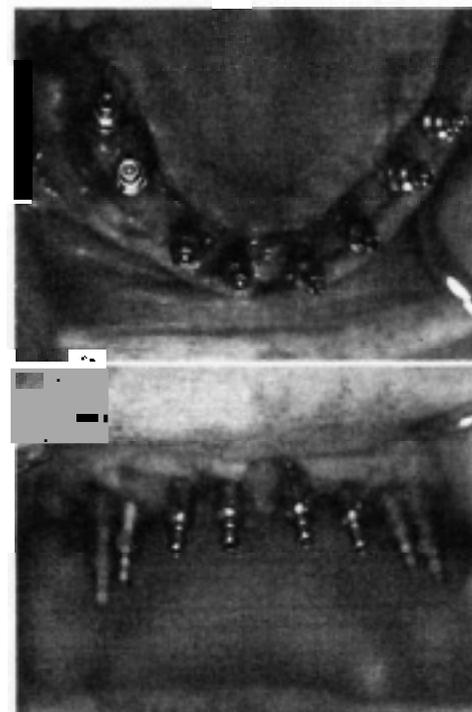
The diagnostic wax-up is an invaluable aid in determining proper placement of implants across the arch. In this case we had two previously placed implants that were not in ideal position for a fixed appliance. The decision was made to strategically place implants around those existing devices and use them only if esthetic and function required us to use them. Following a wax-up of how the case would look like finished before we ever started, a surgical stent was fabricated.

Surgery

Using the surgical stent fabricated from the diagnostic wax up, a 2mm diameter depth drill was properly angled and drilled to the predetermined depth. Following a crestal incision, tapered drills of increasing widths were used to prepare the bone to accept the proper size implant. The osteotomies were completed to the single depth reference line on each drill. The following sizes were used in this case: 3.5mm X 10 mm NobelReplace implants in the #7, 9, 10, 20 and 21 areas; 3.5mm X 13mm in the #8 area; 3.5mm X 16mm in the X23 and 26 area; 4.3mm X 8mm in the #5, 6 and 12 areas; and 4.3mm X 10mm in the # 11, 28 and 29 areas.

Installation

The dental implants were removed from their sterile packaging and threaded into the prepared sites. When more torque was needed to complete the placement, a



Figs. 6-7: Eight NobelReplace dental implants placed in the maxilla.

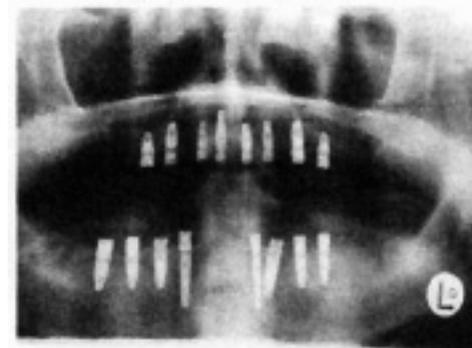


Fig. 8: Immediate post implant placement panoramic. Note angulation of old #21 implant-

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ratchet and insertion assembly was used to **place** the implants to their final **crestal position**. A dot indicates **one** of the three **internal connection lobes**. The dot is placed to the facial for consistency in **design** and better esthetics of the **prepared abutments**. Healing screws were threaded into the implants. **Vicryl** sutures **closed** the flap and **were removed 7 days after the surgery**. **Integration** was **allowed** to progress for a **full three months**, **after which the implants were exposed** and **transfer assembly impression pasts** seated to duplicate the position of the dental implants on a working cast. **The** patient experienced minimal discomfort, taking extra strength Tylenol following the surgical intervention.

Because of the inadequate position of the previously **placed implants** the decision was made not to incorporate them into the final prosthesis; rather they **were simply buried** and not used. **Removing these implants** may have caused more trauma to this patient than was necessary to **achieve the result we wished**. **Titanium abutments** were reshaped in the dental laboratory (Clayton Dental

Lab, Troy, MI) with slightly subgingival margins. These abutments **were tightened to 35Ncm** insuring that they will not loosen. **Zirconia splinted crowns** were cemented into position providing the patient the fixed prostheses he requested.

Conclusion

The goal was to **create an esthetic smile** design using dental implants to replace a poor fitting maxillary complete denture with a fixed appliance and to **create a functional mandibular fixed prosthesis** that would never move when the patient used it.

The **difficulty here** was **not the patient's age or health**, **but rather his specific requests** for dental therapy. This included fixed bridgework that he could function with, feel **comfortable** with and be **able to maintain**. With proper planning and **explanations we were** able to improve the quality of life dramatically and allow him to enjoy his meals.

Dr. **Skowronski bio on p. 11**

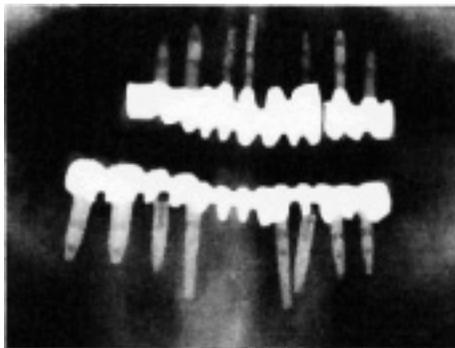
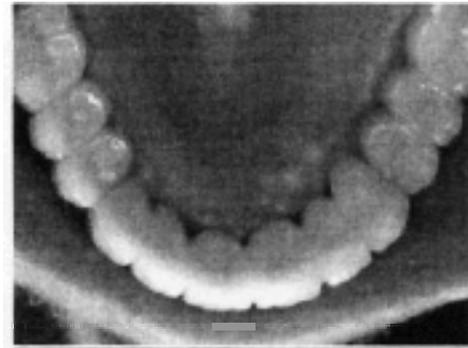
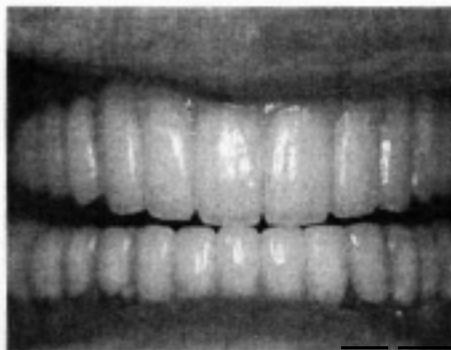


Fig. 9: Panoramic view of maxillary and mandibular implant-supported prostheses.



Figs. 10-11: Occlusal views of maxillary and mandibular implant retained fixed bridges in place.



Figs. 12-13: Final bridge placement and a happy patient.

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