DIGITAL DENTAL
FUSION

365
DENTAL LAB

ZIRPEEK®

PIC dental
PRECISE IMPLANTS CAPTURE

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A Brief Introduction

Daniel Cho

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Daniel has over 40 years of experience in the dental industry. He has extensive knowledge and expertise in dental material science research and development and dental laboratory manufacturing procedures and establishing leading dental laboratories in South Korea and the U.S. He is also an expert ceramist and talented artist. his background includes:

- Development of Sinspar Porcelain Jenertic/Pentron Inc, Connecticut, USA (4 years)
- Development of Tescera Composite Material Bisco Inc, Chicago, USA (3 years)
- Development of VPS Impression Materials Bisco Inc, Chicago, USA (3 years)
- Development of 3D printer for dental model The Dental Solution, Inc. Seoul, Korea
- Development of Zirconia material to create ZIMO The Dental Solution, Inc. Seoul, Korea
- Development of dental milling machine The Dental Solution, Inc. Seoul, Korea

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Lewis Sharp CDT

Lewis Sharp CDT has over 42 years of experience in dental technology and has owned and operated his own dental lab for over 33 years. He has received advanced training in many areas including:

- Level 1 Orognathic Bioesthetics
- State-of-the-Art Esthetics — Seattle Institute for Advanced Dental Education
- Occlusion in Clinical Practice — Seattle Institute for Advanced Dental Education
- Practice of Excellence — Seattle Institute for Advanced Dental Education
- Comprehensive Approach to Anterior Aesthetics and Function — Matt Roberts and Team Aesthetic Seminars

Additional training from industry leaders including:

- David Pellin
- Dr. Robert Winter
- Bernhard Egger
- Vincent Devaud
- Dr. Kenneth Malament
- Russel DeVreugd
- Uwe Brosamle
- Dr. Wayne Campagni
- Don Cornell
- Aki Yoshida

He has also published several articles including:

- Using Technology to Restore Missing Dentition and Restore a Smile (Inside Dental Technology, Sept. 2012)
- Fabrication of Customized In-House Abutments with the Sirona® inLab® System (Journal of Dental Technology, April 2012)
- How to Create Vitality in Zirconia Restorations (LMT Magazine, November/December 2011)
- Utilizing a Team Approach and All-Ceramic Materials for Maximum Esthetics (Journal of Dental Technology, January 2007

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FUSION dental academy

Where Do We Go From Here?

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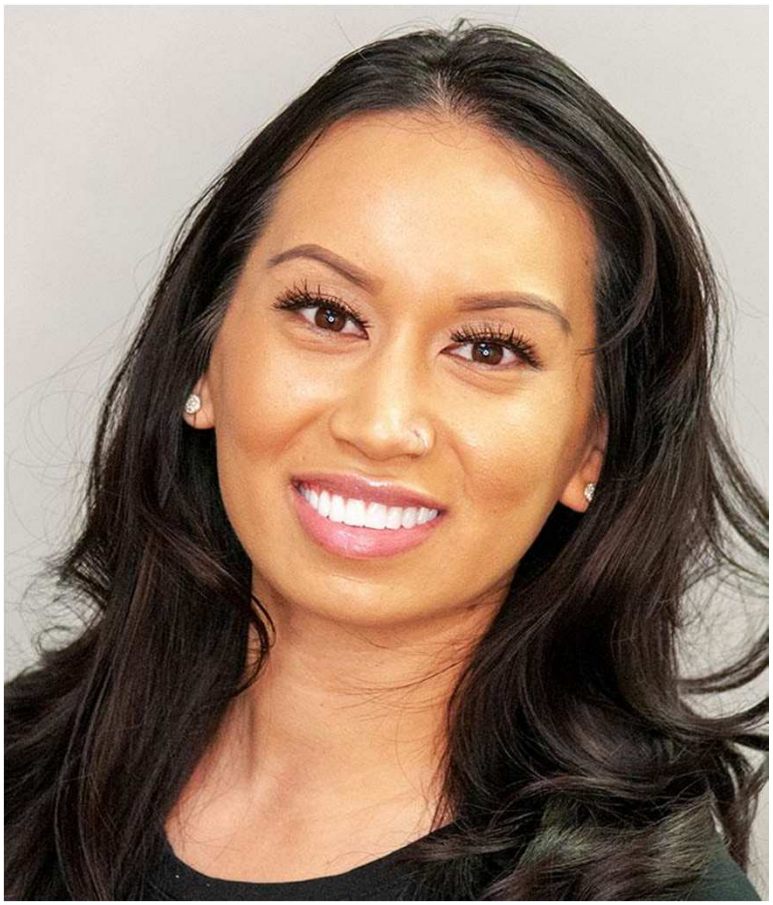

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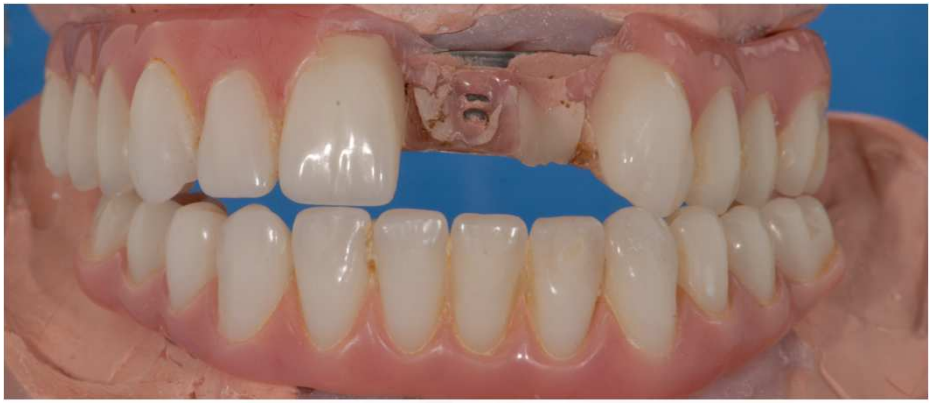
What Are The Restorative Options?

Hybrid Denture Over Titanium Bar



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Porcelain Fused to Titanium/Metal Framework

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Full Zirconia

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What is ZIRPEEK®

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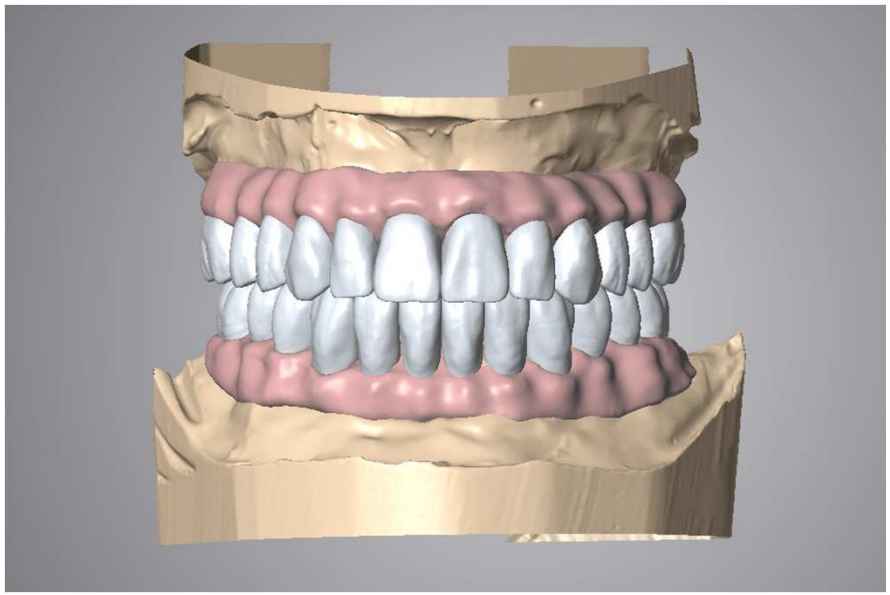

