

# BioXclude Best of Periodontology – Resident Edition

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AUGUSTA  
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# Case Presentation

- 41-year-old male presented for extraction of #12 and placement of dental implant.
- Patient was referred by his restorative dental student within the Dental College of Georgia.

# Medical History

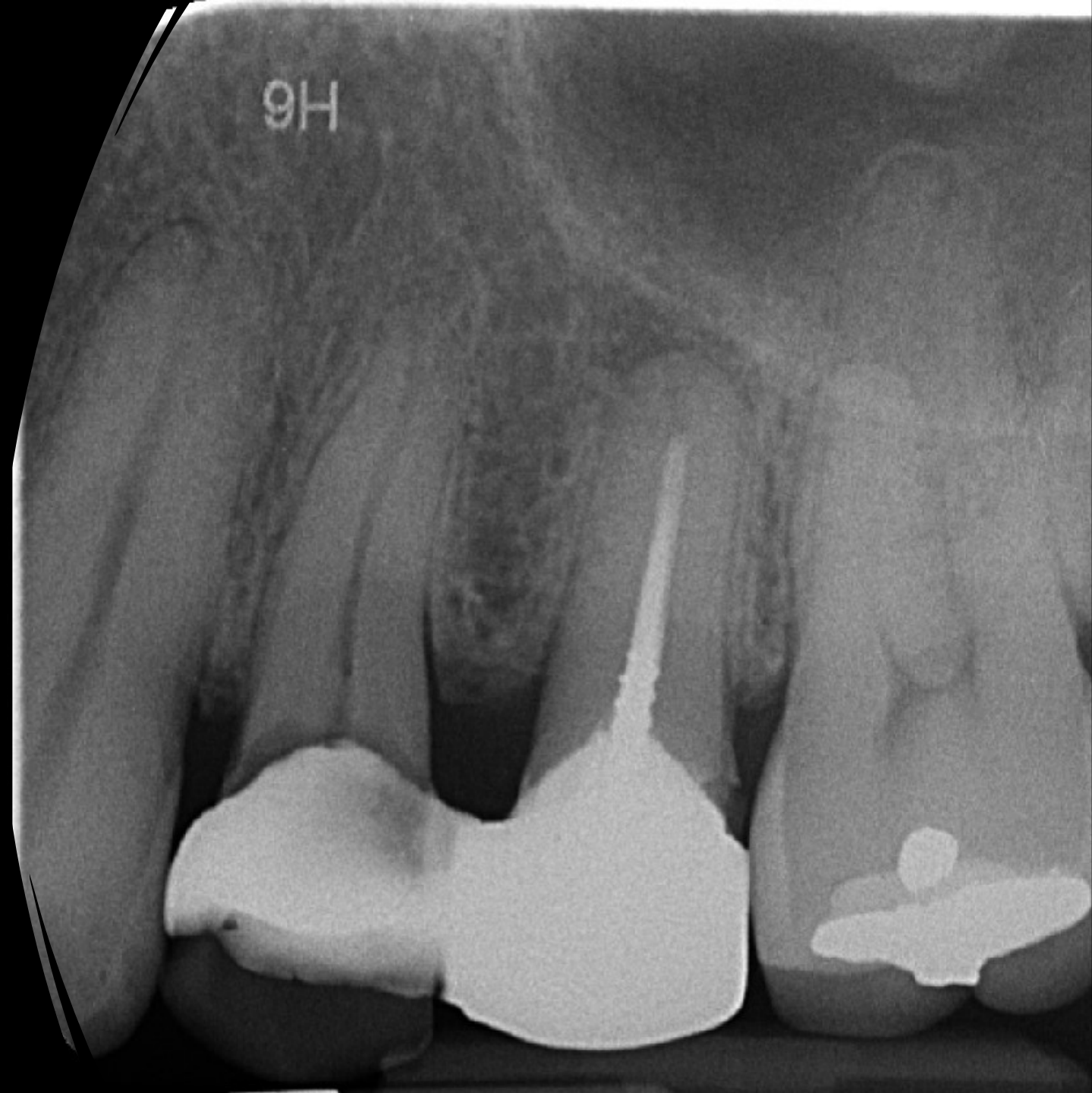
- Conditions: Hypertension (well-controlled)
- Medications: Losartan 50mg 1x/day in the morning
- Social History: denies tobacco, alcohol or recreational drug use
- Allergies: NKDA

# Previous dental history at the site of interest

- #13 had RCT completed over 10-years ago.
- Full coverage crown on #13 splinted to #12.
- Secondary decay on #12 along with crown and root fracture.

Radiographic  
Interpretation:

- Evidence of secondary decay on #12.
  - Signs of periapical radiolucency associated with previously treated #13.
  - Open margin on the distal of #13.
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# Clinical Findings

- #13 endo testing: negative to thermal, negative to palpation and painful to percussion.
- Patient reported on and off pain associated with tooth #13.
- #12 was fractured off at the gum line with decay making the tooth non-restorable.
- Adequate amounts of keratinized tissue present.
- Adequate mesial and distal space present for implant crown.
- Adequate interocclusal space present for implant crown.

# Initial Steps Moving Forward

- Referral sent out to endodontics to evaluate #13.
- Referral sent back to dental student to evaluate restorability of #13.

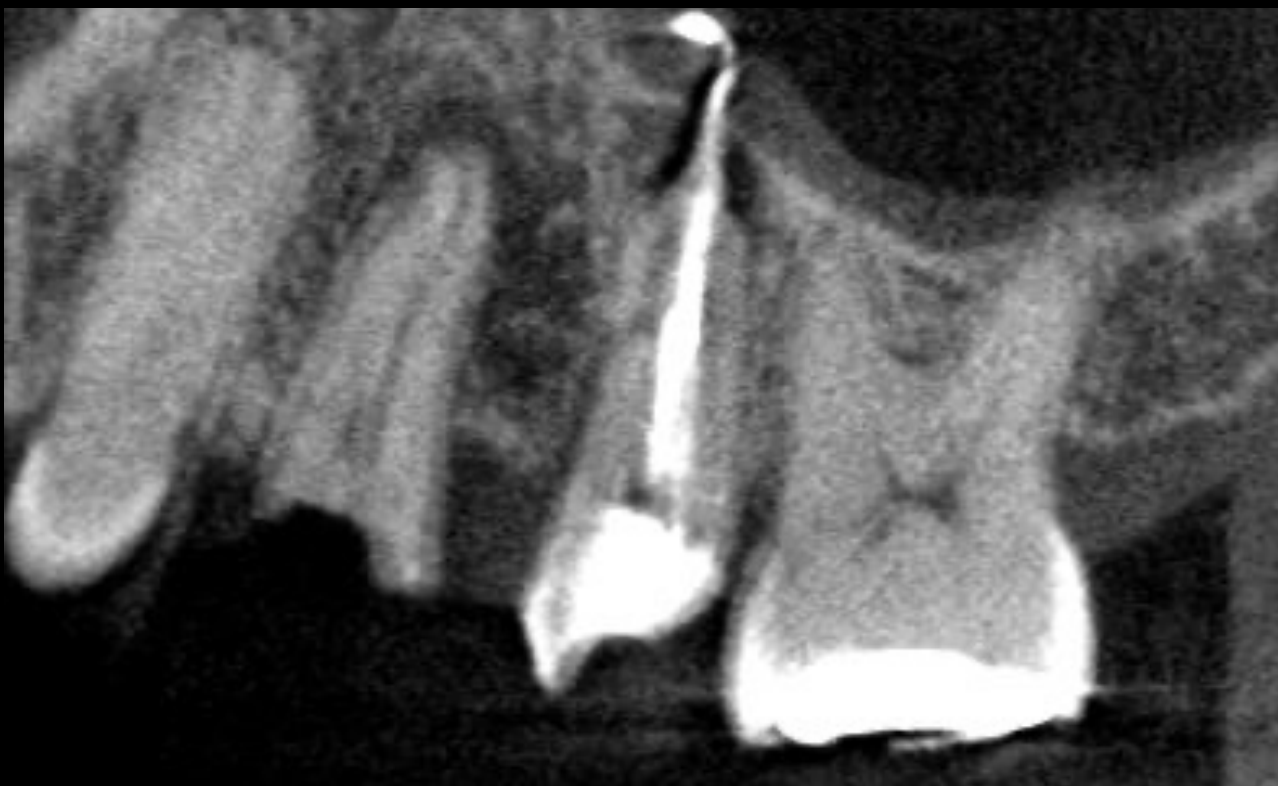
# Referral Findings

- Restorative confirmed restorability of #13.
- Endo recommended re-treatment of #13.
  
