



Use of Stackable Guide for Full Mouth Rehabilitation with Dental Implant for a Patient with History Of Advanced Periodontal Disease

YOUR PHOTO

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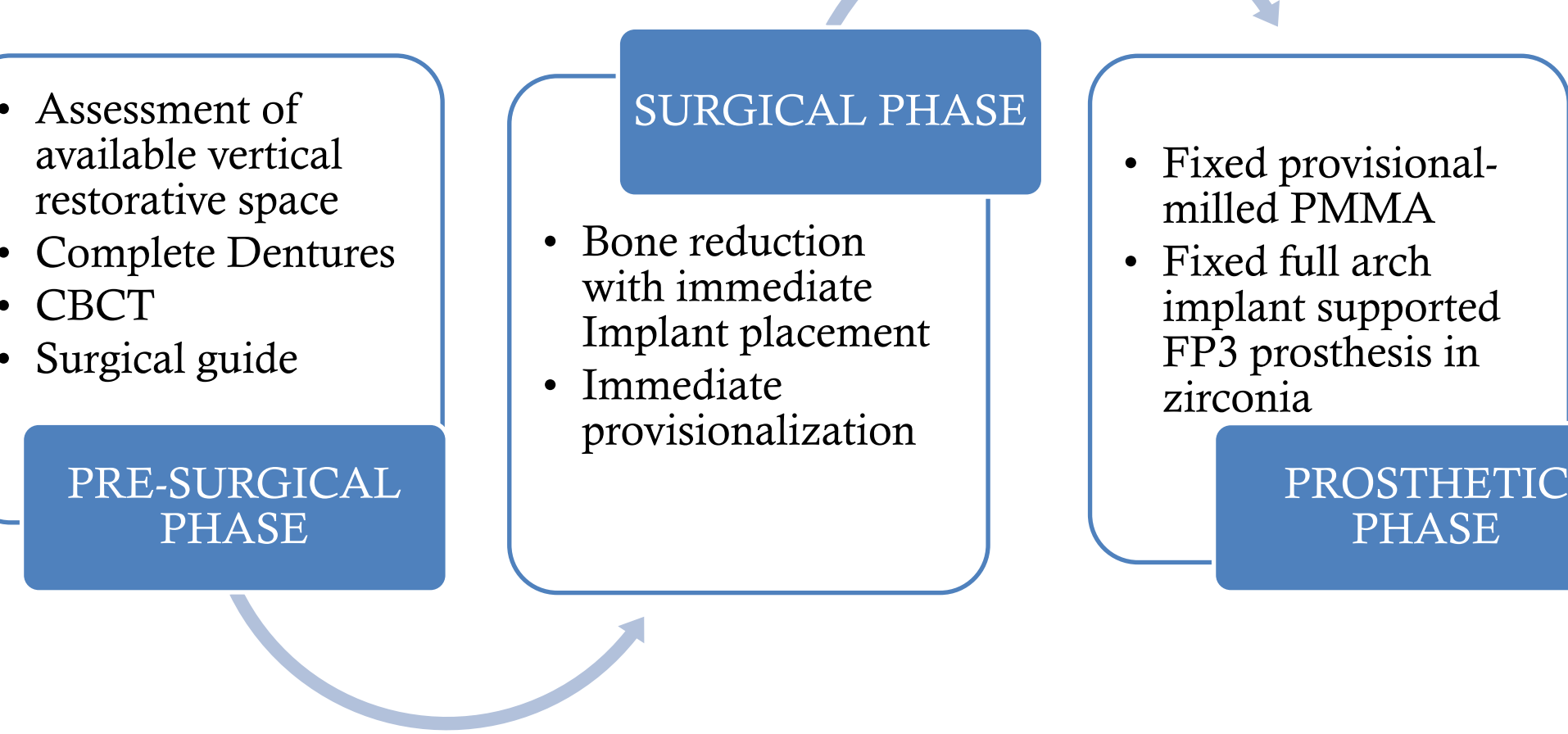
INTRODUCTION

- A stackable guide consists of a frame that rests on the bone of the maxilla or mandible and serves as a bone reduction guide as well as an anchor for the surgical guide and provisional prosthesis.
- Involves careful planning, specialized equipment, and surgical expertise.
- Safe and successful dental implant procedures
- Minimizes the margin of error.
- Irregular bone topography requires bone reduction to level the alveolar crest to create the desired bone platform allowing for sufficient bone width for implant placement and to insure adequate inter-arch restorative space.
- The digitally-planned surgical guide based on Cone-Beam computerized tomography (CBCT) scan reconstructed data can **improve accuracy, reduce surgical time, and deliver the desired bone level** for the implant placement with fewer surgical and restorative complications.
- Ideal implant placement is prosthodontically driven, determined by the desired **tooth position and required restorative space** based on material selection for the chosen framework design.
- Bone reduction and implant placement can be accomplished in the **same surgical procedure**, minimizing trauma and the need for two separate interventions.

