Smile Design: 3D

ALDA District 3 CE

September 19, 2025

Dothan, AL

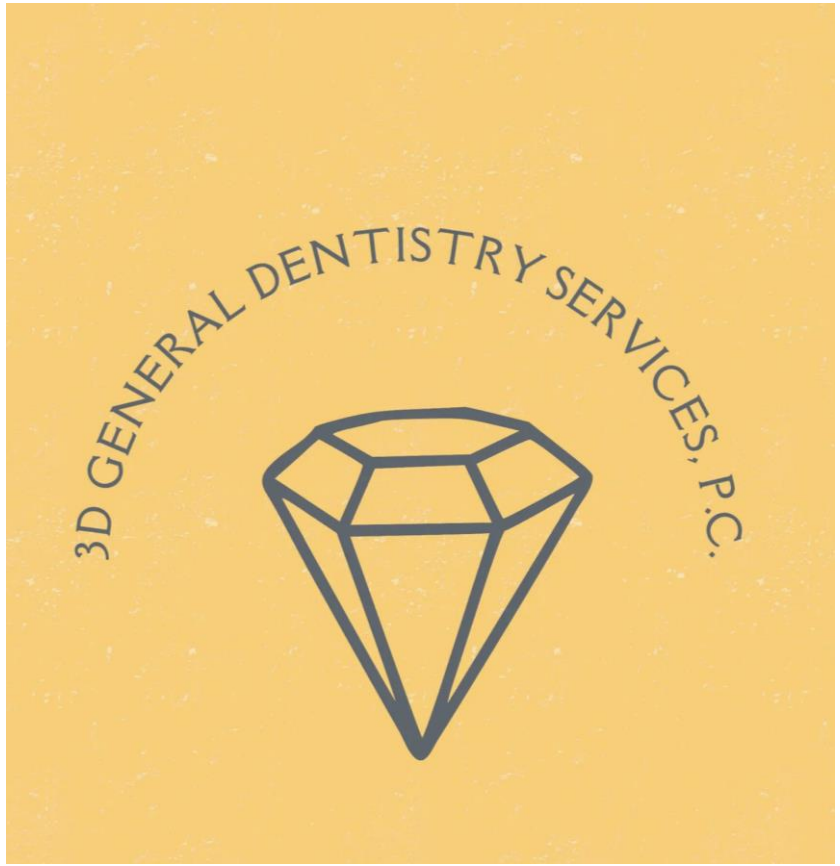
Barry E. Goodspeed, DDS

3D General Dentistry Services, P.C.

Smile Design: 3D

Course Objectives:

1. Review Smile Design 2D and Requested Records.
2. Become familiar with general Digital Wax Up Techniques.
3. Observe a Wax Up Transfer with Copyplast stents.
4. Compare Pre-Op to Digital Wax Ups:
   Min Reduction & Moderate Reduction.
5. Observe Orthodontic and Vertical Dimension considerations for cosmetic and functional cases.



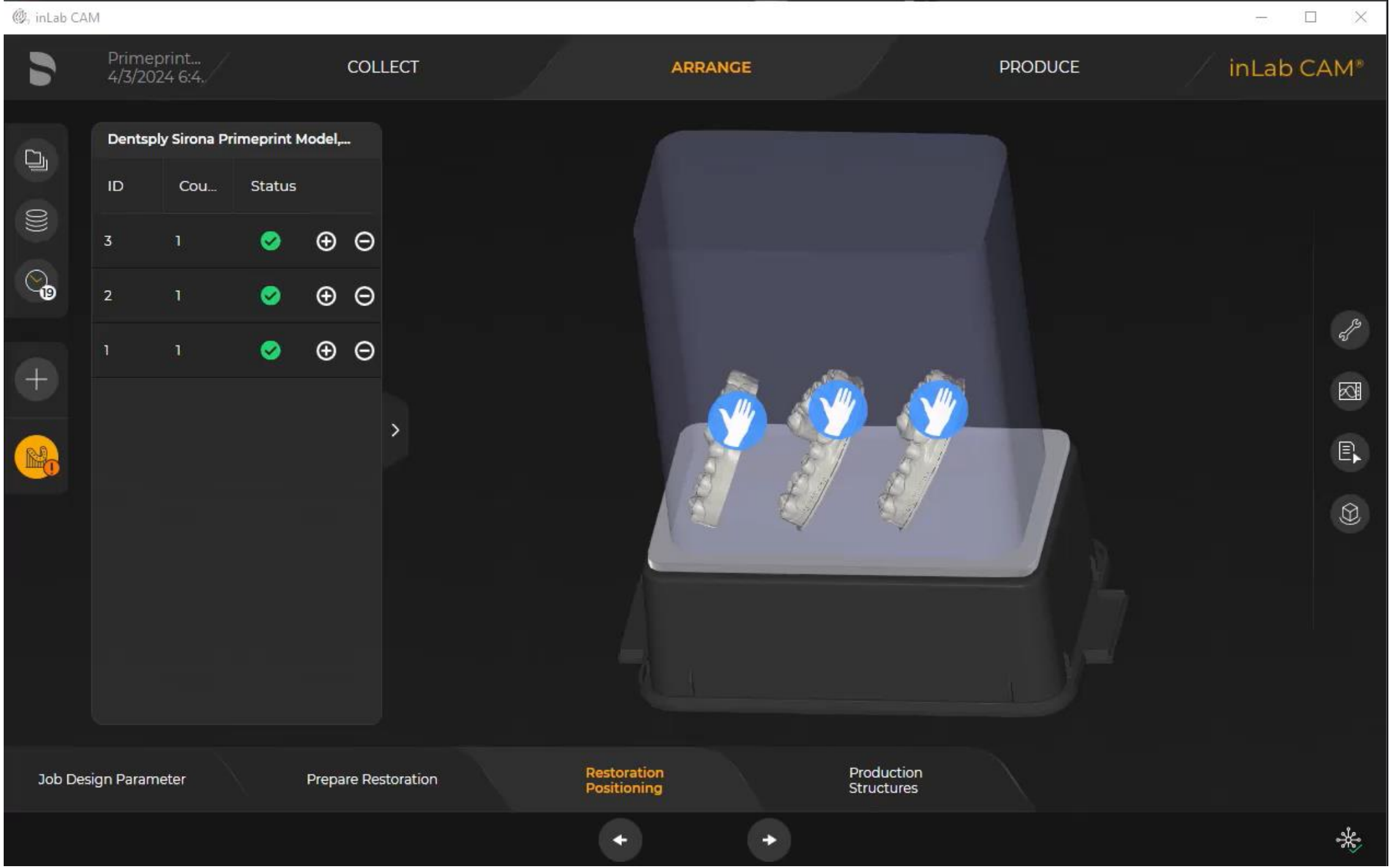
The BIG Question is…

Can we promise this **2D** Design to our patient?!!

Case #1: Digital Wax Up Limitations and Modifications (Jahnvi)

Next slide :

3 minute video comparing Pre-op, Minimum Wax Up, and Radical Wax Up scenarios


inLab CAM
Primeprint...
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ARRANGE
PRODUCE
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Dentsply Sirona Primeprint Model,...
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Status
3
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2
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1
Job Design Parameter
Prepare Restoration
Restoration Positioning
Production Structures

Case #1: Digital Wax Up Limitations and Modifications (Jahnvi)

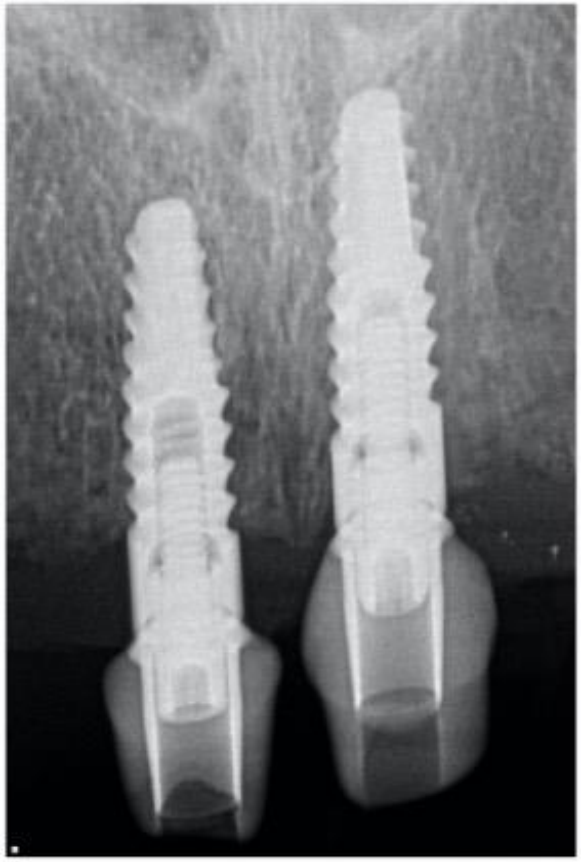
More About this Case Later!

Preliminary Cases:
6-8 Bridge, 8 Cr, V 10 + 11 (Maria)

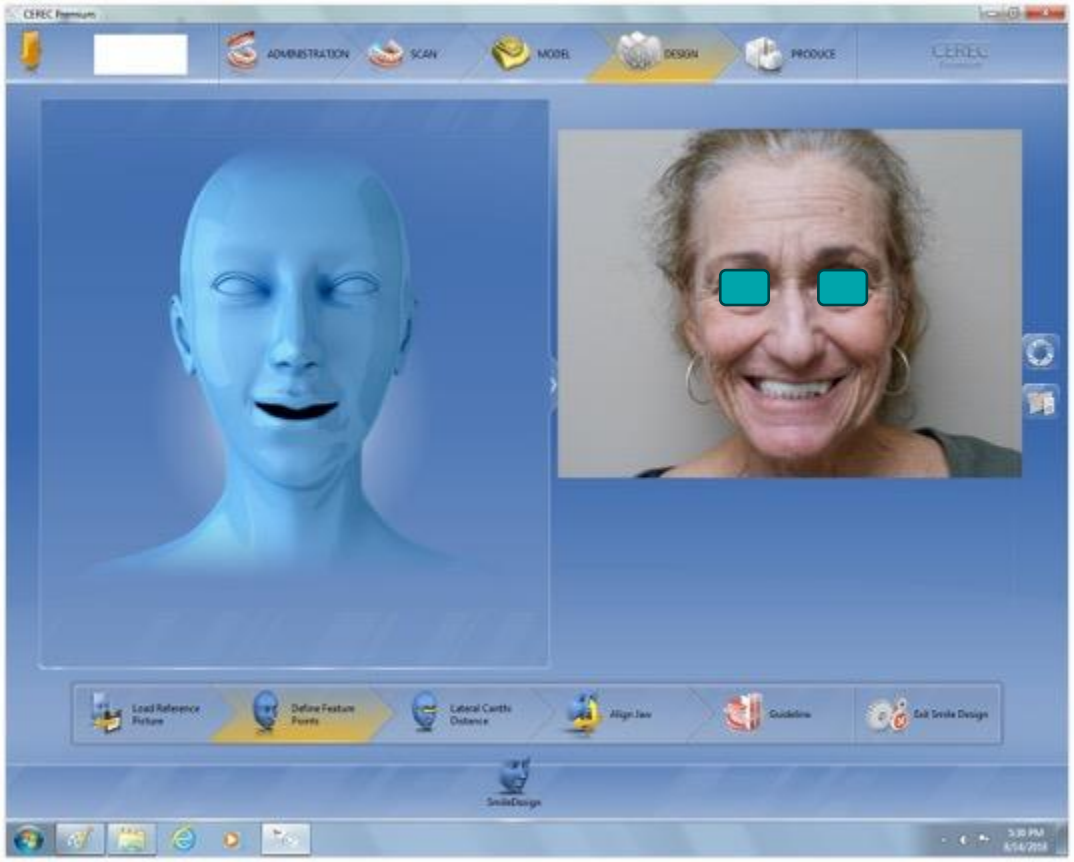
Preliminary Cases: e.max7-10 (Faye)

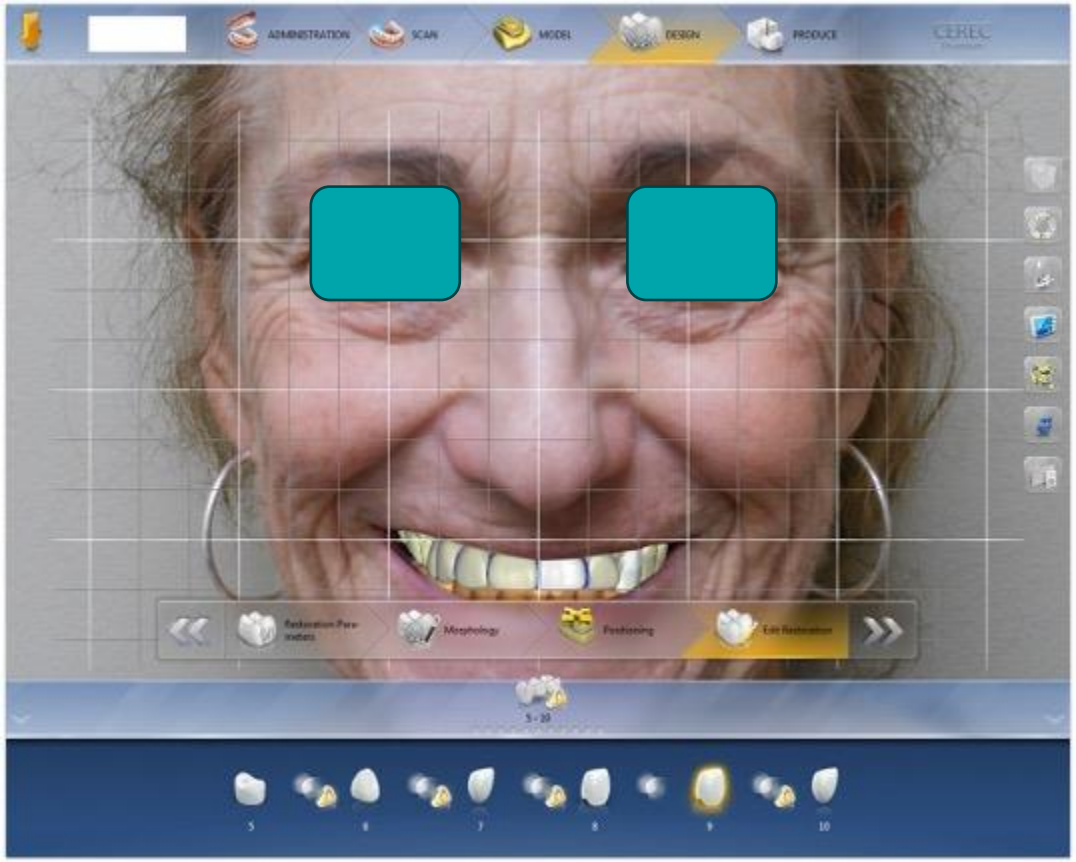
Preliminary Cases:
e.max 6-11; same day (Laura)

Preliminary Cases:
Implant Bail Out (Marie)



Preliminary Cases: Implant Bail Out (Marie)





Preliminary Cases: Implant Bail Out (Marie)

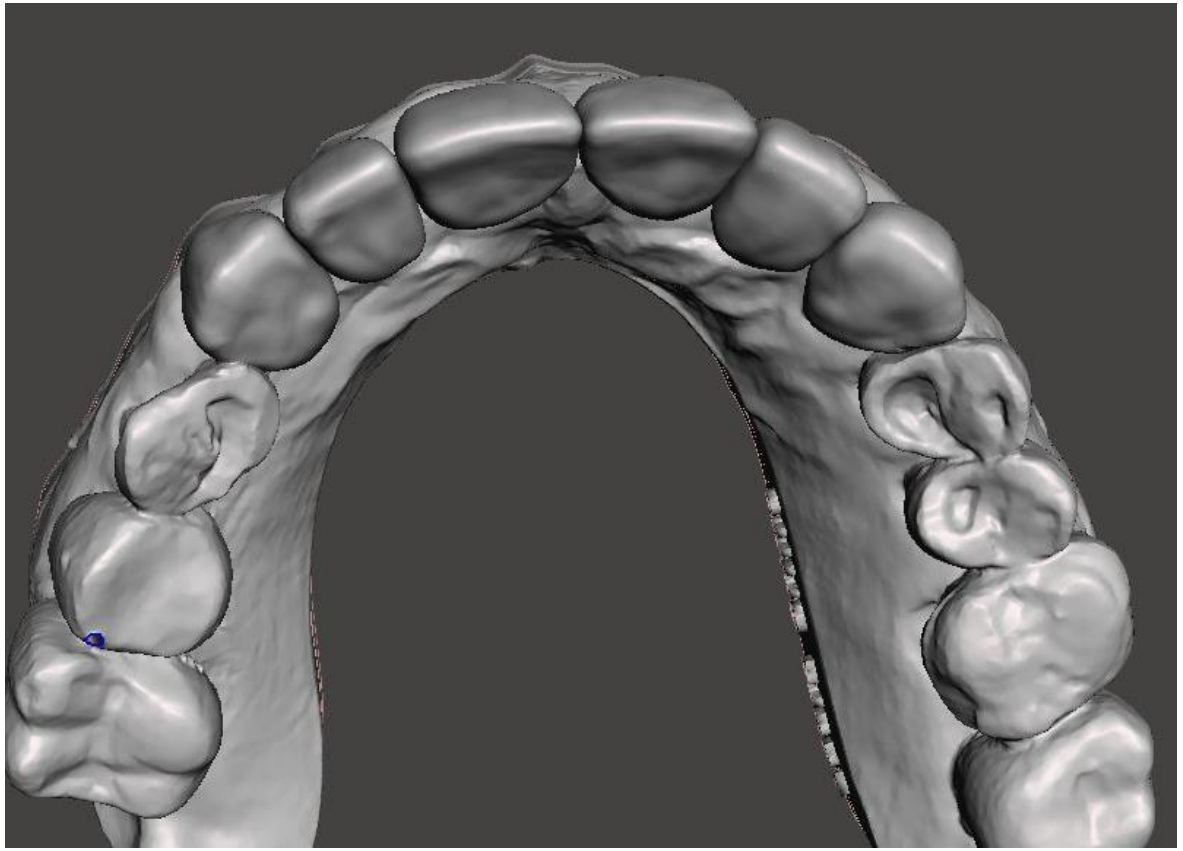
Doctor Name:
Barry Goodspeed

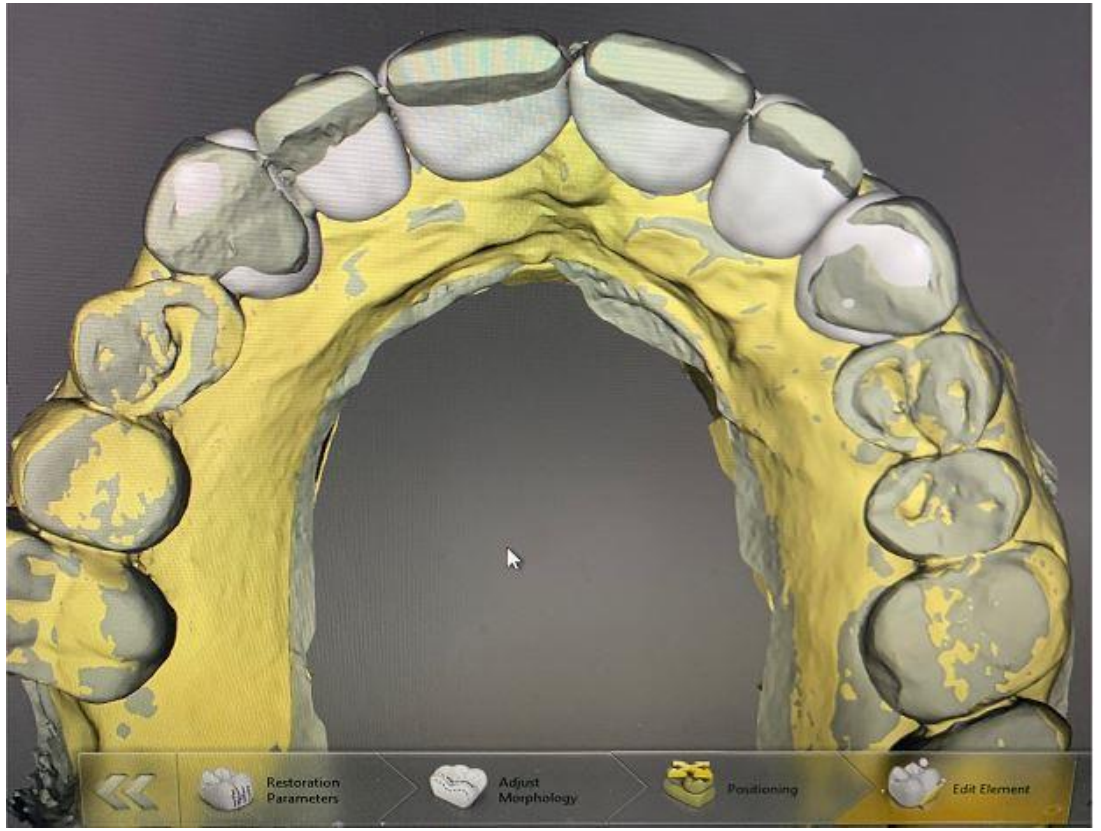
Patient Name:
Marie

Birthday:

Preliminary Cases:

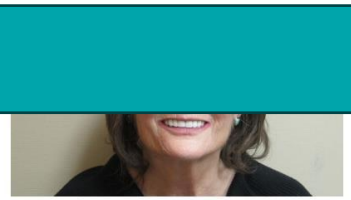
Digital Wax Up + Full Mouth Rehab (Laura)





Preliminary Cases:

Digital Wax Up + Full Mouth Rehab (Laura)



Doctor Name:
Barry Goodspeed

Patient Name:
Laura 01/18/2022 FINAL

Birthday:

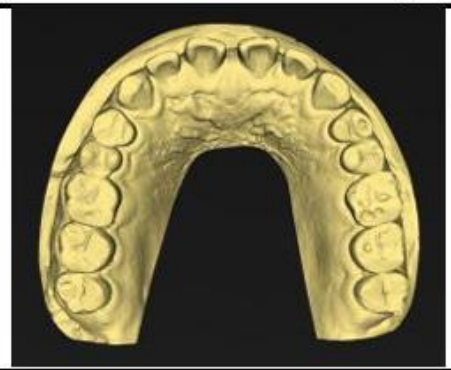
Case #2: Digital Wax Up + Analog Transfer Mock Up (Roberto)

Collaboration with

Dr. Allen Kessler and

Dr. Mallory Hunt

Patient considering resin or porcelain veneers for spaces in between teeth

	PHOTO SET 8 SMILE DESIGN PHOTOS	3D General Dentistry Services, PC 3DGDServices.com
EO Frontal Relaxed Incisal Display	EO Frontal Full Smile	EO Profile
IO Retracted Occlusal Maxillary		IO Retracted Occlusal Mandibular
	**Doctor**: Mallory Hunt **Patient**: Roberto **DOB/Age**: date/Age **Date**: January 14, 2023	
IO Retracted Close Up Buccal Right	IO Retracted Close Up Anterior	IO Retracted Close Up Buccal Left

To insert your own pictures: Right Click, Change Picture, From File

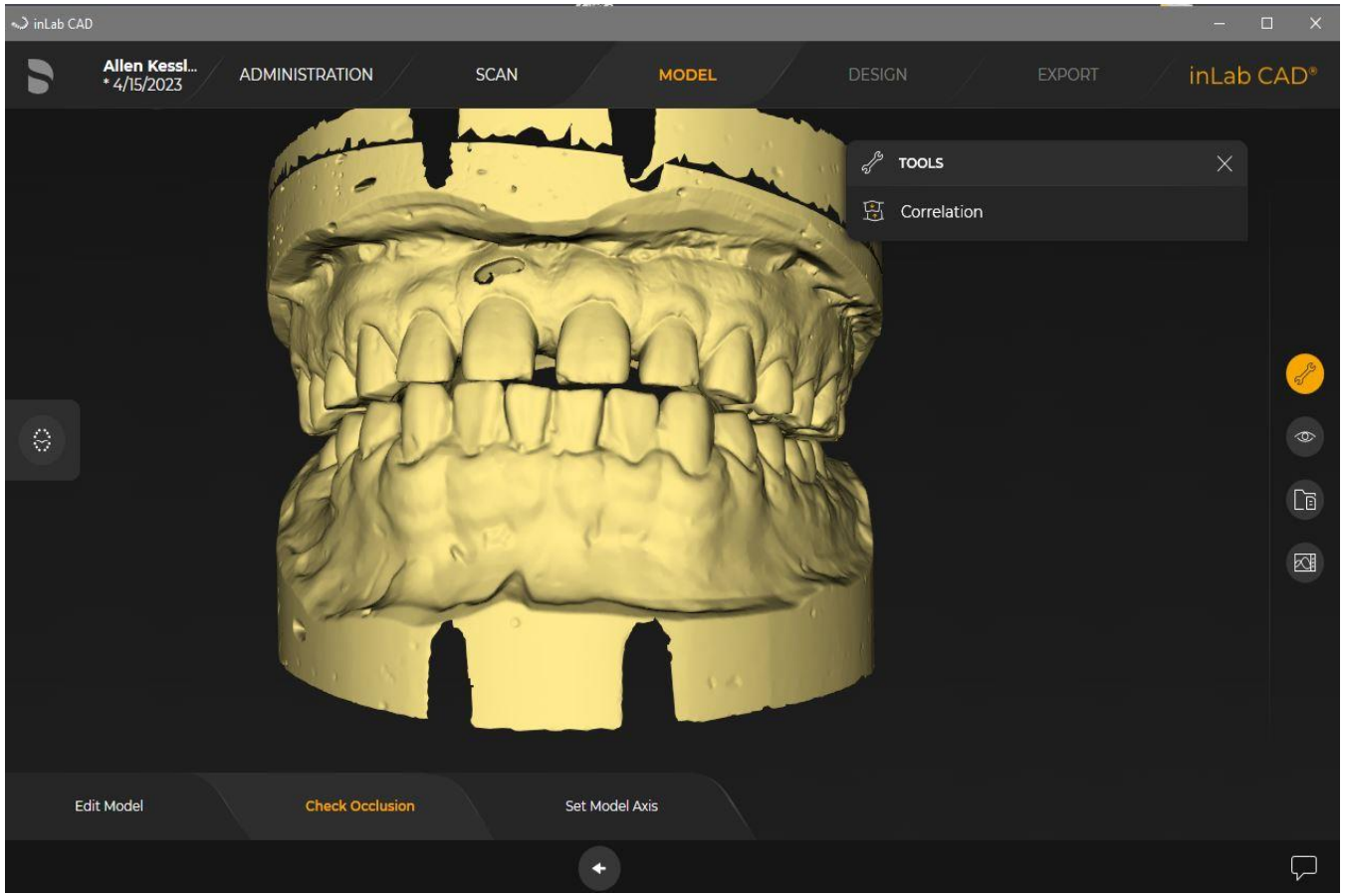
Case #2: Digital Wax Up + Analog Transfer Mock Up (Roberto)