- Discussion was had with endo that I would like them to re-treat #13 before an implant is placed at site #12 to hopefully resolve the periapical infection present.



## Endodontic Treatment

- During re-treatment there was a perforation out the apex of #13 and into the sinus. Material extruded according to the endo resident was gutta percha along with MTA.
- After the failed re-treatment, endo and restorative recommended having #13 extracted. Endo also recommended removal of extruded material from sinus.

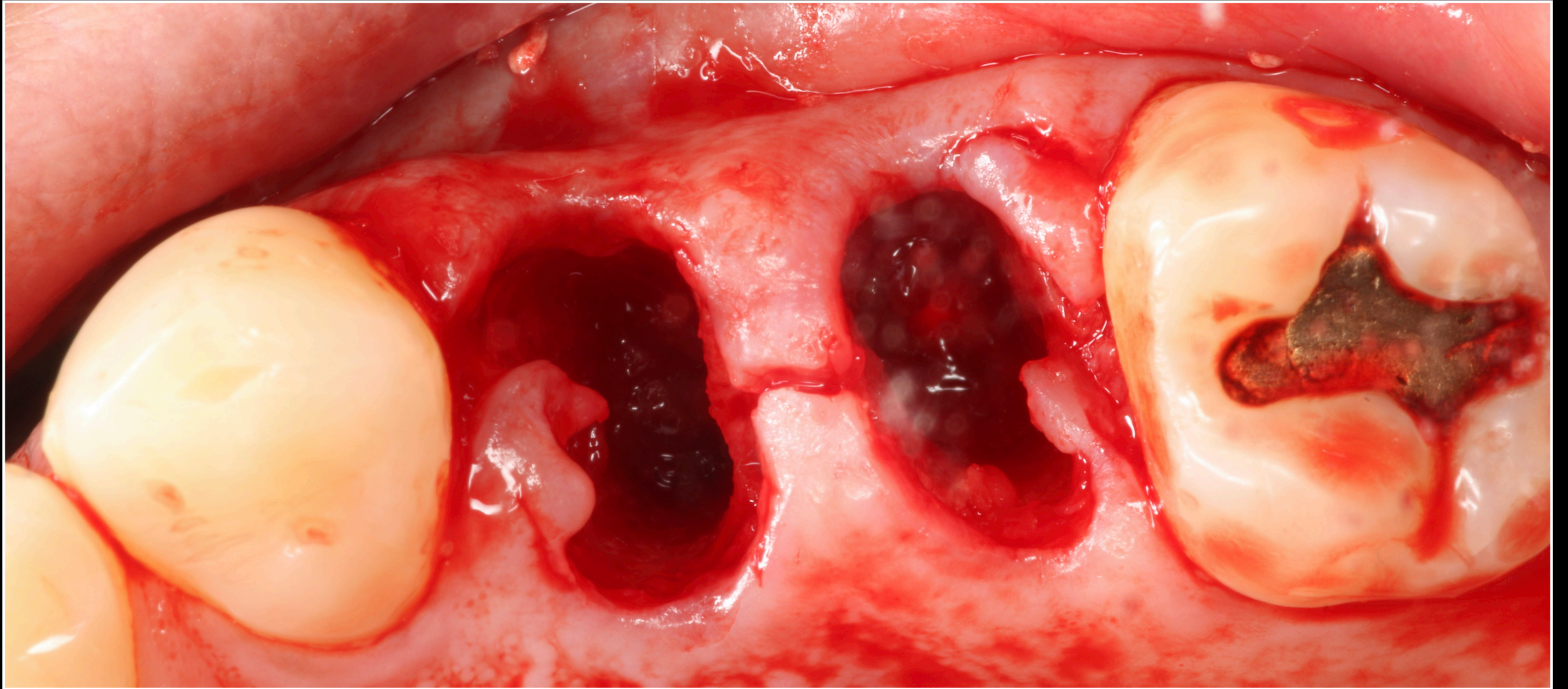


# Updated Treatment Plan

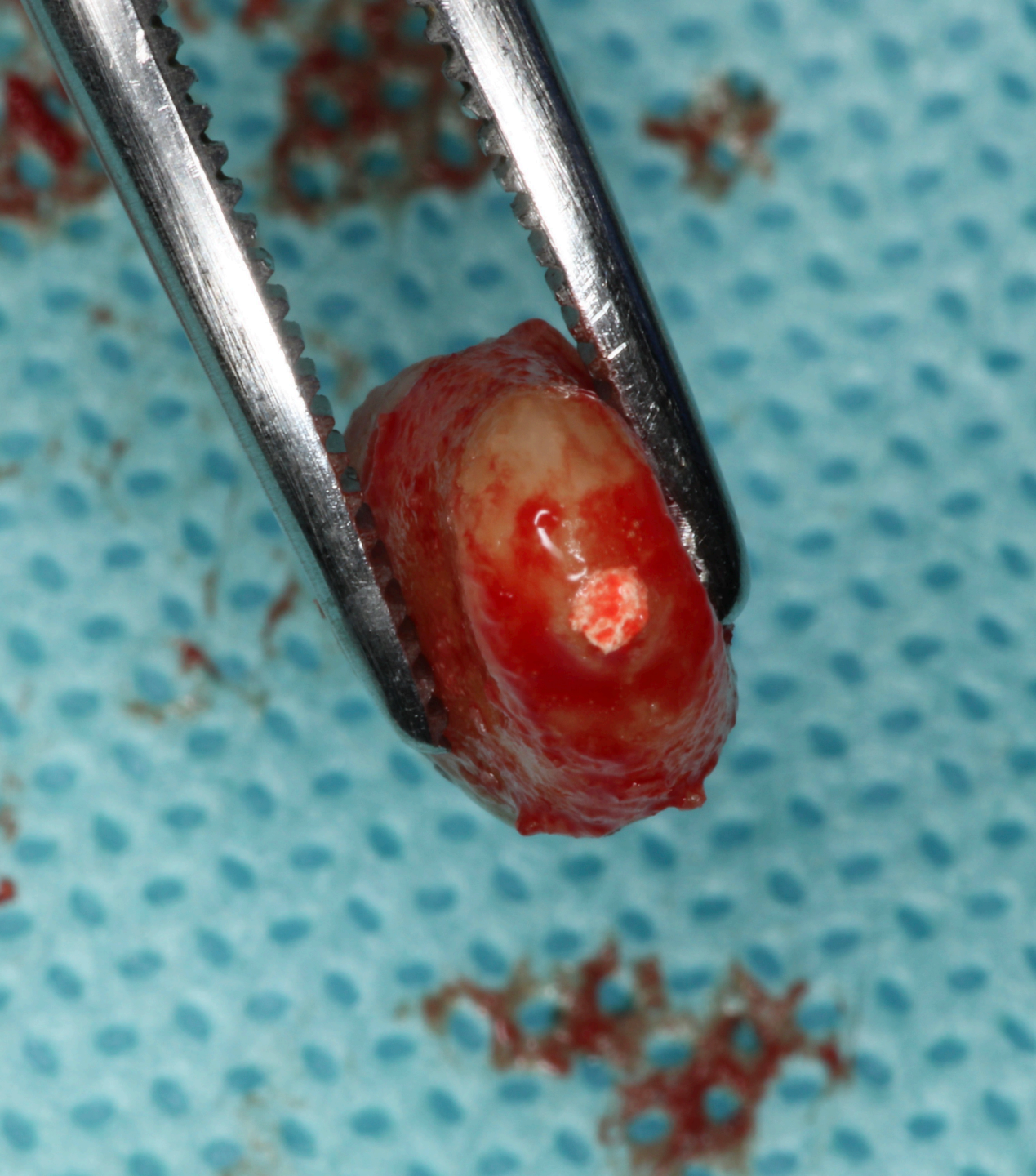
- Extraction of #12, 13 with bone graft at time of extraction.
- Retrieval of extruded material in the sinus along with sinus repair to prepare site for implant placement and sinus lift.
- Implant placement 4-6 months post-extraction/BG with vertical sinus lift on #13.

