

Precision in Interdental Papilla Reconstruction: A Digital Approach to Immediate Loading FP1 in Edentulous Maxilla

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Objective

Clinical report involving tooth-bone-soft tissue digital planning, guided surgery, and photogrammetry to achieve anatomic dentogingival architecture around a monolithic immediate-loaded interim FP1 in the edentulous maxilla.

Case Overview

Initial: 52yo male with maxillary complete denture and mandibular implant-supported interim prosthesis.

Records: Dual CBCT, soft tissue (ST) scan, prostheses scans, extraoral photos.

Planning:

1. Digital overlay of CBCT, initial ST, projected ST, FP1 design.
2. Tooth-bone-soft tissue planning of implant positions and pontic sites.

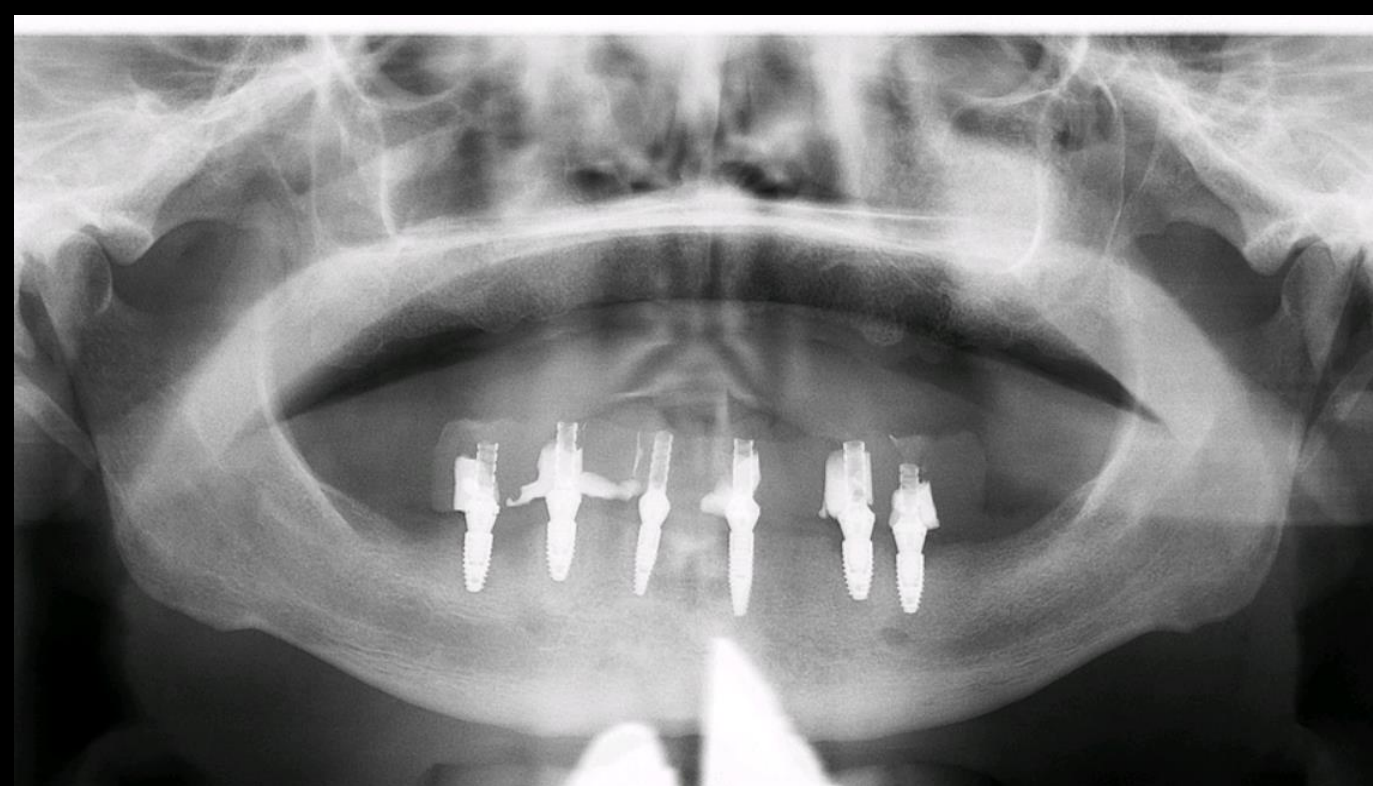
Clinical:

1. Insertion of palatal tacks, and base guide.
2. Fully guided implant placements (Straumann BLT).
3. Guided alveoplasty of pontic spaces.
4. MUA alignment, and pontic space verification with multifunctional guide.
5. Autogenous connective tissue graft.
6. Photogrammetry (PIC dental®), and immediate-load with Direct-to-MUA monolithic ceramic-resin interim prosthesis (Sprintray Inc OnX Tough 2).

