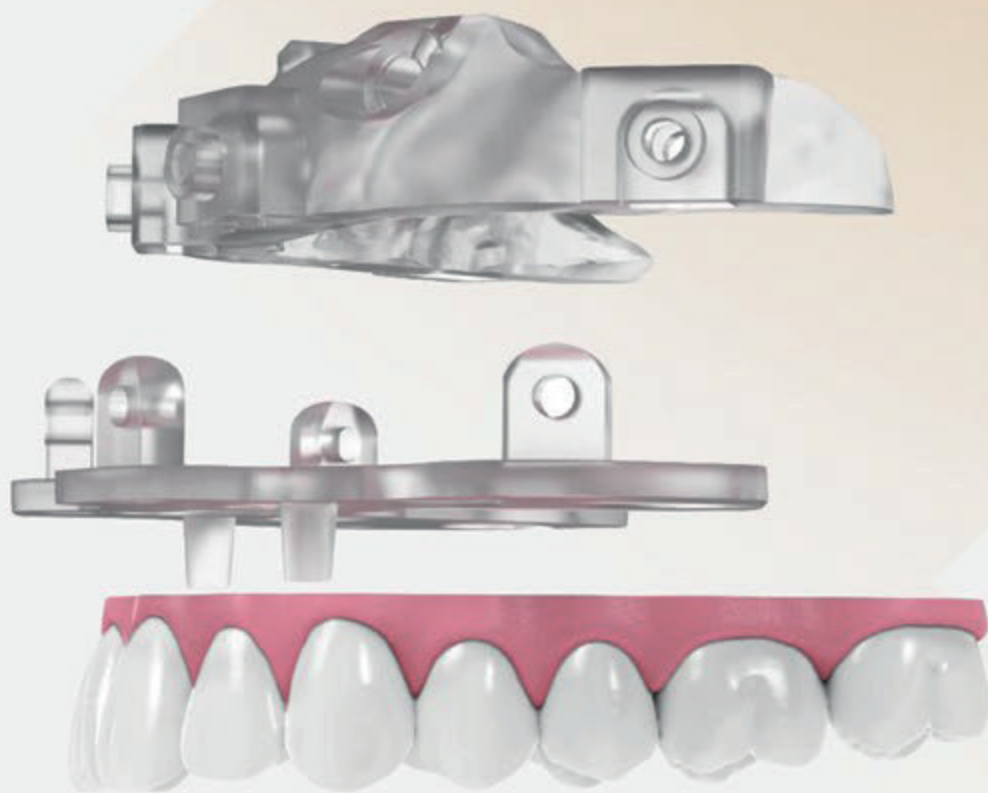


PROSTHETICALLY DRIVEN FULL-ARCH REHABILITATION

PROSTHETIC SEAT ADVANCED PROTOCOL



CASE REPORT BY
DR. ARA NAZARIAN

3Sixty has been a steadfast pioneer in the field of digital dental technology since 2007. Based in Atlanta, Georgia, we provide market-leading implant planning and guided surgery solutions for dental professionals across the US. With over 30 dental labs certified by 3Sixty, we have improved the oral health of more than 90,000 people by delivering treatment planning services to thousands of American dental practices through our Atomica Implant Planning Software, guided surgery products; such as our 3Sixty Surgical Guides, and the cutting-edge full-arch stackable system, **Anatomic Guide**®

Anatomic Guide® is a highly accurate, minimally invasive bone reduction guide for full-arch cases that require rehabilitation using All-on-X treatment modalities. It is 75 % smaller and 3 times stronger than conventional bone reduction guides. Thanks to its accuracy, it can be secured to the patient's distinctive anatomy by short metal screws providing more stability and eliminating cantilever effect. It is a fully customizable, stackable system with all the parts attachable through latches. The **Anatomic Guide**® Workflow is a team-oriented, step-by-step process that is practical, preplanned and predictable. It helps you streamline all phases of the full-arch treatment. Supported by a team of experts, you will feel confident in your practice and get rid of any undue stress on surgery day.

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A 65-year-old male patient with a partially edentulous upper arch with most of the teeth missing. The upper remaining teeth and roots were indicated for extraction due to their poor prognosis. The treatment options were discussed with the patient, which included a full rehabilitation of the upper arch, involving extraction of all the teeth and remaining roots followed by placement of six dental implants, which would support a screw-retained bridge. Due to sensitivity and the desire for an esthetic and long-lasting fixed restoration, the patient opted for this option.



The goal was to deliver treatment from beginning to end with a fully digital workflow using 3Sixty Anatomic Guide® protocol for full-arch rehabilitation. This protocol incorporates 3Sixty Treatment Planning services provided by 3Sixty Dentists* and Atomica Implant Planning Software.