CASE REPORT

A 52 year old completely edentulous middle aged male patient with history of advanced periodontal disease presented for full mouth rehabilitation with dental implant and implant supported fixed dental prosthesis

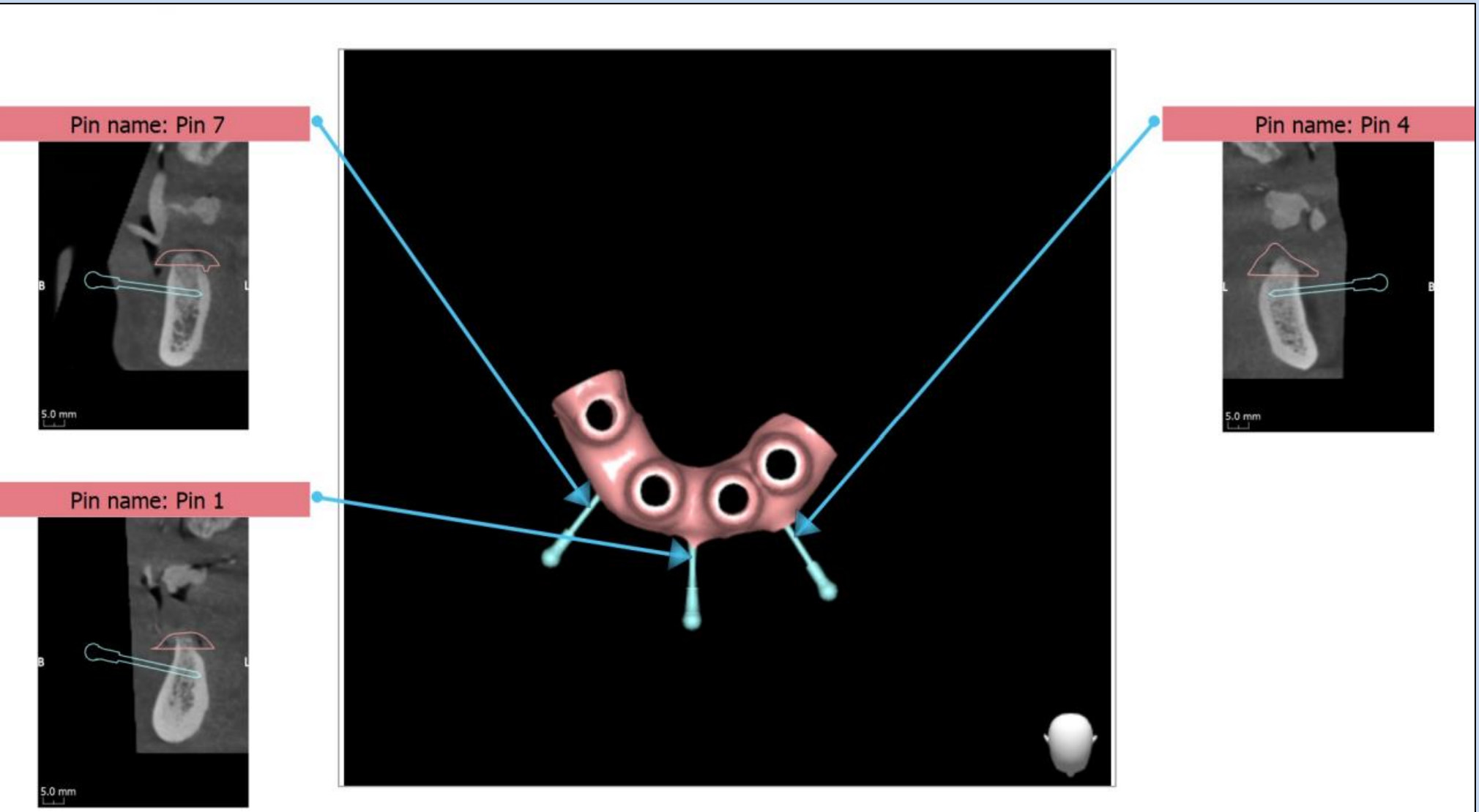
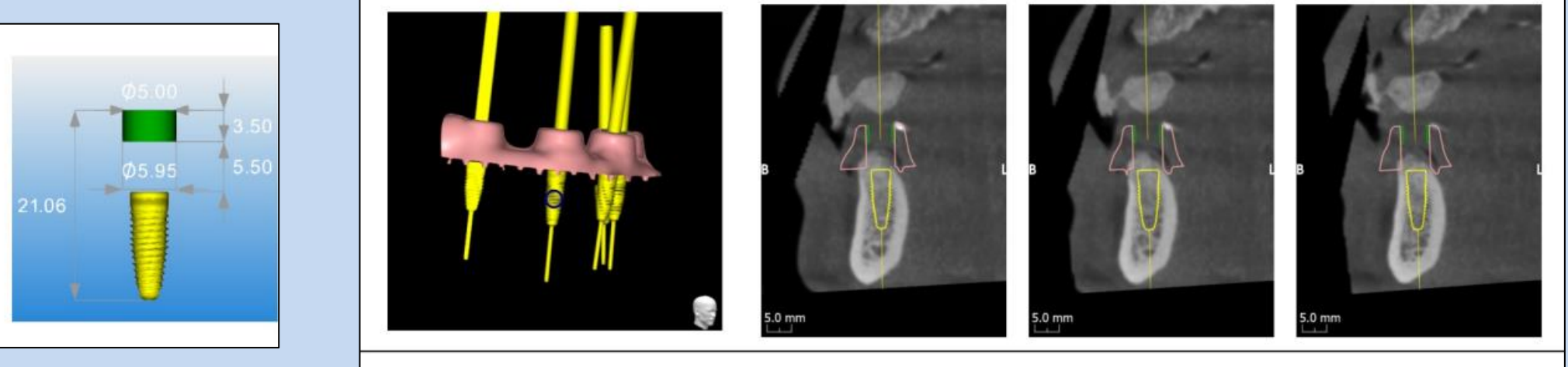
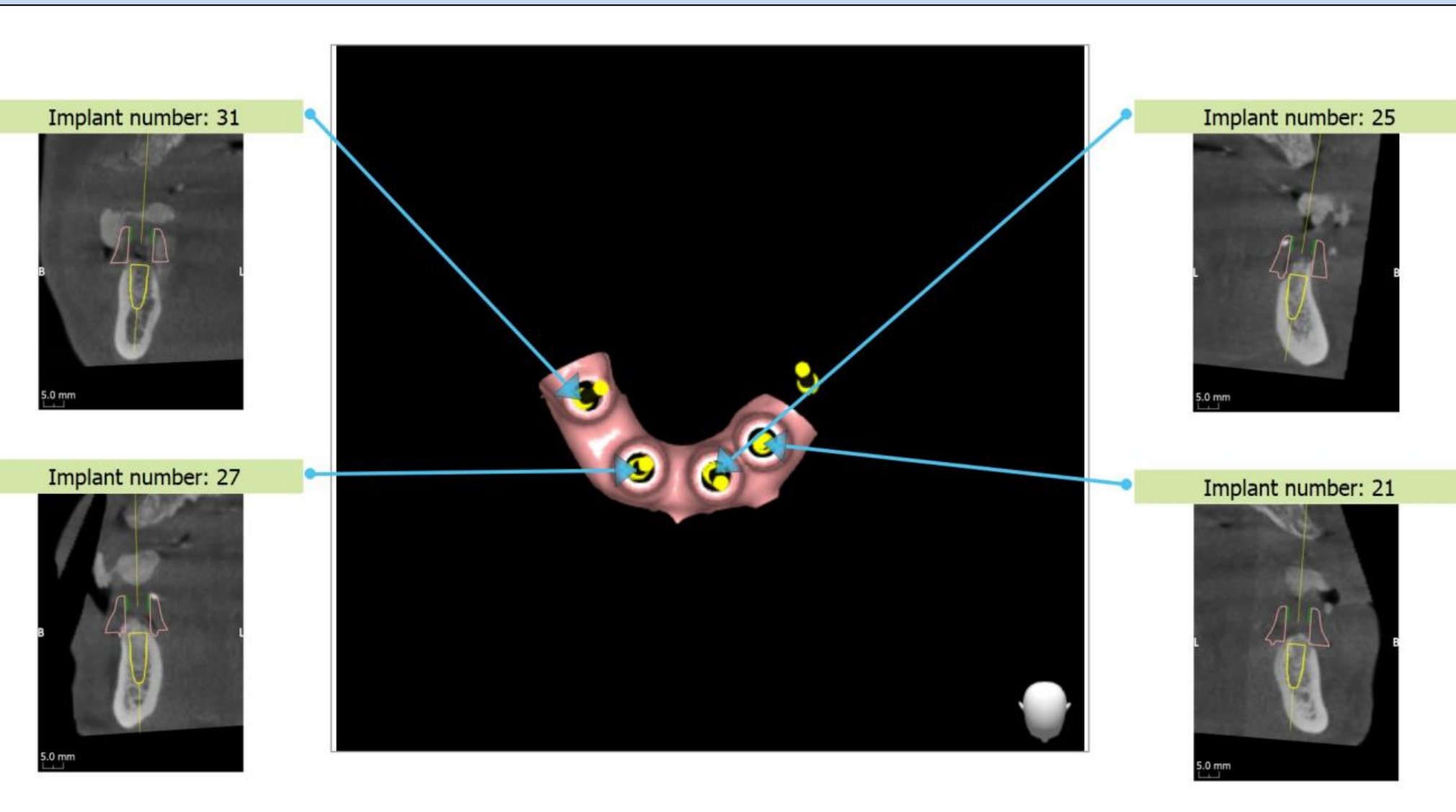
TREATMENT PHASES –



