

## Using TAVDental implants and restorative elements for immediate loading of the upper jaw

# Case Description

A 65 year old female presenting mobility of upper teeth



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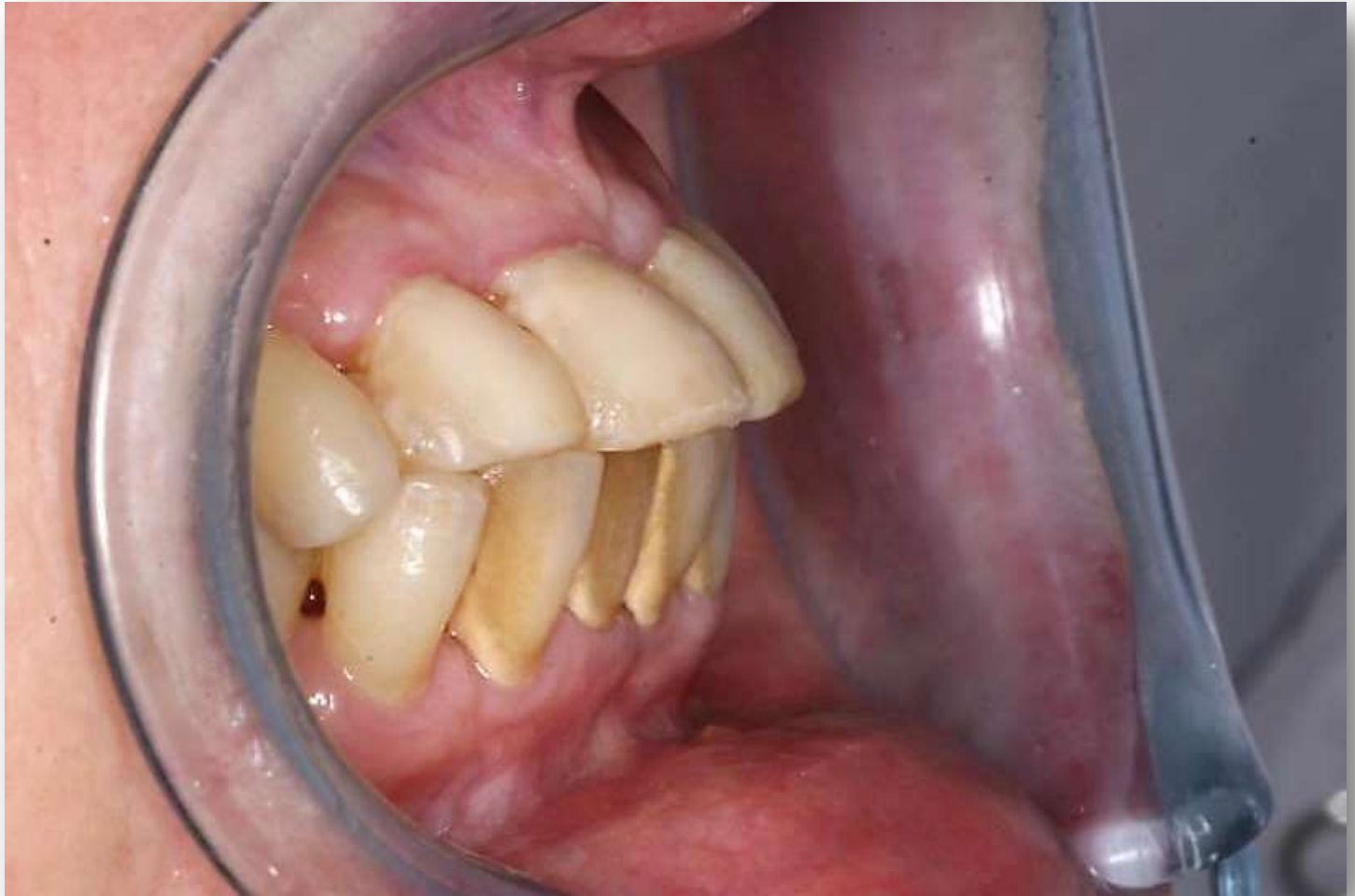
A 65 year old female presenting mobility of upper teeth



Mobility of the anterior segment and left quadrant, poor oral hygiene, unaesthetic occlusal and incisal plane, teeth have been maintained successfully for many years with palatal splint as a conservative approach



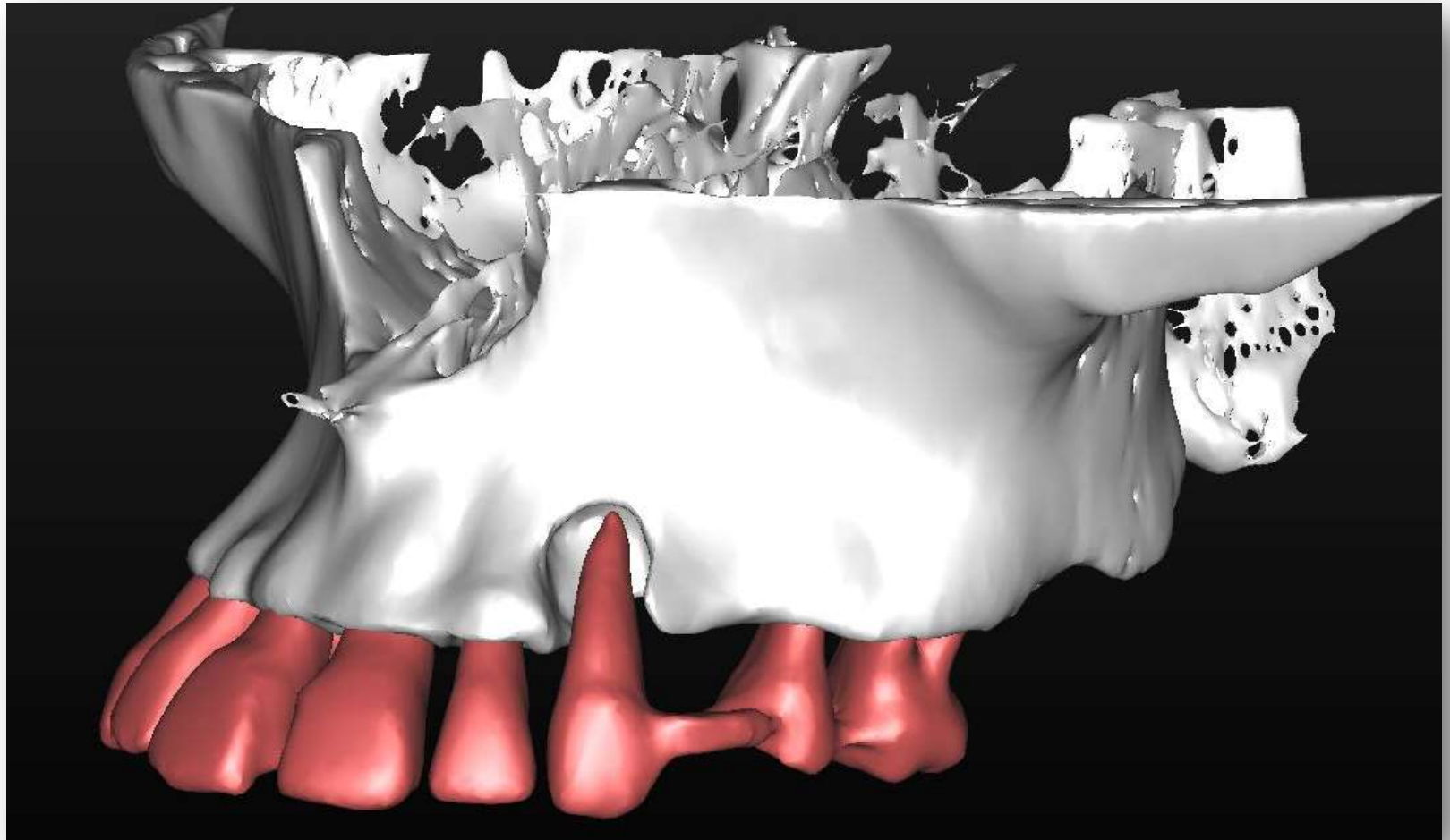
Case presents challenging inter-occlusal relationship as well as esthetic complications



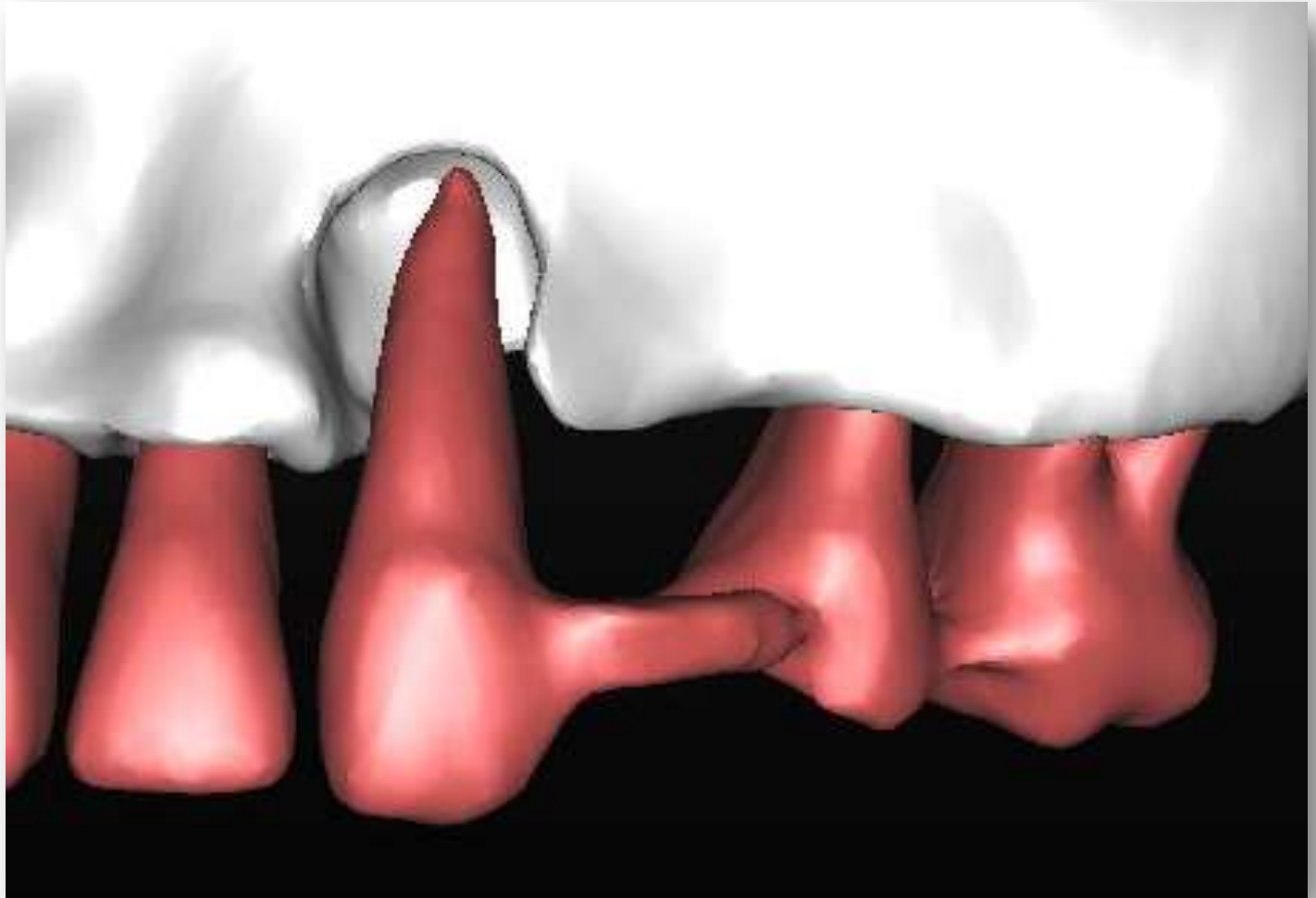
Facial contour shows slight reduction in vertical dimension with adequate lip support



3D analysis reveals the following:  
Substantial bone defect around tooth 23



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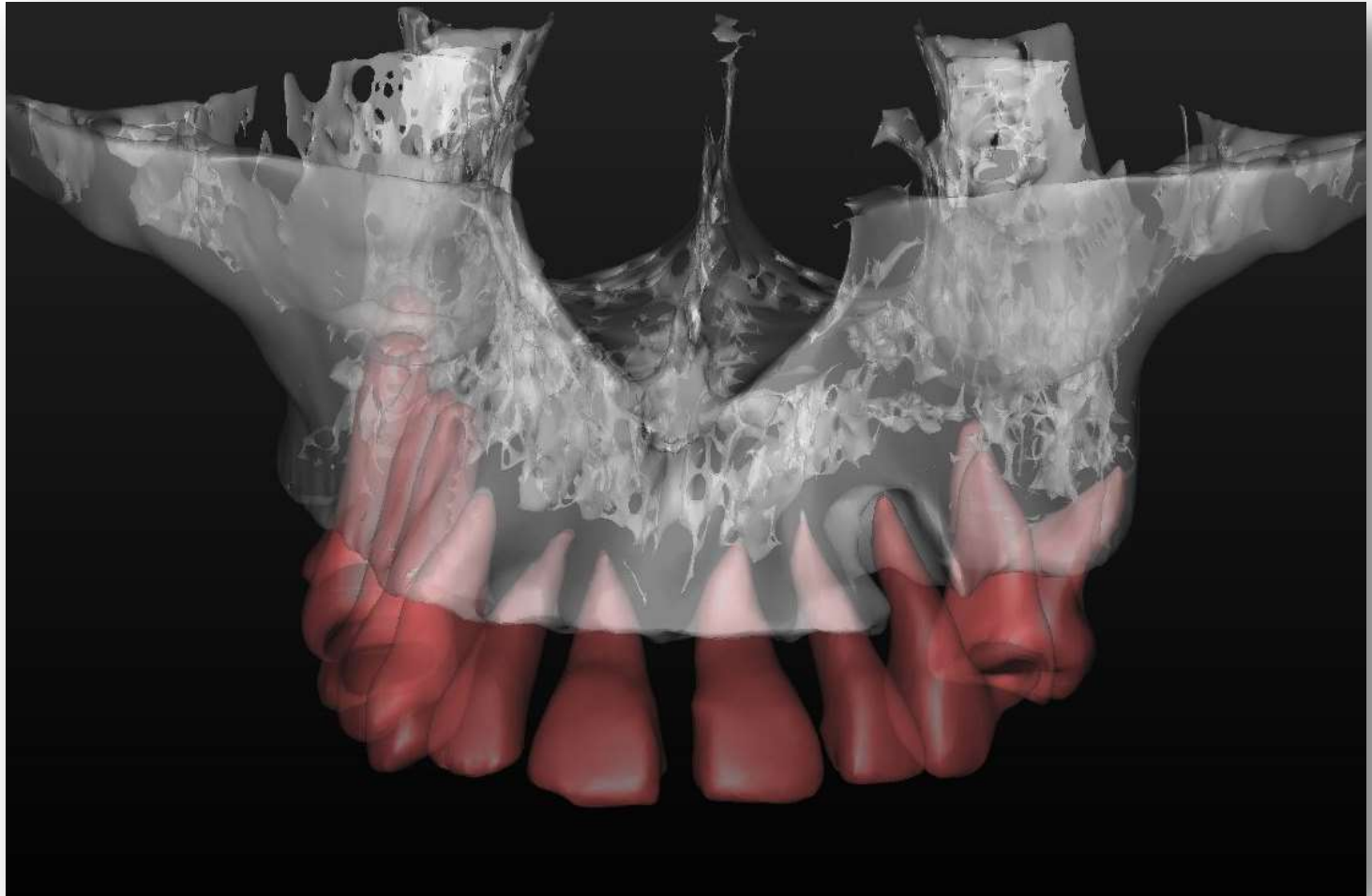
3D analysis reveals the following:  
Substantial bone defect around tooth 23 as shown by the  
stereolithographic model



