



A CLINICIAN'S GUIDE TO DIGITAL FULL ARCH



No PVS, No Model... No Problem



Dear Doctor,

Over the last decade the industry has experienced a true evolution in the technologies and materials supporting the All-on-X hybrid restorative concept. This revolutionary concept has truly enhanced the way the edentulous arch is restored and if anything, this evolutionary trend will exponentially expand as even more of these innovative technologies become available.

Furthermore, the last decade also produced not only an immense improvement in the accuracy and functionality of intra-oral scanners, but also an increase in the adoption of this technology. With this adoption, the need for a "no PVS impression practice" has also grown and with this, a bigger demand for a fully digital all-on-X workflow.

This workflow does not require a PVS impression and, even more importantly, there should be no processing of any prosthetic component on a physical model (either printed or poured).

The biggest hindrance to this all-on-X digital processing has been the need to cement the titanium interfaces into the milled zirconia or PMMA transitional structures before intra-oral delivery. Once a physical model is brought into the processing workflow, the accuracy is diluted and ultimately invalidated.

The NavaGation Synergy and Absolute Dental Laboratory teams combined their efforts to solve this issue using today's innovative technologies! The NavaGation S.I.M. device is designed to allow the base guide to act as a fiducial marker to assist with the data acquisition during the surgery stage.

This data acquisition greatly reduces the number of restorative appointments required for data gathering while also exponentially improving the accuracy and quality of this very important step.

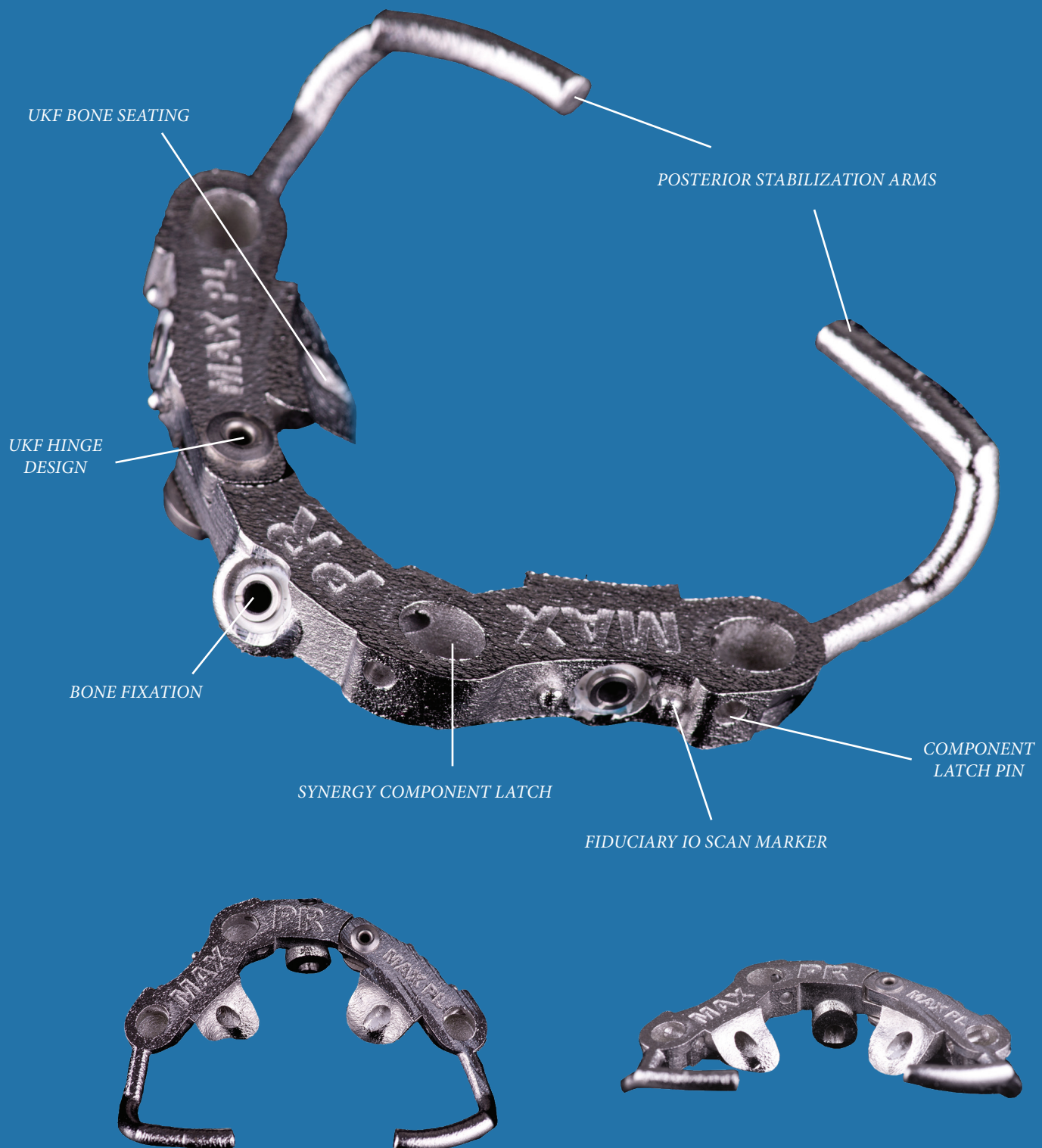
The Synergy system's focus is to bring the restorative, surgical and technical teams together to improve patient outcomes through effective digital collaboration.

This is achieved using digital diagnostic planning and executed with the use of guided surgical and digital restorative processes.