# Clinical Presentation





After Extractions



Evidence of sinus membrane perforation where extruded GP and MTA was present.

X-ray after  
extractions:  
Notice evidence  
of extruded  
material still  
present.

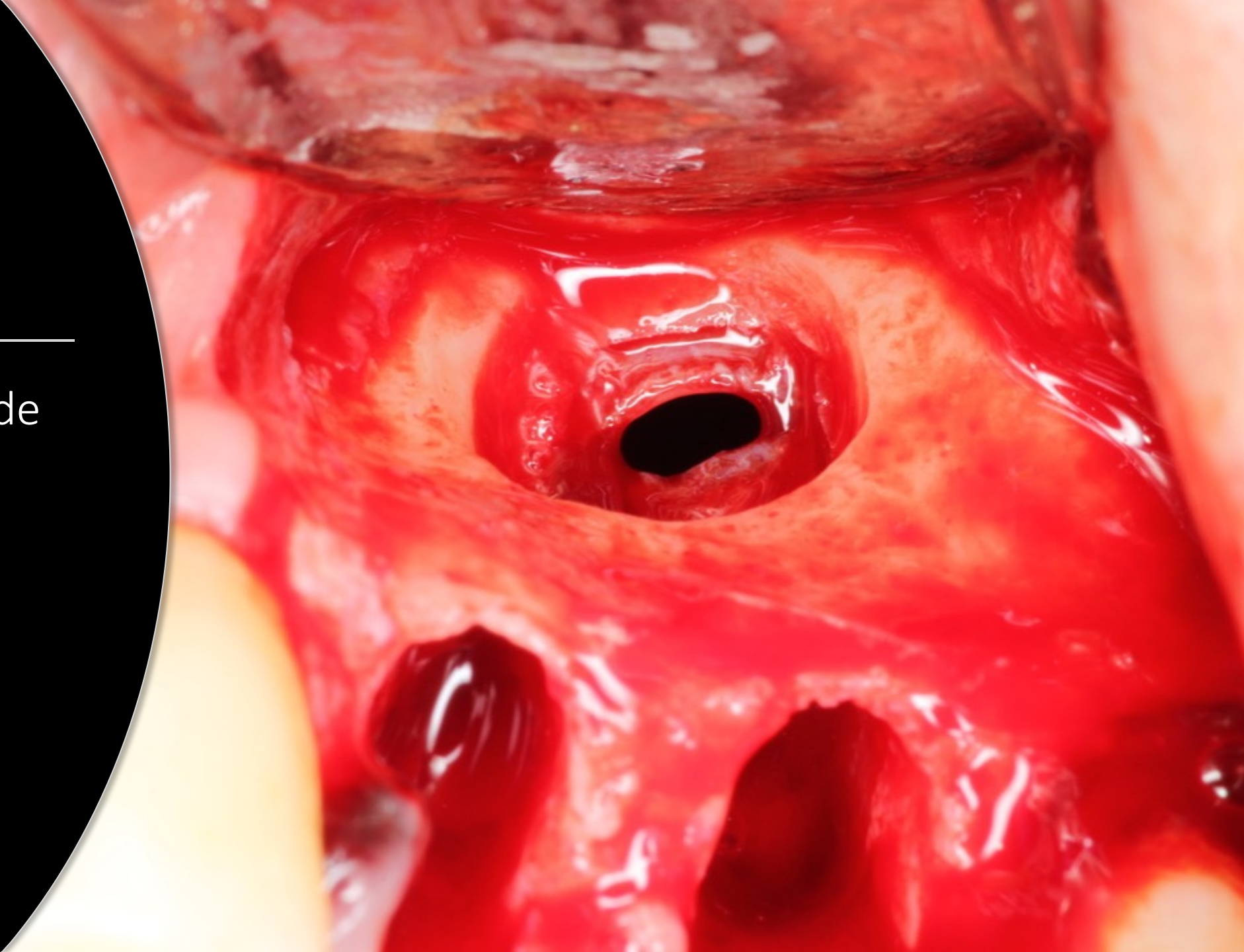
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# Next Surgical Steps

- Attempt was made to remove extruded material through the socket without success.
- Decision was made to make a lateral window and intentionally perforate the sinus membrane to remove material (via curette and suction) that is located within the sinus.
- After removing the extruded material, the sinus membrane would need to be repaired using bone and membrane.
- Bone selected was a 70/30 Min/Demin Allograft.
- Membrane selected was BioXclude.
- Note: BioXclude was selected due to its greatly handling properties and ability to adhere and form to the sinus membrane, providing adequate repair of the intentional membrane perforation.

Lateral window made  
and intentional  
perforation created  
using a blade.





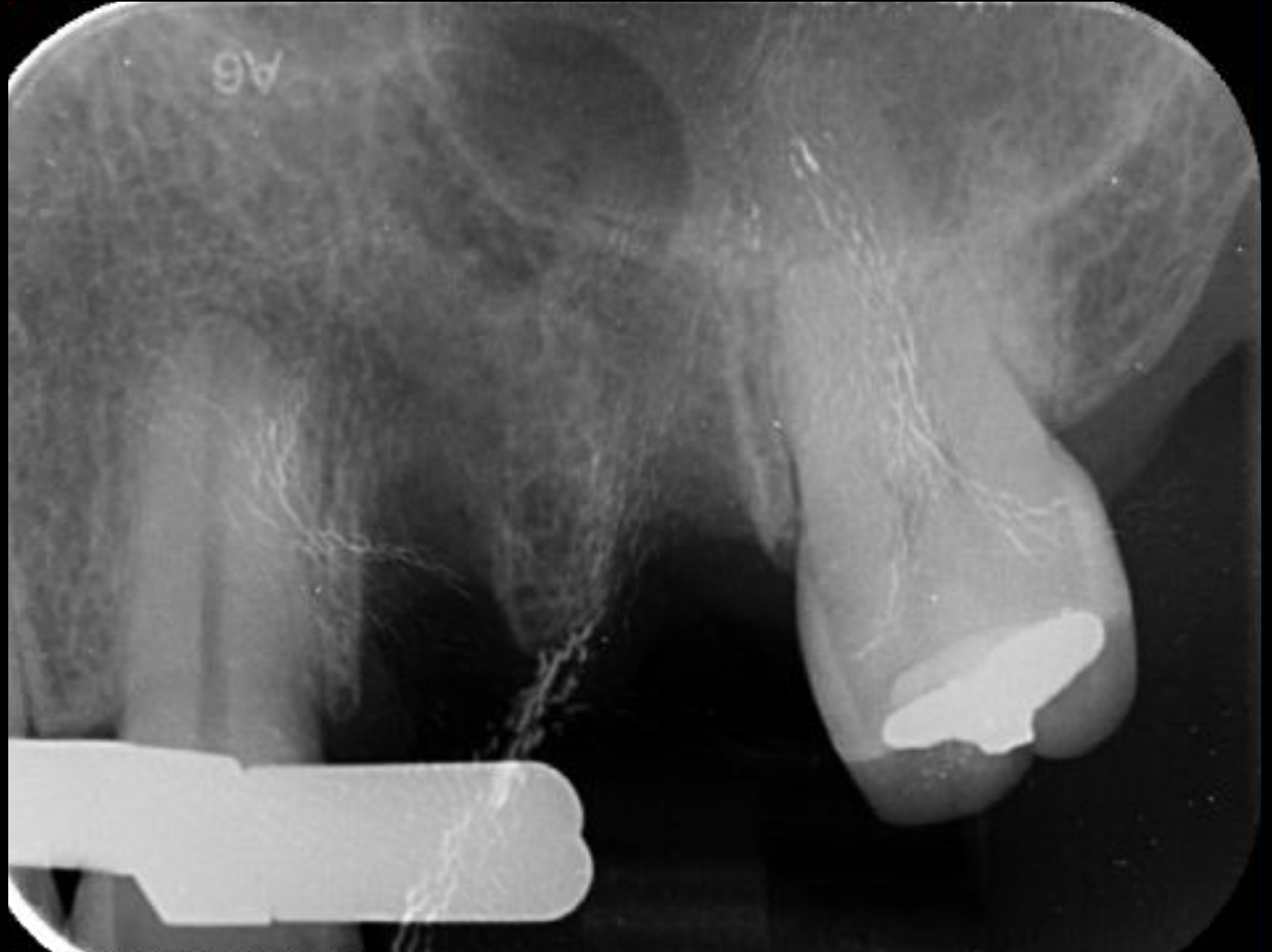
Periapical X-ray  
taken to confirm  
proper location of  
window before  
removal of  
extruded  
material.