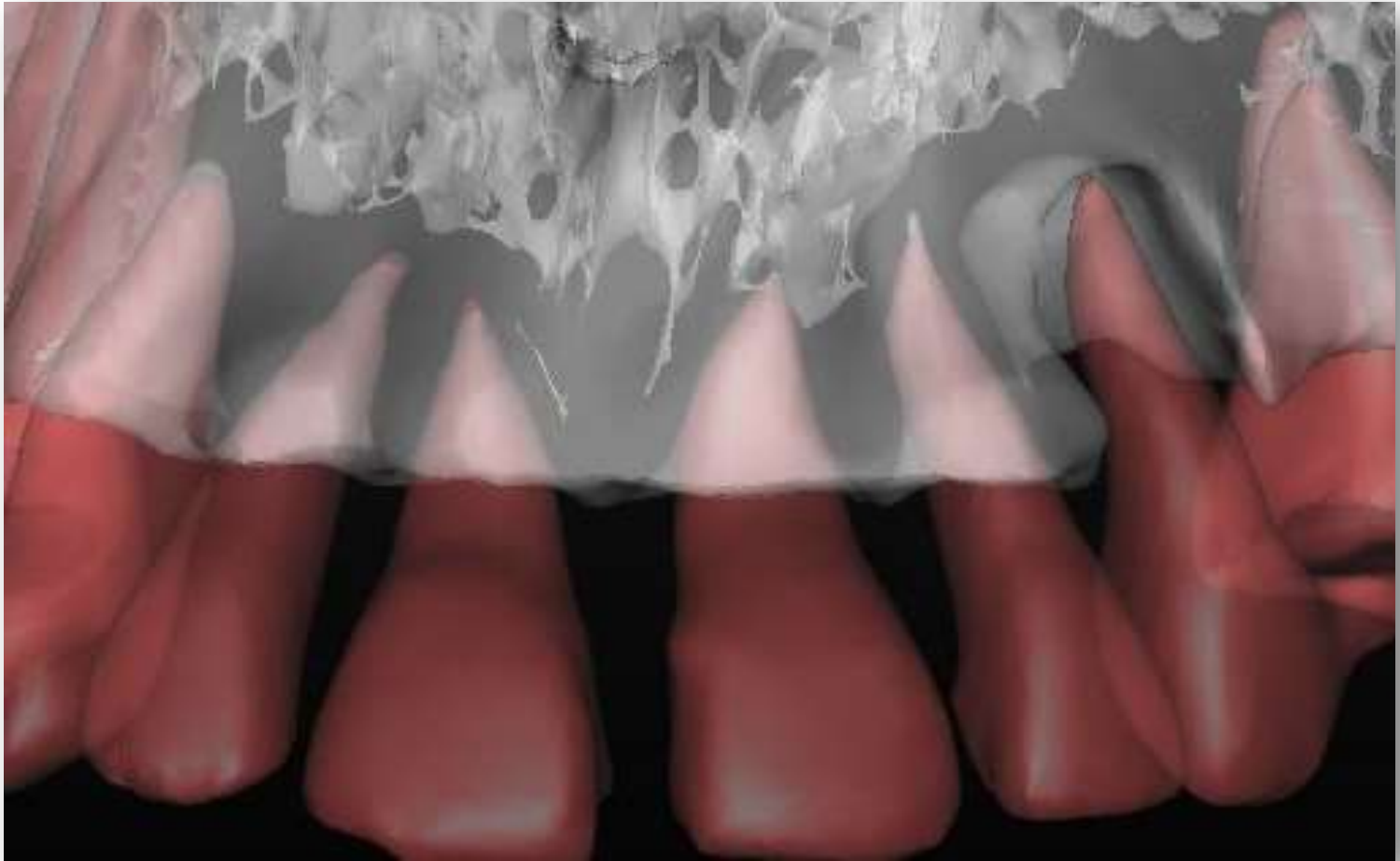
3D analysis reveals the following:  
Substantial bone defect around tooth 23 as shown by the  
stereolithographic model



3D analysis reveals the following:  
Level of bone resorption at the anterior segment and left quadrant



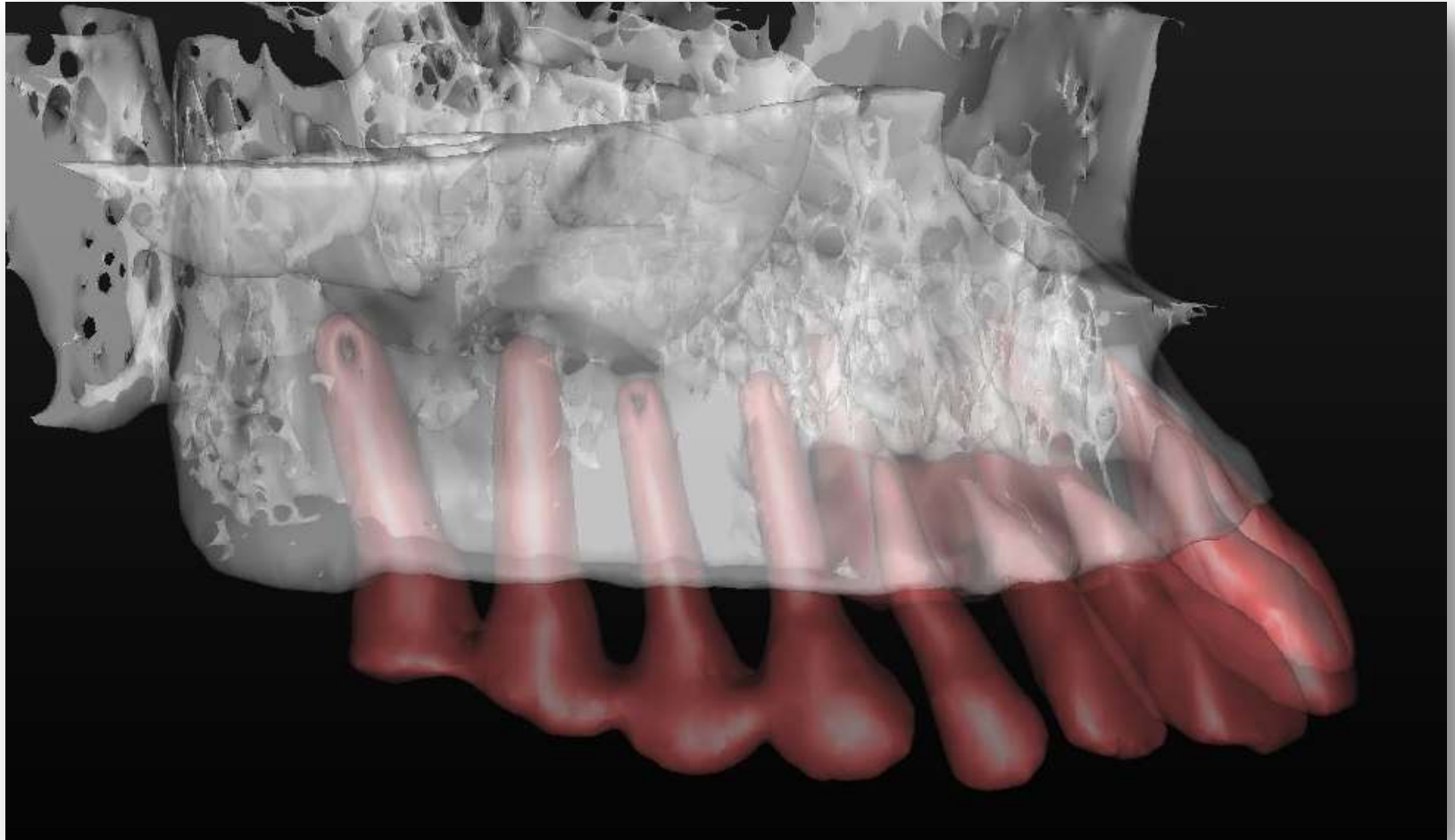
## Level of bone resorption at the anterior segment



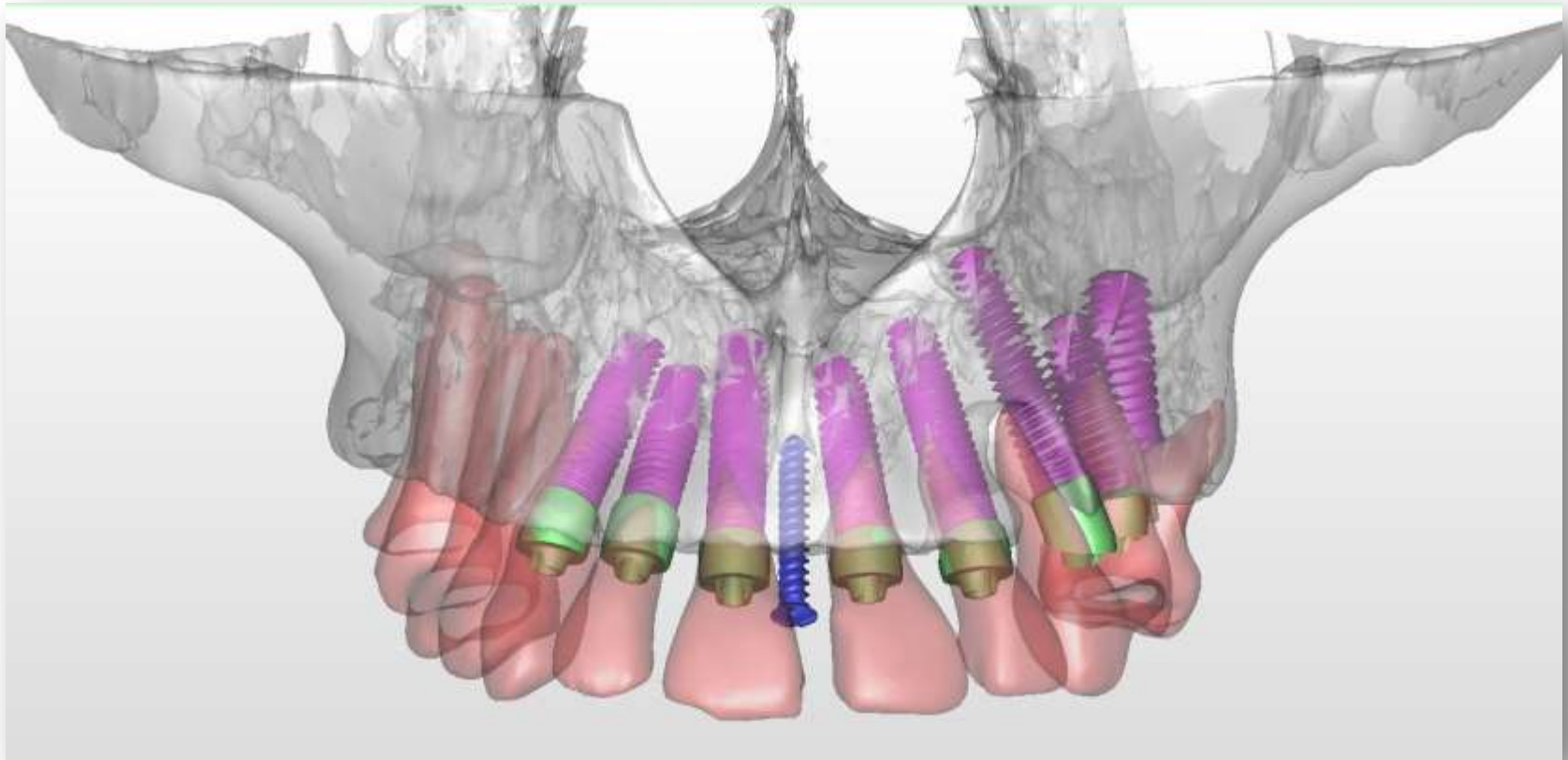
3D analysis reveals the following:

Right quadrant restored with four implants showing no resorption

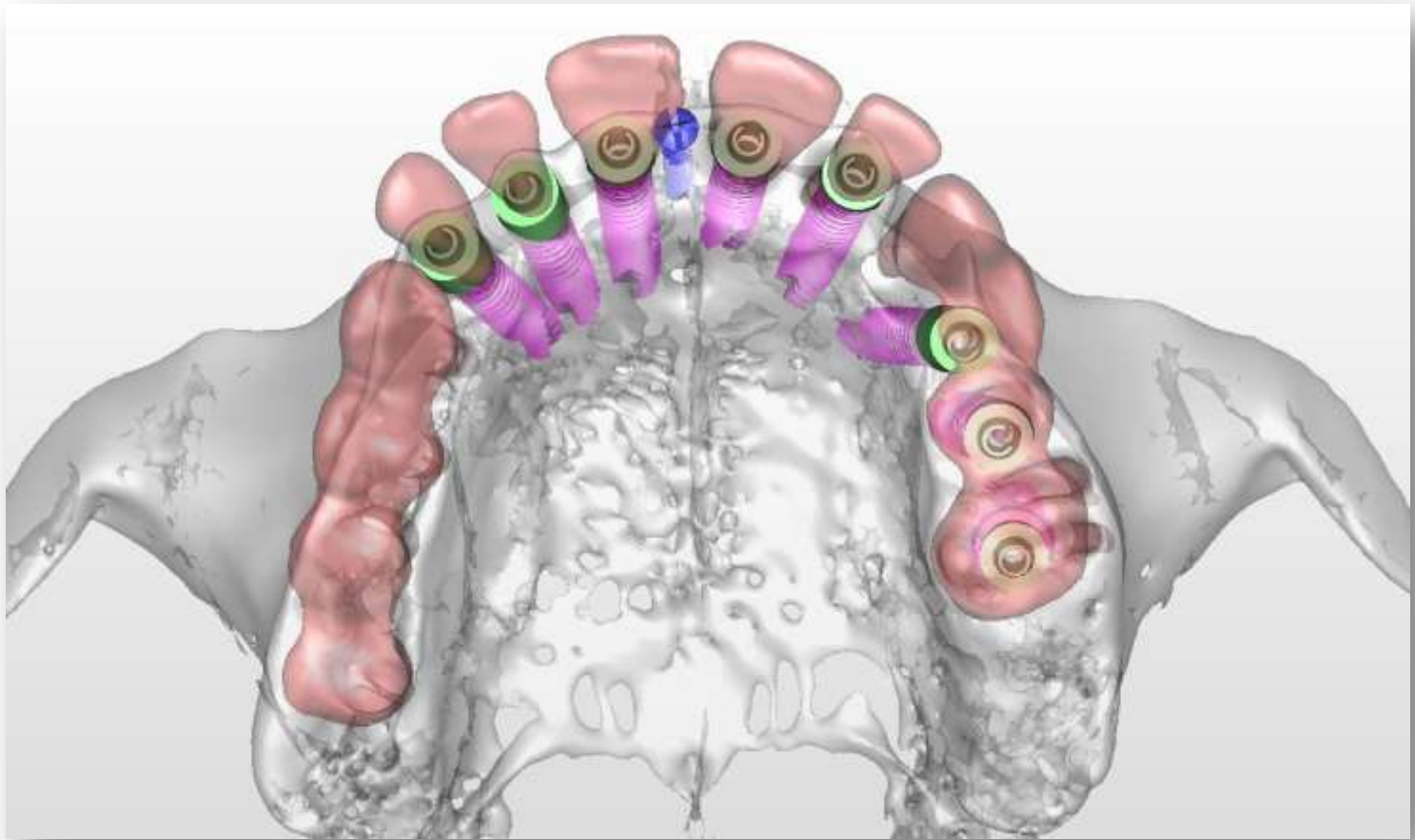
Level of bone resorption at the anterior segment



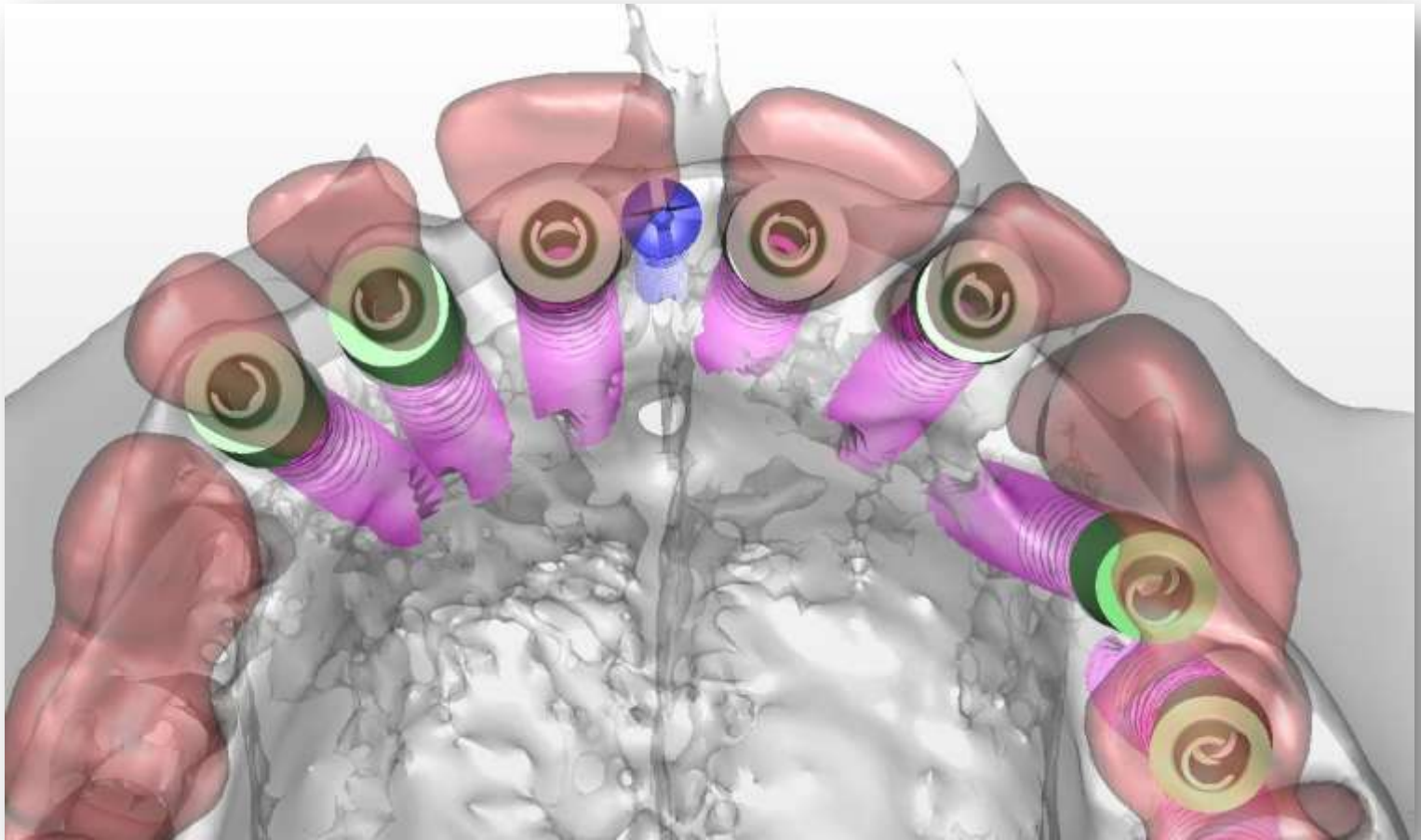
3D treatment Plan consists of:  
Extraction of remaining teeth, insertion of 8 TAVDental implants,  
selective augmentation of bone defects and immediate loading



