



AESTHETIC RESTORATION

This report presents the complex aesthetic rehabilitation of a 42-year-old female patient, performed through an interdisciplinary protocol combining **orthodontics, Digital Smile Design, functional mock-up testing, minimally invasive preparations, and feldspathic ceramic restorations.**

The patient presented with a challenging initial condition: **severe dental crowding, edentulous spaces at 36 and 46, marked extrusion of tooth 16, mesial drifting of tooth 37,** compromised functional guidance, and an unsatisfactory smile.

Treatment included:

- **extraction of upper premolars** as part of the orthodontic plan,
- **fixed bimaxillary orthodontic therapy** with **two skeletal mini-implants** for anchorage,
- **implant-supported rehabilitation** of sites 36 and 46,
- **Digital Smile Design using SmileCloud**, followed by **digital wax-up** and **mock-up test drive**,
- **minimally invasive, mock-up-guided preparations**,
- **final feldspathic veneers on refractory dies**,
- **zirconia implant-supported crowns** on 36 and 46,
- subsequent replacement of the existing metal-ceramic crown on 2.6 with a zirconia crown for improved harmony.

At the **two-year follow-up**, the restorations remain stable, functional, and aesthetically integrated. The patient reports a significant improvement in self-confidence and quality of life.

Patient Information & Chief

Complaint

A 42-year-old female patient presented with the following concerns:

- severe crowding,
- unaesthetic smile,
- functional instability and compromised guidance patterns,
- emotional discomfort related to smiling.

Her goal was to obtain a natural, harmonious smile supported by a stable and healthy functional foundation.

Initial extraoral and intraoral
situation.