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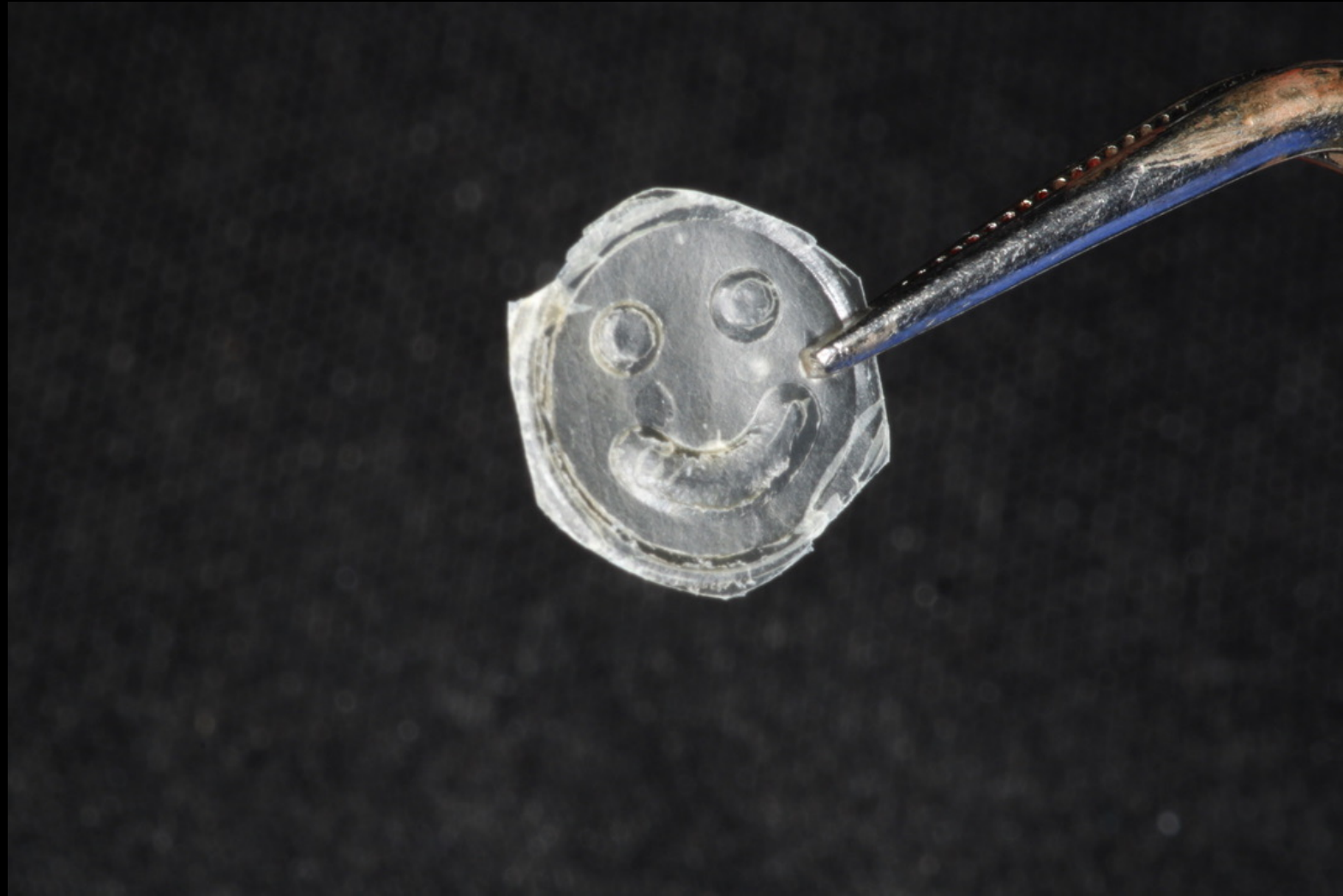


Periapical X-ray  
taken to confirm  
complete removal  
of extruded  
material after  
curettage within  
the sinus.