3D Planning of Implants and their restorative components allows for correct selection of prosthetic components facilitating the ability to place the temporary prosthesis in the preferred position



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## Clinical images of surgery



Clinical images of surgery  
Separation and removal of palatal splint



# Clinical images of surgery

## Atraumatic teeth extraction

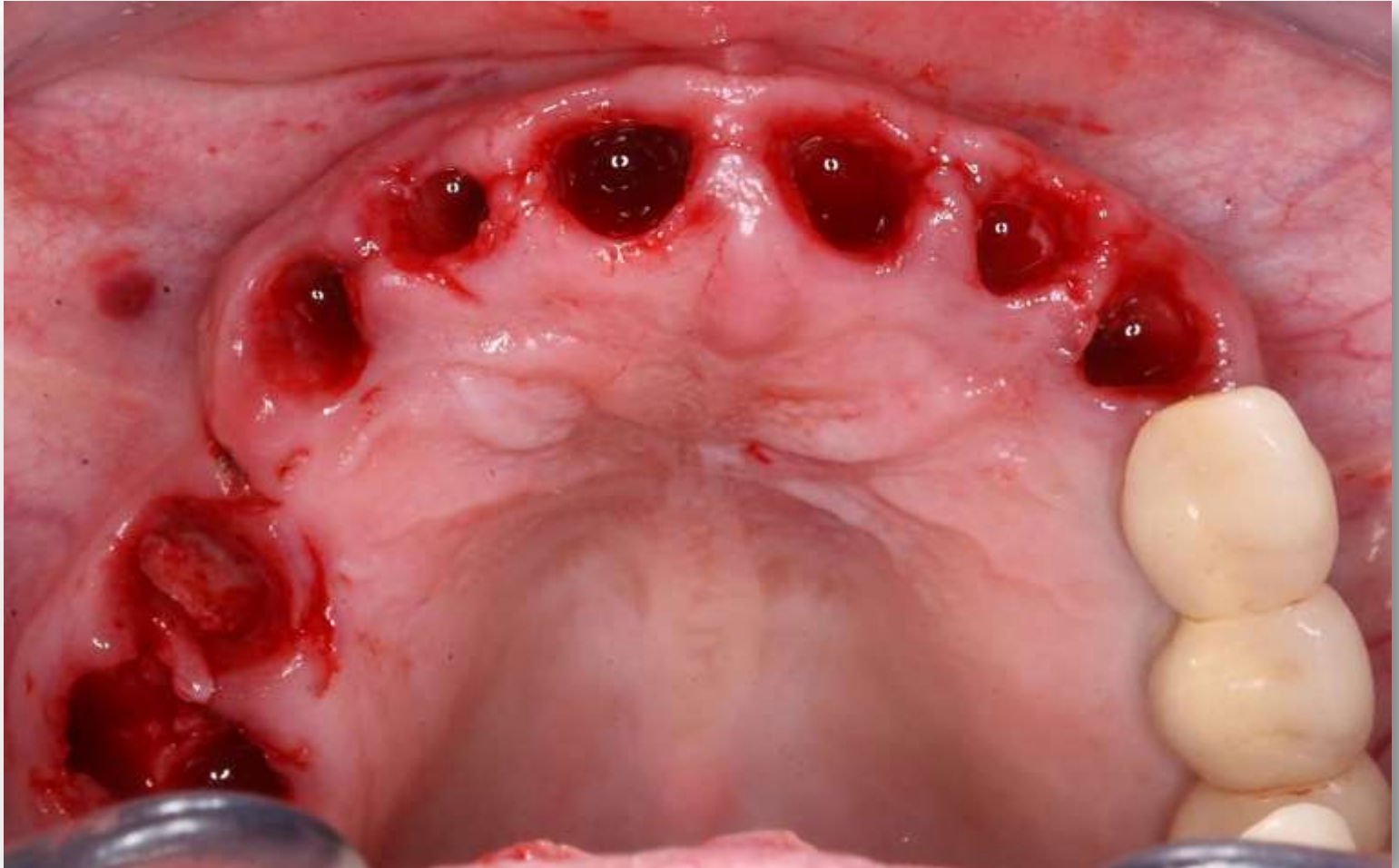


## Clinical images of surgery Atraumatic teeth extraction



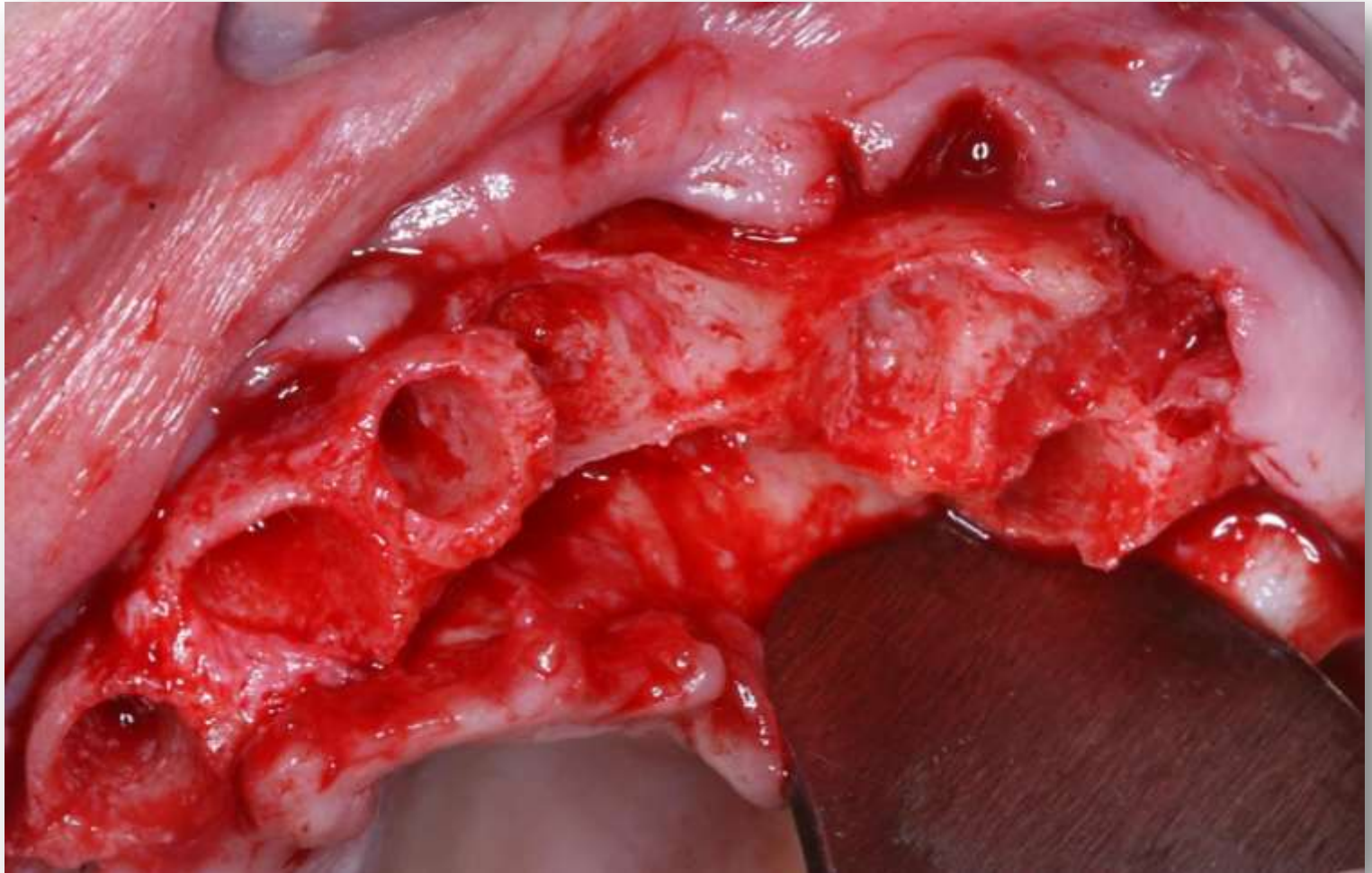
# Clinical images of surgery

## Atraumatic teeth extraction

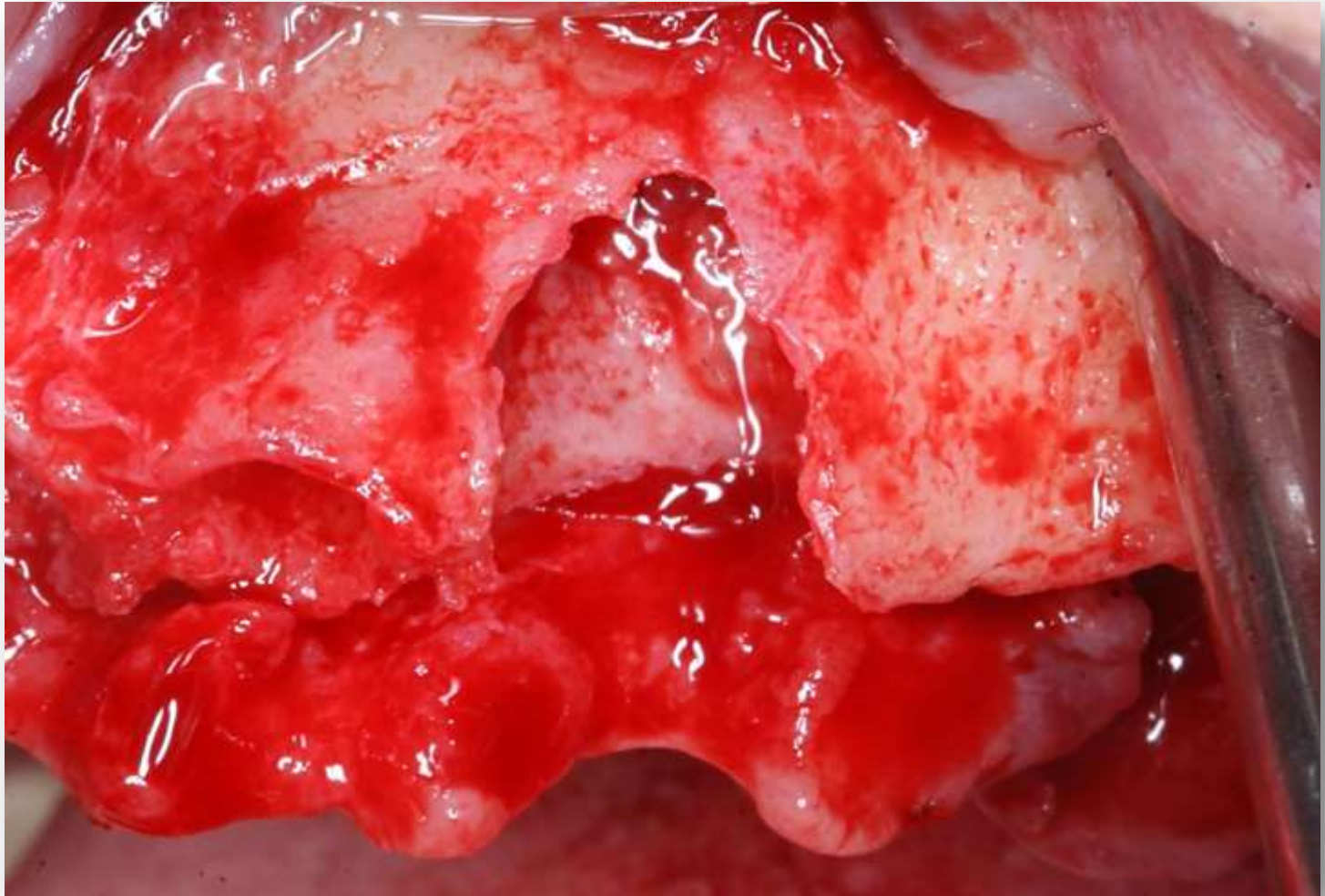


## Clinical images of surgery

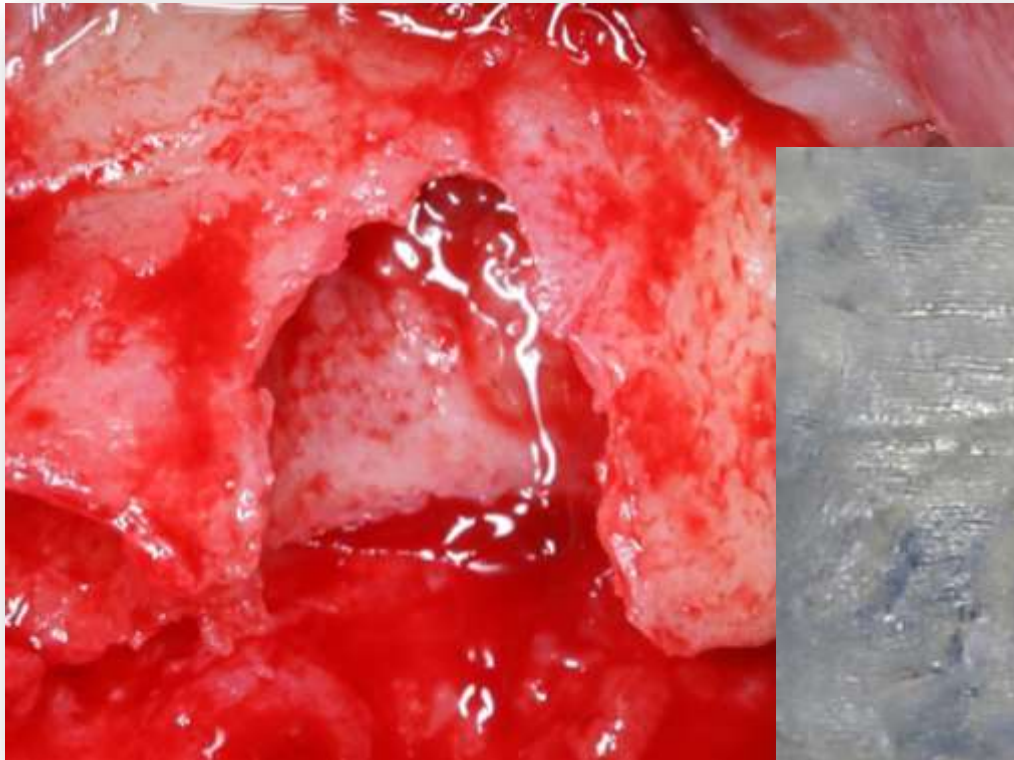
### Elevation of flaps



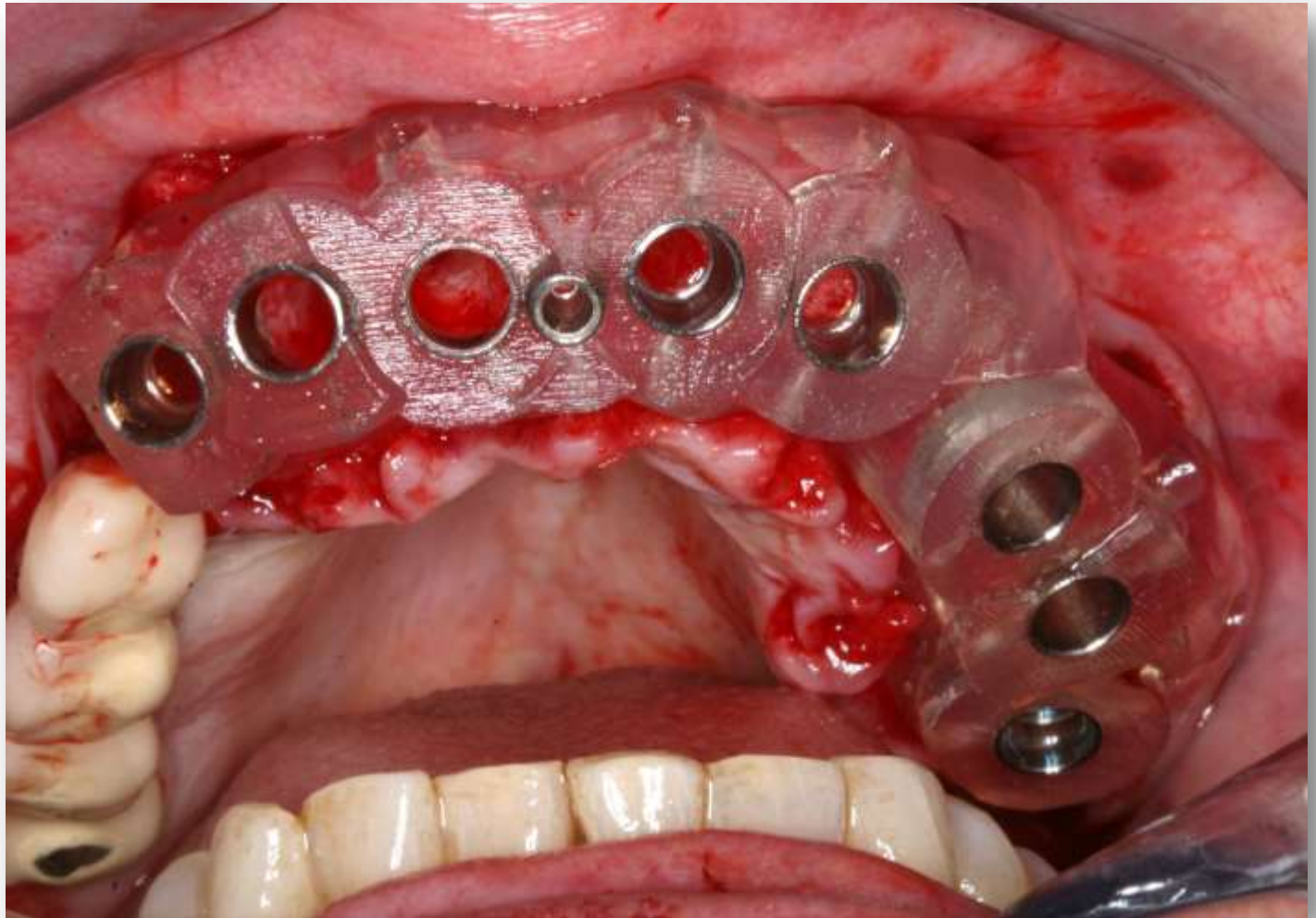
Clinical images of surgery  
Illustrating bone defect of tooth 23