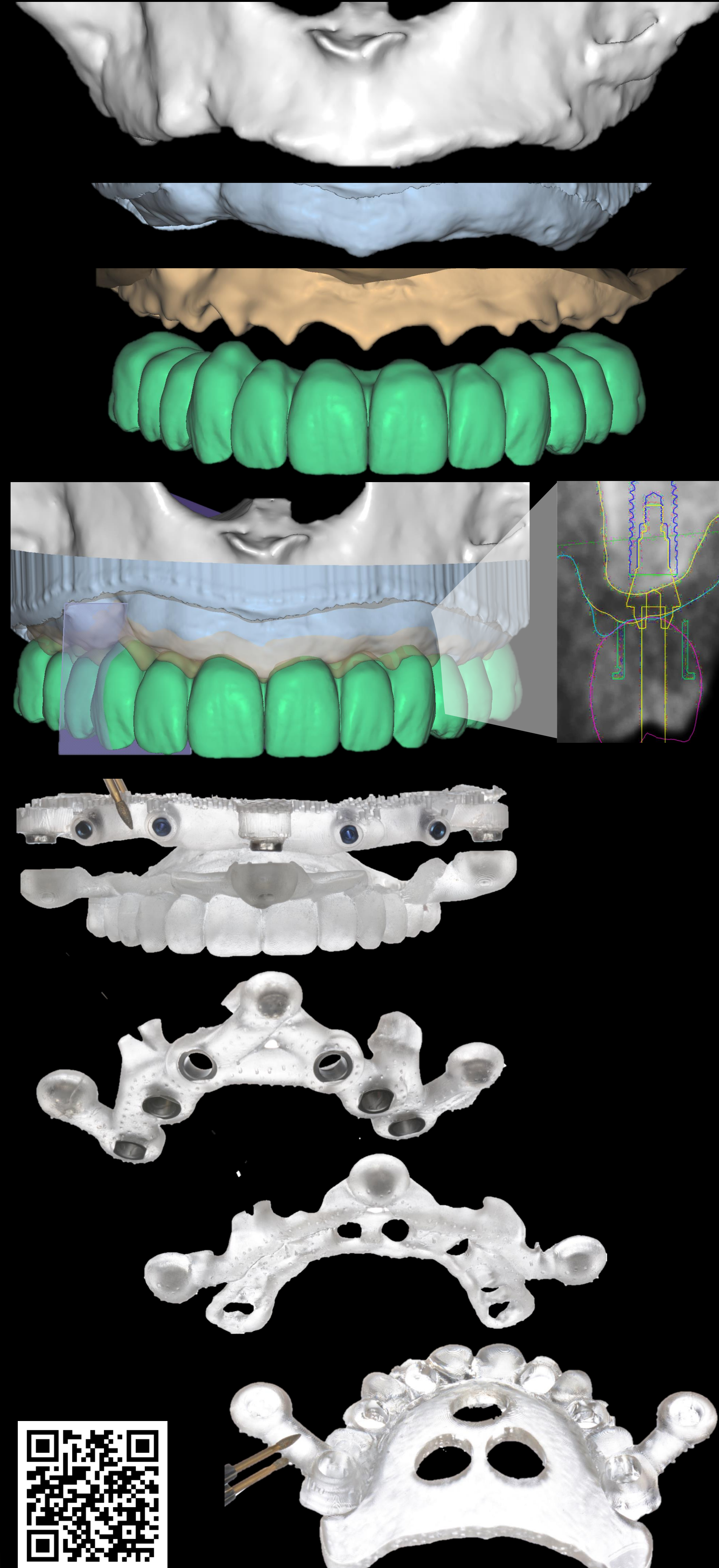
Outcome

At 4 weeks post-op, an IOS scan revealed development of gingival zeniths and interproximal papillae approximating the digital plan. With complete tissue healing, more natural dentogingival contours are anticipated.

