3D SYSTEMS

VSP® Orthognathics
Virtual Surgical Planning

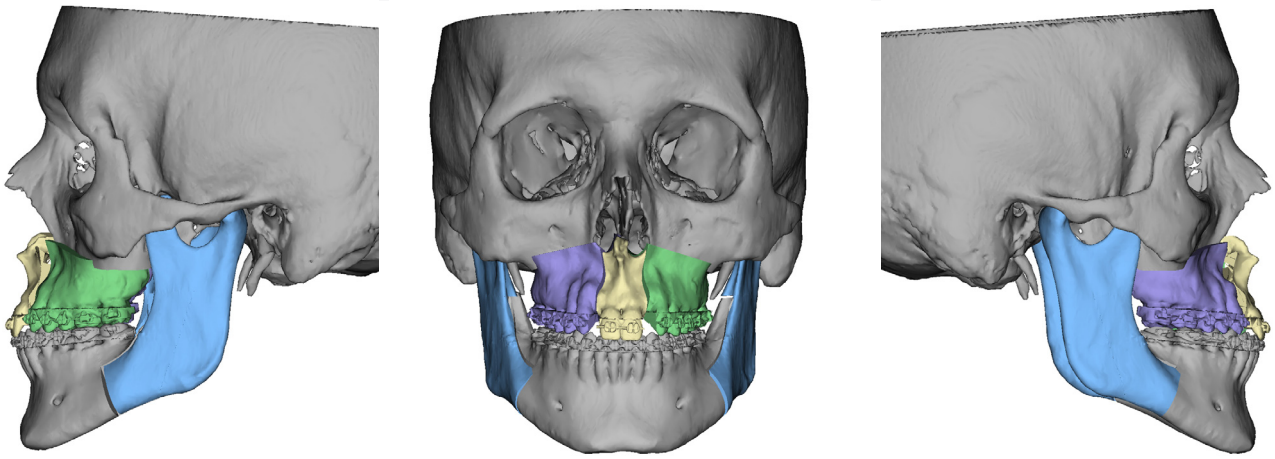
CASE REPORT

Surgeon and Patient Information

Surgeon Name:	Dr. David Bell D.D.S., M.D.	Patient Name:	[redacted]
Email Address:	david.l.bell@kp.org	Surgery Date:	7-23-2019
Phone Number:	559-448-7605	Rep Name:	
WO#:	123523	Rep Contact:	[redacted]

Simulated Virtual Surgical Plan

Segmental LeFort I and BSSO



Surgeon Agreement

With respect to the patient case described above (the "Case"), I, the undersigned, request that 3D Systems, Inc., ("3DS"), provide certain products including, without limitation, templates, tools, surgical splints, guides and/or anatomical models (collectively, the "Products") and certain virtual surgical planning services (the "Services") for use in connection with the Products. I hereby acknowledge and agree as follows in connection with the Case:

- I have prepared the virtual surgical plan (the "Plan") for the Case and am solely responsible for the decisions made in the Plan and the surgical planning process.
- I hereby approve and accept the Products and Services provided by 3DS in connection with the Case and certify no changes are required.
- I acknowledge that, unless otherwise agreed in writing between myself and 3DS, all Products will be delivered non-sterile and that I am solely responsible for cleaning and sterilizing such Products prior to use.
- I have reviewed the Terms and Conditions set forth on the last page of this Case Report which are incorporated herein and agree to be bound by such Terms and Conditions.

Surgeon Signature

Date

Please copy this page, sign and date, and email or fax it to 3D Systems, Inc. Please note that if this Surgeon Agreement is not formally accepted prior to the surgery for the Case but the Products and Services are accepted, you nevertheless agree to pay for the Products and Services and to be bound by the Terms and Conditions.

Rev	Rev Date	Reason for Revision

3D Systems
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Movement Summary

Below is a list of bony and occlusal anatomical landmarks and their summarized movements from preoperative position (with mandible auto-rotated close) to simulated postoperative position.

Point	Name	Anterior/Posterior	Left/Right	Up/Down
ANS	Anterior Nasal Spine	7.88mm Anterior	0.81mm Right	2.20mm Up
A	A Point	7.38mm Anterior	0.85mm Right	2.40mm Up
ISU1	Midline of Upper Incisor	6.00mm Anterior	1.76mm Right	2.00mm Up
U3L	Upper Left Canine	4.39mm Anterior	1.14mm Right	4.40mm Up
U6L	Upper Left Anterior Molar (mesiobuccal cusp)	4.73mm Anterior	0.54mm Right	4.33mm Up
U3R	Upper Right Canine	2.28mm Anterior	1.36mm Right	4.05mm Up
U6R	Upper Right Anterior Molar (mesiobuccal cusp)	2.64mm Anterior	1.73mm Right	5.36mm Up
ISL1	Midline of Lower Incisor	3.97mm Anterior	2.37mm Right	7.03mm Up
L6L	Lower Left Anterior Molar (mesiobuccal cusp)	4.54mm Anterior	1.49mm Right	4.70mm Up
L6R	Lower Right Anterior Molar (mesiobuccal cusp)	2.97mm Anterior	1.51mm Right	6.03mm Up
B	B Point	5.54mm Anterior	2.79mm Right	6.63mm Up
Pog.	Pogonion	6.65mm Anterior	3.33mm Right	6.86mm Up

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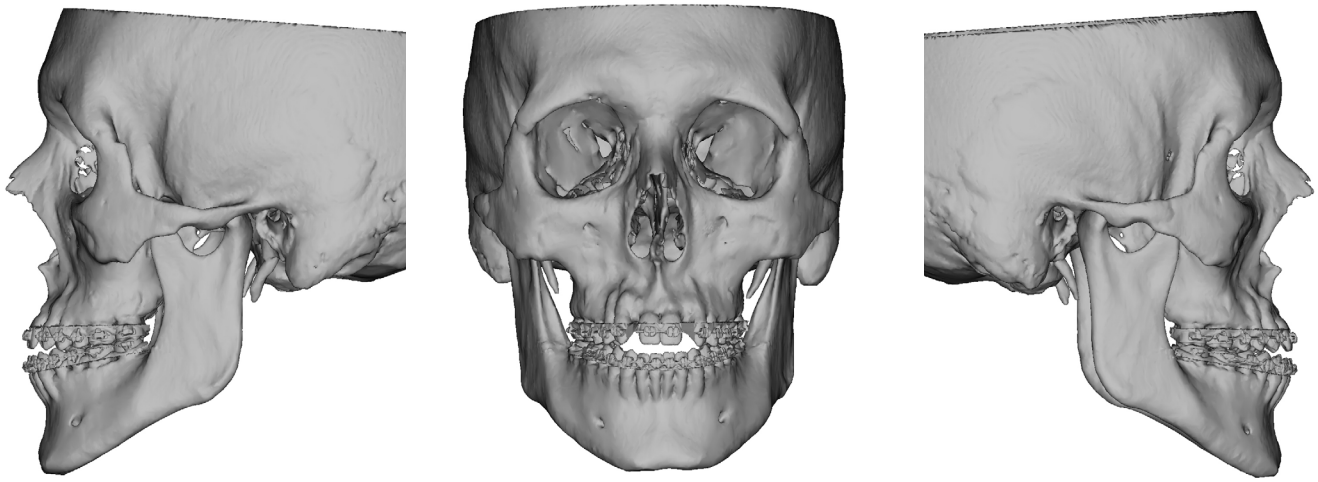
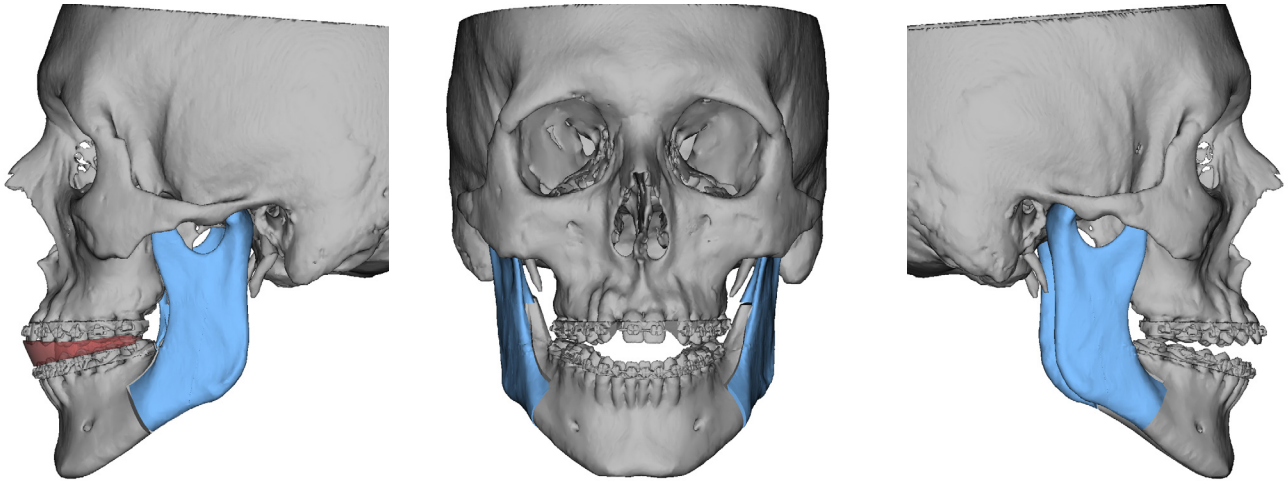
Virtual Planning Work Flow