Clinical images of surgery  
Illustrating bone defect of tooth 23 and comparison with  
stereolithographic model

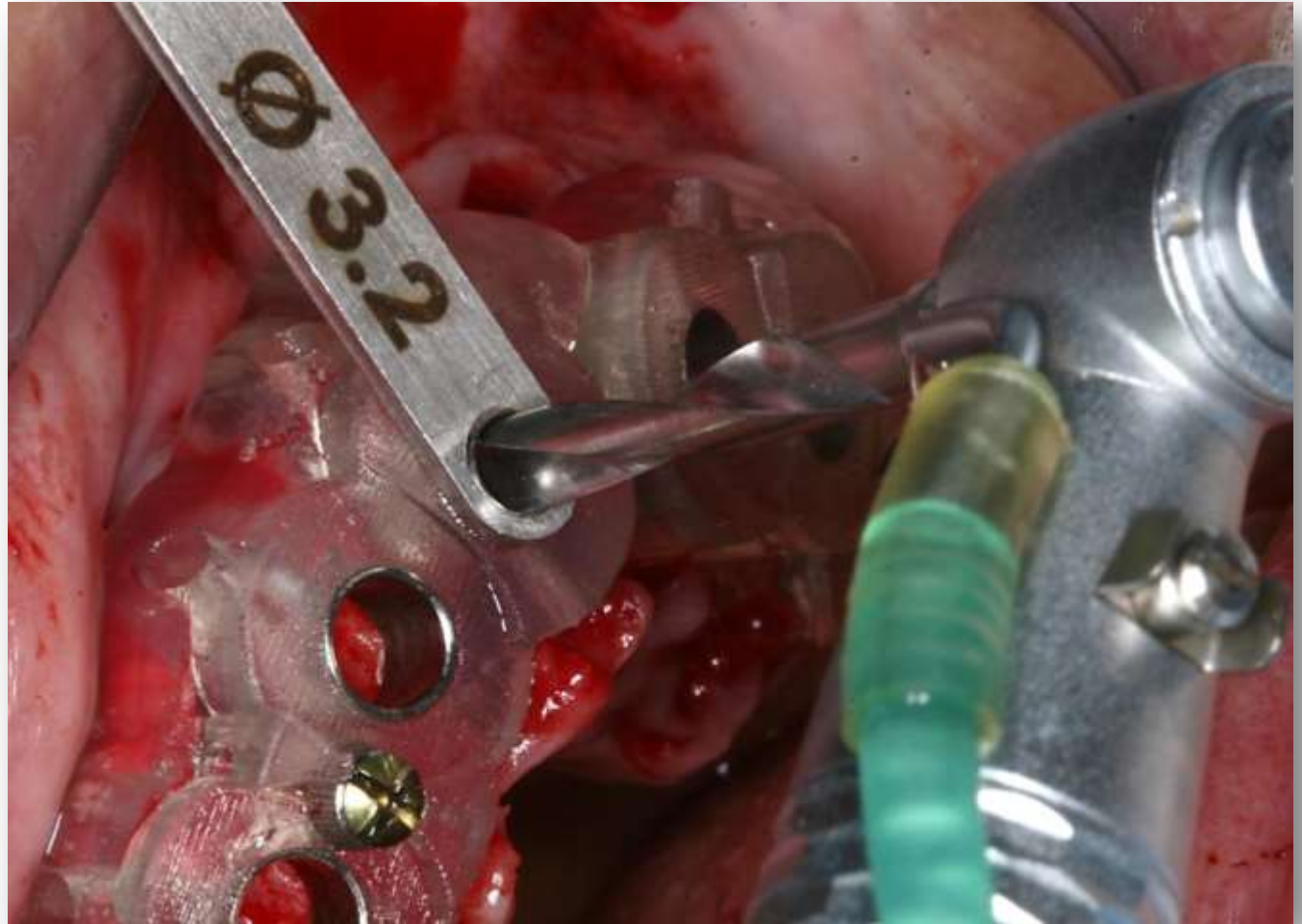


Clinical images of surgery  
Initial seating of surgical guide with perfect fit



Clinical images of surgery

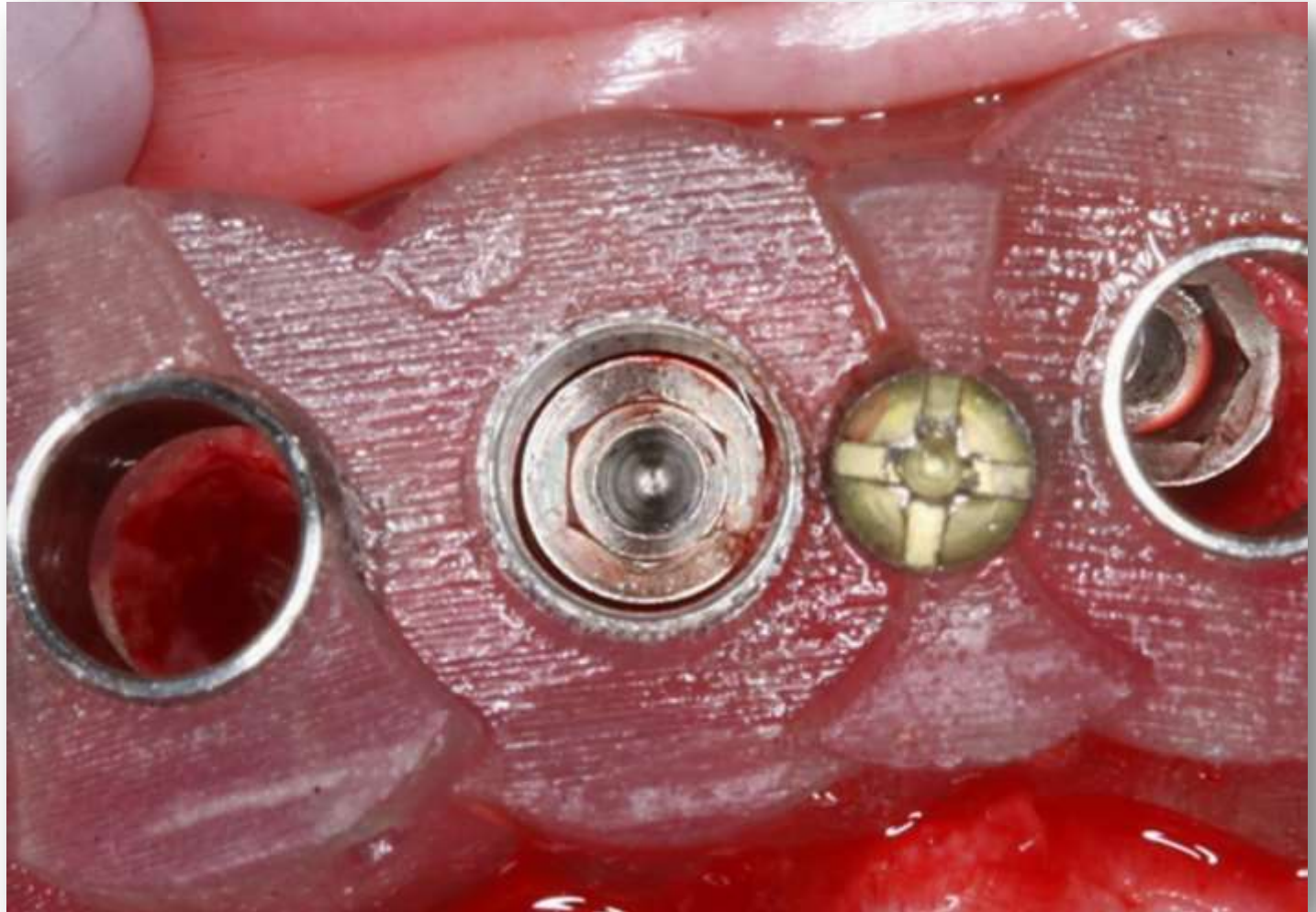
Drilling according to guided planning surgical protocol



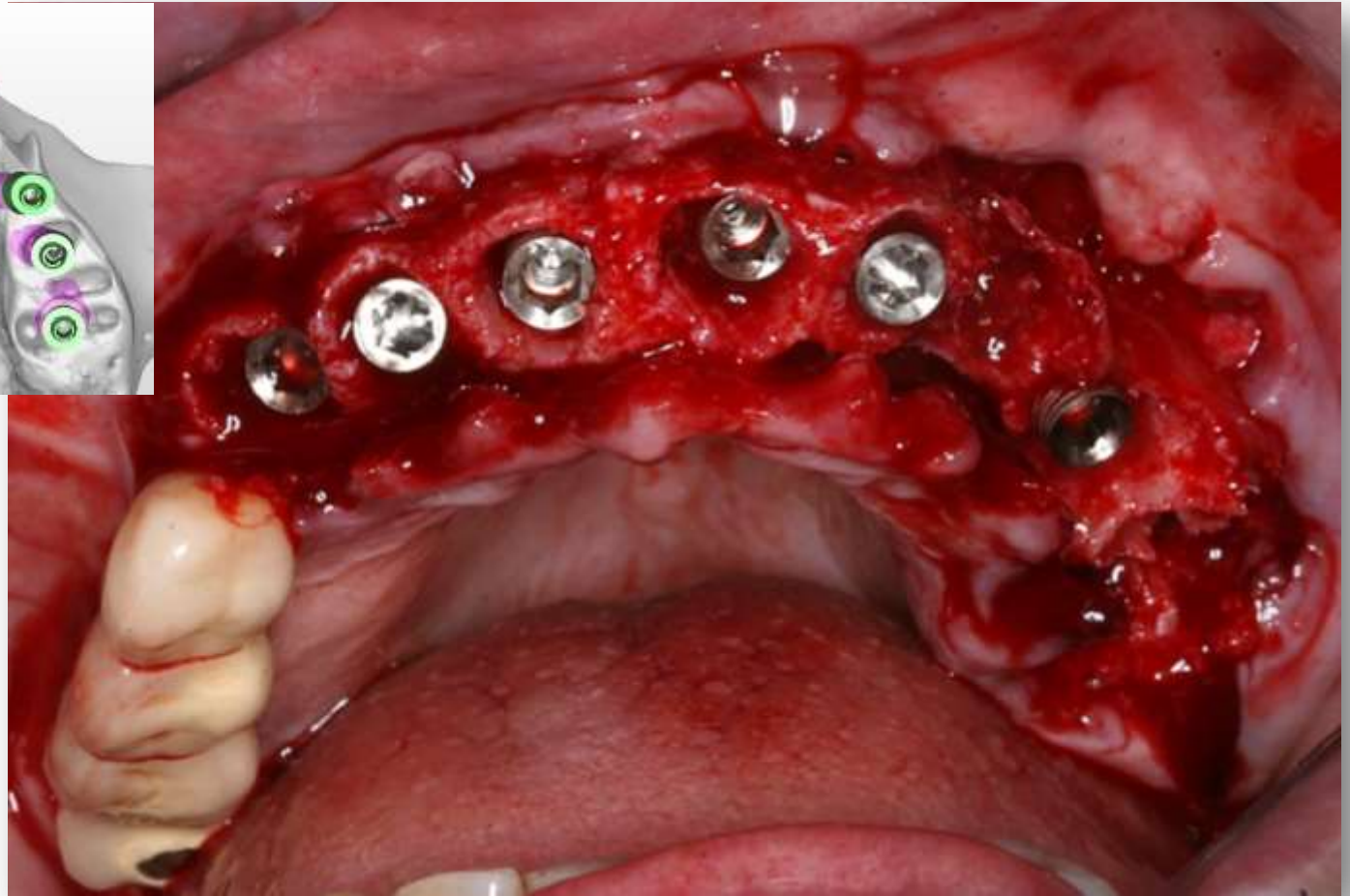
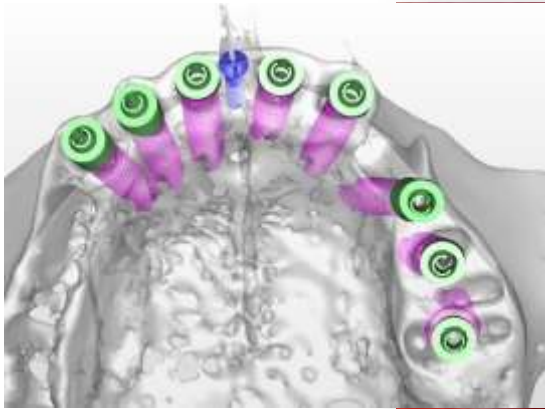
## Clinical images of surgery Insertion of implants through guide



Occlusal view of Inserted implant demonstrates the roll of the surgical guide in the ability to precisely copy the virtual treatment planning to the mouth



# Occlusal view of Inserted implants located at their exact planned position in bone



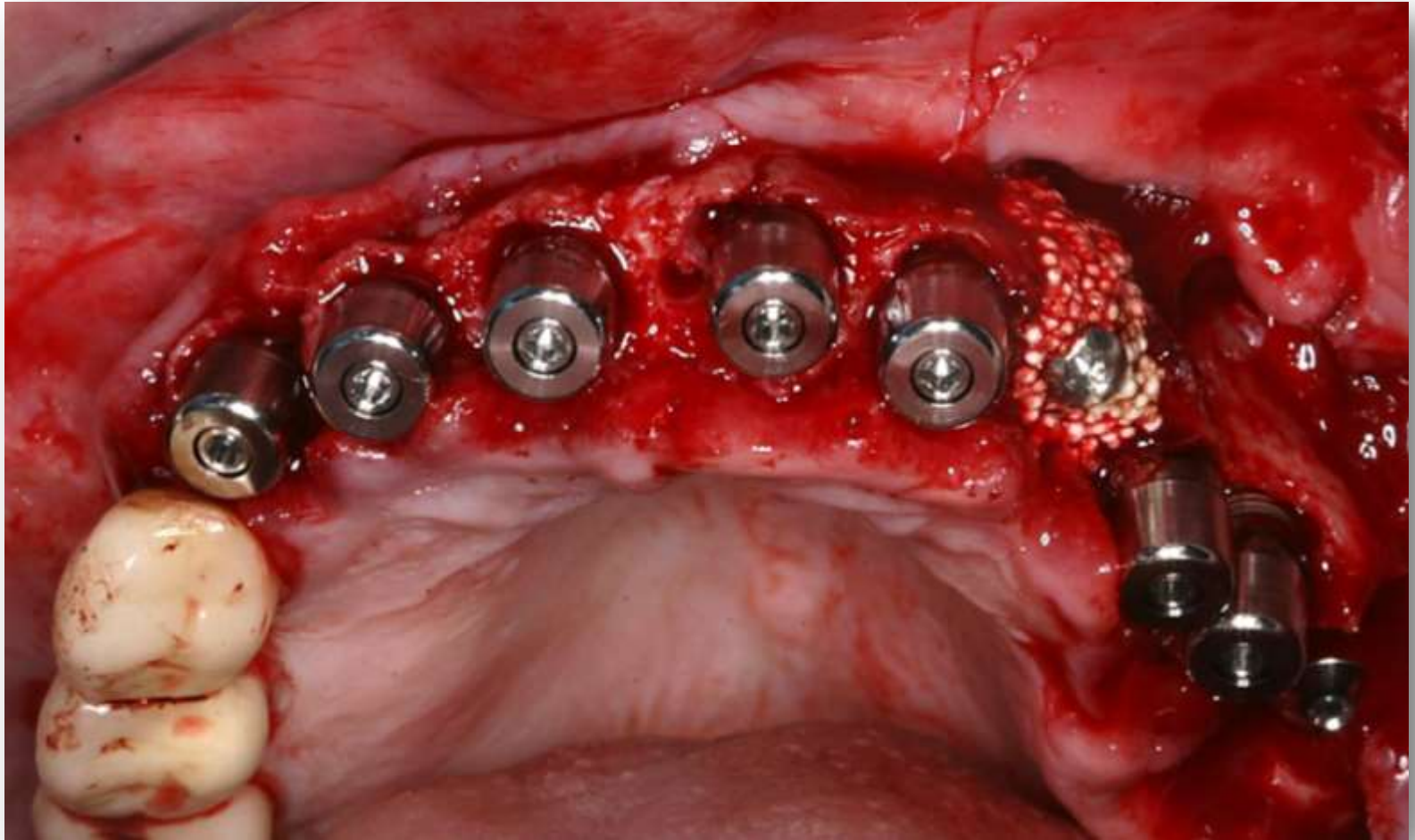
## Connection of the multi-unit abutments and verification of hex-orientation