Collaboration with

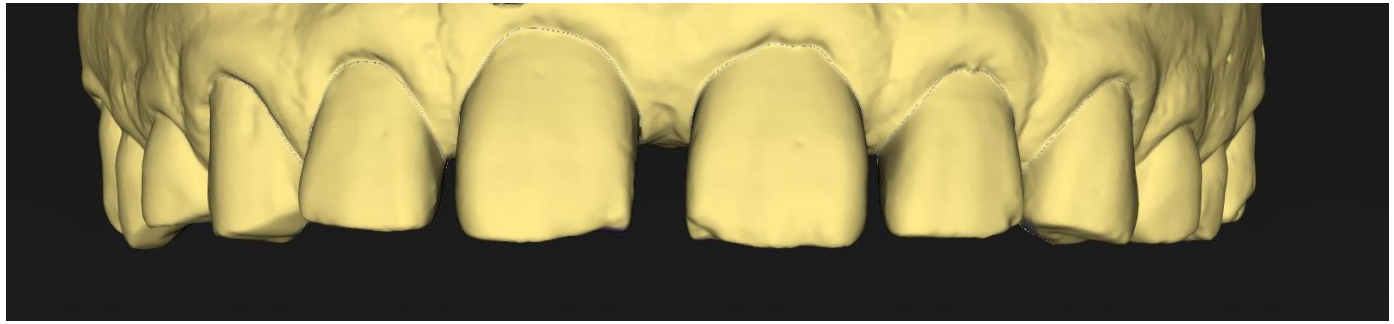
Dr. Allen Kessler and

Dr. Mallory Hunt

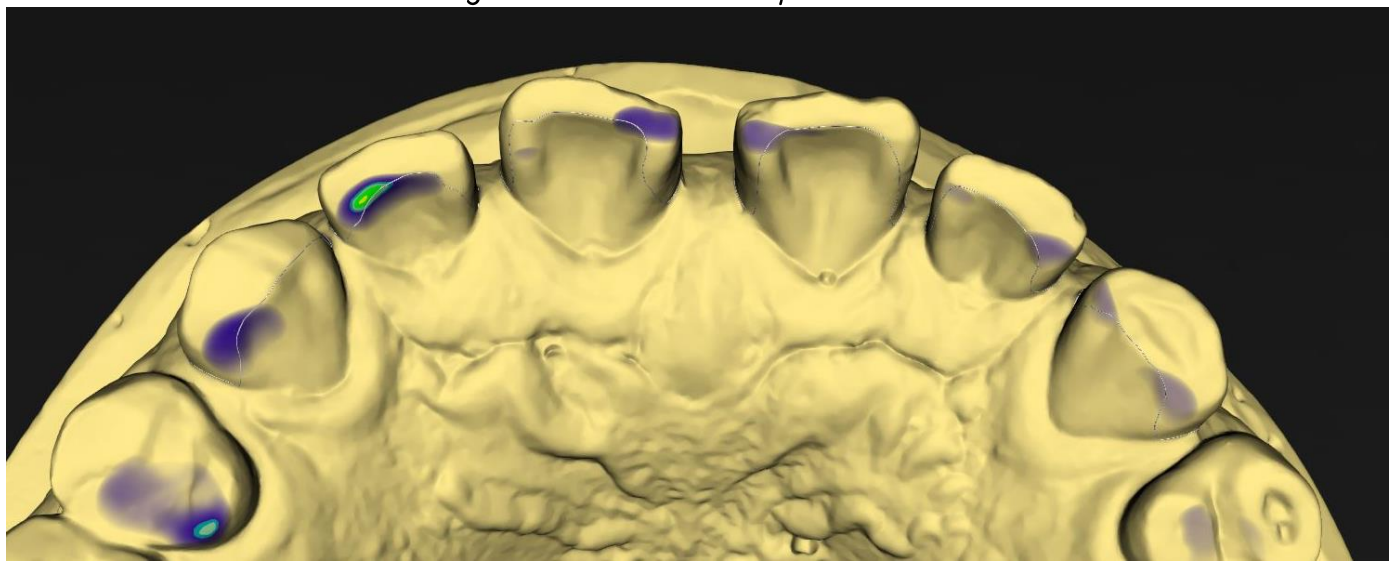
Patient considering resin or porcelain veneers for spaces in between teeth



Case #2: Digital Wax Up + Analog Transfer Mock Up (Roberto)



Margins drawn directly on Teeth



Case #2: Digital Wax Up + Analog Transfer Mock Up (Roberto)

Parameters

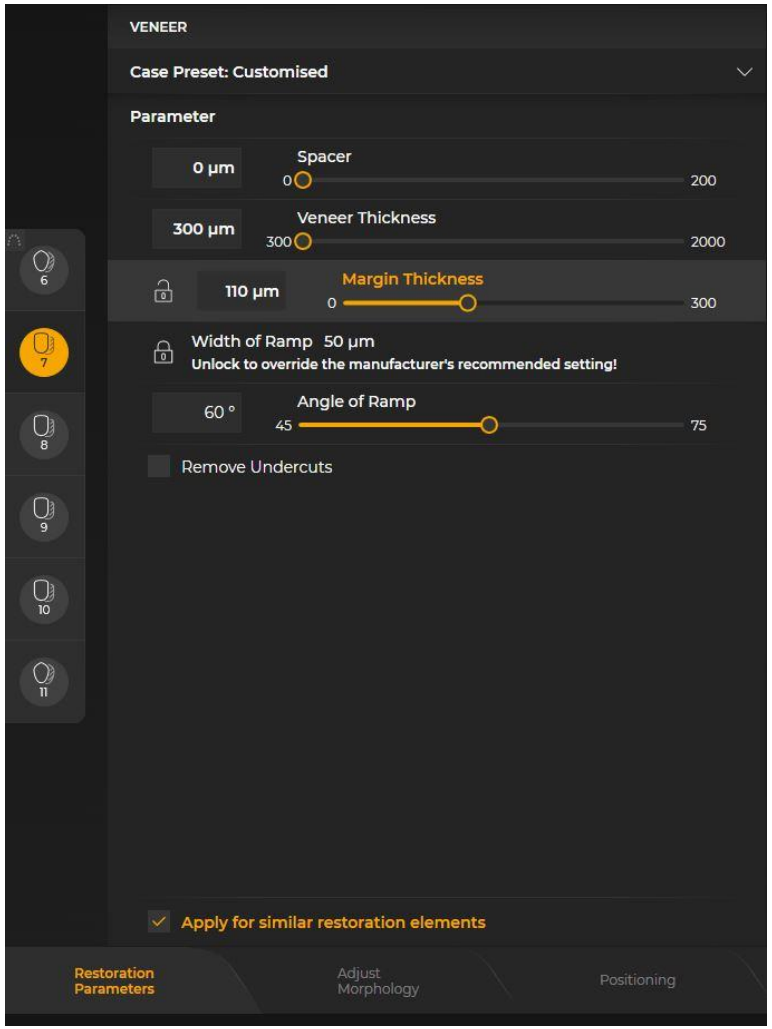
Spacer = 0

Veneer Thickness = 300 or Lowest

Margin Thickness = 110 microns

Leave Undercuts

Apply for Similar



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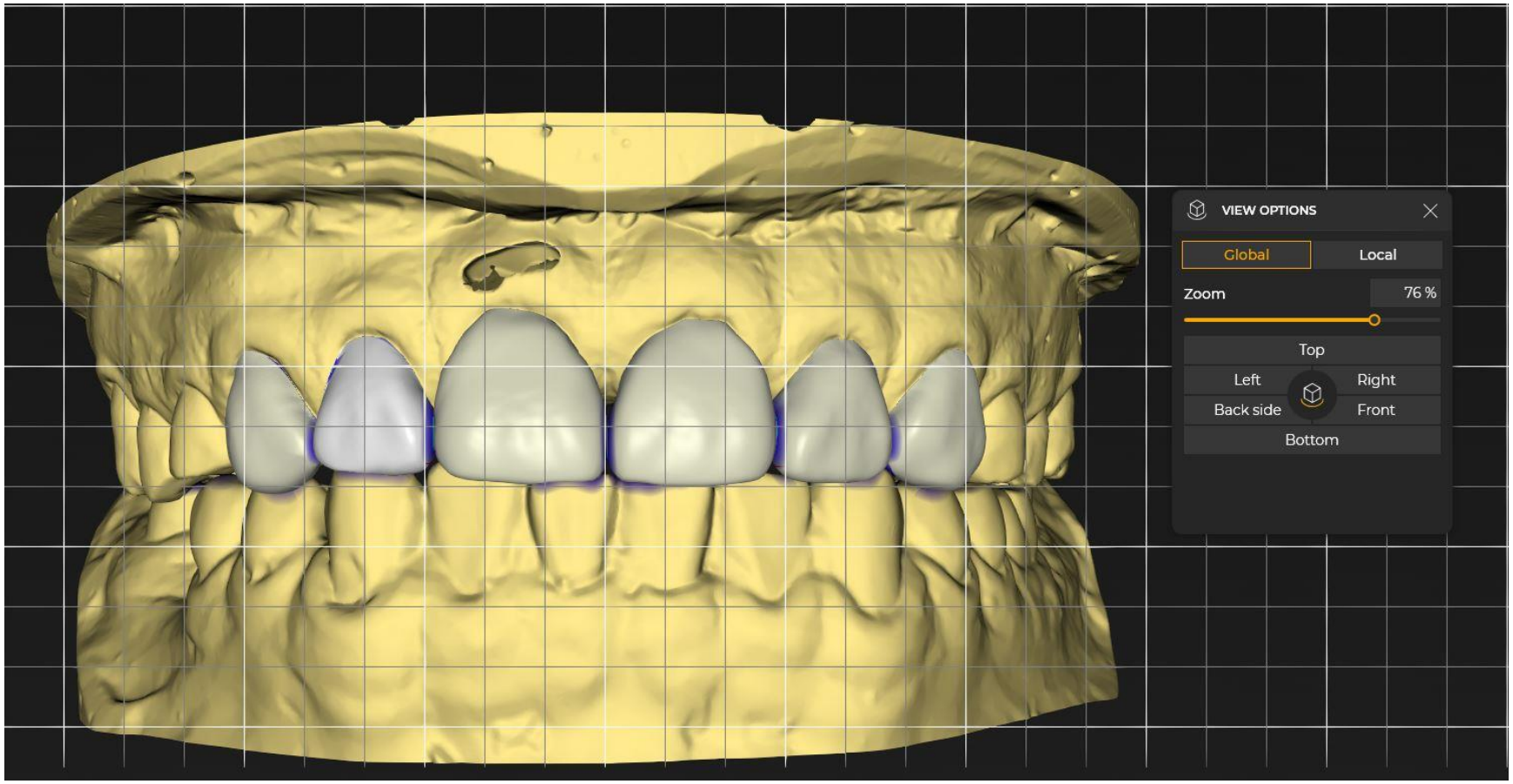
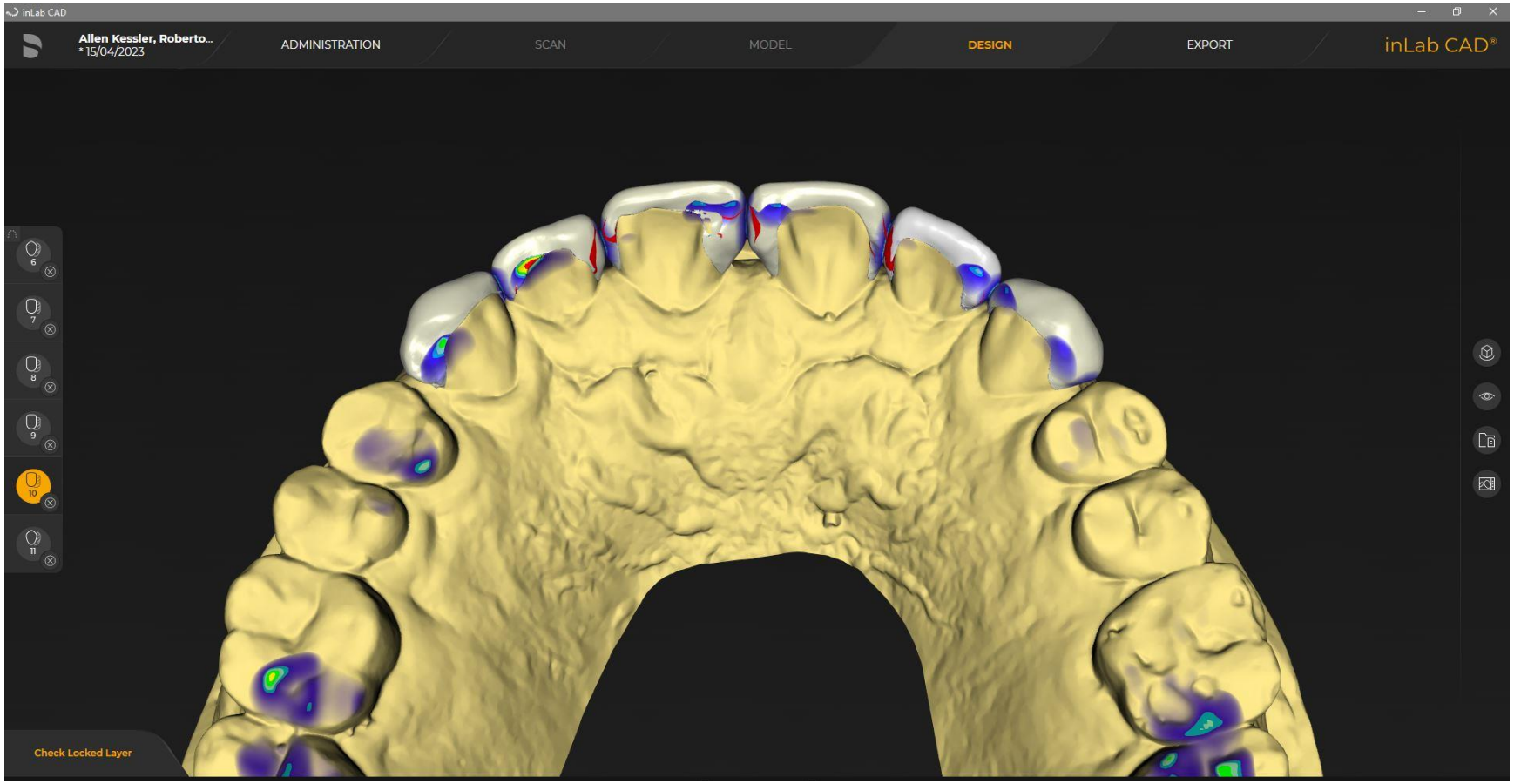


Case #2: Digital Wax Up + Analog Transfer Mock Up (Roberto)



Case #2: Digital Wax Up + Analog Transfer Mock Up (Roberto)

Restorations Virtually Seated. Exported to Model Software. Printed Model

Case #2: Digital Wax Up + Analog Transfer Mock Up (Roberto)

Dr. Hunt used an

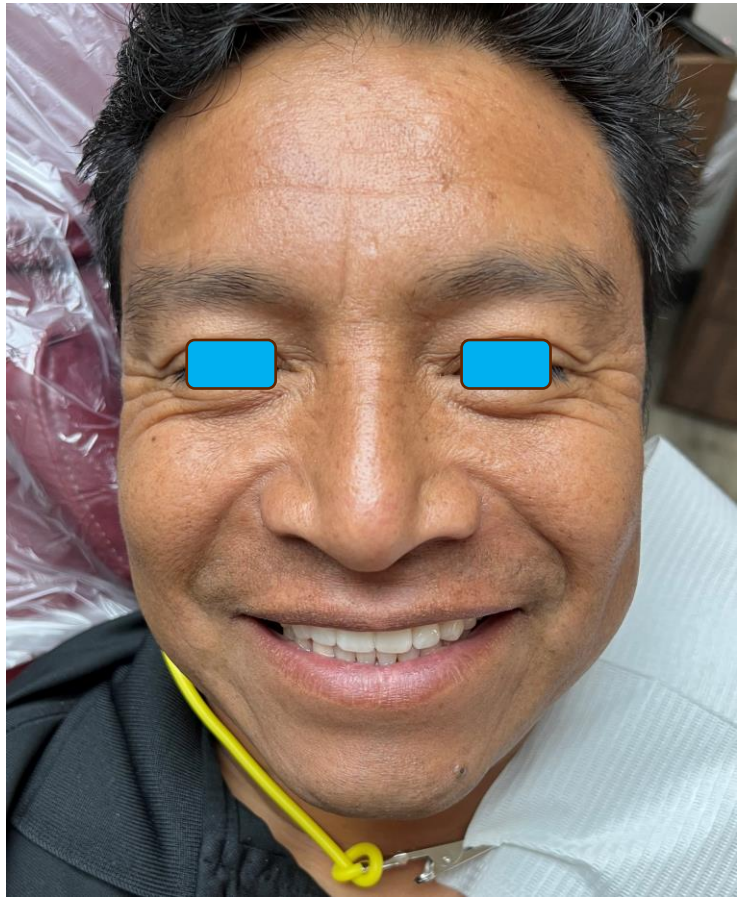
alginate impression

of printed wax up to

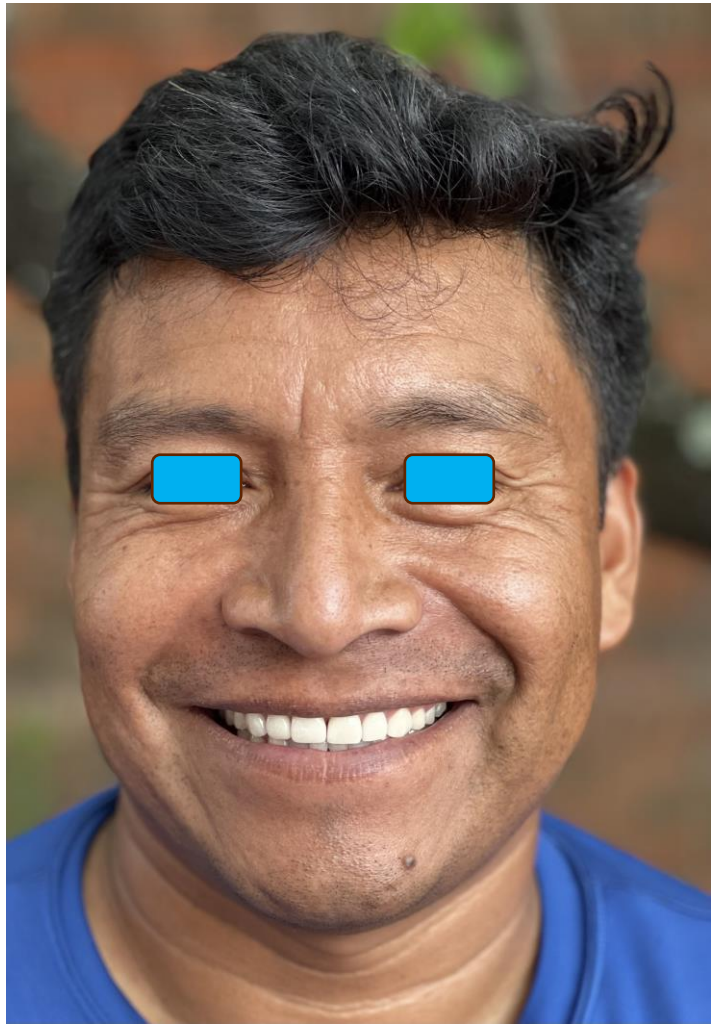
transfer a resin mock-up

to the mouth for a preview

Case #2: Digital Wax Up + Analog Transfer Mock Up (Roberto)



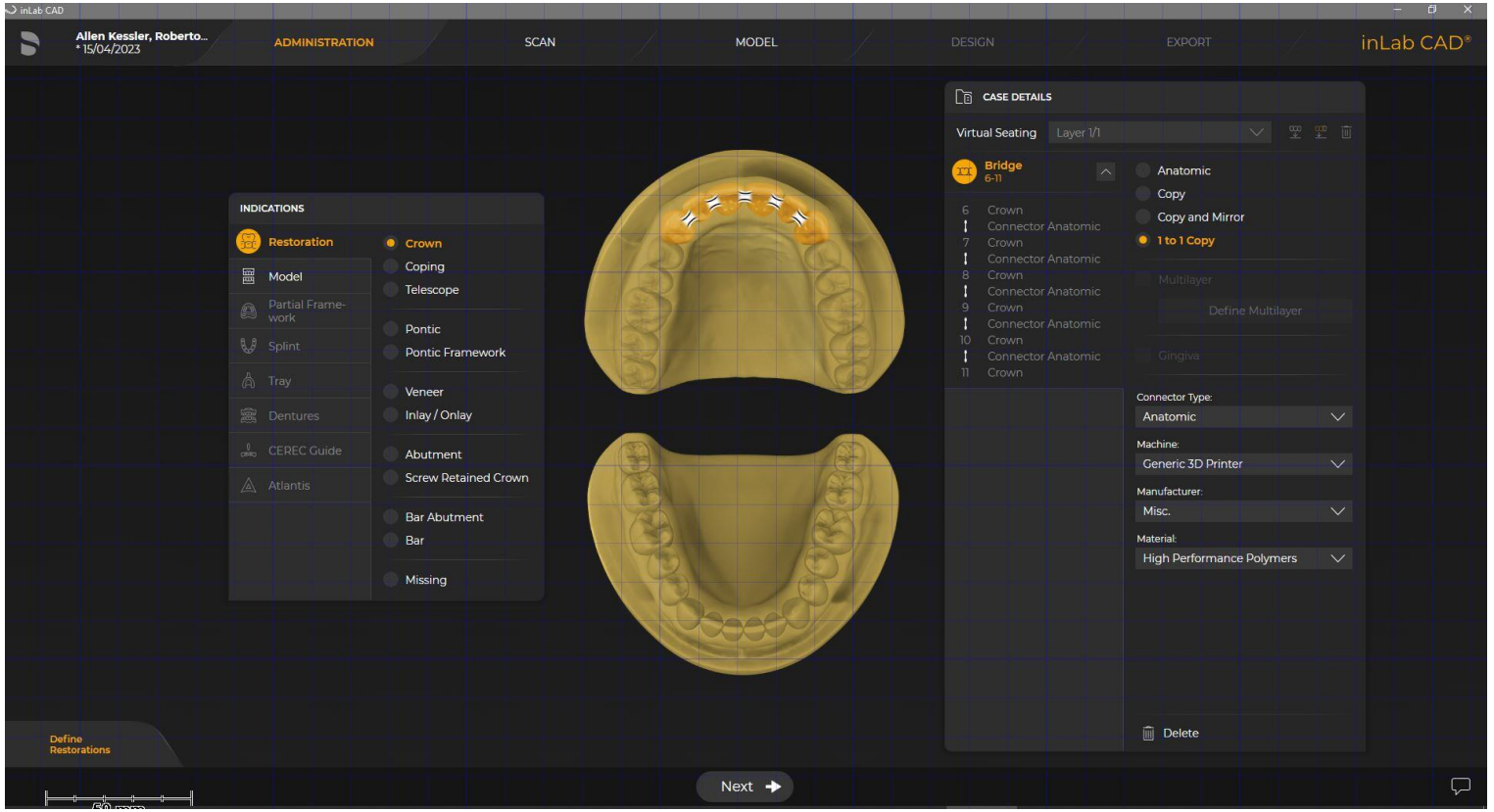
Case #2: Digital Wax Up + Final Result(Roberto)



Case #2: What If...Send Out for Splinted Temp Design?! (Roberto)

Scenario:

Send (digital) prep scan to lab for splinted temps for printing in House



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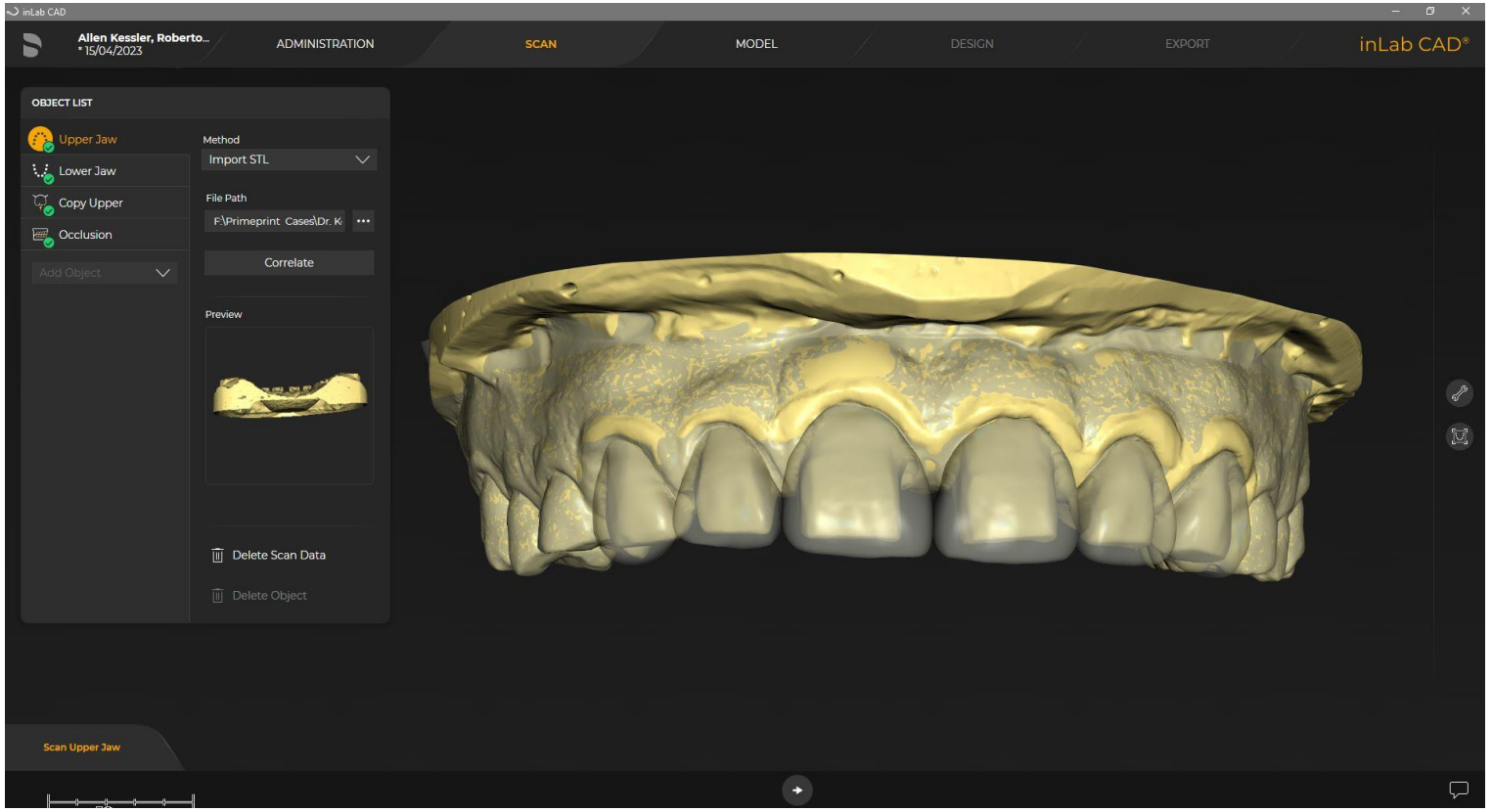

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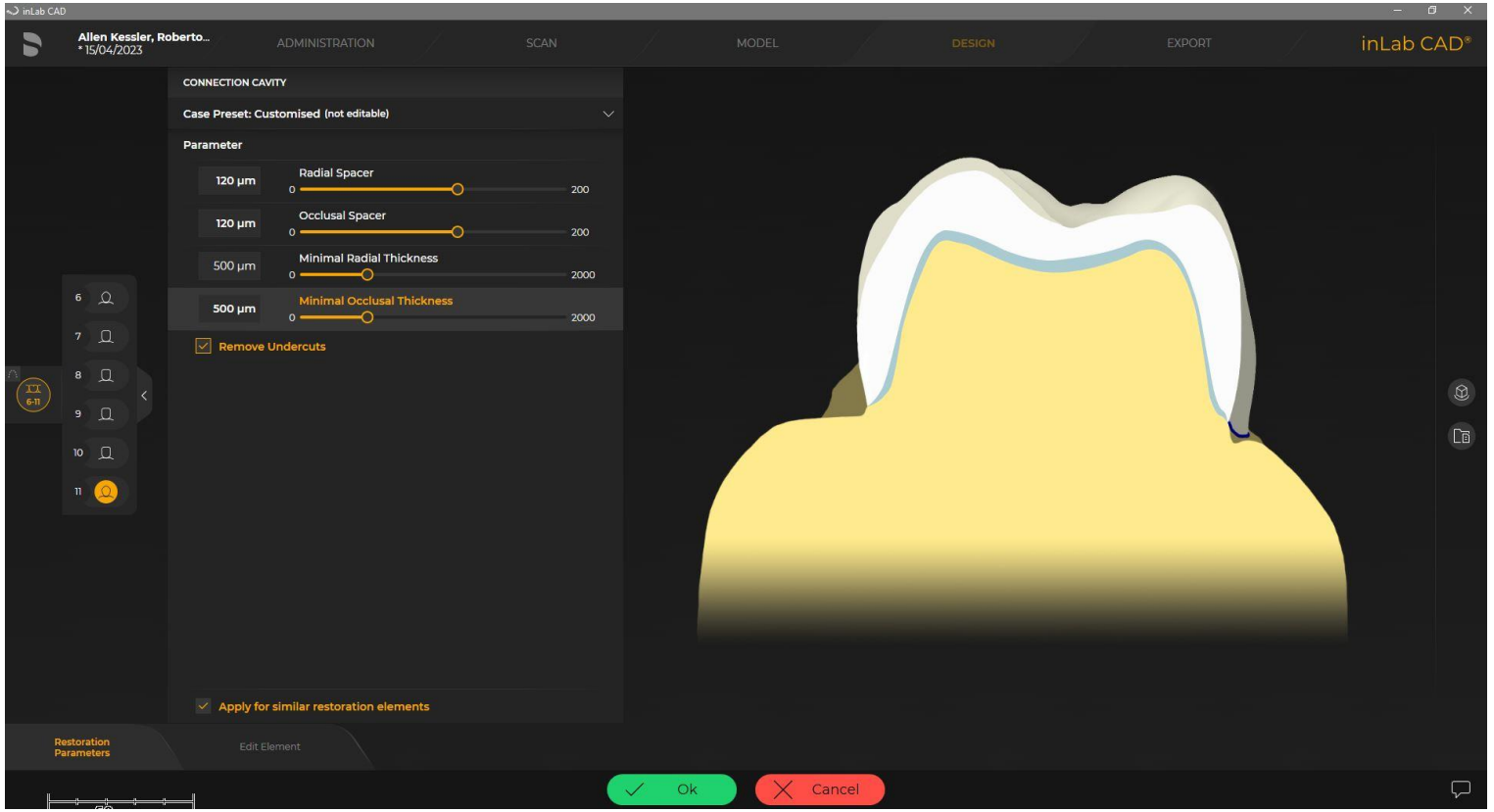


Case #2: Digital Wax Up + Analog Transfer Mock Up (Roberto)

Scenario:

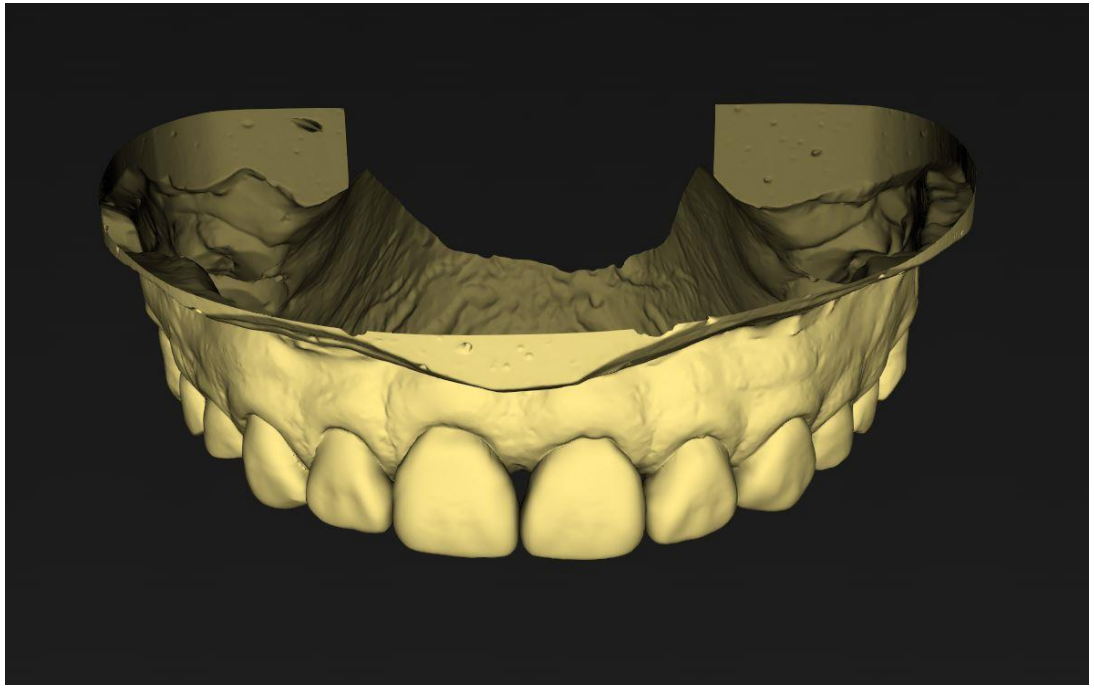
Send (digital) prep scan to lab for splinted temps for printing in House.

Note: Prep model includes #5-12;

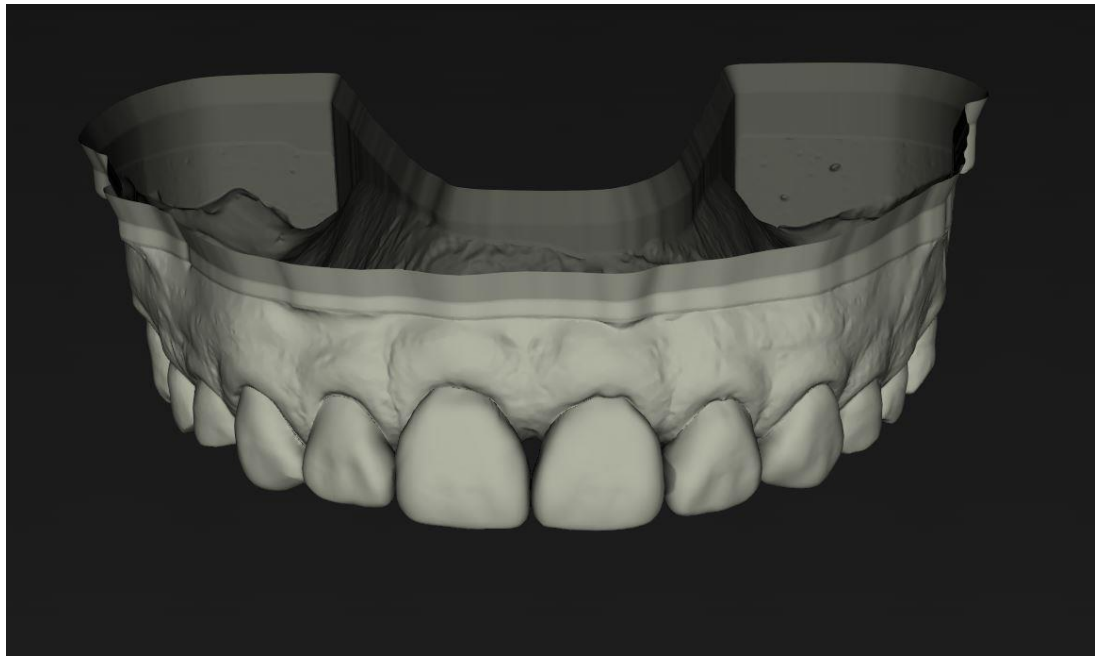
Better to include full arch for better stitching

Case #2: Digital Wax Up + Analog Transfer Mock Up (Roberto)

STL of Virtually Seated Restorations (*possibly more accurate)



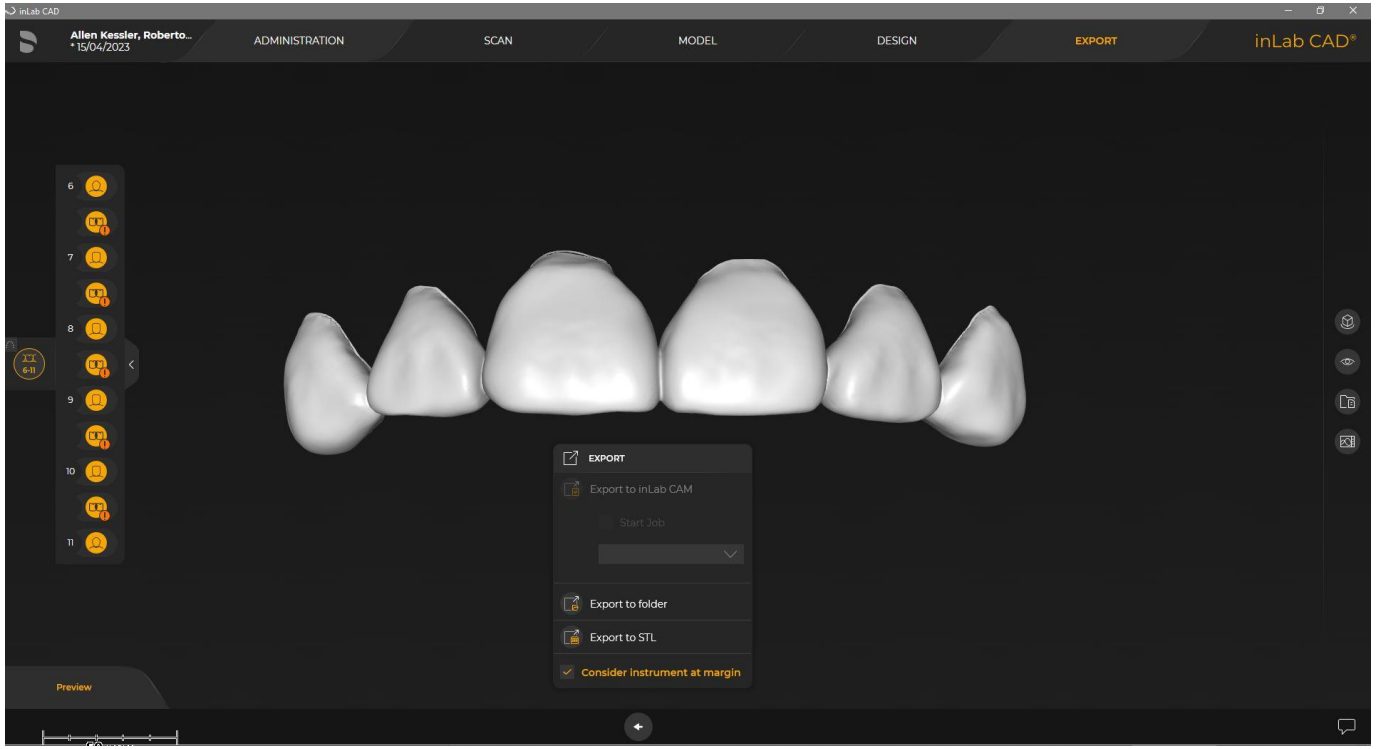
Scanned Printed Model of Virtually Seated Restorations



Case #2: Digital Wax Up + Analog Transfer Mock Up (Roberto)

Splinted Temps

Ready to Print!



Case #3: 2D Design, 3D Digital Wax Up Digital Workflow (Patient: D)

Dr. Kaytlyn McCallister

UAB SOD Graduate 2024

The Foundry Resident

Patient concerned about spaces and length of teeth

Dr. McCallister requested digital wax up for

Crown #8, Veneer #9

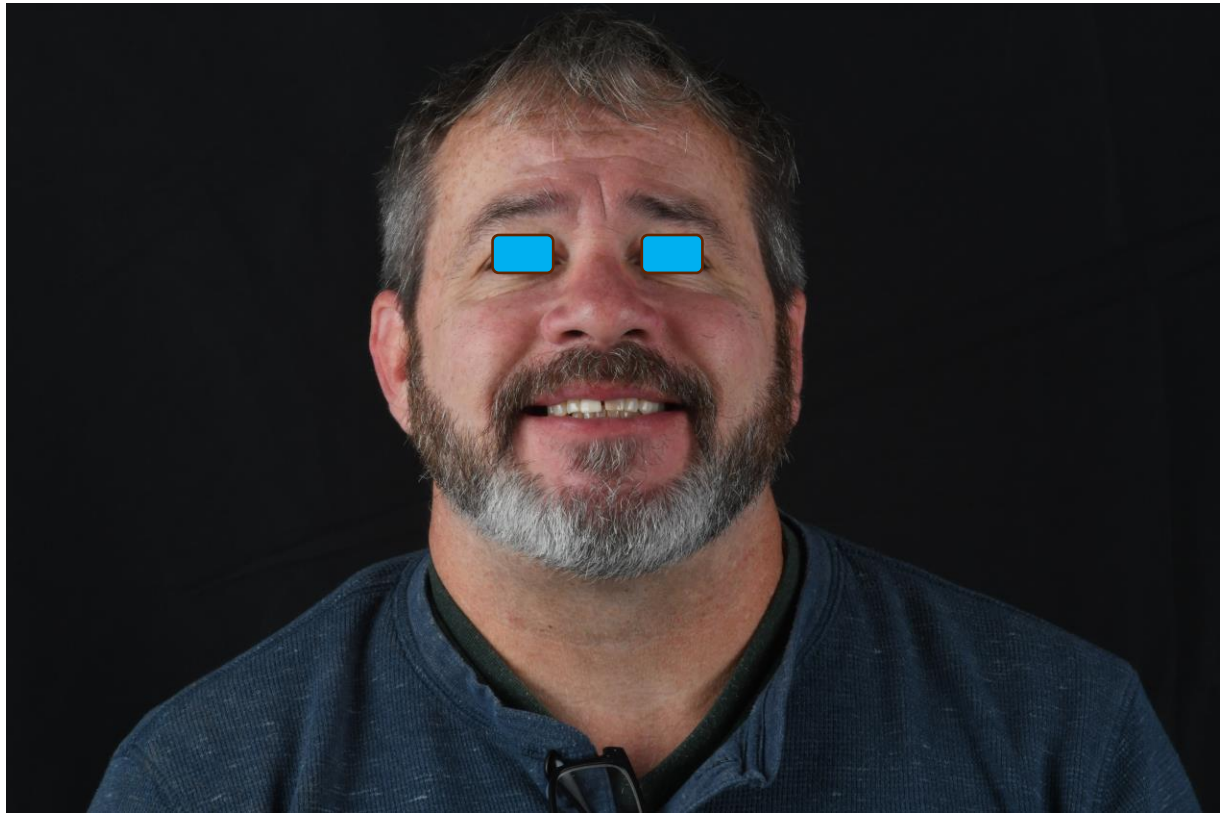
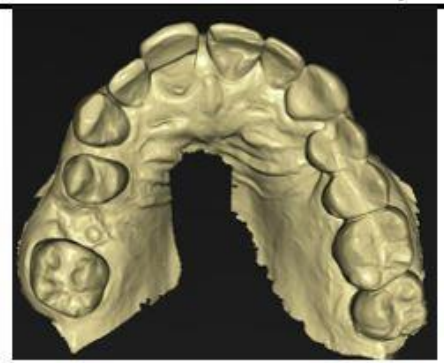
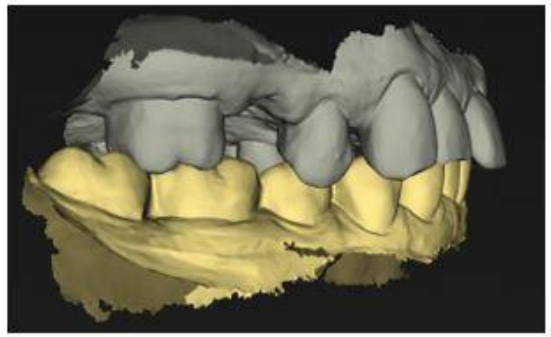
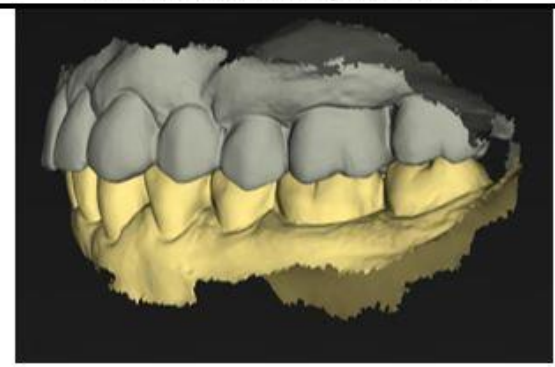


	PHOTO SET 8 SMILE DESIGN PHOTOS	3D General Dentistry Services, PC 3DGDServices.com
EO Frontal Relaxed Incisal Display	EO Frontal Full Smile	EO Profile
IO Retracted Occlusal Maxillary		IO Retracted Occlusal Mandibular
	**Doctor**: Kaytlyn McCallister **Patient**: D **DOB/Age**: date/Age **Date**: December, 2024	
IO Retracted Close Up Buccal Right	IO Retracted Close Up Anterior	IO Retracted Close Up Buccal Left
		