Conrad J. Rensburg



Navagation Synergy - Base Guide Design



Synergy Base Guide Options



SYNERGY CARBON FIBER



SYNERGY SLM COBALT



Dr. Chris Barwacz



Dr. Mark Ludlow

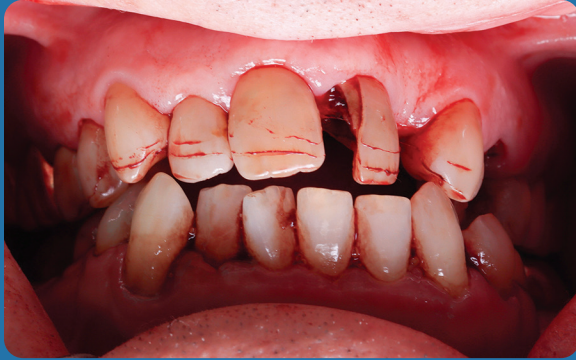


Dr. Shari Ginsburg

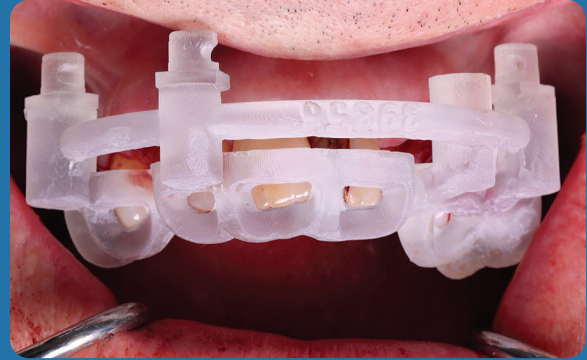


Synergy S.I.M. Protocol

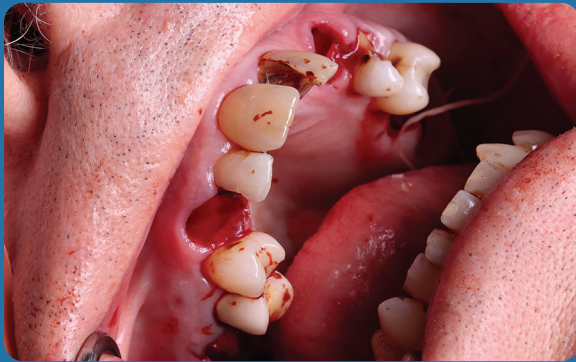
Seating the Base Guide



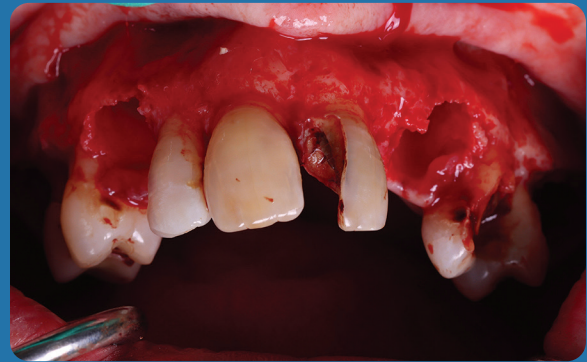
PRE-OP



*VERIFY PASSIVE TOOTH ALIGNER SEATING
BEFORE SURGERY*



*PRE EXTRACTIONS TO ACCOMMODATE
FIXATION POSITIONS*



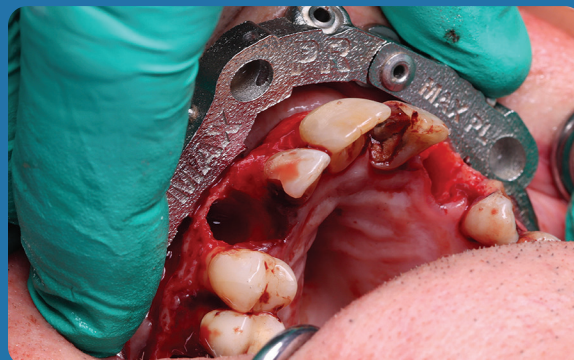
TISSUE REFLECTION - BUCCAL ONLY



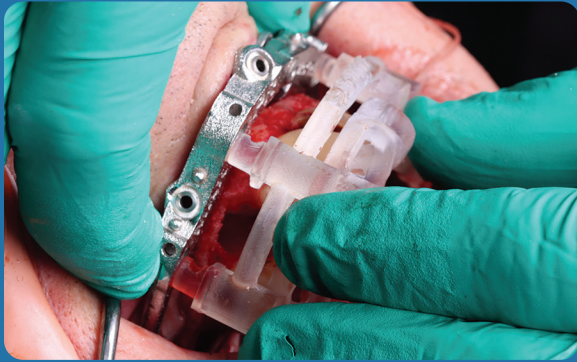
*COLLAPSIBLE HINGE GUIDE - SIMPLE AND
ACCURATE SEATING*



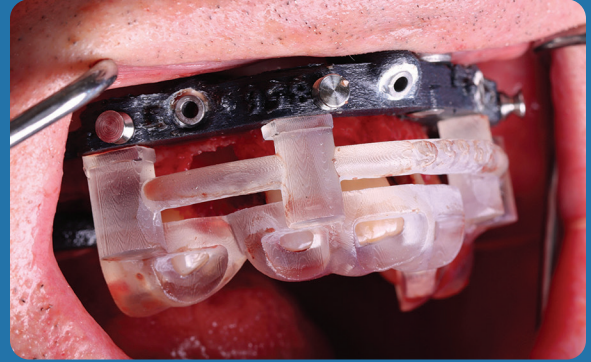
*UKF HINGE GUIDE ENGAGING THE
BUCCAL UNDERCUT*



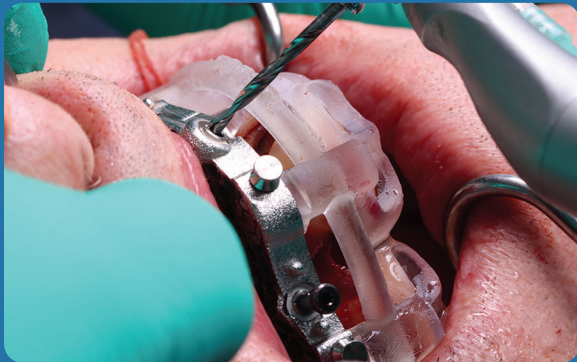
UKF SEATING VERIFIED ON BUCCAL UNDERCUT



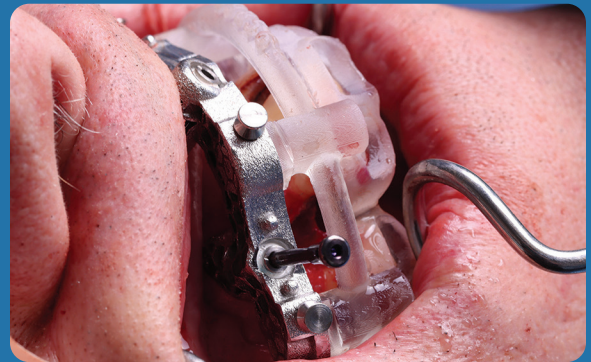
TOOTH ALIGNER ENGAGED FOR DUAL SEATING VERIFICATION