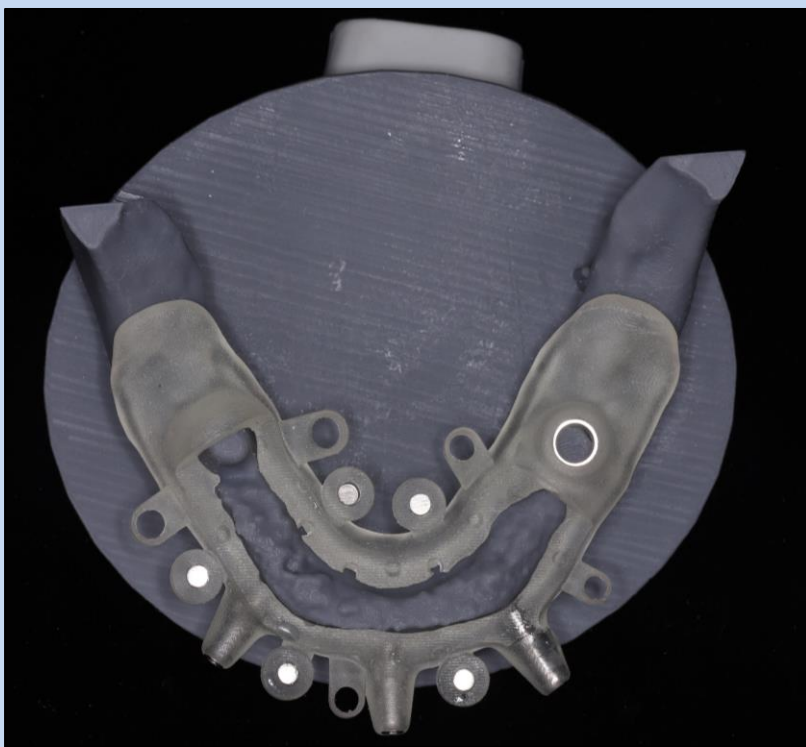
SURGICAL PLANNING



CBCT of the patient and dentures with fiduciary markers was made
DICOM files were imported to the CAD software and the STL files of the final guide were exported and used to print the guide.