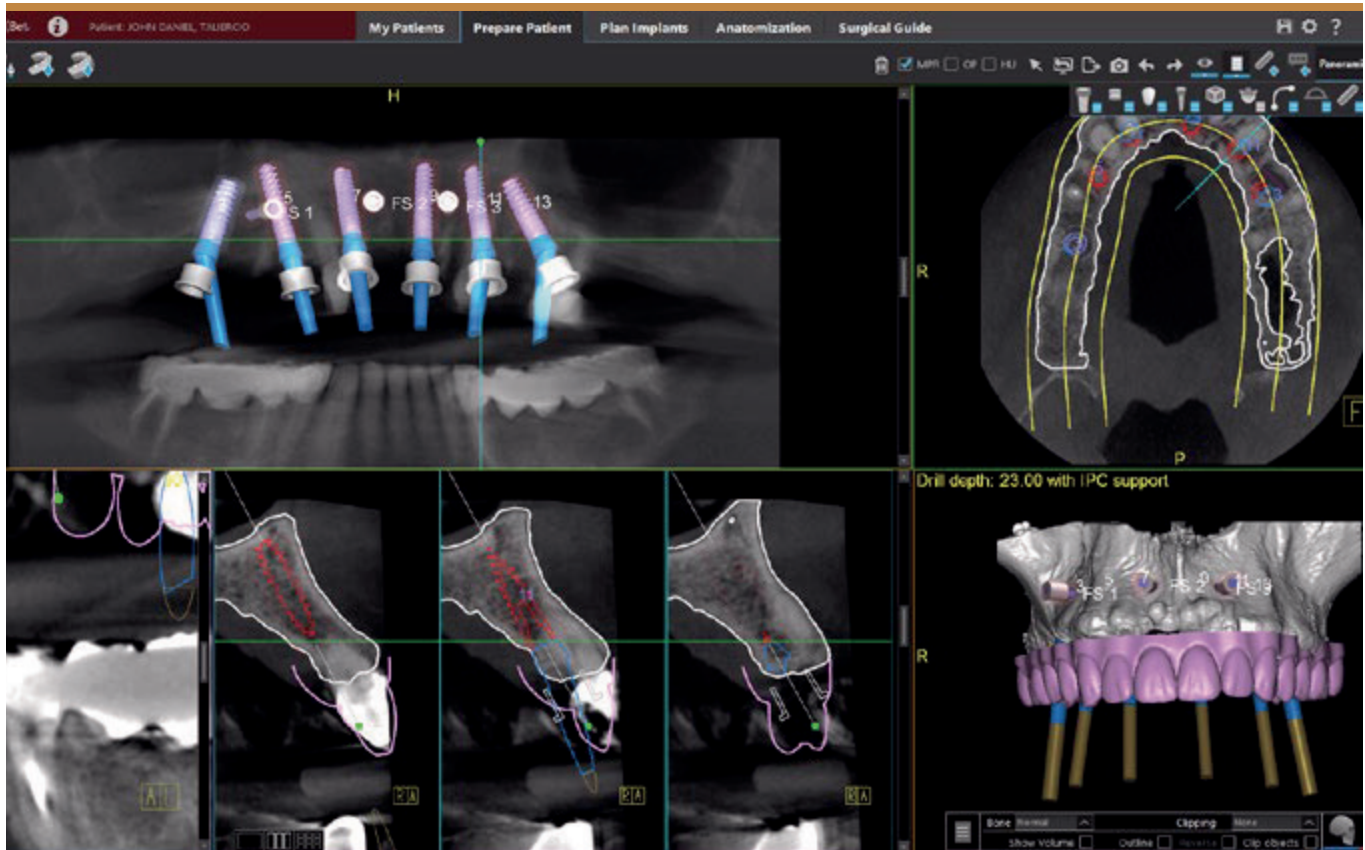
An intraoral scan of the patient's dentition and a CBCT scan were taken. This data was then imported into Atomica Implant Planning Software and merged together with the digital wax-up. Combining these layers of data into one image enabled 3Sixty Dentists* to plan the treatment according to the patient's restorative needs.

Atomica Implant Planning Software was used to create an accurate guided surgery plan for an All-on 6 fixed complete screw-retained prosthesis.

During this process, six Adin Touareg™-S implants were virtually placed in the maxilla to provide support for the final restoration. By analyzing every radiographic segment of the maxillary bone, the implants' position, diameter and length were selected. The ideal angulation of the fixtures was verified. Similarly, the proper height and angulation of the six abutments were determined. To place the Anatomic Guide®, three fixation screws (2 mm x 13 mm) were virtually planned in the upper arch. Special care was given to avoid any interference between their positions and those of the implant fixtures. The patient was found to have sufficient maxillary bone to allow for the use of the 3Sixty Anatomic Guide® with Prosthetic Seat (PS) treatment protocol.