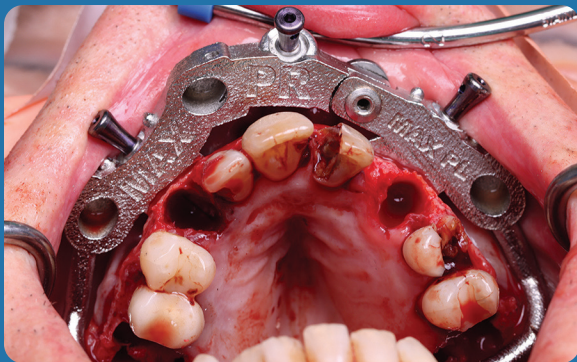
TOOTH ALIGNER & BASE GUIDE STACK READY FOR FIXATION



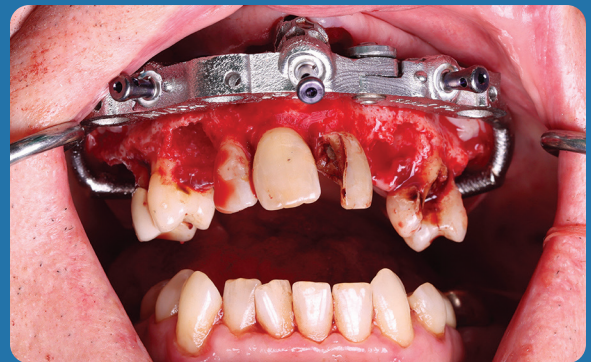
ACCURATE FIXATION BECAUSE OF DUAL SEATING VERIFICATION INTO THE UNDERCUT



EFFICIENT BONE FIXATION PROCESS



ACCURATE BASE GUIDE SEATING



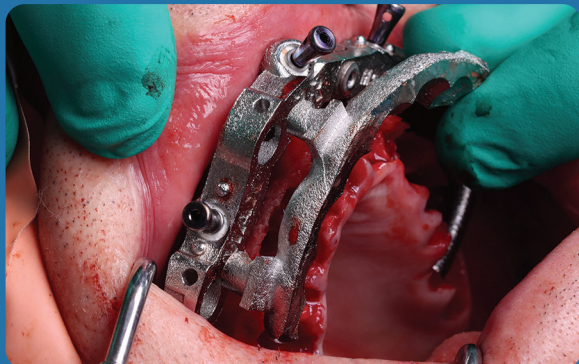
READY FOR SURGERY



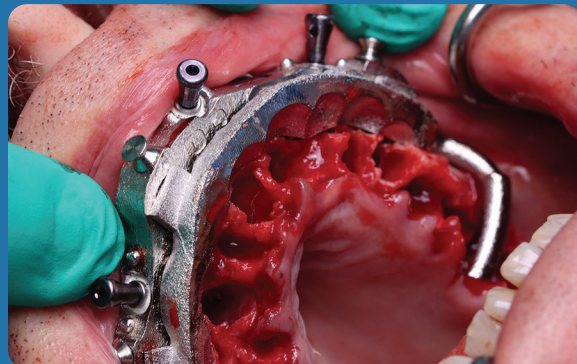
TOOTH EXTRACTIONS

Bone Plane Reference Options:

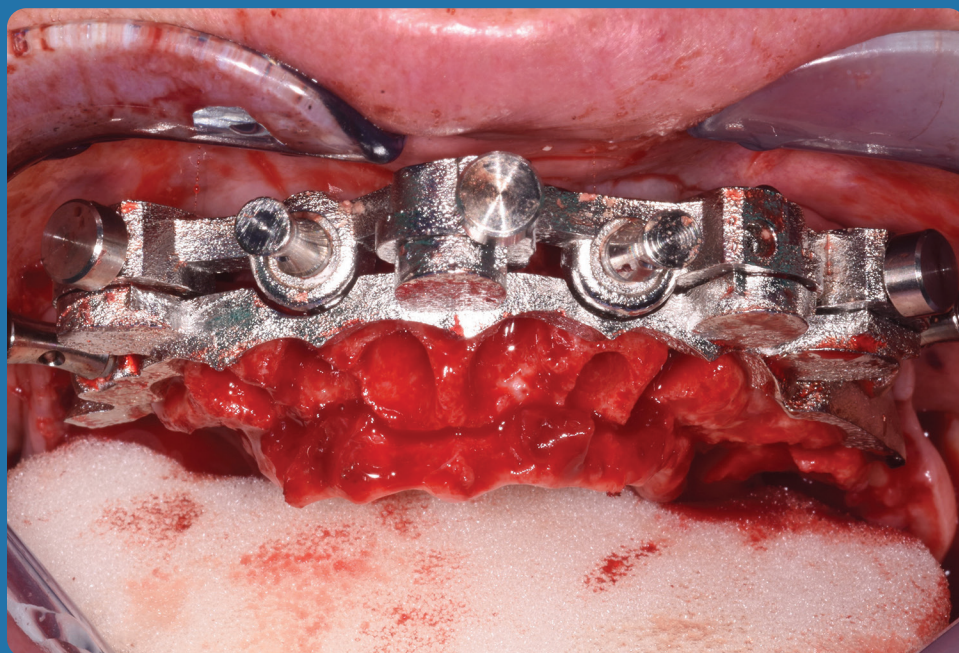
FP1 Scalloped Bone Plane



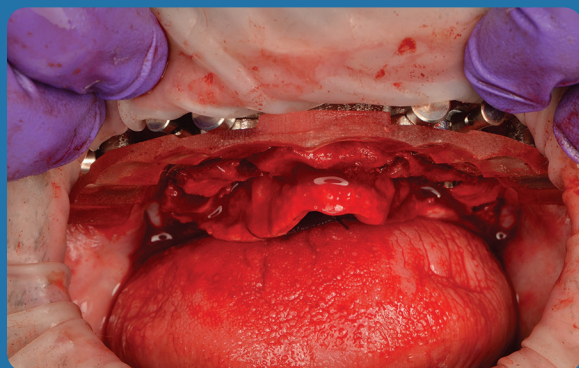
SEATING SCALLOPED BONE PLANE REFERENCE



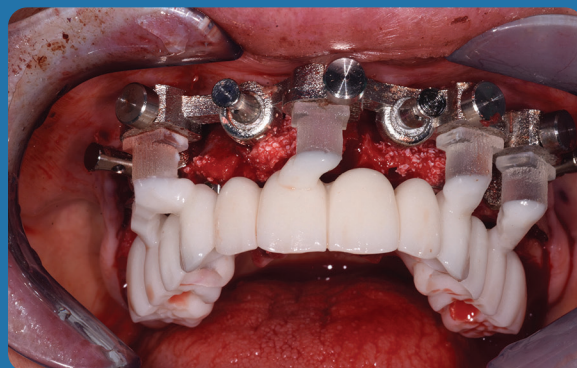
FP1 STYLE SCALLOPED BONE PLANE REFERENCE