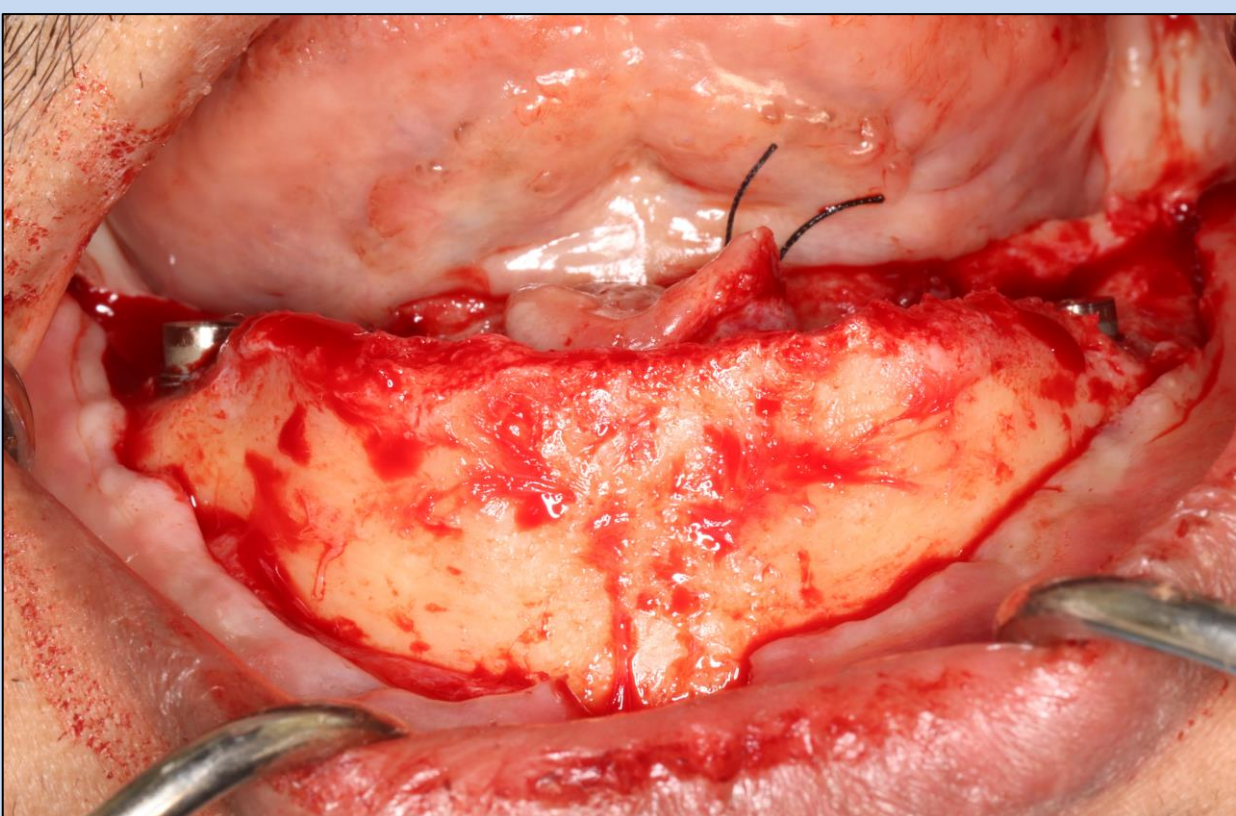
CLINICAL PROCEDURE



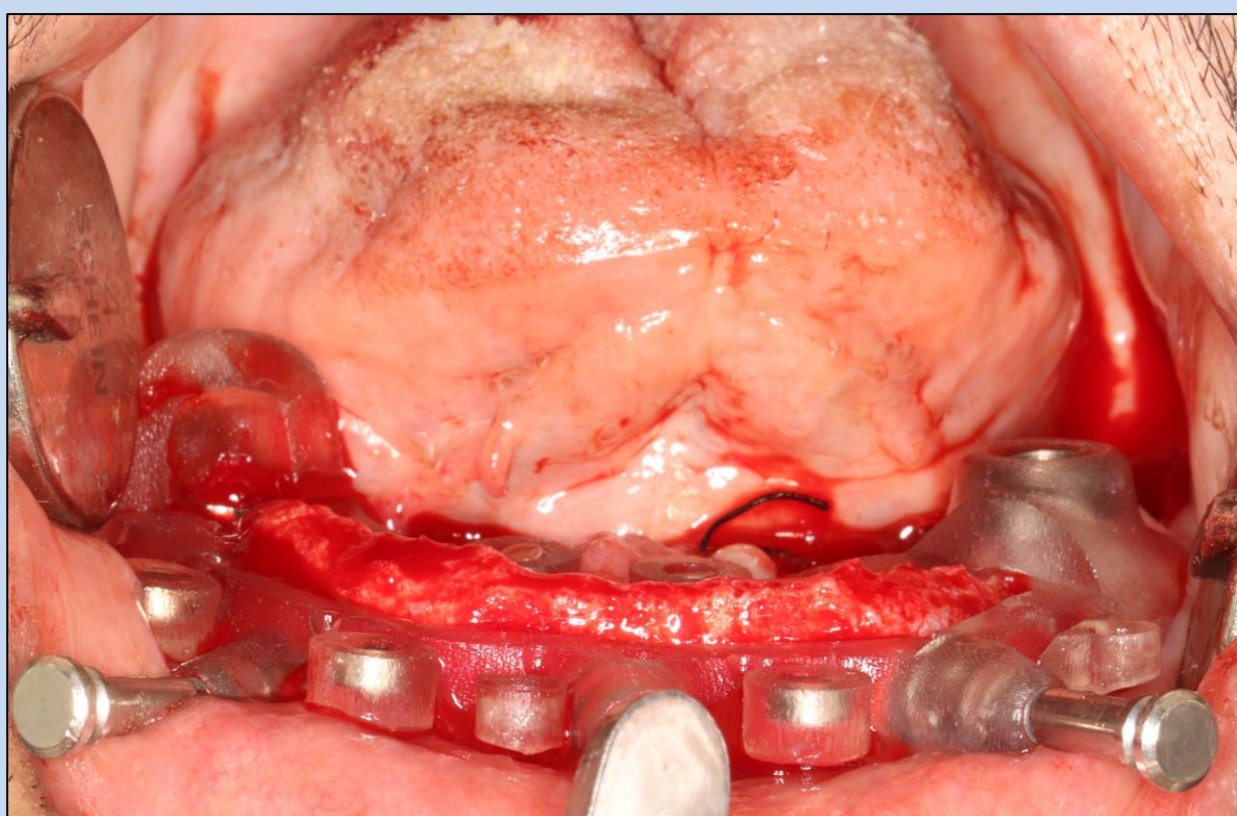
Bone reduction guide