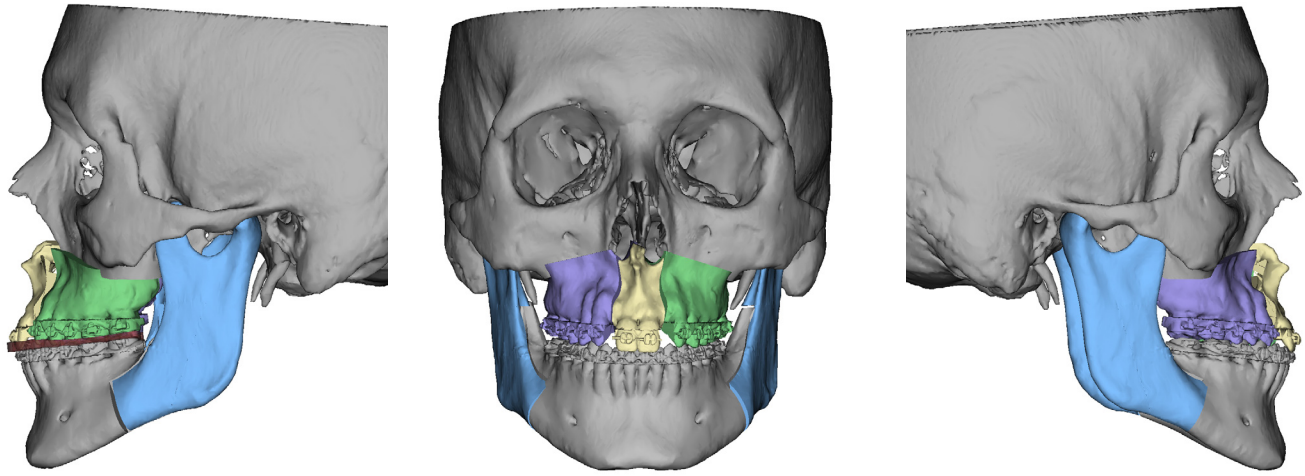
Preoperative Position



Intermediate Position



Postoperative Position



When using a protocol that does not include stone models physically present at 3D Systems, final fit verification of Orthognathic Splints is the responsibility of the surgeon prior to use.

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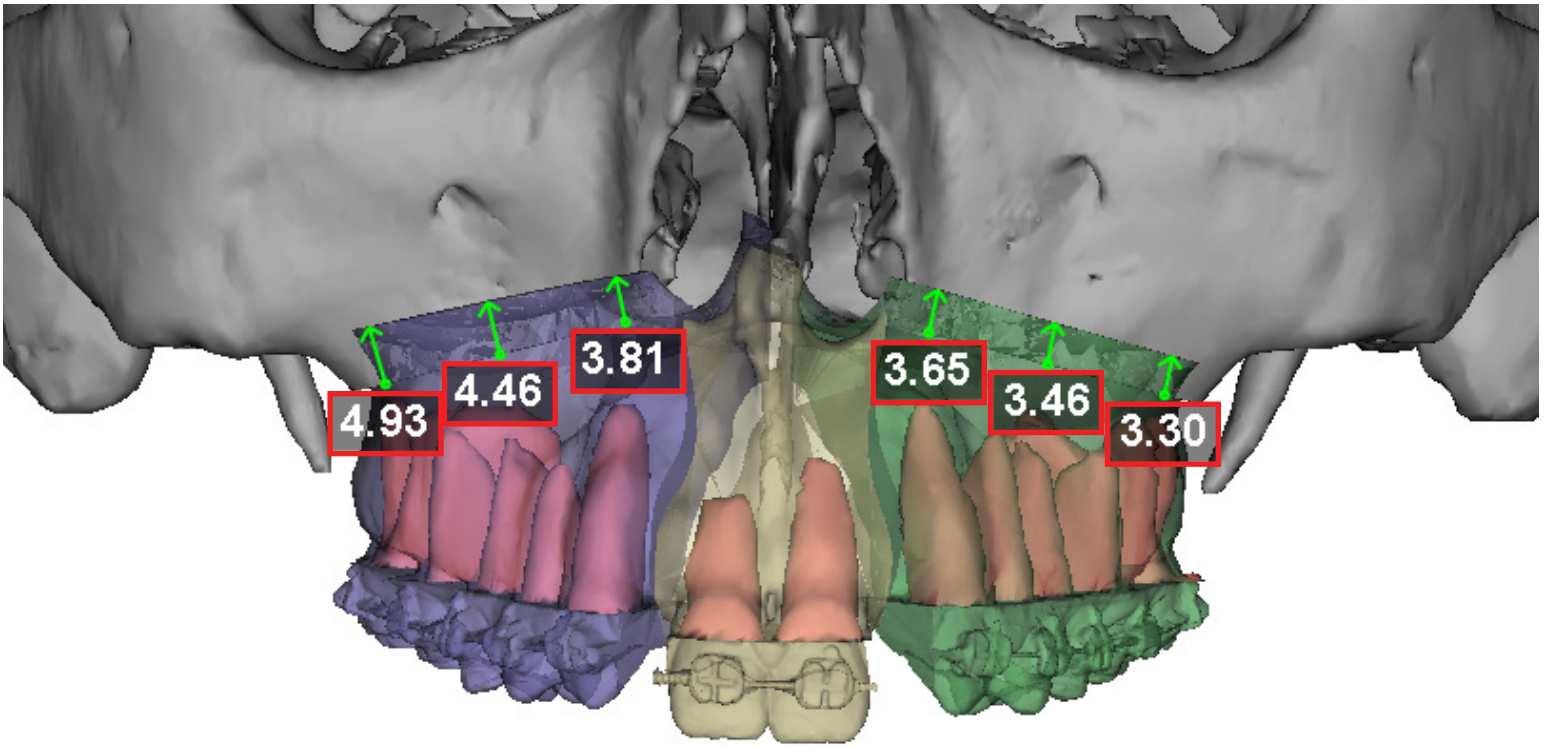
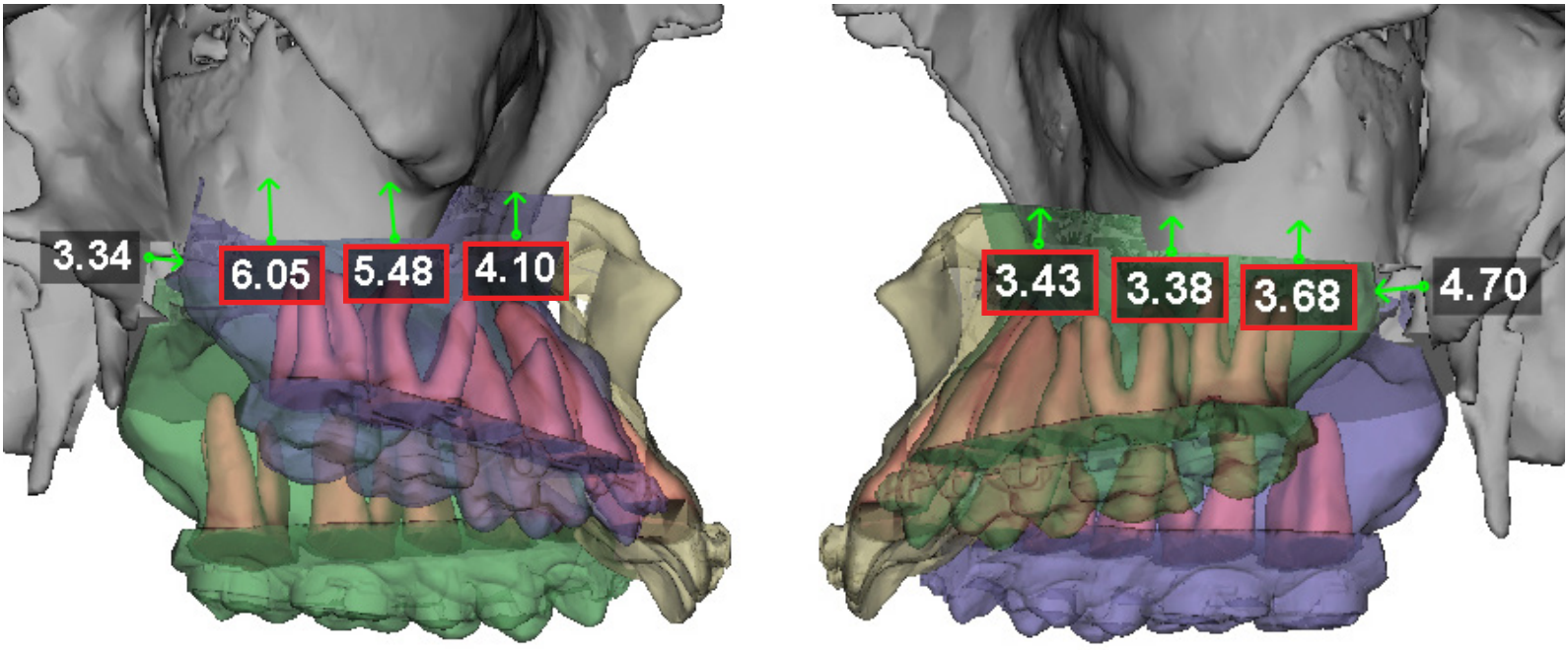
LeFort Overlap Analysis