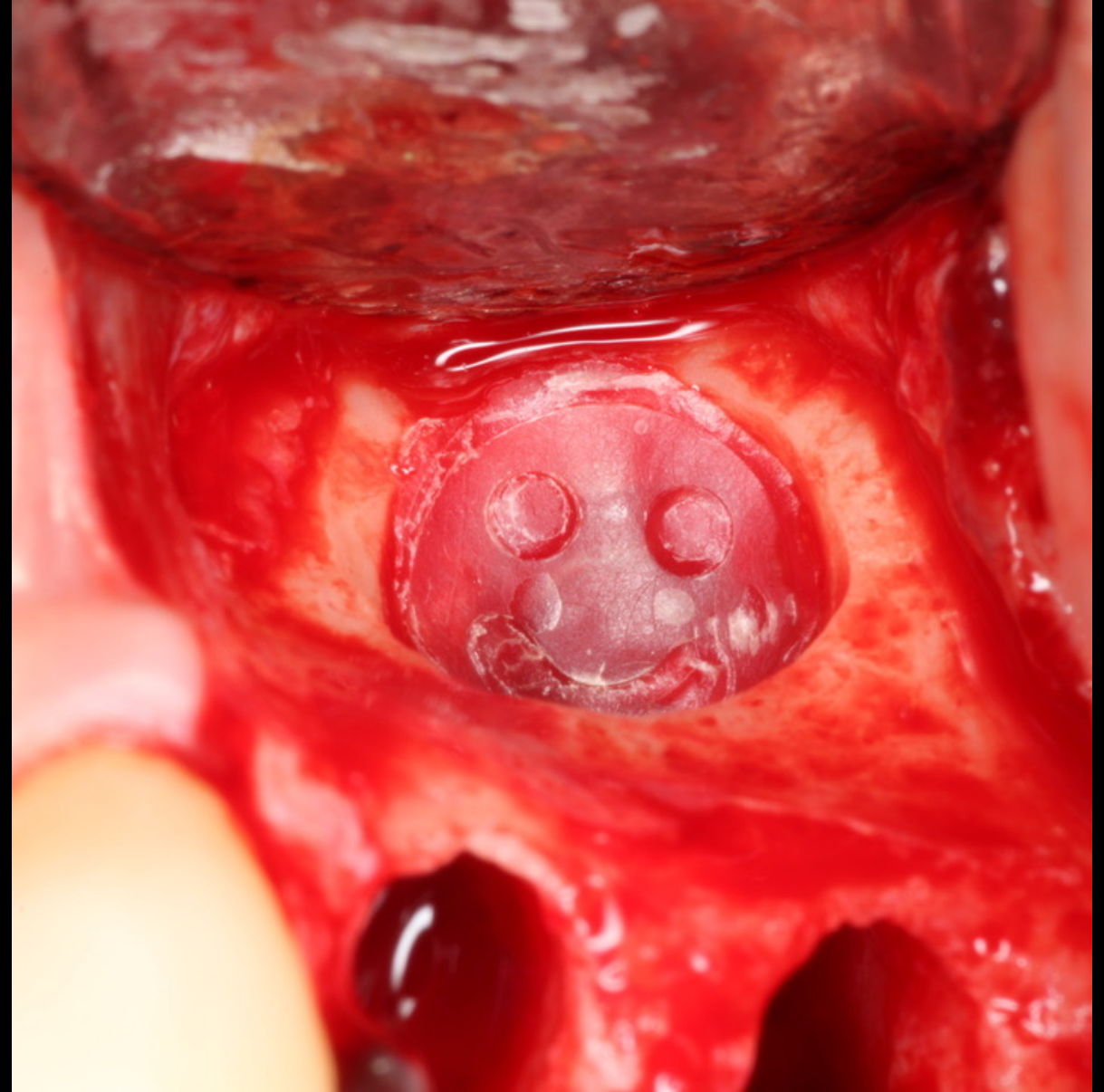
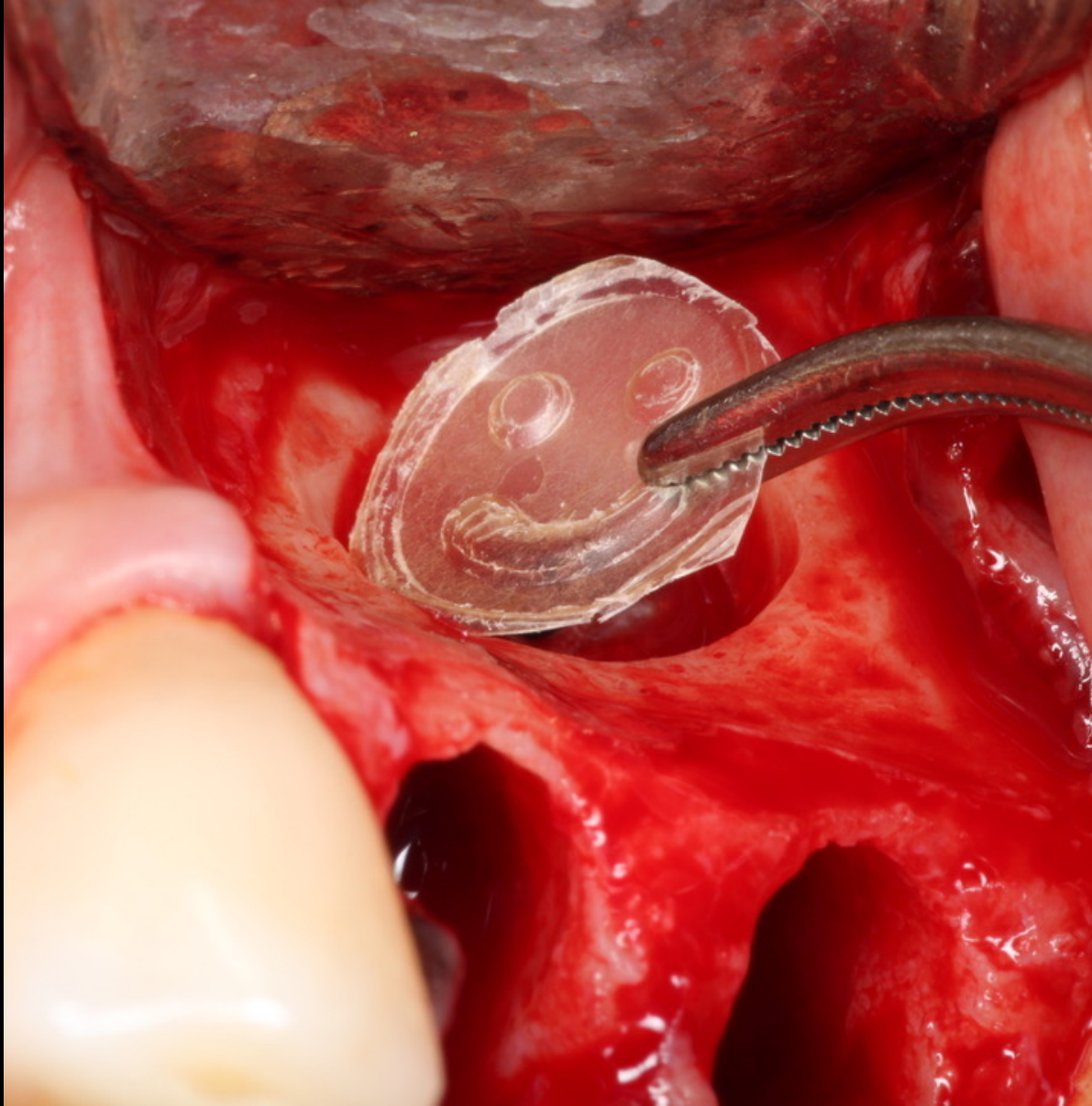
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