To insert your own pictures: Right Click, Change Picture, From File

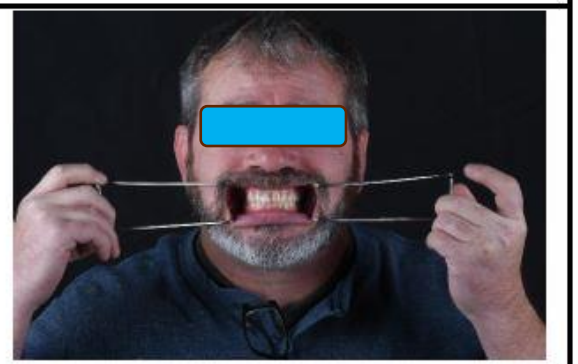
3:1 SMILE DESIGN PHOTOS

3D General Dentistry Services, PC
3DGDServices.com

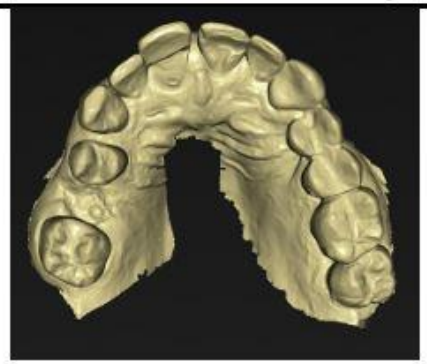
EO Frontal Relaxed Incisal Display

EO Frontal Full Smile

EO Frontal Retracted



IO Retracted Occlusal Maxillary



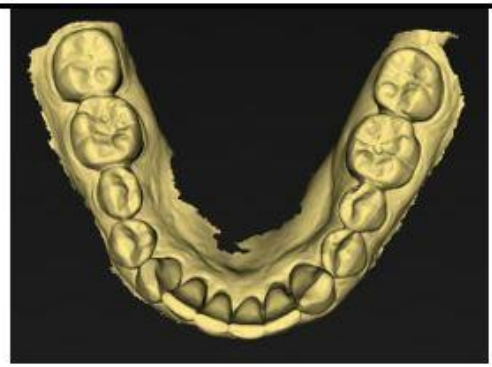
Doctor: Kaytlyn McCallister

Patient: D

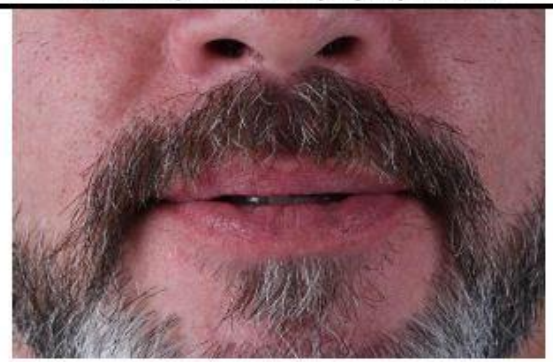
DOB/Age: date/Age

Date: December, 2024

IO Retracted Occlusal Mandibular



IO Close Up Incisal Display/Lip At Rest

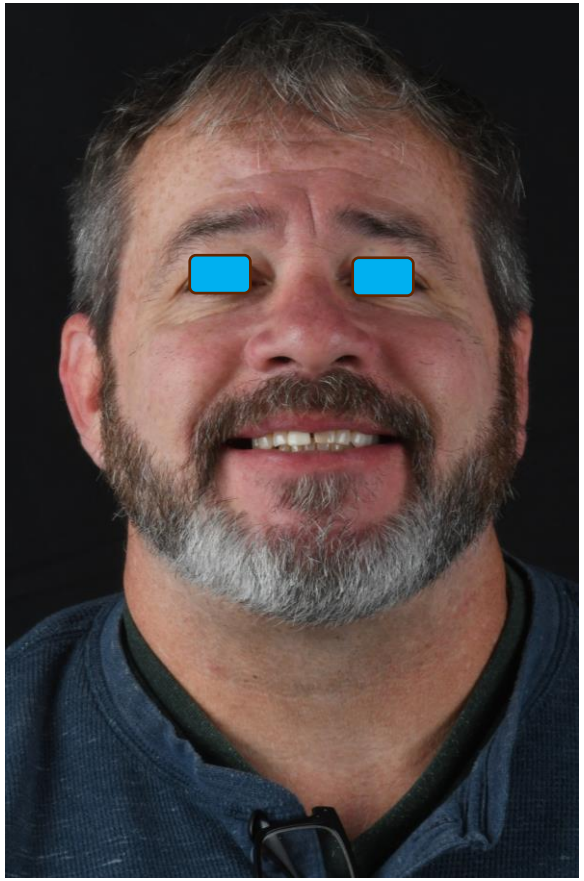


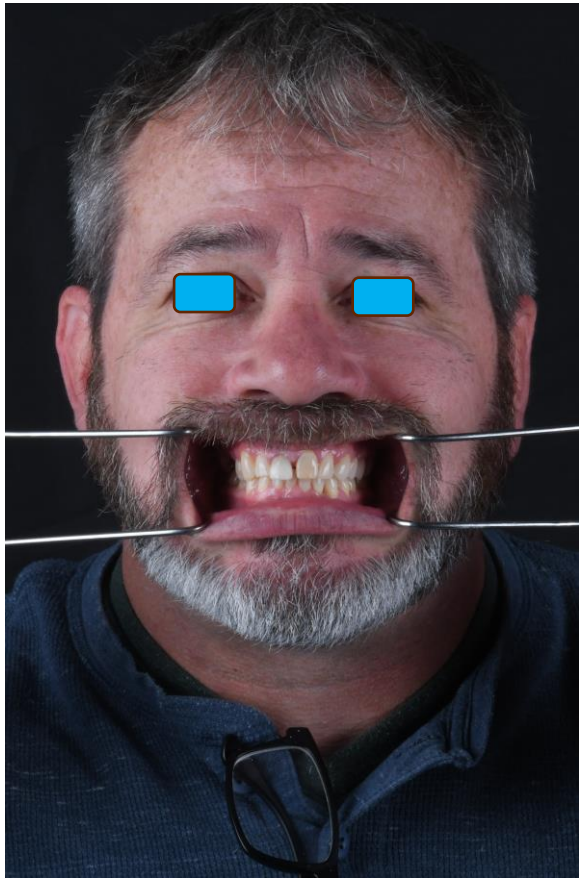
Other

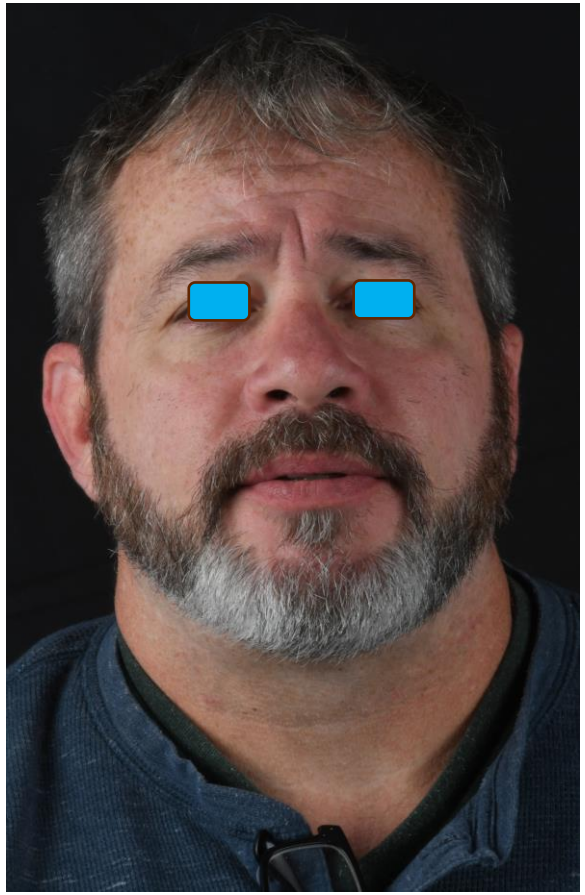
IO Retracted Close Up

To insert your own pictures: Right Click, Change Picture, From File

Case #3: 2D Design, 3D Digital Wax Up Digital Workflow (Patient: D)

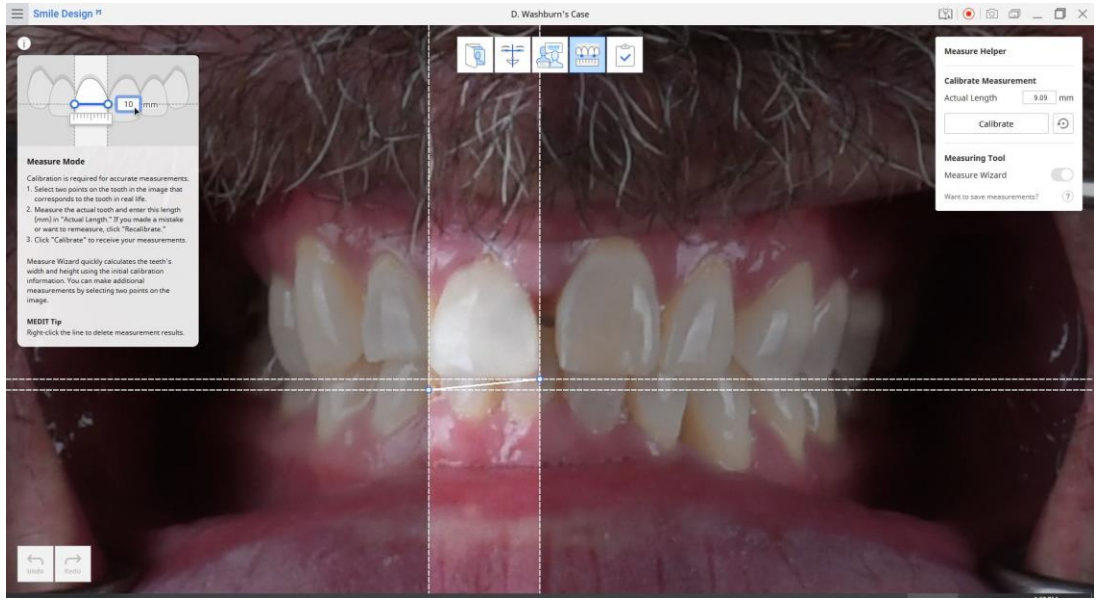






Case #3: 2D Design, 3D Digital Wax Up Digital Workflow (Patient: D)

Medit Smile Design for start



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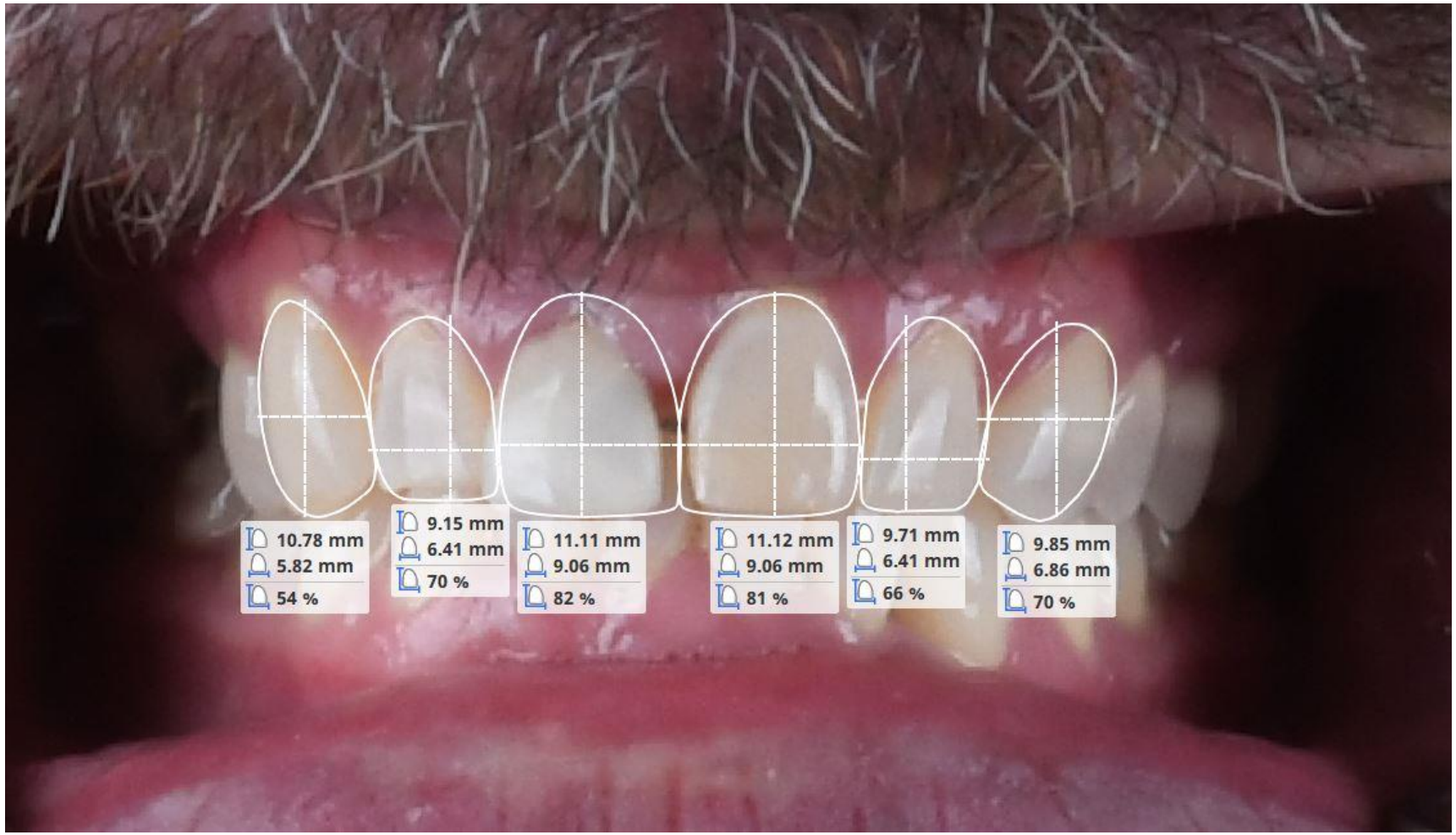
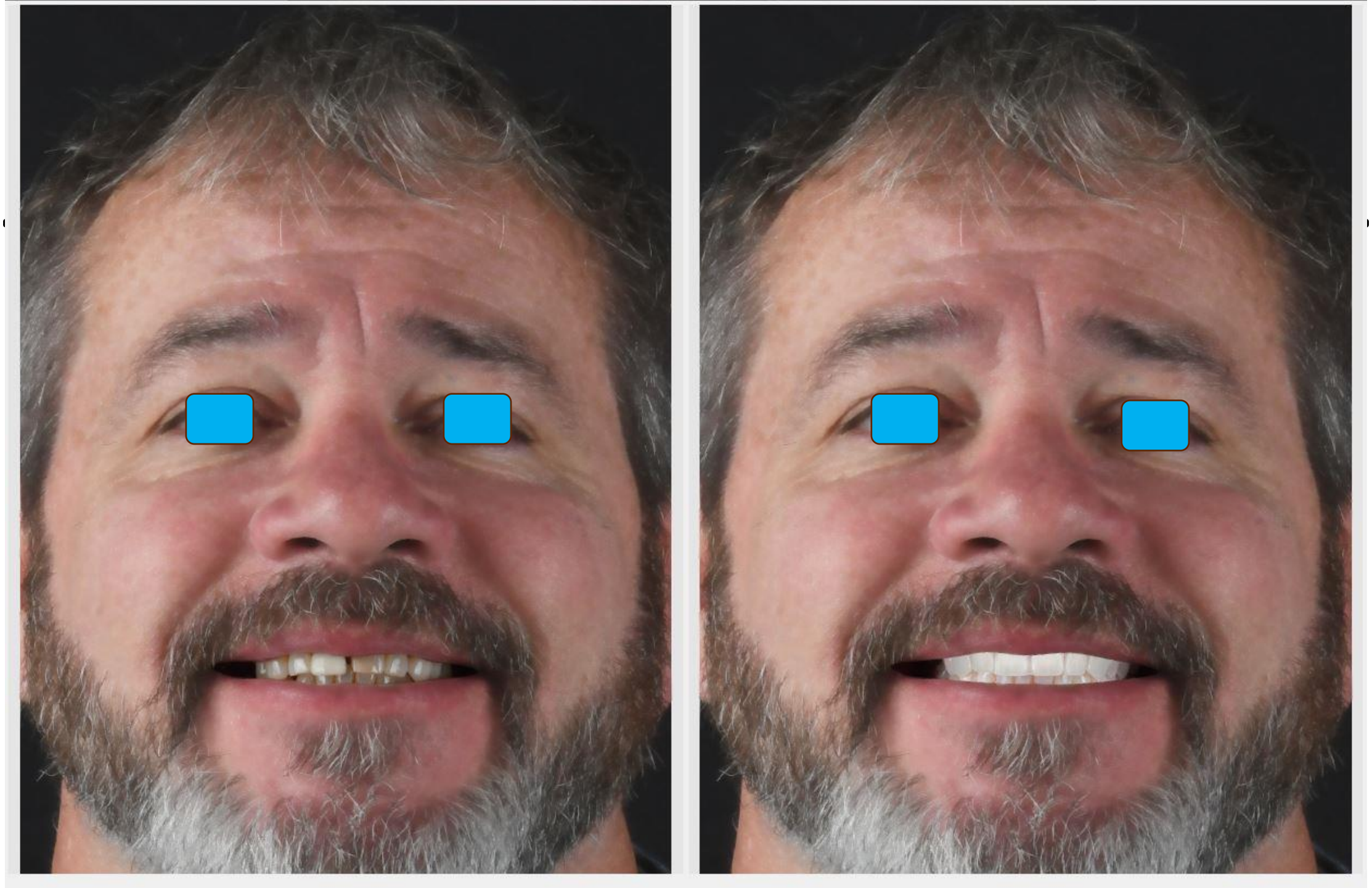


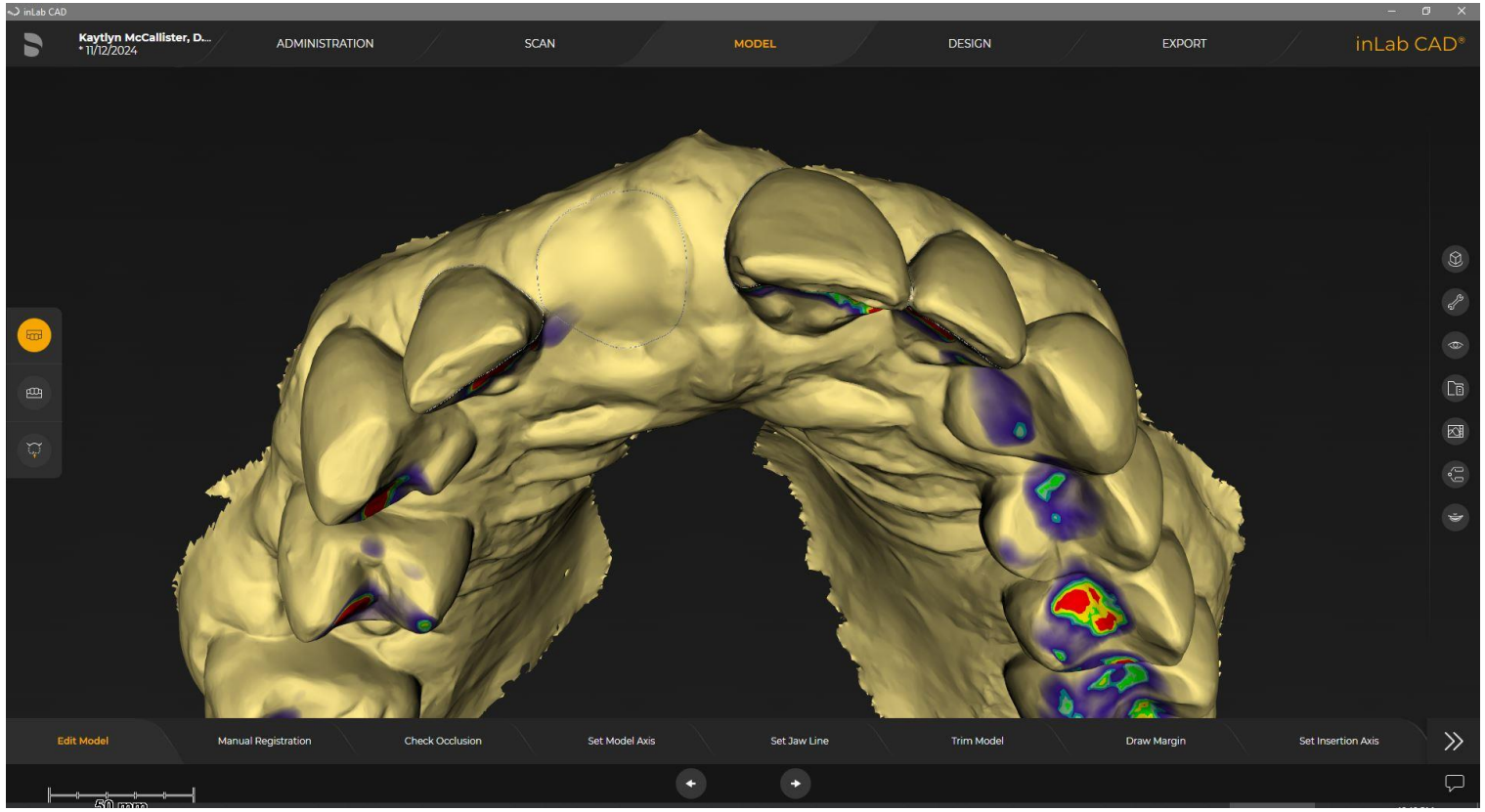


Case #3: 2D Design, 3D Digital Wax Up Digital Workflow (Patient: D)

inLab CAD 22

Model Axis

Case #3: 2D Design, 3D Digital Wax Up Digital Workflow (Patient: D)

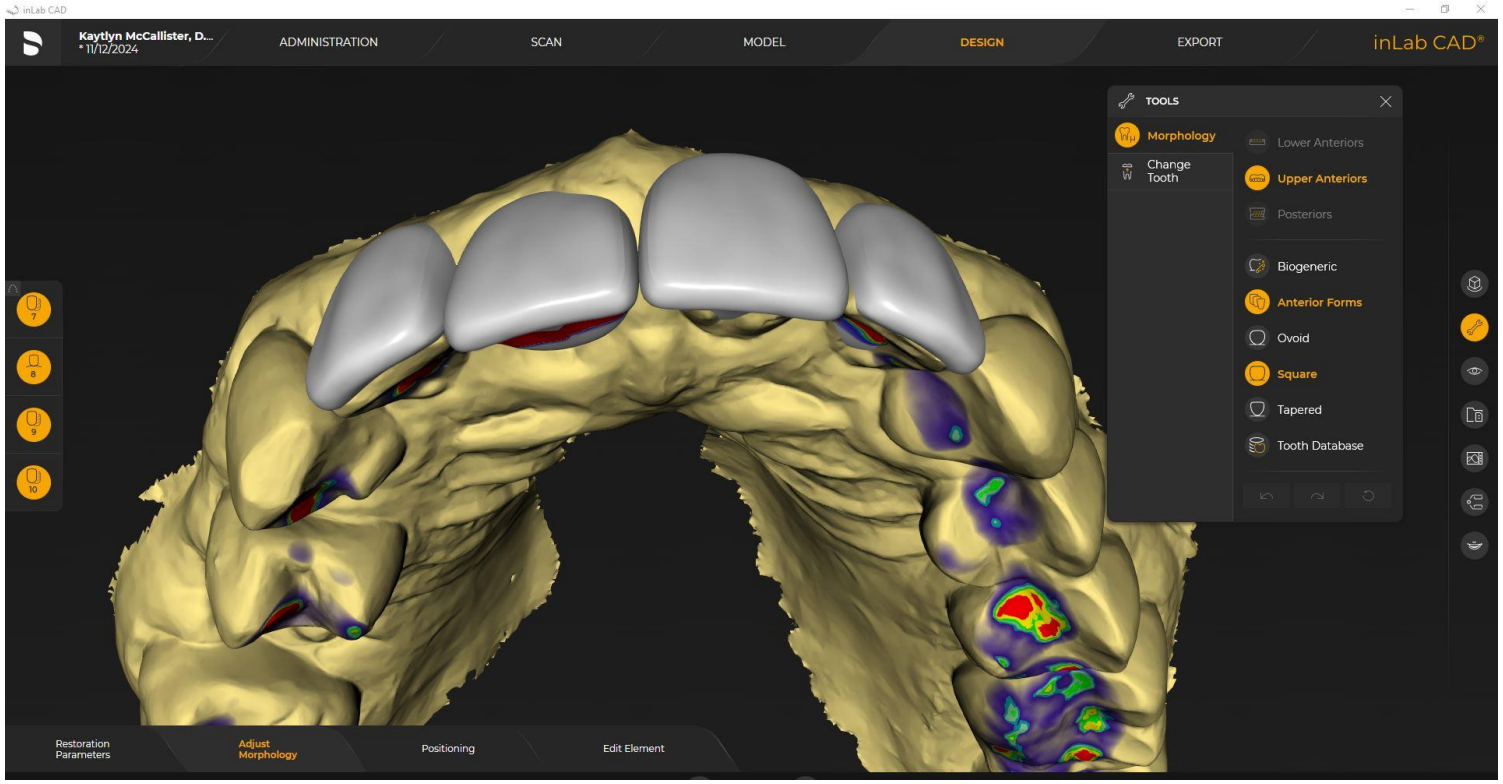


inLab CAD 22

Virtually Extract, Margins #8 Cr.