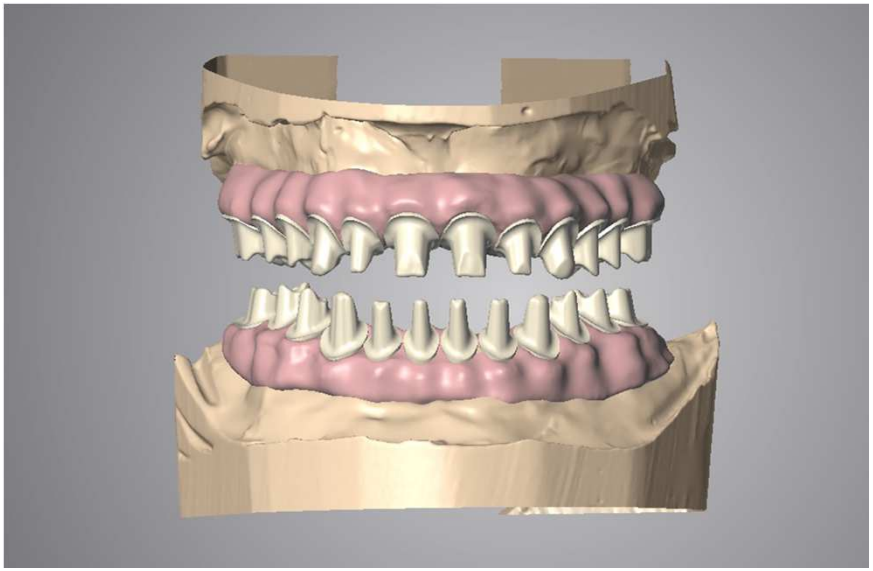

ZIRPEEK® is Digital Dental Fusion's trademarked full-arch solution

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Components

- Zirconia (crowns)
- PEEK (substructure)
- Resin composites (pink tissue)
- Titanium (implant interfaces)

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Zirconia Crowns

Modern Zirconia's are not what they used to be
Transformation toughening is a key feature that enhances the durability of Tetragonal Zirconia Polycrystal
Generation 1: 3Y TZP zirconias are strong but not very esthetic
~1,200+ MPa, 40% translucency, exhibits transformation toughening
Generation 2: 5Y TZP zirconias are esthetic but not very strong
~750 MPa, 49% translucency, does NOT exhibit transformation toughening
Generation 3: 4Y TZP zirconias are the perfect balance of esthetics and strength
~1,000 MPa, 45% translucency, exhibits transformation toughening

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Zirconia Etching 1000 x magnification

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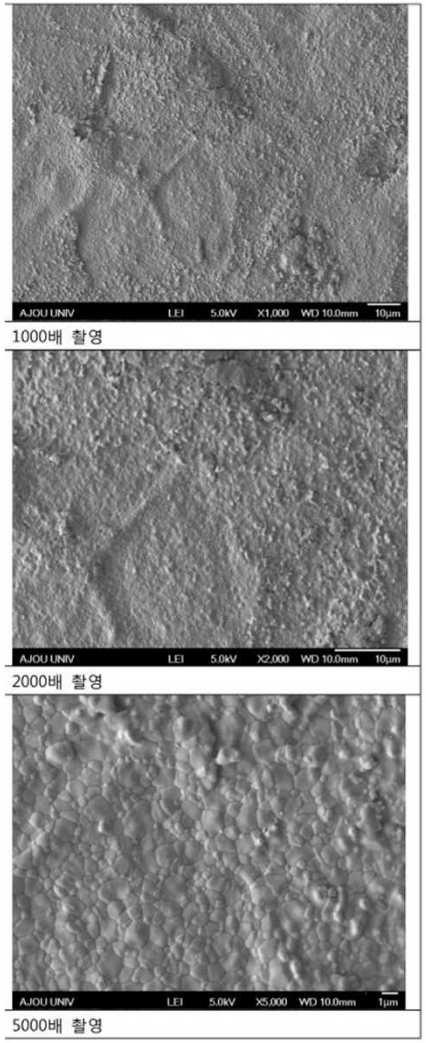
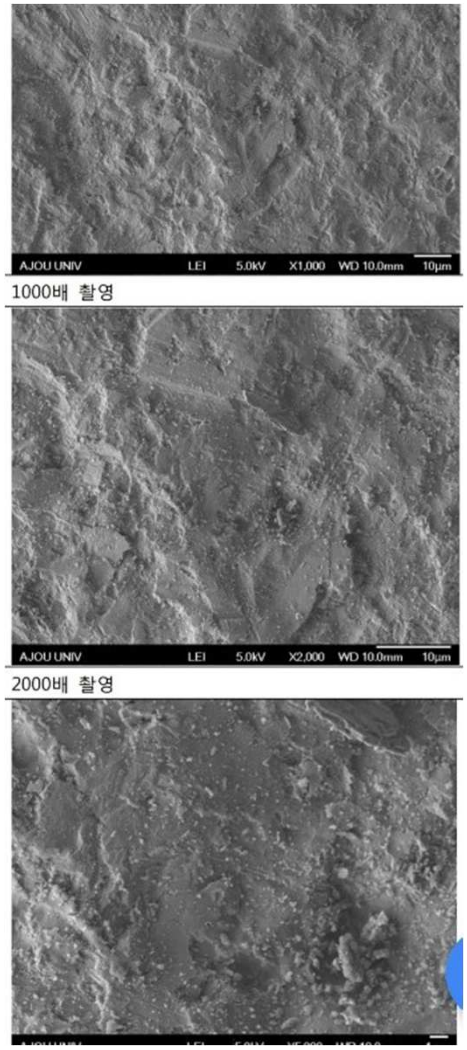
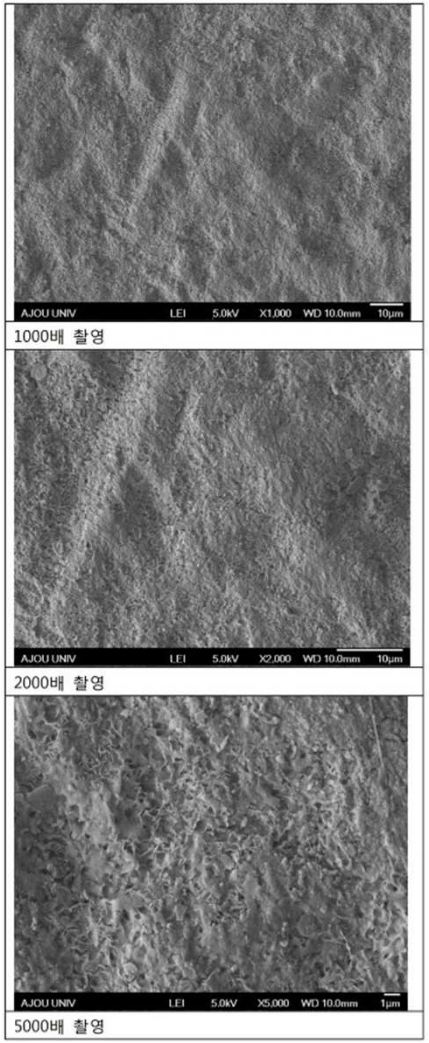


Untouched



50 micron Aluminum Oxide



DDF Treatment

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PEEK

POLYETHER ETHER KETONE

PEEK is an HPP (High Performance Polymer) with ideal properties for dental restorations

- Lightweight
- Elastic
- Shock absorbant
- Tase neutral
- Radiolucent
- Extremely low water absorption
- Non-allergenic
- Highly biocompatible
- Easily milled

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COMPOSITE

TWiNY

Composite resin is a complex of monomers and filler. Appropriately compounding and strongly intertwining these different materials has a major effect on their physical properties and on the product's performance. The name "TWiNY" is a combination of "TWIN" and "TWINE", to express the idea of "the best combination of different materials".

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Titanium (Implant Interface)

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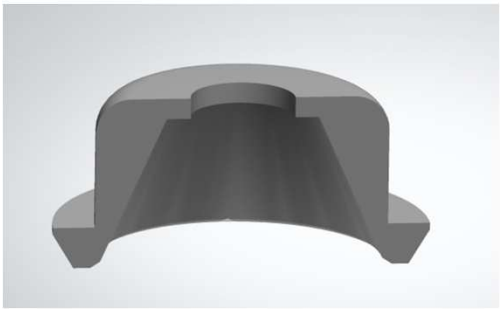