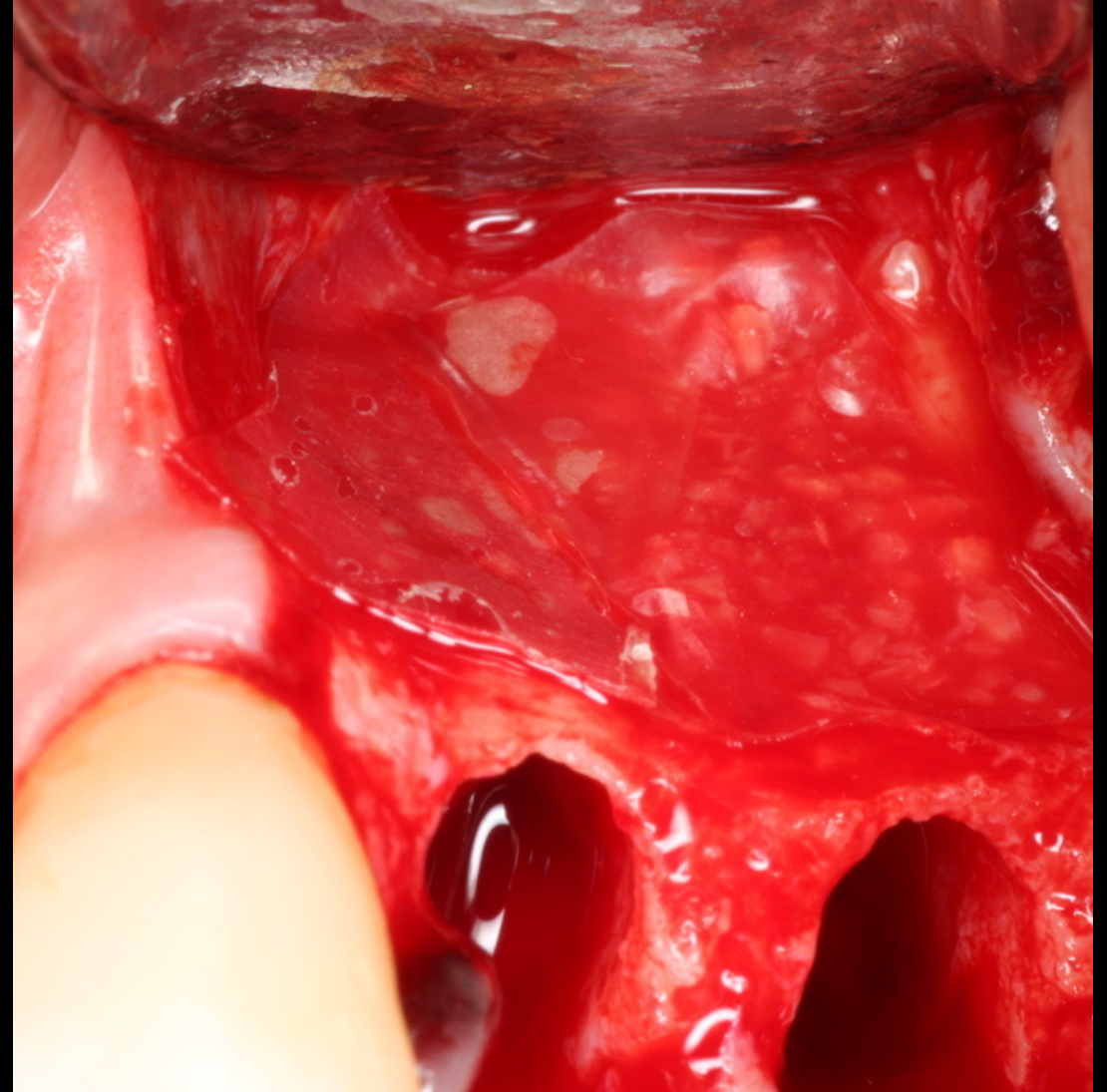
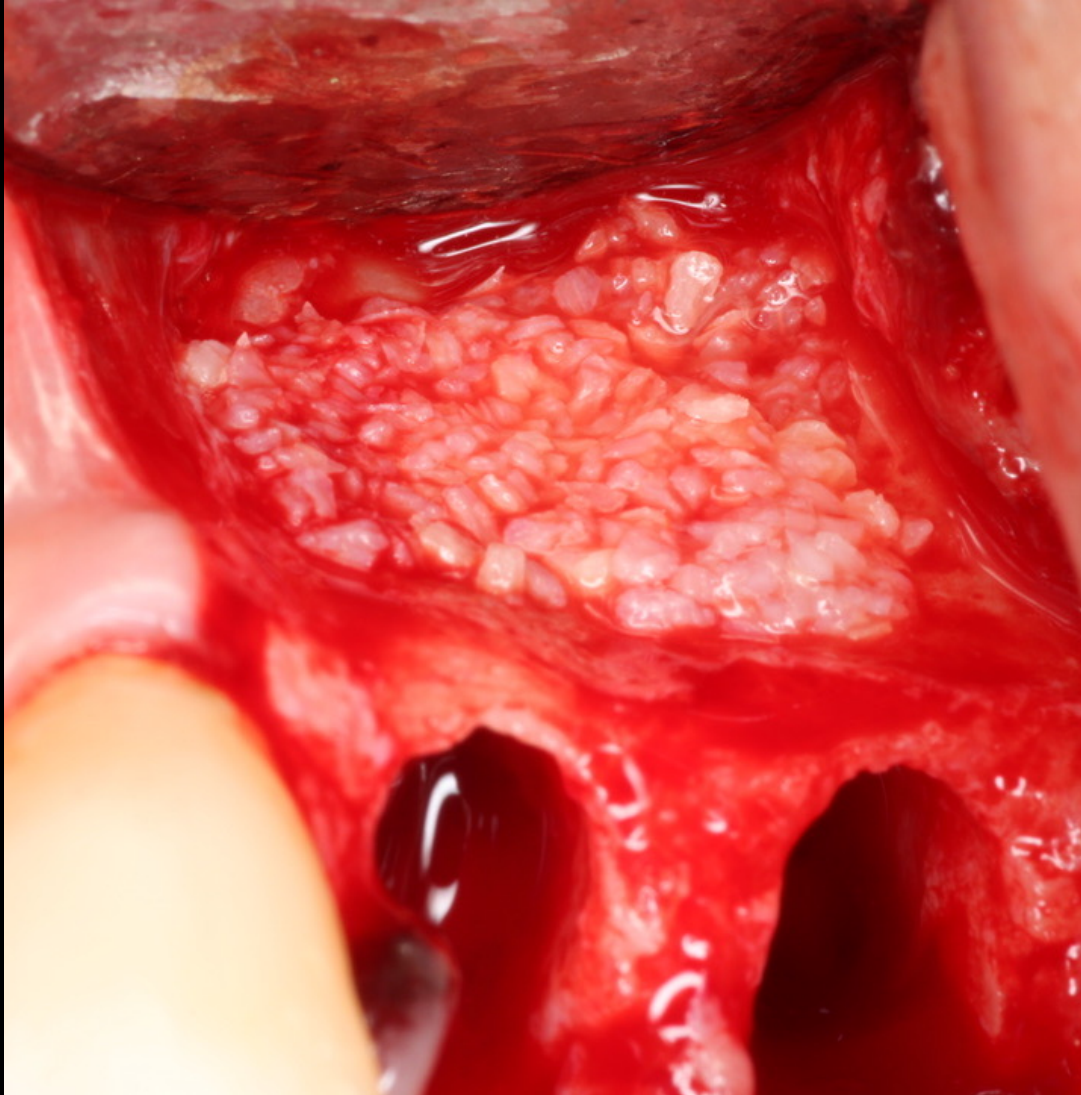
# Membrane Trimmmed



