

Stacking the Deck: Enhancing Surgical Outcomes in Full-Arch Implant Rehabilitation Utilizing Novel Screw-Retained Stackable Surgical Guide

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Background

70-Year-Old Male presented to the prosthodontic clinic with chief complaint:

"I am struggling to eat, and I am ready to smile again"

Medical History: Glaucoma, Hypercholesterolemia

Medications: Aspirin 81 mg

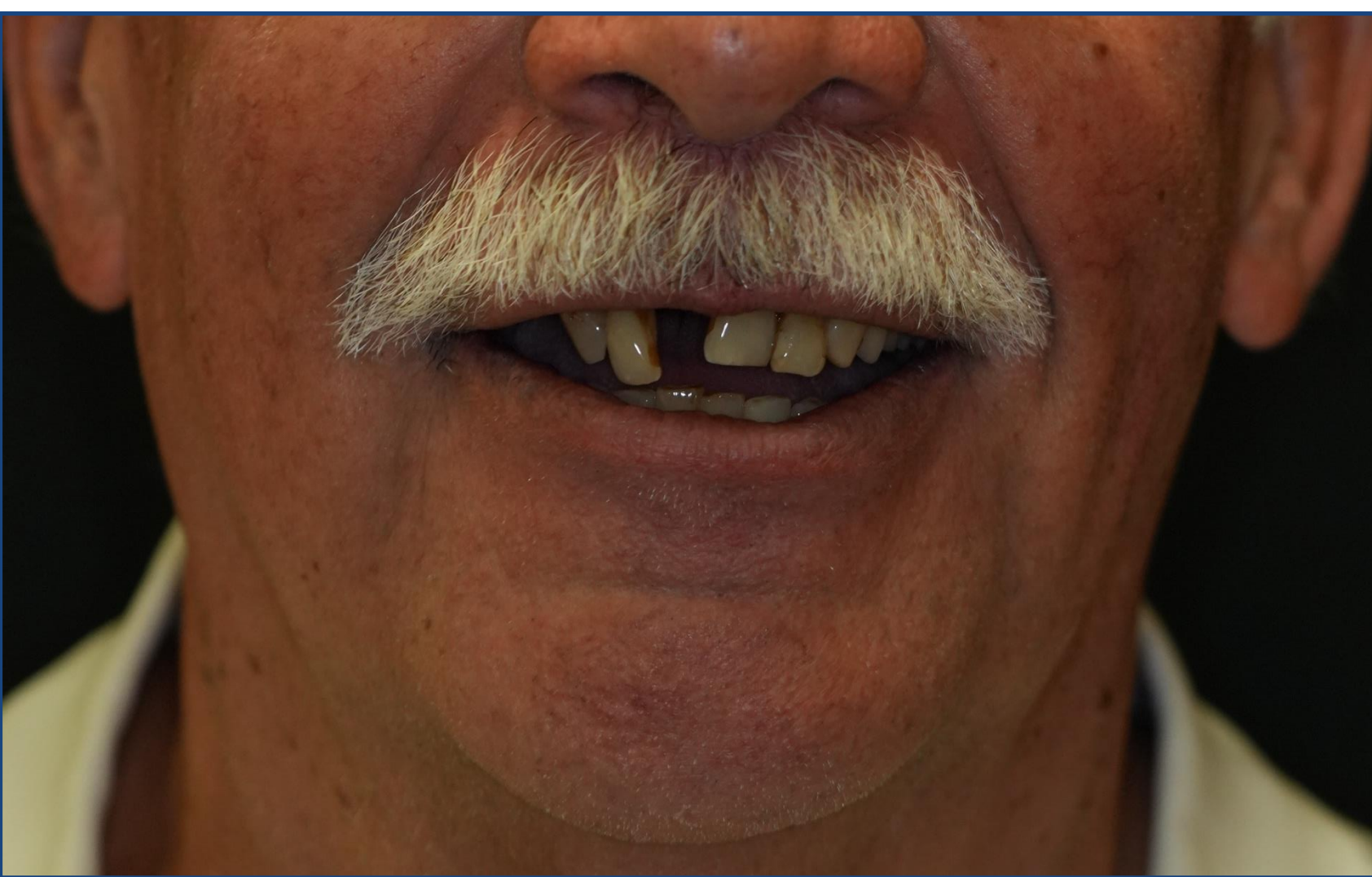
Social History: Tobacco smoker, 50 pack-years