Margins #7, 9, 10

Case #3: 2D Design, 3D Digital Wax Up Digital Workflow (Patient: D)



inLab CAD 22

Anterior Form. Square

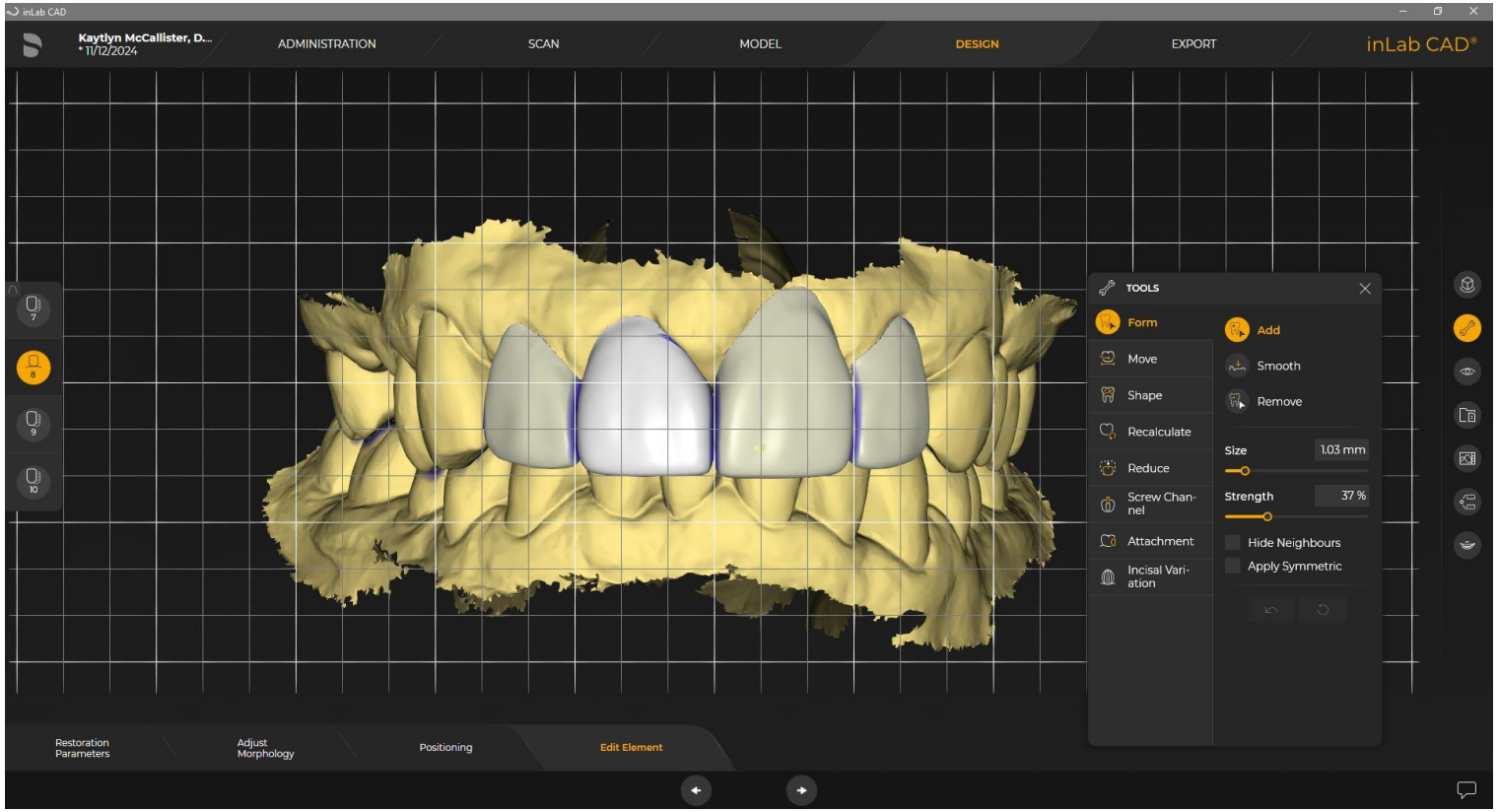
Positioning of Shells

Case #3: 2D Design, 3D Digital Wax Up Digital Workflow (Patient: D)

inLab CAD 22

Smile Design Reference Photo

Case #3: 2D Design, 3D Digital Wax Up Digital Workflow (Patient: D)



inLab CAD 22

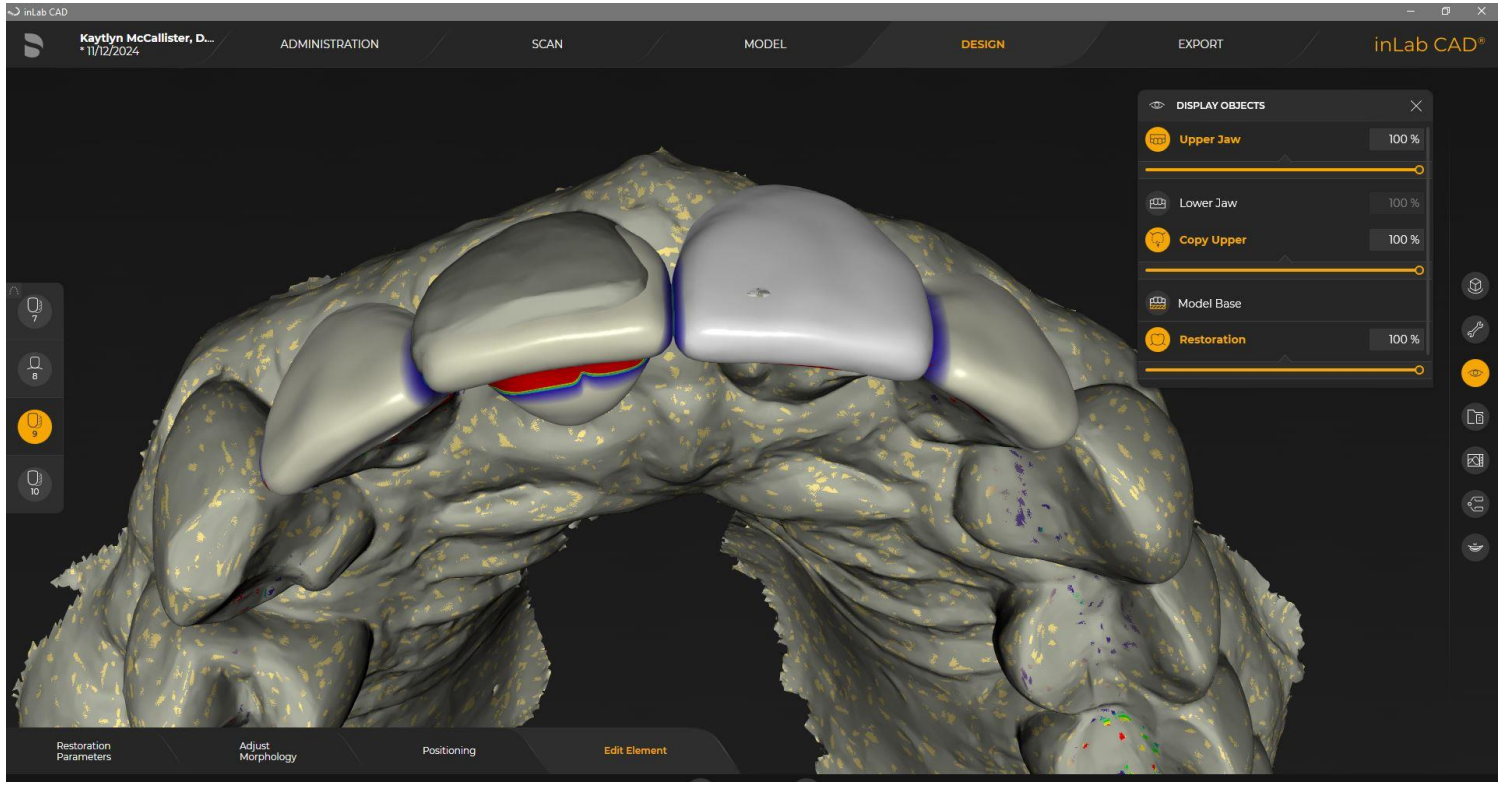
Grid Preview

Case #3: 2D Design, 3D Digital Wax Up Digital Workflow (Patient: D)

inLab CAD 22

Smile Design Preview

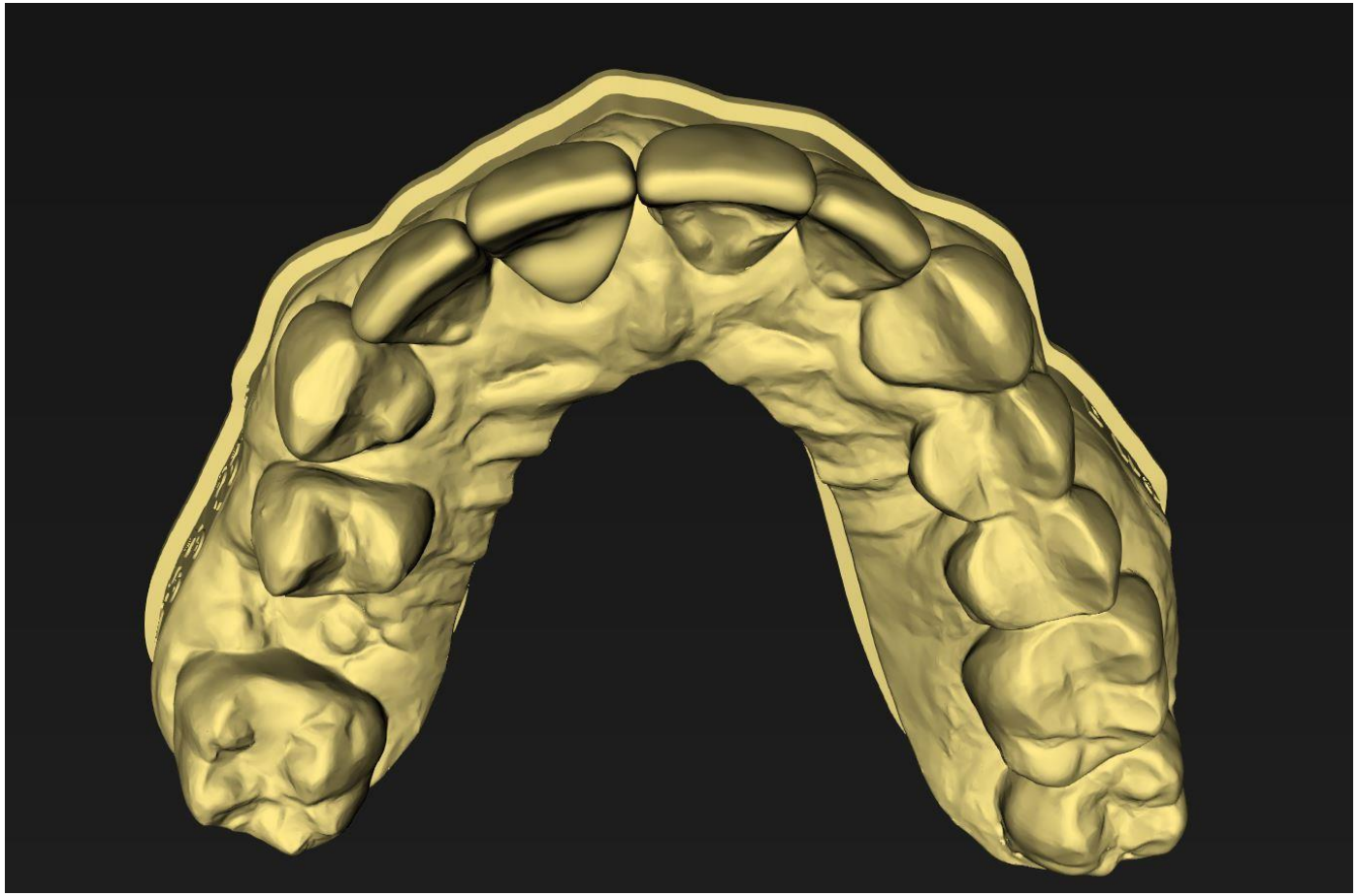
Case #3: 2D Design, 3D Digital Wax Up Digital Workflow (Patient: D)



inLab CAD 22

Pre-Op and Restorations

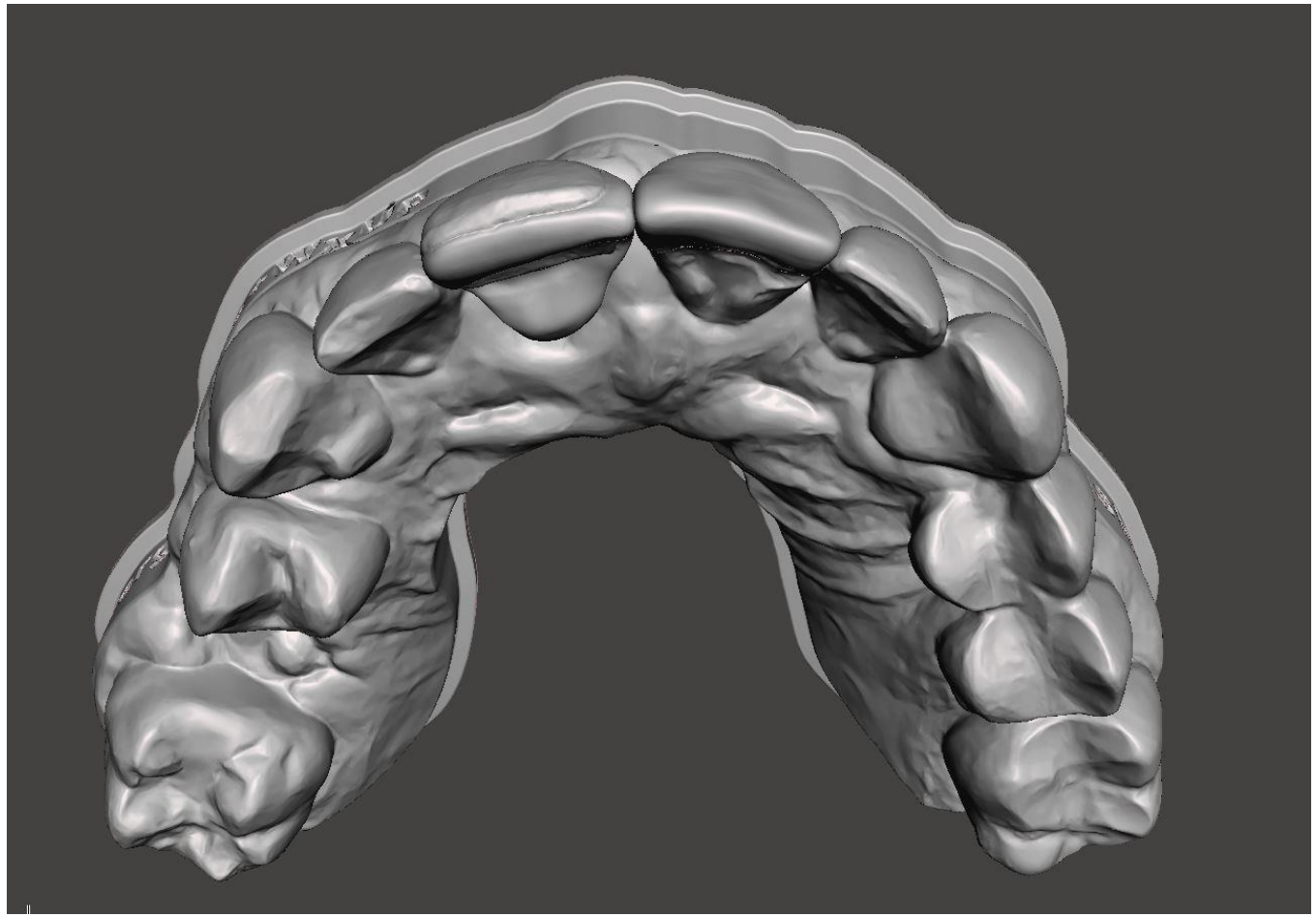
Case #3: 2D Design, 3D Digital Wax Up Digital Workflow (Patient: D)



inLab CAD 22

Virtually Seated Restorations Model

Case #3: 2D Design, 3D Digital Wax Up Digital Workflow (Patient: D)



inLab CAD 22

Virtually Seated Restorations +

Pre-Op Merged Model

Copyplast Transfer Stent

- https://www.greatlakesdentaltech.com/
- Item # 035-018, 1.5 mm/125 mm Square
- "Does not bond to acrylic"
- 'Use for duplication molds...temporary crowns and bridges."

Copyplast Transfer Stent, Accessory

- Amazon.com
- Zibra Open-It! All-In-One Multi Tool

Case #4: Denture 2D and 3D Adaptations (Patient: Lawanna)

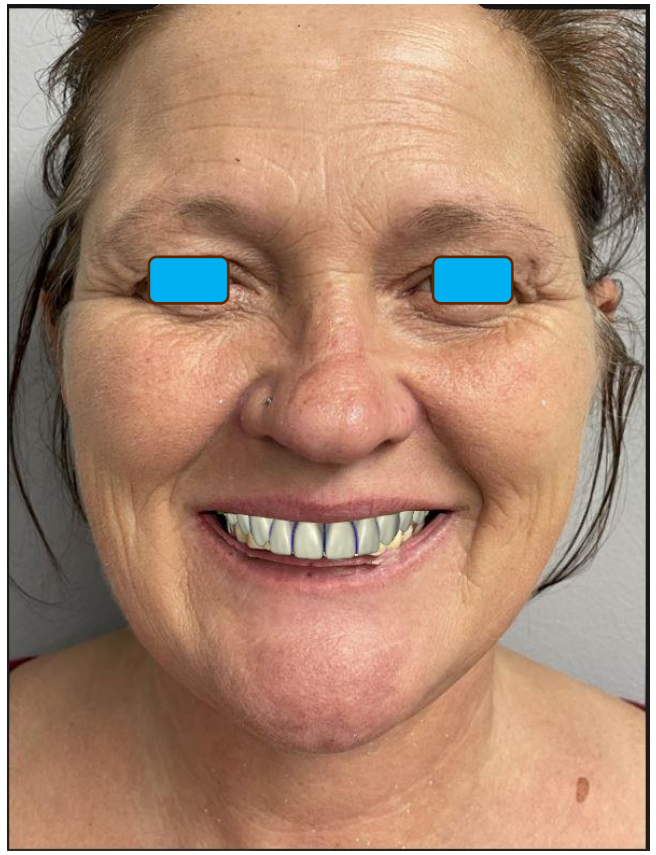
Dr. Barry Goodspeed

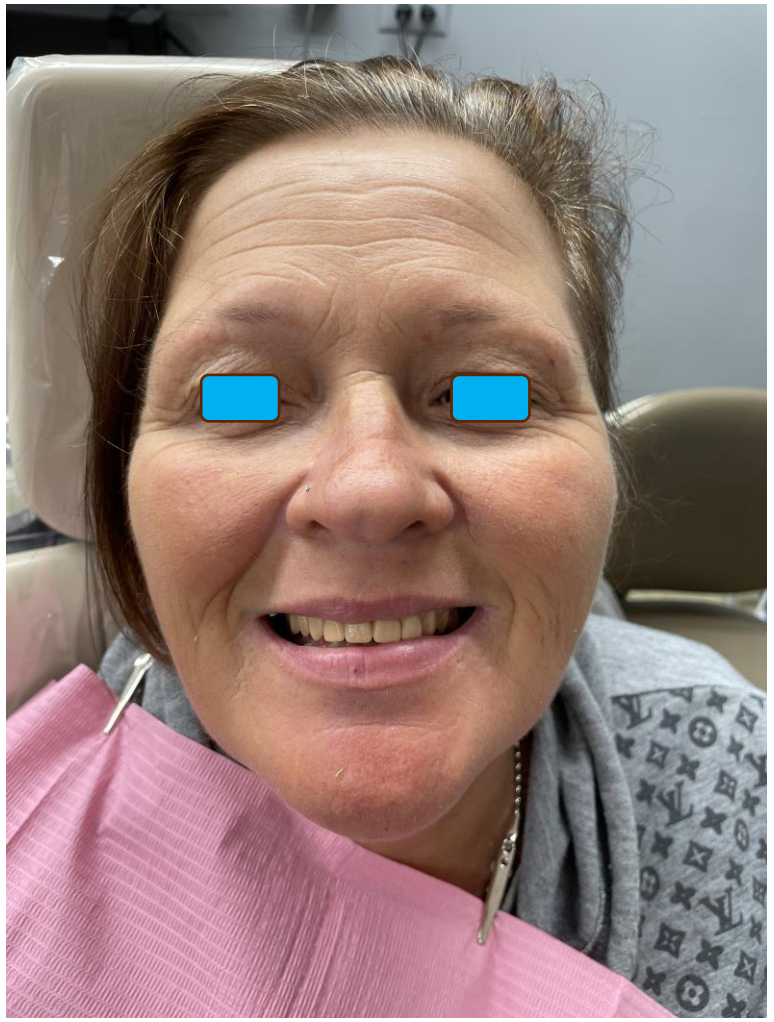
Lovelady Center

Patient's dog broke her upper denture and ate the lower denture!

Case #4: Denture 2D and 3D Adaptations (Patient: Lawanna)

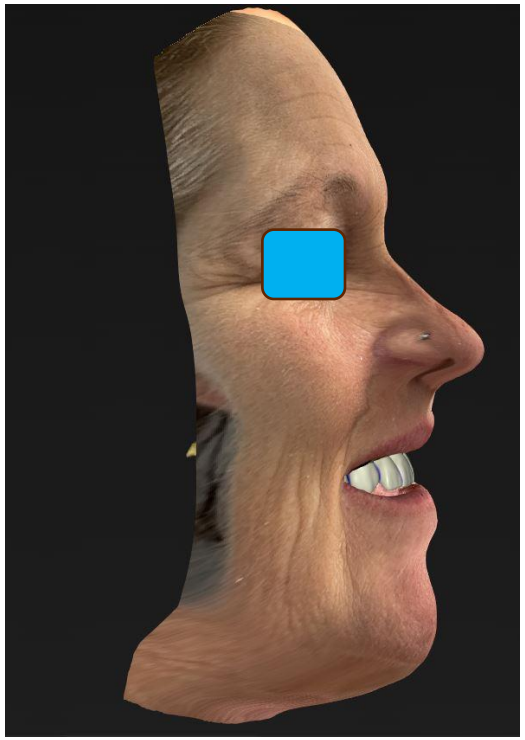
First Set Up and Printed Try In (Model C)





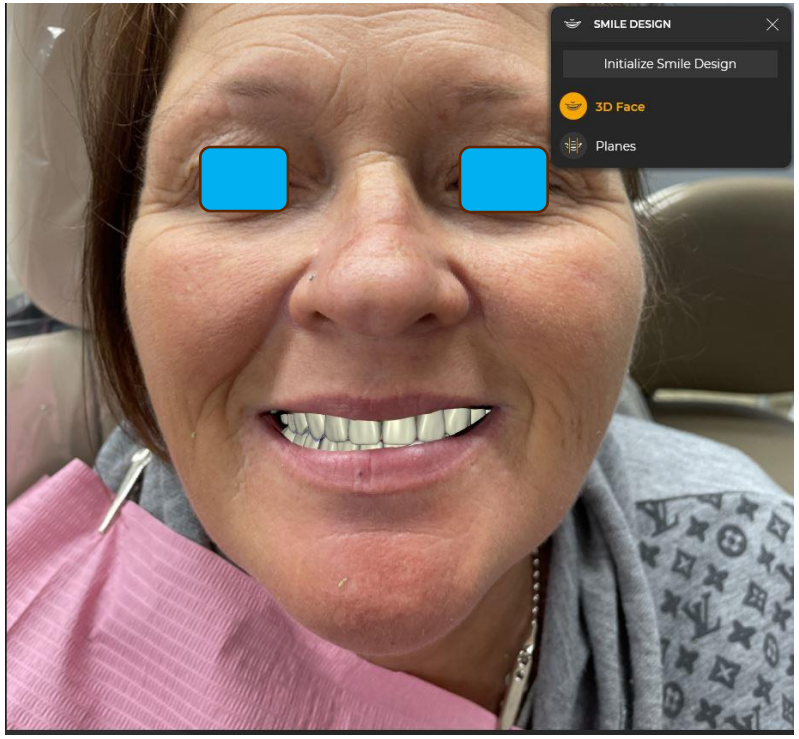
Case #4: Denture 2D and 3D Adaptations (Patient: Lawanna)

First Set Up and Printed Try In (Model C)



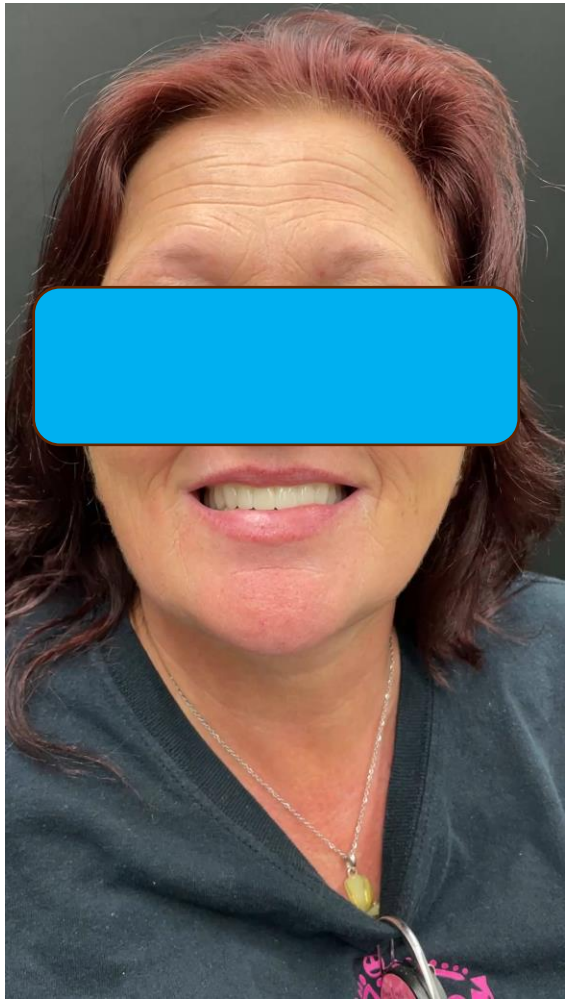
Case #4: Denture 2D and 3D Adaptations (Patient: Lawanna)

Revised Set Up and Printed Try In (Value Try In Resin)



Case #4: Denture 2D and 3D Adaptations (Patient: Lawanna)

Case #4: Denture 2D and 3D Adaptations (Patient: Lawanna)



Case #5: Digital Wax Up (Patient: Danny)