SCALLOPING BONE REFERENCE GUIDE



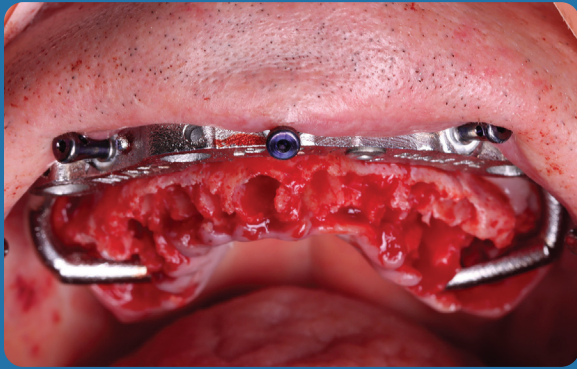
SCALLOPED BONE REDUCTION



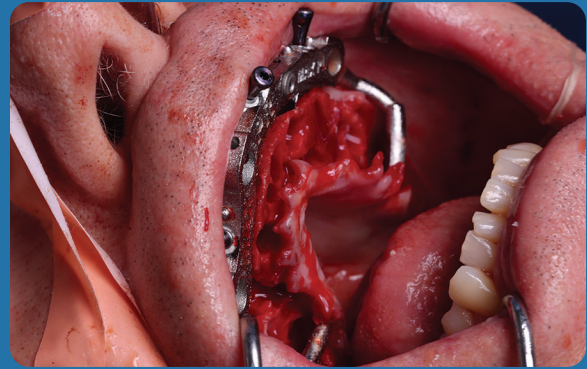
FP1 SCALLOPED CONVERSION

Bone Plane Reference Options:

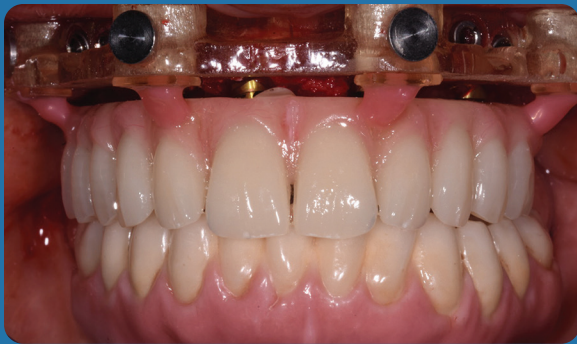
FP2 & 3 Flat Bone Plane



FP2 & 3 FLAT BONE PLANE REFERENCE



FLAT BONE PLANE



LATCHED CONVERSION



FP3 STYLE SURGICAL CONVERSION



SURGICAL CONVERSION



Dr. Jeffrey Ganeles

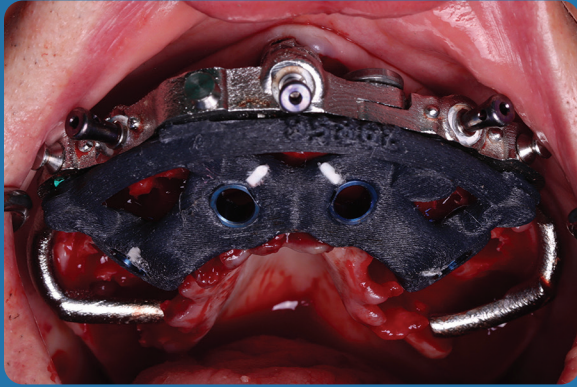


*Absolute perfection
is not optional!*



*"... I understand that
patients are not coming to
me to have implants, they
are coming to me to replace
missing TEETH."
- Scott Ganz*

Synergy Surgery Phase



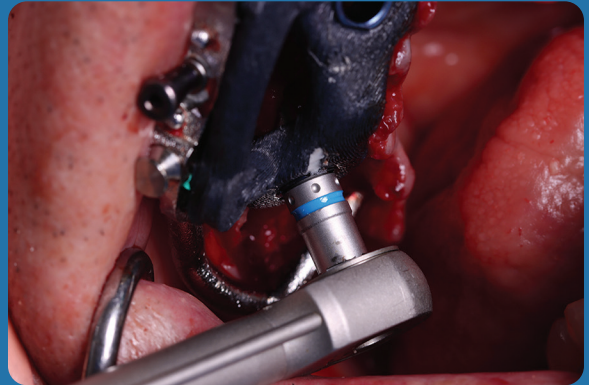
CARBON FIBER OSSEOTOMY GUIDE



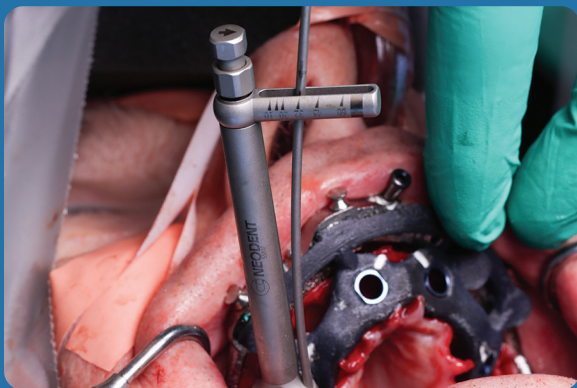
*SYNERGY COMPATIBLE WITH ANY GUIDED
IMPLANT SYSTEM*