Periodontal Status: Stage IV Grade C Periodontitis

Special Considerations: Motivated patient, but stated he did not want to be in a removable option, especially in mandibular arch; unwilling to quit smoking

Treatment Plan: Maxillary and Mandibular Implant Supported Fixed Dental Prosthesis

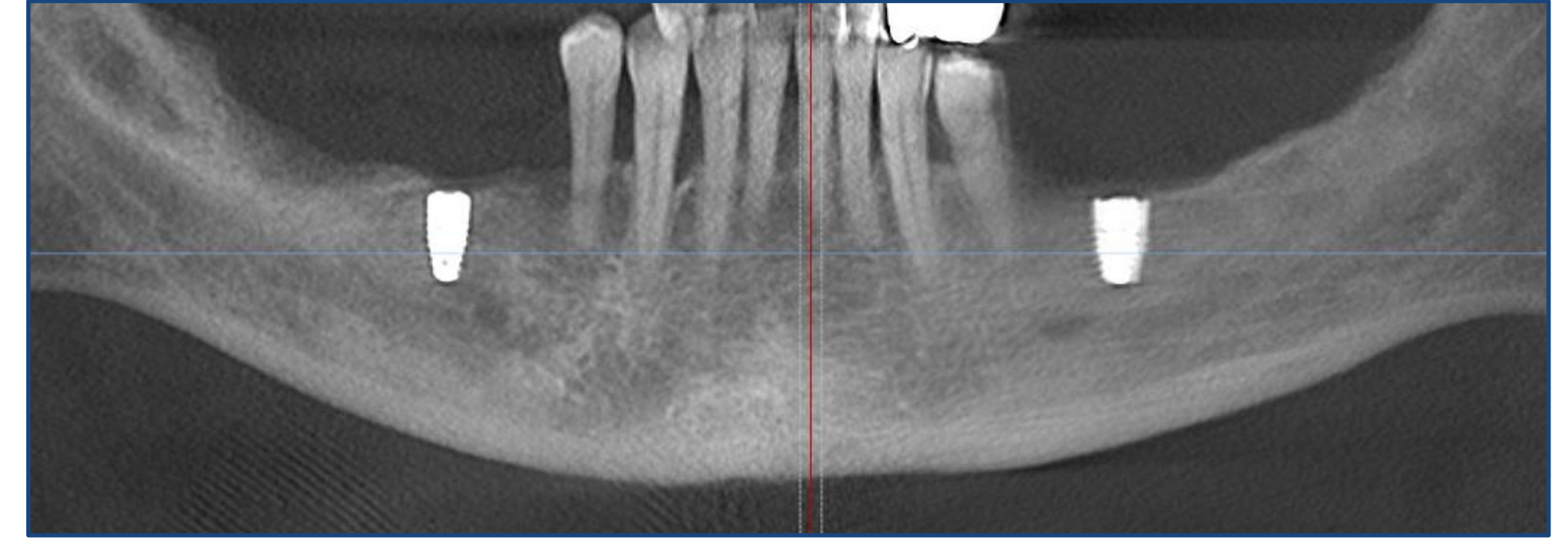
Due to history of periodontal disease and smoking history, staged implant approach was taken to assess healing response and increase predictability for immediate loading.



