Aesthetic Rehabilitation in the Anterior Zone. Implant Placement and Inmediate Loading: Alveolar and Soft Tissue Reconstruction

Case Presentation

Presented by

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Dr. Edgar Gonzalez

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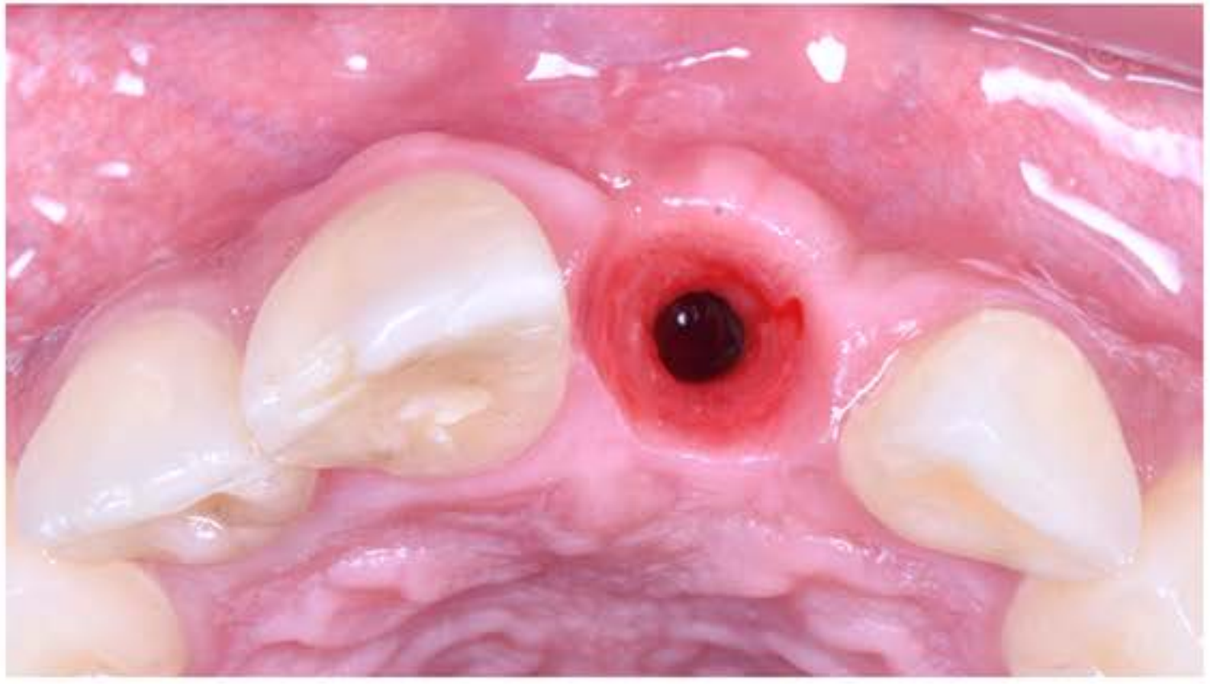
Clinical approach integrates digital planning, guided surgery, and advanced hard and soft tissue management to achieve stable, predictable, and natural-looking results.

Case Preview



Descriptions

A 31-year-old male presented with a horizontal bone defect in the anterior maxillary region, compromising vestibular contour and soft-tissue stability.

The treatment goal was to achieve an immediate aesthetic rehabilitation through guided implant placement, accompanied by bone regeneration and soft-tissue thickening to ensure long-term functional and aesthetic stability.

The case was digitally planned following the principles of the **EZP – Esthetic Zone Implant Placement Protocol**, emphasizing prosthetically driven 3D positioning and creating of the emergence profile.

Case Information

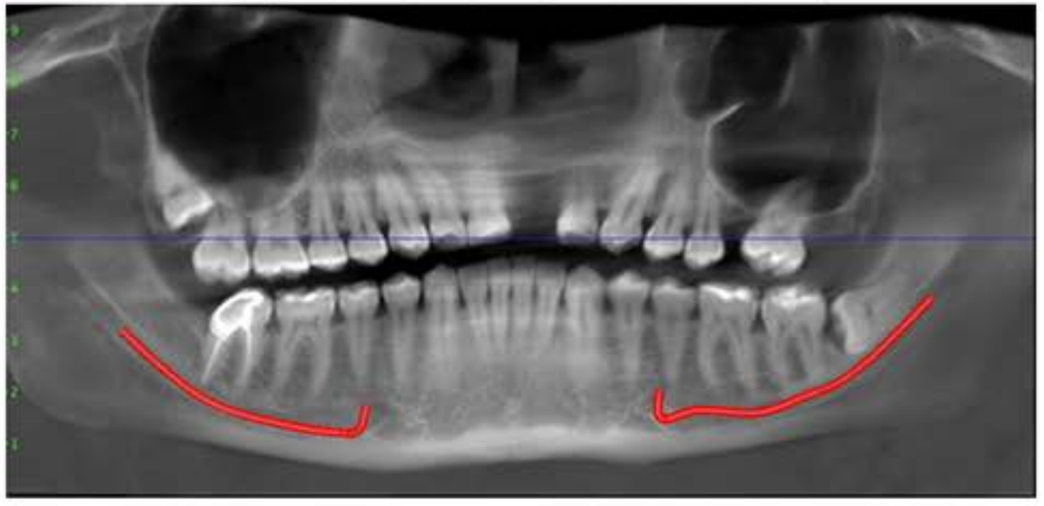
Surgery Date

12/02/2025

Patient Information

Gender and age: Male, 31 years old
Systemic condition: ASA I
Medical history (PMH): Non-contributory
Dental history (PDH): Localized vestibular bone deficiency in the anterior region.
Diagnosis: Moderate horizontal bone defect with thin gingival biotype and partial vestibular support loss.
Clinical findings: Alveolar contour collapse, marginal exposure of the vestibular tissue, indicating the need for a combined surgical–restorative approach.

Pre-operative Examination



Panoramic View of CT scan)

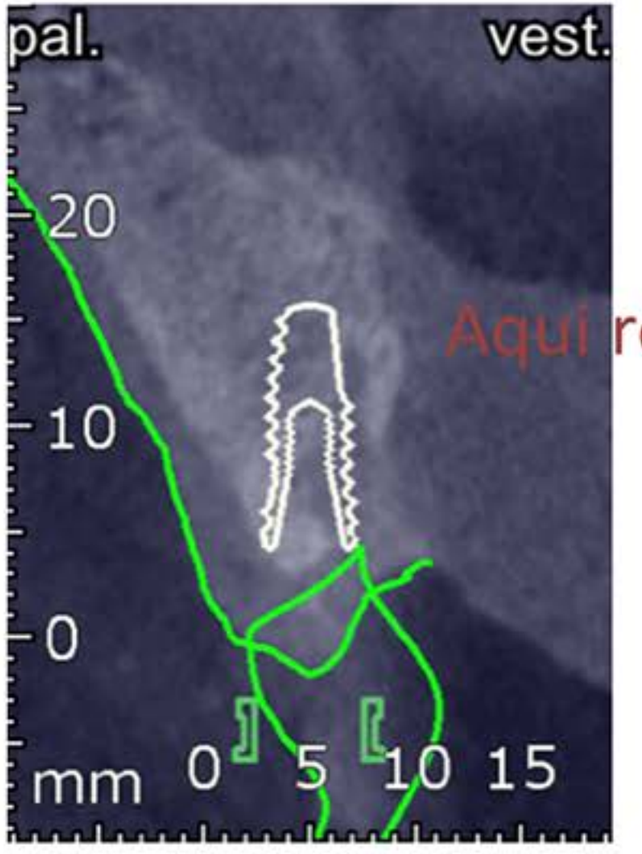
Intra-oral Photographs

Treatment Plan

Expected Fixation : CMI FIxation

- Immediate placement of a Neobiotech IS-II Active 3.5 X 11.5 mm implant in prosthetically driven three-dimensional position (tooth #21)
- Horizontal guided bone regeneration (GBR) using particulate autograft collected by scraping from the external oblique ridge.
- Supplementary filling with particulate allograft to preserve the vestibular cortical plate.
- Connective tissue graft (CTG) obtained by de-epithelialization of a free gingival graft (no flap elevation) for soft-tissue thickening and stabilization.
- Immediate provisional restoration to shape the emergence profile and preserve the gingival architecture.