Measurements outlined in red indicate an overlap.

Measurements are approximate.



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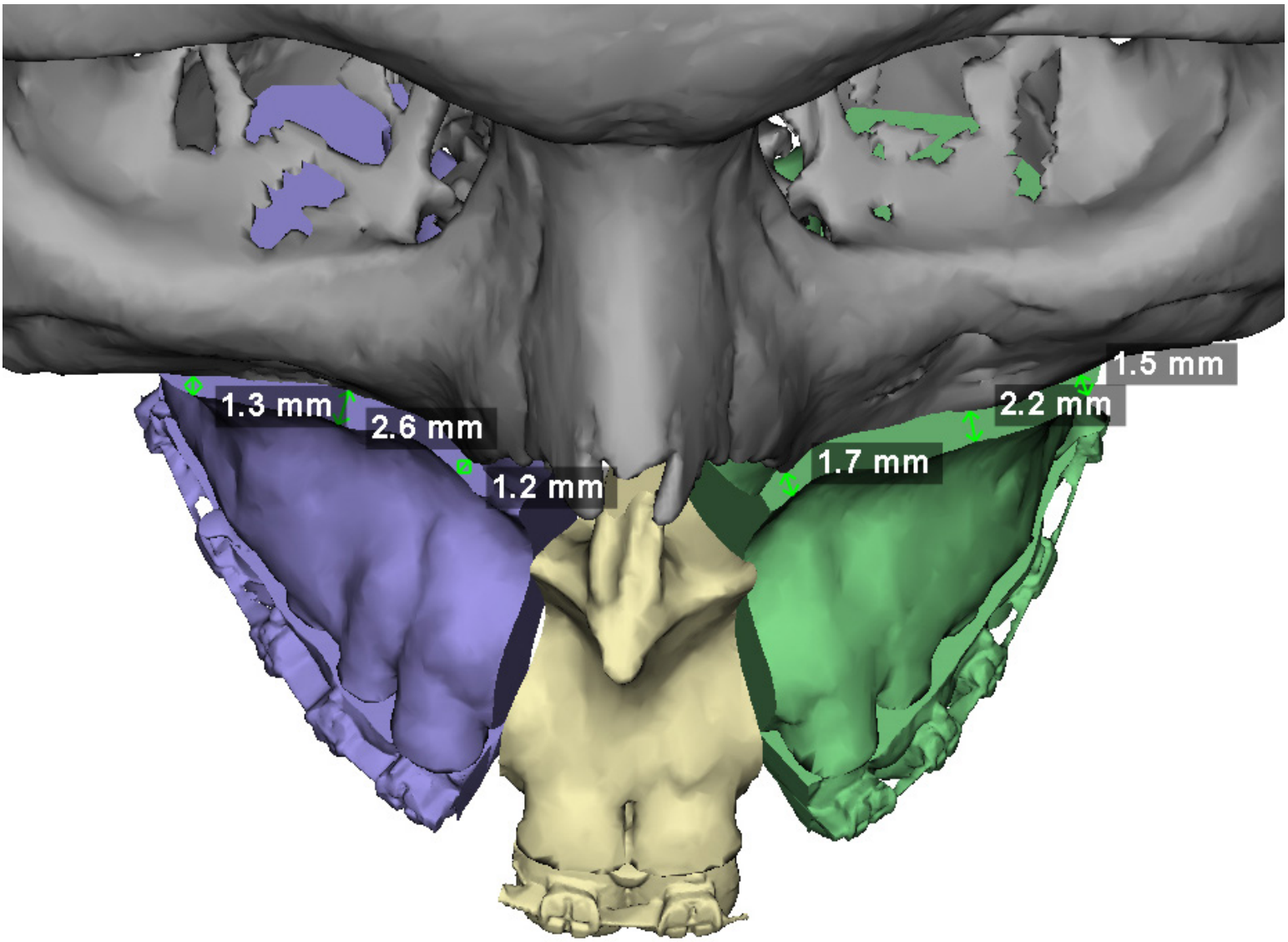
LeFort Advancement



Measurements are approximate.