Treatment Progression

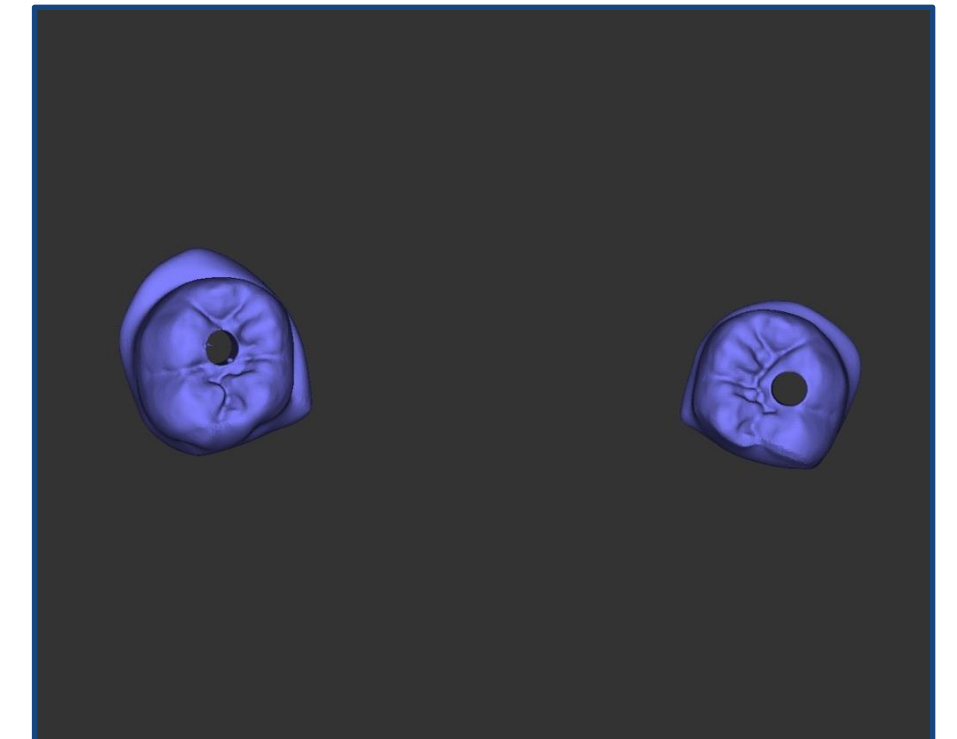
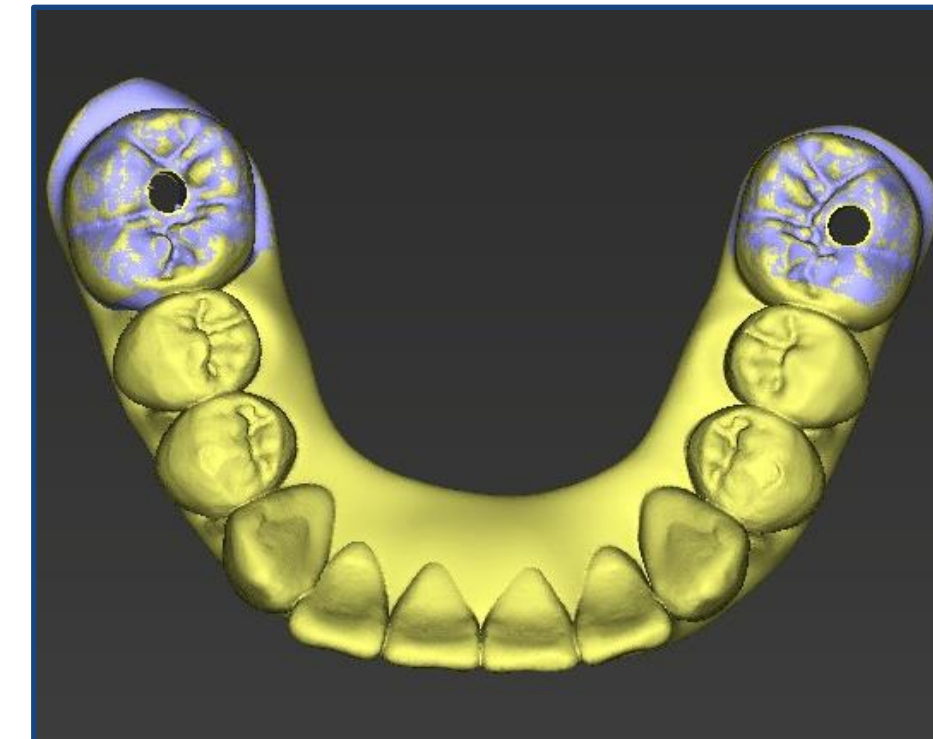
Step 1