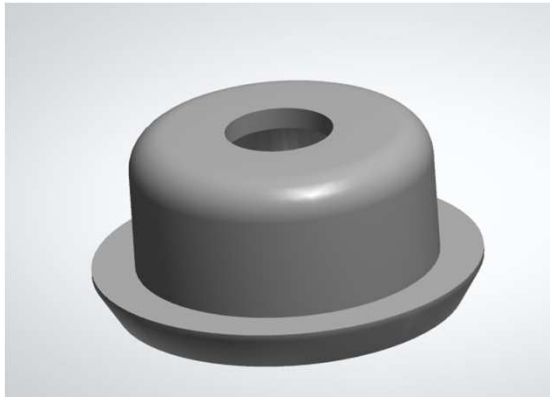

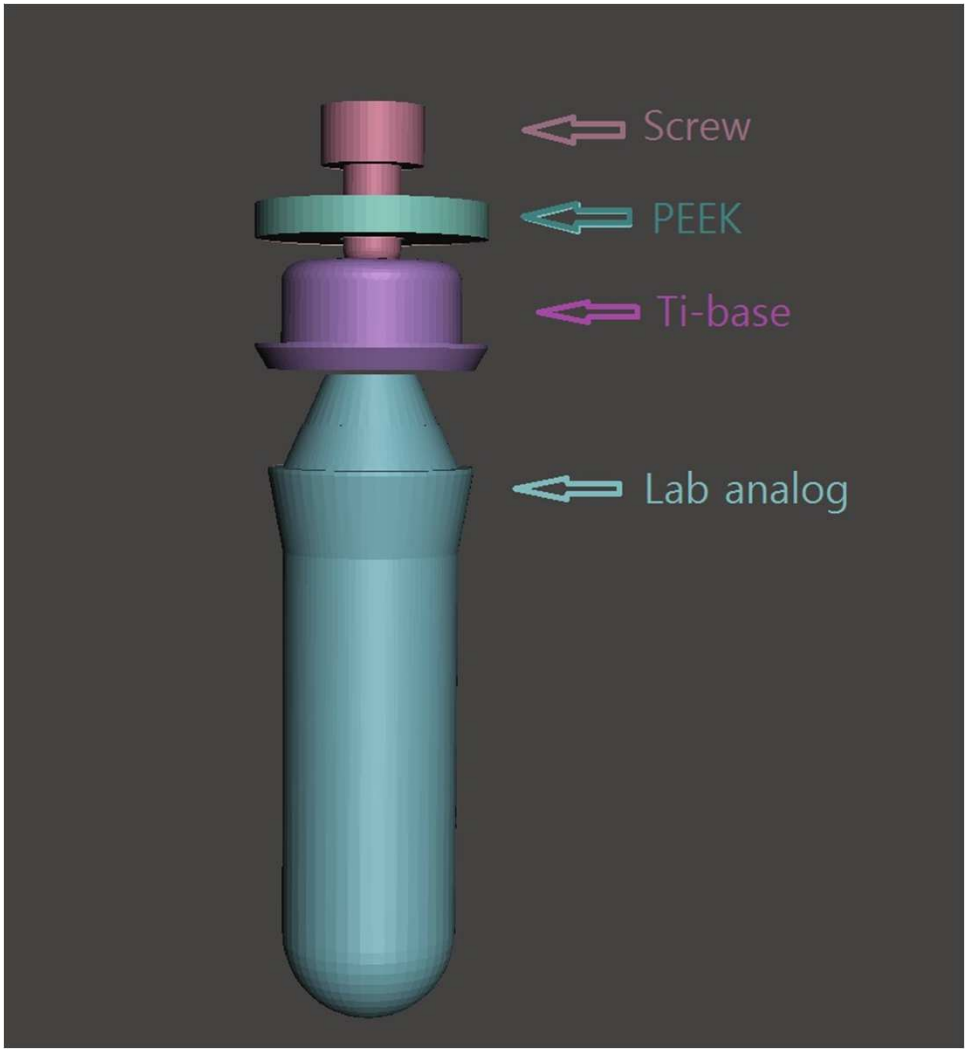

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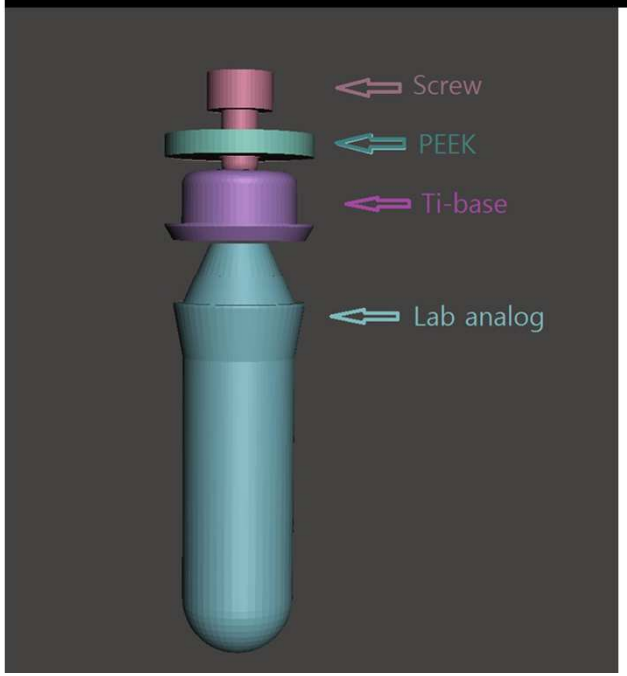

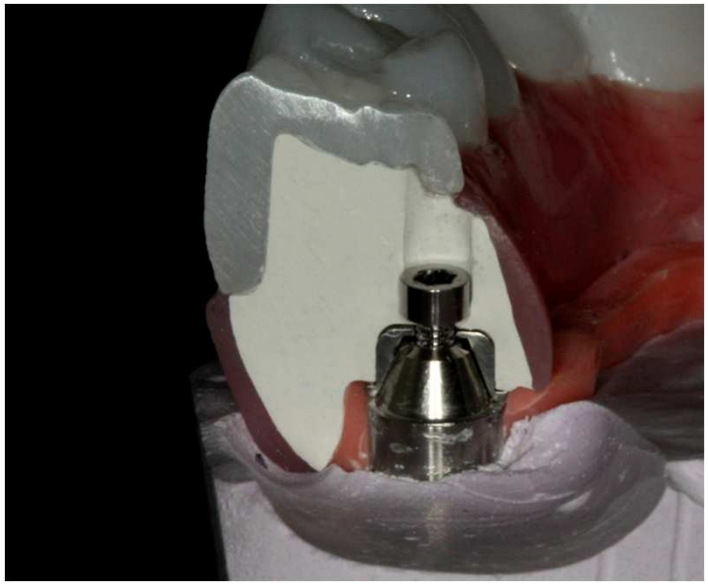

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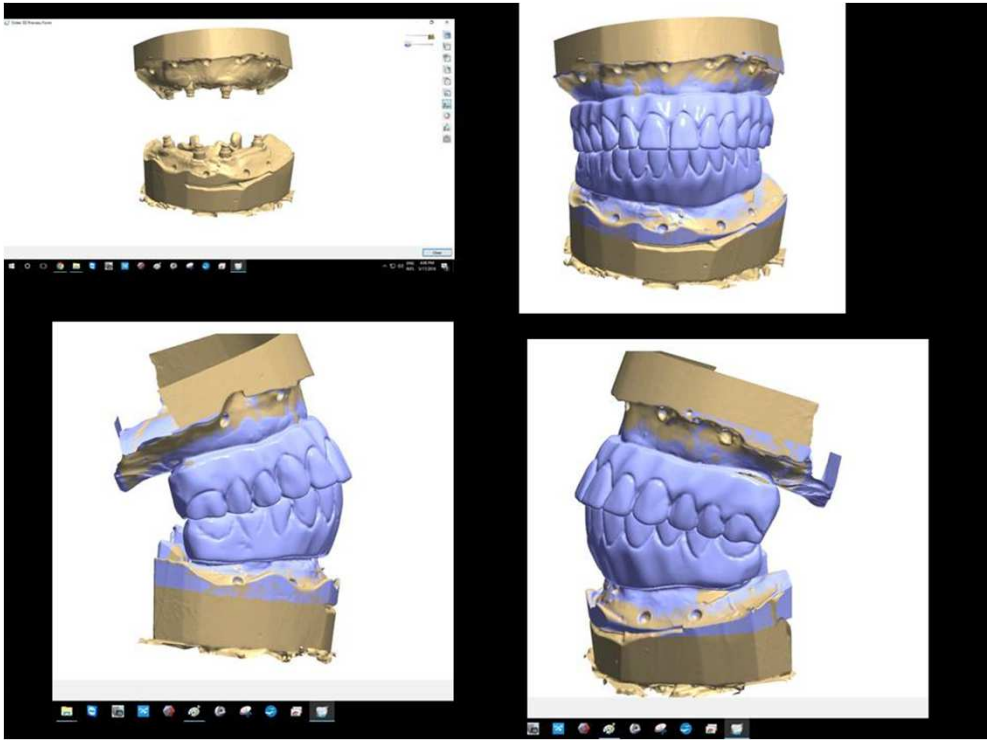
The Process