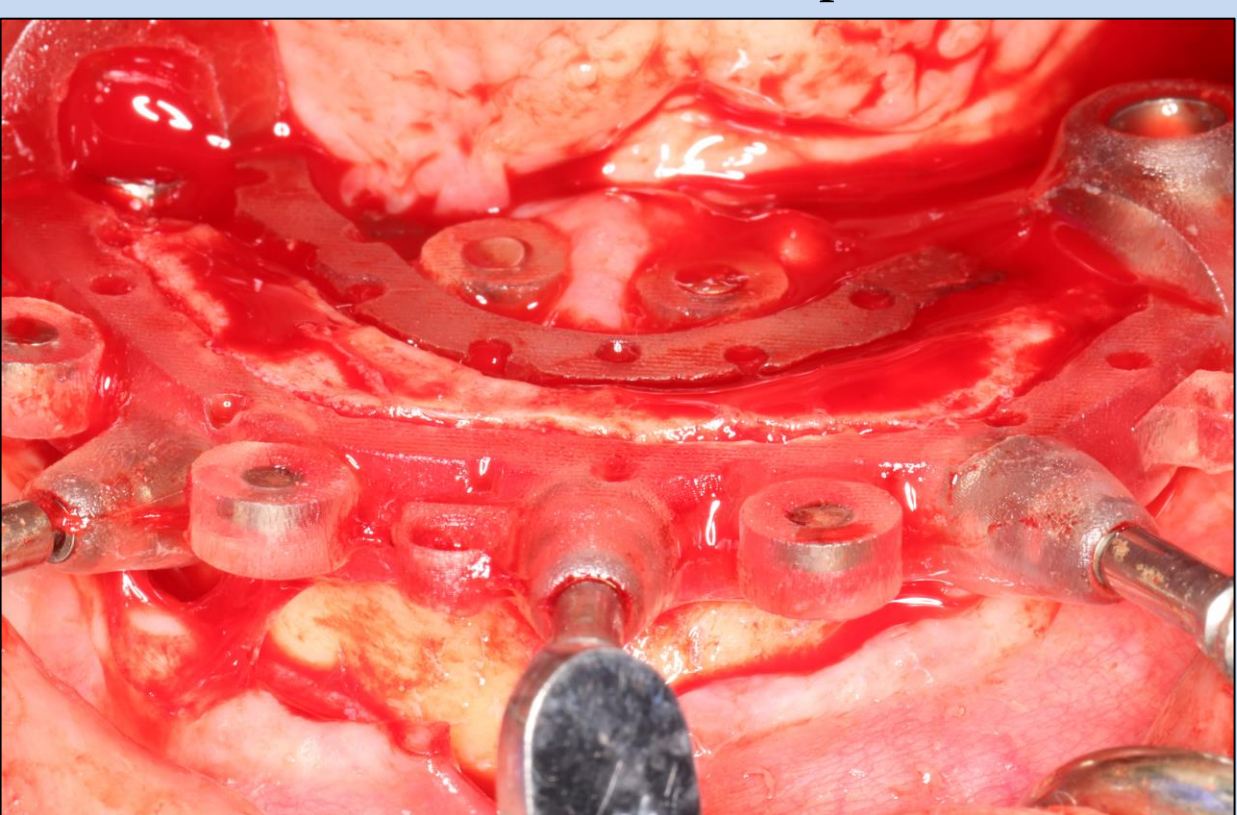
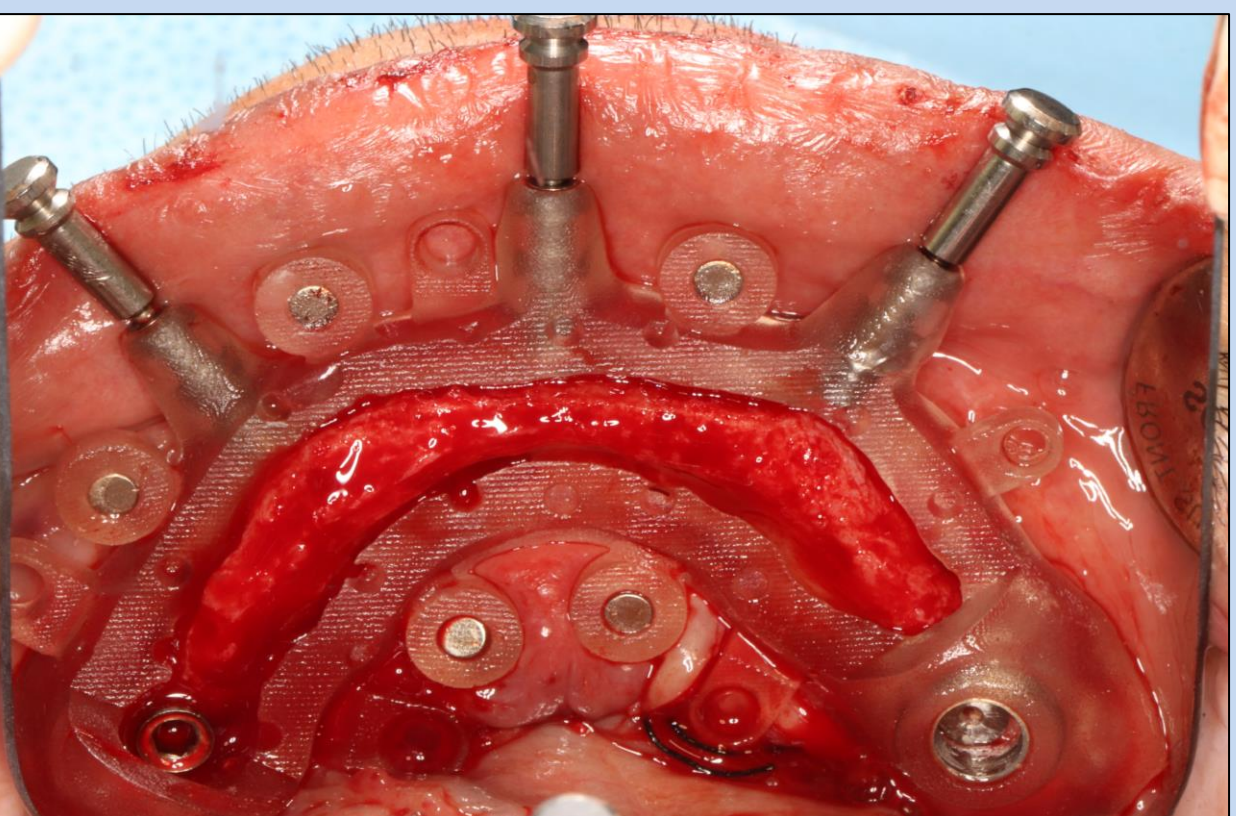
Implant placement guide