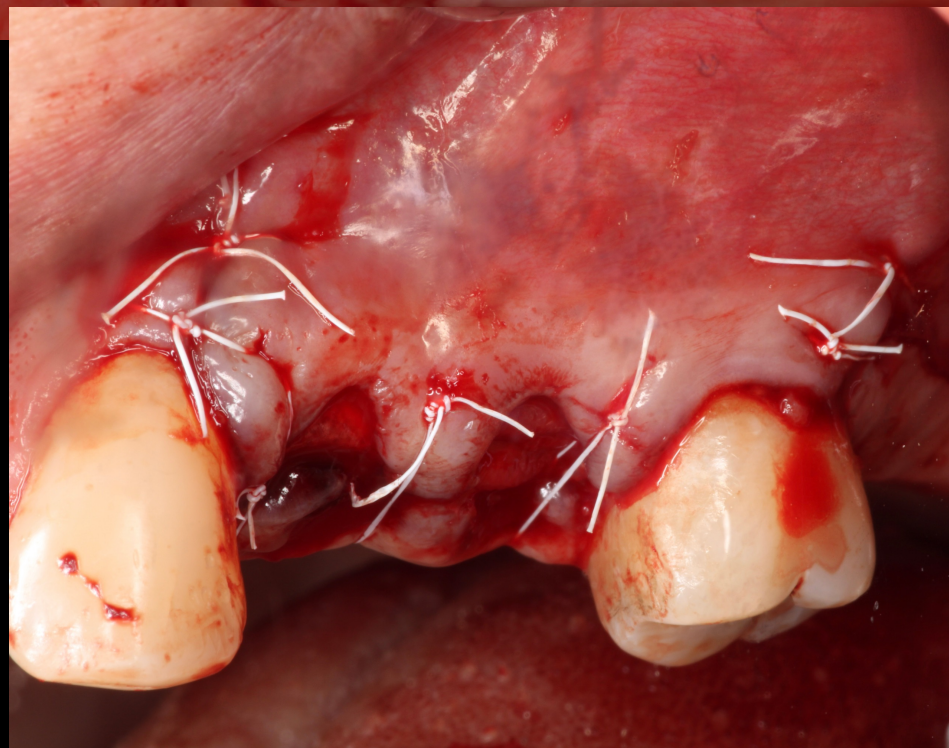
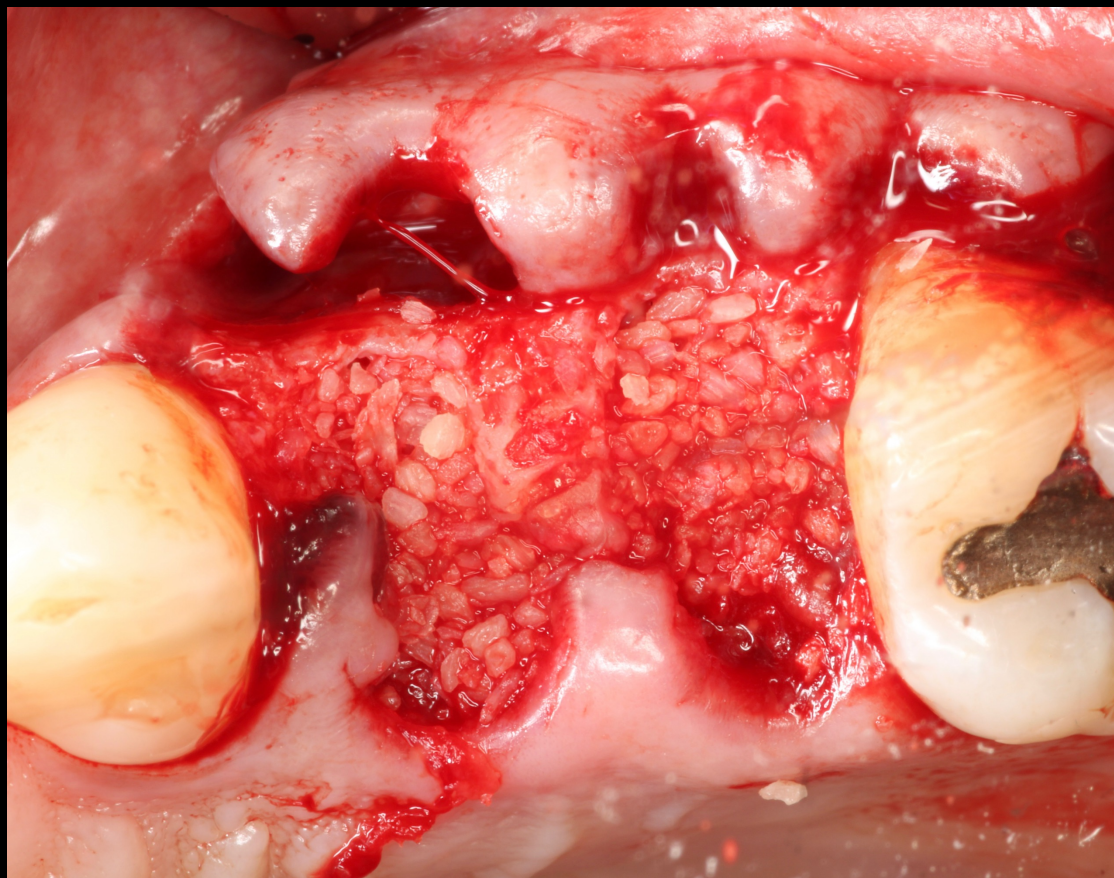
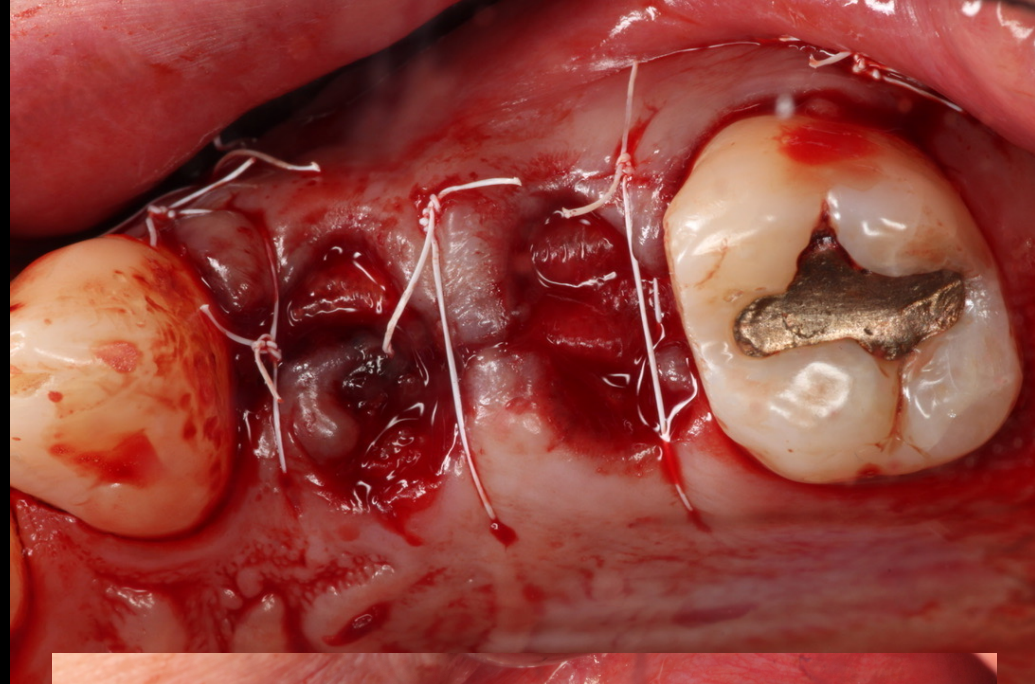
Membrane placed over the perforation.