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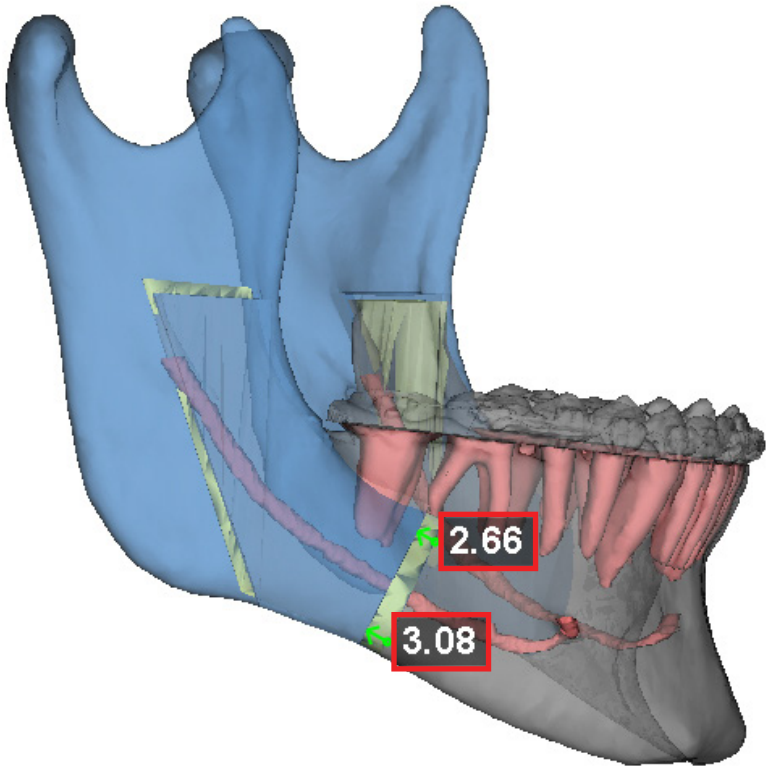
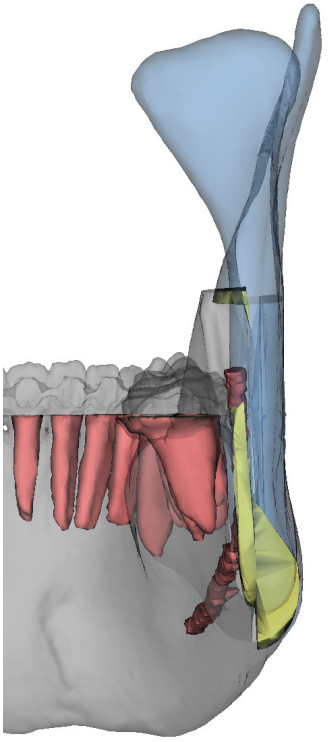
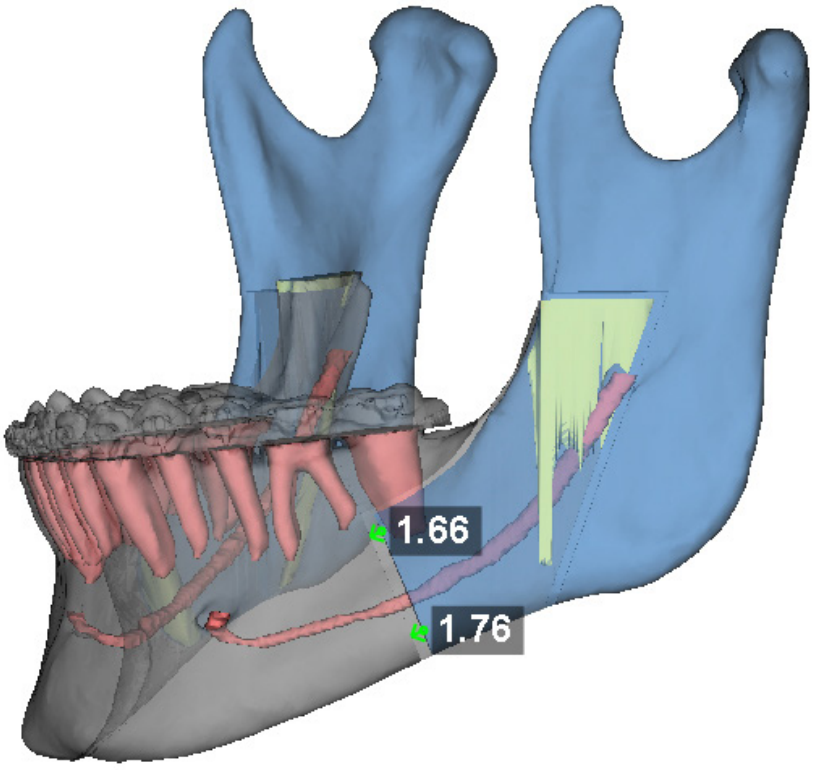
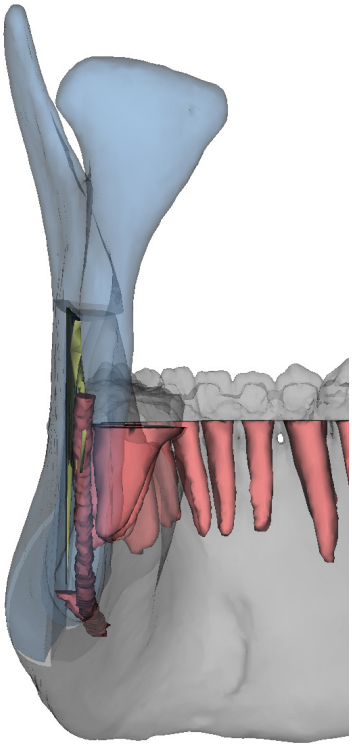
Proximal Segment Overlap Analysis





Measurements outlined in red indicate an overlap.
Measurements are approximate.





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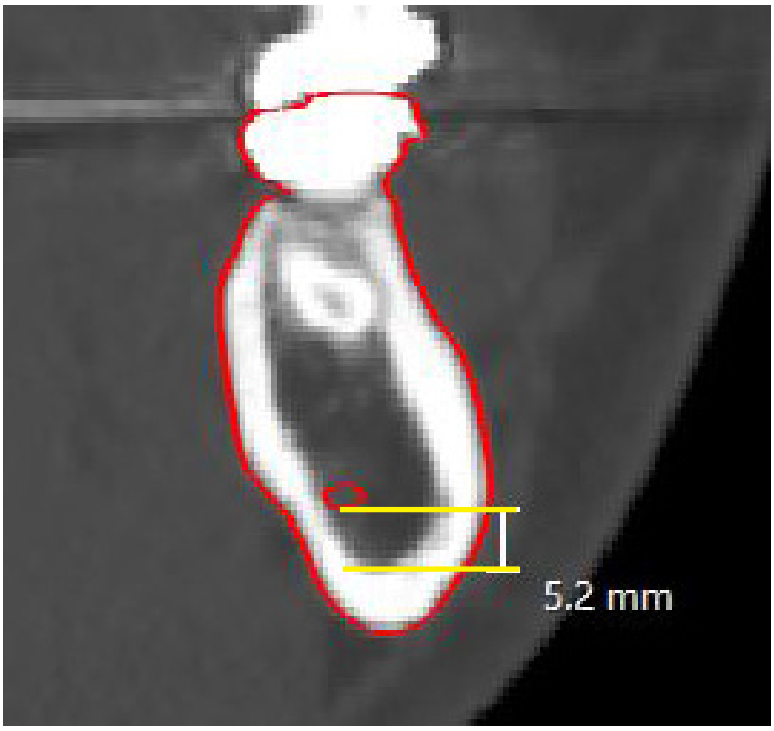
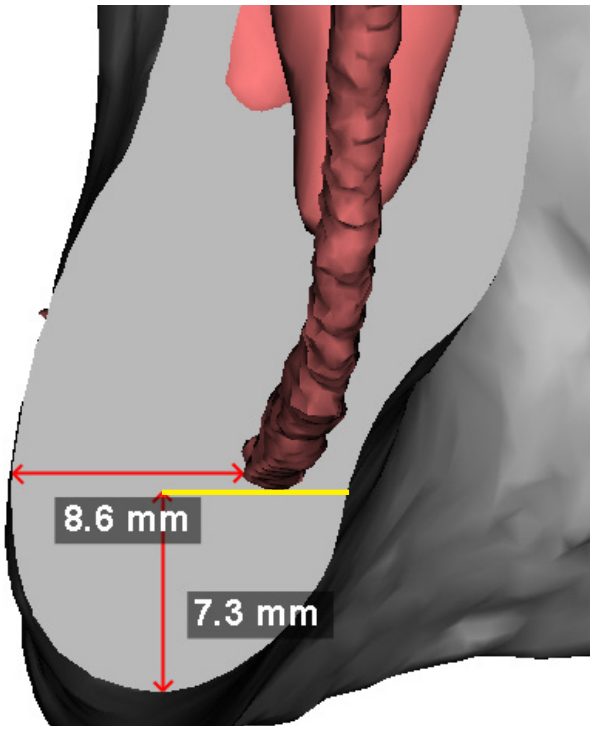
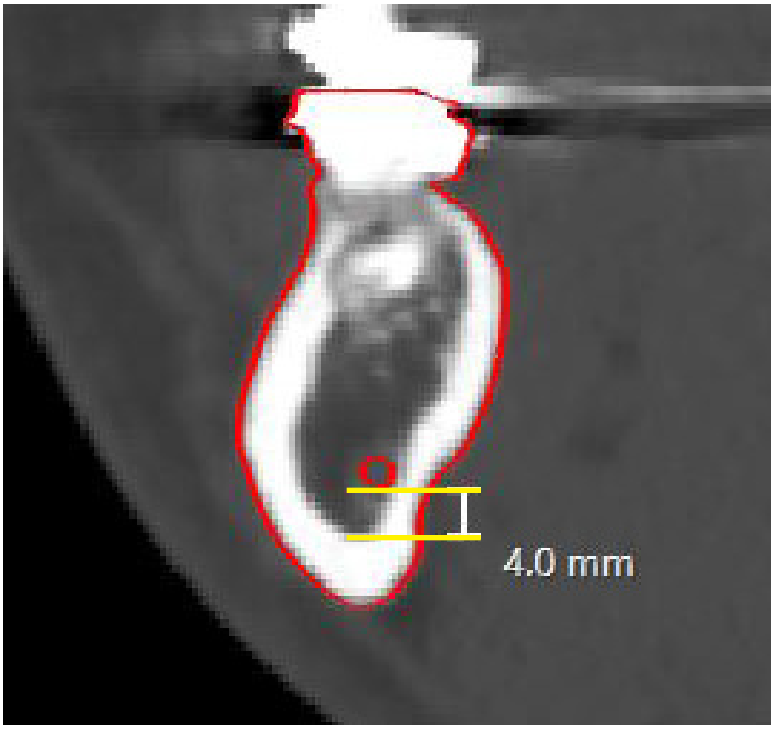
Nerve to Distal Mandible Measurements