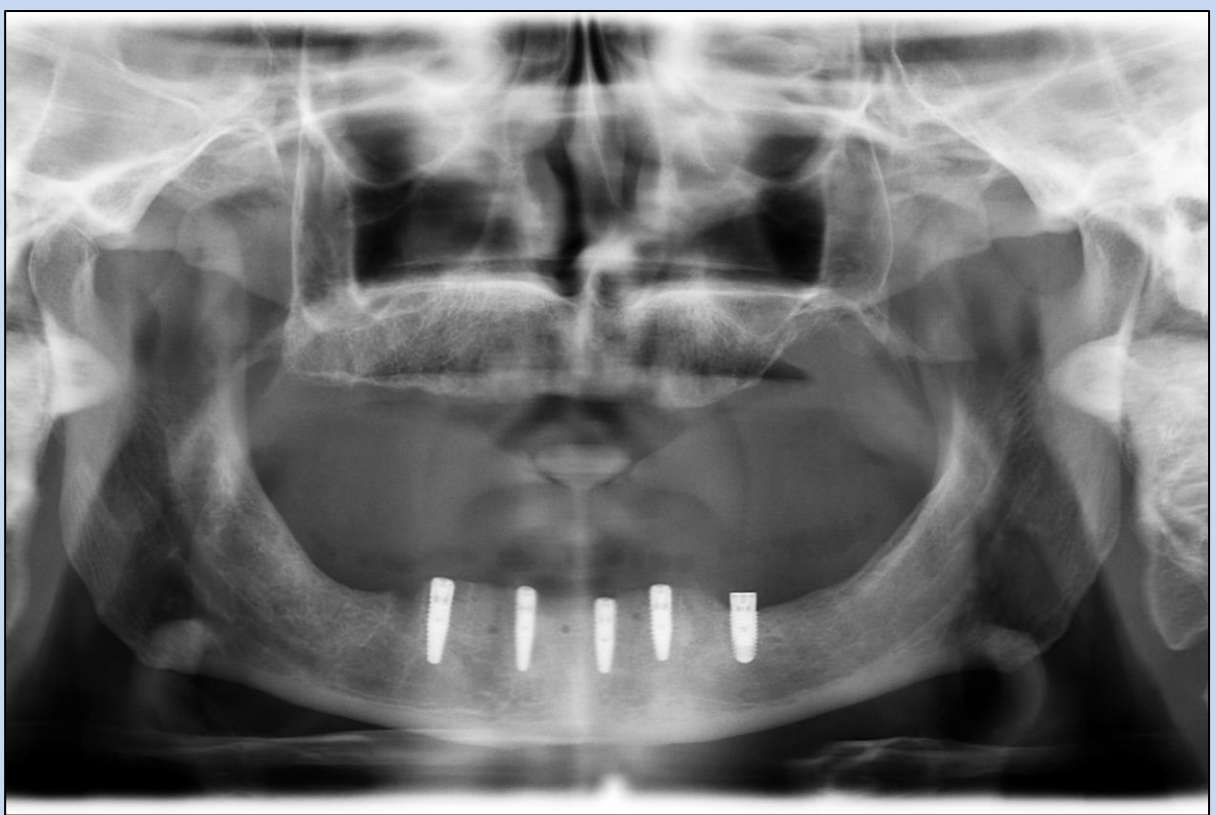
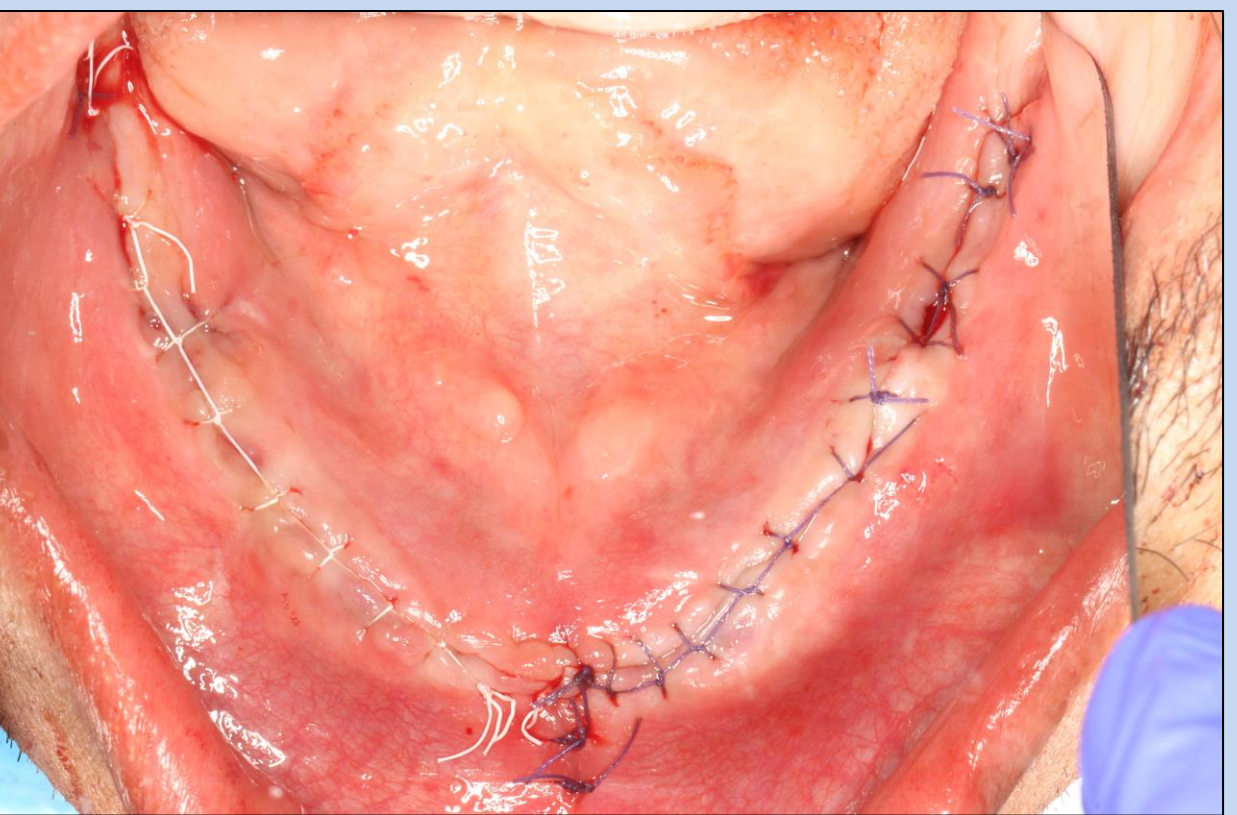
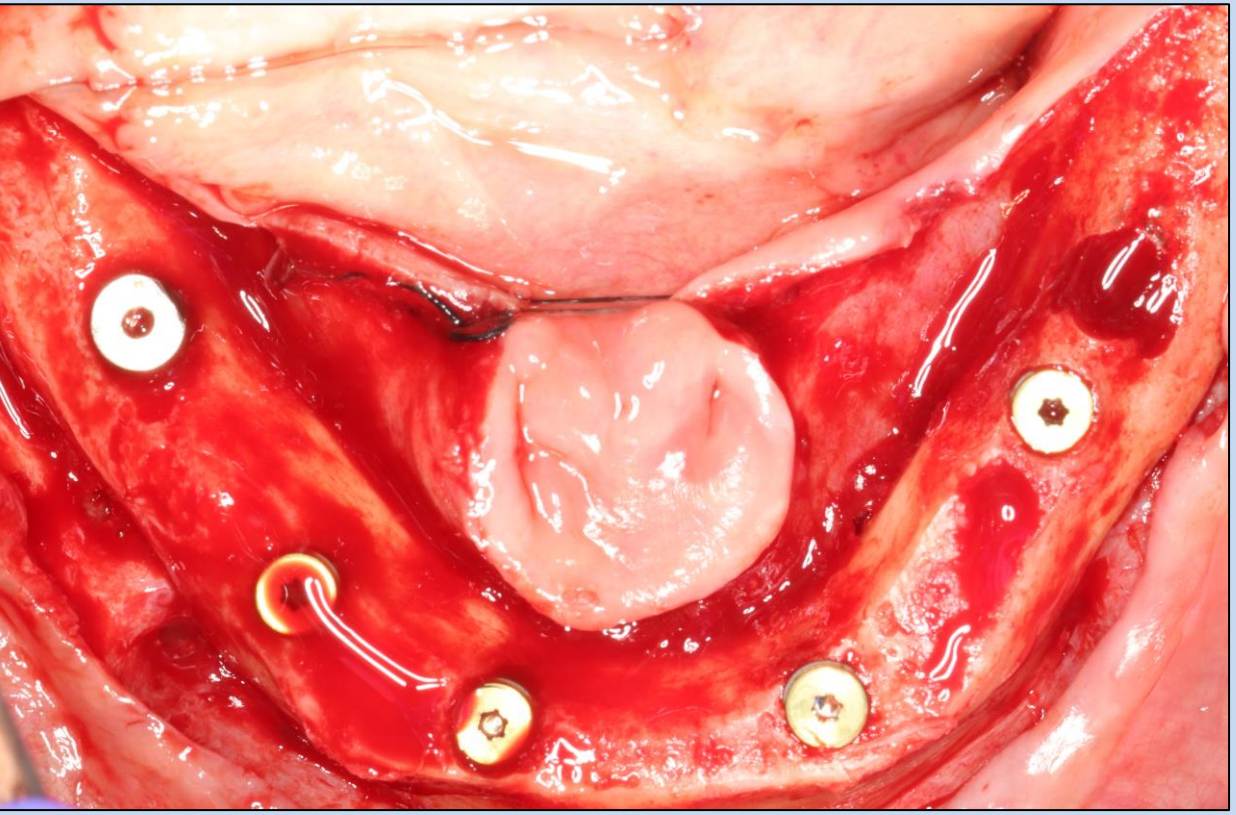
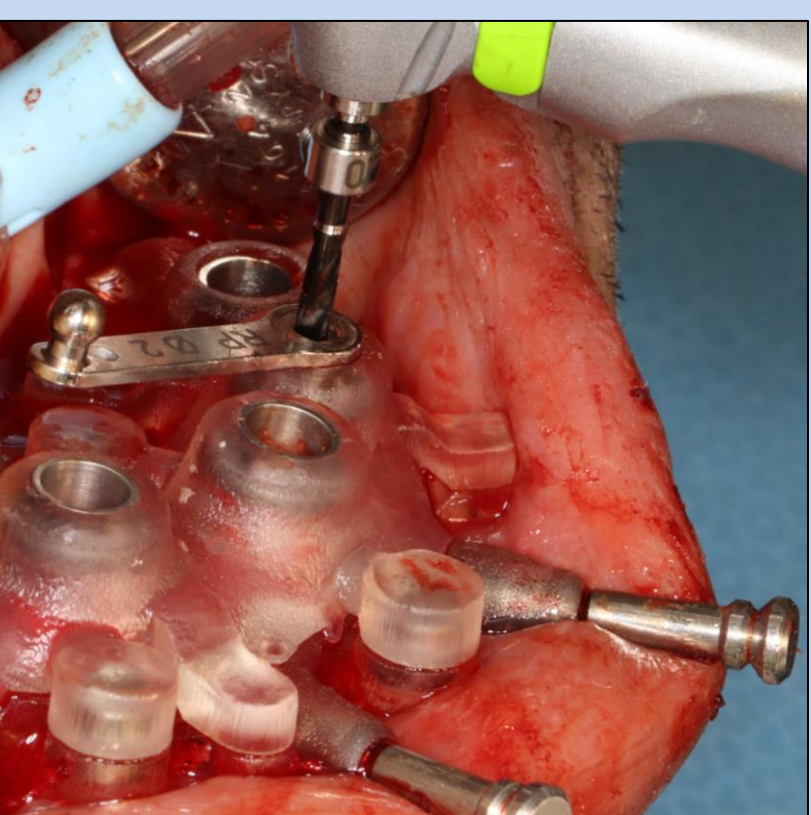
Bone reduction to establish proper inter-arch restorative space



Osteotomy guide was stabilized with fixation pins, provided reference for bone reduction



Stackable guide: implant guide and bone reduction guide connected with magnets for implant placement.



- Lack of primary stability in the implant at #31i, implants were not immediately loaded
- Two staged procedure was finalized and immediate complete denture was soft relined

DISCUSSION

ADVANTAGES OF STACKABLE GUIDE:

- High precision
- Reproducibility
- Reduction in operating time
- Respect for the prosthetic plan

LIMITATIONS OF STACKABLE GUIDE :

- Time-consuming
- Chances of mismatch between the prosthetic and surgical guide
- Expertise and experience required

CLINICAL SIGNIFICANCE

- Digital technology is a powerful tool to provide a predictable outcome in complex cases.
- Minimum 15mm prosthetic space above the soft-tissue level to provide sufficient strength for the zirconia, avoidance of excessive distal cantilevers, use of the implant manufacturer's original titanium cylinders bonded to zirconia to provide a metal-to-metal interface over the implants or abutments, and provision of a milled acrylic resin prototype prosthesis to allow adjustment of occlusion and esthetics before fabricating the zirconia prosthesis

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