Treatment Plan



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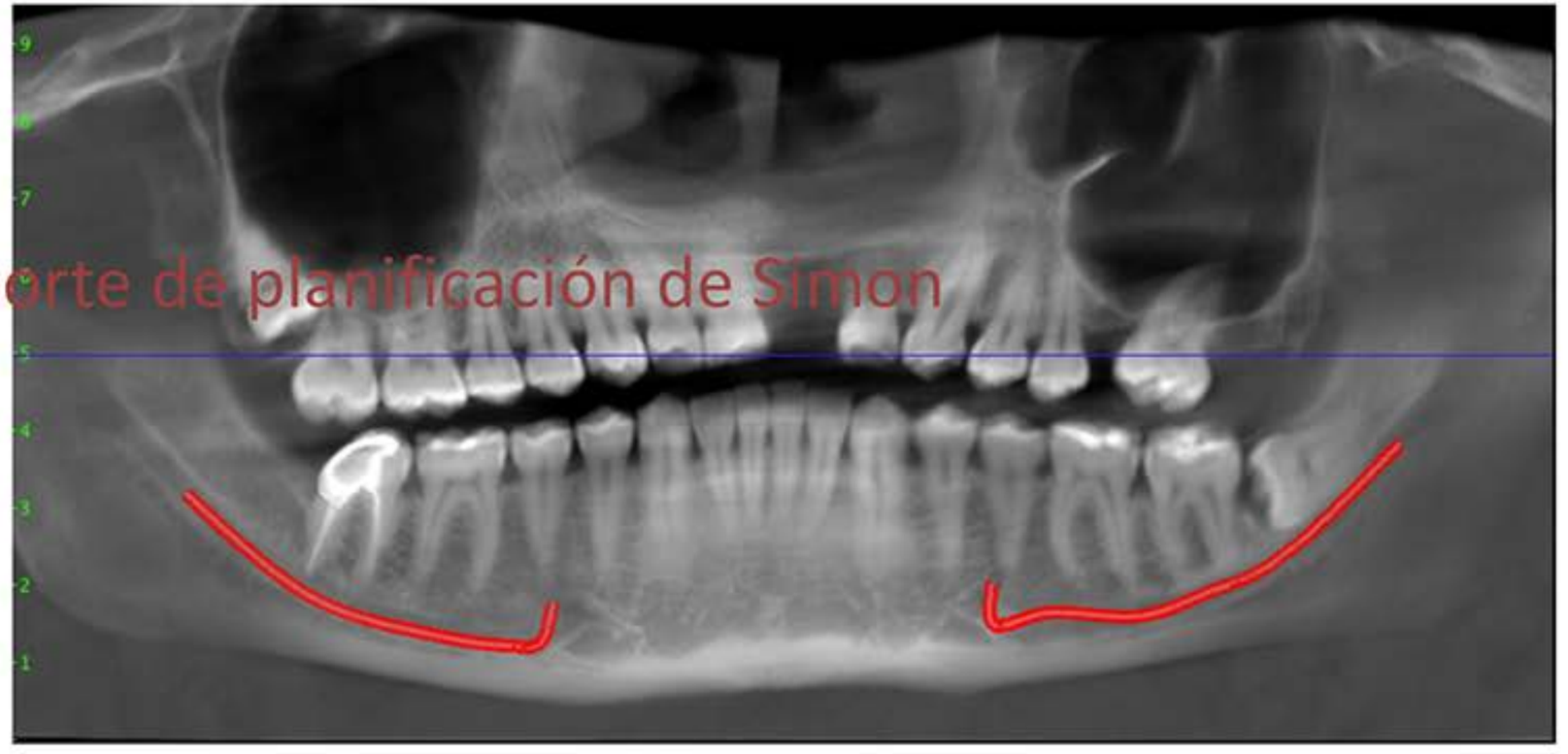


Surgery Stage

Surgical Details

Implant placement was performed through guided surgery, using a digitally designed surgical guide based on 3D virtual planning (CBCT and intraoral scans). This approach ensured precise prosthetically driven positioning, with full control over angulation and depth.

The Neobiotech IS-II Active 3.5 X 11.5 mm implant was inserted with a torque of 60 Ncm, allowing for immediate loading. A screw-retained provisional crown was immediately placed, kept out of occlusion, and designed to guide soft-tissue contour formation and maintain the emergence profile.

Subsequently, the reconstructive phase was carried out as follows:

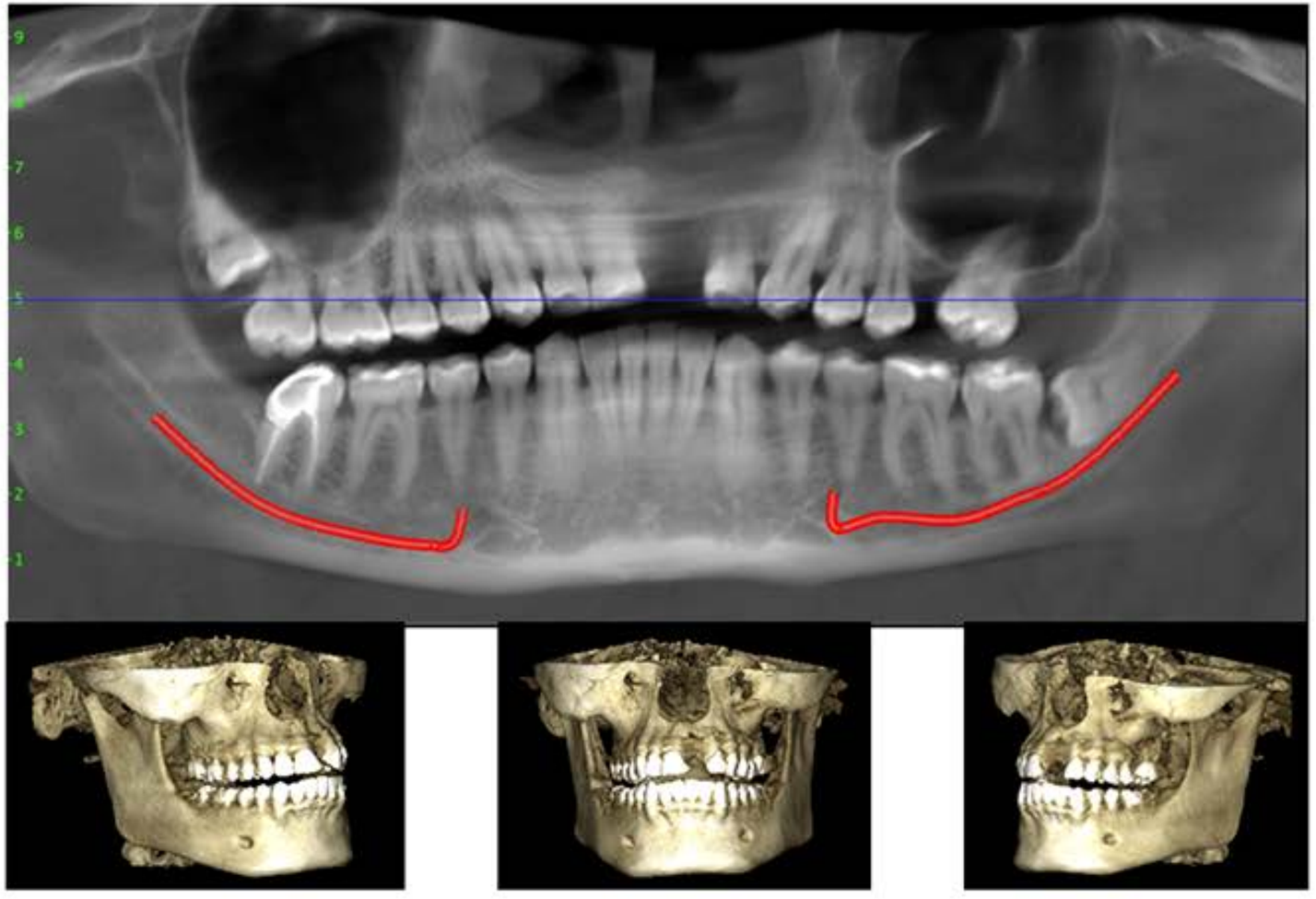
- A horizontal GBR was performed using particulate autogenous bone harvested by scraping the external oblique ridge, placed on the vestibular surface to restore ridge width.
- A particulate allograft was then applied over the vestibular cortex to enhance graft stability and maintain the outer contour.
- Finally, a connective tissue graft was placed, obtained through de-epithelialization of a free gingival graft (without flap elevation), to increase mucosal thickness and stabilize soft tissues.

The donor site was protected with a hemostatic sponge and a 0.60 mm vacuum-formed acetate stent, following Dr. González's postoperative protocol (chlorhexidine + hyaluronic acid gel three times daily during the first week).

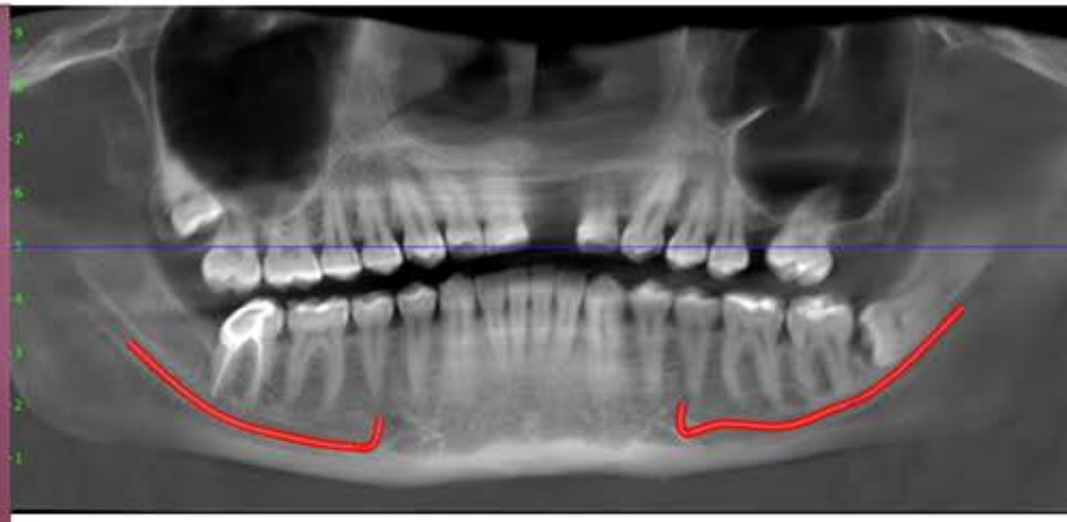
Primary closure was achieved without tension, ensuring graft and soft-tissue stability. This sequence preserved the alveolar architecture, maintained the emergence profile, and optimized the aesthetic integration of the implant.

