

Full-Arch Rehabilitation with Custom Subperiosteal Implants in a Severely Atrophic Edentulous Patient: A Digital Immediate-Load Approach

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Abstract

- Custom-fabricated, patient-specific subperiosteal implants, combined with digital workflows and immediate loading, provide a reliable, life-changing option for patients with advanced ridge resorption and previous failed implant surgery.
- A prosthetically driven, interdisciplinary approach is essential to achieving success.

Initial Presentation

- A 67-year-old female presented with 15 years of edentulism and significant social anxiety.
- She also attributed nutritional deficiencies and GI issues to ill-fitting dentures.
- She had implants placed abroad, which at presentation were all failing clinically and radiographically and had extensive resorption.
- She showed severe ridge resorption and inadequate bone volume, ruling out conventional endosseous implant

Diagnostic Tools

- Initial diagnostics included:
- Comprehensive examination and medical history
 - Intra-oral scans and photographs
 - CBCT imaging
 - Mounted casts
 - Interim dentures fabricated digitally to guide implant design

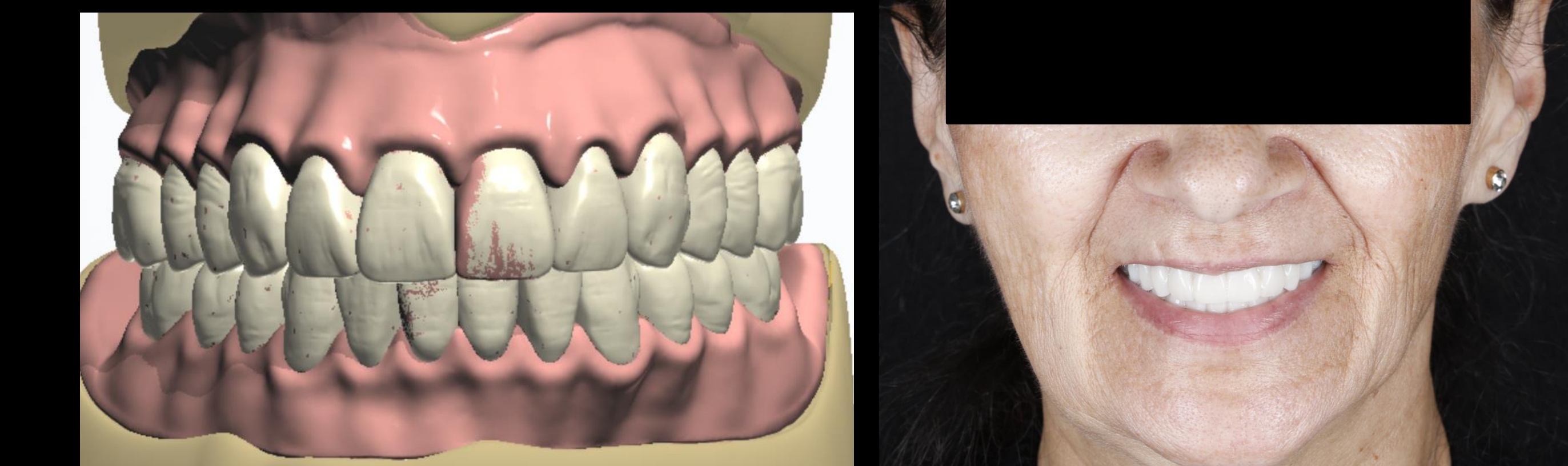
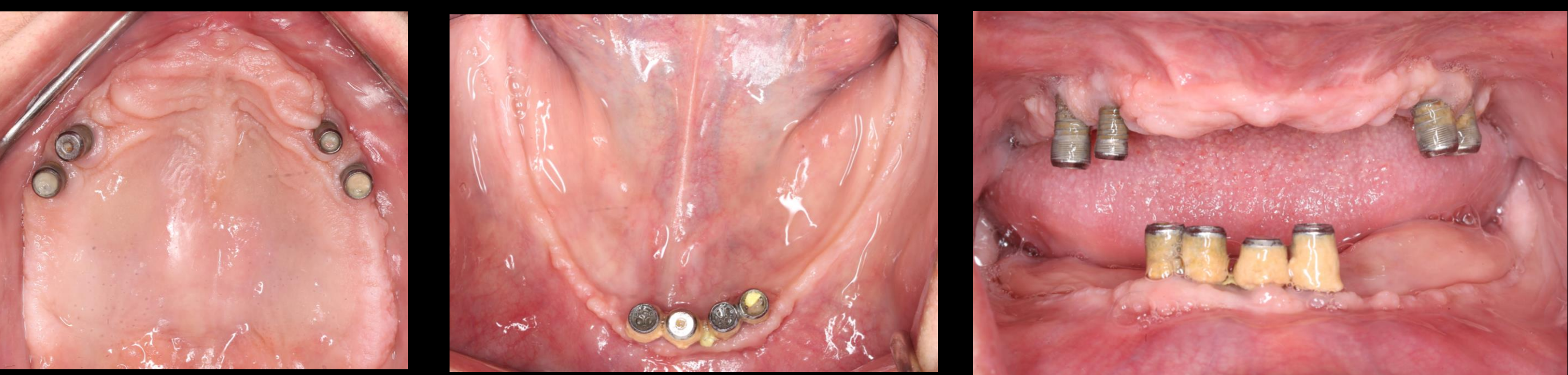
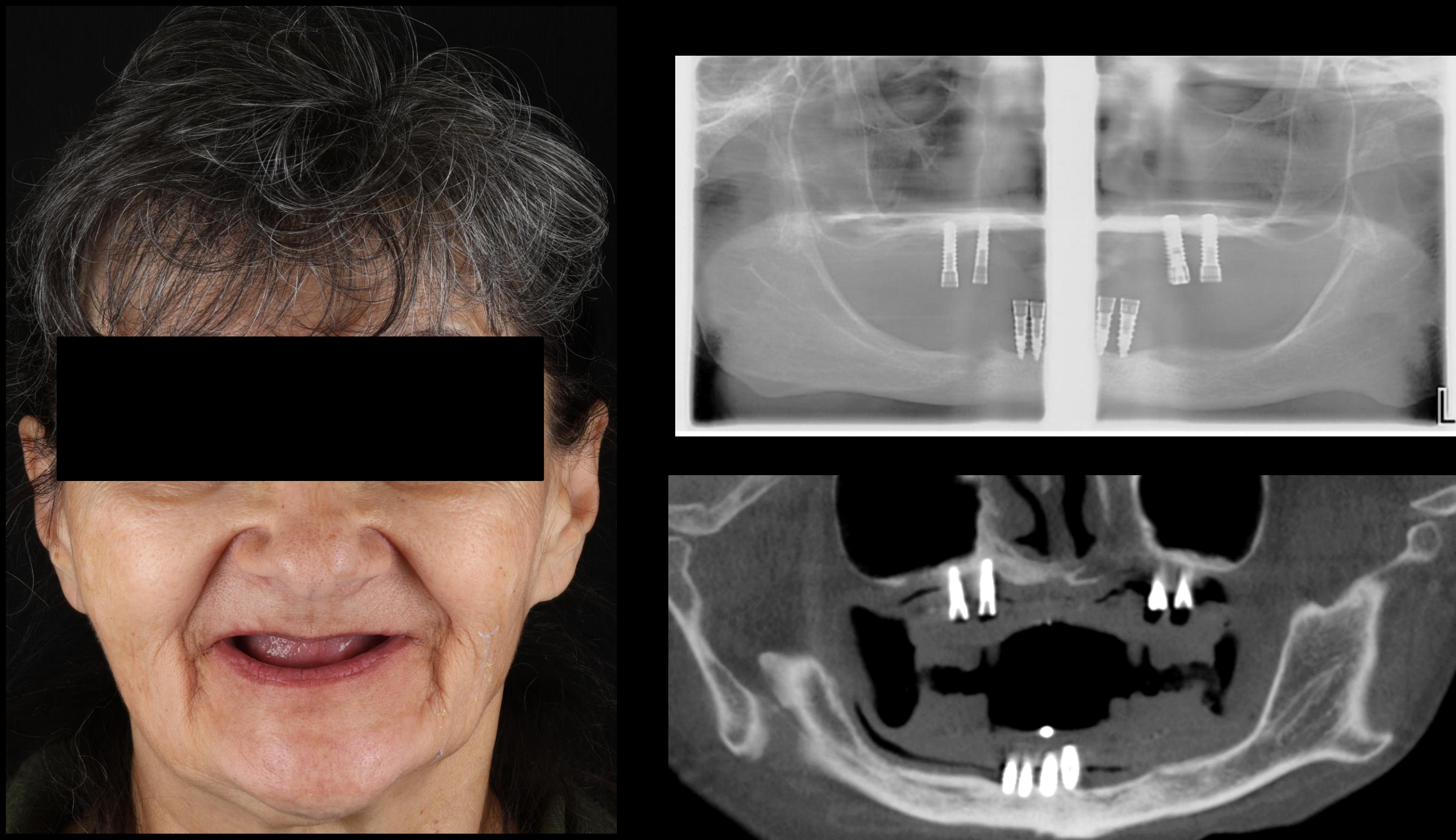
Treatment Plan