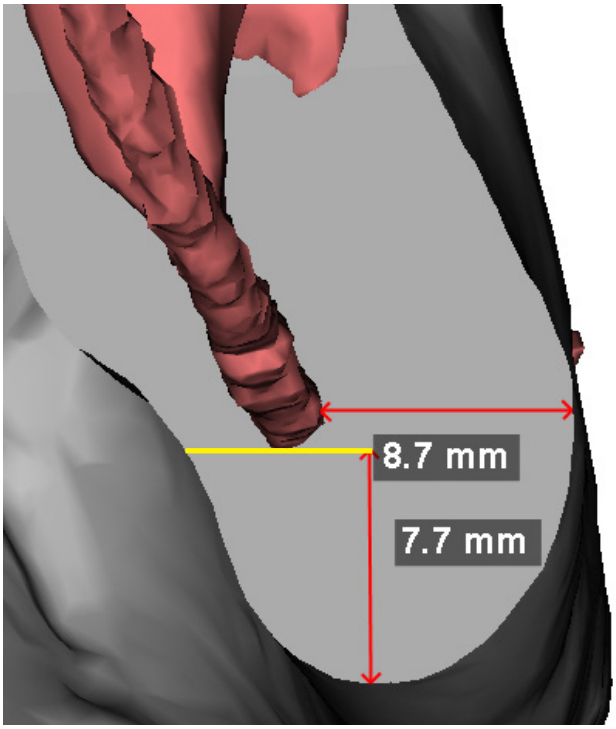
Patient's Left





Patient's Right





Note: Measurements are made in a coronal slice based on scan orientation.

Note: Measurements are made based on osteotomy plane.

Measurements are approximate.

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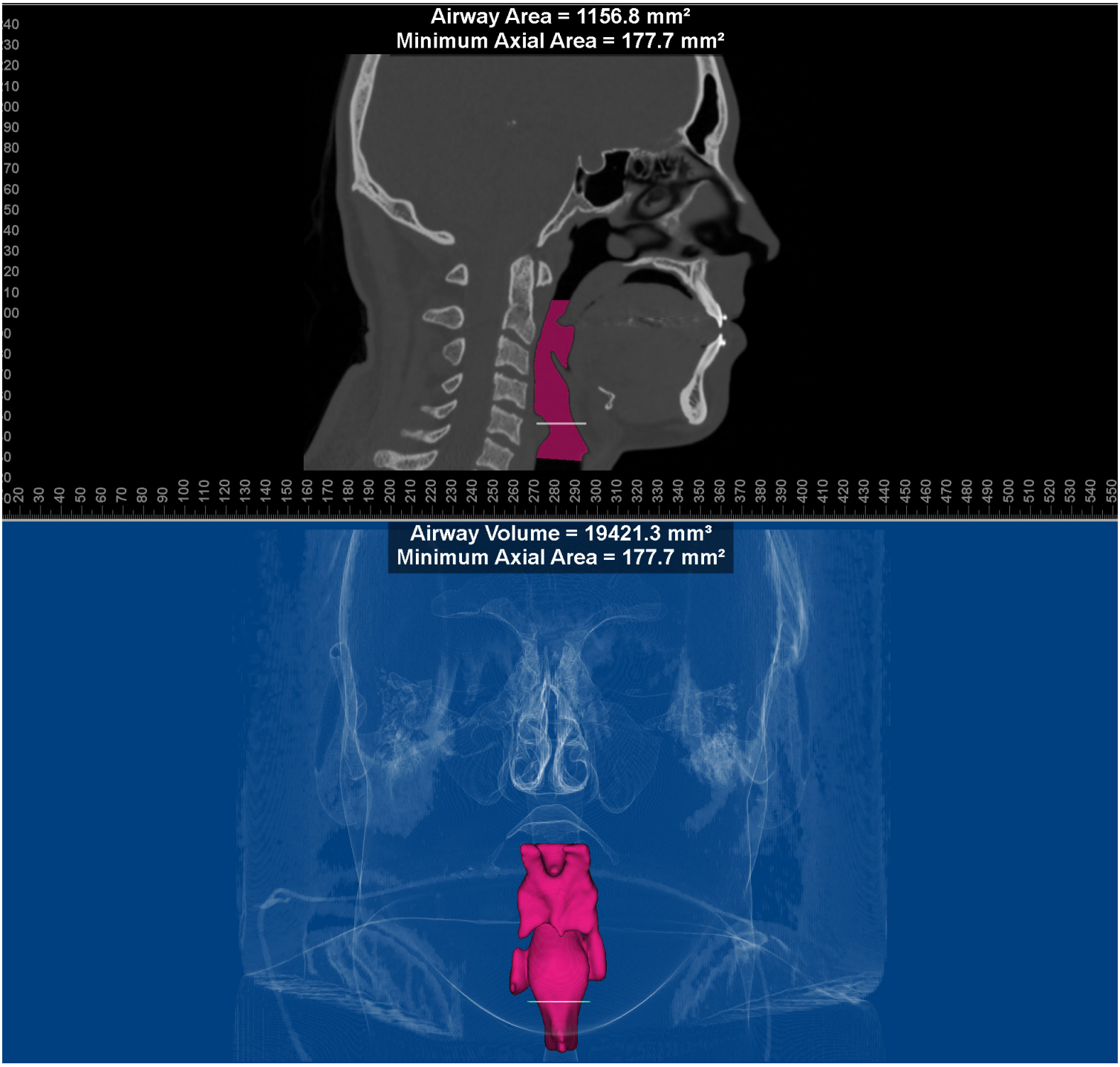
Airway Analysis



The analyzed airway volume is represented in pink and the minimum axial area at any point throughout the analyzed airway is represented by the white line. This area is the smallest 2-dimensional slice across a true horizontal.