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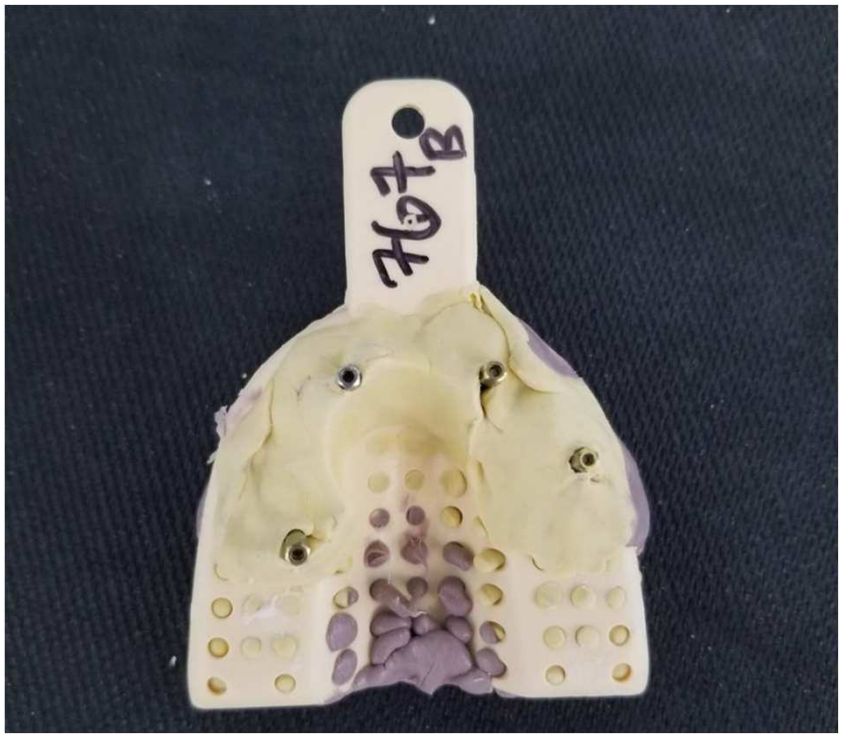
ANALOG IMPRESSION PROCEDURE



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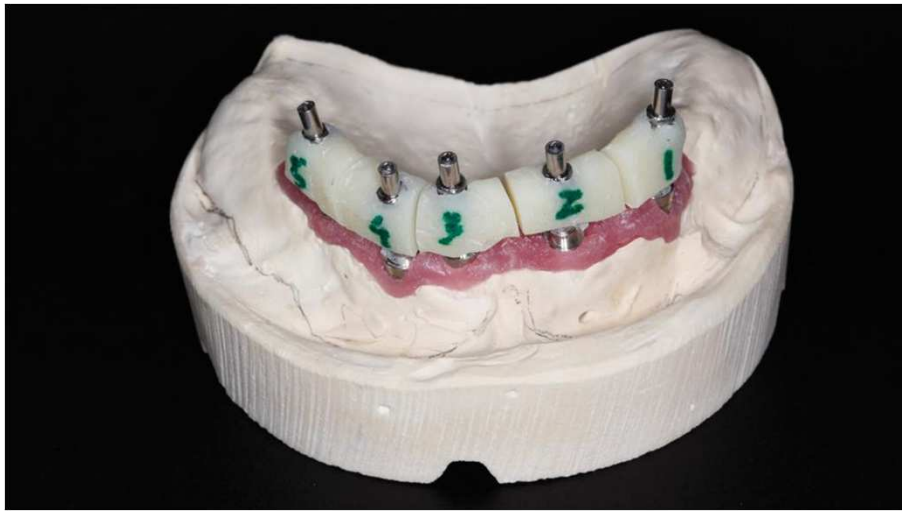
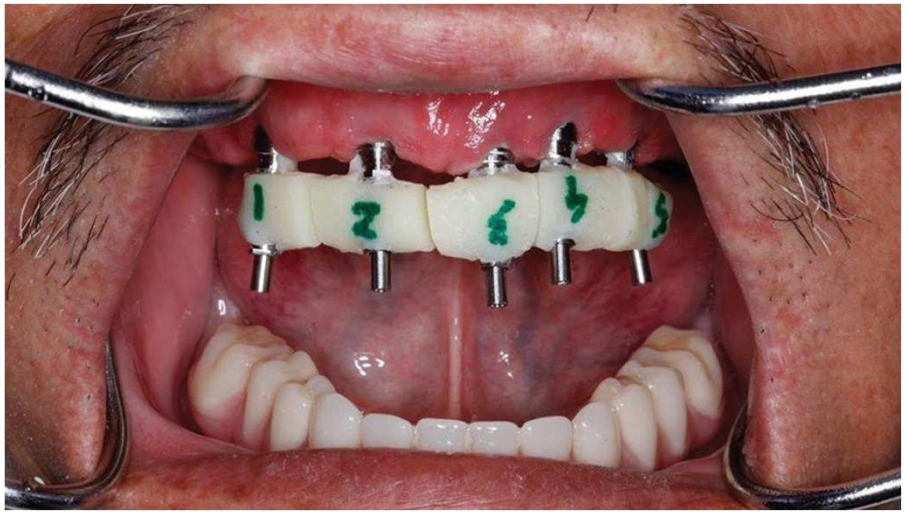
Implant Verification





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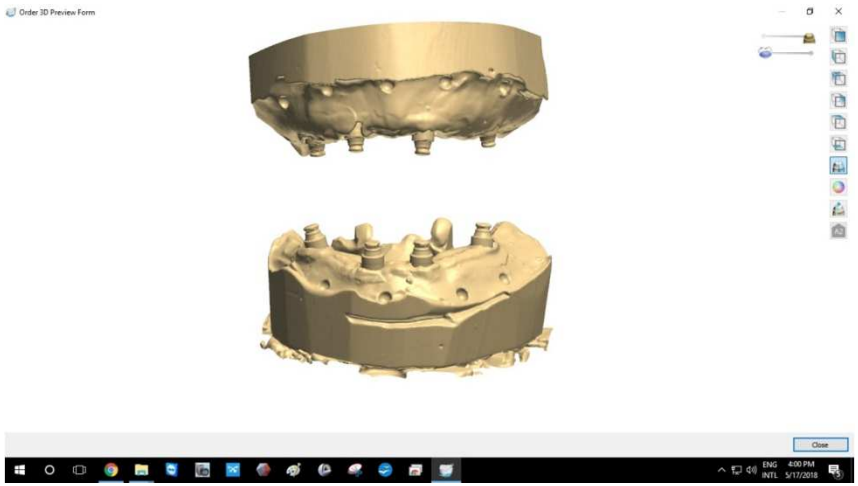
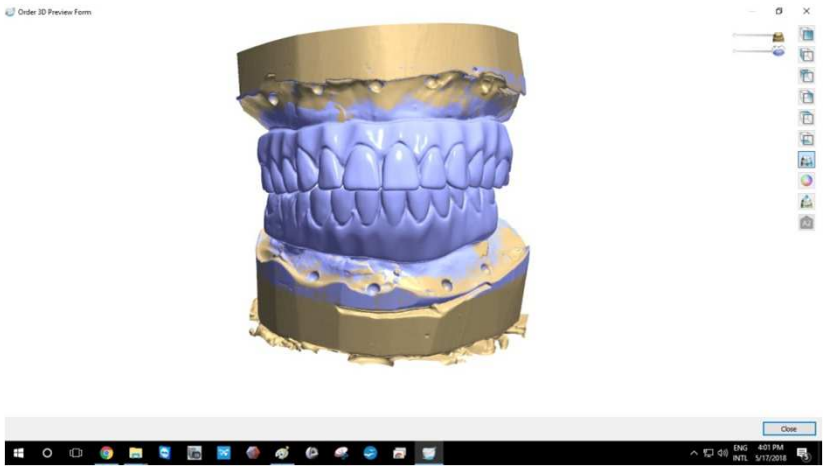
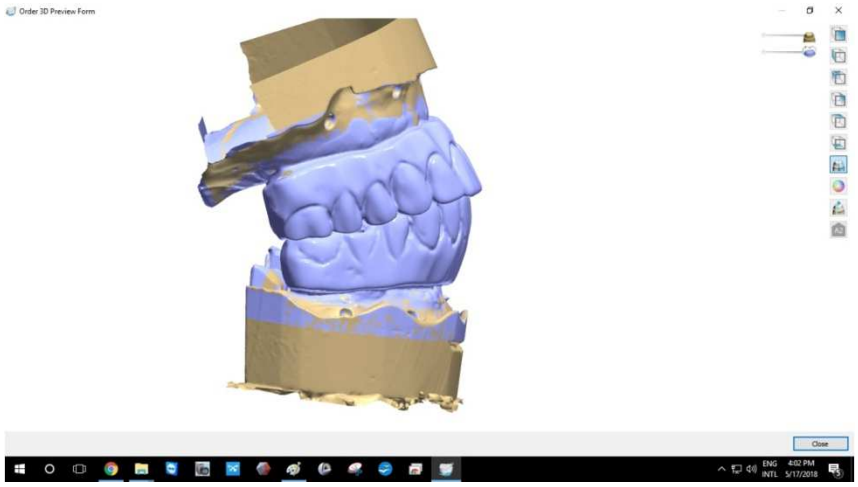
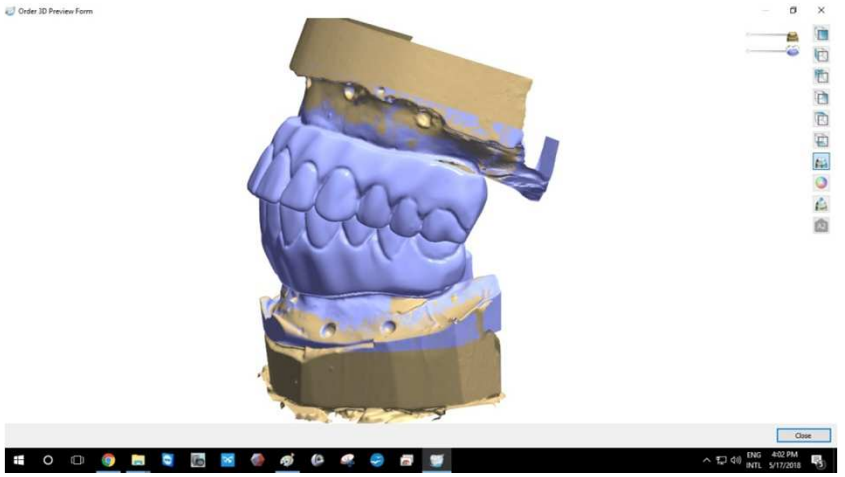
Case Design and Processing