Wax Up + Distal
Implant Placement



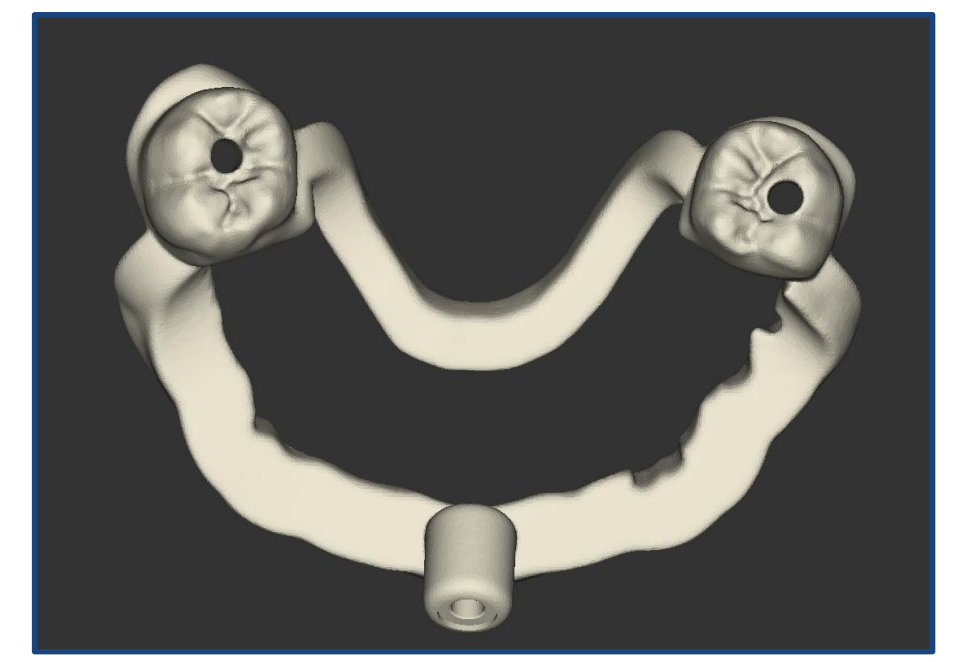
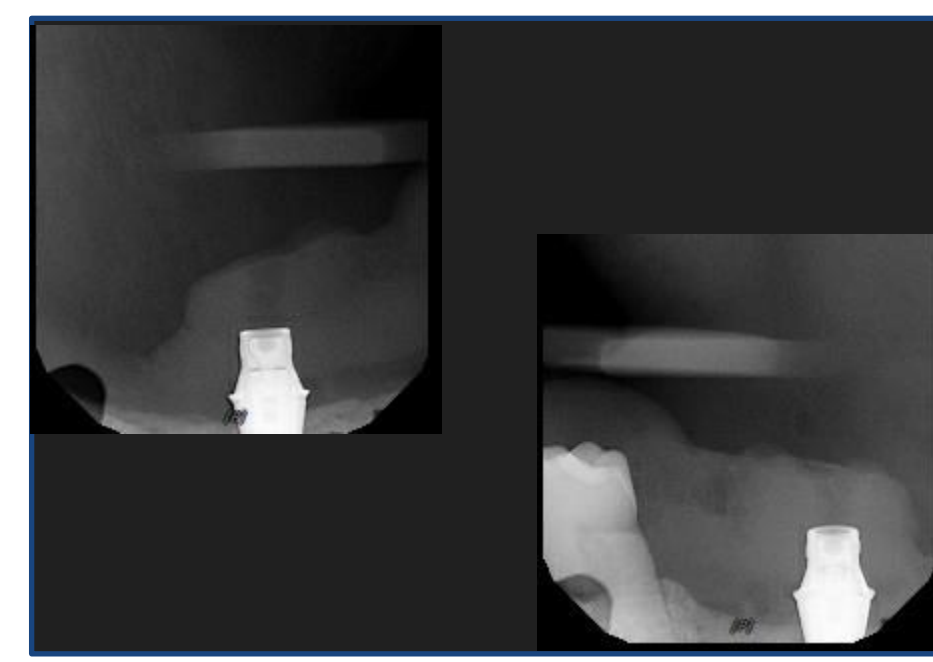
Step 2