Collaboration with

Dr. Allen Kessler and

Dr. William Allee

UAB SOD Graduate 2024

Patient considering porcelain veneers for worn dentition

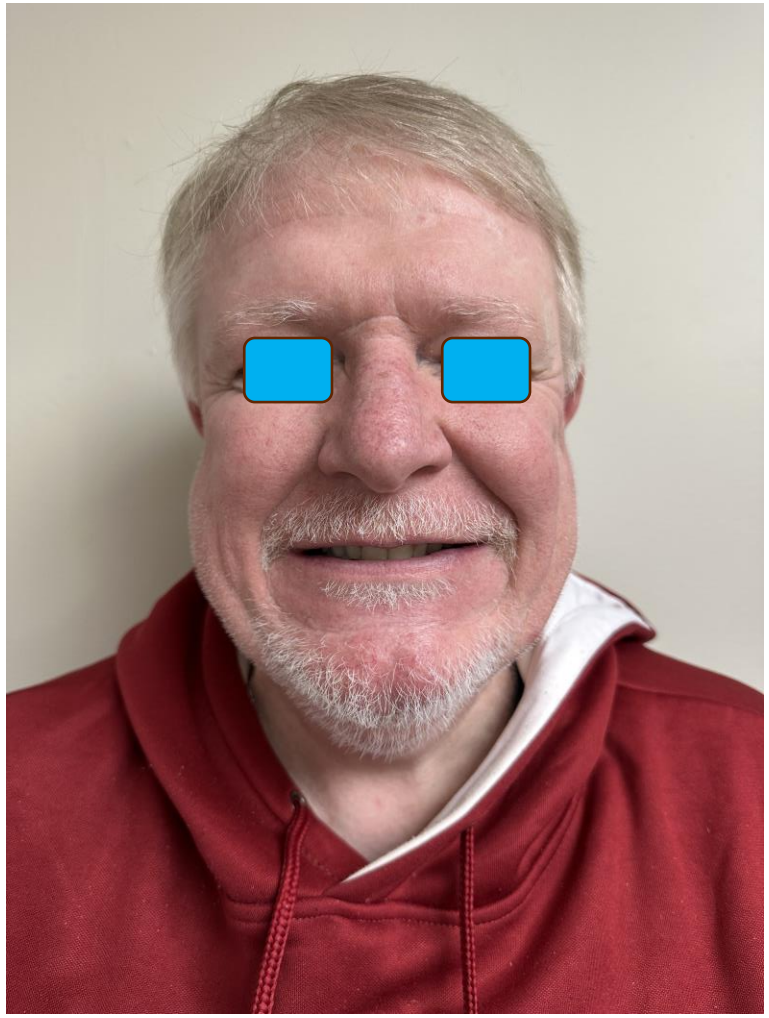
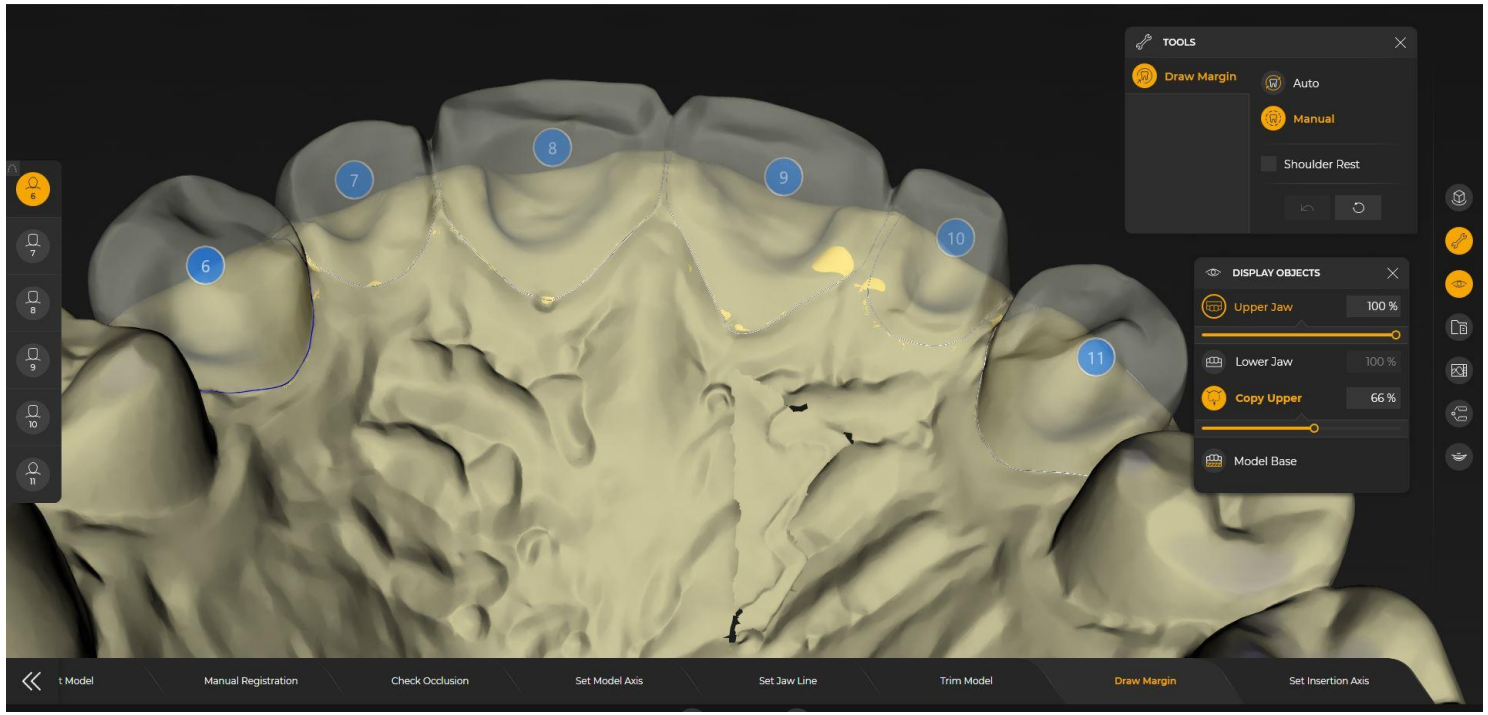


	PHOTO SET 8 **Orthodontic/Esthetic Evaluation**	**3D General Dentistry Services, PC** **3DGDServices.com**
EO Frontal Repose	**EO Frontal Full Smile**	**EO Profile**
IO Retracted Occlusal Maxillary		**IO Retracted Occlusal Mandibular**
	Doctor: Will Allee **Patient: Danny** **DOB/Age: 54** **Date: 1/20/2025**	
IO Retracted Closeup Buccal Right	**IO Retracted Closeup Anterior**	**IO Retracted Closeup Buccal Left**

Case #5: Digital Wax Up (Patient: Danny)

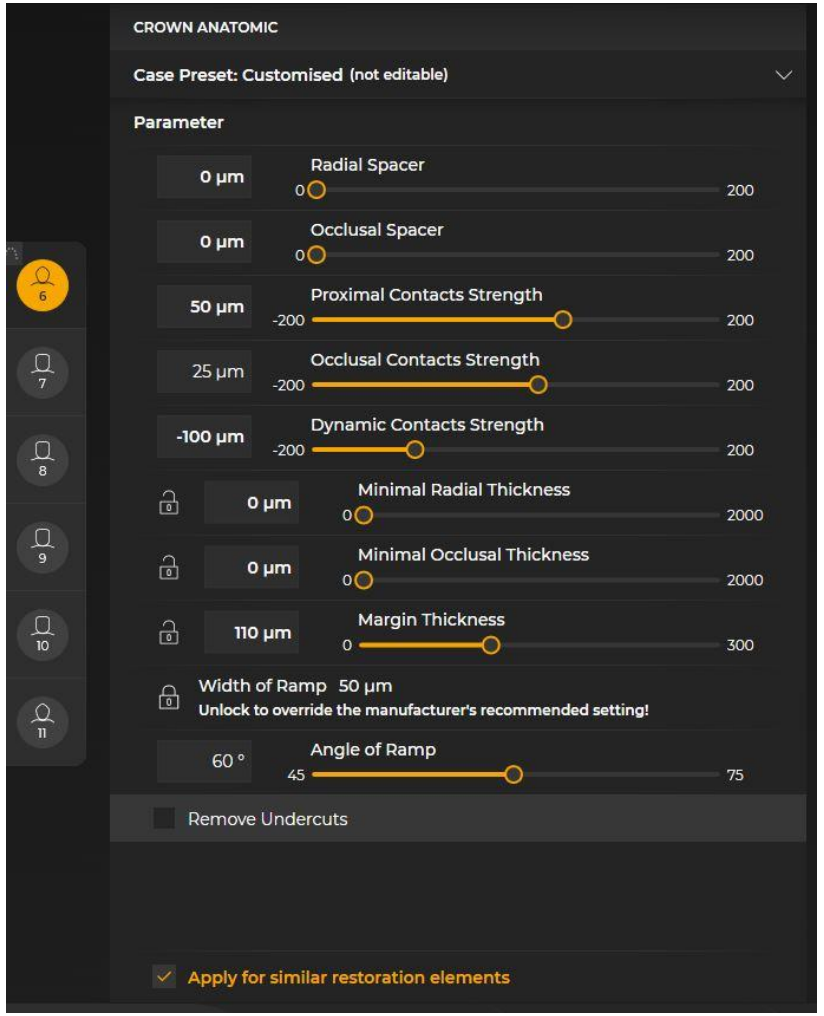
1. Virtually Extract Teeth on Digital Model with Replace Tool
2. Draw Margins at original emergence of the teeth



Case #5: Digital Wax Up (Patient: Danny)

3. Parameters

Zero space for virtual wax



Case #5: Digital Wax Up (Patient: Danny)

4a. Smile Design

Photo

Import and Select

Reference Points

Case #5: Digital Wax Up (Patient: Danny)

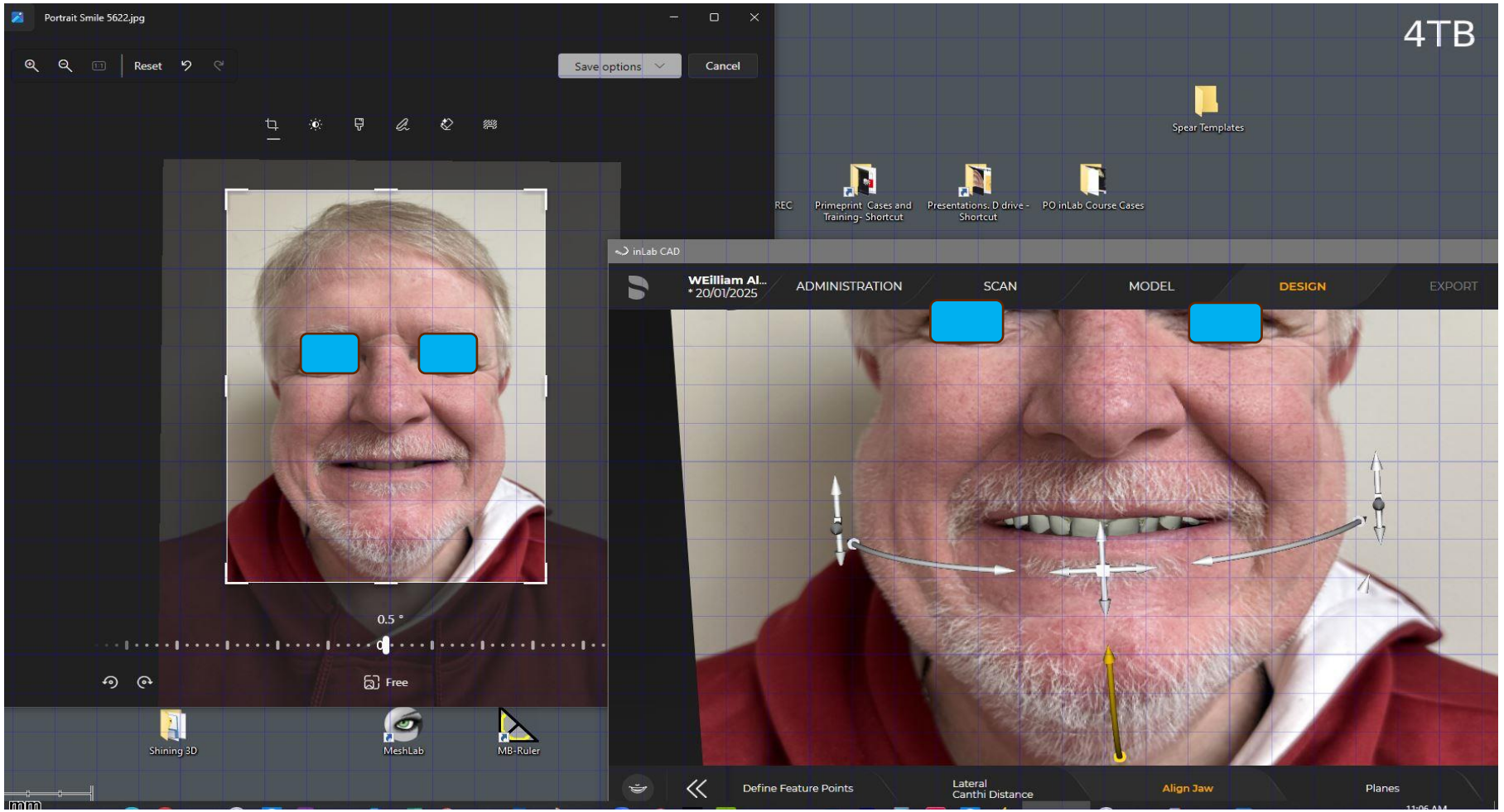
4b. Smile Design

Align the Jaw

Case #5: Digital Wax Up (Patient: Danny)

4b. Smile Design

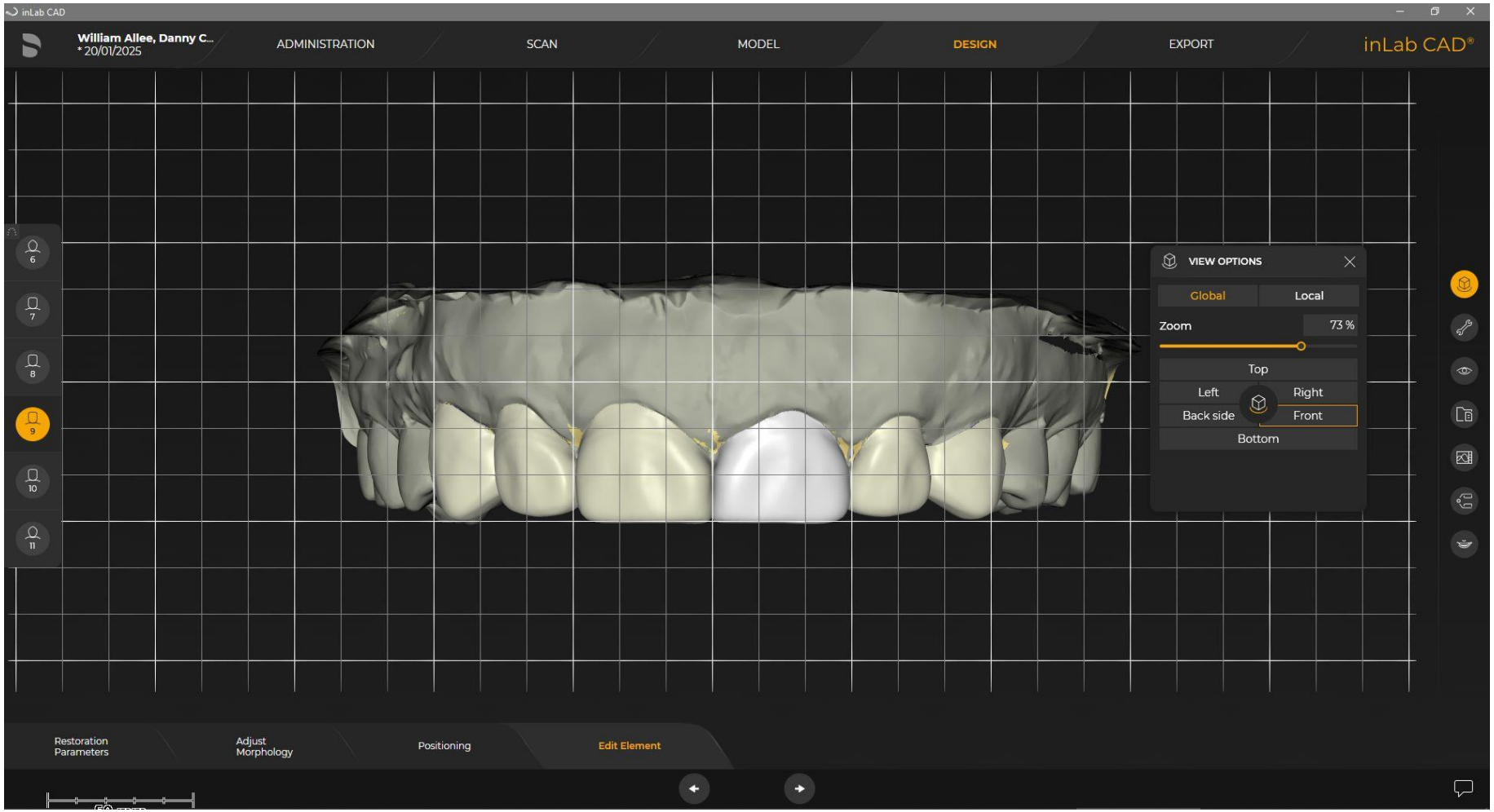
Align the Jaw



Case #5: Digital Wax Up (Patient: Danny)

5. Final Design

Get On the Grid!!!



Case #5: Digital Wax Up (Patient: Danny)

5. Final Design

Case #5: Digital Wax Up (Patient: Danny)

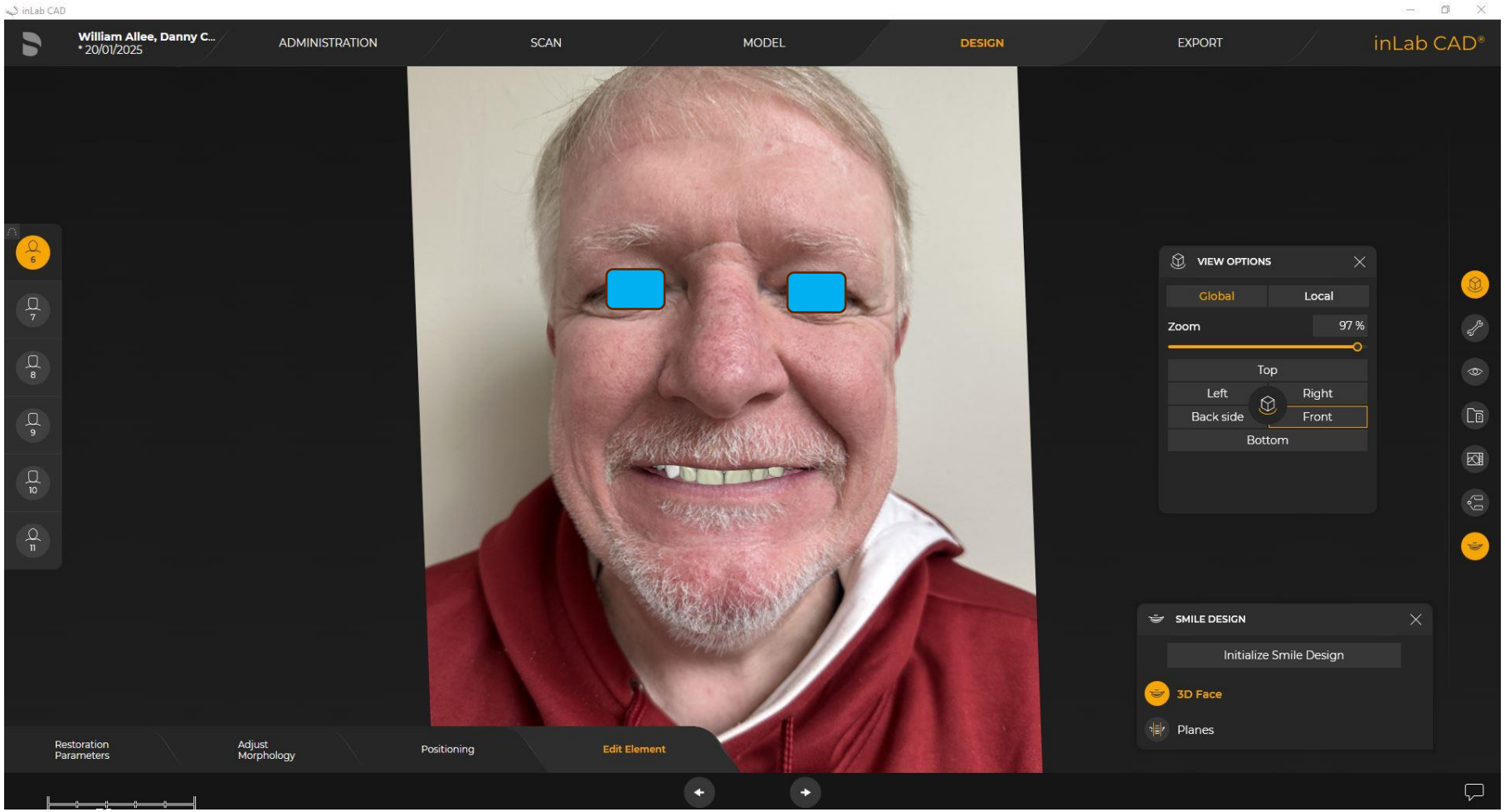
5. Final Design

Notice Additive Areas

Case #5: Digital Wax Up (Patient: Danny)

5. Final Design

3D Face Preview



Case #5: Digital Wax Up (Patient: Danny)

