



DENBRIGHT™
DENTAL LABS

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.

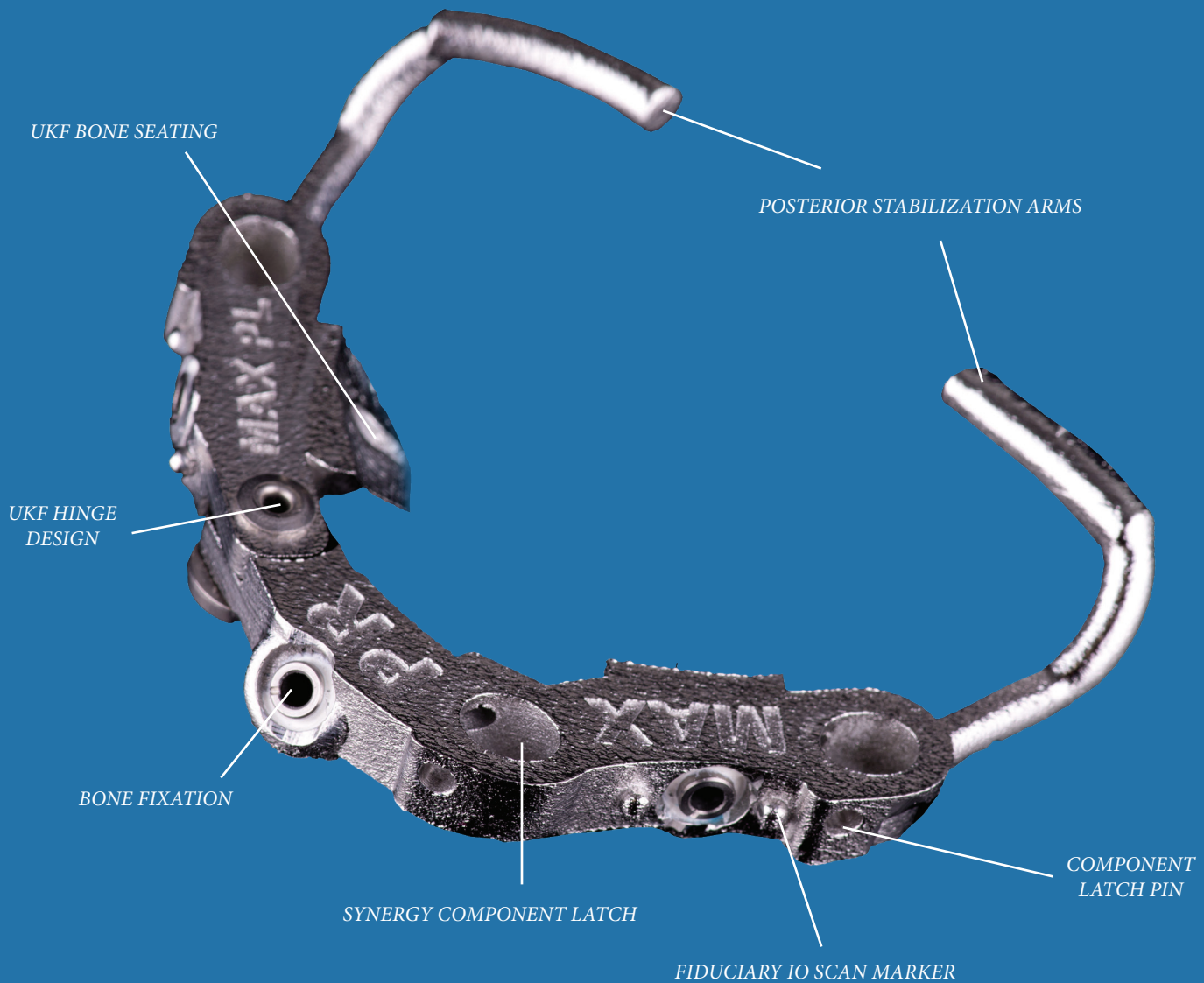
The Synergy system's focus is to bring the restorative, surgical and technical teams together to improve patient outcomes through effective digital collaboration.