* 3Sixty Dentists are actual dental practitioners who are passionate about digital planning and guided implant surgery. They are elite treatment planners who have real-life clinical experience and hundreds of cases under their belts.

Treatment Planning

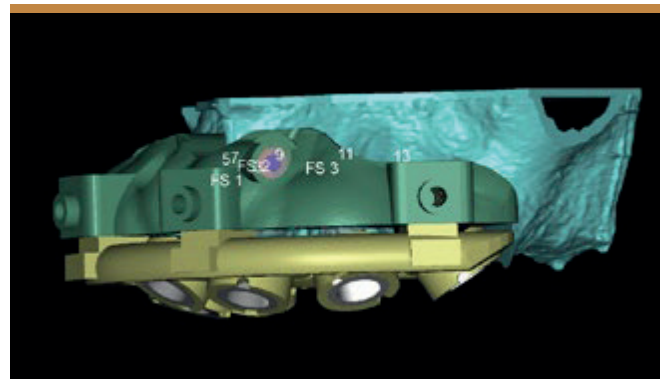
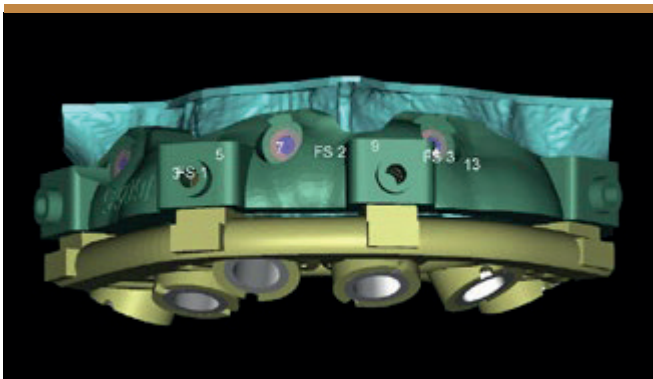
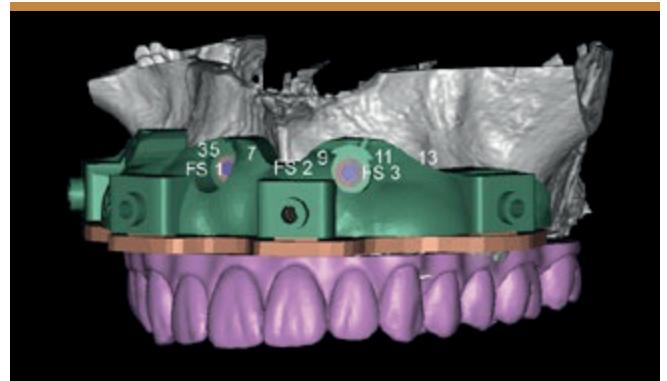
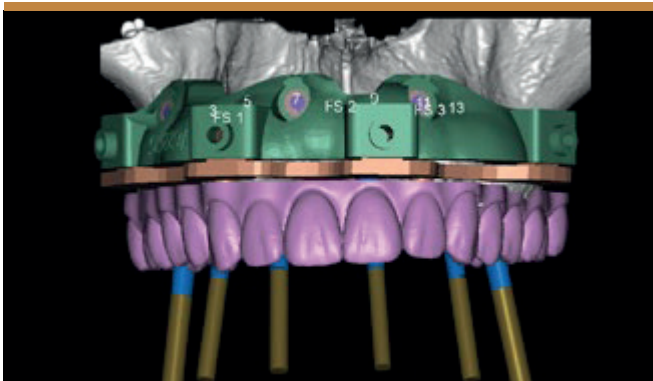


Drill Protocol

3Sixty Drill Protocol was then generated outlining the diameter and length of each Adin Implant Systems Touareg™-S implant, the length and offset of each sleeve, as well as drill tool height, total drill depth and which drill to use.

Anatomic Guide® Design

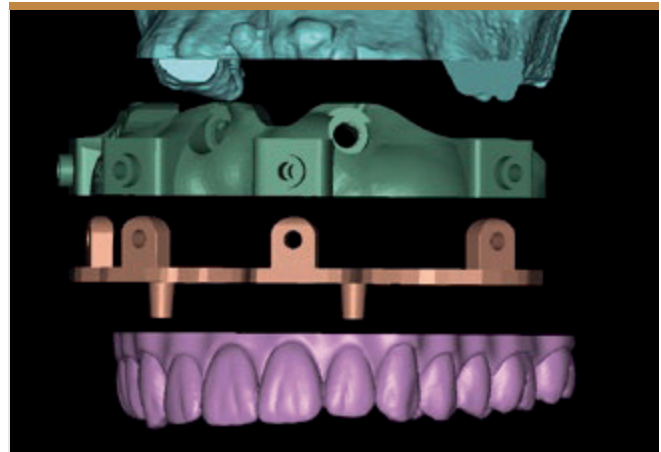
After planning the implant and abutment positions in Atomica Implant Planning Software, the Anatomic Guide®, Implant Placement Guide and Prosthetic Seat (PS) were digitally designed by 3Sixty Dentists. This stackable system for guided full-arch rehabilitation consists of the Anatomic Guide® (i.e. bone reduction guide) which is screwed into the bone. Through the latch system, additional pieces can be attached to the guide including the Tooth Verification Mount, Implant Placement Guide and PS. The PS makes it possible for the PMMA temporary prosthesis to be attached to the Anatomic Guide® without latches. This eliminates the need for lengthy chairside adjustments which dramatically reduces the duration of the surgery.