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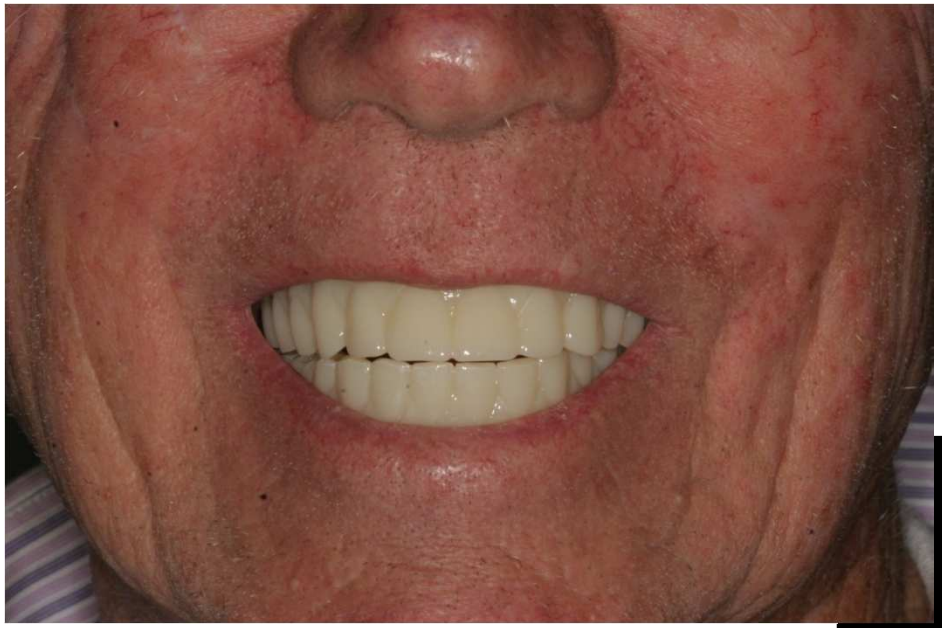

Take Photos

Take Photos

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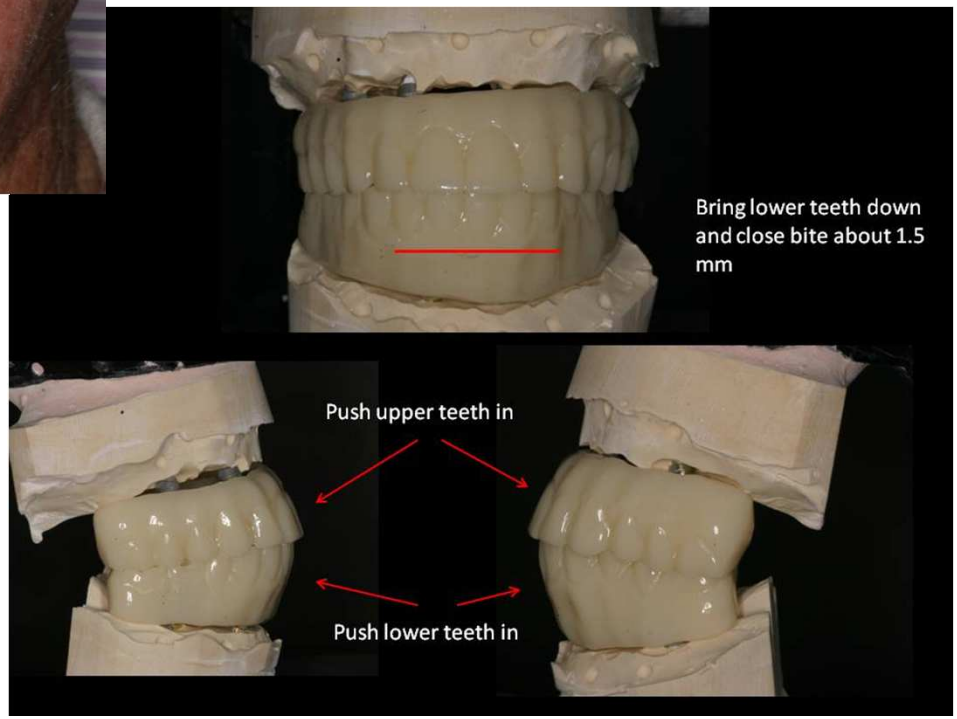

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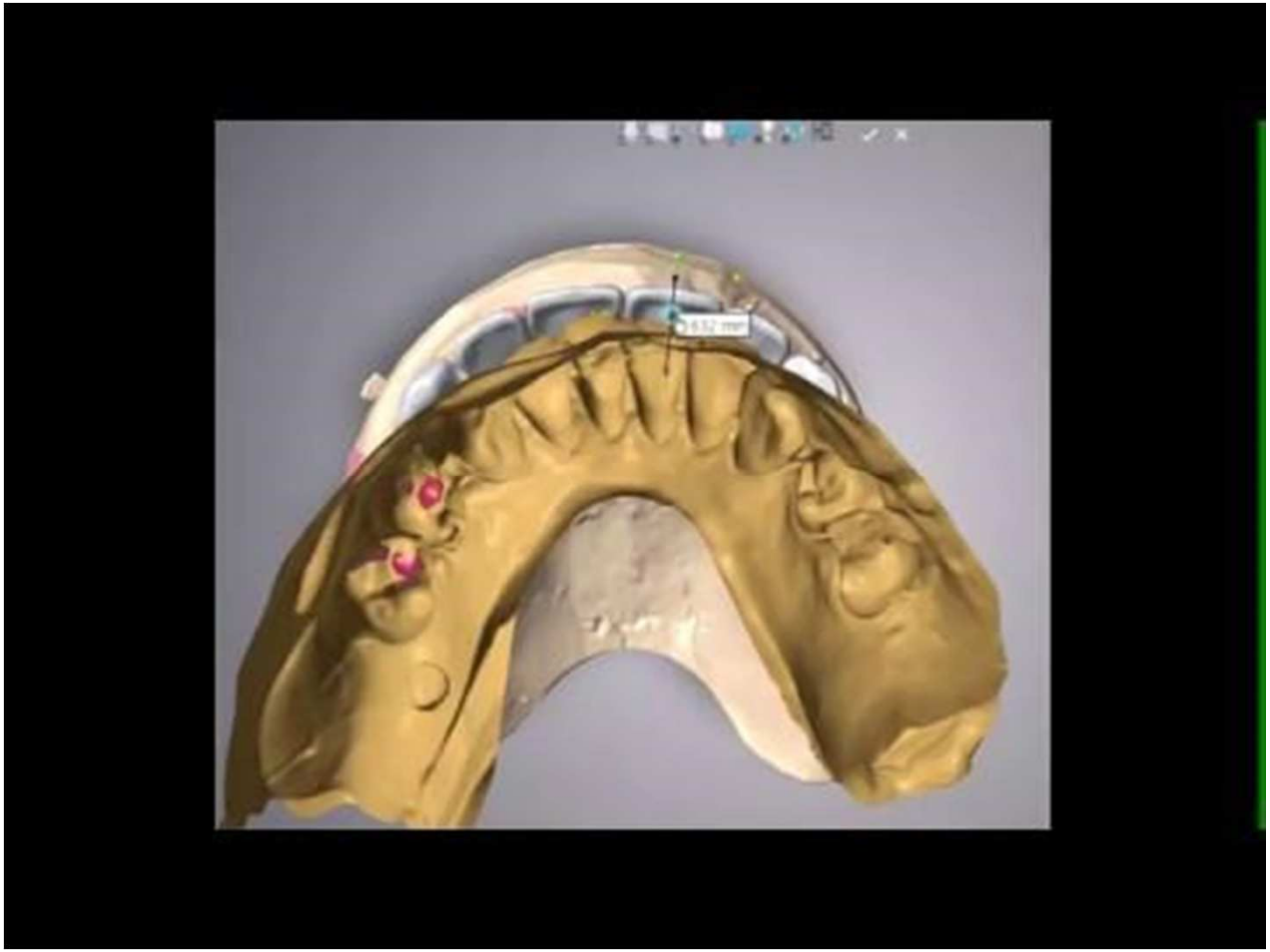