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

Conrad J. Rensburg
Chief Strategy Officer



Navigation Synergy - Base Guide Design



Synergy Base Guide Options



SYNERGY CARBON FIBER



SYNERGY SLM COBALT



Dr. Chris Barwacz



Dr. Mark Ludlow



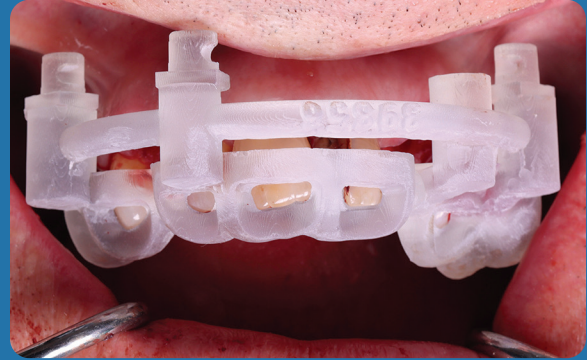
Dr. Shari Ginsburg

Synergy S.I.M. Protocol

Seating the Base Guide



PRE-OP



*VERIFY PASSIVE TOOTH ALIGNER SEATING
BEFORE SURGERY*



*PRE EXTRACTIONS TO ACCOMMODATE
FIXATION POSITIONS*



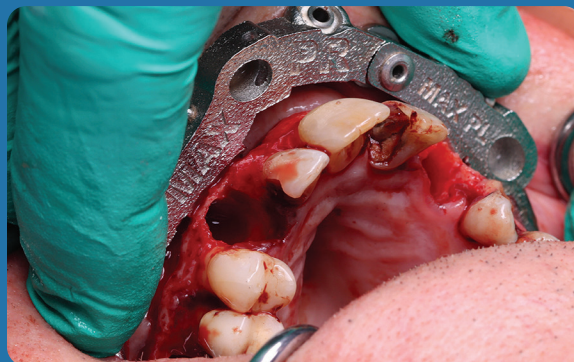
TISSUE REFLECTION - BUCCAL ONLY



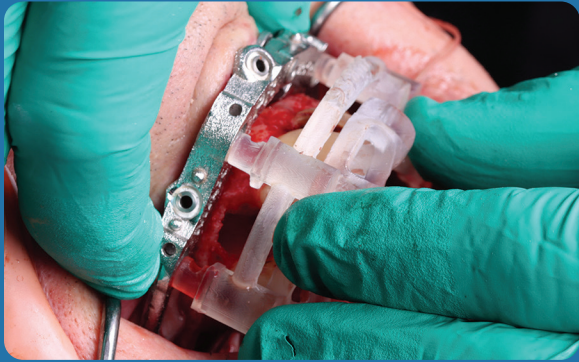
*COLLAPSIBLE HINGE GUIDE - SIMPLE AND
ACCURATE SEATING*



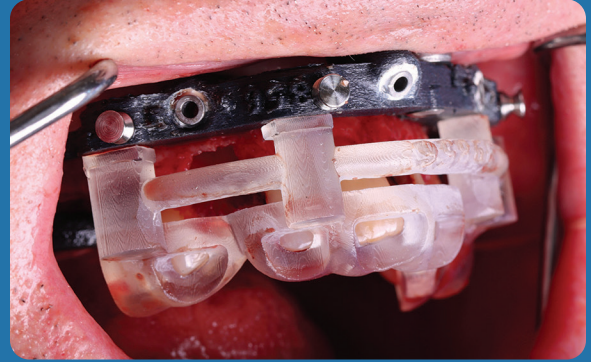
*UKF HINGE GUIDE ENGAGING THE
BUCCAL UNDERCUT*



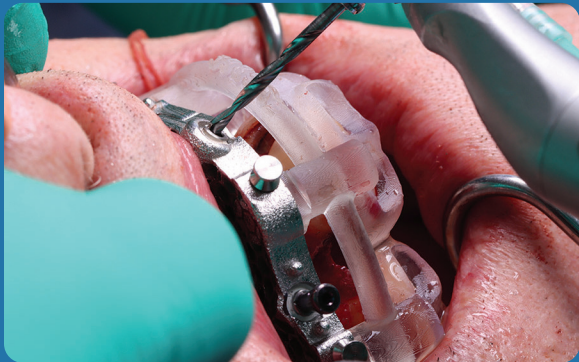
UKF SEATING VERIFIED ON BUCCAL UNDERCUT



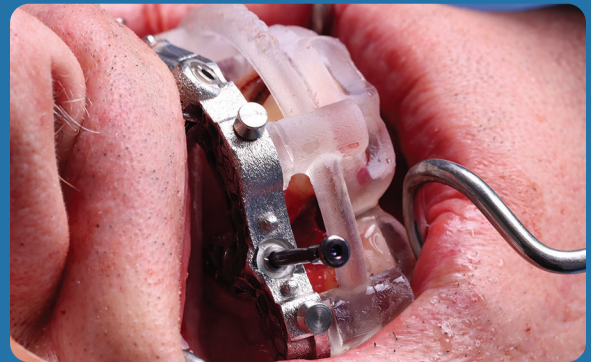
TOOTH ALIGNER ENGAGED FOR DUAL SEATING VERIFICATION



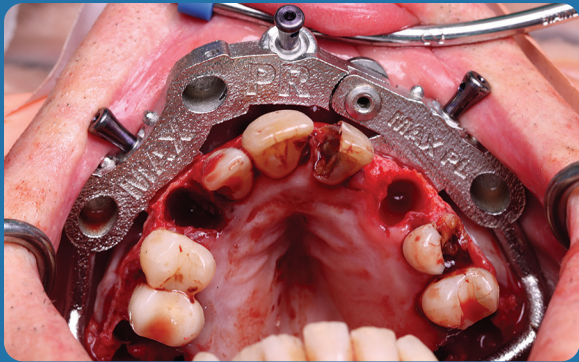
TOOTH ALIGNER & BASE GUIDE STACK READY FOR FIXATION