Positional Scan +
Boolean
Subtraction



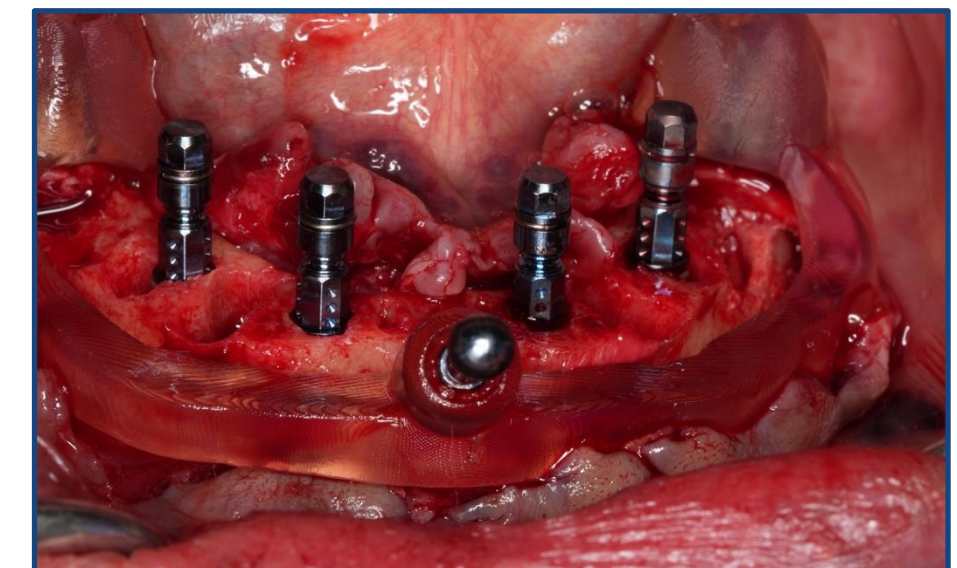
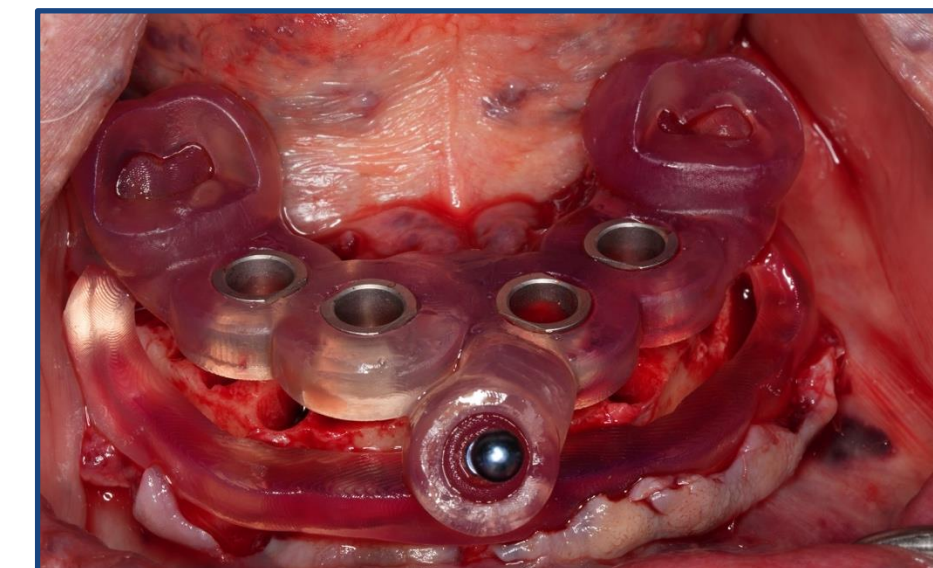