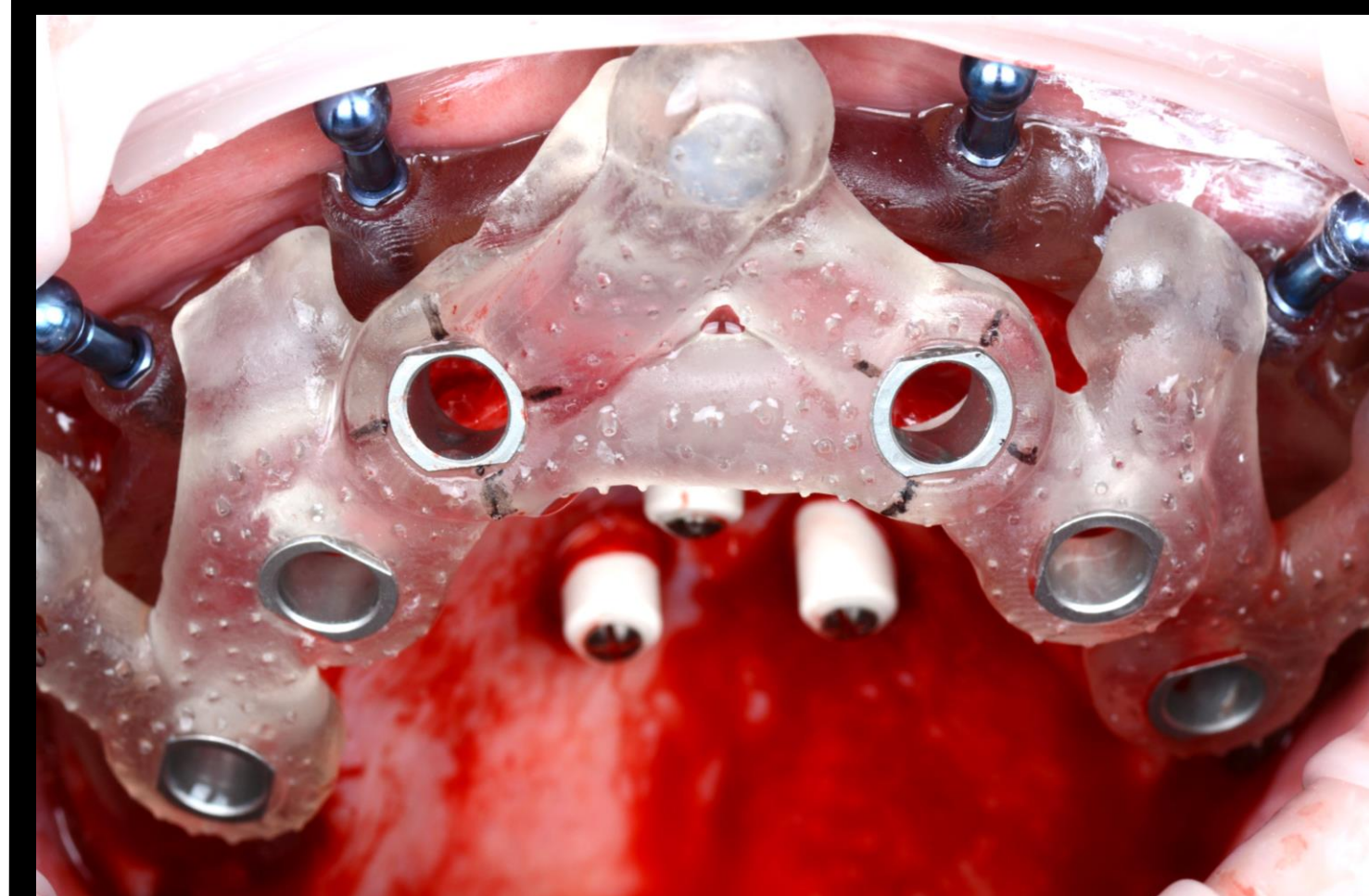
Pre-operative