Prosthetic Seat (PS)

This piece has two main functions:

- Instead of having pre-drilled latches (i.e. arms) on the temporary prosthesis that allow it to be attached to the Anatomic Guide[®] using short pegs, a PS can carry a prosthesis which is free from such latches.
- It has an abutment timing marker to assist the surgeon in placing angled abutments (i.e. prosthetic guide for the abutments).

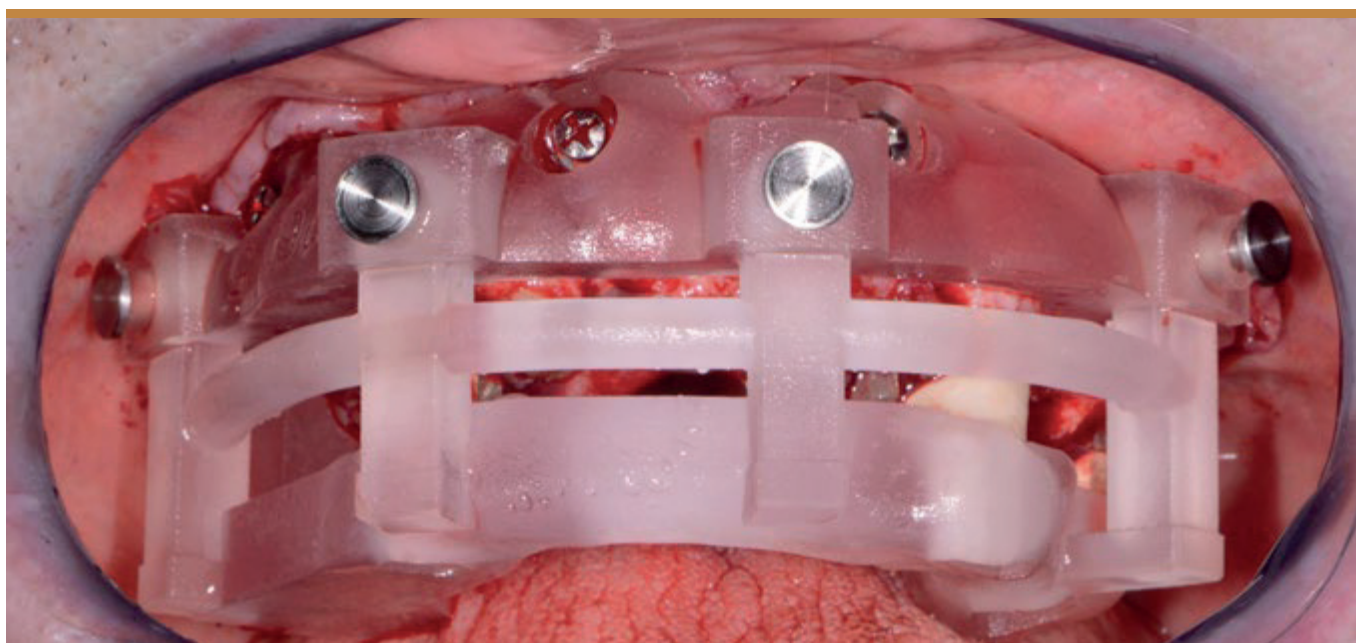


To be able to use the PS for carrying the prosthesis, there needs to be a space of 5 mm from the zenith point of the anterior teeth of the prosthesis, to the reduction platform. Without this prerequisite, designing the piece will be challenging and will most likely fail or break during the surgery. However, this is not required if the PS is needed for abutment timing function only (i.e. without the cones to carry the PMMA temporary prosthesis).