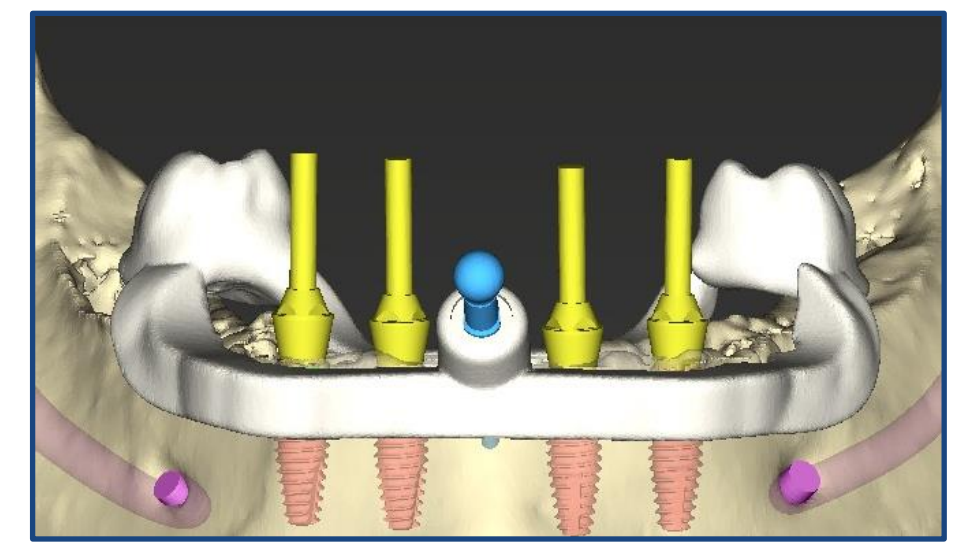
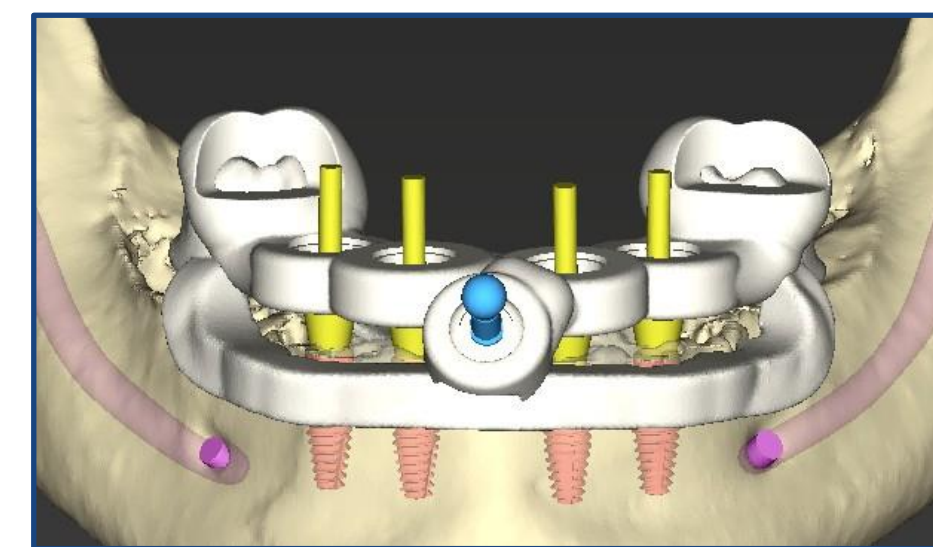
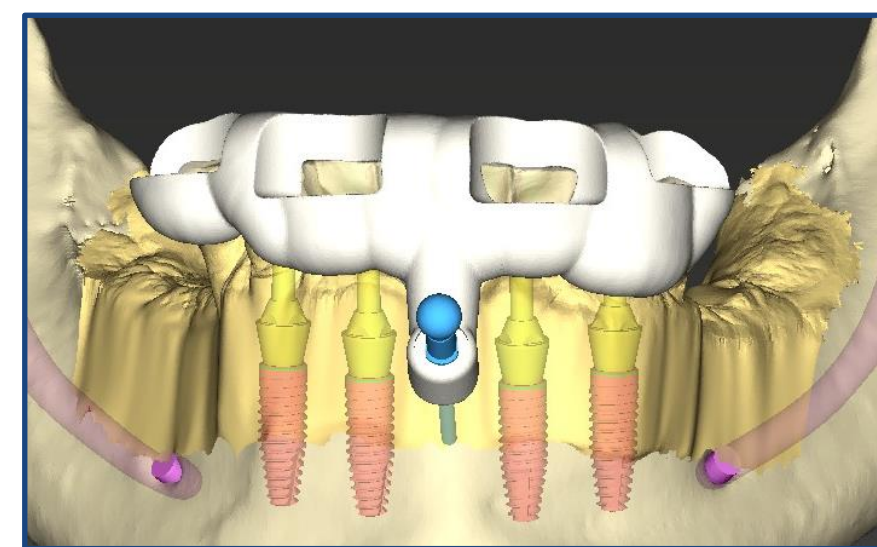
Step 3