Step by Step Surgical Procedure

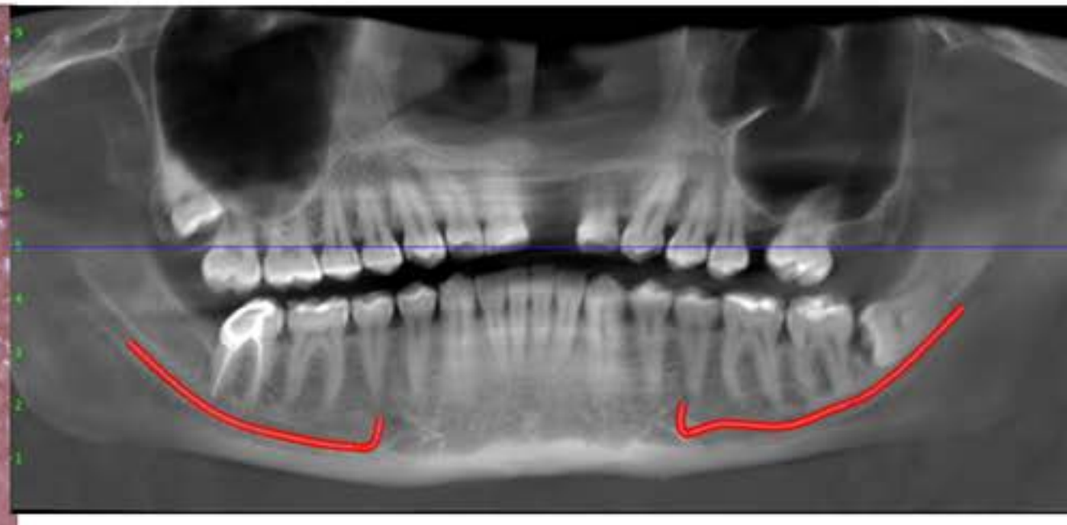
Pre-operative frontal view showing vestibular bone deficiency and gingival collapse.



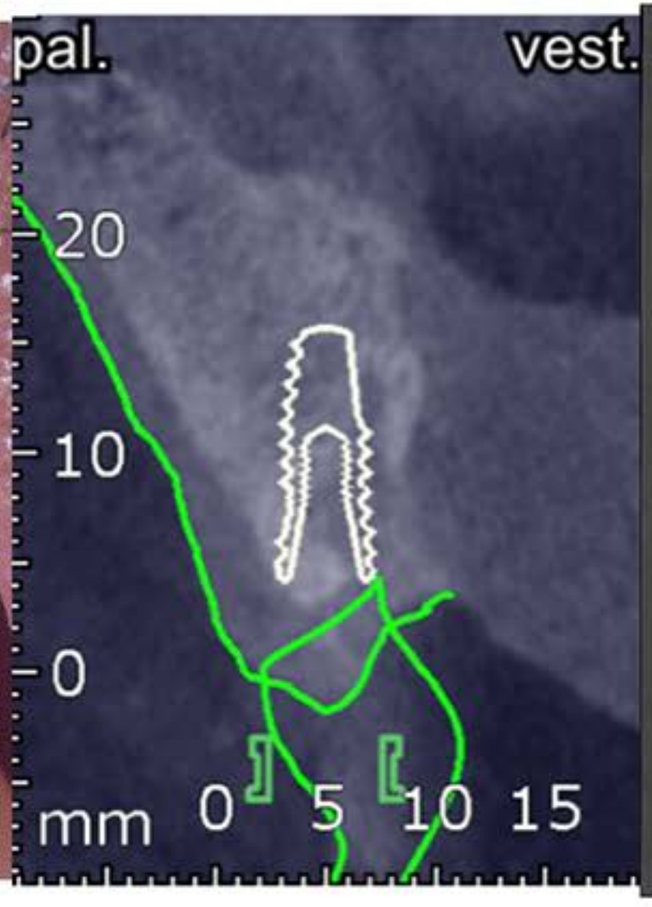
Initial radiograph revealing localized horizontal bone loss.