- 1) Explant remaining implants
- 2) Surgical placement of custom subperiosteal implants
- 3) Immediate load
- 4) Final restoration after three months of healing
- 5) Occlusal guard

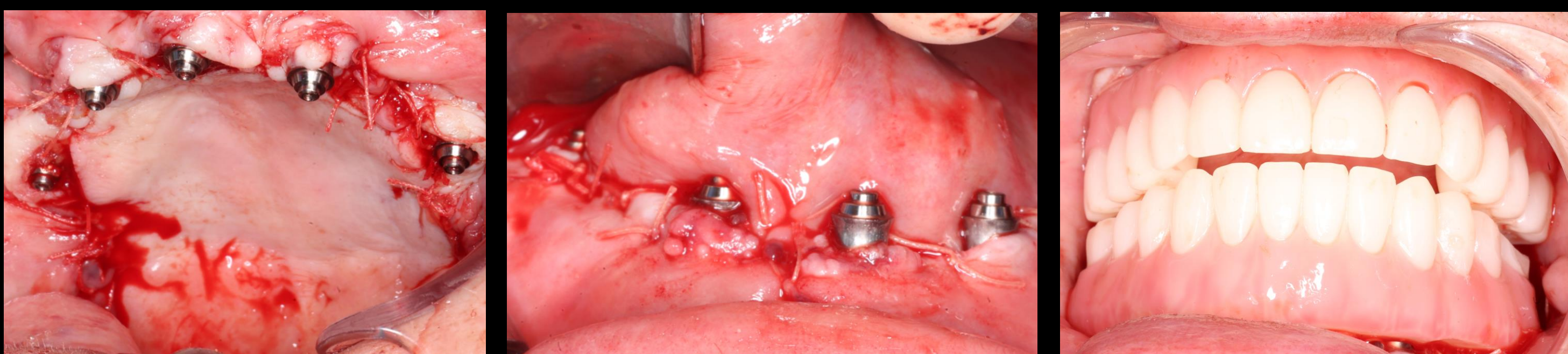
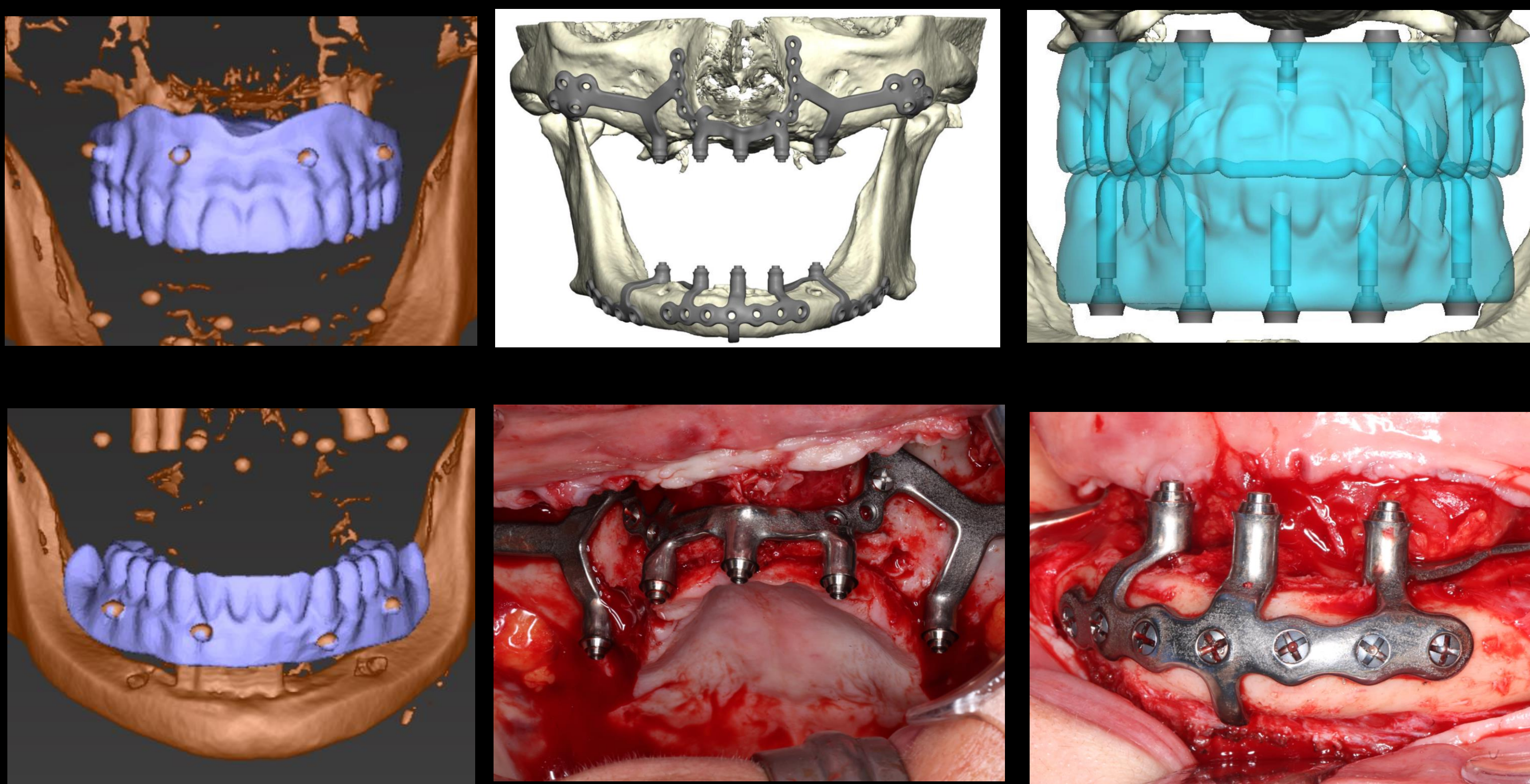
Benefits and Risks