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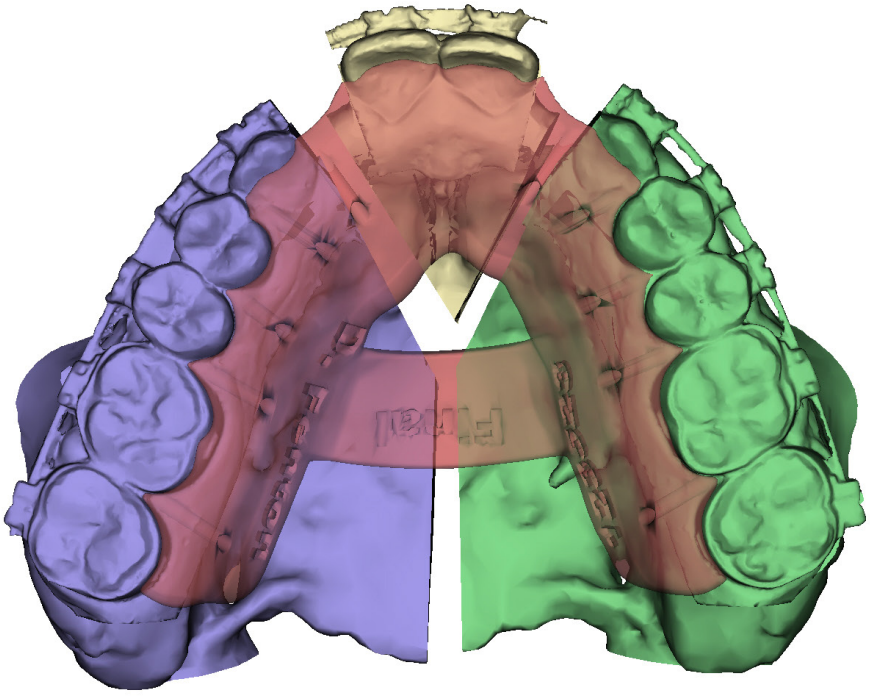
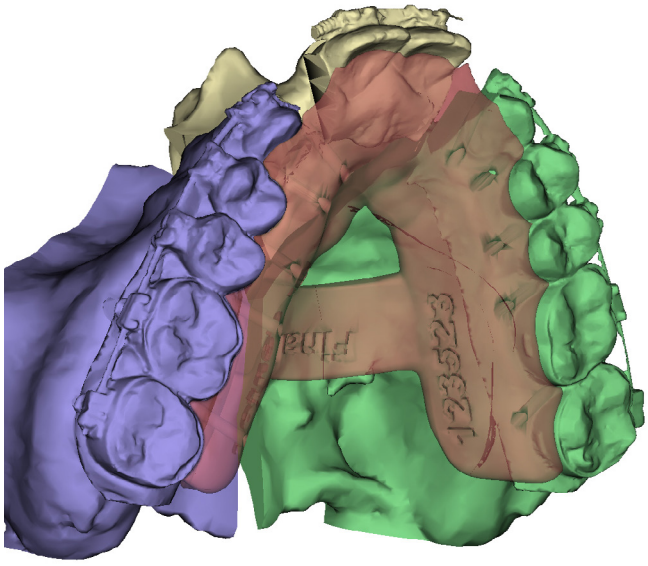
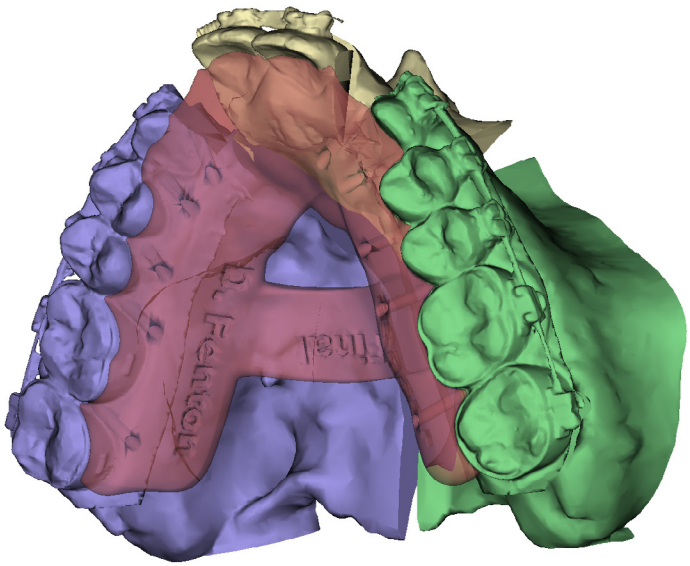
Palatal Insert Images







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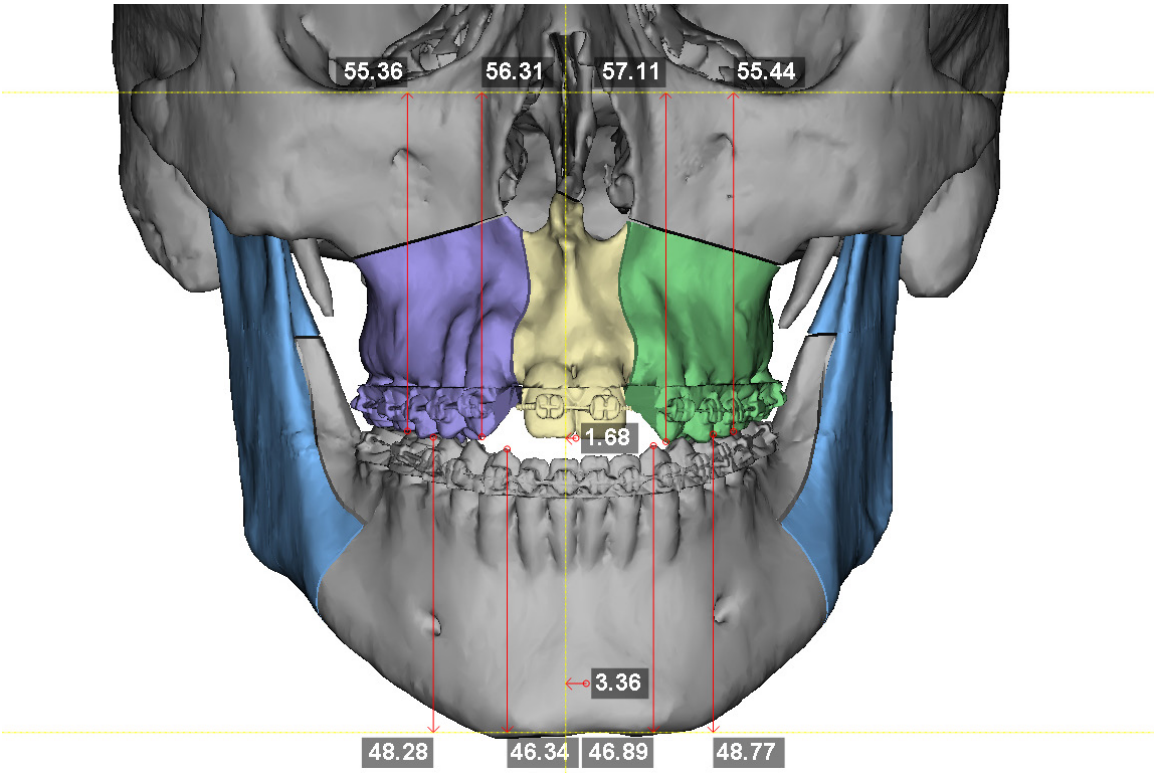
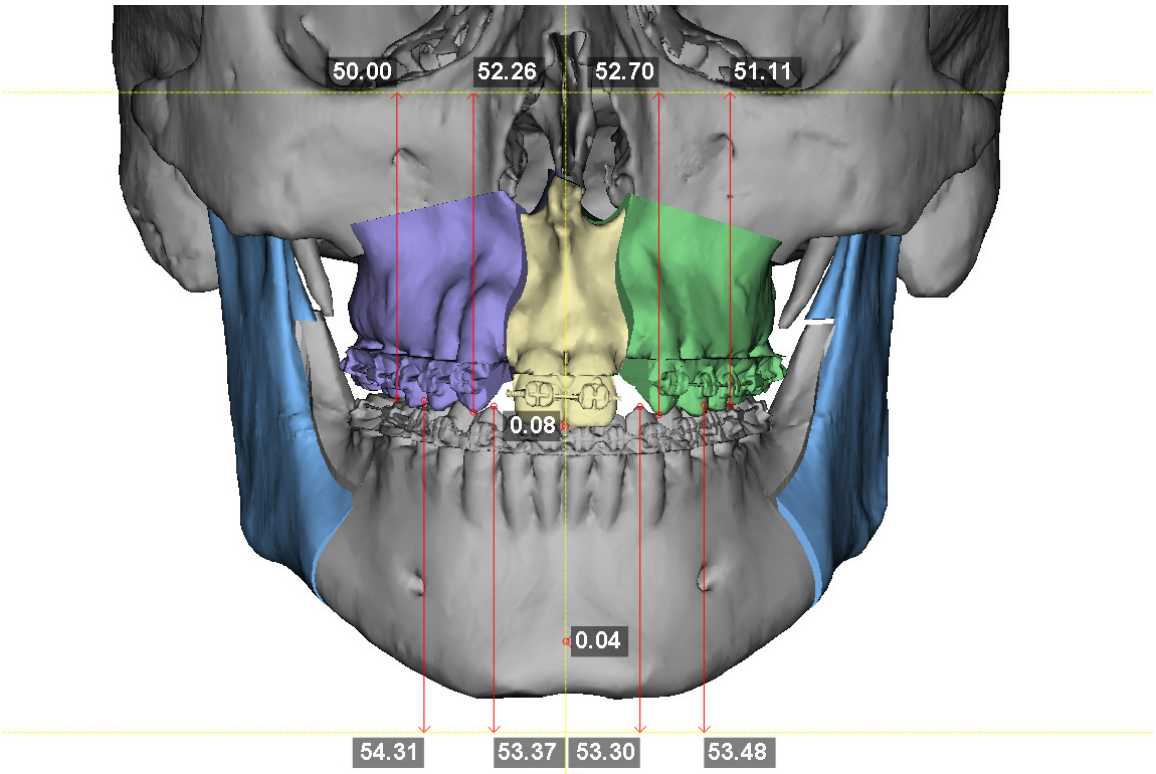
Cant Analysis