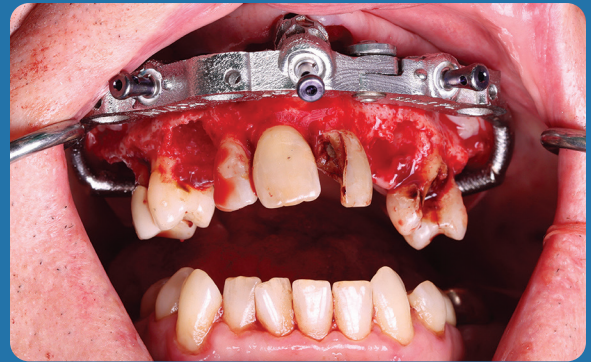
ACCURATE FIXATION BECAUSE OF DUAL SEATING VERIFICATION INTO THE UNDERCUT



EFFICIENT BONE FIXATION PROCESS



ACCURATE BASE GUIDE SEATING

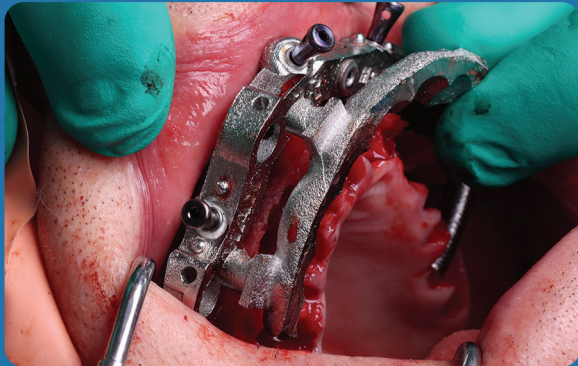


READY FOR SURGERY

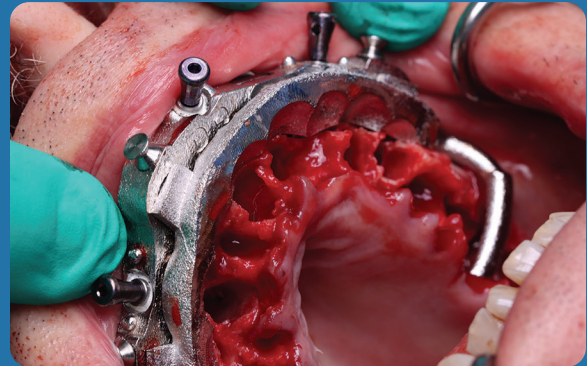


TOOTH EXTRACTIONS

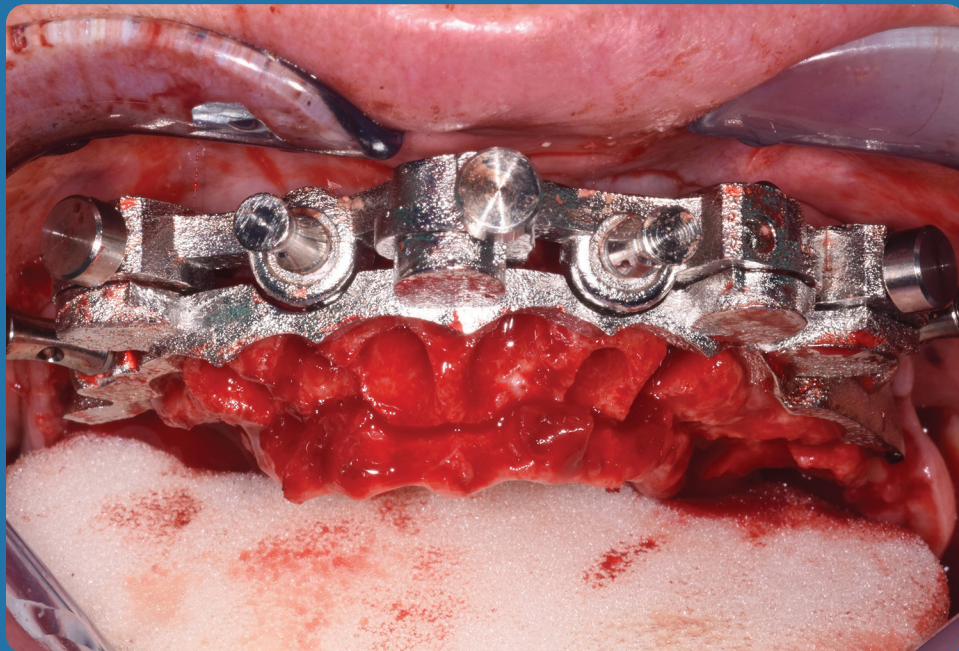
Bone Plane Reference Options: FP1 Scalloped Bone Plane



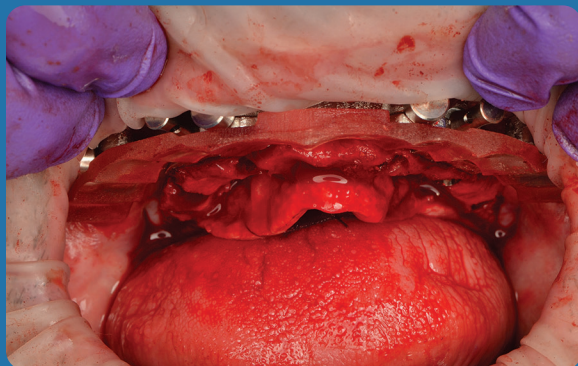
SEATING SCALLOPED BONE PLANE REFERENCE



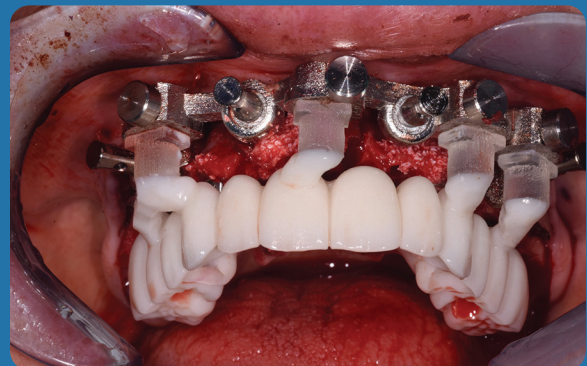
FP1 STYLE SCALLOPED BONE PLANE REFERENCE