Lateral View And Pre-Op Xrays



Oclusal View And Pre-Op Xrays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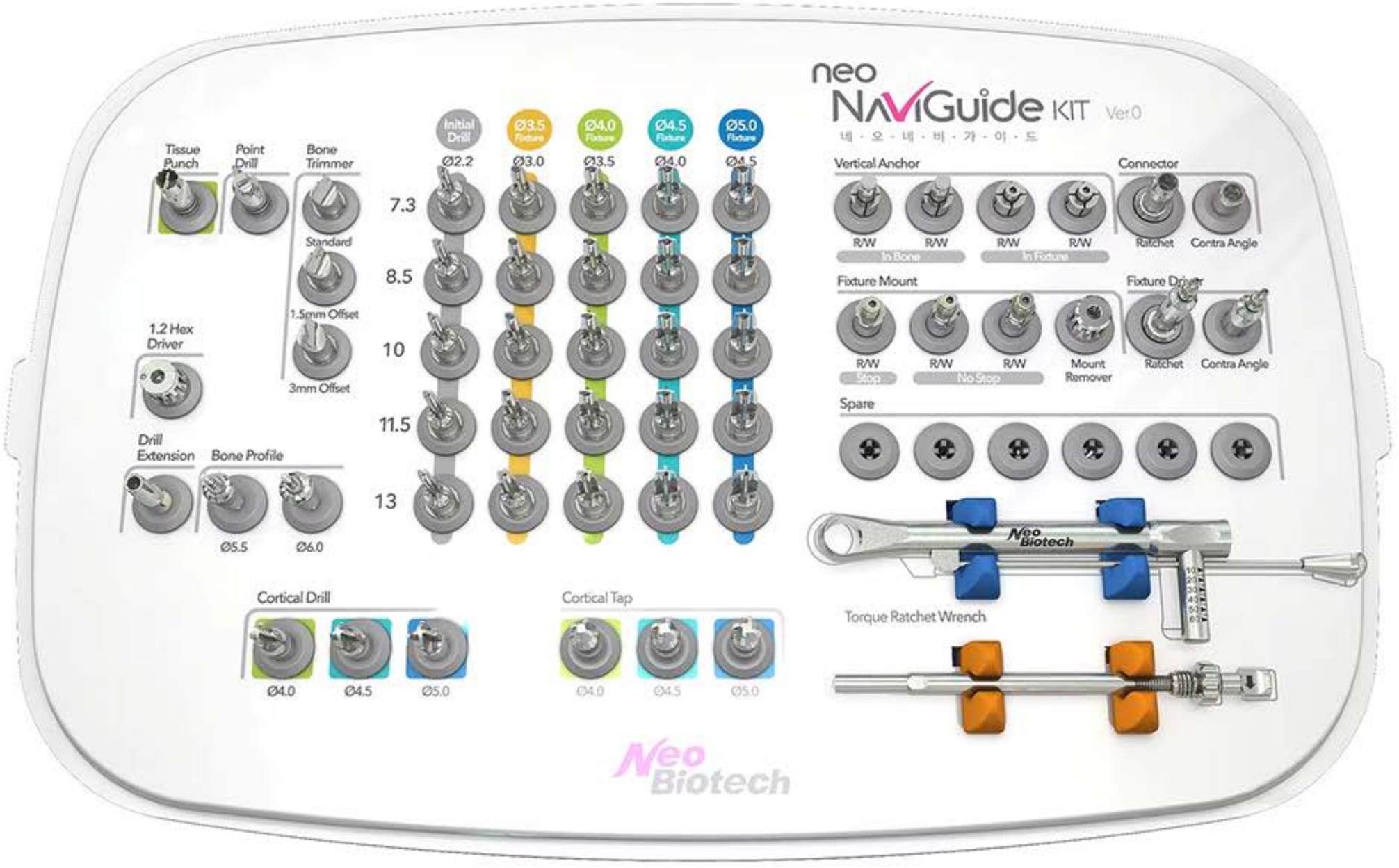
Step by Step Surgical Procedure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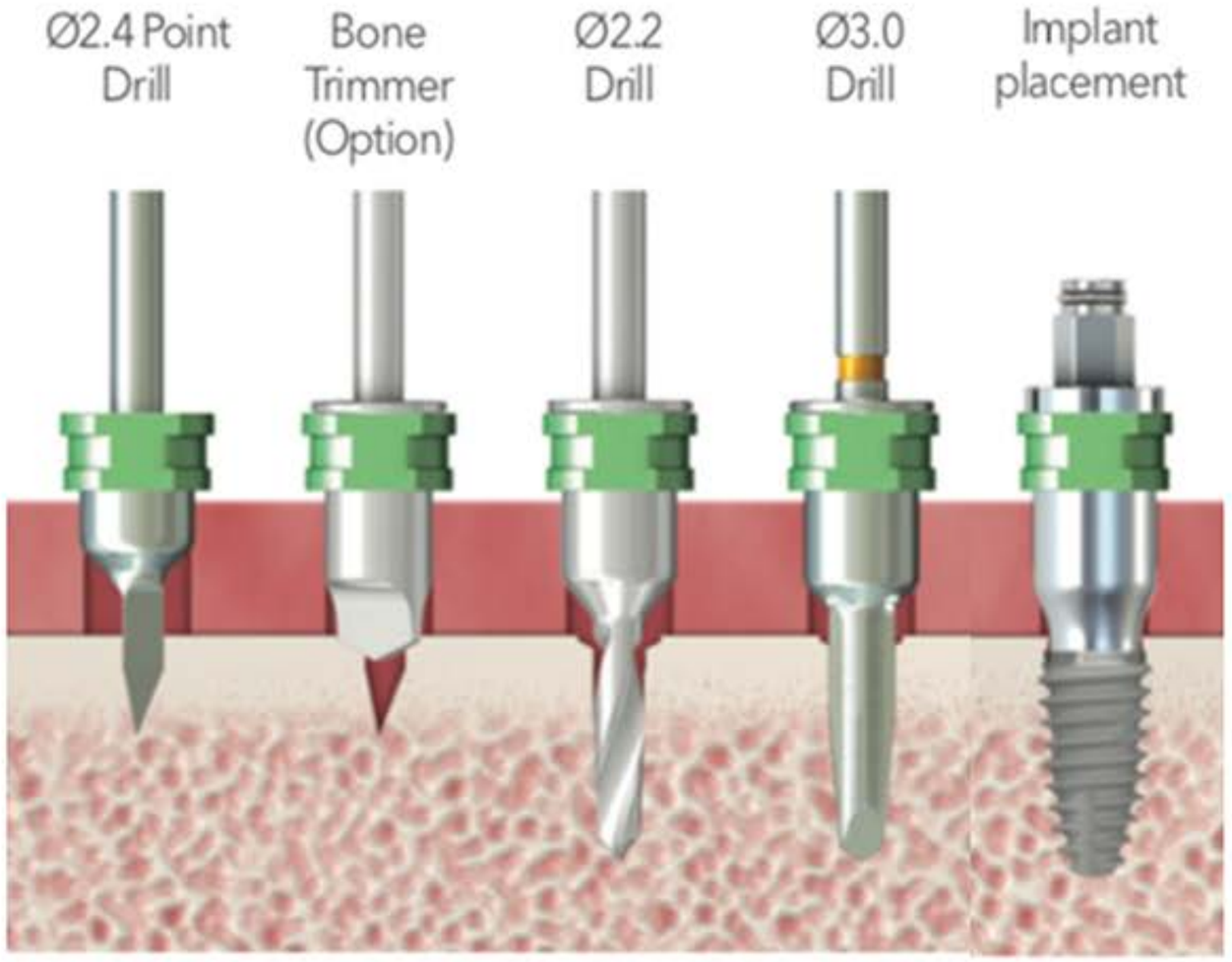
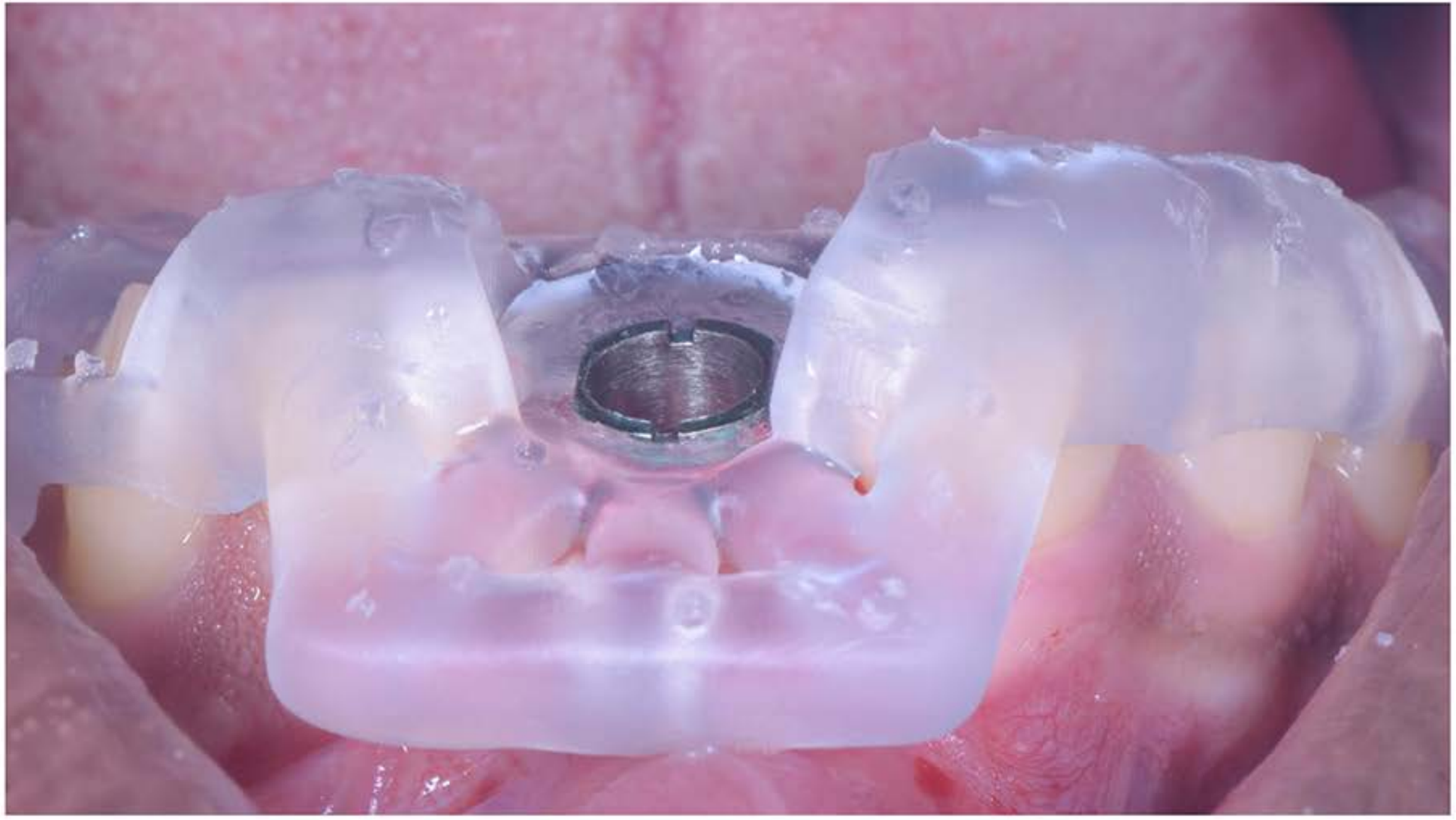
Drilling Protocol