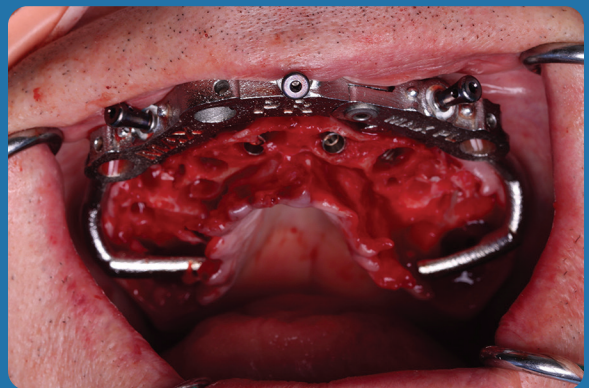
*IMPLANT PLACED THROUGH GUIDE TO
DEPTH AND DIRECTION*



IMPLANT DELIVERED TO PLANNED ROTATION

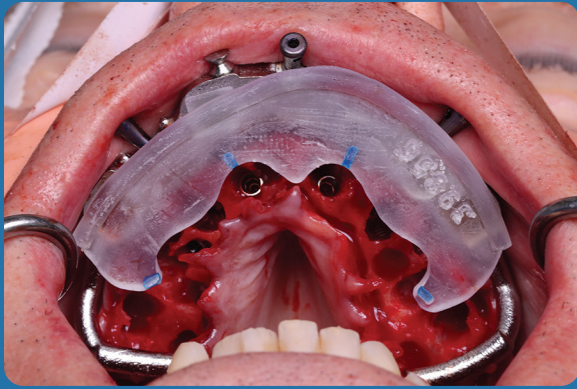


FINAL TORQUE

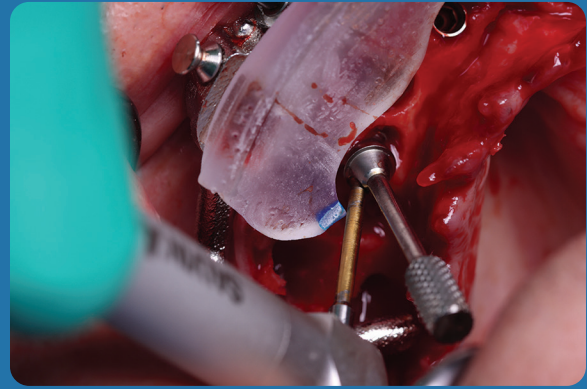


IMPLANTS PLACED

Synergy Abutment Placement



MUA ABUTMENT ALIGNER



*LINE SHOWS ALIGNMENT WITH SCREW
DRIVER SHAFT*



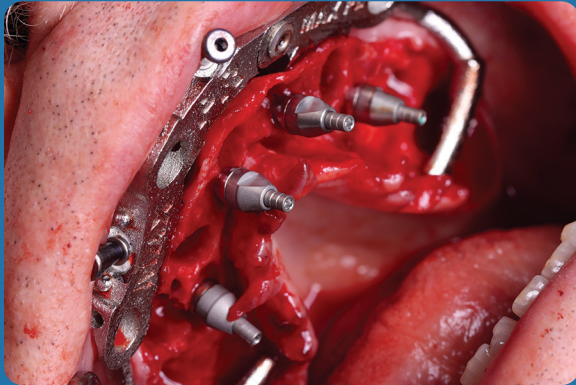
MUA ABUTMENTS IN PLANNED ROTATION



Dr. Mark Ludlow

Synergy S.I.M. Data Acquisition

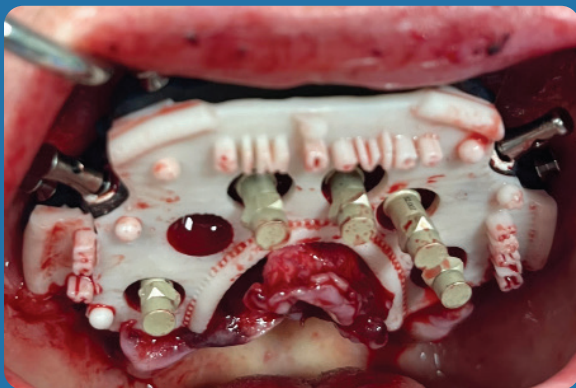
Intra Oral Scanning



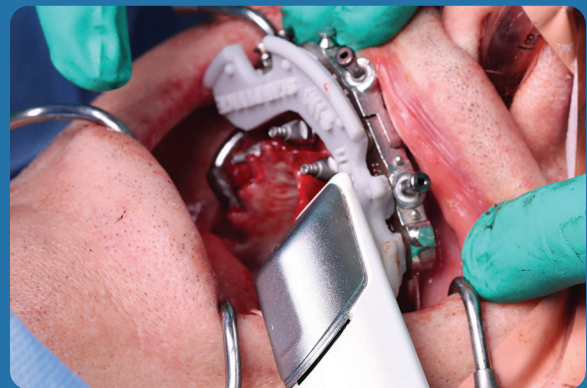
*SEAT IO SCANNING POST FOR EITHER POWERBALL
OR DESS SYSTEM ONLY*



LATCH SYNERGY S.I.M. DEVICE



*S.I.M. DEVICE READY FOR SCANNING OF
IO SCAN FLAGS*



DATA ACQUISITION WITH SCANNER OF CHOICE

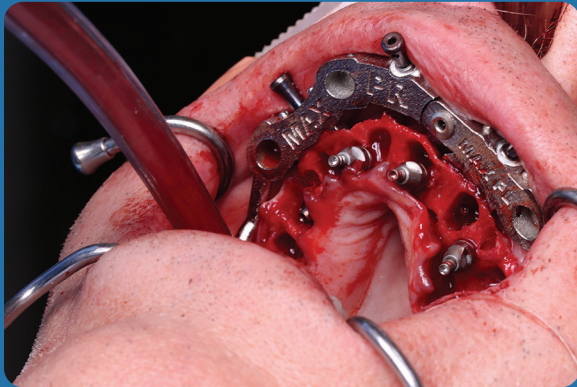


*FILE READY TO TRANSFER TO ABSOLUTE
DENTAL LAB*



*POST RUBBER DAM TO BLOCK OUT BLOODY FIELD
IF REQUIRED*

PMMA Scan



REMOVE S.I.M. DEVICE - DO NOT REMOVE
IO SCAN FLAGS



LATCH PMMA CONVERSION PROSTHESIS OVER
IO SCAN FLAGS



LATCH AND DIGITIZE PMMA - INCLUDE BASE GUIDE
FIDUCIARY MARKERS IN THE SCAN



INTRA ORAL SCAN READY TO TRANSFER TO
ABSOLUTE DENTAL LAB



PMMA PROTOTYPE

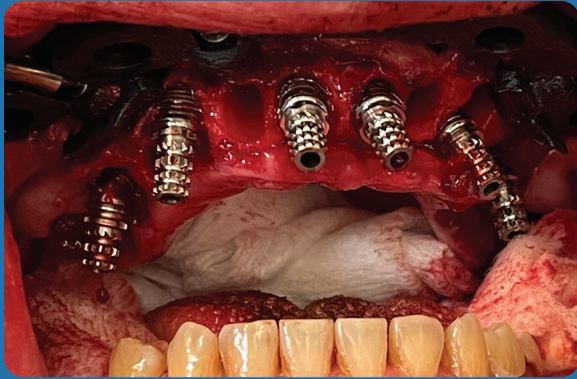


ZIRCONIA FINAL

Lars Bouma, Bio-Milling Technique



Synergy Conversion Process



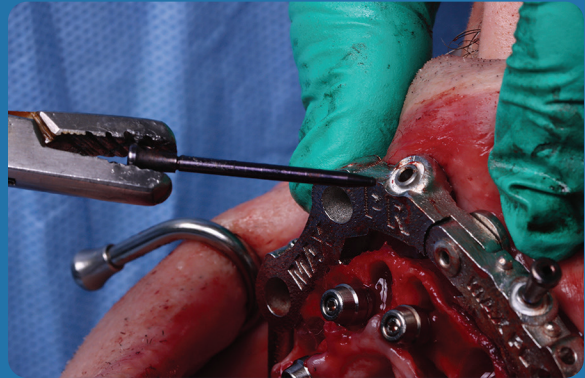
*UNLATCH AND REMOVE PMMA - PLACE
TEMPORARY COMPONENTS AS PER THE
CONVERSION SEQUENCE*



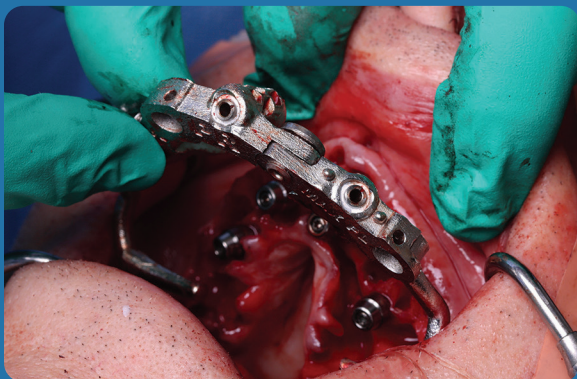
LUTE COMPONENTS INSIDE THE PMMA



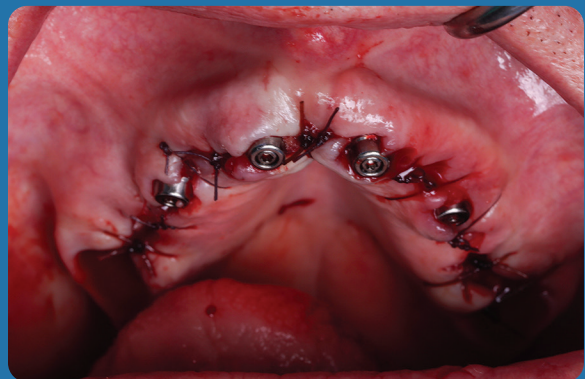