SCALLOPING BONE REFERENCE GUIDE

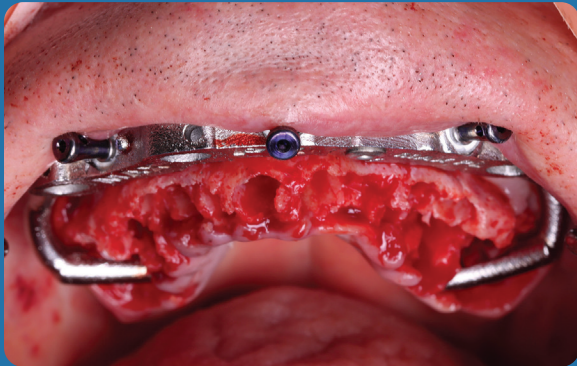


SCALLOPED BONE REDUCTION

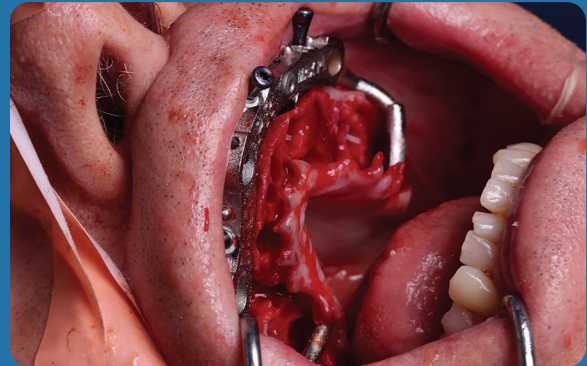


FP1 SCALLOPED CONVERSION

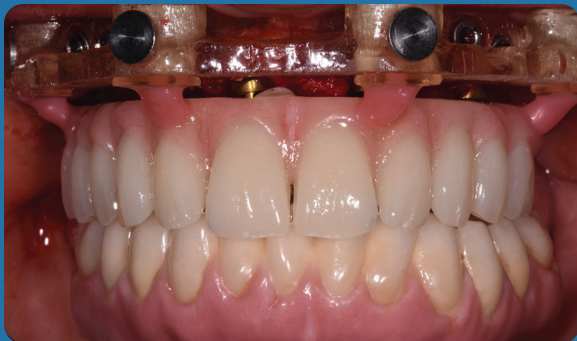
Bone Plane Reference Options: FP2 & 3 Flat Bone Plane



FP2 & 3 FLAT BONE PLANE REFERENCE



FLAT BONE PLANE



LATCHED CONVERSION



FP3 STYLE SURGICAL CONVERSION



SURGICAL CONVERSION



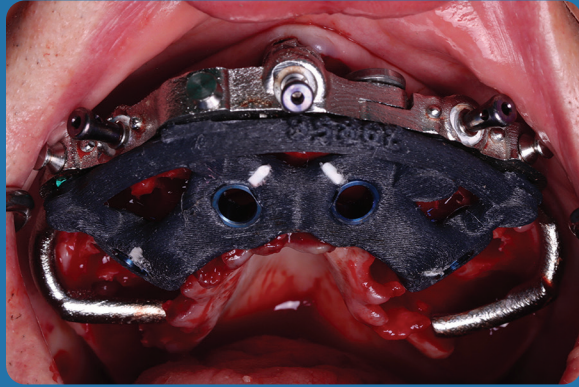
Dr. Jeffrey Ganeles



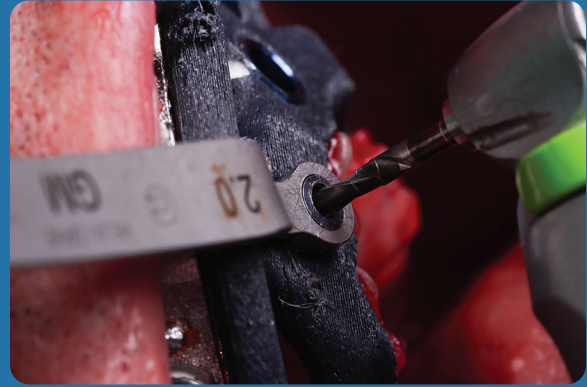


*"... I understand that patients are not coming to me to have implants, they are coming to me to replace missing TEETH."
- Scott Ganz*

Synergy Surgery Phase



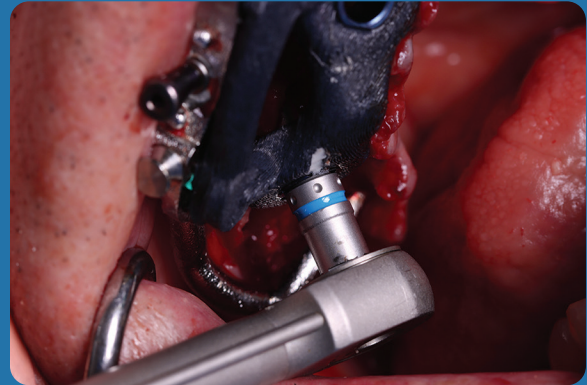
CARBON FIBER OSSEOTOMY GUIDE



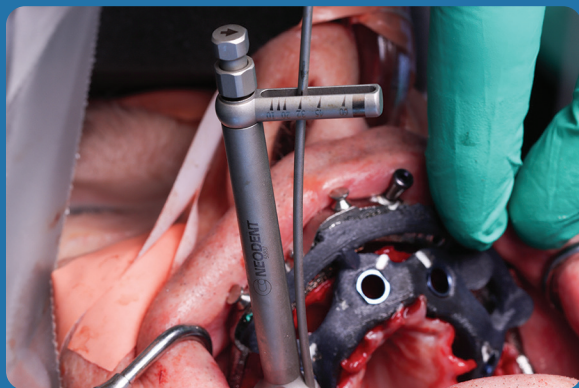
SYNERGY COMPATIBLE WITH ANY GUIDED IMPLANT SYSTEM