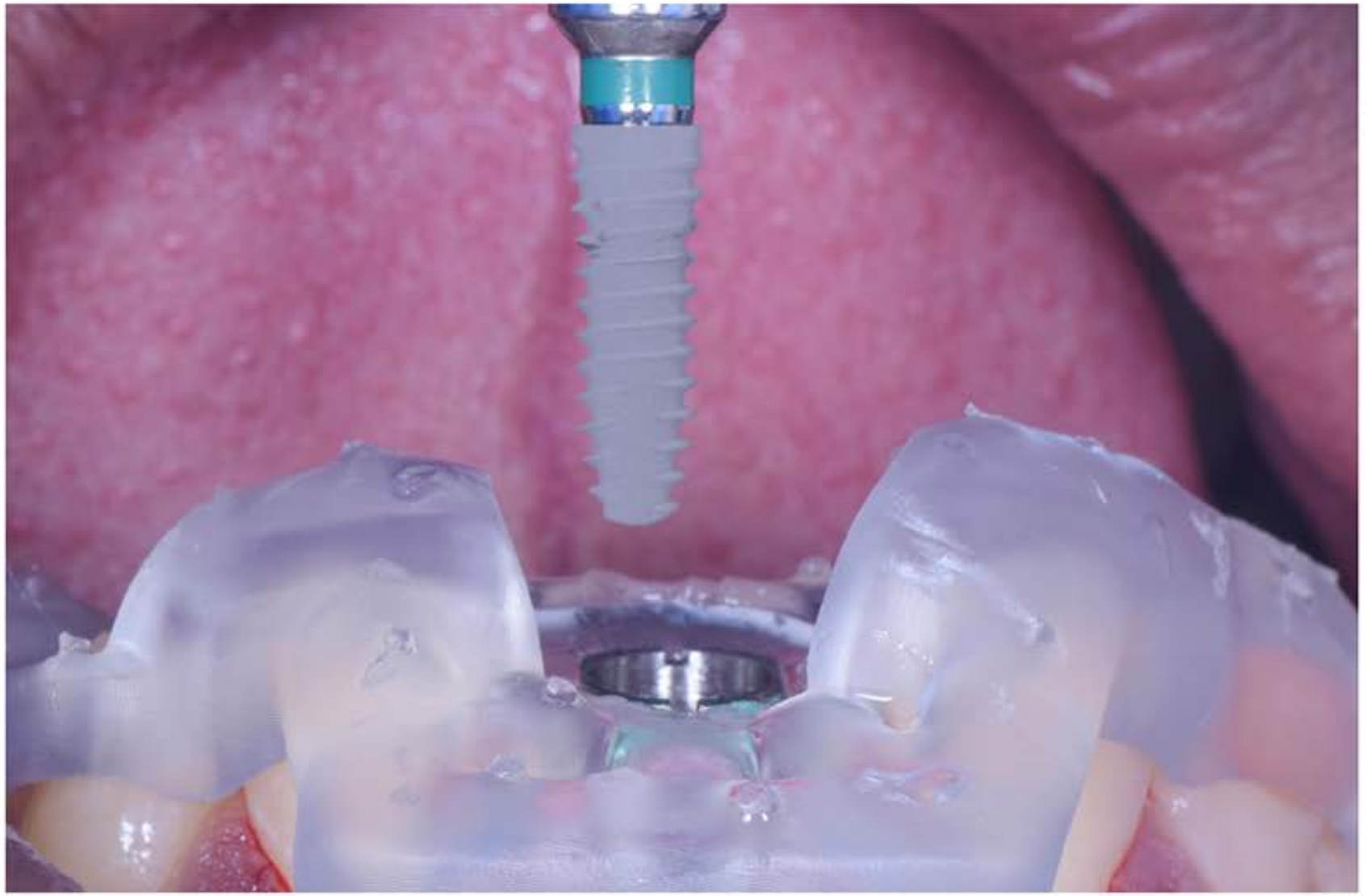


Step by Step Surgical Procedure



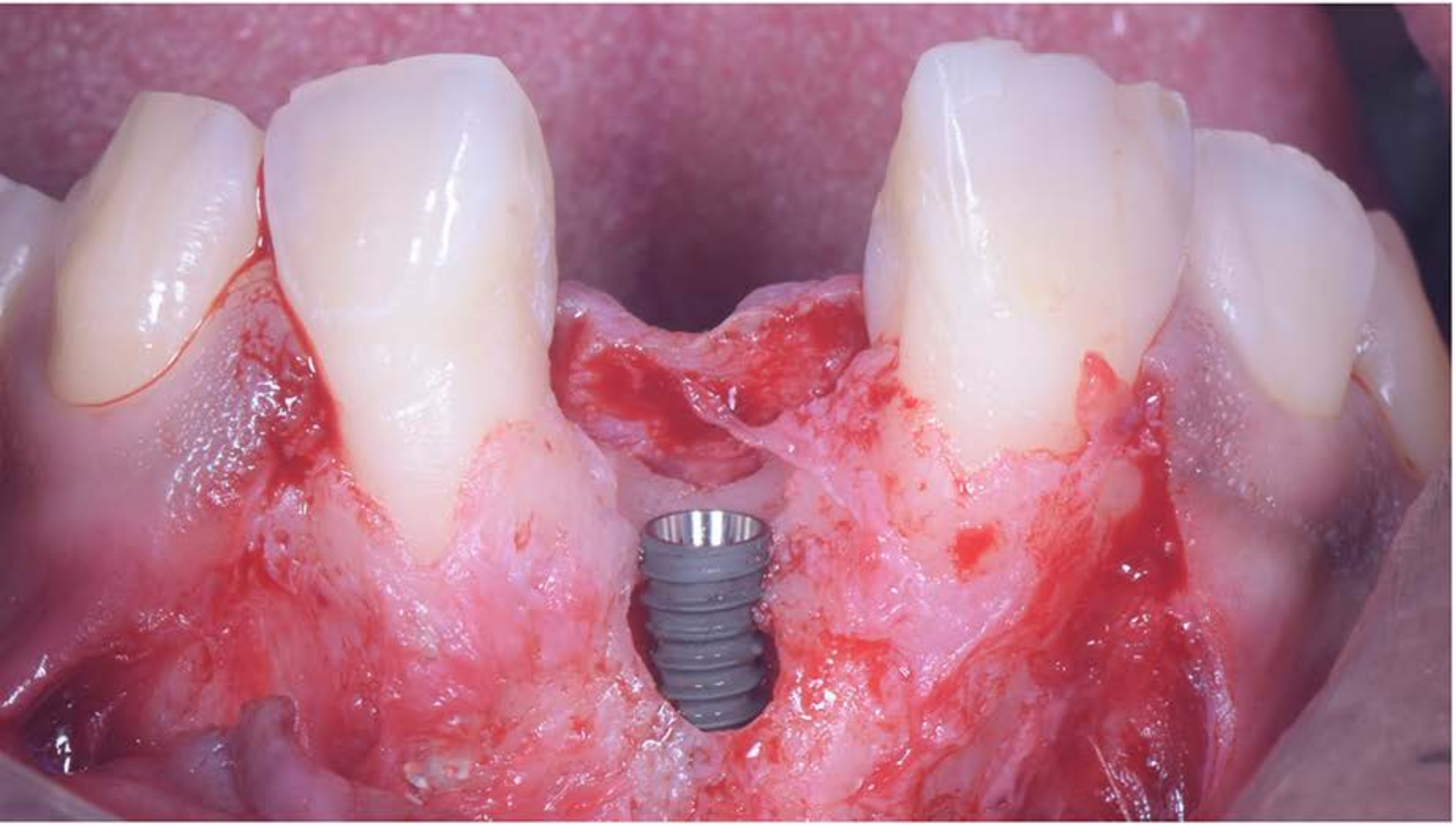
Surgical Guide Positioning

Step by Step Surgical Procedure



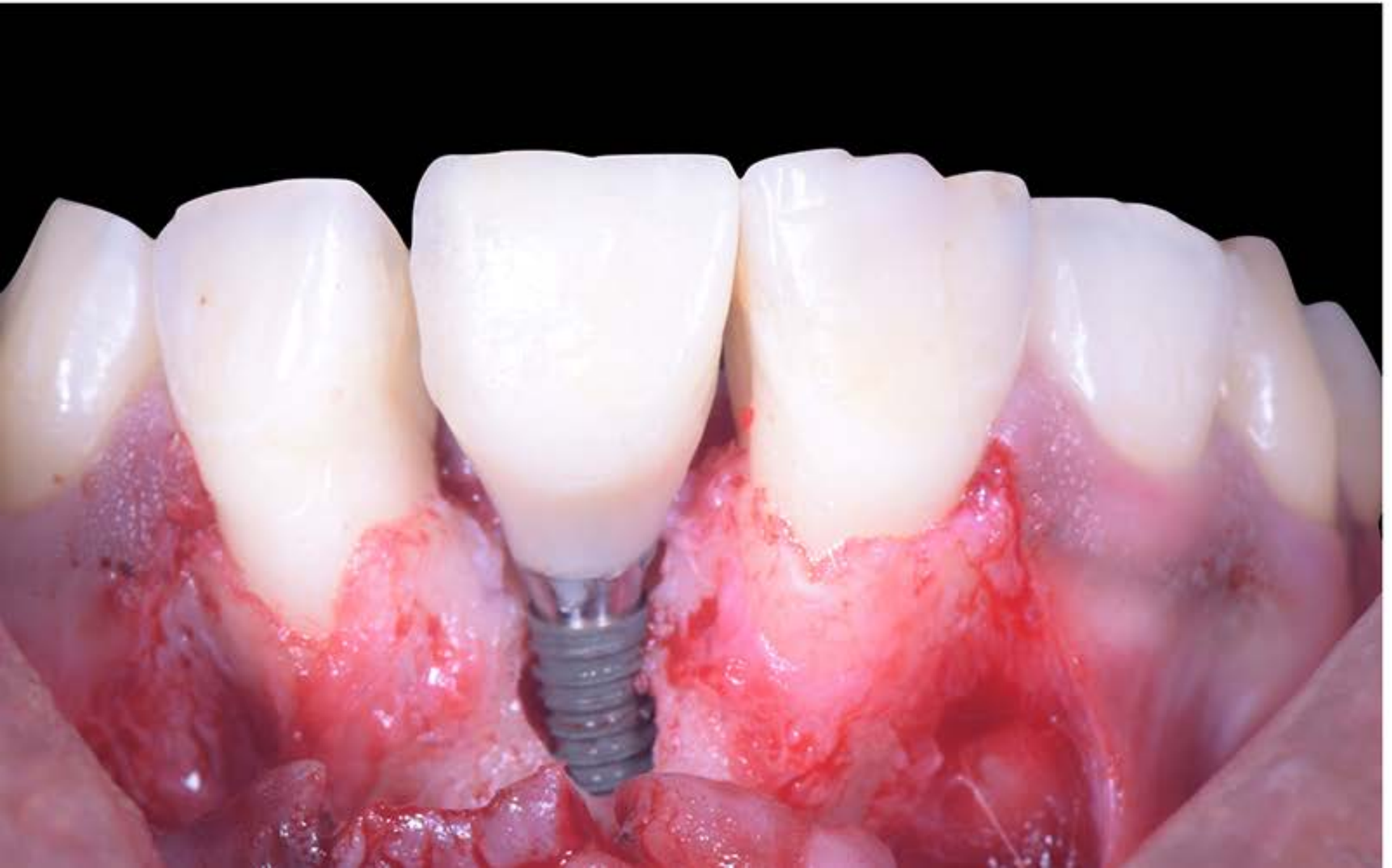
Guided placement of **Neobiotech IS-II Active 3.5 × 11.5 mm implant** (insertion torque = 60 Ncm).