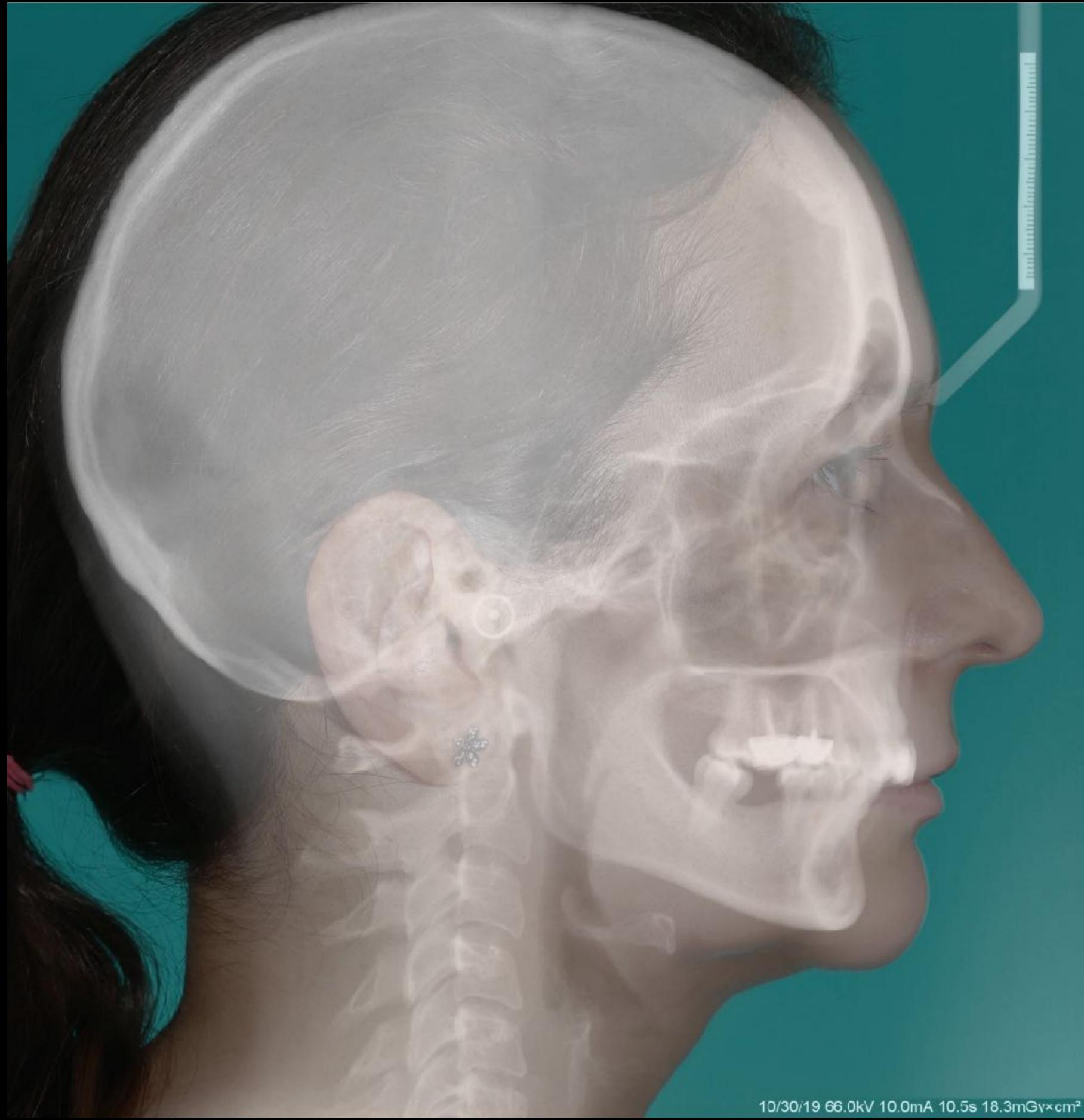