Benefits	Risks
- Avoids extensive grafting - Immediate load potential - Fixed option in hopeless cases	- Soft tissue dehiscence - Implant failure

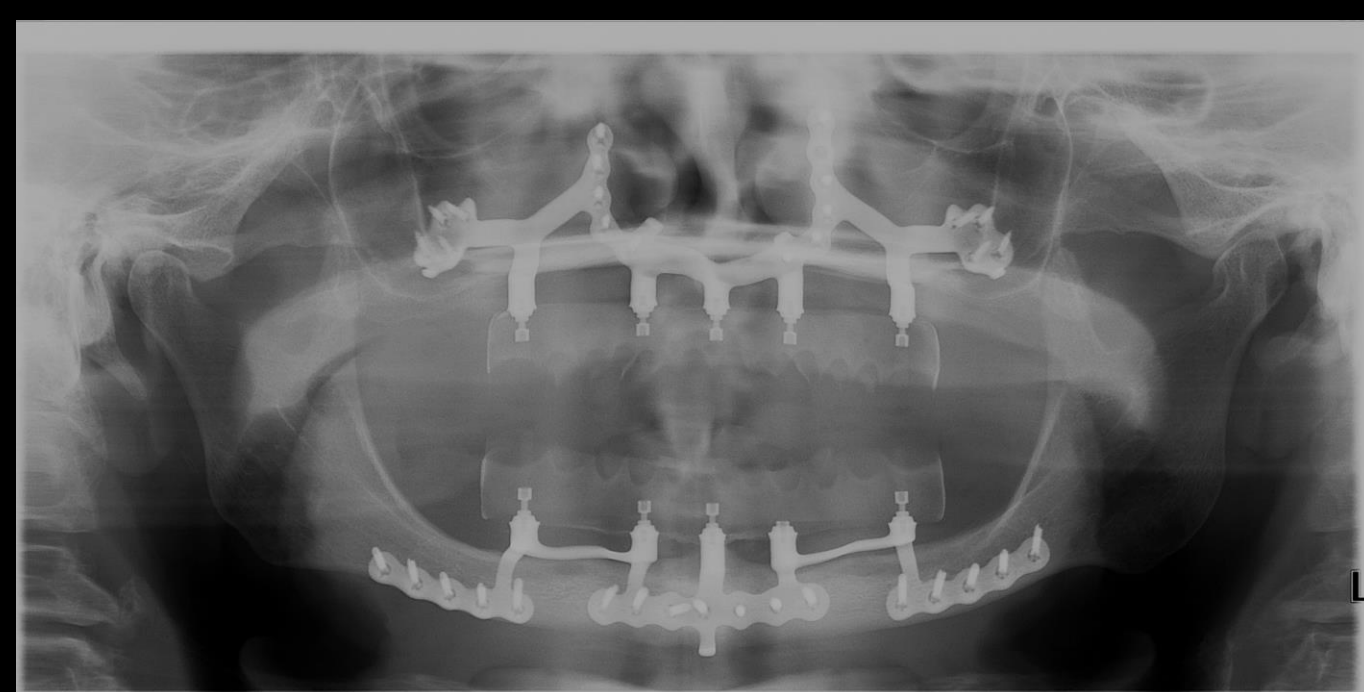
Diagnosis and Treatment Planning



Surgical Planning



Conversion Prosthesis



Digital Design and Prototypes