Step by Step Surgical Procedure



Implant positioned in its final three-dimensional, prosthetically driven location. Note the vestibular fenestration observed at the time of placement.

Step by Step Surgical Procedure



Immediate screw-retained provisional crown shaping the emergence profile.

Step by Step Surgical Procedure

Harvesting of particulate autogenous bone by scraping the external oblique ridge

Step by Step Surgical Procedure

Placement of the autograft in the vestibular zone for horizontal ridge augmentation. Note the fixation of the membrane in the vestibular area using tacks to ensure graft stability.

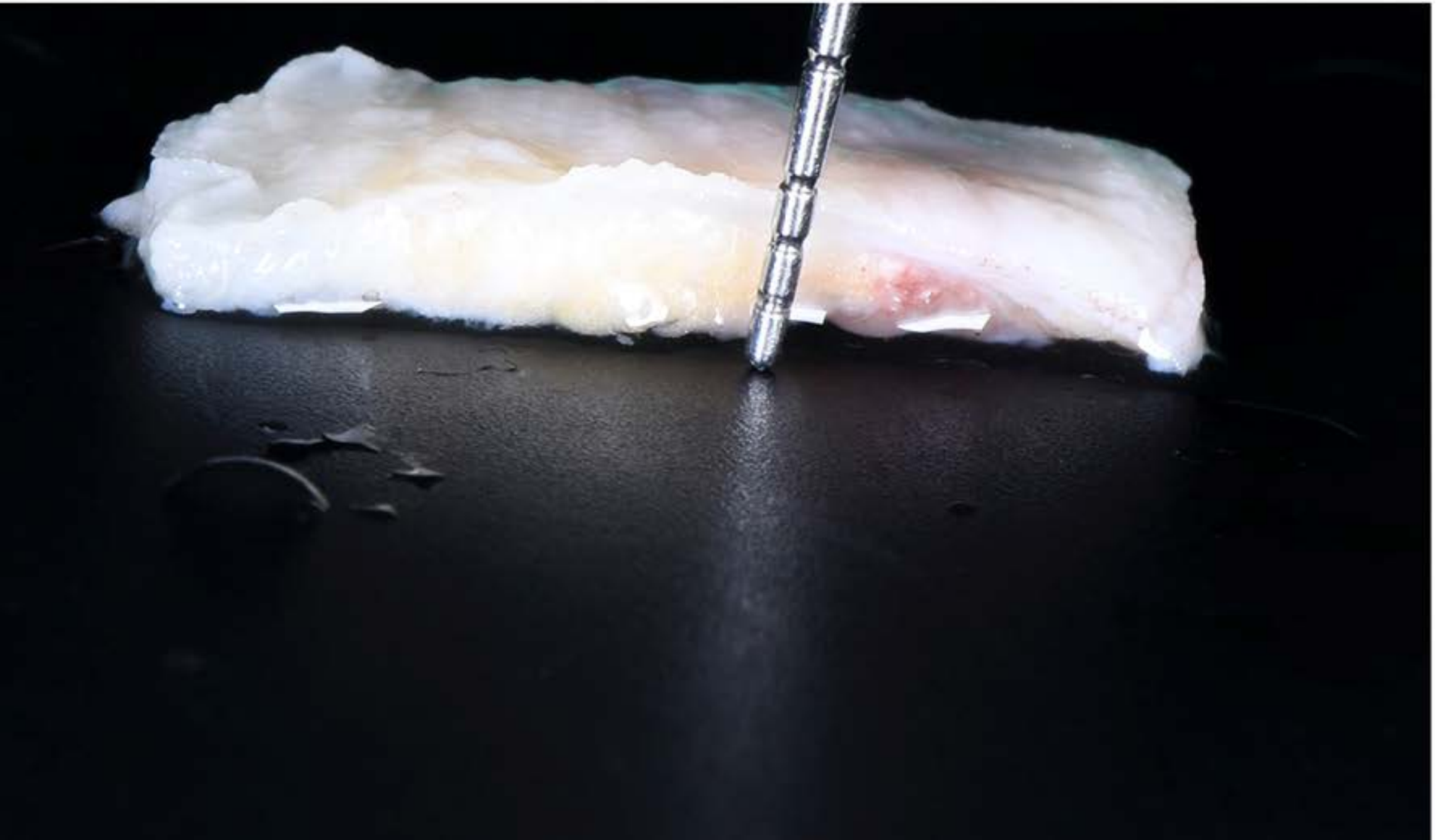
Step by Step Surgical Procedure

Placement of demineralized particulate allograft over the vestibular surface to enhance ridge volume and support cortical preservation.

Step by Step Surgical Procedure

Membrane secured in position, providing stable coverage of the grafted area and ensuring proper containment of the regenerative materials.

Step by Step Surgical Procedure

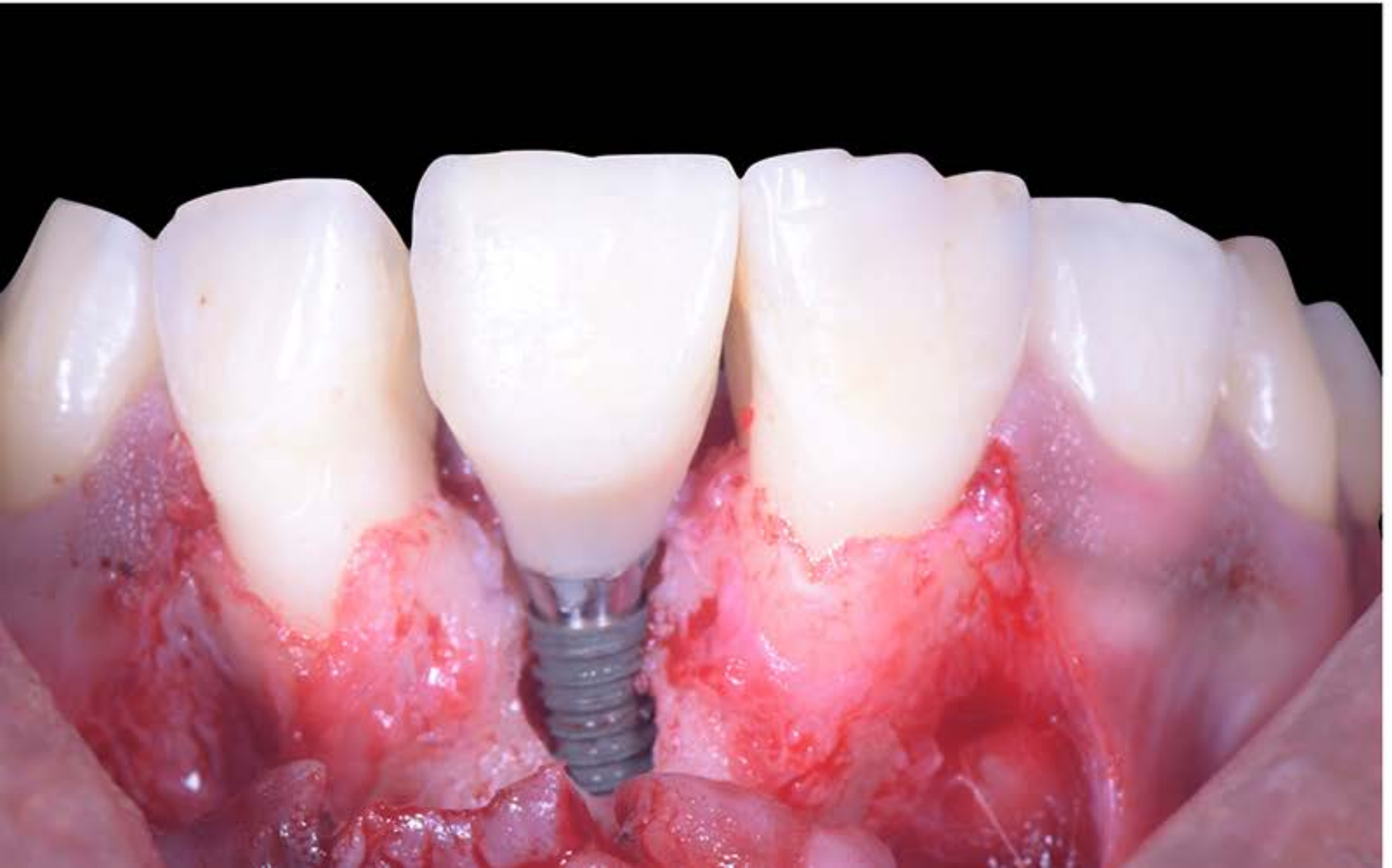


Connective tissue graft harvested from the palatal area, prepared for placement to increase mucosal thickness and enhance soft-tissue stability.