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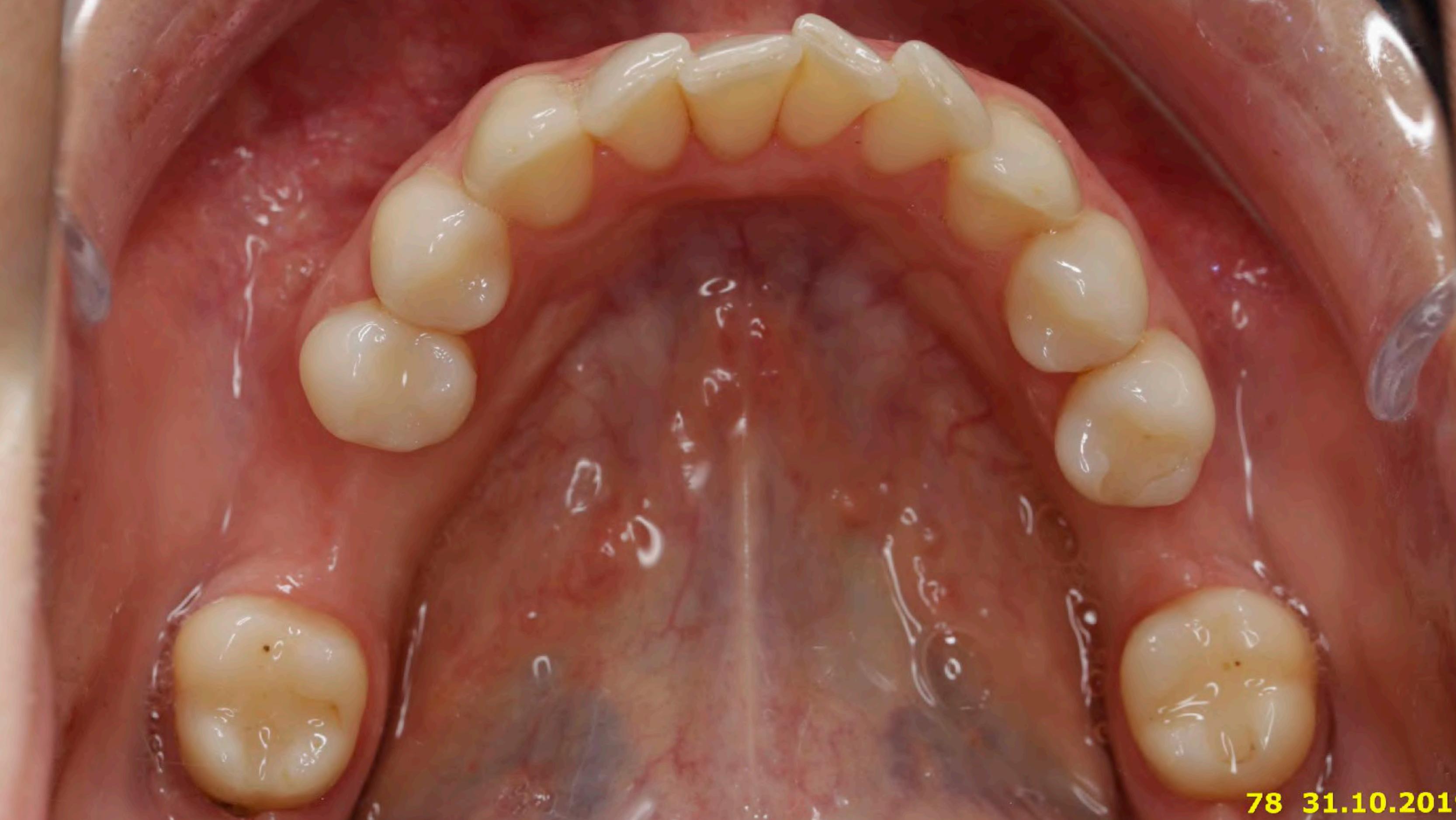