UNLATCH THE PMMA AND FILL IN THE INTAGLIO



REMOVE FIXATION PINS



REMOVE SYNERGY BASE GUIDE



SUTURE PATIENT



CUT CONVERSION LATCHES



REPLACE THE PMMA

Final Data Acquisition After Healing

The final data for diagnostic design and PMMA prototype fabrication is gathered at the post healing (implant torque check) appointment.

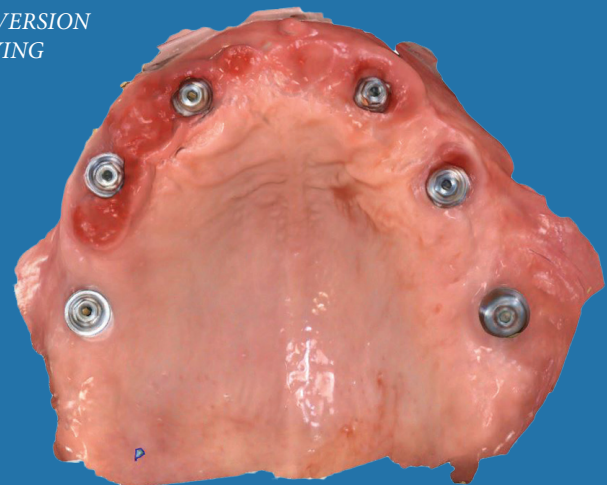
- Scan the surgically converted hybrid in the mouth
- Scan the opposing and register the bite
- Remove the hybrid and scan the heads (tops) of the MUA abutments and tissue on the ridge (vestibule not necessary). Torque test the implants and replace the hybrid
- Gather patient pictures. Full face with eyes and ears straight on with focus on the upper lip and nose area. Also retracted smile, high smile and relaxed positions. Include patient expectations and diagnostic adjustments if needed



*SCAN PMMA CONVERSION
FOR BIO-COPYING*



SCAN OPPOSING AND REGISTER THE BITE



*REMOVE PMMA CONVERSION. TORQUE TEST IMPLANTS
AND SCAN TISSUE WITH EXPOSED MUA ABUTMENTS*

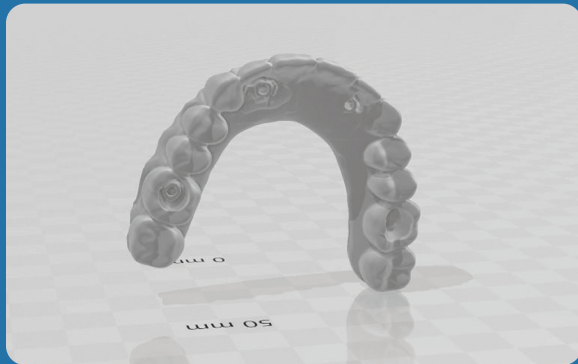
Prototype & Final Hybrid Fabrication

The laboratory will STL file match and merge all the data gathered at the surgical and post-op healing appointments. This data, combined with smile pictures and diagnostic notes gathered by the clinician, will now be used to fabricate a prototype for final patient approval or adjustments.

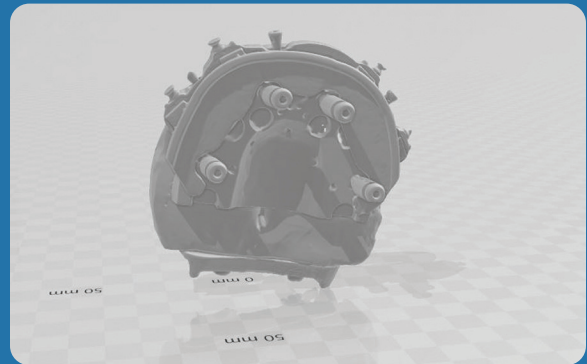
This PMMA prototype will be delivered to the patient at the first restorative appointment.