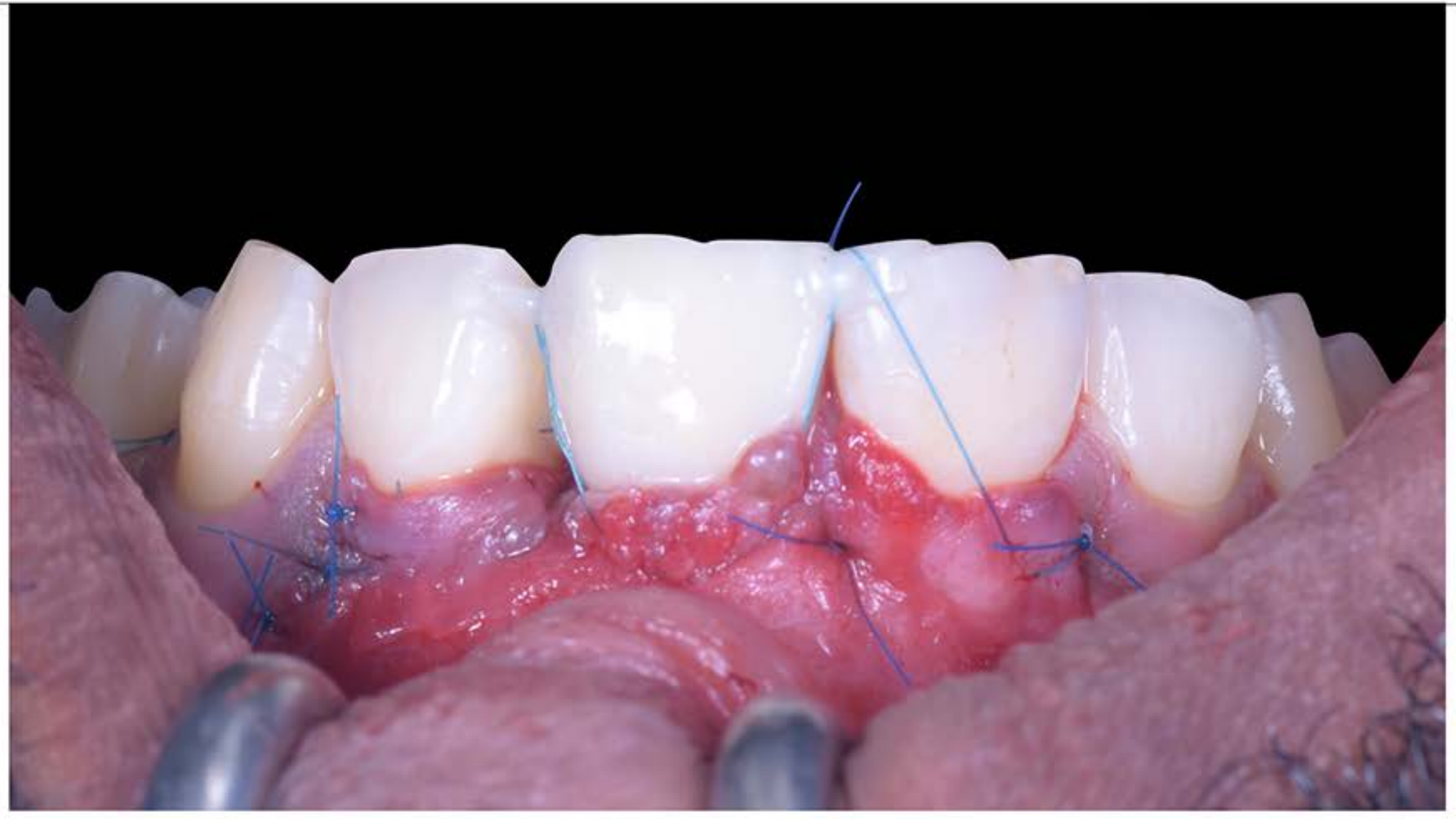
Step by Step Surgical Procedure

Connective tissue graft sutured in position

Step by Step Surgical Procedure

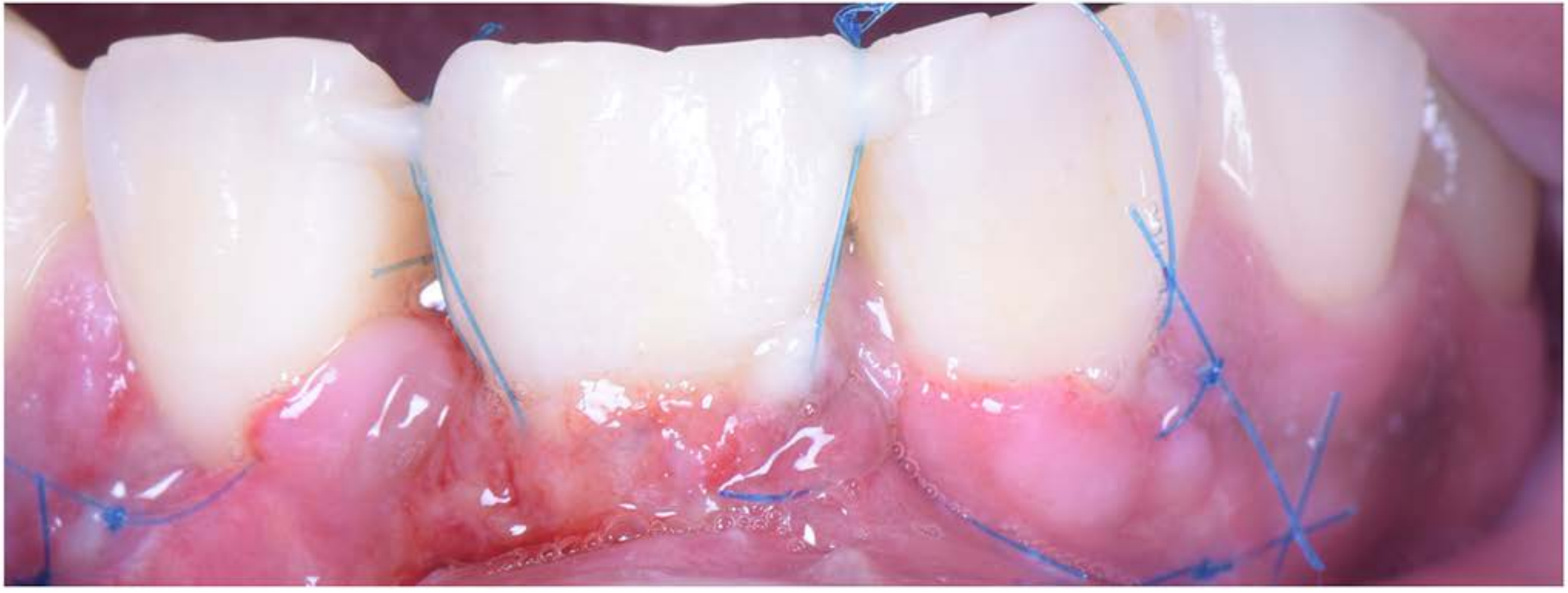


Step by Step Surgical Procedure



Immediate postoperative & radiograph confirming 3D implant position and graft stability