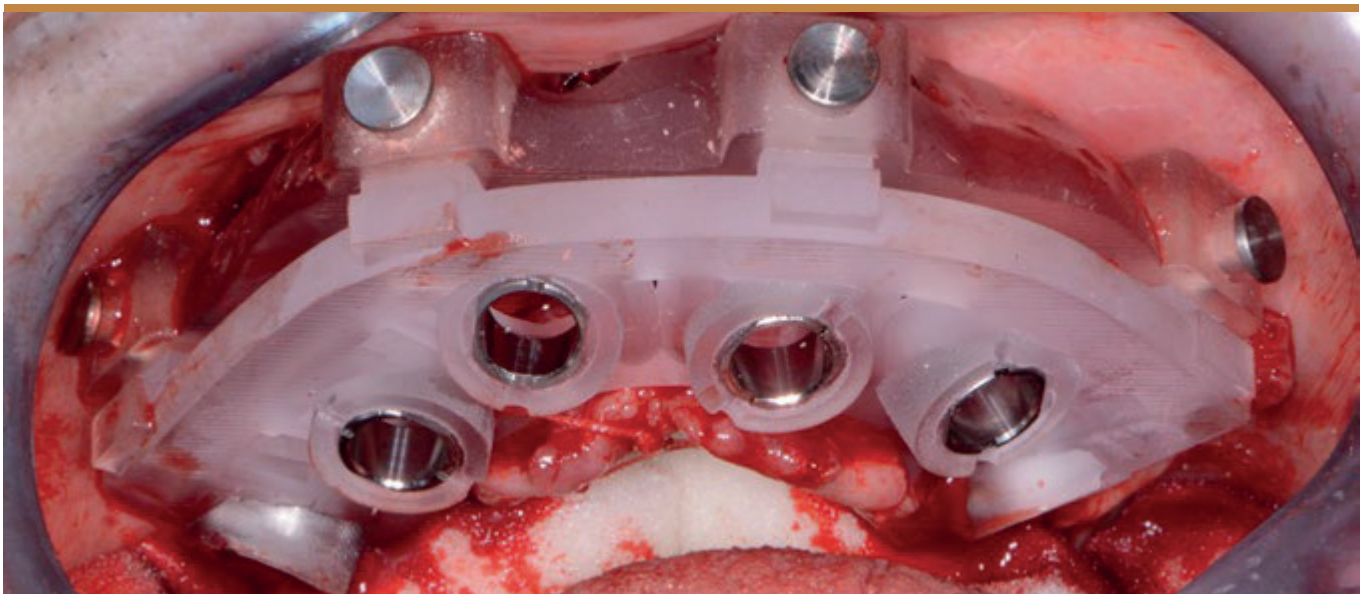
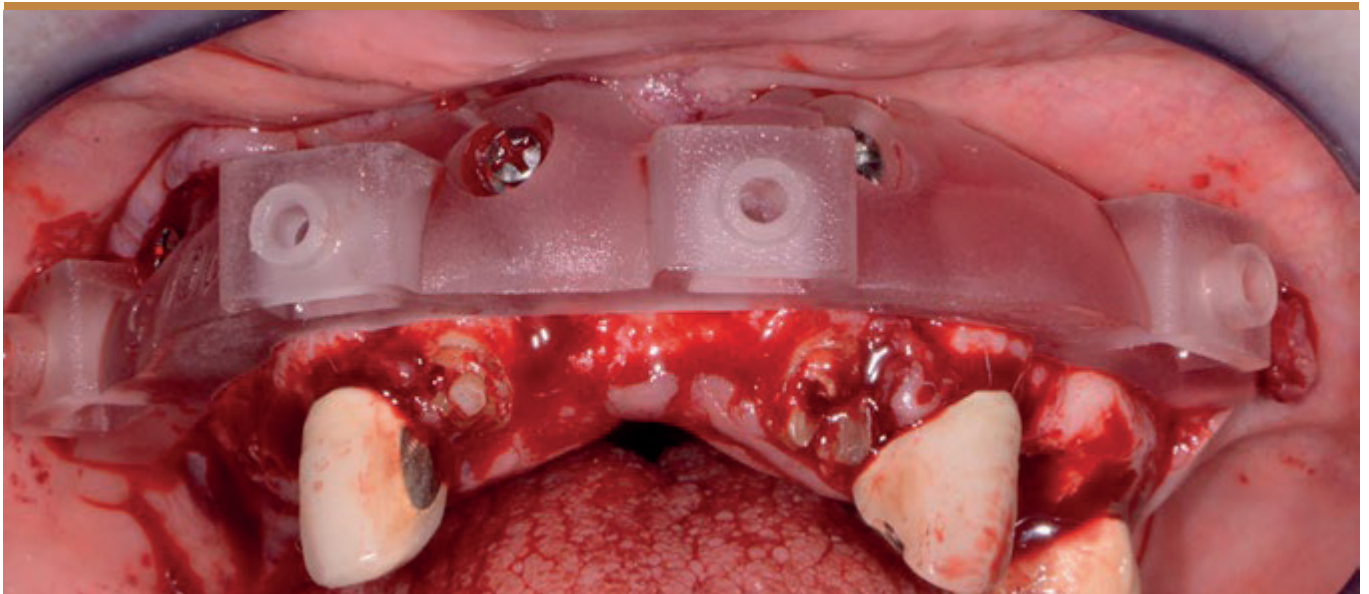
The STL files were sent to the 3Sixty dental lab in Atlanta, GA for production. The analog models of the patient's upper arch before and after bone reduction, Anatomic Guide[®], Implant Placement Guide, PS and PMMA temporary prosthesis were all fabricated, verified and delivered to the office before surgery day.