Preoperative Position



Postoperative Position



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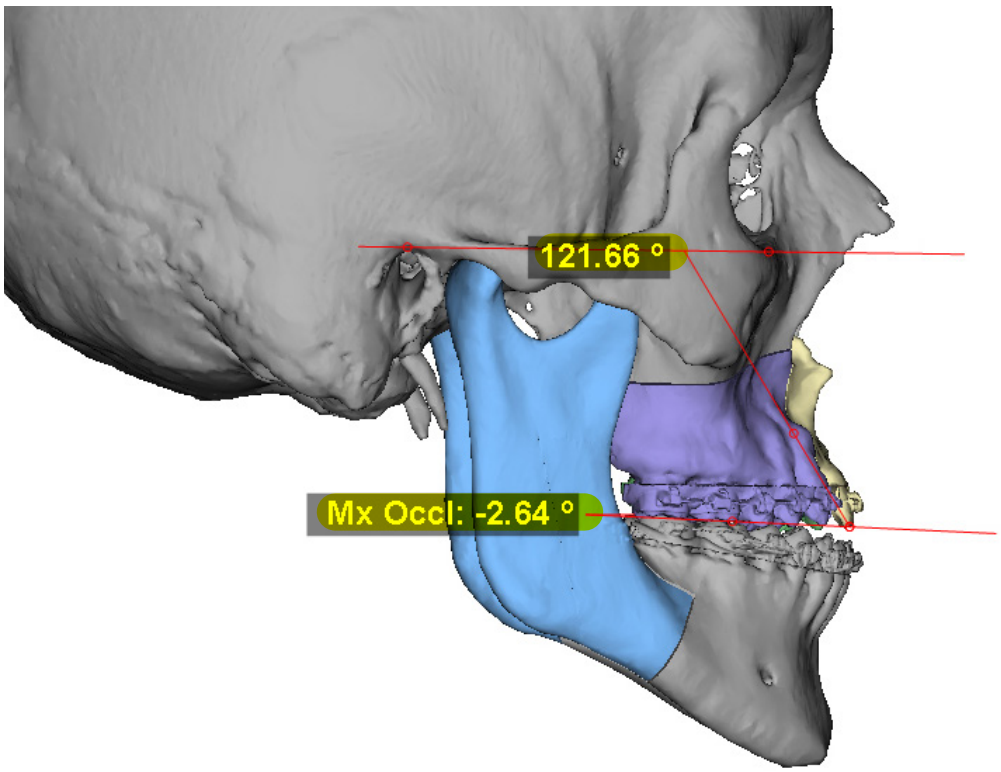
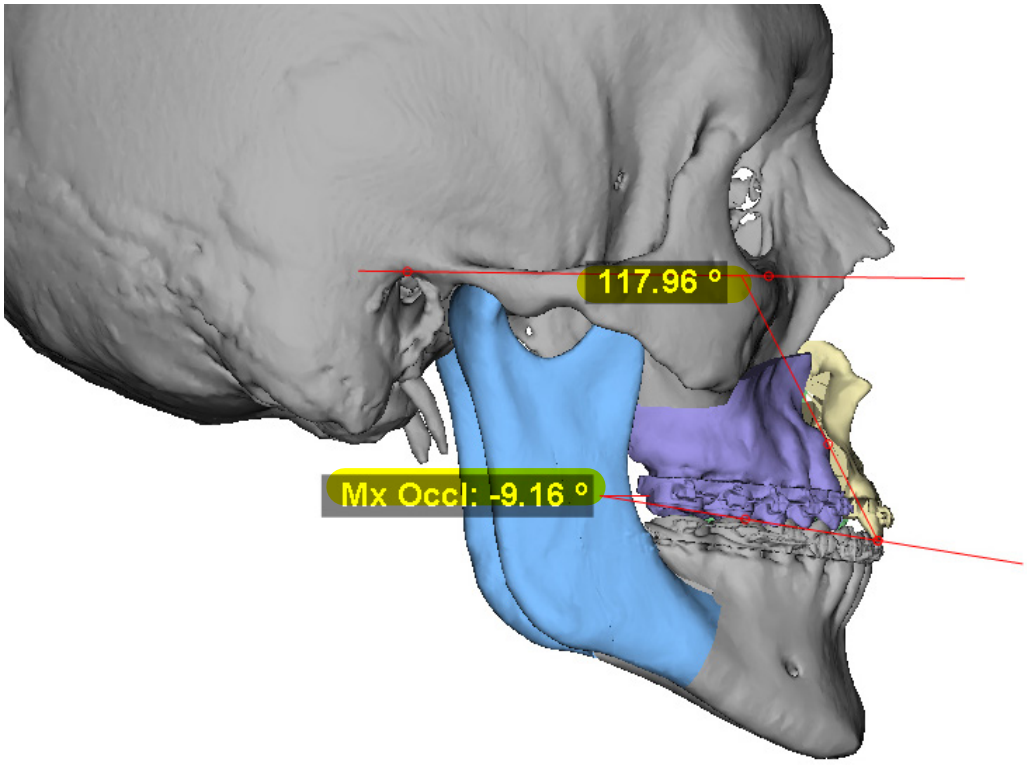
Occlusal Plane Angle Analysis