This device is functional and can be worn by the patient for several weeks, if required. If additional adjustments are needed, (bite/esthetic/midline etc.) they must be made to the PMMA hybrid and re-scanned for final bio-copy.

The final hybrid will be delivered at the second clinical appointment and will be an exact copy of the patient approved prototype. This final zirconia hybrid will require no further adjustments at delivery.



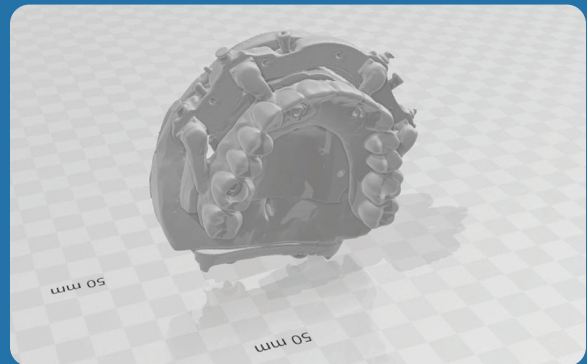
DESIGN & BITE FILE



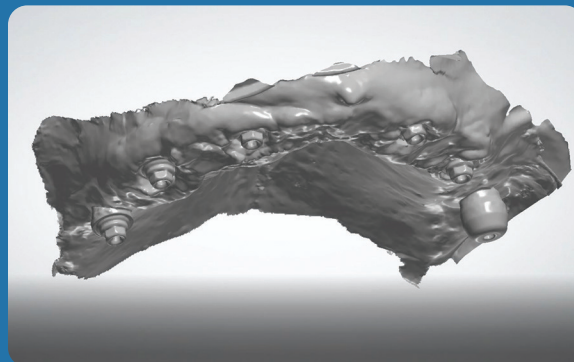
IMPLANT POSITION FILE



MUA FILE



PMMA SCAN FILE



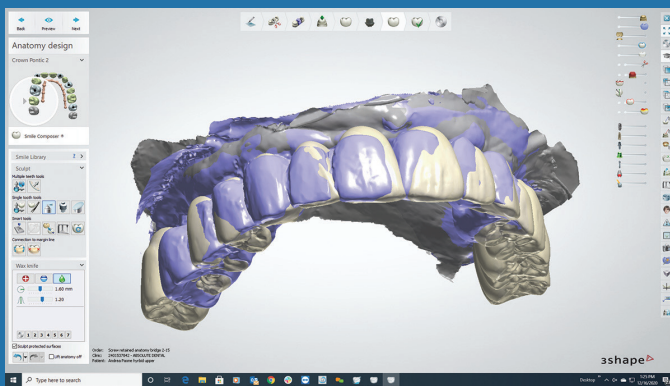
HEALED TISSUE SCAN

Diagnostic Design & Review

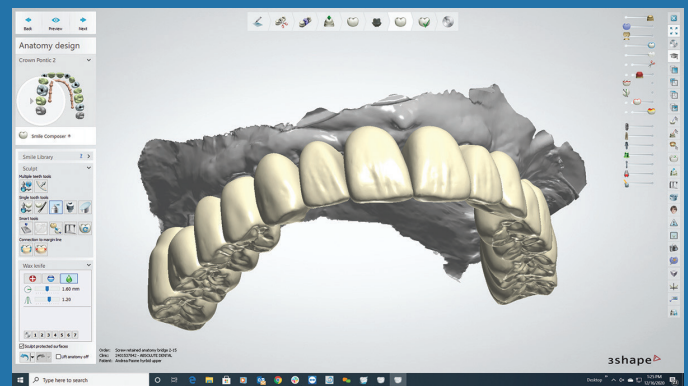
The Absolute Digital Diagnostics team now uses the surgical conversion STL data that was captured at surgery stage as the foundation to design the PMMA prototype. This updated prototype design incorporates the bio-copied bite as well as any additional adjustments requested by the restorative team. Once a proposed design is ready, the Absolute team will set up a remote review with the restorative team for case evaluation.

In this collaborative meeting, the design is super-imposed over the patient's smile pictures to allow for comparison between the pre-op and suggested prototype try-in. After approval, the digital data will be transferred to an analog prototype device.

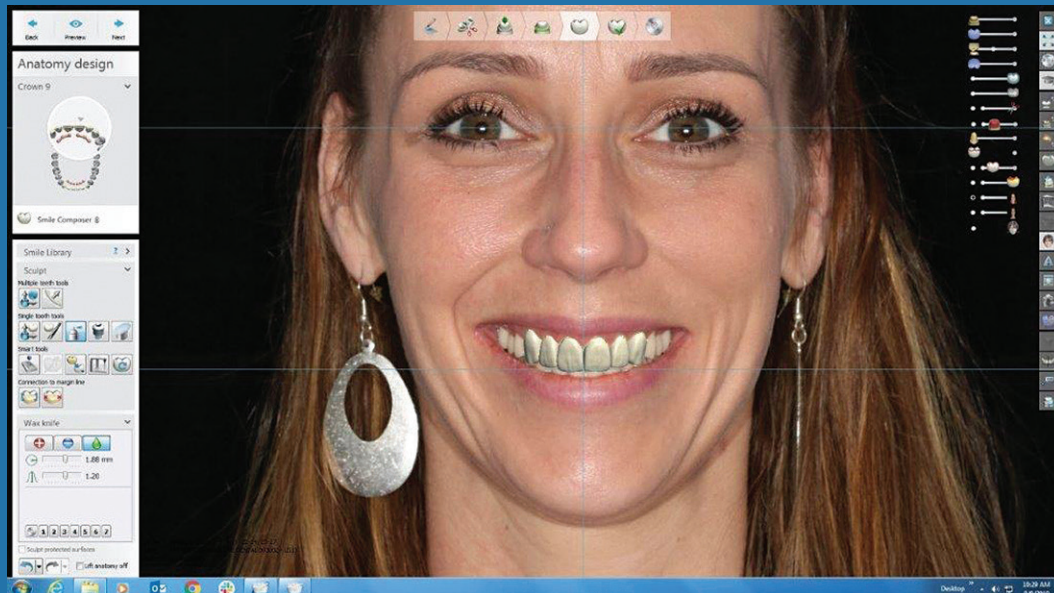
This PMMA device can also be delivered to the patient to wear as an interim prosthesis. This option will allow the patient additional time for esthetic evaluation and will give the restorative team time to establish a more accurate bite if needed.