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Connection of the healing caps to the multi-unit abutments in order to enable the following augmentation and soft tissue manipulation phase



## Clinical images: Closed Sinus elevation for Implant 26



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Sirius Implant was chosen to achieve initial stability with the aid of its special design

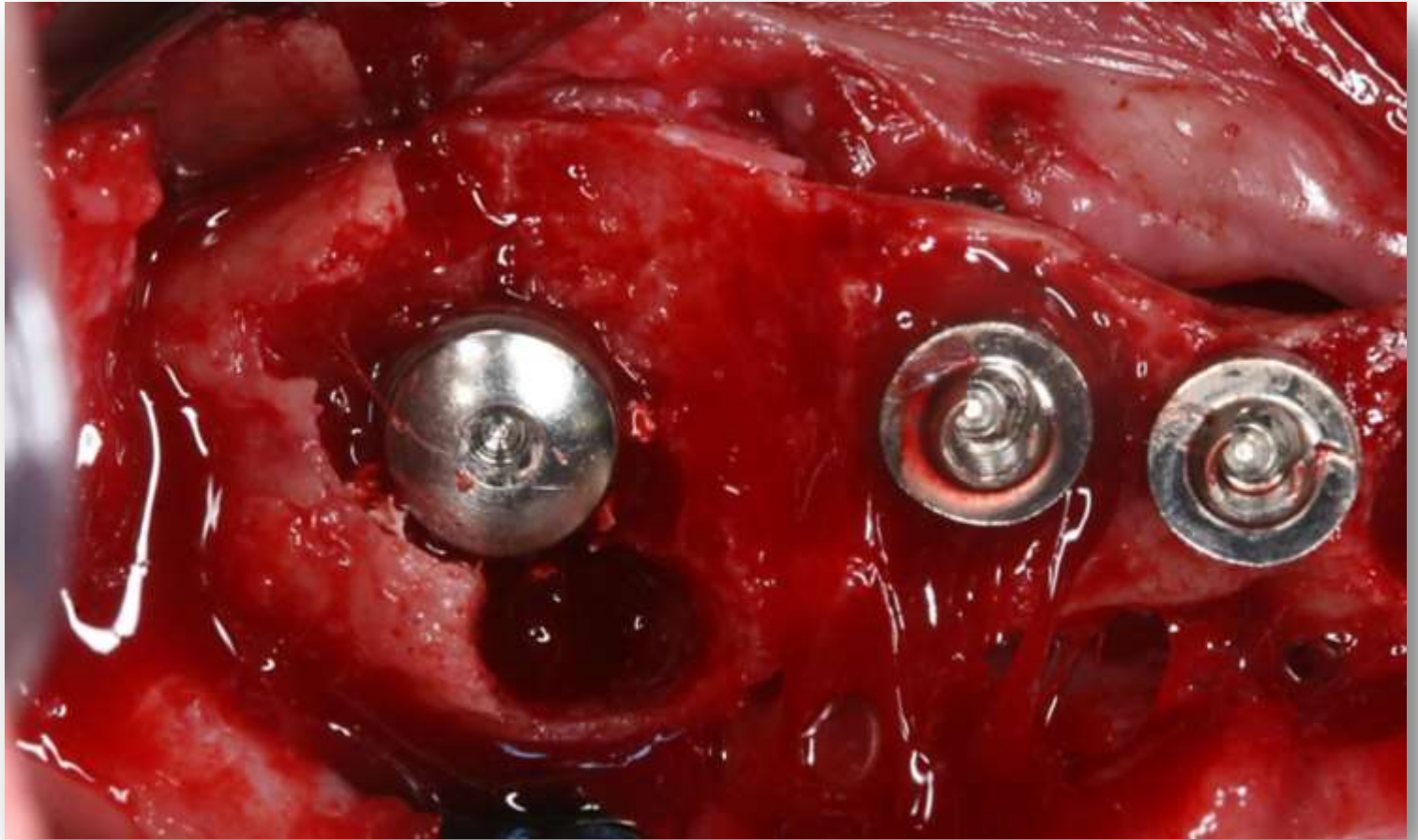


Clinical images Closed Sinus elevation for Implant 26

Sirius Implant was chosen to achieve initial stability with the aid of its special design



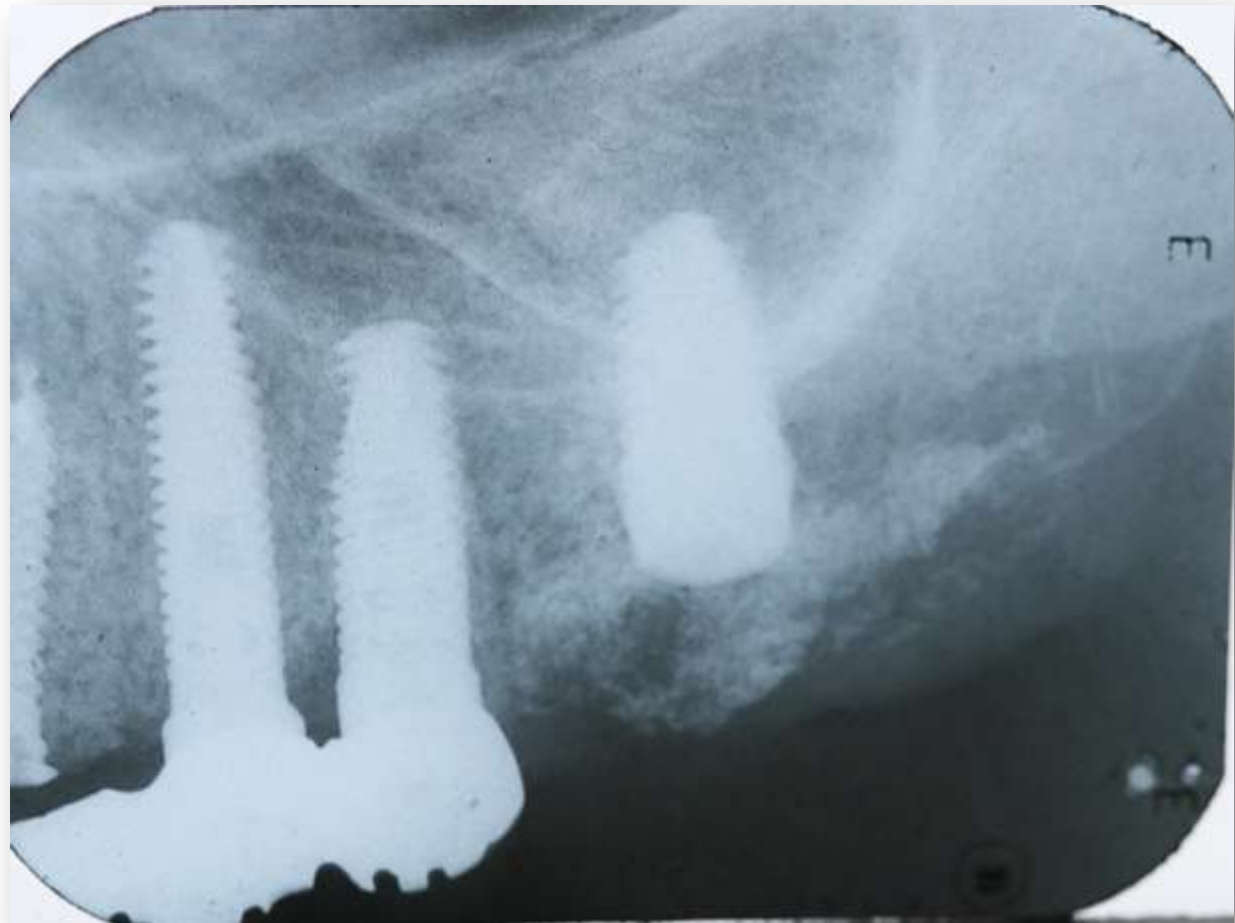
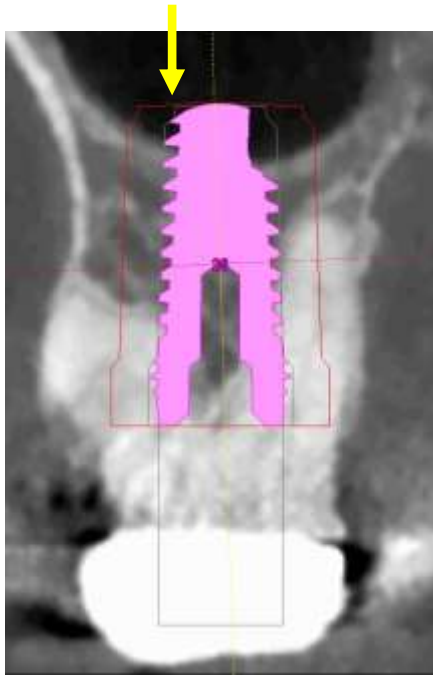
Sirius Implant was chosen to achieve initial stability with the aid of its special design. A cover screw was then attached as the 3D treatment plan was not to include immediate loading on implant 26



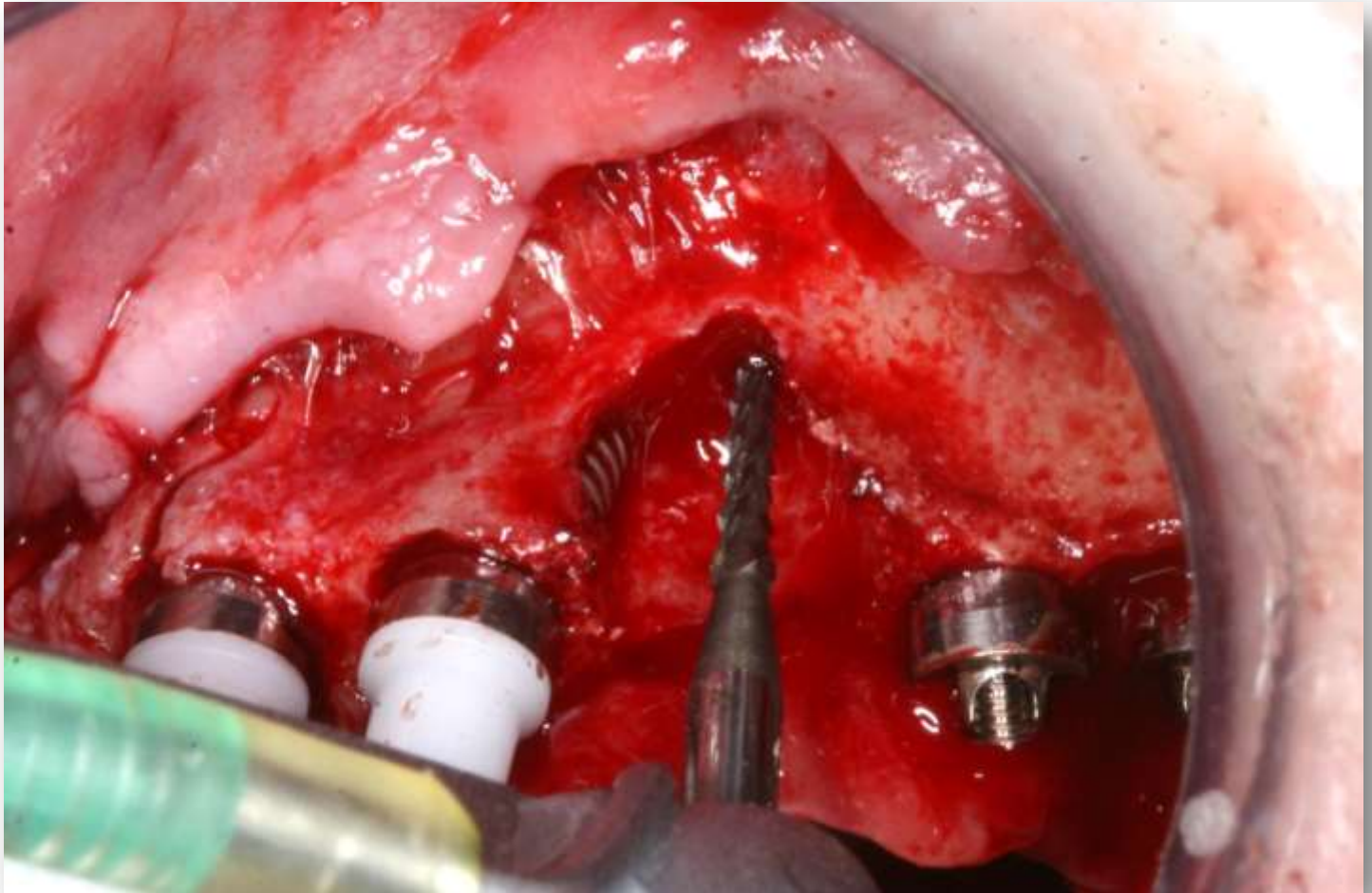
## Closed Sinus elevation for Implant 26

Sirius Implant was chosen to achieve initial stability with the aid of its special design

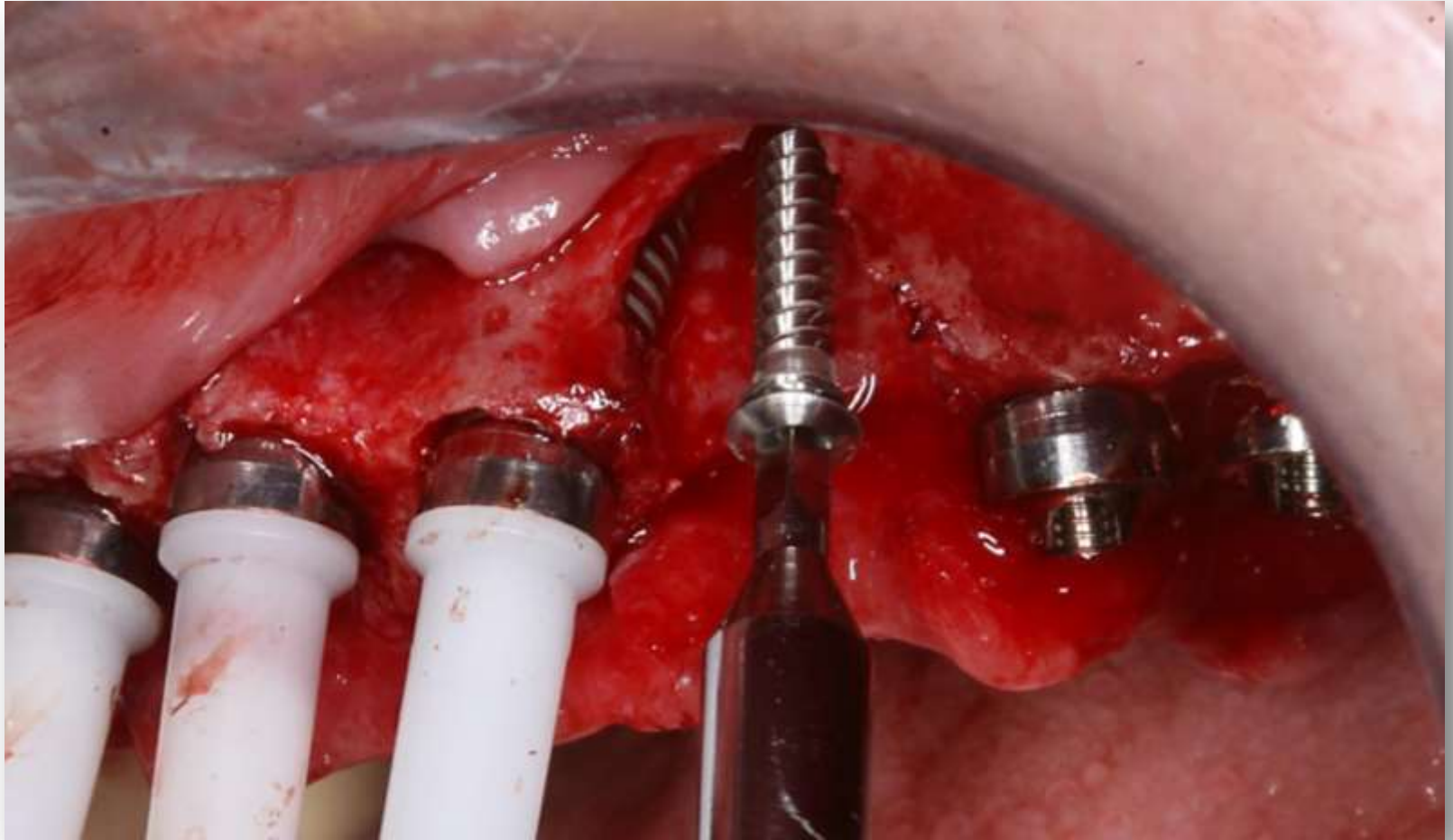
Virtual Planning  
prior to  
Sinus Elevation