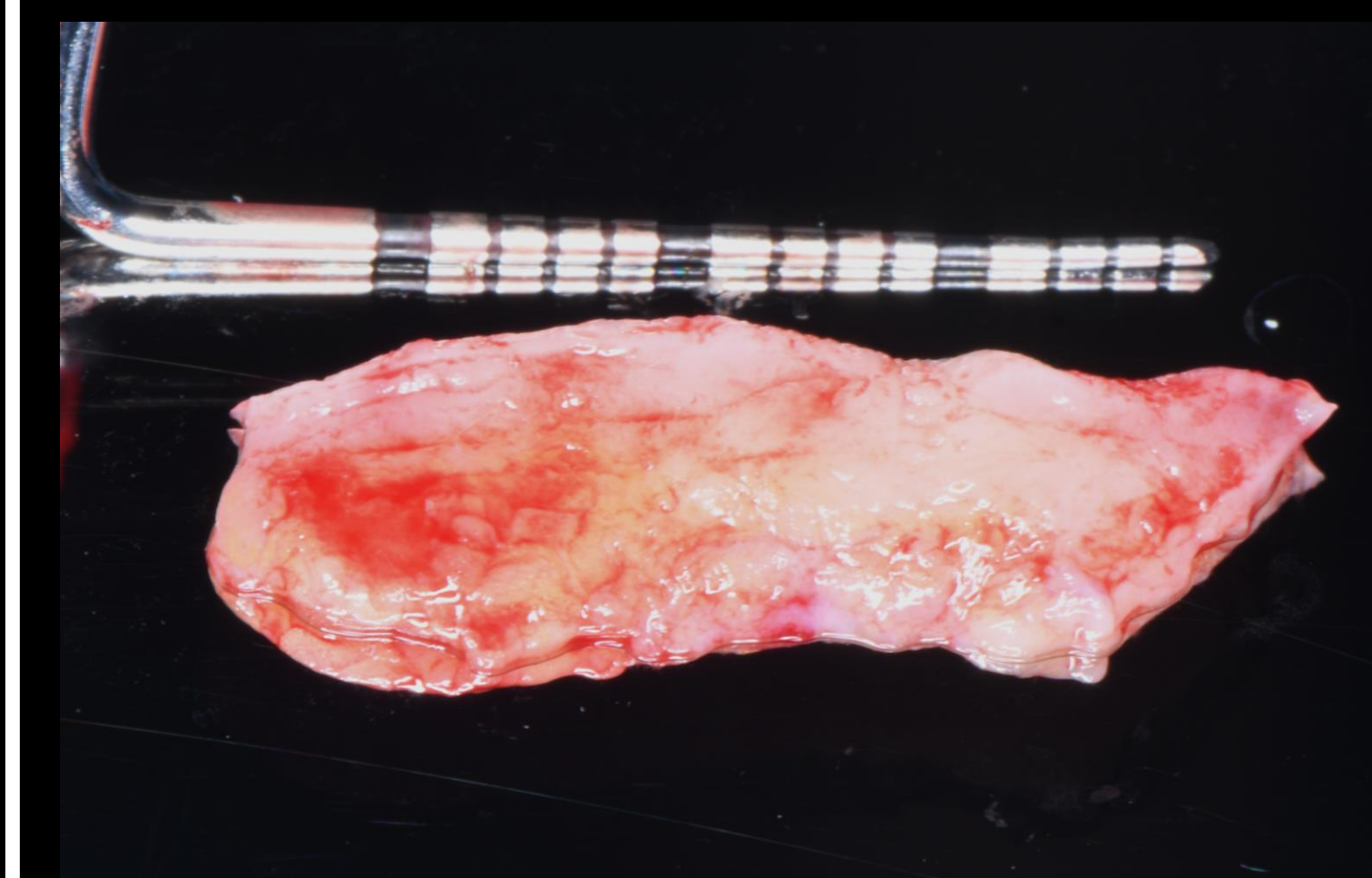
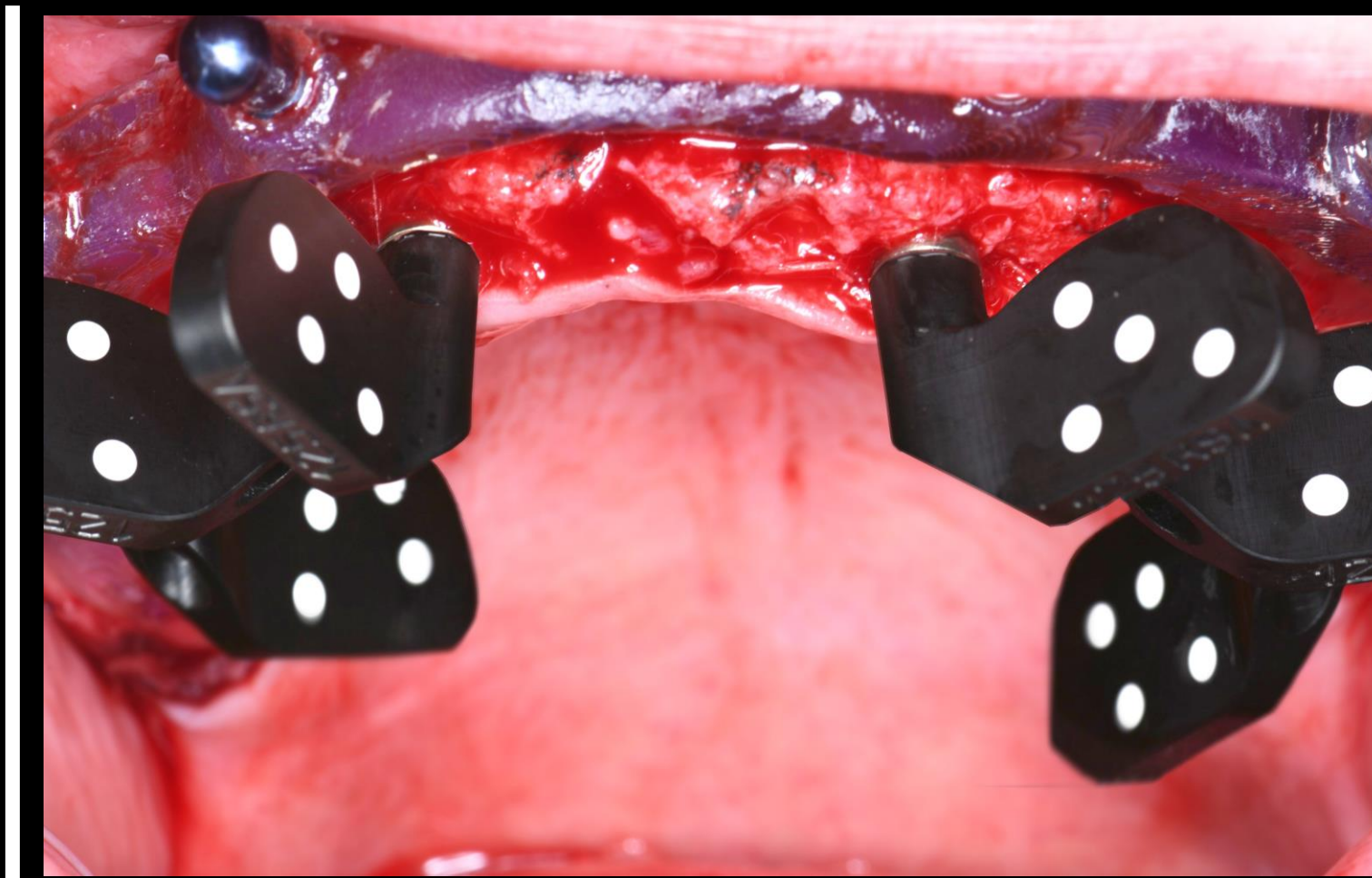
Planning