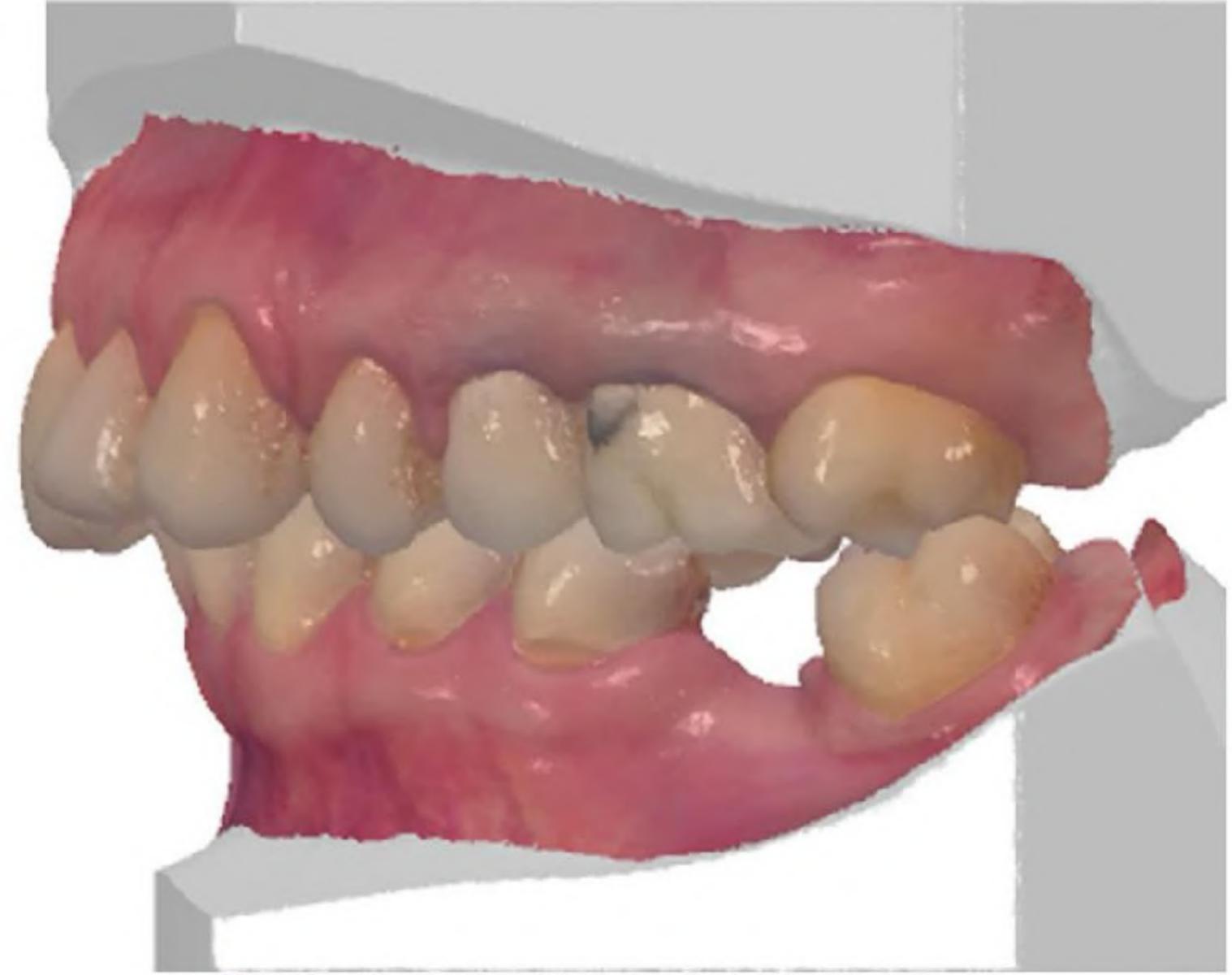




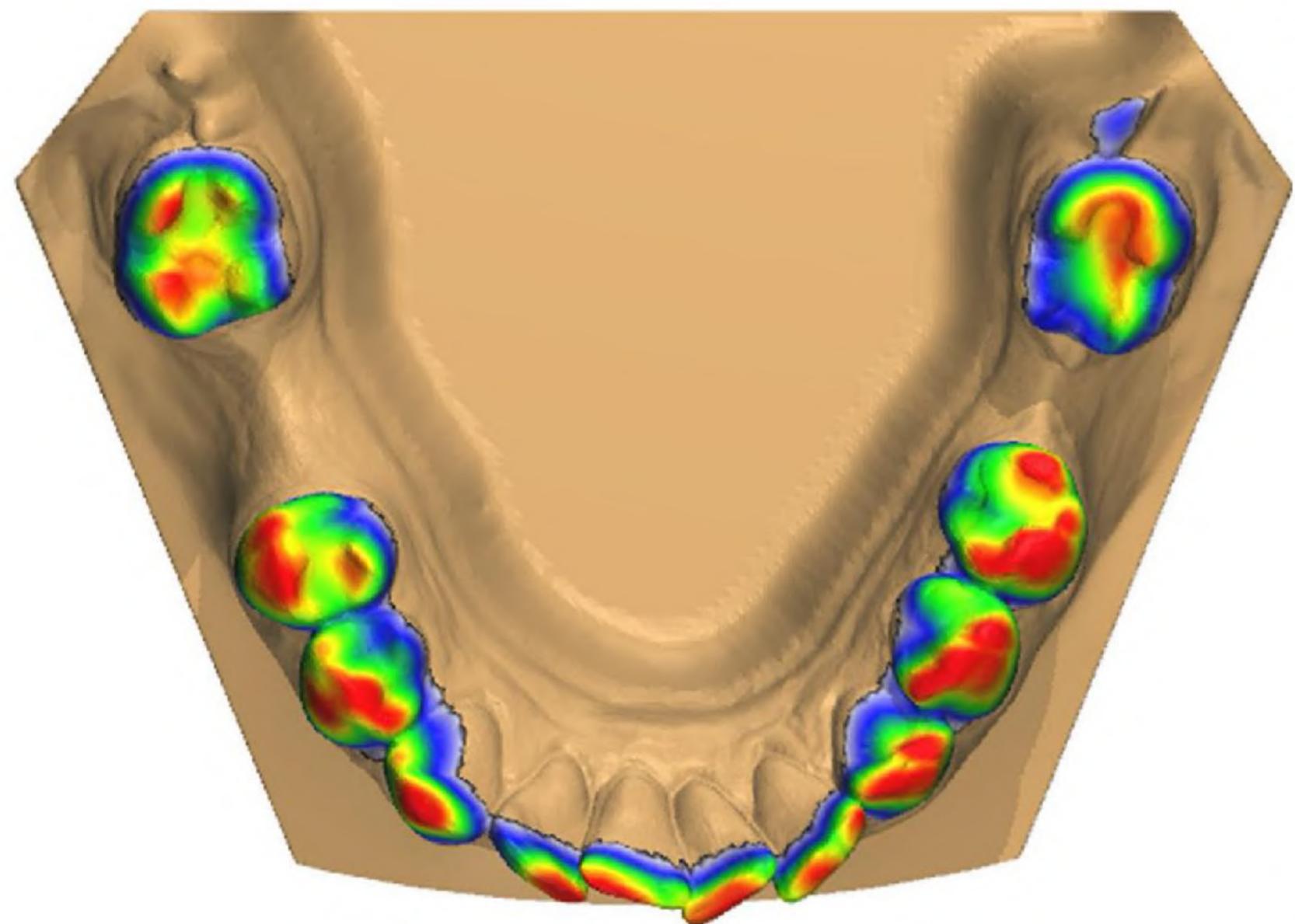