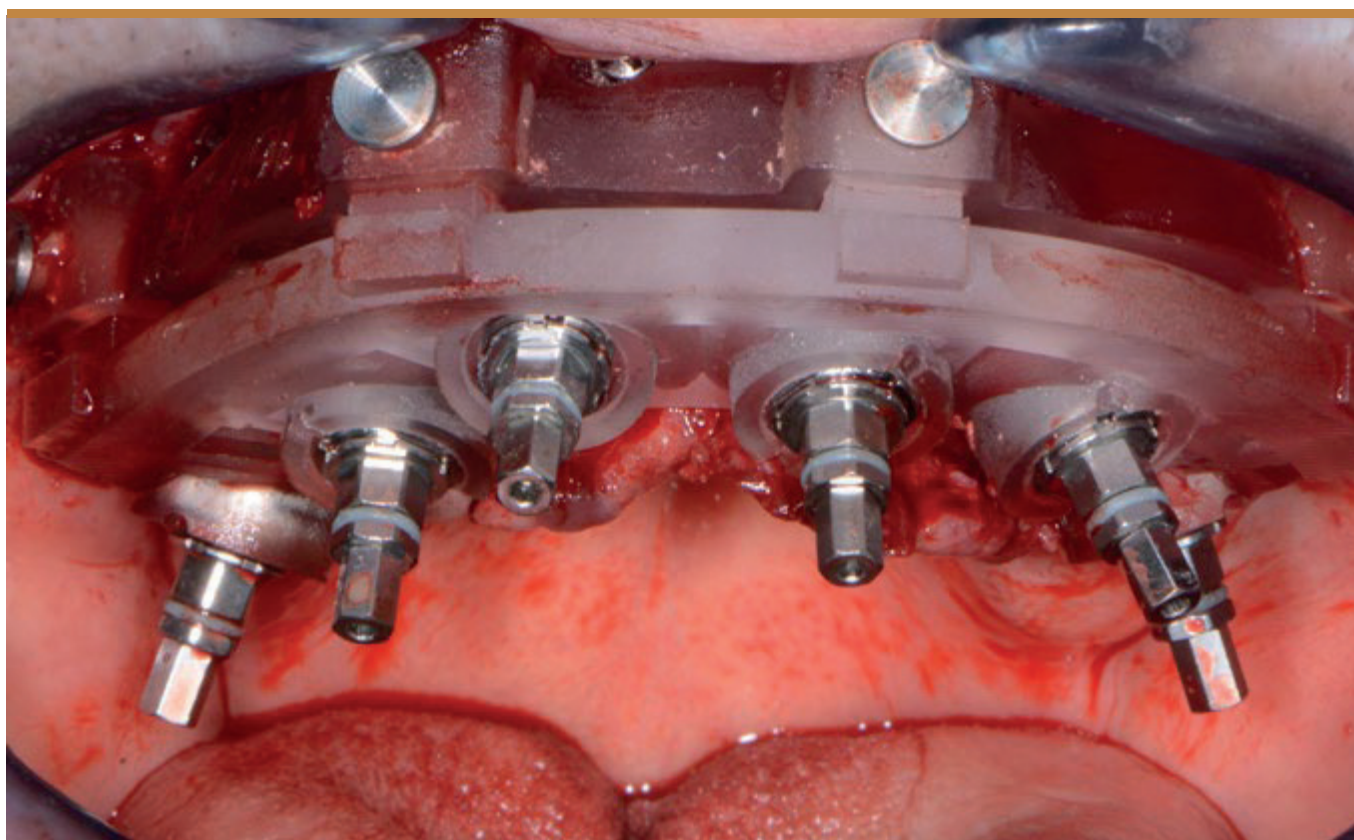
The surgery began with a single full-thickness facial flap to expose the outer cortical plate of bone where the Anatomic Guide[®] should be seated. After retracting the soft tissue, the Anatomic Guide[®] was inserted into place with the help of the Tooth Verification Mount. The accurate seating of the Anatomic Guide[®] is facilitated by the Verification Mount which is placed on top of the remaining teeth provided that they are stable enough (i.e. immobile). Tooth position is the most accurate method to guide the placement of the Anatomic Guide[®]. In this case, this could be achieved due to minimal mobility of the remaining teeth. Once in position, three intraosseous holes were drilled to help secure it in place by means of titanium screws.