Preoperative Position



Postoperative Position



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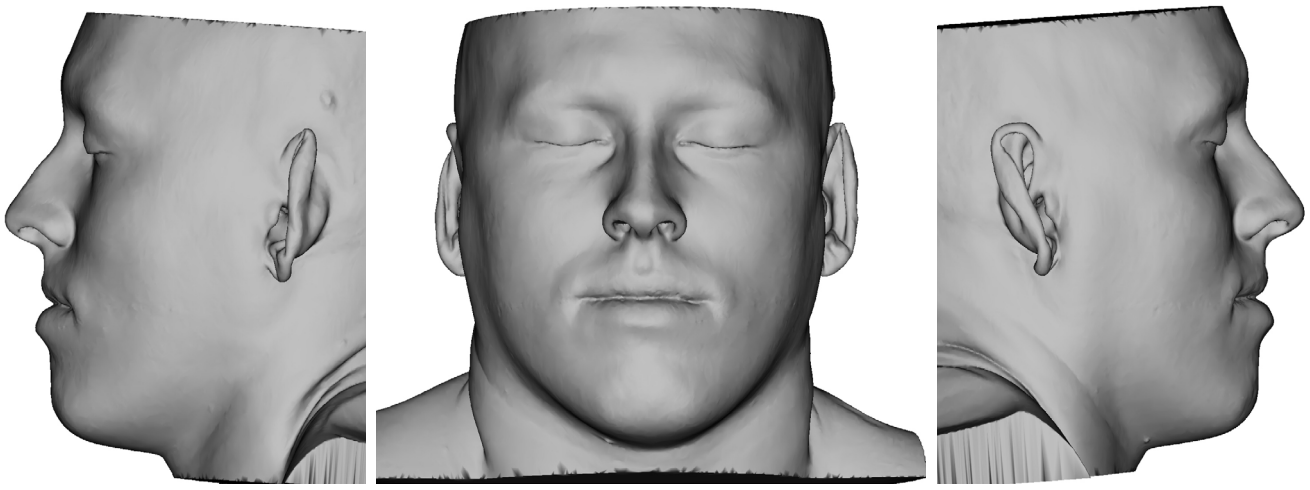
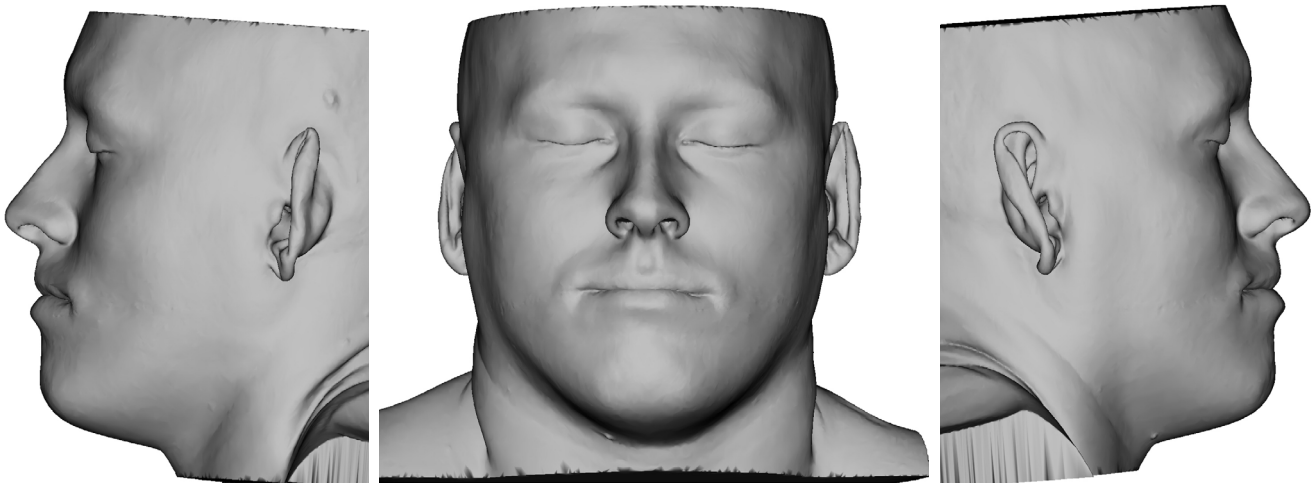
Soft Tissue Analysis

Preoperative Position



Postoperative Position



Soft tissue simulation is for reference only and may not reflect what will be seen after the time of surgery.

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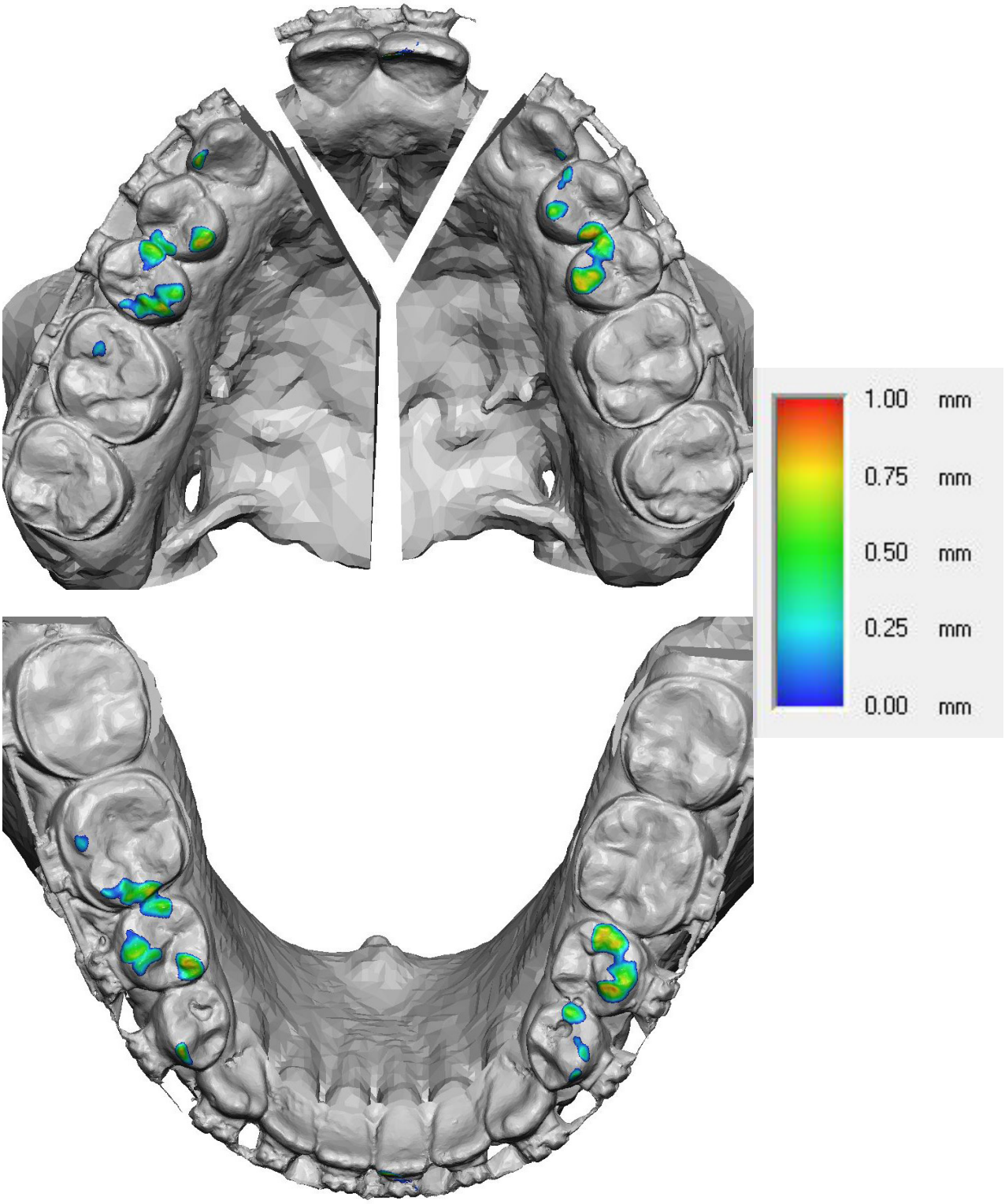
Occlusal Overlap Color Map



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