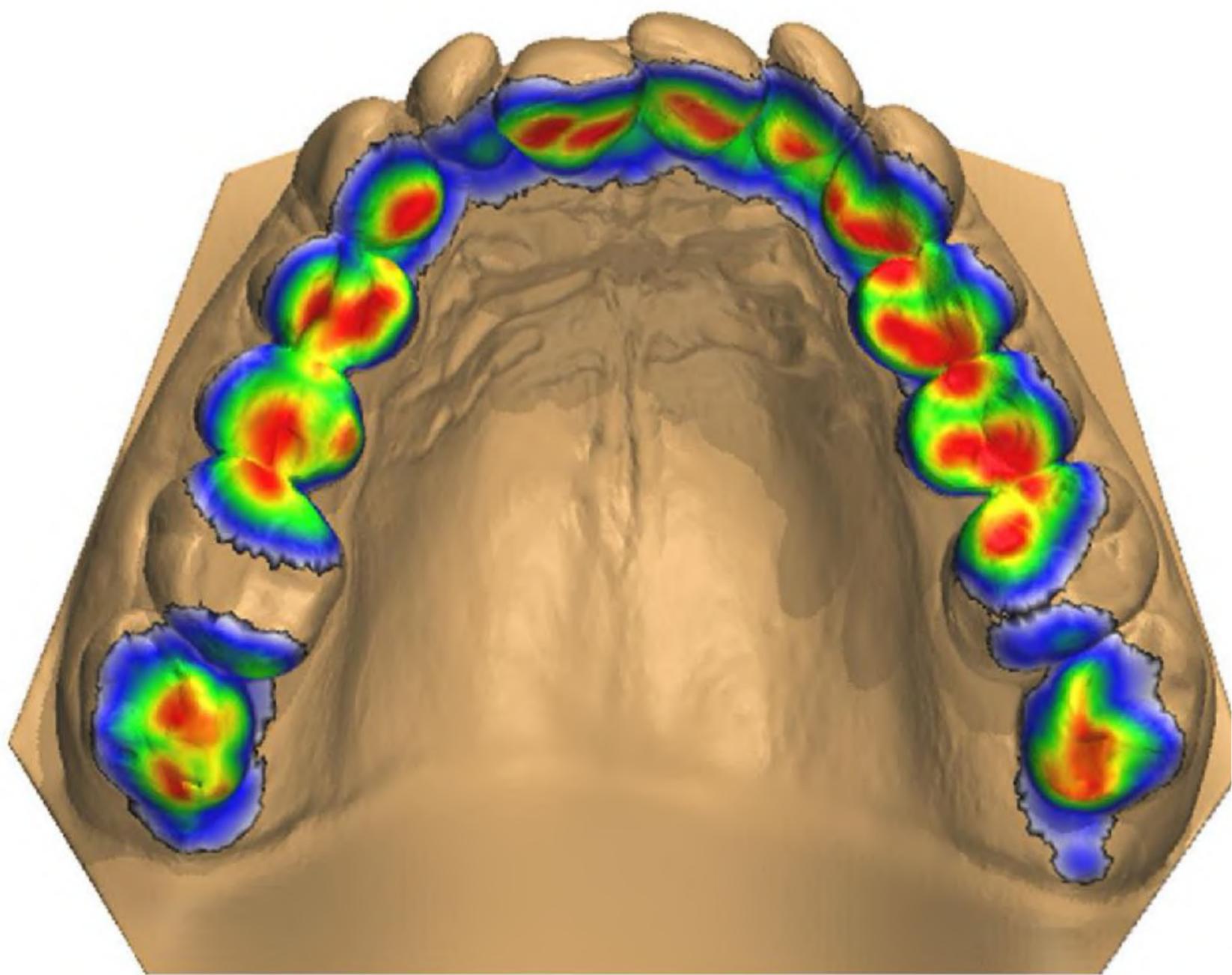