Bone graft and membrane placed over lateral window.



Extraction sockets  
grafted and covered  
with membrane.  
Closure with 4-0  
PTFE.



# Post-Op Control

- No brushing at the site for two-weeks. Avoid chewing at the site for 3-weeks.
- Prescriptions: Augmentin 875-125 bid for 7 days, 800mg Ibuprofen qid as needed for pain, 0.12% Chlorhexidine gluconate bid for 14 days.
- PO visit for suture removal in 2-weeks.

2-week PO

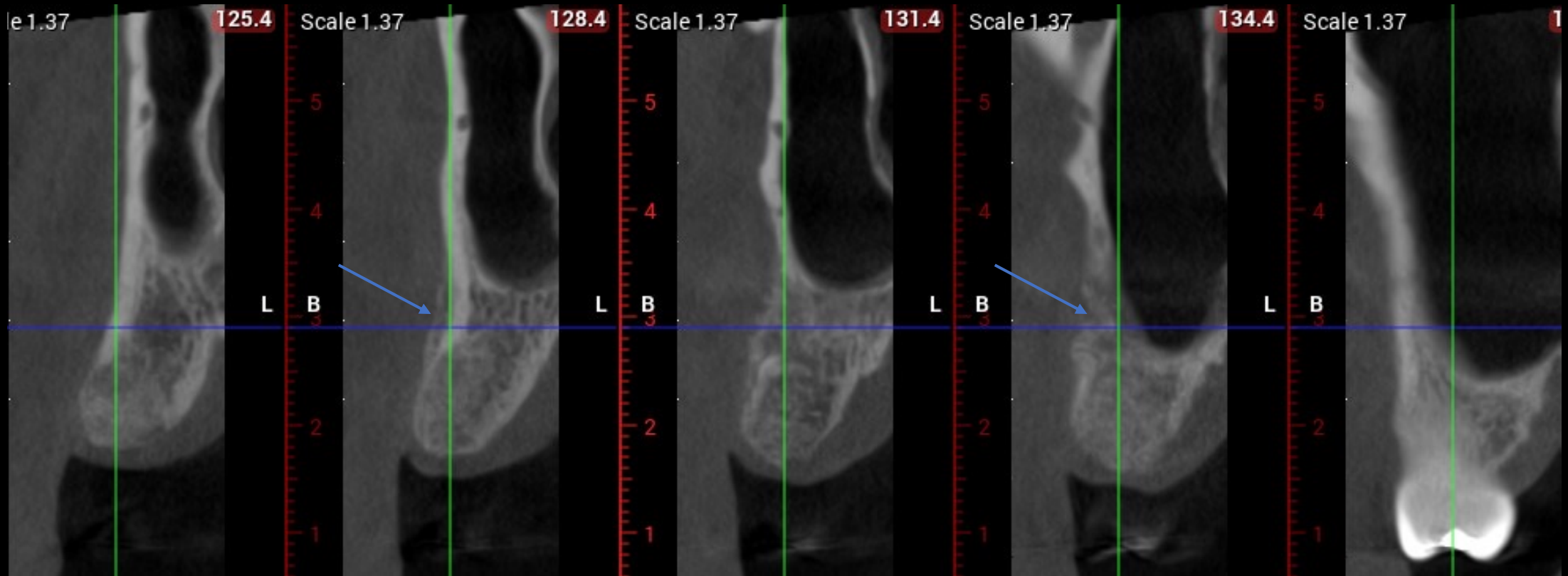




4-month PO

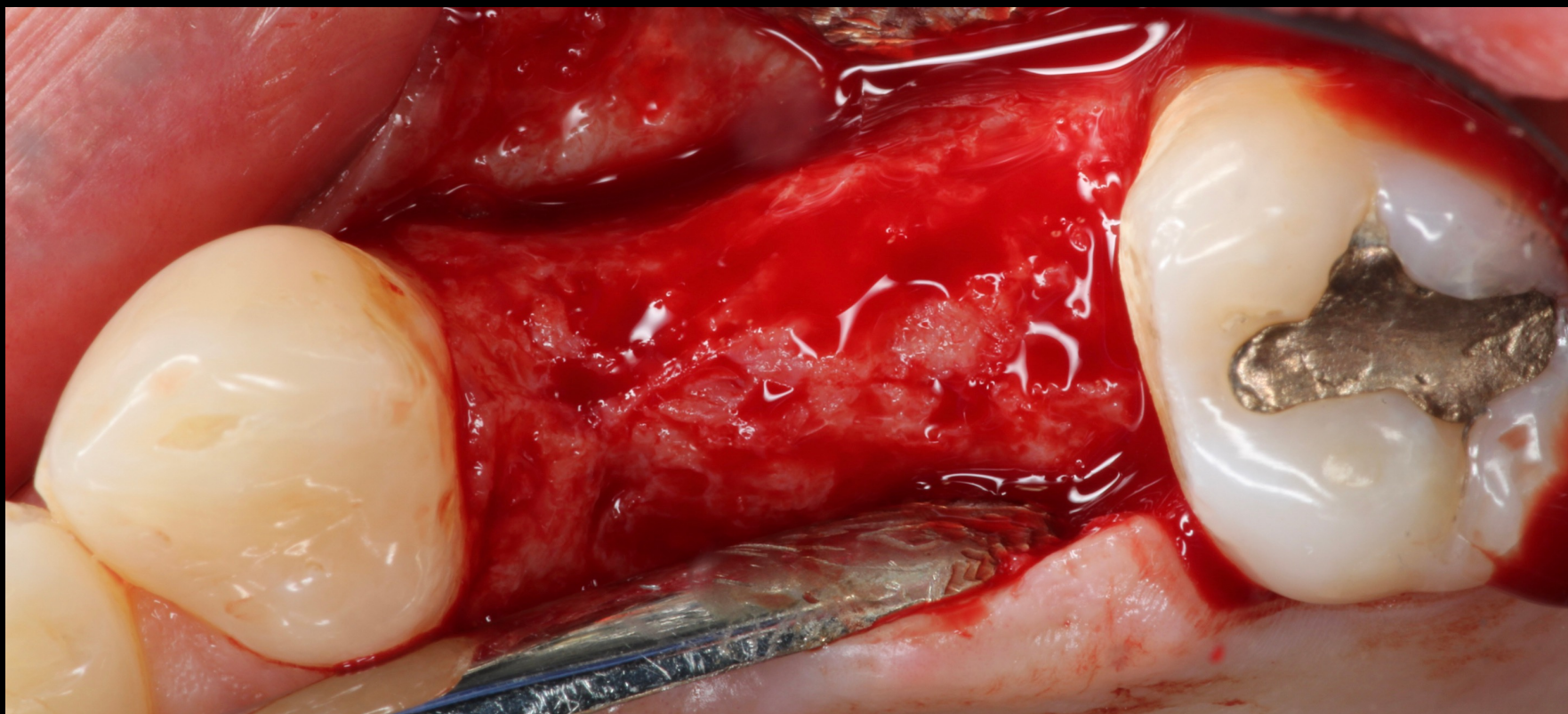


# 4-month CBCT

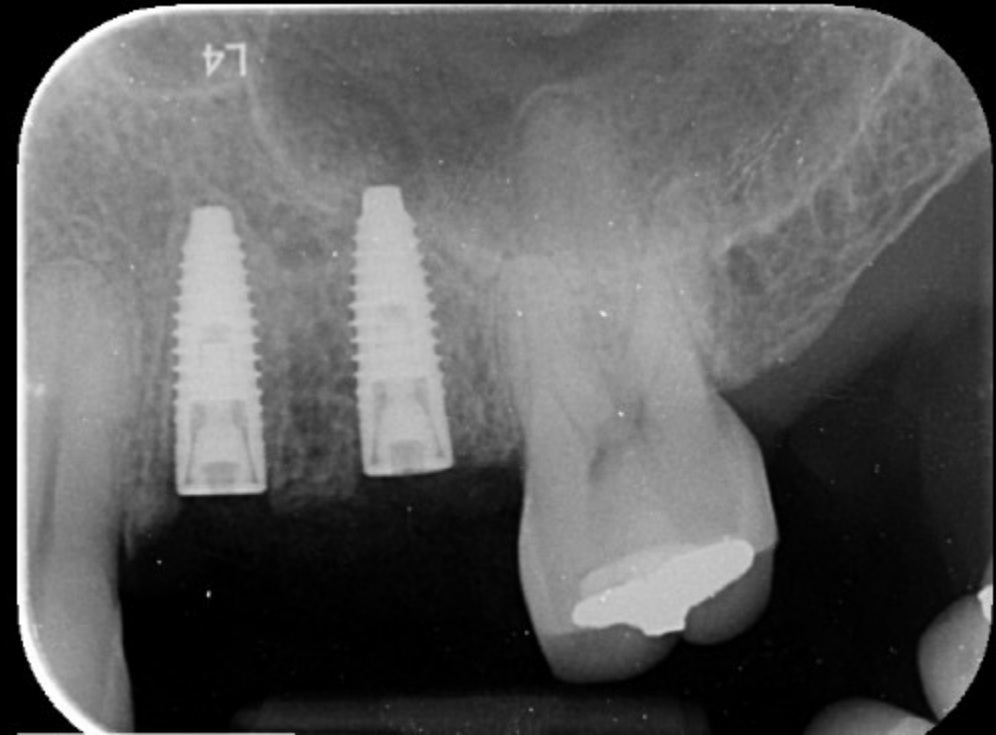
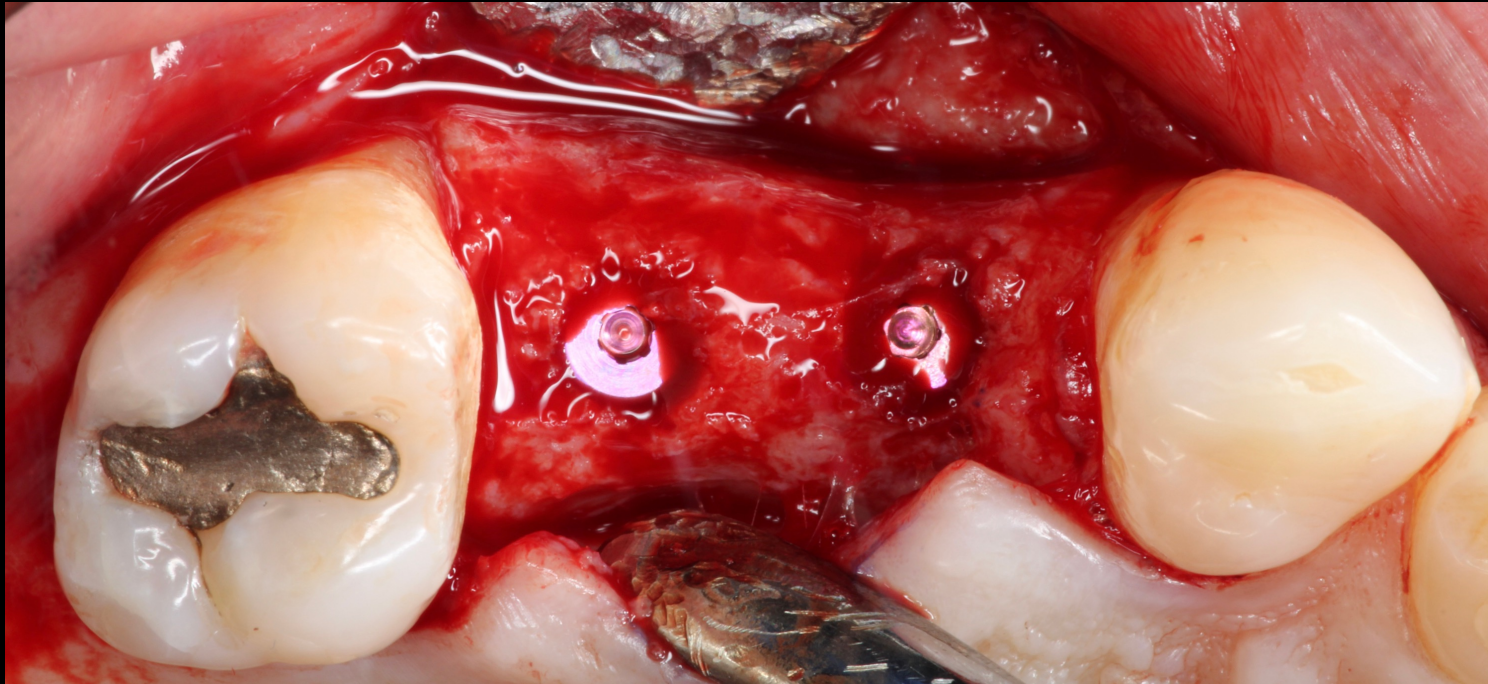


- Evidence of great healing. Sinus appears wnl and can see evidence of a new cortical plate forming at site of lateral window. Can also see evidence of the well contained buccal grafting over the window. Socket grafting appears to have healed with great trabeculation present. No evidence of any sinus membrane thickening or inflammation.

# Implant Surgery – 5 months PO



# Guided Implant Surgery – Placement of two Nobel Replace 3.5x10mm implants



Notice presence of vertical internal sinus lift on implant #13.

# Next Steps

- Patient will return in 4-months for placement of healing abutments on implants #12 and 13.

# Final Thoughts

- Thought this case would be a great case to include for this resident competition due to the uniqueness.
- The handling of BioXclude was exceptional.
- The ability of the membrane to adhere to the sinus membrane was superior to any other membrane I have used.
- The healing of the sinus membrane after repair showed great results with no presence of any membrane thickening or inflammation radiographically.
- The healed sinus membrane responded well to the internal sinus lift at time of placement as no perforations were noted.
- Patient reported minimal pain associated with the surgeries and never reported any sinus complications.



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