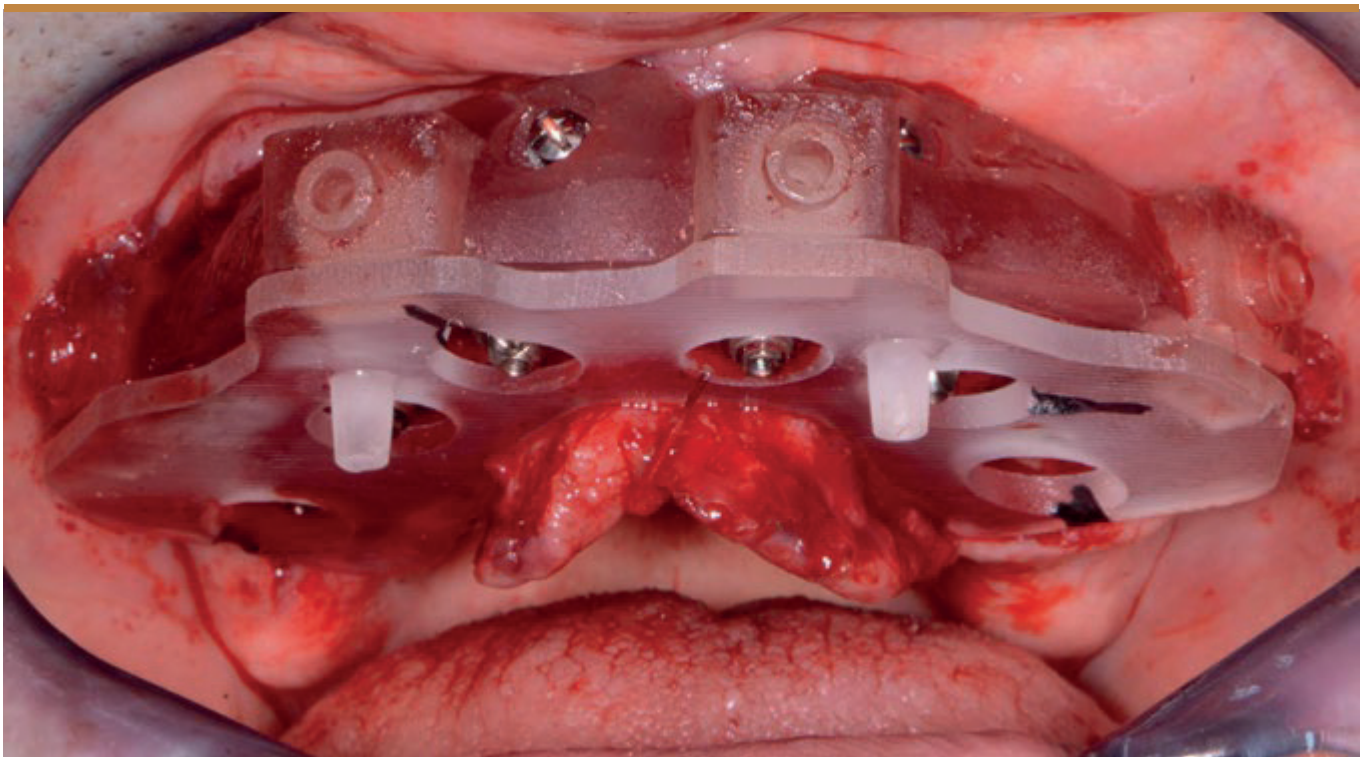
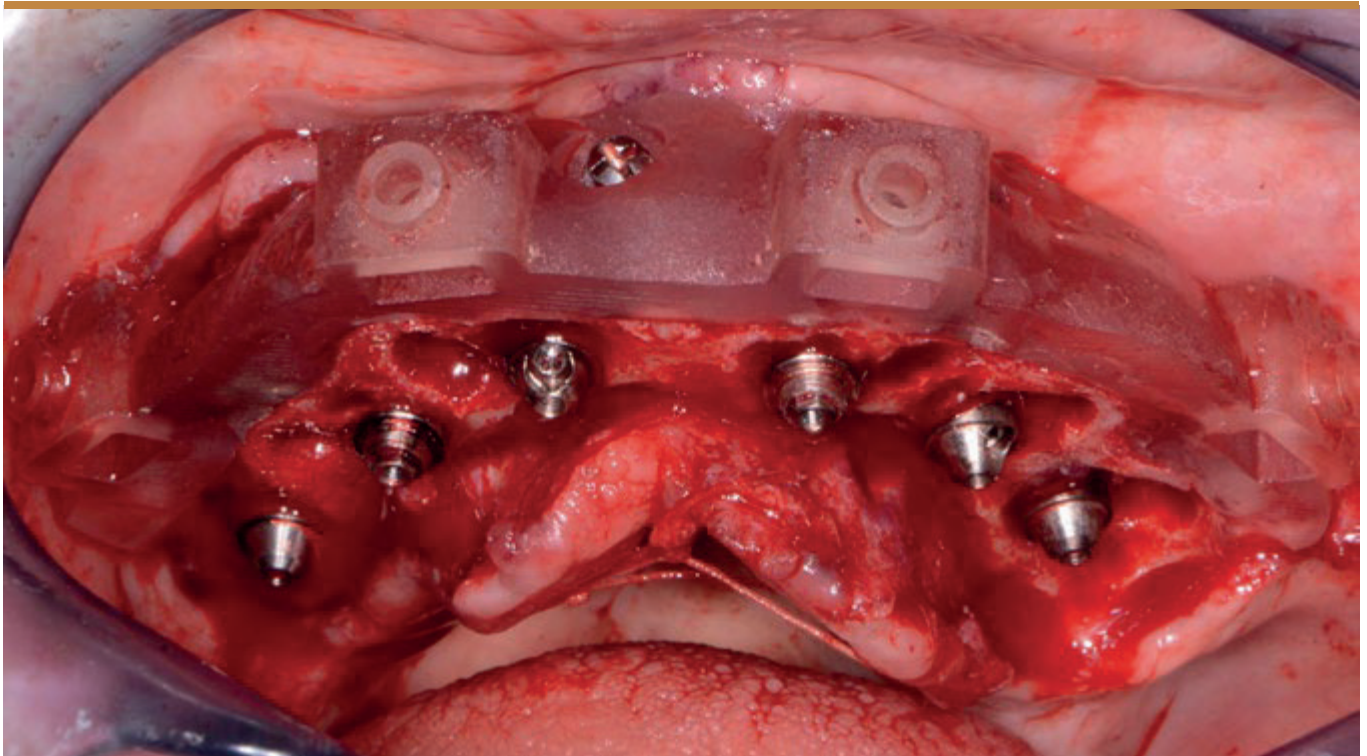
After the Anatomic Guide[®] was screwed into the bone, the Verification Mount was removed and the remaining teeth were extracted. Then bone reduction was carried out following the contour of the Anatomic Guide[®] to ensure an ideal restorative space. Once the implant-recipient area was adequately prepared, the Implant Placement Guide was attached to the Anatomic Guide[®] using metal pins.