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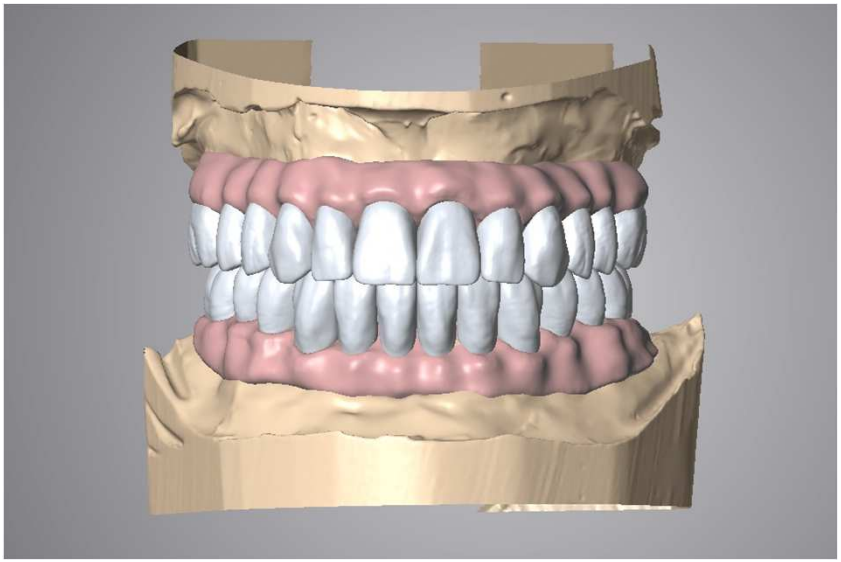

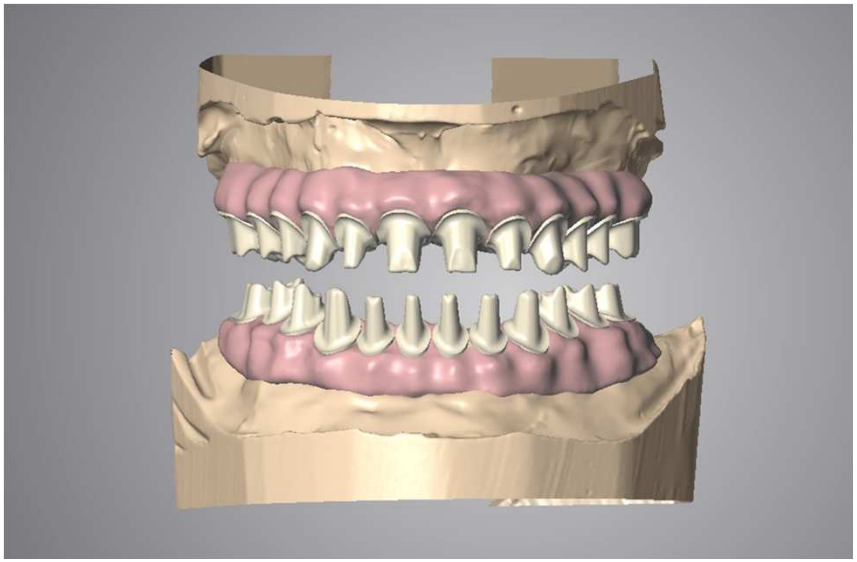

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Final Prosthesis

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Fully Digital Workflow

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PiC dental
PRECISE IMPLANTS CAPTURE

What Is It?

- The PiC Camera captures exact implant positions and angulations using photogrammetry
- Implants are captured as vectors with respect to each other, but without regard for the soft tissue
- The capture process takes less than 5 minutes
- PiC transfers are available for all major implant platforms including multi-unit abutments
- Patient immobilization is not required and small movements will not impact the accuracy of the scan whatsoever
- PiC file outputs in open STL format for easy integration

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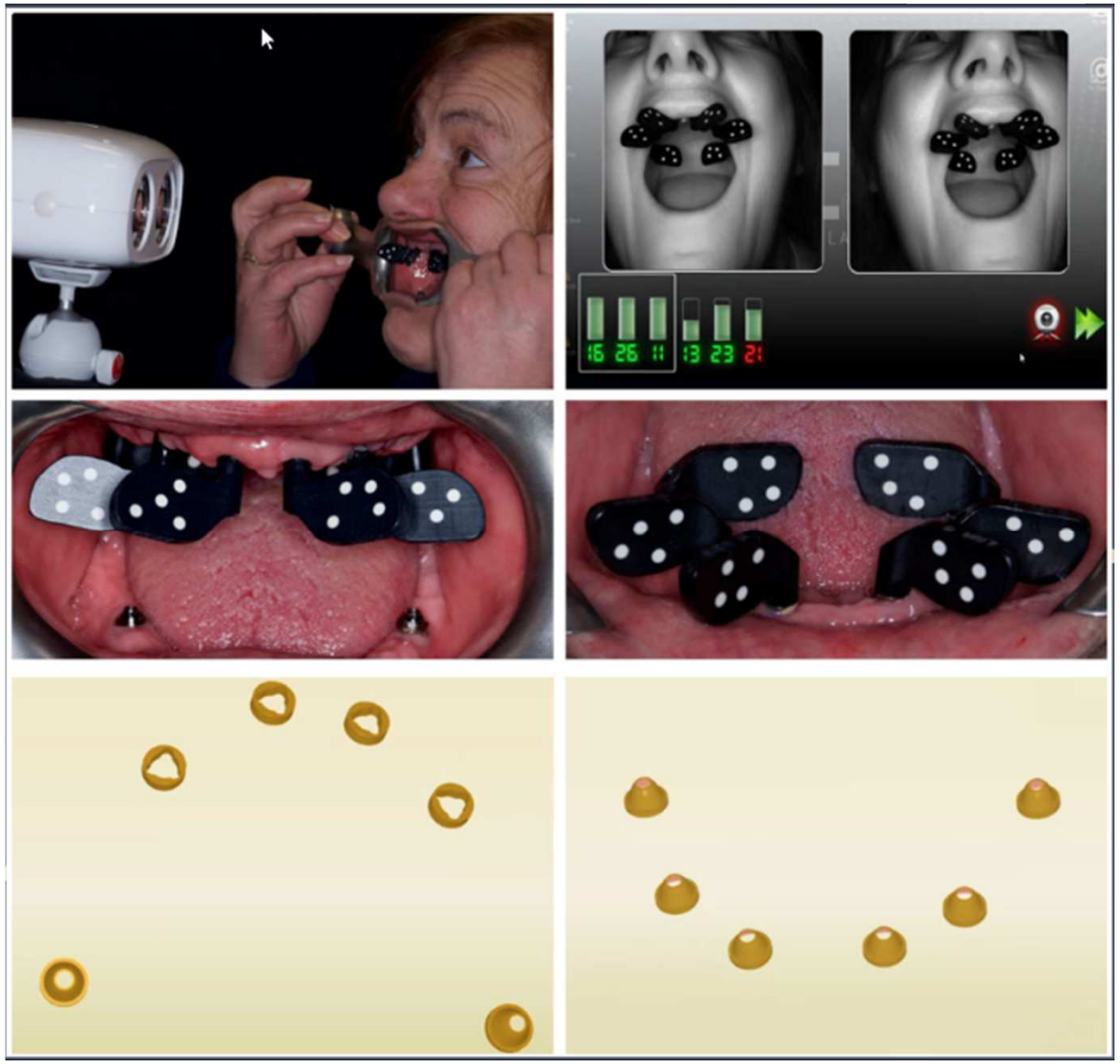
Step 1:
Implant Capture