Step by Step Surgical Procedure



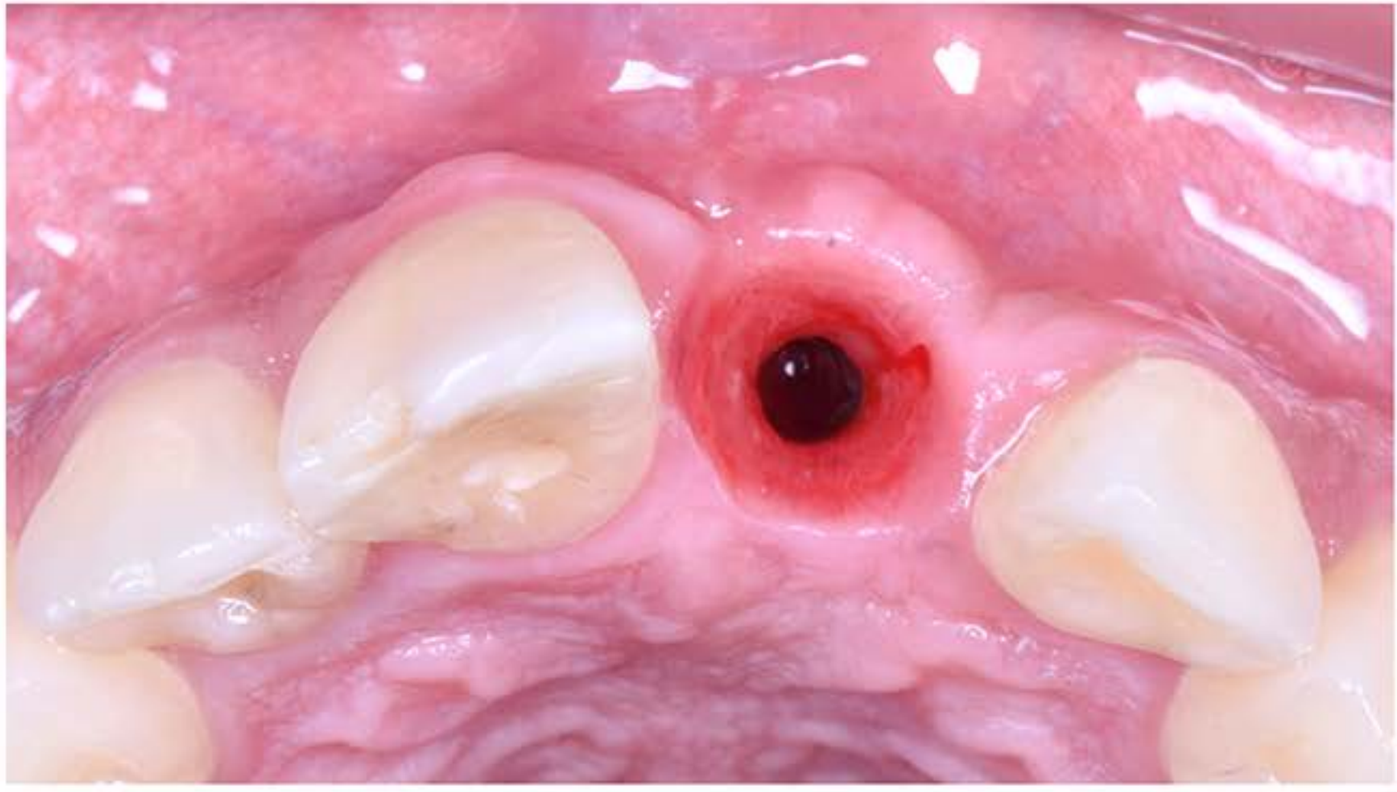
Seven days postoperative

Step by Step Surgical Procedure

15 days postoperative

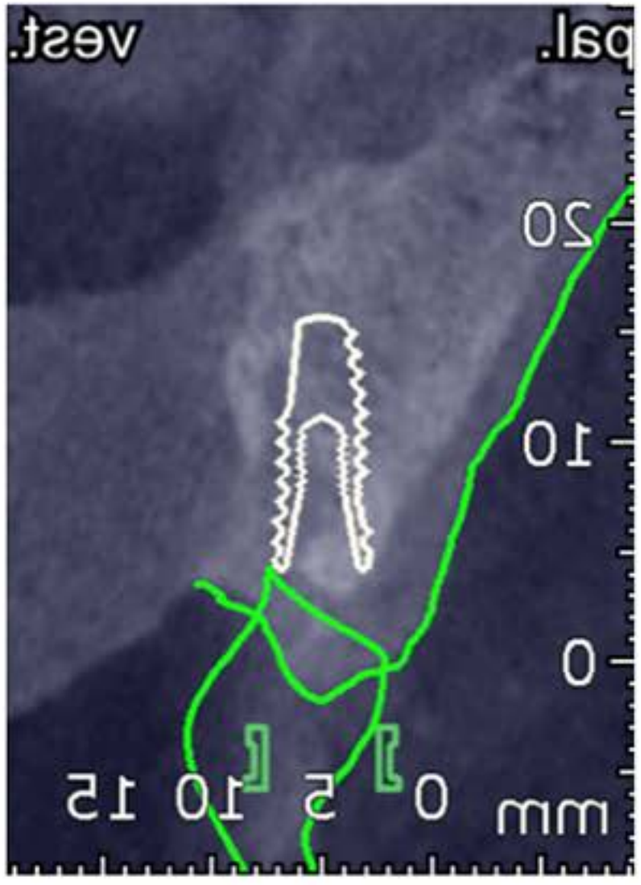
Follow-up Results

Inicial Situation



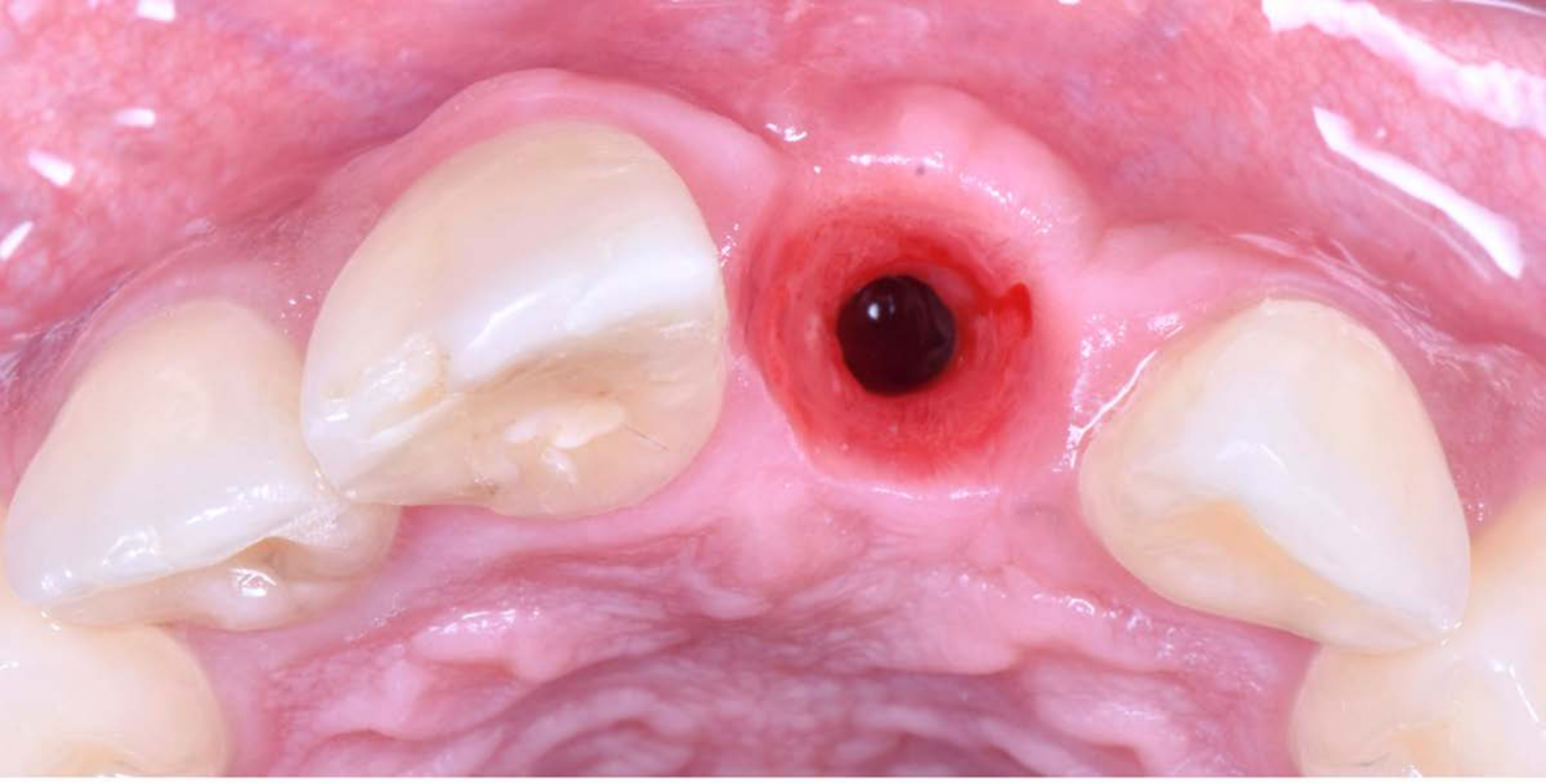
Six months post-op

Follow-up Results



Inicial Situation

Six months post-op



Occlusal view at the 6-month follow-up showing healthy peri-implant tissues and a well-defined, stable emergence profile.

EDGAR RELLENAR!!!!

Surgery Summary

- Outcomes of the surgery, including CMI Fixation type, final insertion torque, and IST values.
- Decisions on loading strategy (submerged, non-submerged, immediate loading).

Surgery Recordings

Implant Site: Maxillary left central incisor region #21

Implant Type & Size: IS-III 3.5X11.5

Bone Density: Type III bone quality

Insertion Torque: 60 NW

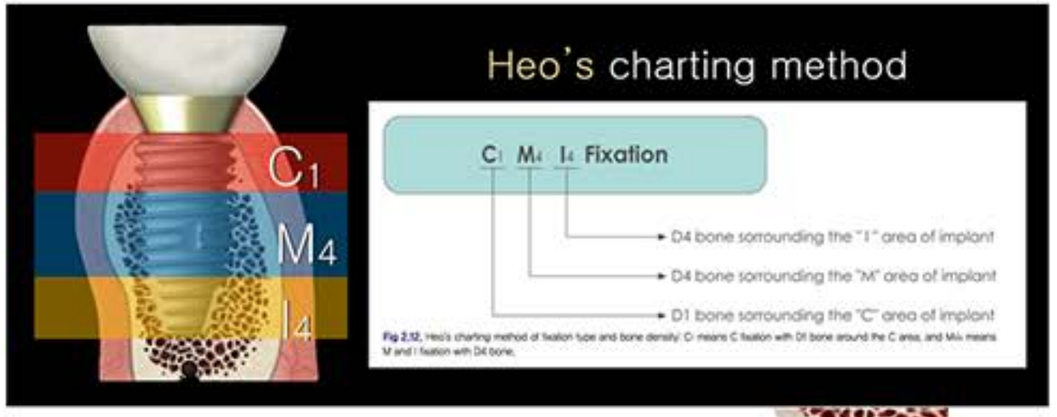
Bone Graft: Autogenous bone particles, followed by a separate layer of particulate allograft over the vestibular surface.

Loading Strategy

Impression & Loading Date

Immediate Loading

Impression : TBD



Achieved Fixation

CMI Fixation

Thank you

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