6. Virtual Seat

Print then

Create Vacuform

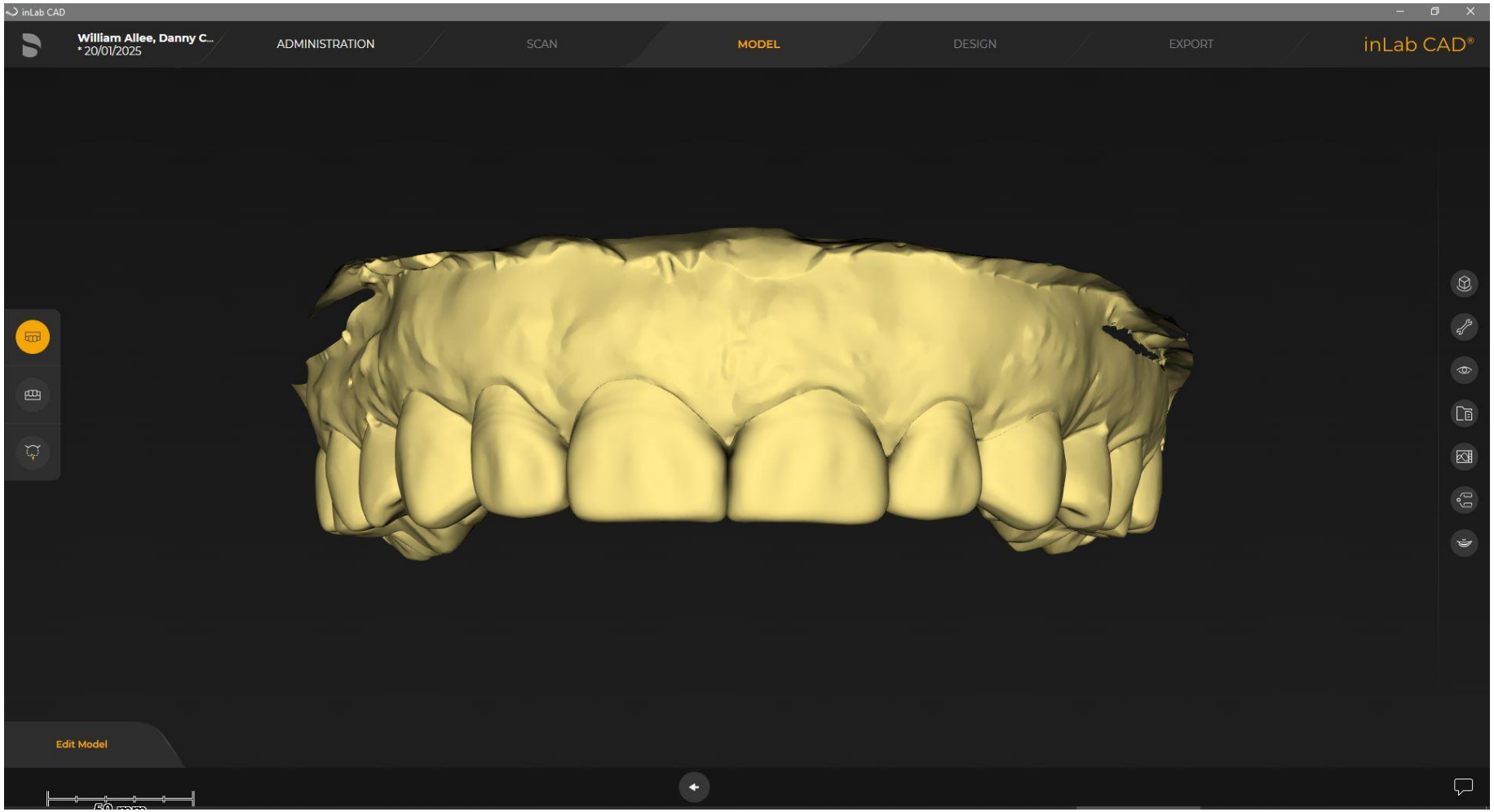
Copyplast Stent

Or

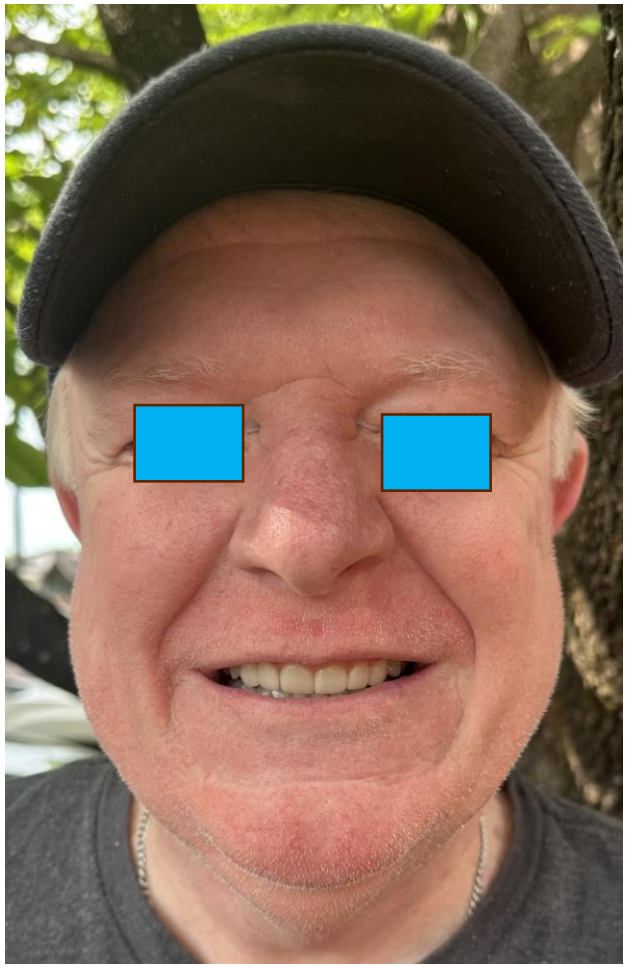
Duplicate with PVS

Or Alginate

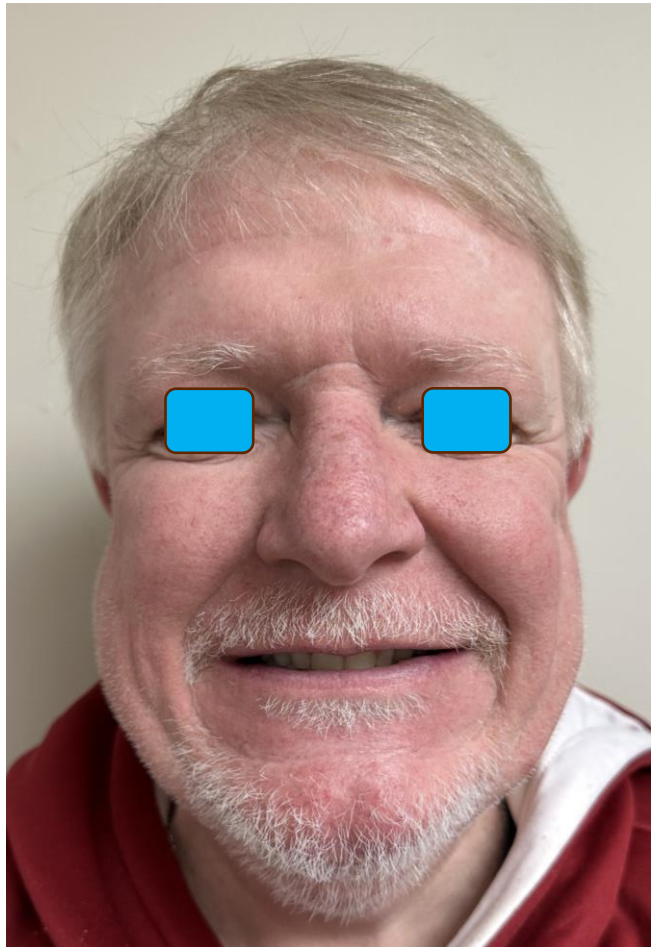
for Transfer

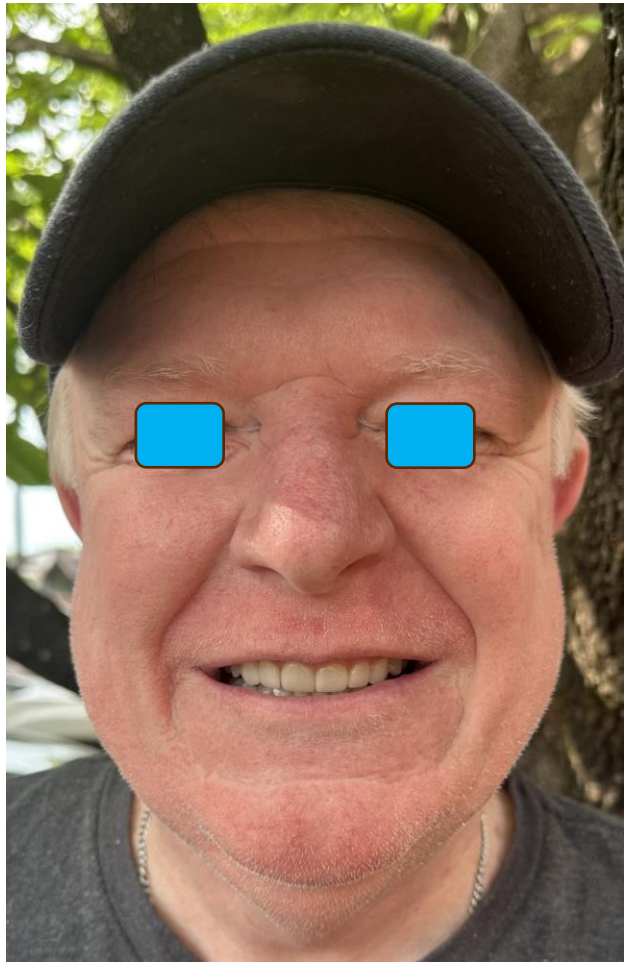


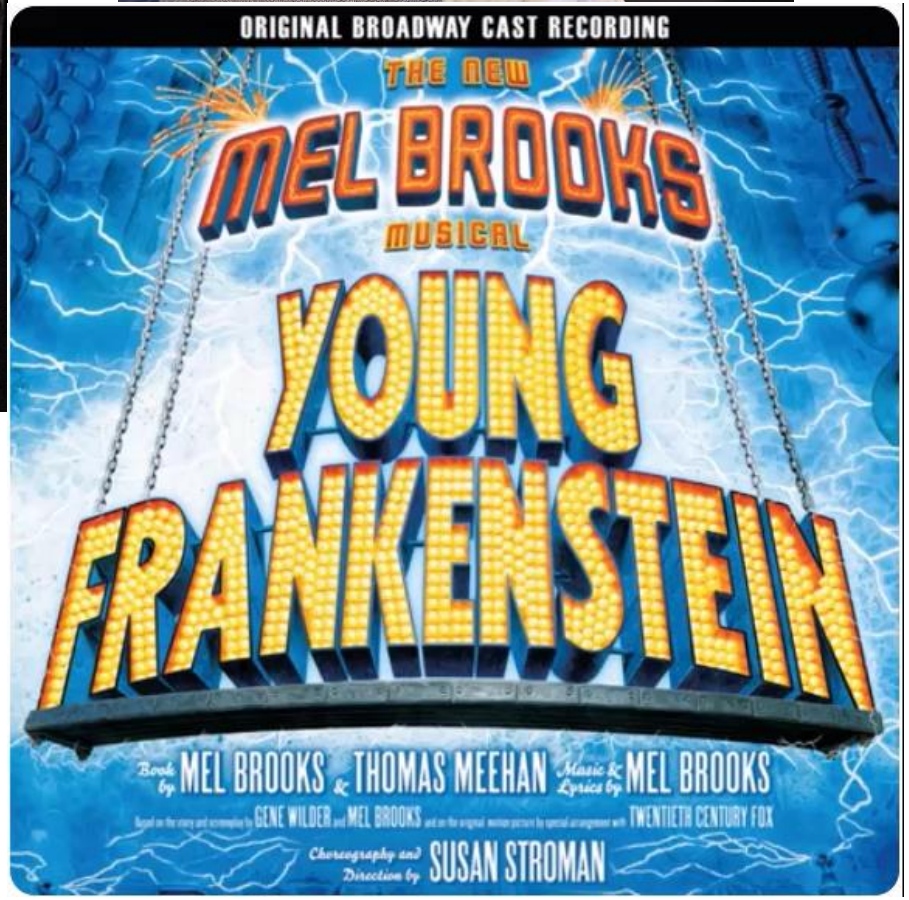
Case #5: End Result (Patient: Danny)



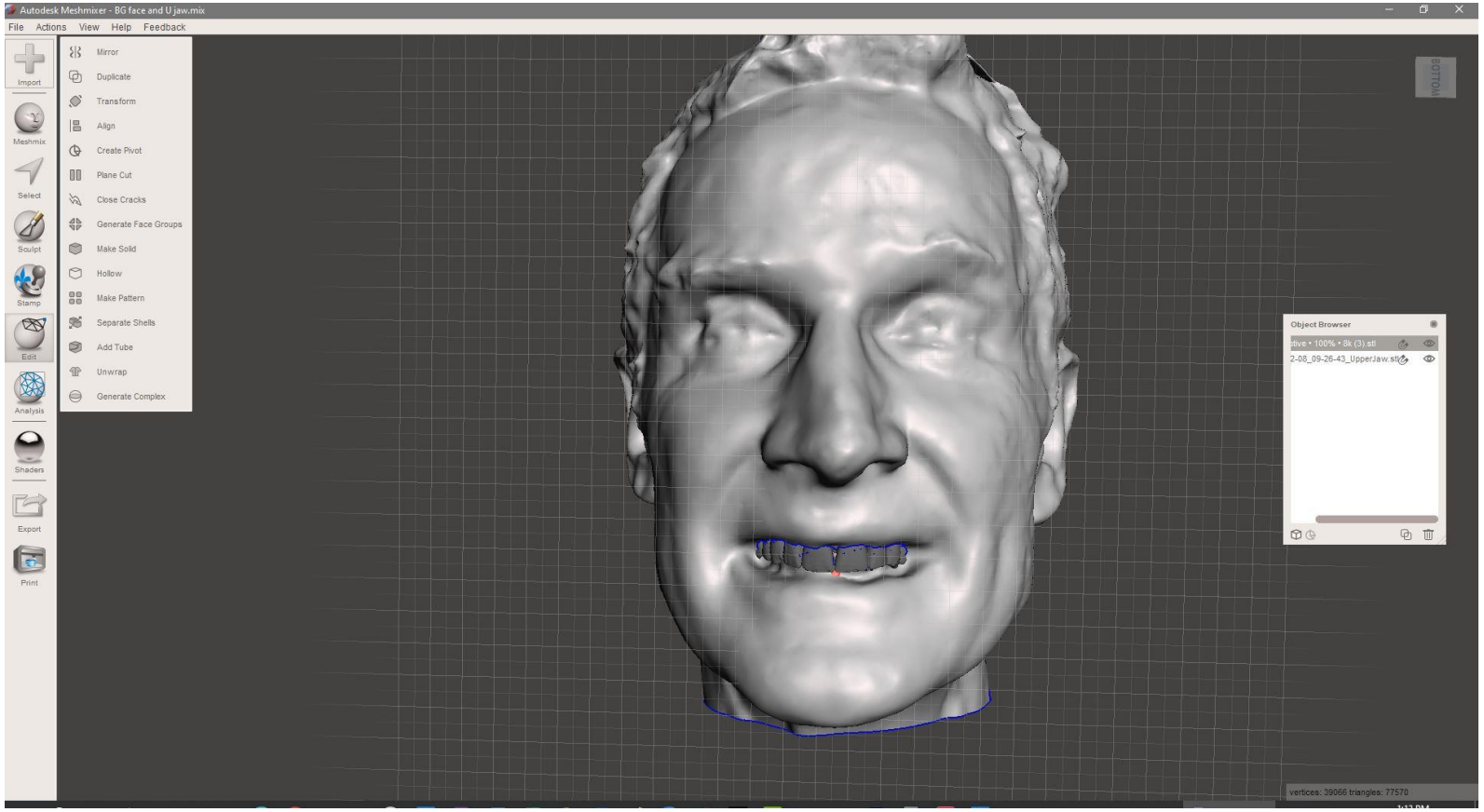
Case #5: End Result (Patient: Danny)






ORIGINAL BROADWAY CAST RECORDING
THE NEW
MEL BROOKS
MUSICAL
YOUNG
FRANKENSTEIN
Book by MEL BROOKS & THOMAS MEEHAN
Music & Lyrics by MEL BROOKS
Based on the story and screenplay by GENE WILDER and MEL BROOKS and on the original motion picture by special arrangement with TWENTIETH CENTURY FOX
Choreography and Direction by SUSAN STROMAN

Hybrid Resolution Facial Registration Scan



"Facial Registration Scan"

("Hybrid-Resolution Composite Scan")

New Term Defined by:

Adam P. Tow, MBA, DMD, FAGD

General Dentistry

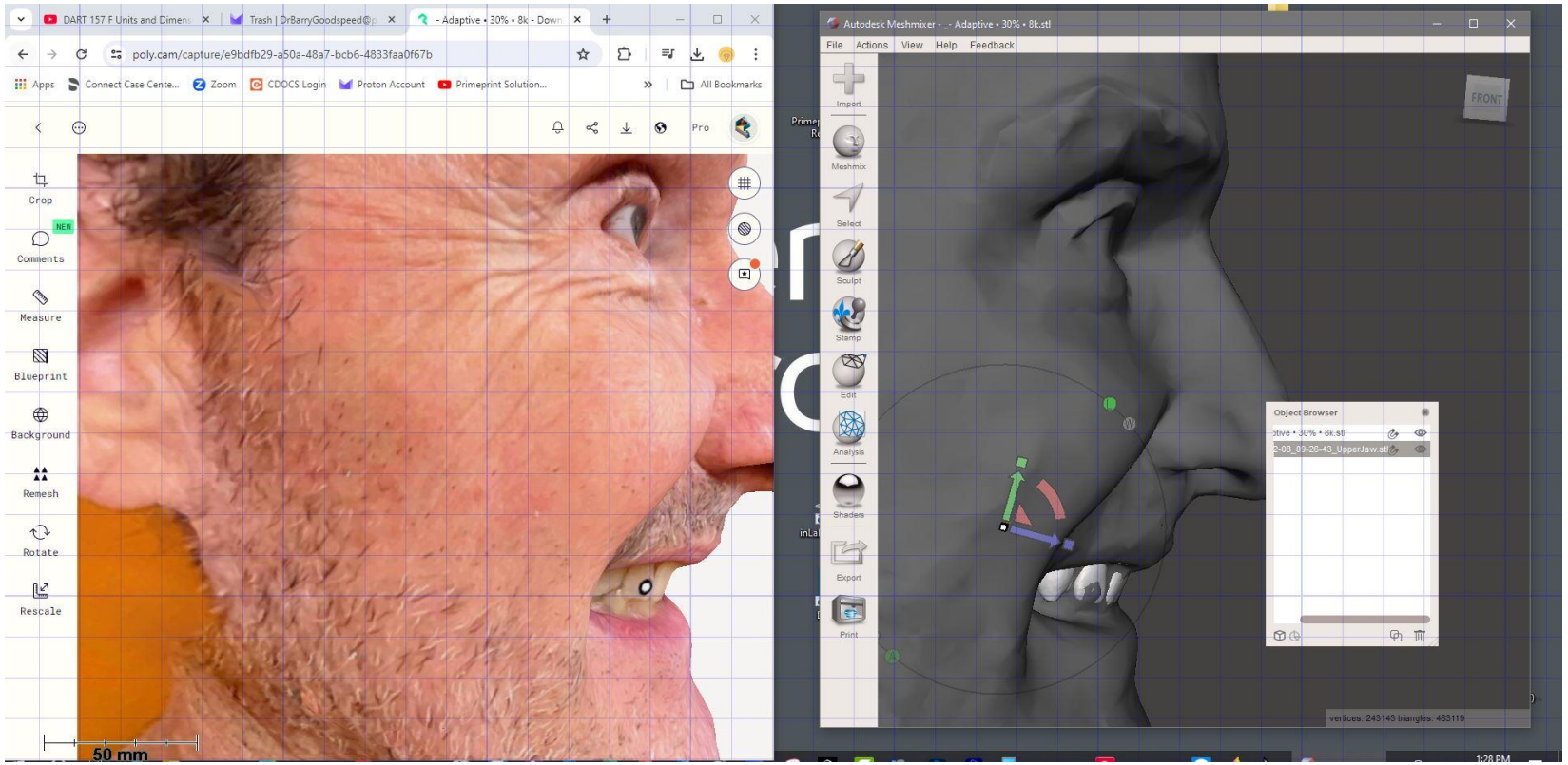
September/October 2024

Vol. 72, Number 5, pp. 31-37

Hybrid Resolution Facial Registration Scan

MB Ruler App!

https://download.cnet.com/mb-ruler/3000-2056_4-10109725.html



"Facial Registration Scan"

("Hybrid-Resolution Composite Scan")

New Term Defined by:

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General Dentistry

September/October 2024

Vol. 72, Number 5, pp. 31-37

Hybrid Resolution Facial Registration Scan

2 minute video next

"Facial Registration Scan"

("Hybrid-Resolution Composite Scan")

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General Dentistry

September/October 2024

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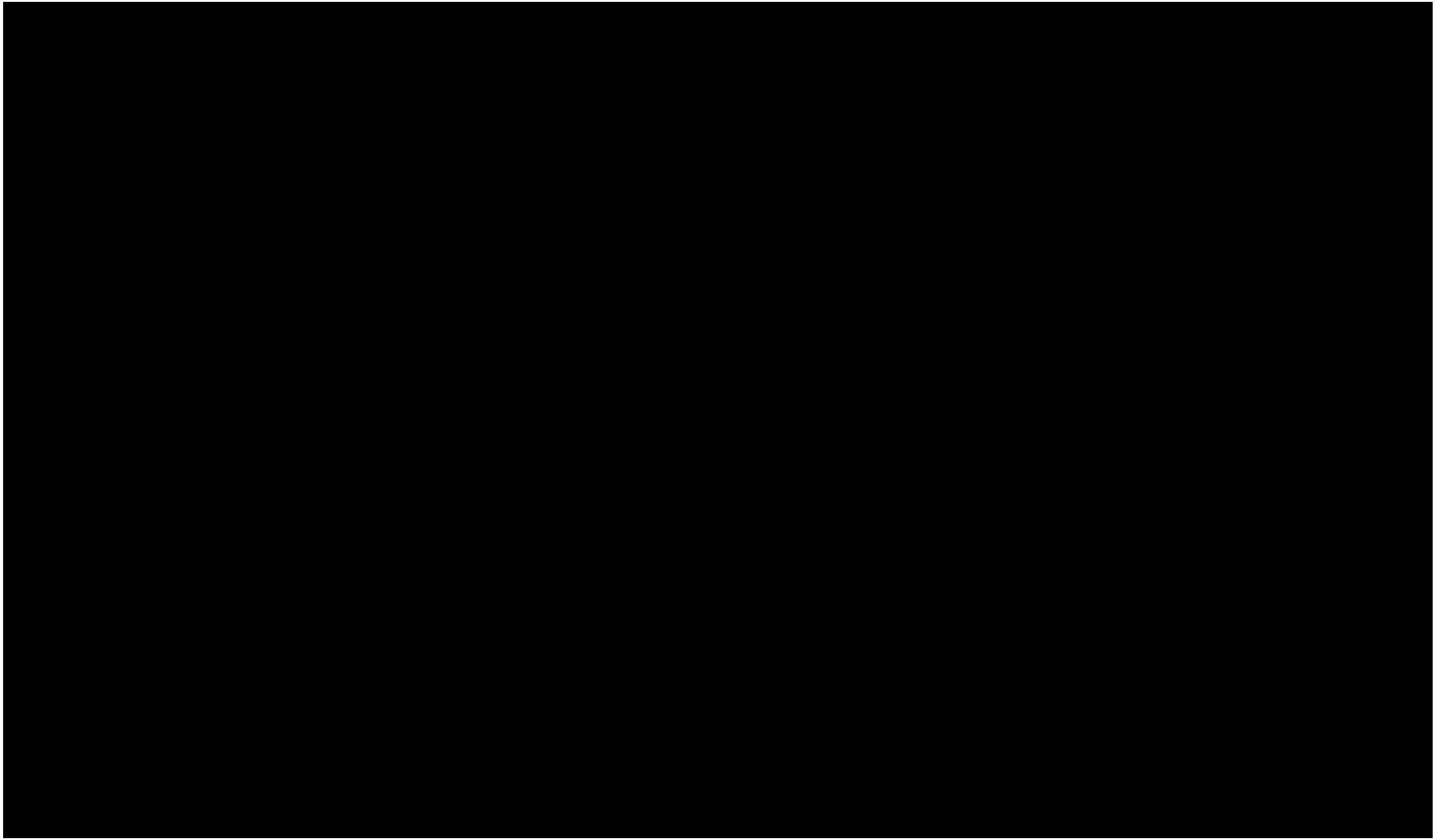
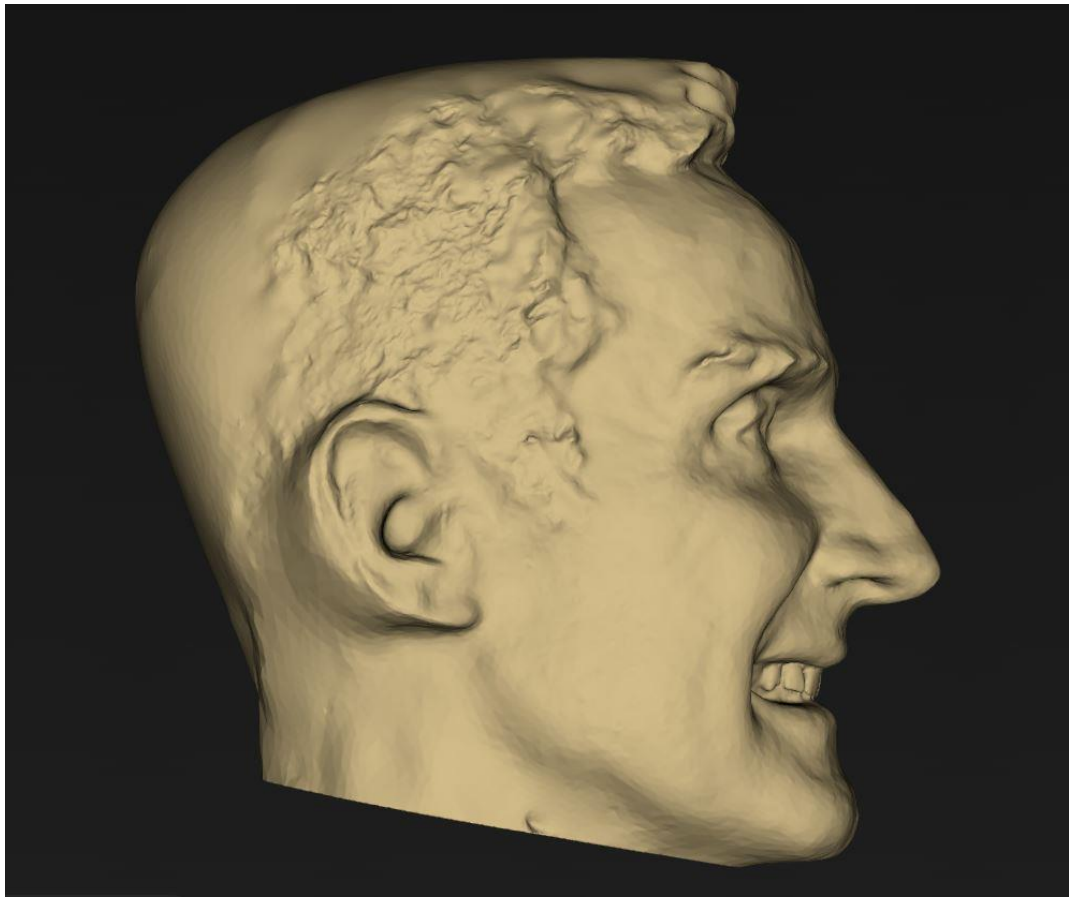
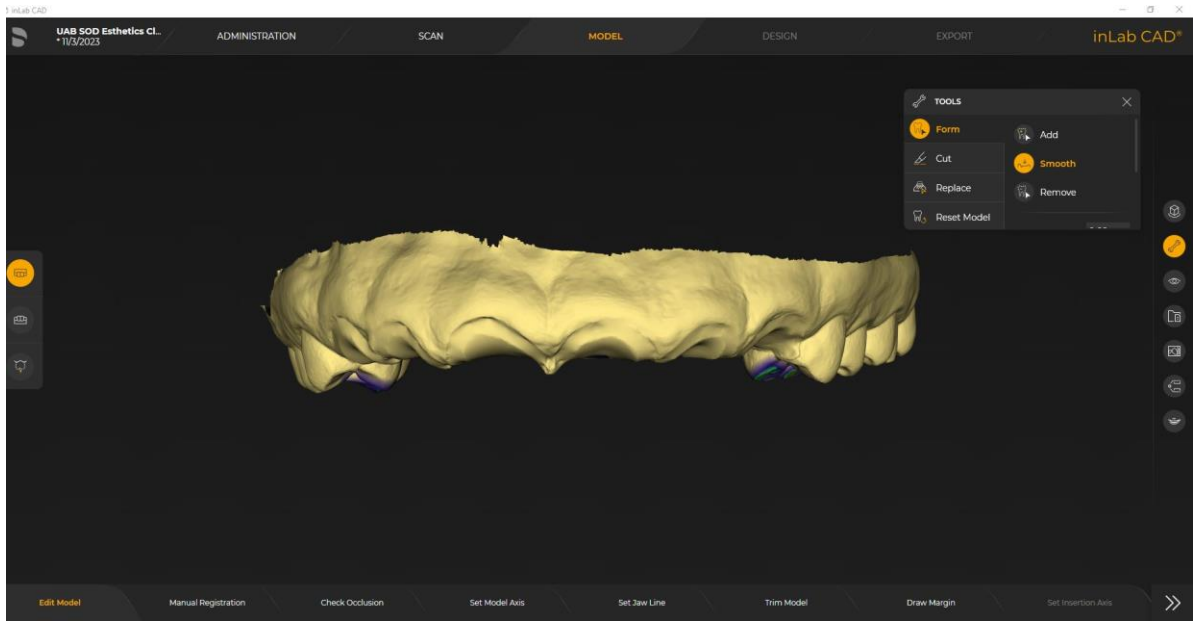
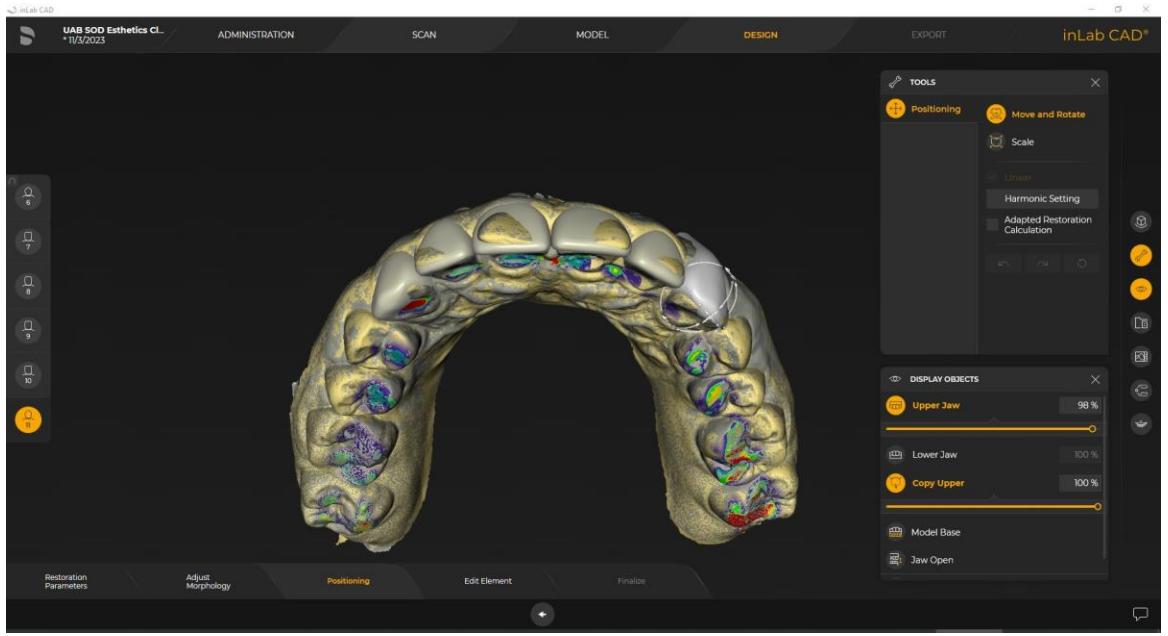