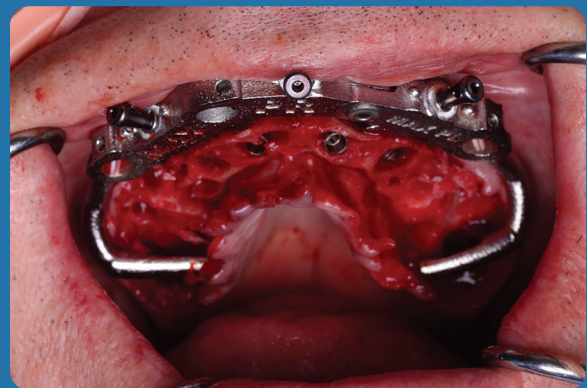
IMPLANT PLACED THROUGH GUIDE TO DEPTH AND DIRECTION



IMPLANT DELIVERED TO PLANNED ROTATION

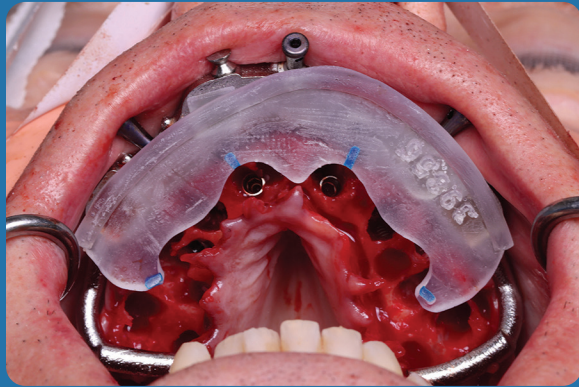


FINAL TORQUE

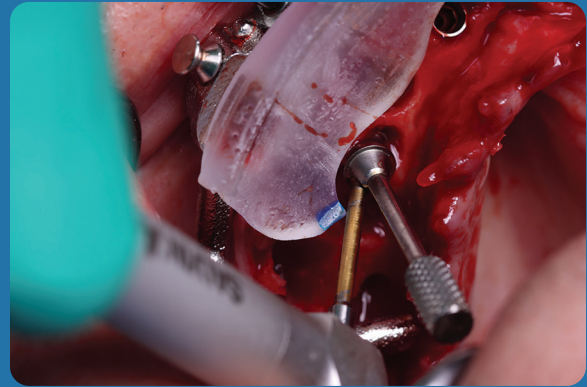


IMPLANTS PLACED

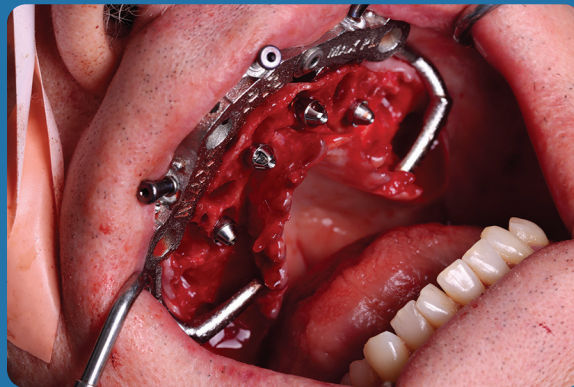
Synergy Abutment Placement



MUA ABUTMENT ALIGNER



LINE SHOWS ALIGNMENT WITH SCREW DRIVER SHAFT

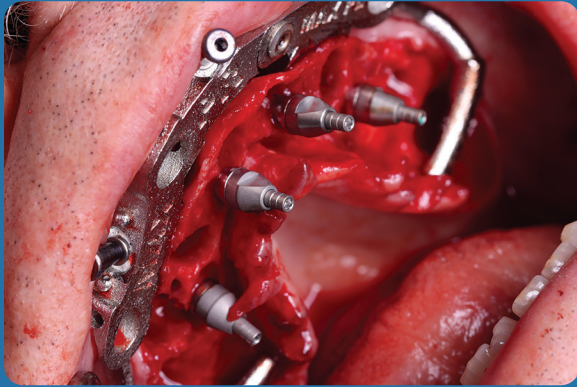


MUA ABUTMENTS IN PLANNED ROTATION



Dr. Mark Ludlow

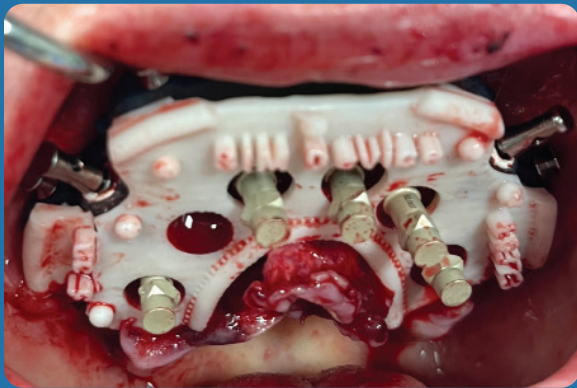
Synergy S.I.M. Data Acquisition Intra Oral Scanning