## Augmentation phase

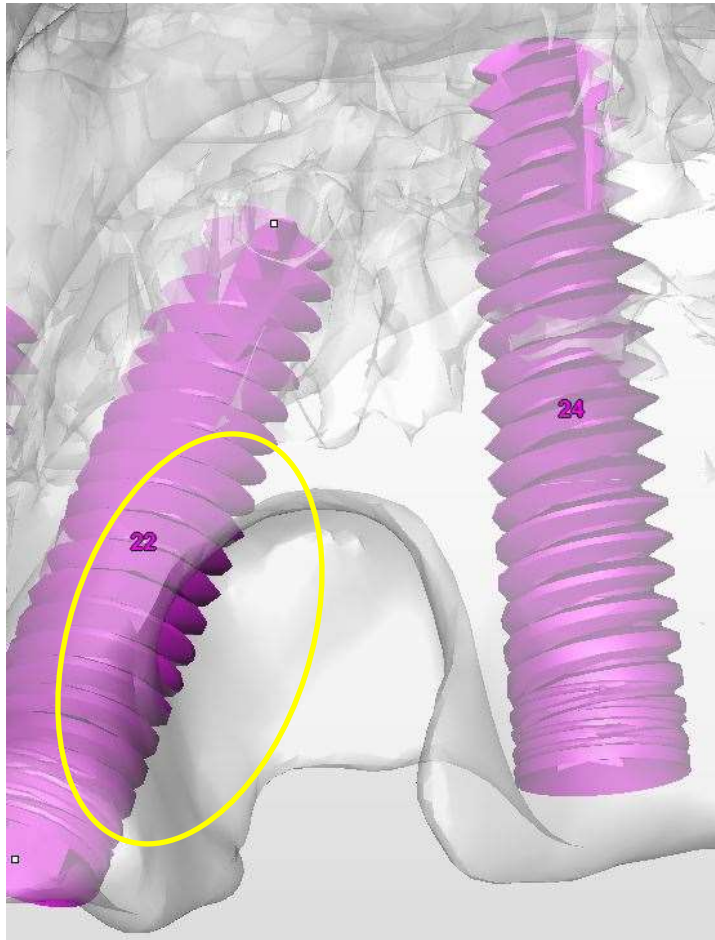


## Augmentation phase

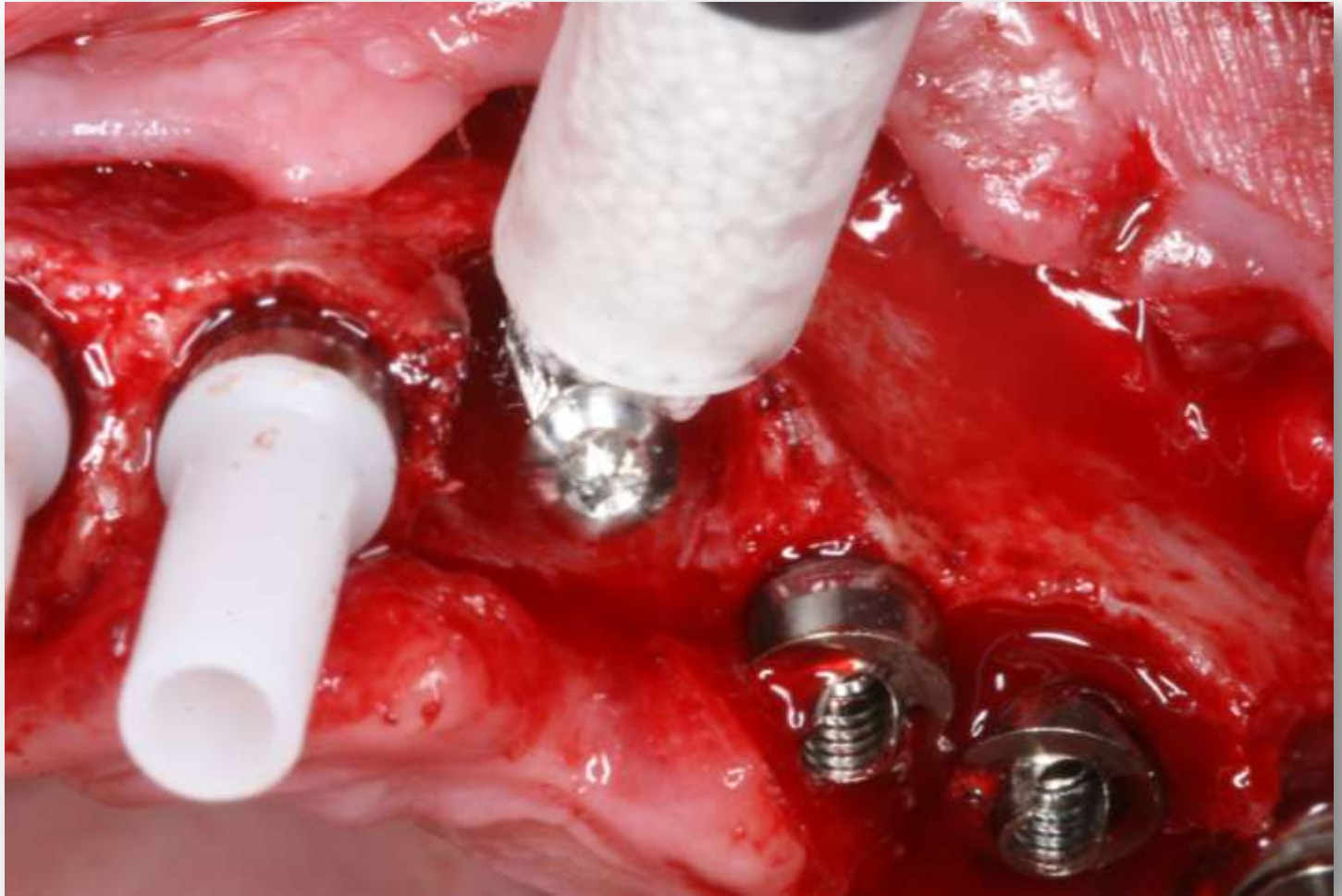


## Augmentation phase

“No Surprises” when relying on 3D planning



## Augmentation phase



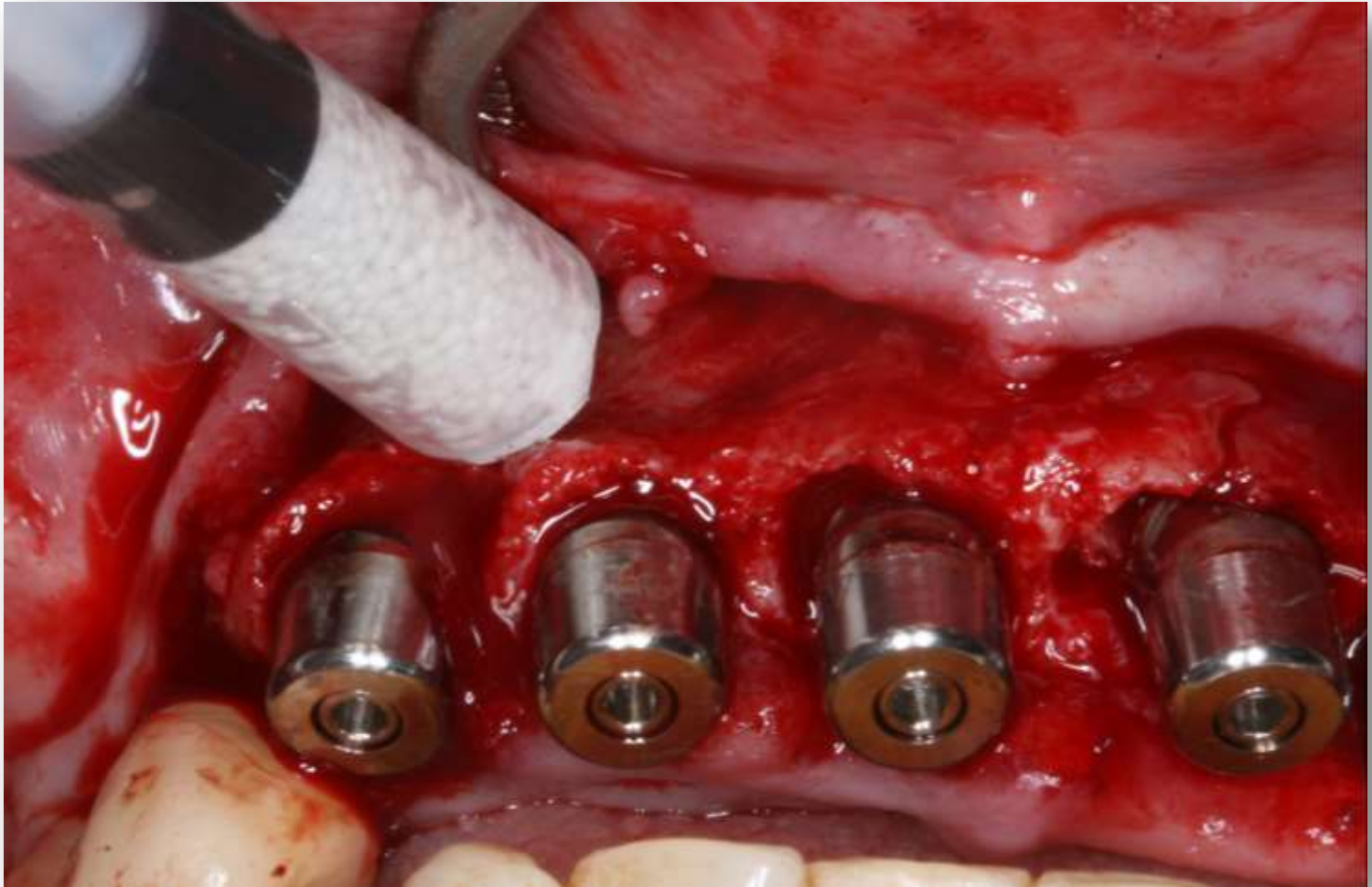
## Augmentation phase



## Augmentation phase



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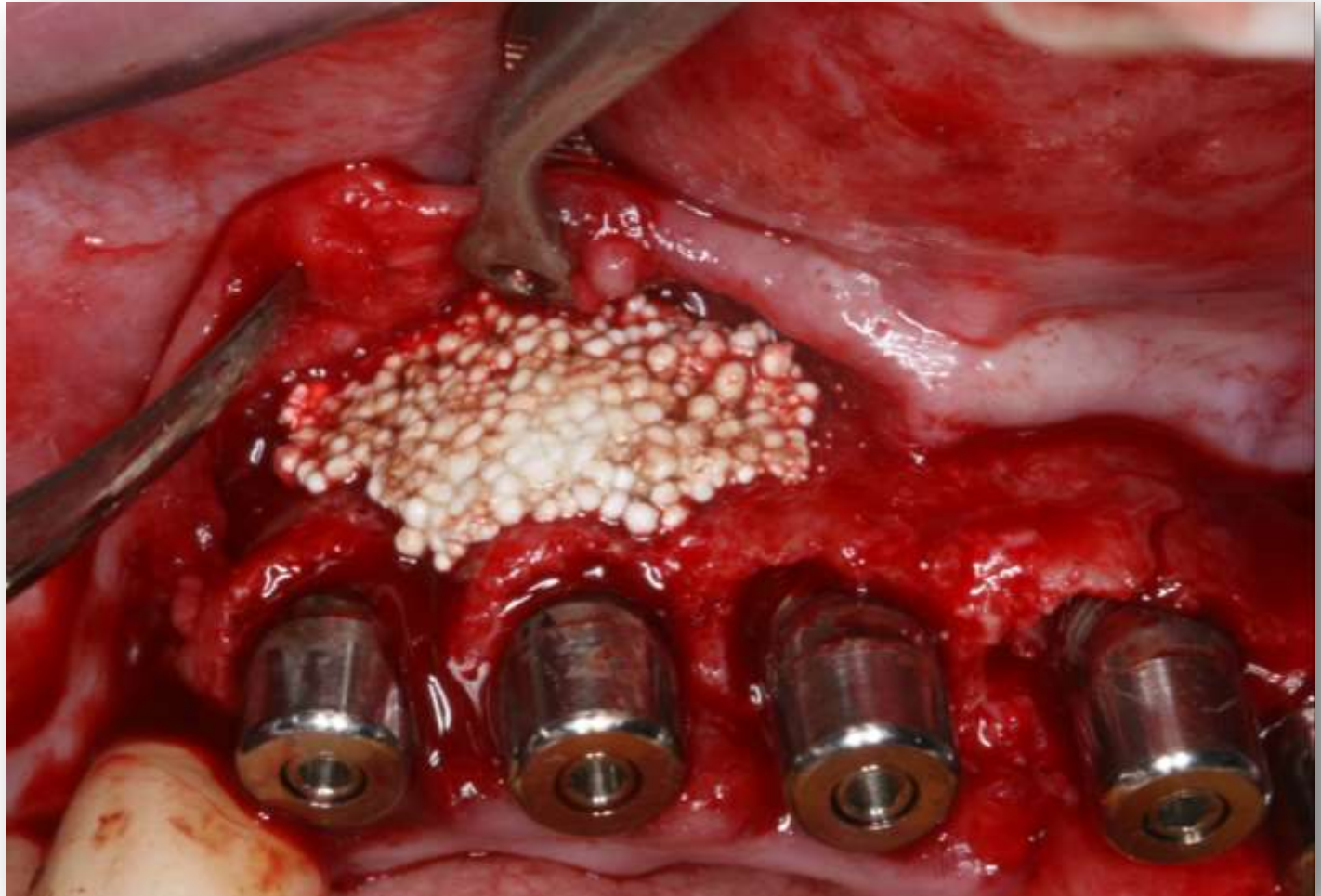
## Augmentation phase



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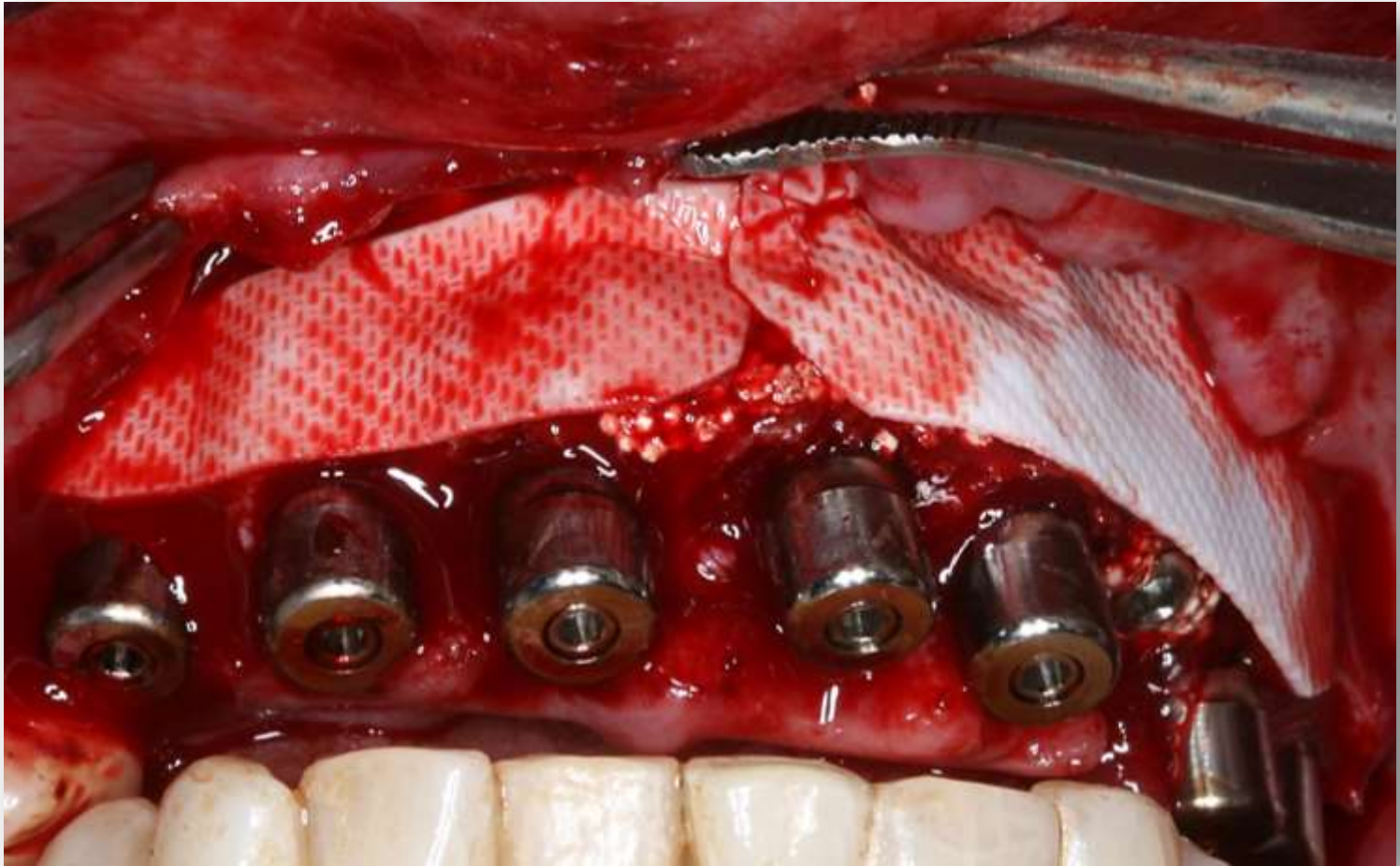
## Augmentation phase