3Sixty Drill Protocol was followed and a total of six Adin Touareg™-S implants were placed through the Implant Placement Guide's sleeves with implant timing (i.e. depth control). The challenge was placing the implants at the correct angle so that a good A-P spread would be obtained. The patient's sinuses were also relatively low, which is why long, angled implants were placed with distal orientation.



The Implant Placement Guide was then removed and six multi-unit abutments were screwed in place. The PS was then attached to the Anatomic Guide® and the immediate-load protocol was followed to place the PMMA temporary prosthesis.





REVIEW

Fixed implant-retained prostheses are superior to conventional dentures in functionality, esthetics and overall quality of life. Guided surgery significantly increases the success rate and longevity of temporary as well as final restorations; particularly those involving the placement of multiple implants. 3Sixty Anatomic Guide® is a stackable full-arch system that uses streamlined digital treatment planning through Atomica Implant planning software. The workflow of this protocol is simplified and intuitive. With the help of CBCT and intraoral scans, the treatment plan can be digitally designed, revised and approved prior to the day of surgery. This minimizes the overall time of the procedure and reduces the number of appointments.

This case demonstrates the advantages of the Anatomic Guide® protocol for All-on-X treatment modality. The ease with which the digital wax-up, surgical guides, temporary and final prostheses can be designed and fabricated via Atomica Implant Planning Software is unmatched. Clinicians have been adopting this digitally-guided approach to implant surgery due to its simplicity, accuracy and speed of workflow. With enhanced outcomes for the patients, Anatomic Guide® is currently the least invasive and most comfortable solution for implant-supported fixed complete dentures.

3Sixty Full Suite of Services and Products

We offer a full range of integrated high-tech services and products that can either be used together or separately:

- Treatment Planning
- Surgical Guides
- Radiology Reports
- 3Sixty Academy

ABOUT DR. ARA NAZARIAN

Dr. Ara Nazarian graduated from the University of Detroit Mercy School of Dentistry and completed an AEGD (Advanced Education in General Dentistry) residency from the US Navy in San Diego, California. In addition, he completed advanced training in dental implants and grafting from the Misch International Implant Institute.

Dr. Nazarian is a Diplomate in the ICOI (International Congress of Oral Implantologists).

He teaches non-invasive extractions, grafting, full-mouth rehabilitation, and 3D diagnosis and treatment planning with CBCT. He has been published nationally and internationally in leading dental publications in the area of cosmetics, metal-free crowns, extractions, grafting, sinus lifts, immediate implant placement, same-day provisionalization, and CAD/CAM restorations.



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