Hybrid Resolution Facial Registration Scan



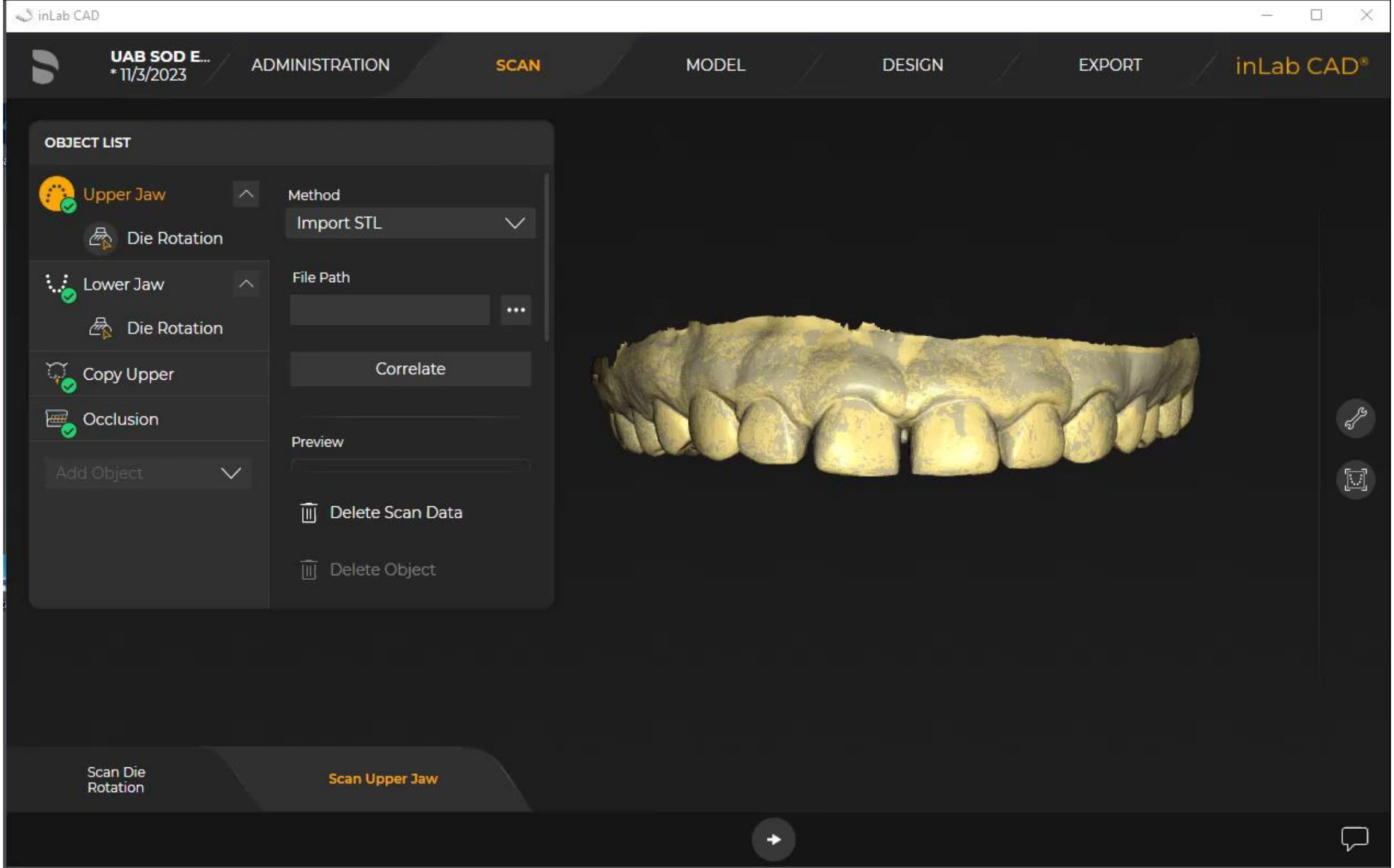
Case #1: Digital Wax Up Limitations and Modifications (Jahnvi)





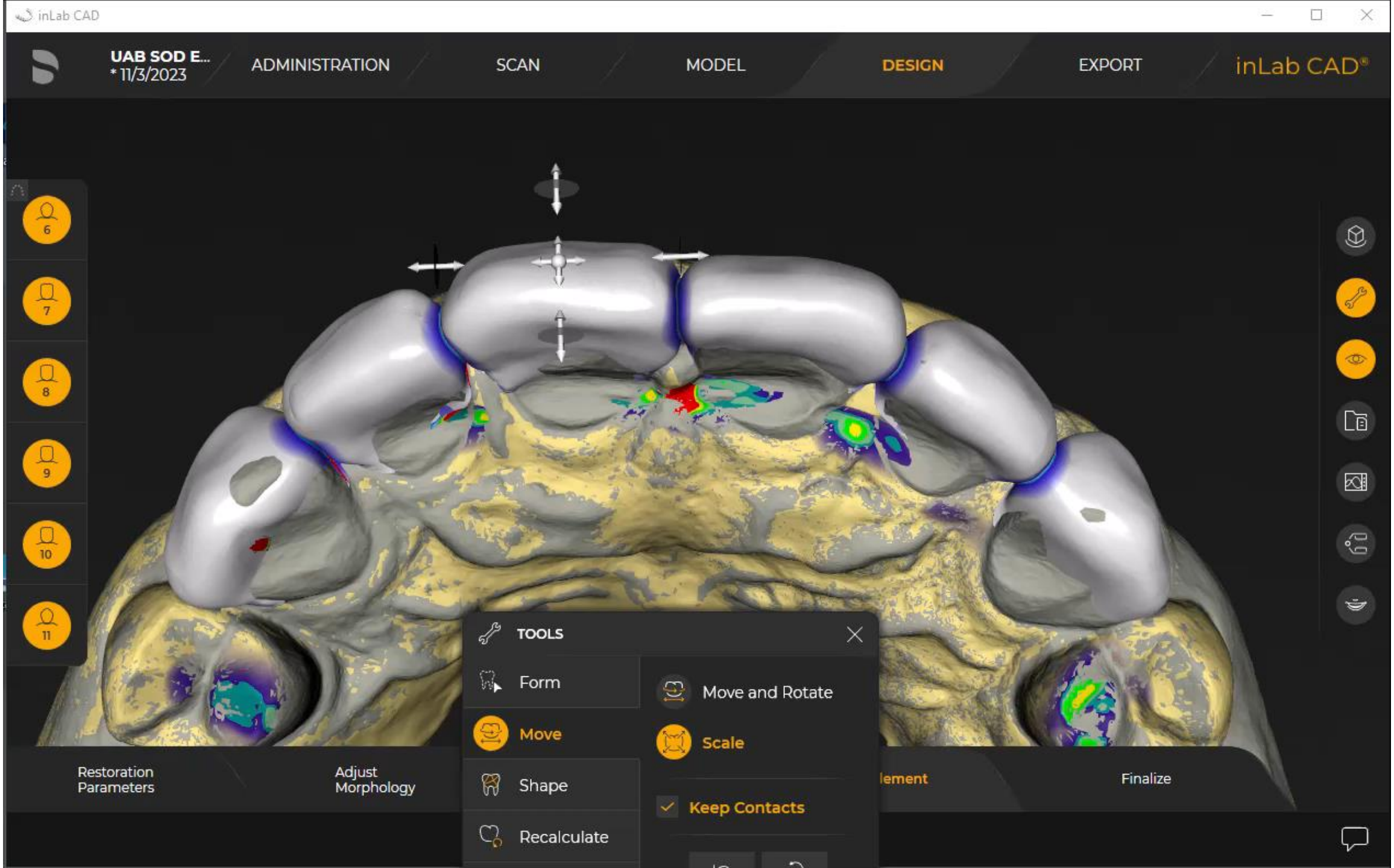
A Basic Digital Wax Up Sequence: #6-11

- 12 minutes

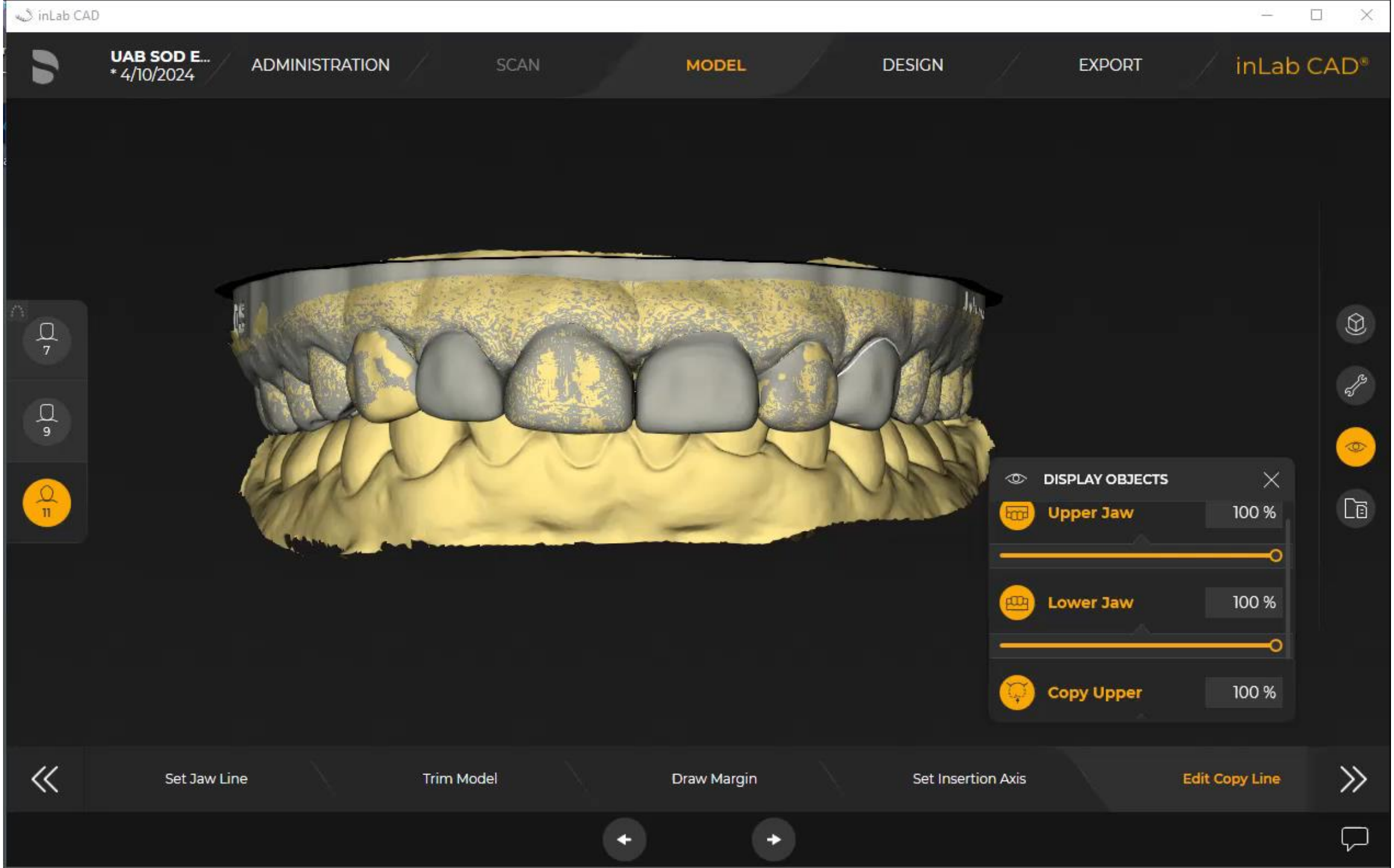

inLab CAD
UAB SOD E...
* 11/3/2023
ADMINISTRATION
SCAN
MODEL
DESIGN
EXPORT
inLab CAD®
OBJECT LIST
Upper Jaw
Die Rotation
Lower Jaw
Die Rotation
Copy Upper
Occlusion
Add Object
Method
Import STL
File Path
Correlate
Preview
Delete Scan Data
Delete Object
Scan Die Rotation
Scan Upper Jaw

A Min Reduction Wax Up Converted for Mod Reduction

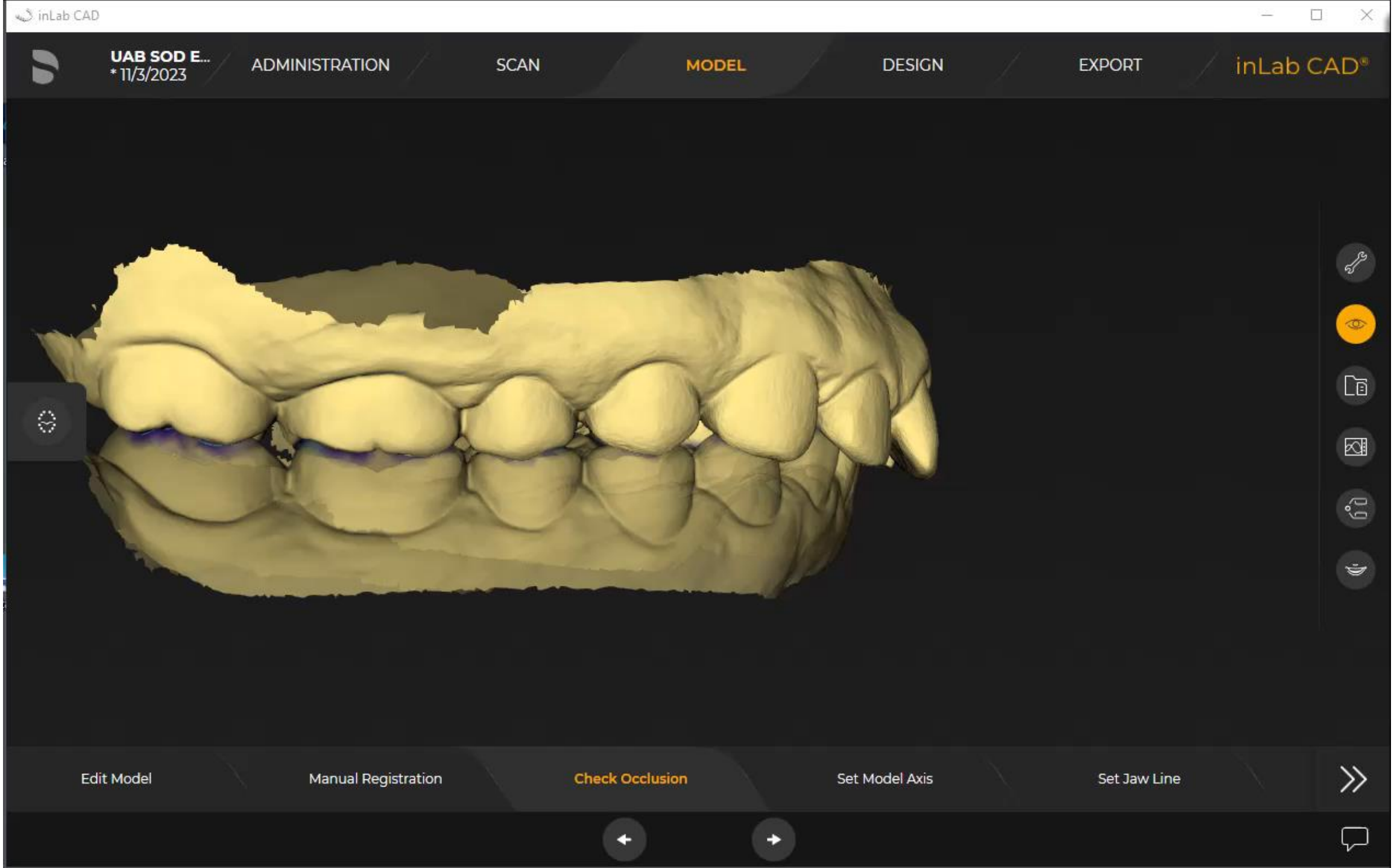
- 2.5 minutes


inLab CAD
UAB SOD E...
* 11/3/2023
ADMINISTRATION
SCAN
MODEL
DESIGN
EXPORT
inLab CAD®
6
7
8
9
10
11
TOOLS
Form
Move
Shape
Recalculate
Move and Rotate
Scale
Keep Contacts
Restoration Parameters
Adjust Morphology
lement
Finalize

Min Reduction Wax Up Virtual Seat Every Other #6, 8, & 10


inLab CAD
UAB SOD E...
* 4/10/2024
ADMINISTRATION
SCAN
MODEL
DESIGN
EXPORT
inLab CAD®
7
9
11
DISPLAY OBJECTS
Upper Jaw
100 %
Lower Jaw
100 %
Copy Upper
100 %
Set Jaw Line
Trim Model
Draw Margin
Set Insertion Axis
Edit Copy Line

VDO and Orthodontic Considerations


inLab CAD
UAB SOD E...
* 11/3/2023
ADMINISTRATION
SCAN
MODEL
DESIGN
EXPORT
inLab CAD®
Edit Model
Manual Registration
Check Occlusion
Set Model Axis
Set Jaw Line

Smile Design: 3D
Objectives for You

Establish a systematic approach to your esthetic cases with a "*Facially Generated Treatment Plan*." (Frank Spear).

Understand the underlying concepts of a *Digital Wax Up* whether you DIY or Send Out to your Lab Technician.

Get	On	The	Grid!

Special Credits and Acknowledgements

Collaborators:

Jahnvi

Dr. Allen Kessler

Dr. Mallory Hunt

Dr. William Allee

Dr. Kaytlyn McCallister

Dr. Chelsea Maniscalco

Jael Wall-Ellis, RDH

CDOCS

Dentsply Sirona inLab 22

Medit Smile Design

Polycam

References

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    a. Level 4 Anterior Esthetics,
    b. Level 5 Comprehensive Restorative Care with a Digital Workflow. CDOCS and Spear Education
    c. Level 6 Advanced Cerec Software Mastery

2. Orthodontic/Esthetic Consultation Sheet based off of Align Technologies certification Orthodontic Quick Check form distributed by CE presenting doctor, 10/3/2008.

3.. Photo Set 8 based on Invisalign composite creator, c. 2008.

4. Quickmount FaceBow With Screw: Model 8645 Whip-Mix Corporation, Patterson Item #: 727-6959, Mfg. Item #: 15911

5. Trios **3 Shape** Smile Design You Tube Tutorial link:
    https://www.youtube.com/watch?v=omuAeyFOmto

6. MeditLink.com. Smile Design Application

7. **Medit Link** Smile Design You Tube Tutorial link:
    Medit App_Medit Smile Design v1.2 (ENG) - YouTube
    Workflow guide on how to design smile with Medit 'Smile Design' App - YouTube

8. Harbor Freight Digital Caliper
https://www.harborfreight.com/hand-tools/measuring-marking/calipers-micrometer/calipers/6-in-digital-caliper-with-sae-and-metric-fractional-readings-63731.htm

9. Frank Spear, Spear Education. “Facially Generated Treatment Plan” concept and Spear Templates.

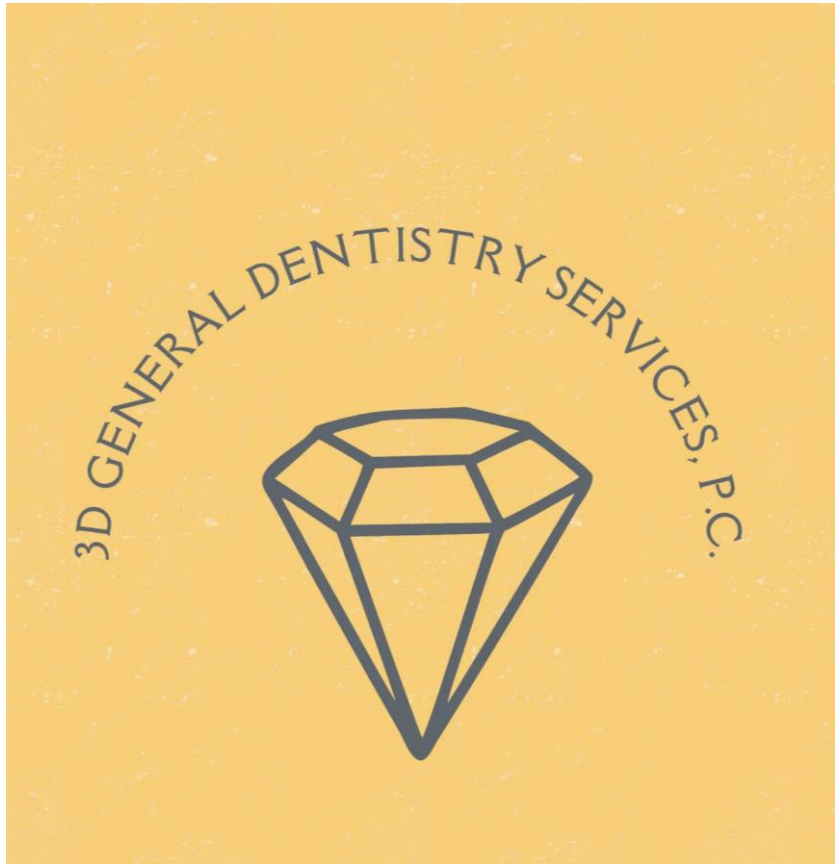
10. Dentsply Sirona inLab 22 Software. https://www.dentsplysirona.com/en-us

Smile Design: 3D

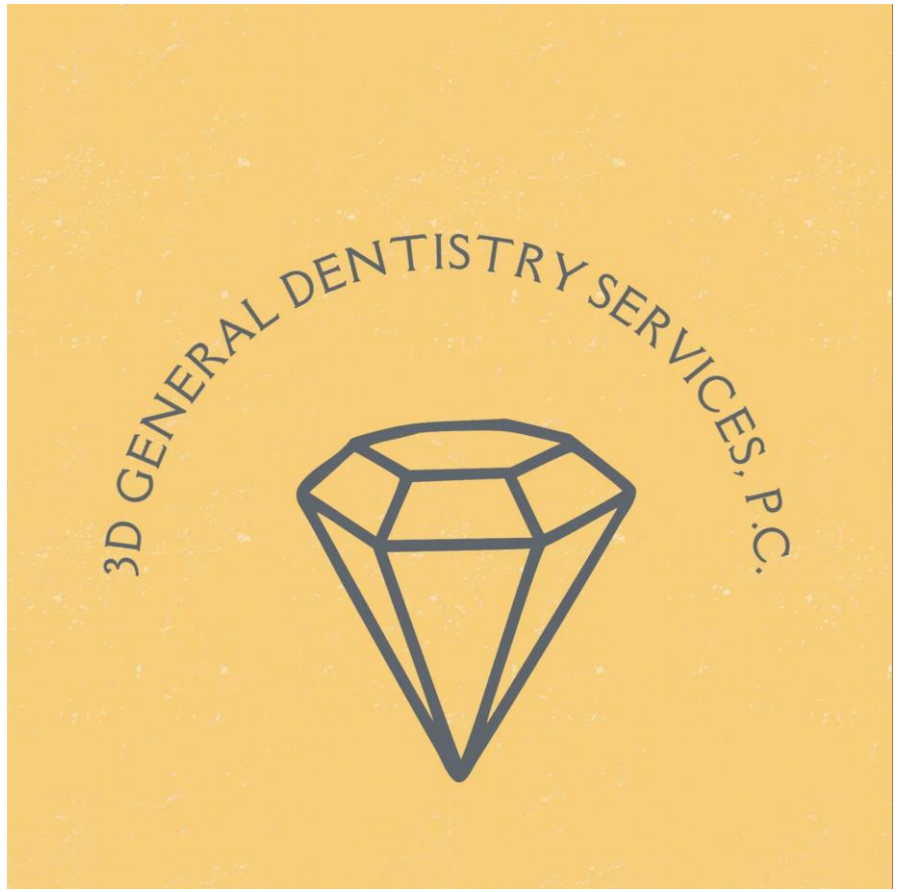
Door Prizes!!!!

1. Remote Training (1 Hour)
2. Social 6 Digital Wax Up +

   1 Printed model + 1 Copyplast Stent



Thank you for your attention!!!



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