## Augmentation phase

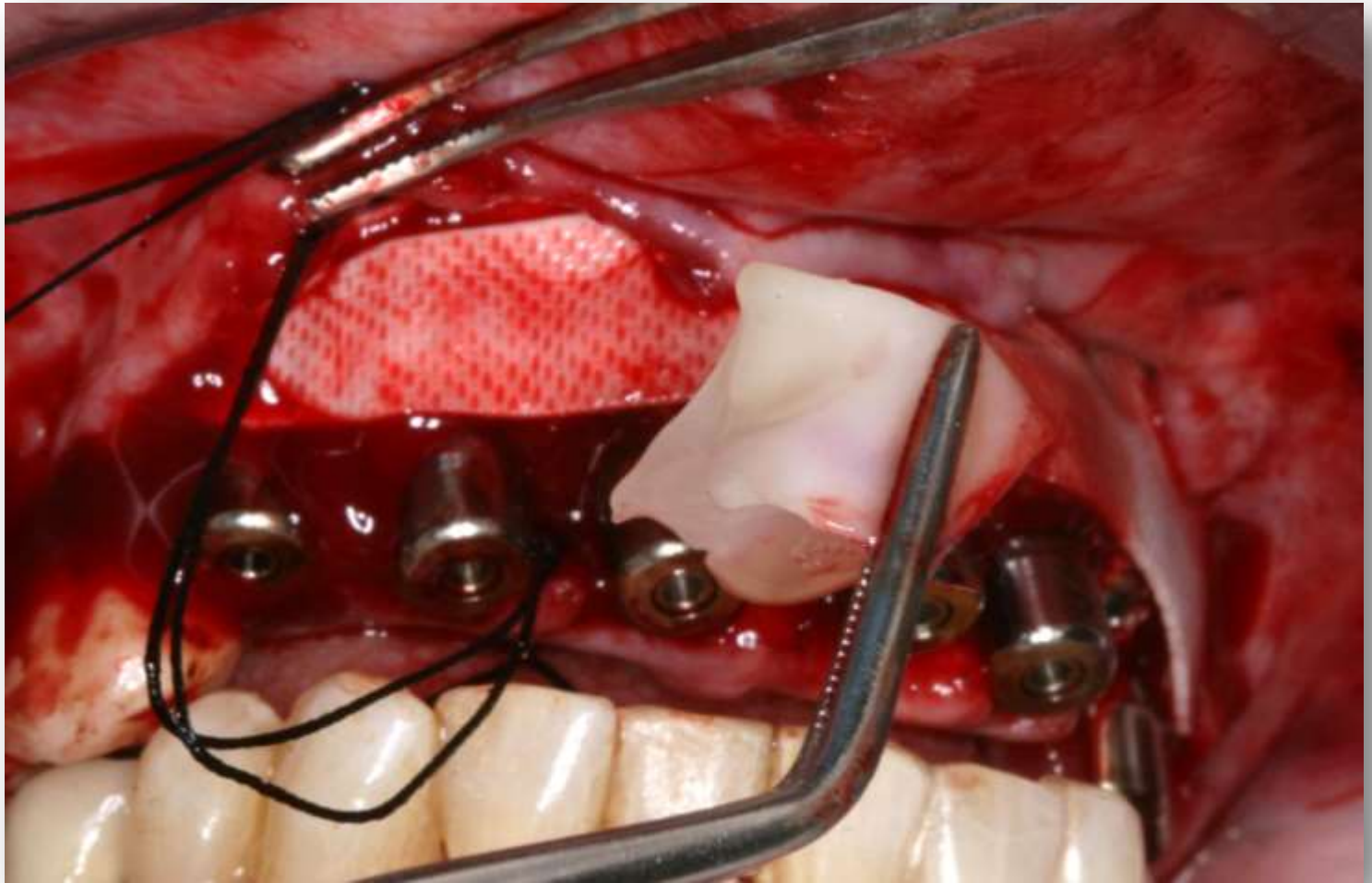


Augmentation phase: Large scale augmentation necessitates the use of membranes to ensure the optimum result. Using the Ossix Plus membrane characterized by durability and longevity improves the outcome of the augmentation result

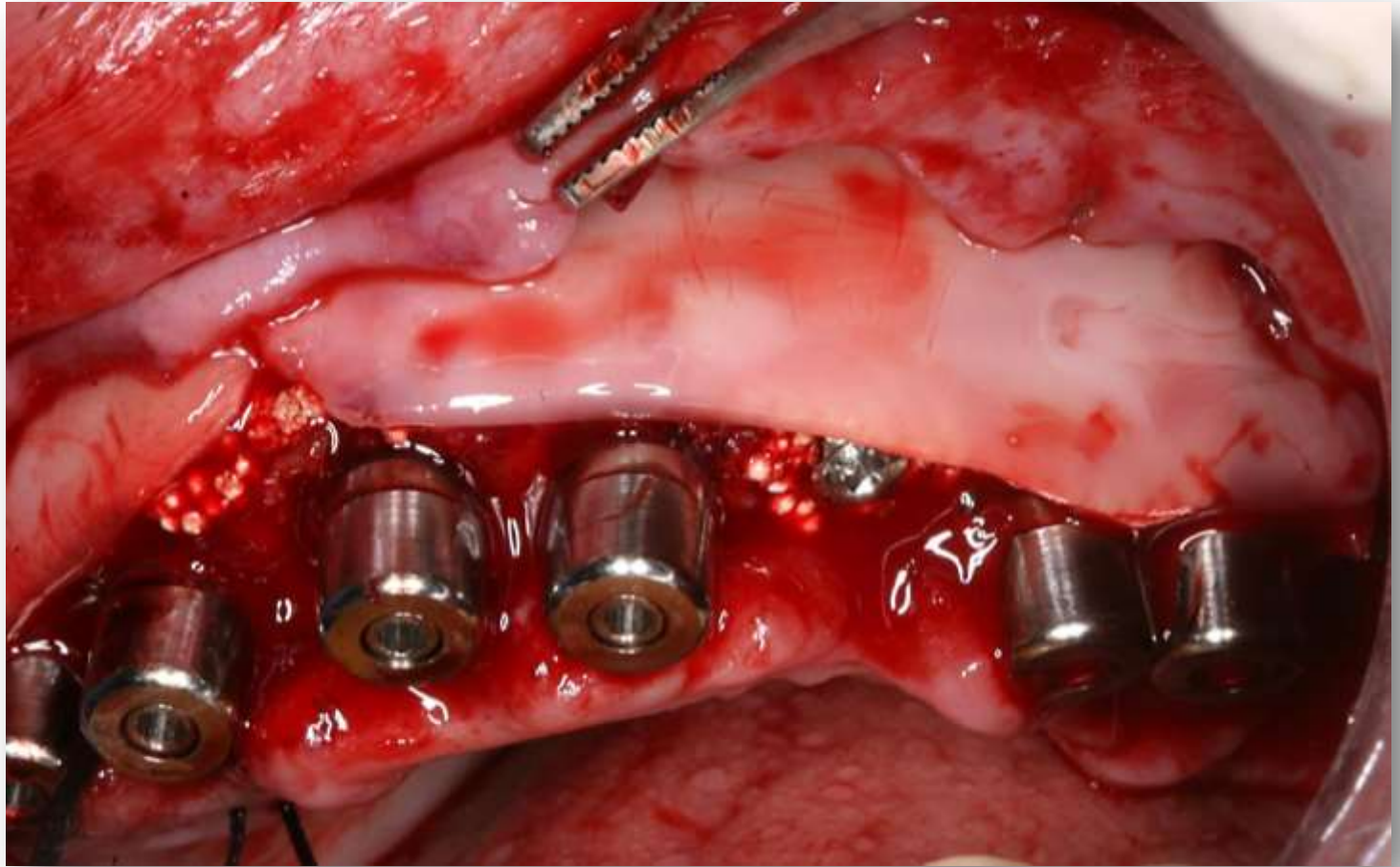


Soft tissue control:

Use of PRF to allow best healing conditions for soft tissue healing



Soft tissue control: The use of the Ossix Plus membrane surface properties contributes to good adherence of the PRF sheets thus simplifying manipulation



## Soft tissue closure



Impression taking:  
Connection of Multi-unit impression transfer copings to multi unit  
abutments



Impression taking:

Connection of Multi-unit impression transfer copings with the aid of metal strengthener and Duralay

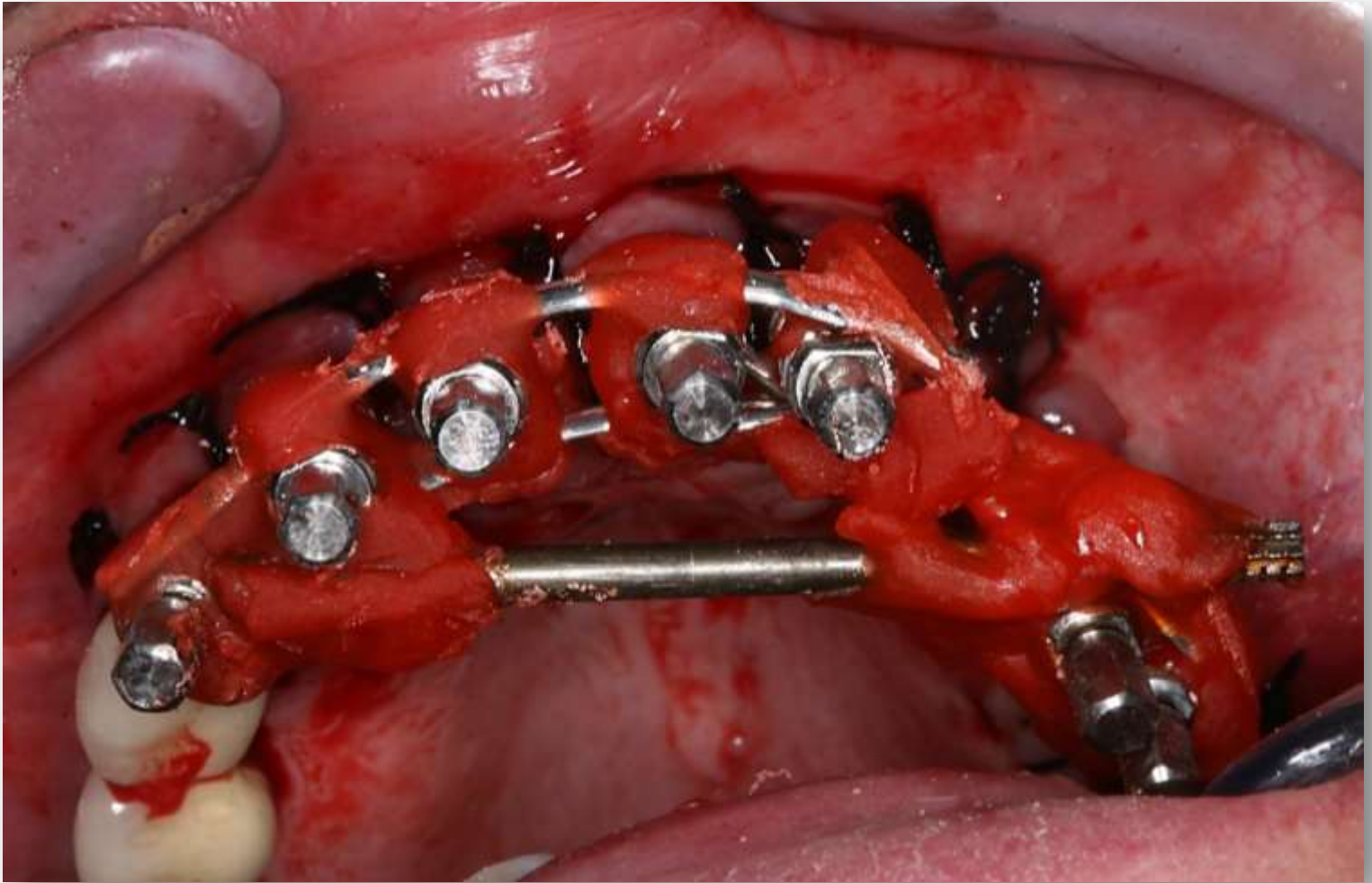


Impression taking:

Connection of Multi-unit impression transfer copings with the aid of metal strengthener and Duralay

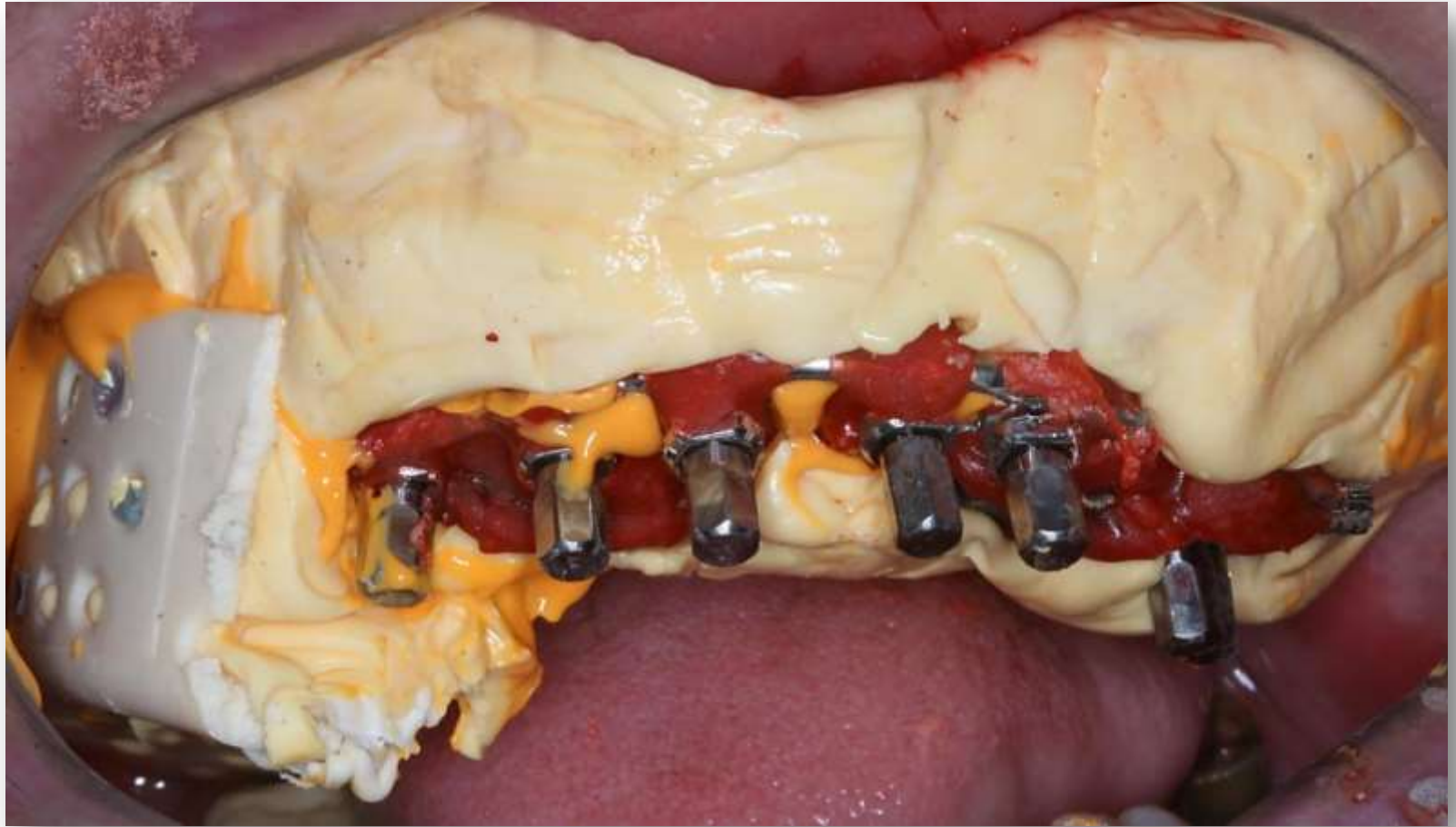


Impression taking:  
Connection of Multi-unit impression transfer copings with the aid of  
metal strengthener and Duralay