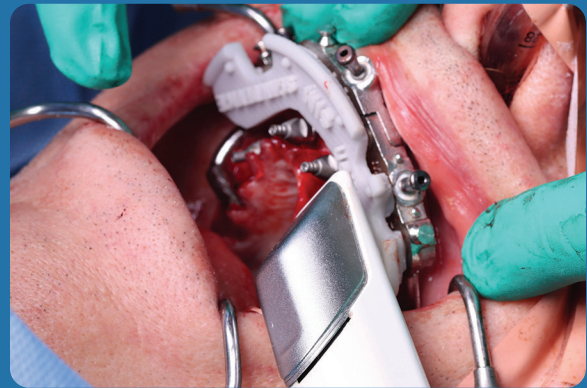
SEAT IO SCANNING POST FOR EITHER POWERBALL
OR DESS SYSTEM ONLY



LATCH SYNERGY S.I.M. DEVICE



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



DATA ACQUISITION WITH SCANNER OF CHOICE

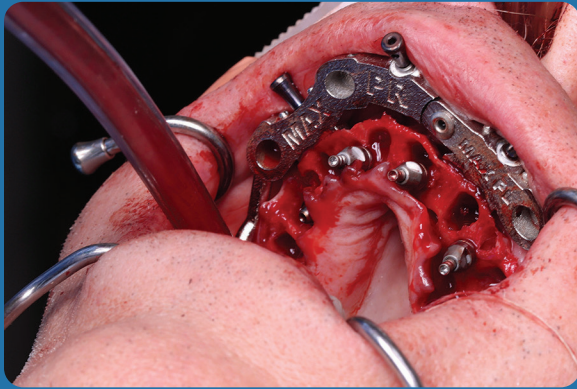


FILE READY TO TRANSFER TO ABSOLUTE
DENTAL LAB



POST RUBBER DAM TO BLOCK OUT BLOODY FIELD
IF REQUIRED

PMMA Scan



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



LATCH PMMA CONVERSION PROSTHESIS OVER
TO 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

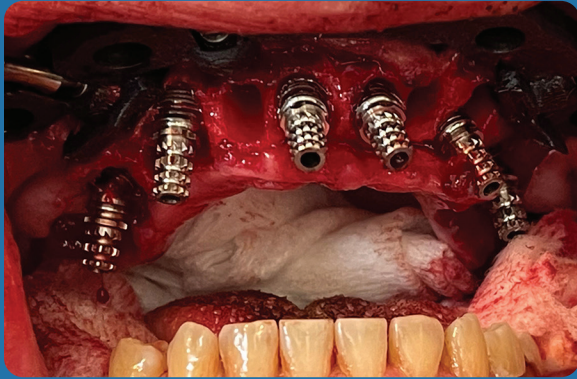


ZIRCONIA FINAL



Lars Bouma, Bio-Milling Technique

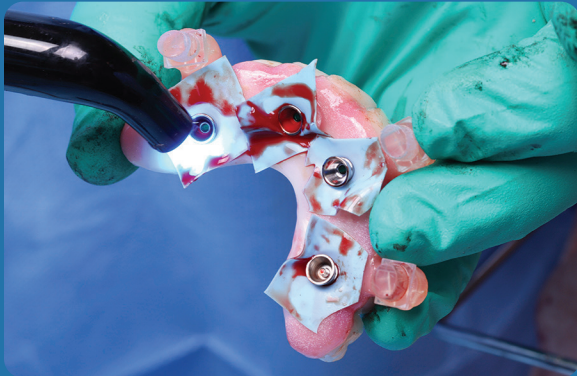
Synergy Conversion Process



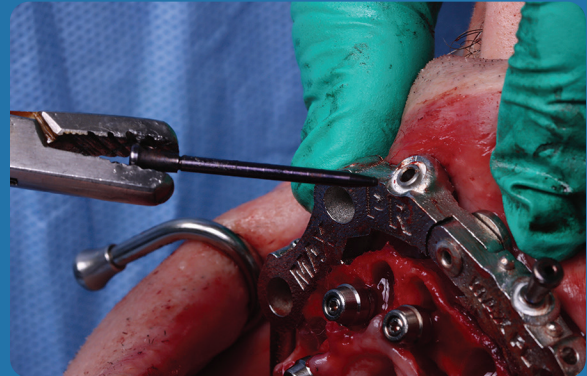
*UNLATCH AND REMOVE PMMA - PLACE
TEMPORARY COMPONENTS AS PER THE
CONVERSION SEQUENCE*



LUTE COMPONENTS INSIDE THE PMMA



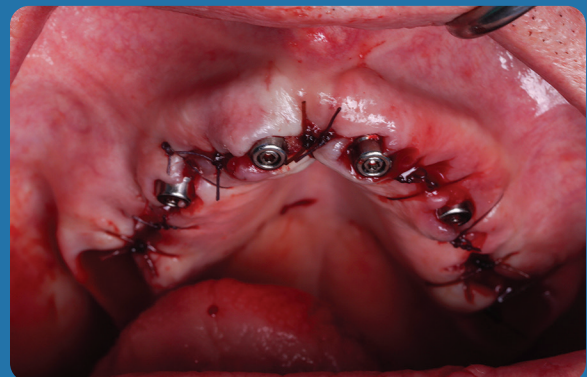
UNLATCH THE PMMA AND FILL IN THE INTAGLIO



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.