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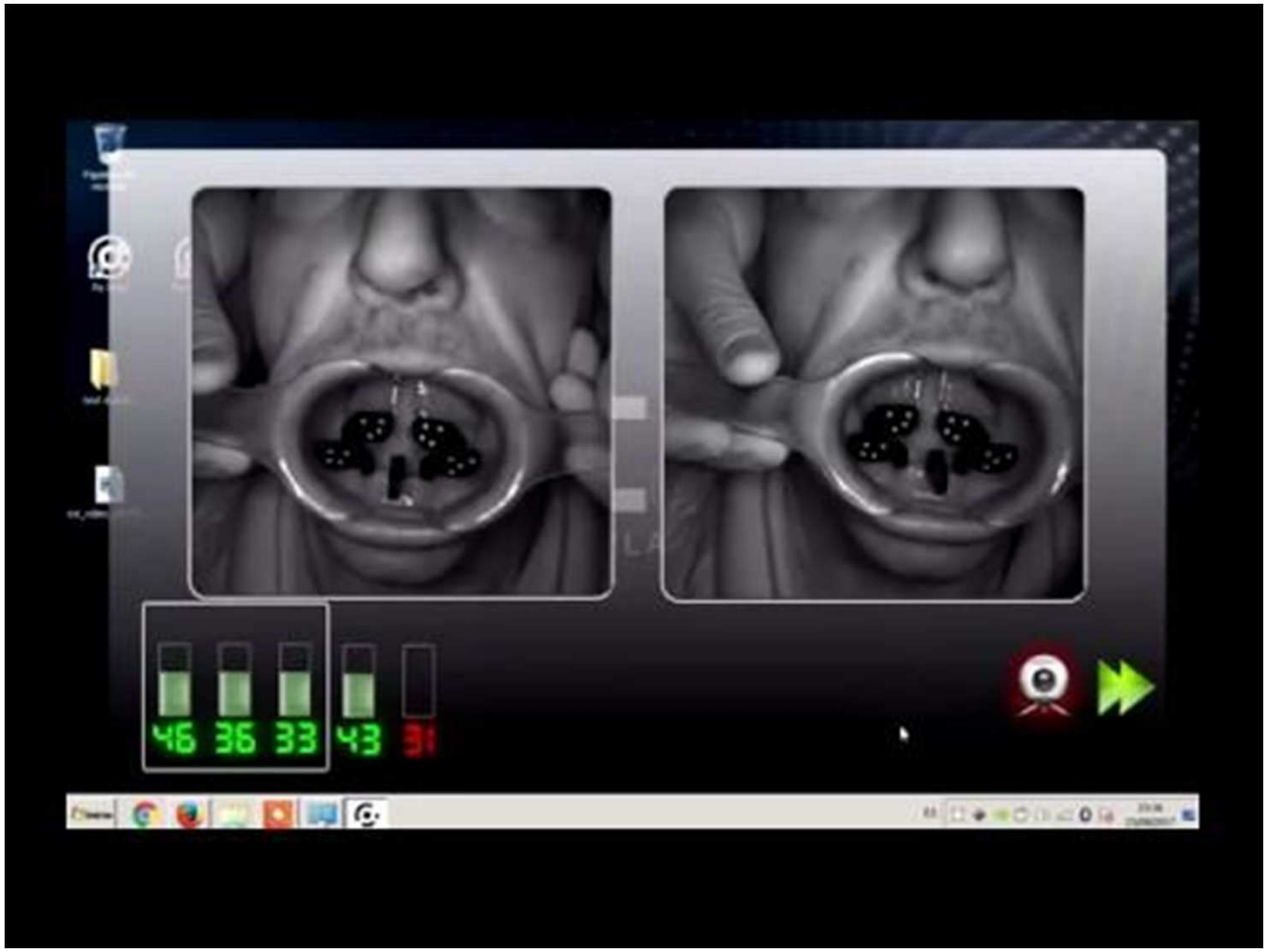

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Step Two: Soft Tissue Capture

Soft tissue can be captured with any IOS (Medit, Trios, iTero, etc.)

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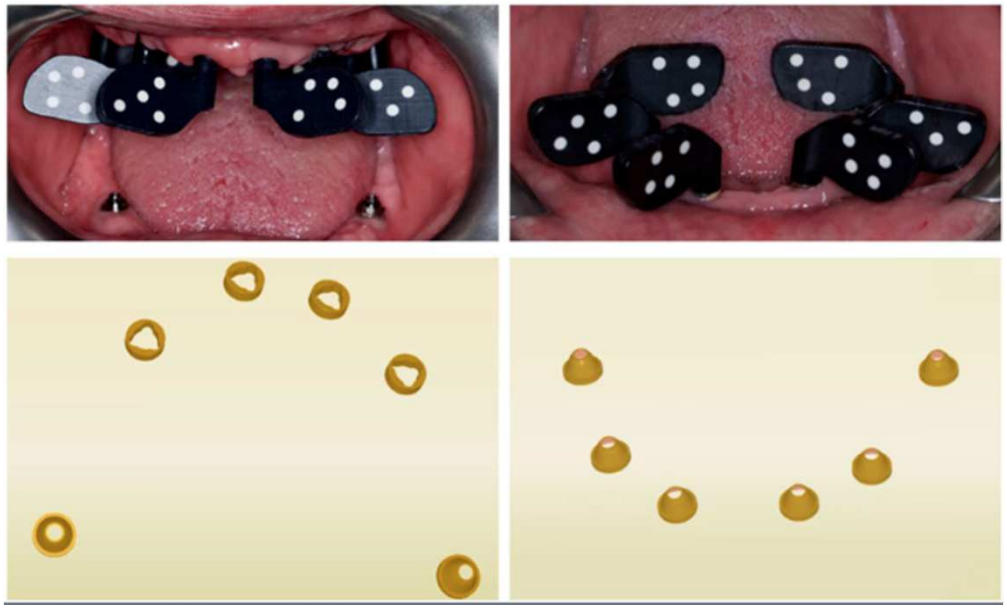
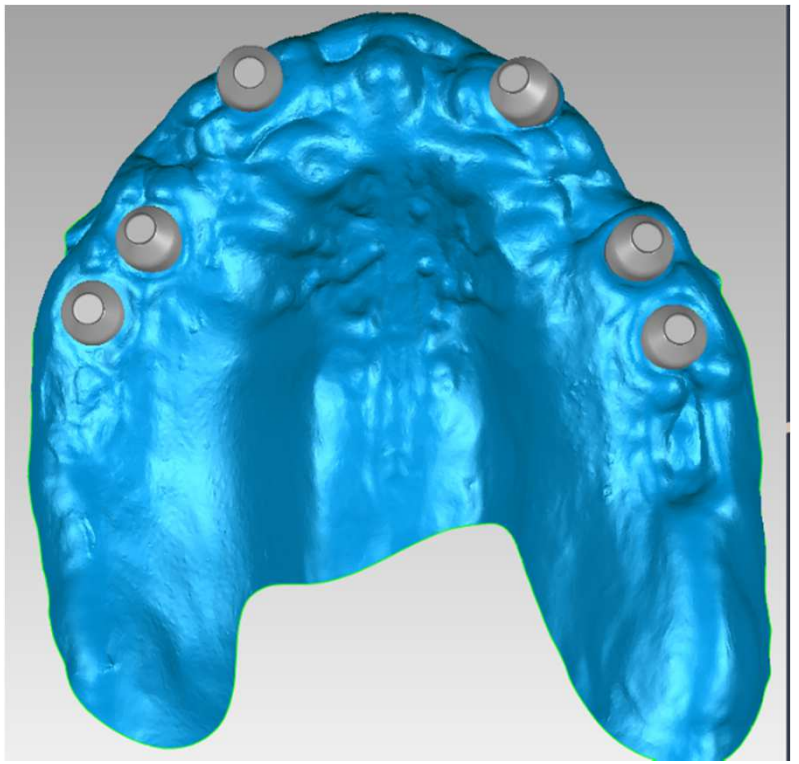
Step Three: Data Integration





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Master Model

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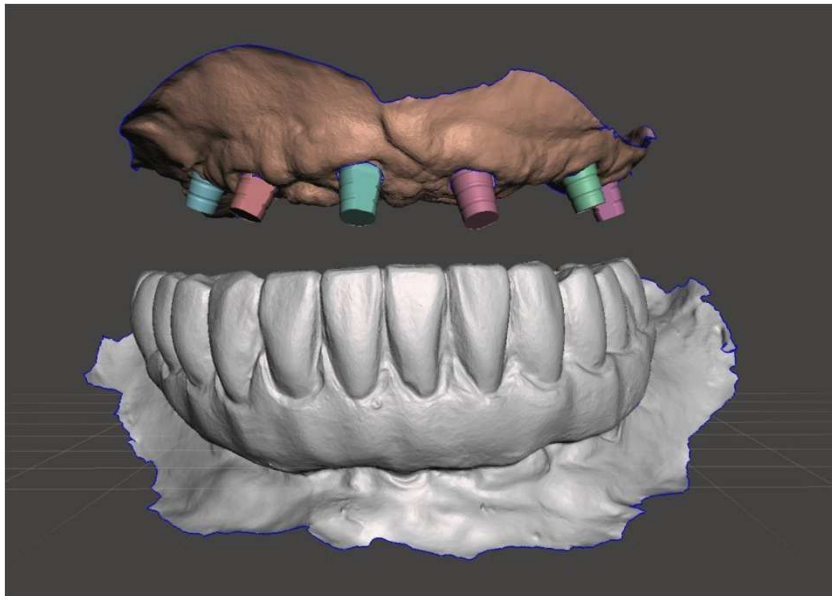