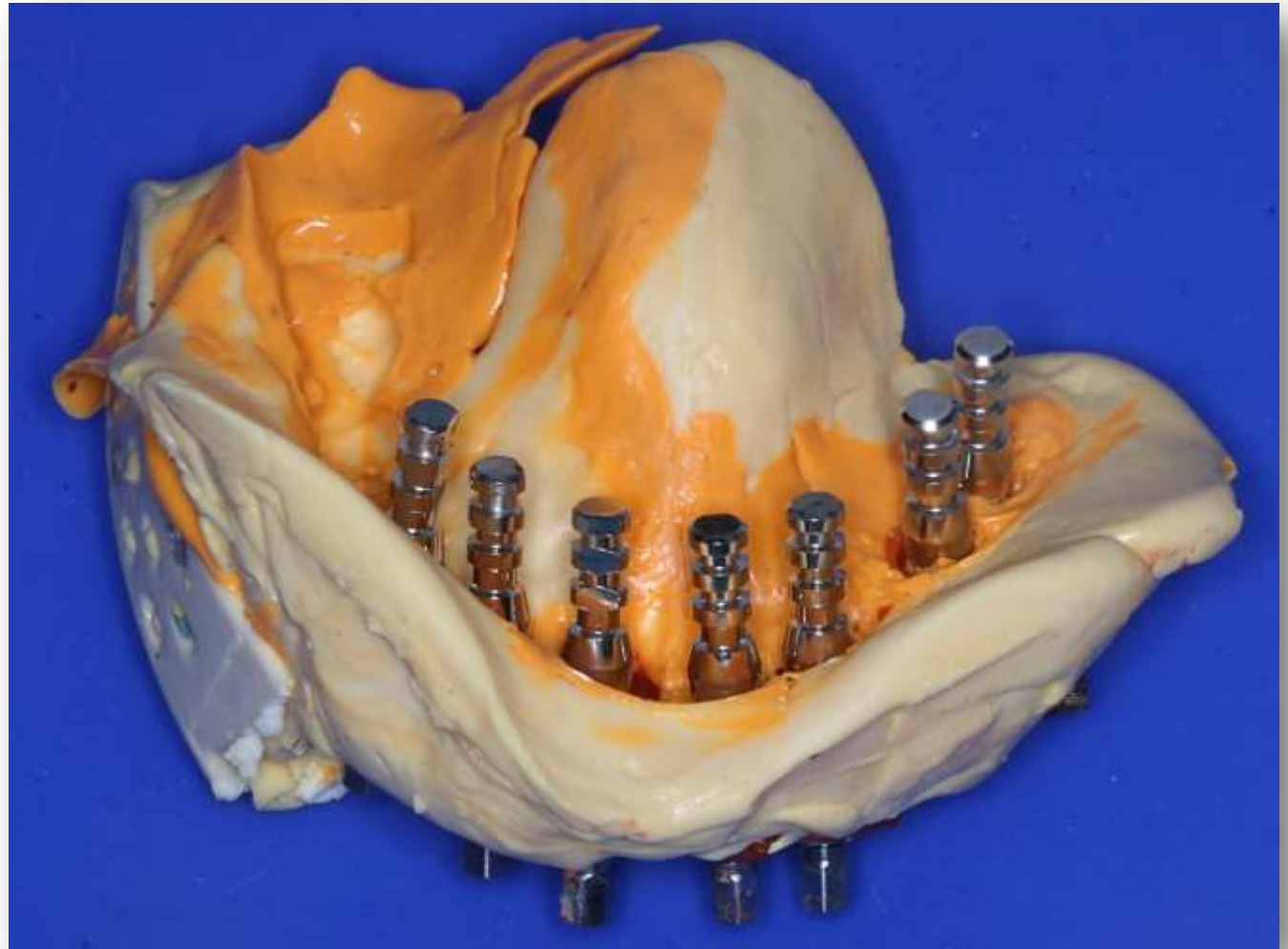


Impression taking:

Addition of silicone putty and wash to obtain the outline registration of the surrounding soft tissue



Impression taking:  
Connection of Multi-unit analogs to the transfer copings



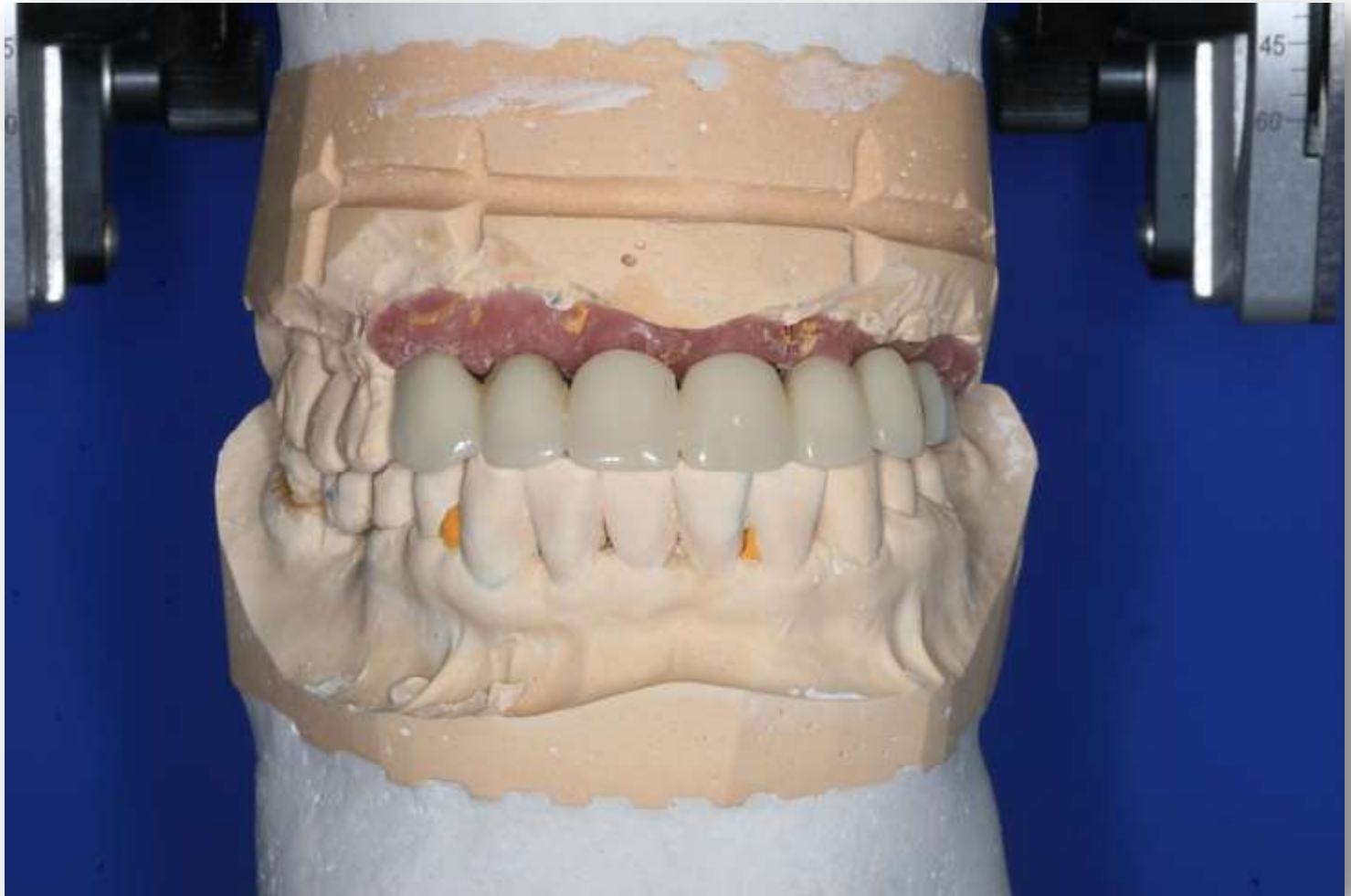
## Bite registration with the aid of silicone putty on the multi unit healing caps



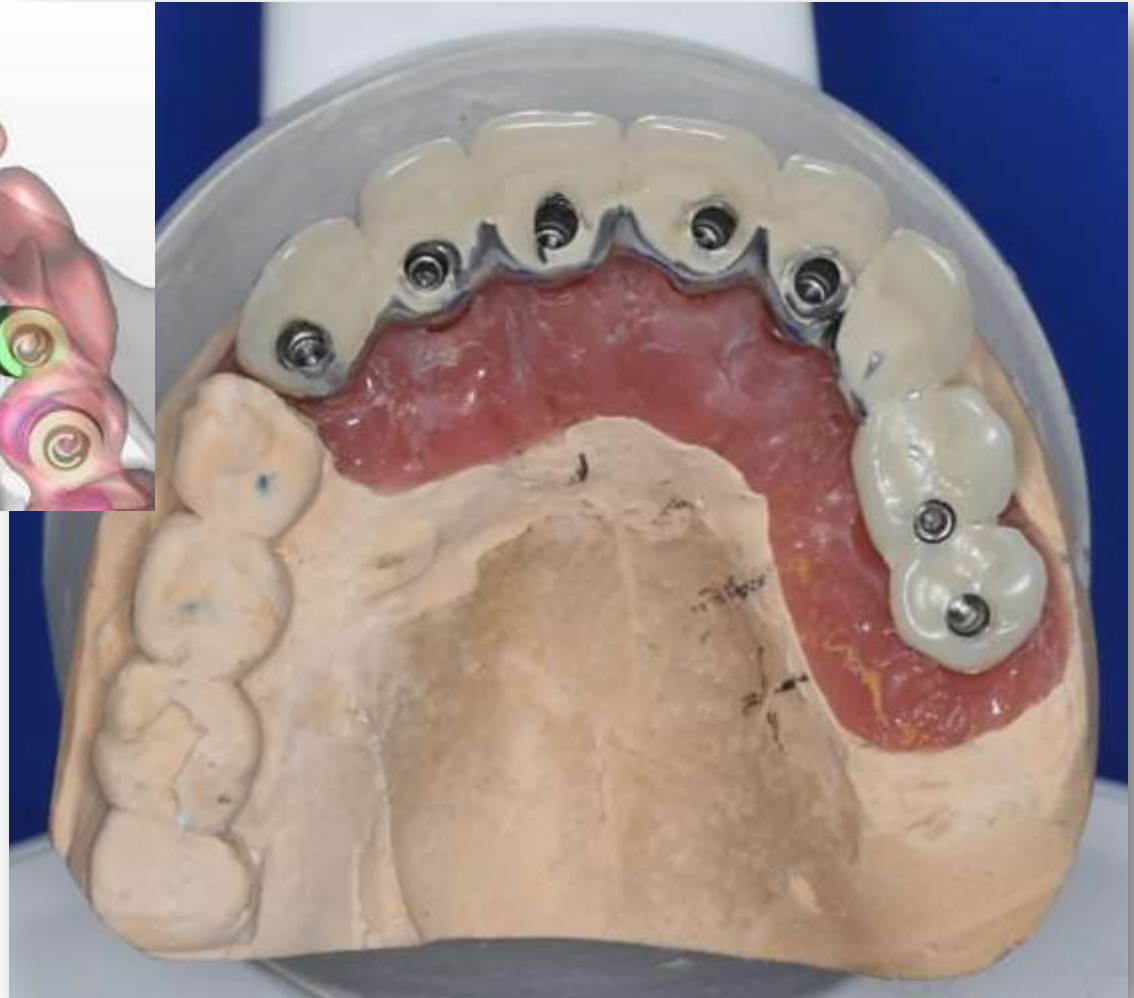
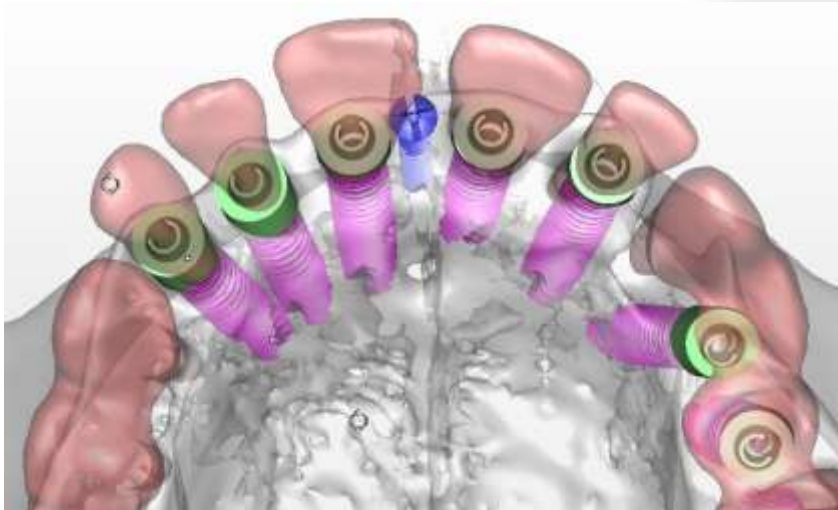
24 hours post surgery a prosthesis is manufactured in the dental laboratory according to the impression, bite registration and clinical images



In preparation of the prosthesis careful attention is paid to the correction of occlusal plane, midline, teeth distribution, interproximal spaces and other planned changes



The prosthesis was completed with a cast metal framework and acrylic veneer providing rigid fixation of all connected implants  
A predictable result as shown by the virtual planning image on the left



## Soft Tissue healing – 24 hours post surgery



## Seating of the prosthesis after removal of the healing caps and connection of the multi unit prosthetic screws



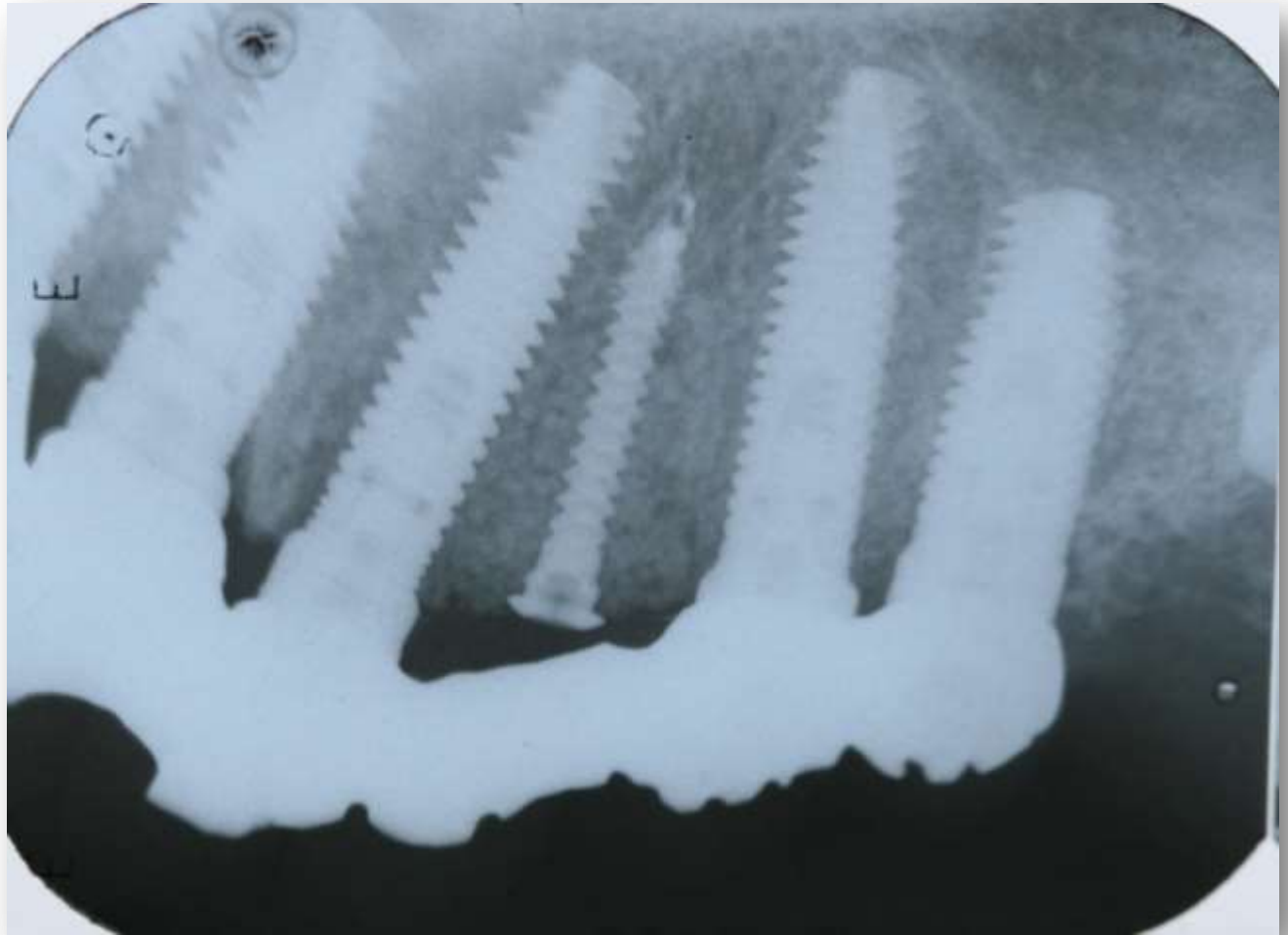
Seating of the prosthesis after removal of the healing caps, after verification of passive fit the multi unit prosthetic screws were connected at the recommended torque.



## Verification of passive fit to multi unit abutments



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The functional and esthetic results 24 hours post surgery can be observed in spite of the expected limitation in facial muscles movement