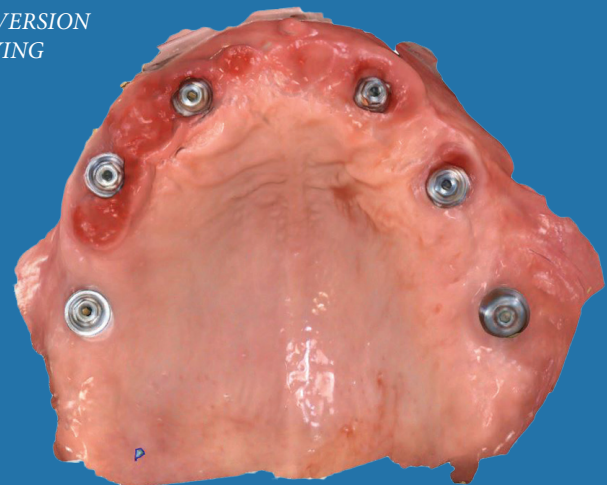
- Scan the surgically converted hybrid in the mouth
- Scan the opposing and register the bite
- Remove the hybrid and scan the heads (tops) of the MUA abutments and tissue on the ridge (vestibule not necessary). Torque test the implants and replace the hybrid
- Gather patient pictures. Full face with 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*

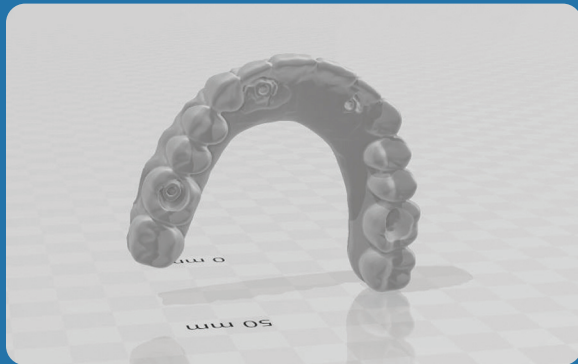
Prototype & Final Hybrid Fabrication

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.

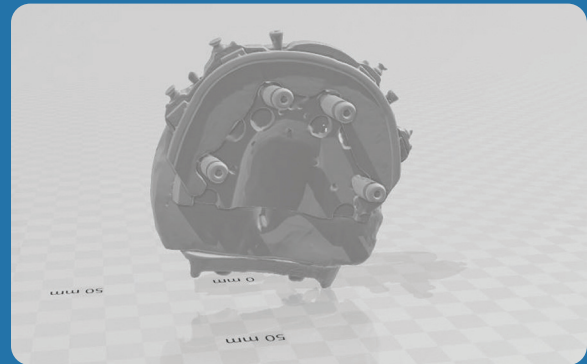
This PMMA prototype will be delivered to the patient at the first restorative appointment.

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



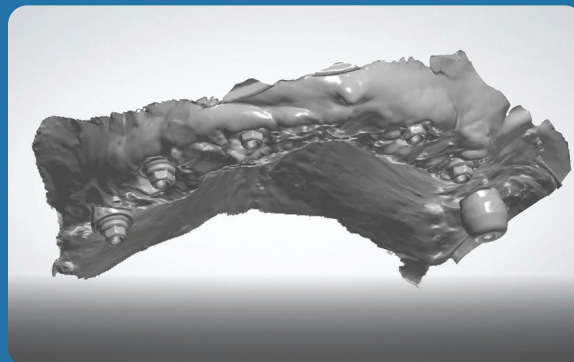
IMPLANT POSITION FILE



MUA FILE



PMMA SCAN FILE



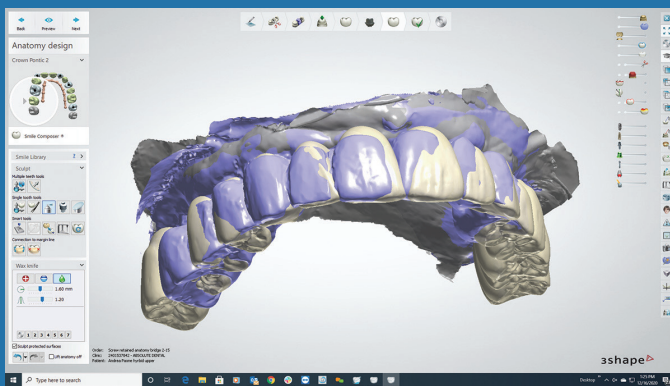
HEALED TISSUE SCAN

Diagnostic Design & Review

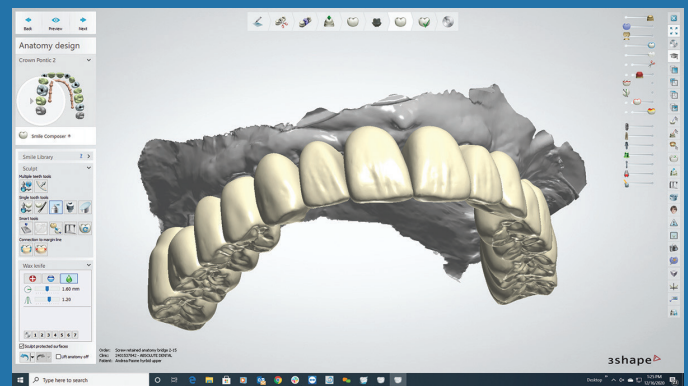
The Digital Diagnostics team now uses the surgical conversion STL data that was captured at surgery stage as the foundation to design the PMMA prototype. This updated prototype design incorporates the bio-copied bite as well as any additional adjustments requested by the restorative team. Once a proposed 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.