File Alignment,
Verification Jig +
Boolean Addition



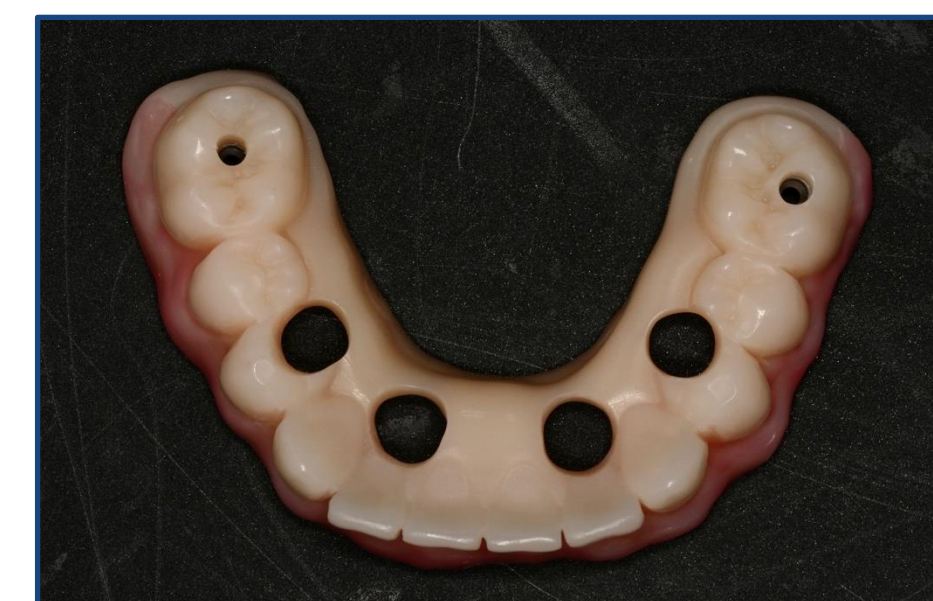
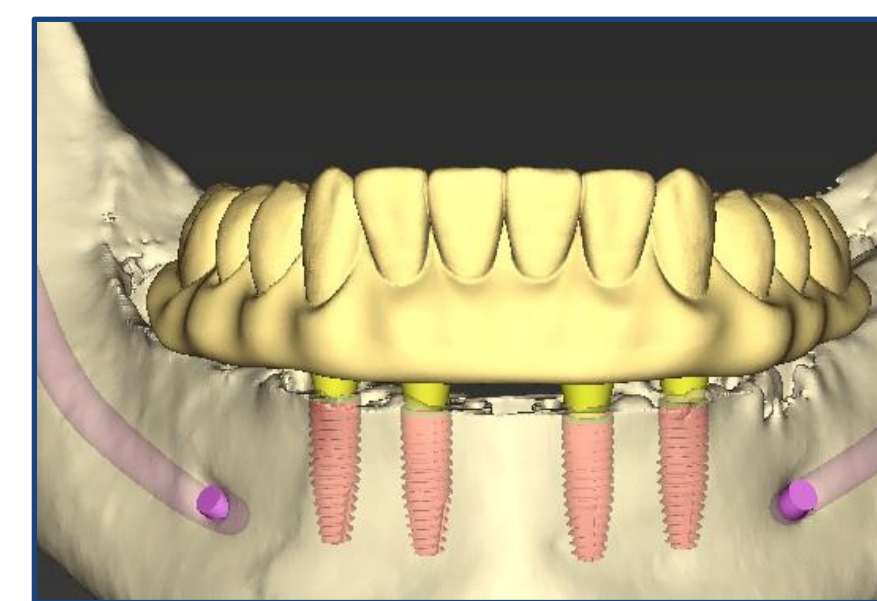
Step 4

Mandibular
Surgery Using
Stackable Guide



Step 5

Screw-Retained
Immediate Load
Prosthesis



Conclusion

Implant-retained surgical guides improve intraoperative stability and accuracy during implant placement in full-arch rehabilitation. Incorporating previously placed implants for guide stabilization enhance accuracy of the prosthetic during immediate loading protocol. Staging implants increases predictability for immediate loading patients with multiple risk factors associated with implant complications.