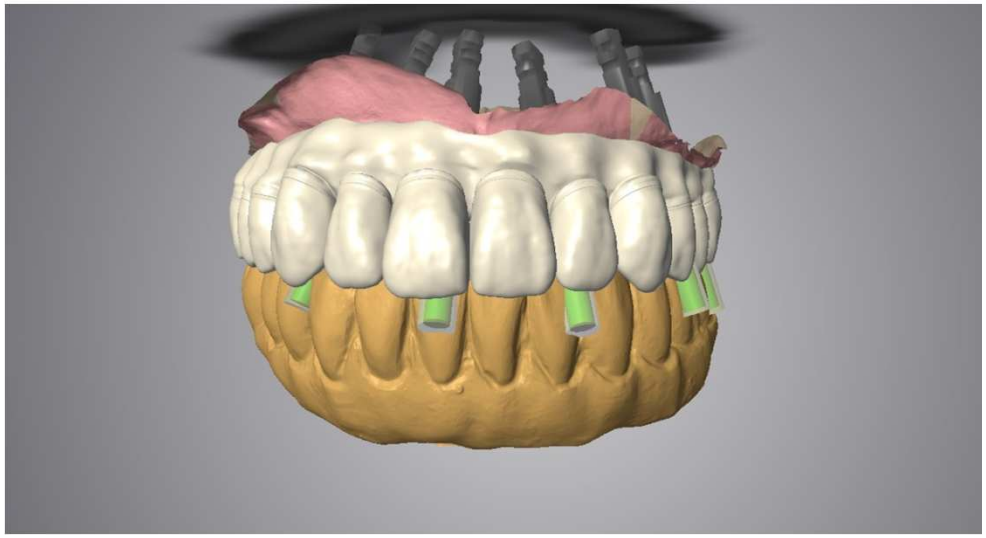

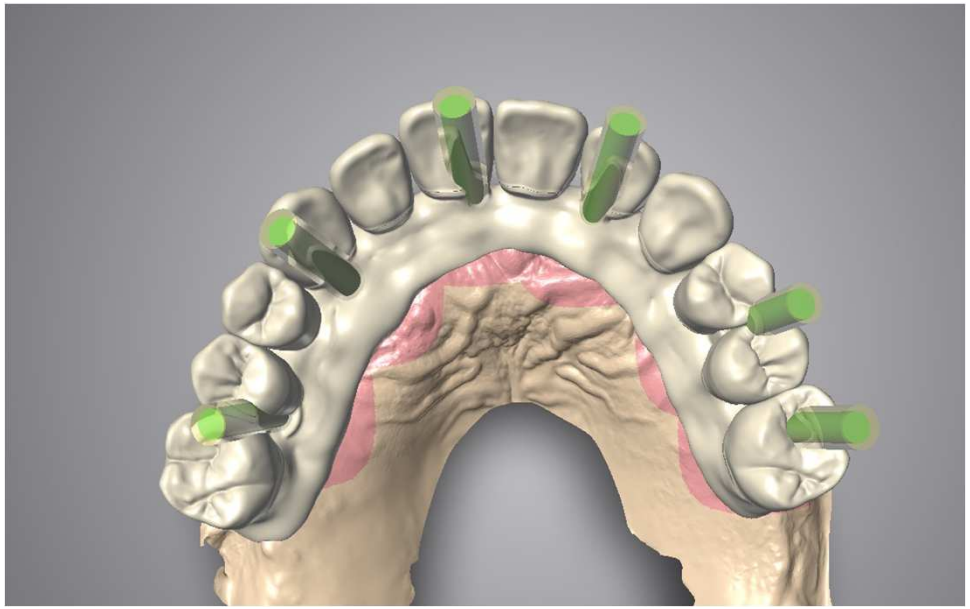

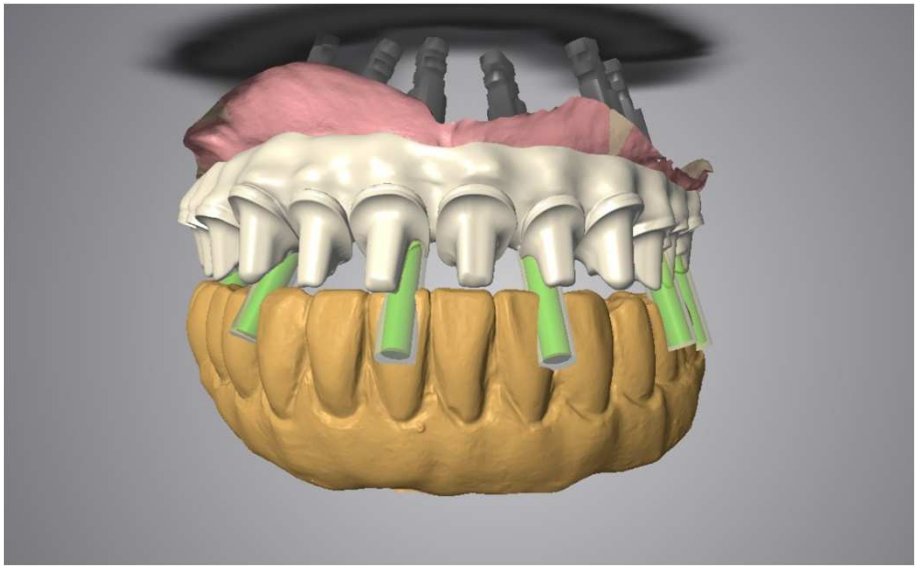

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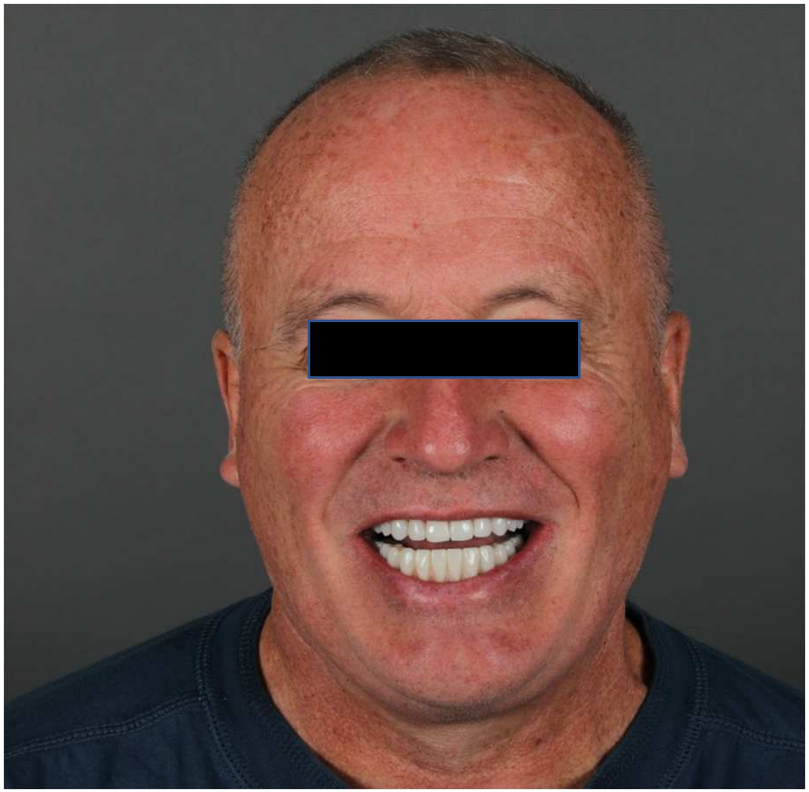

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Benefits of PiC

- 99.9% effective with over 5,500 clinical cases worldwide since 2010
- Fully digital workflow available
- Reduced material costs
- Efficient scan process
- No re-taking of impressions
- Fewer visits from case presentation to final delivery

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Where Do We Go From Here?

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Questions?

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Thank You!

Lewis Sharp CDT

Contact:

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Director of Business Development
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916-478-2722 ext. 3