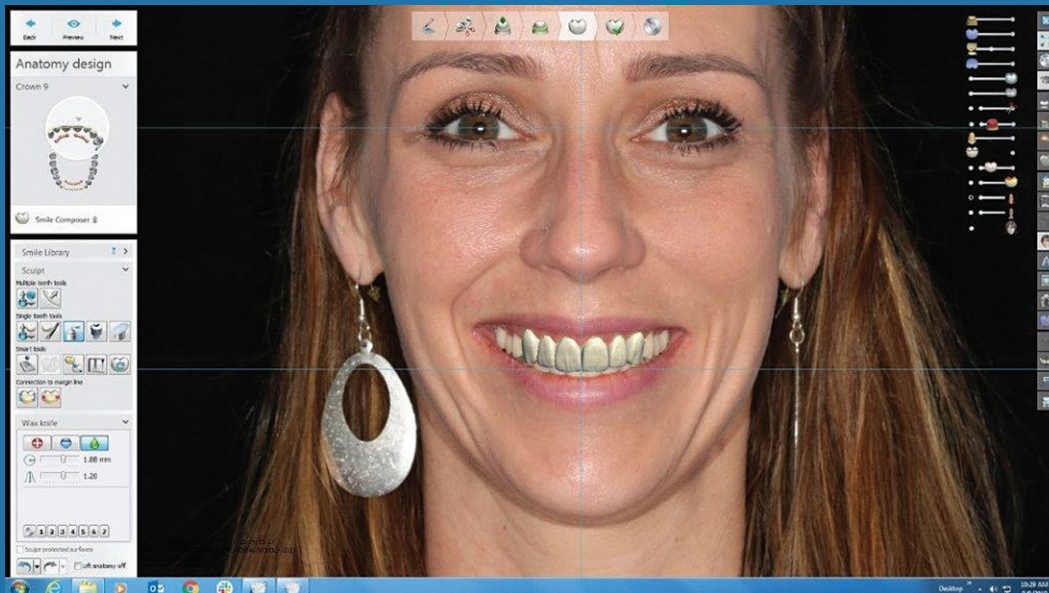
This PMMA device can also be delivered to the patient to wear as an interim prosthesis. This option will allow the patient additional time for esthetic evaluation and will give the restorative team time to establish a more accurate bite if needed.



DIAGNOSTIC PROPOSAL MERGES WITH TRANSITIONAL PMMA



FINAL DESIGN READY FOR PROTOTYPE TRY-IN



DIGITAL CASE DESIGN FOR REMOTE CLINICIAN'S REVIEW AND APPROVAL

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

Signature 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



Artistry by Jack Marrano



DENBRIGHT™

DENTAL LABS

The Denbright Dental Lab Group is a full solutions, multi-site US-based dental laboratory company combining some of the most trusted names in the dental lab industry. These labs boast an impressive 300+ years of business experience in the restorative arena. Their combined real-world experience is what truly defines the members of the Denbright group.

This group provides a wide range of high-quality dental prosthetics from single/multi-unit crowns/bridges, world-class veneers to more complex full mouth restorations. Furthermore, the Denbright group consists of highly qualified implant technicians whose combined experience brings many years of implant restorative expertise to the group. Many of these Denbright technicians are actively involved with major implant companies and stay on the cutting edge of today's restorative implant solutions. A number of these technicians also serve as Key Opinion Leaders, researchers and CE accredited speakers to many implant and material companies.

Denbright's surgical division, The NavaGation Precision Guidance team, was established in 2012 and today continues to support world-class surgeons from the US and Europe. This team works closely with national implant companies and their surgical customers to continue innovating new and improved surgical solutions with guided restorative workflows.

With more than 20,000 successful cases delivered, this team is known throughout the industry for their expertise and the support they bring to their surgeons through simple to full-arch latched guides and guided workflow prosthetic solutions.

The fixed and implant teams are supported by a very talented group of specialized removable technicians. These teams focus on digital removable processes and fabricate high-end removable dental prosthetics utilizing the best additive and reductive fabrication techniques available.

Furthermore, the Denbright team members support their customers by offering a full range of restorative solutions and play an integral part by helping these customers identify, understand, and adopt these new world workflows and digital solutions.

The Denbright customer base consists of a loyal and diversified group of discerning clinicians that includes private practices, DSOs, governmental institutions, and multiple universities.

By sharing resources, leveraging each lab's combined expertise, and driving technology adoption, Denbright offers its customers a pathway for accelerated growth through a broader and more diverse set of dental solutions.

Denbright's founding labs include: Frontier Dental, NuArt Dental, Burbank Dental, Jason J. Kim Dental Aesthetics, D&S Dental, Friendship Dental, Absolute Dental Services and Navagation Precision Guidance.





*Artistry by
Chris Barwacz and
Jack Marrano*

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