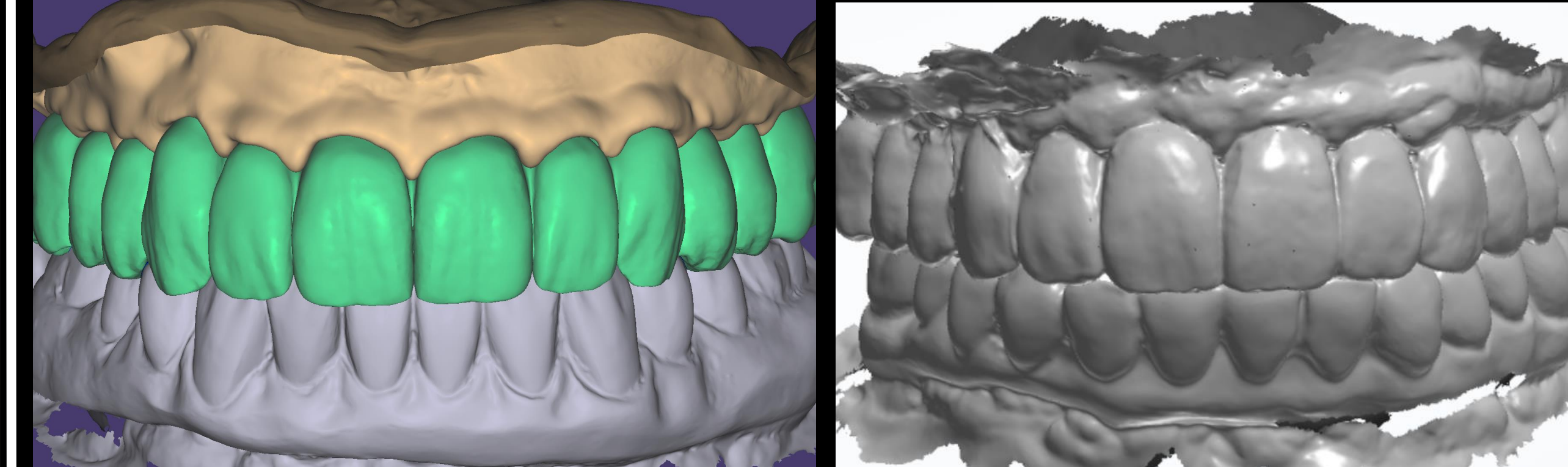
Implant Placement



Immediate Load



Follow Up



4 Weeks