*DIAGNOSTIC PROPOSAL MERGES WITH
TRANSITIONAL PMMA*



FINAL DESIGN READY FOR PROTOTYPE TRY-IN



*DIGITAL CASE DESIGN FOR REMOTE CLINICIAN'S
REVIEW AND APPROVAL*



ABSOLUTE
DIGITAL DENTISTRY

Restorative

1st Clinical Appointment



PMMA PROTOTYPE TRY-IN



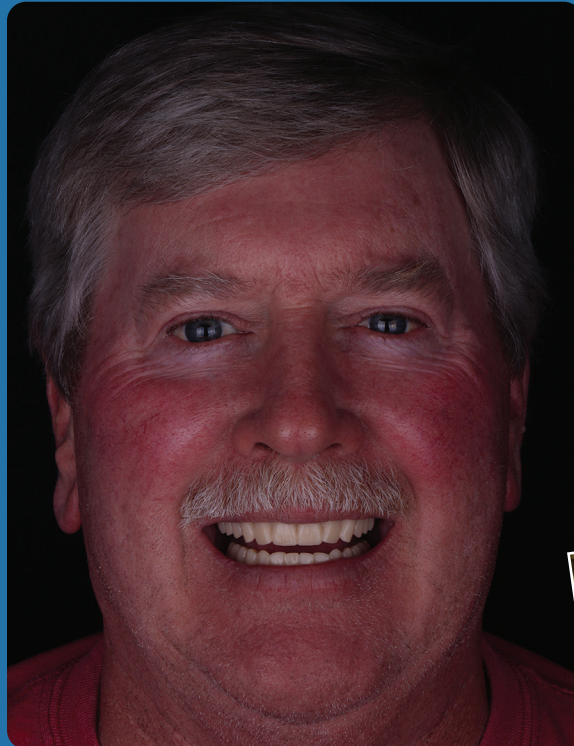
*REQUIRED ADJUSTMENTS ARE MADE DIRECTLY TO
PMMA DEVICE IF NEEDED*



REGISTER SMILE PICTURES



LIPS AT REST



FULL FACE



Dr. Christian Yaste

Restorative

2nd Clinical Appointment

The final hybrid is guaranteed by the Absolute A.R.T team to be an exact copy of the approved PMMA prototype. It is therefore crucial to not only work out all bite and esthetic issues during the PMMA phase but also document a patient sign off. The importance of not adjusting to post sintered zirconia has been well documented, and therefore the goal is to deliver a final hybrid that requires no adjustment. The Absolute team will also deliver the PMMA hybrid with the final. This device can be used as a emergency hybrid if ever required.



PRE-OP



*FINAL HYBRID IS AN EXACT COPY OF THE
APPROVED PROTOTYPE AND WILL NOT REQUIRE
ADJUSTMENT AT DELIVERY*



APPROVED PROTOTYPE



FINAL DELIVERY

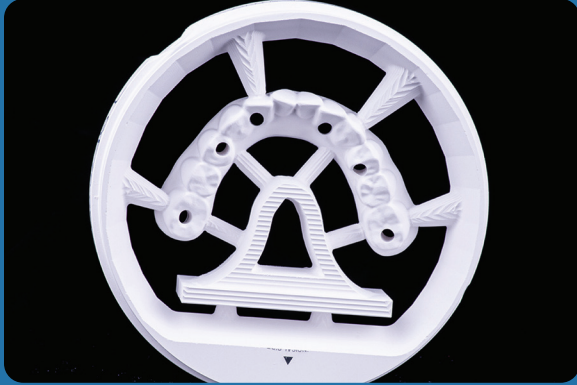


FINAL DELIVERY



FINAL OCCLUSION

Absolute A.R.T. Team



THE APPROVED PROTOTYPE DATA IS TRANSFERRED
TO ZIRCONIA FOR THE FINAL



TO PRESERVE THE INTEGRITY OF THE MATERIAL
THE MILLED STRUCTURE IS FINAL CONTOURED BY
THE ABSOLUTE ART TEAM IN GREEN STAGE



TO GUARANTEE MAXIMUM STRENGTH, NO
ADJUSTMENTS ARE MADE AFTER SINTERING AND TO
ENSURE A PERFECT DUPLICATION OF THE APPROVED
TRY-IN, NO LAYERING CERAMICS ARE ADDED TO THE
STRUCTURE



MIYO STRUCTURE IS APPLIED TO GINGIVAL AND
MIYO LIQUID CERAMICS PROVIDES FINAL COLOR



ABSOLUTE SIGNATURE HYBRID READY FOR DELIVERY

ABSOLUTE
Signature
A.R.T TEAM



Artistry by Jack Marrano

Absolute Dental Lab

Established in 1994, Absolute Dental Services started as a small fixed prosthetics lab in the Triangle area of North Carolina. More than two decades later, Absolute's restorative focus is much broader but their attention to product detail and exceptional customer service has not changed. In 2019, Absolute Dental was voted NADL laboratory of the year by their peers.

Absolute is a true full-service partner, with a team nationally and internationally renowned for their expertise in creating world-class esthetics. Their use of cutting-edge technology in CAD and milling as well as their extraordinary dental implant, guided surgery and high-end removables teams, enables them to deliver lifelike and functional dental prosthetics in even the most complex cases.



Serving their customers with Absolute Excellence has always been the primary focus of the Absolute team. Their vision and dedication is reflected in the company motto, *Perfection Is Not Optional!*

They welcome clinicians from all over the country to become part of the Absolute family!

NavaGation Precision Guidance® team

The NavaGation Precision Guidance® division was established in 2014 with the goal to create synergy between the surgeon, restorative and technical teams. Today, with more than 2500 guides and successful surgeries behind them, Absolute is proud to offer their expertise in diagnostic work-up, pre-planning, guide design, processing and chairside support to our clinicians.

By offering a true “prosthetic down” planning approach, our NavaGation Precision Guidance® team has become a trusted partner for surgical and restorative teams across the United States. Advancements in planning software, FDM 3D printing of materials like implantable PEEK Carbon Fiber combined with other technologies like select laser melting, has created a true synergy between the surgical plan and the final prosthetics. Having an experienced technician assist with plan set-up, team review and fabrication of the final prosthesis has proven to create a very predictable workflow.

Select Laser Melting
done exclusively by



We invite you to restore your next case with us!





*Artistry by
Chris Barwacz and
Jack Marrano*



1-844-NAVAGAT (628-2428)
1-844-293-ADS1 (2371)



SCAN HERE