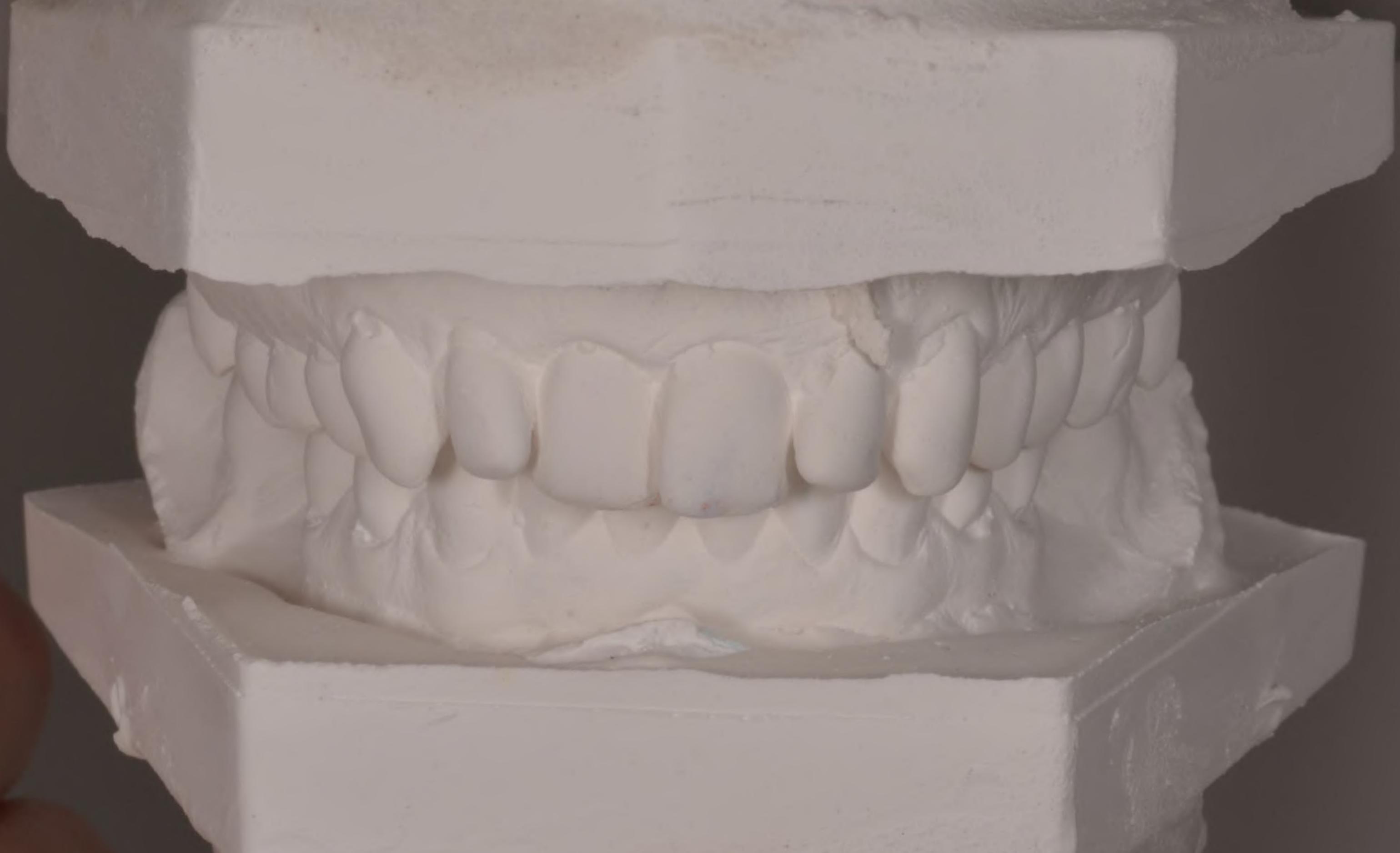
Initial Diagnosis

Initial documentation included:

- standardized extra- and intraoral DSLR photography,
- digital scans of both arches,
- traditional impressions and **articulator mounting**,
- functional guidance evaluation,
- occlusal analysis.

Primary findings:

- **severe crowding** in both arches,
- **edentulous spaces at 36 and 46,**
- **pronounced extrusion of tooth 16,**
- **mesial migration and tilting of tooth 37,**
- anterior spacing post-orthodontics,
- moderate abrasion,
- altered guidance patterns and parafunctions,
- major negative esthetic impact.







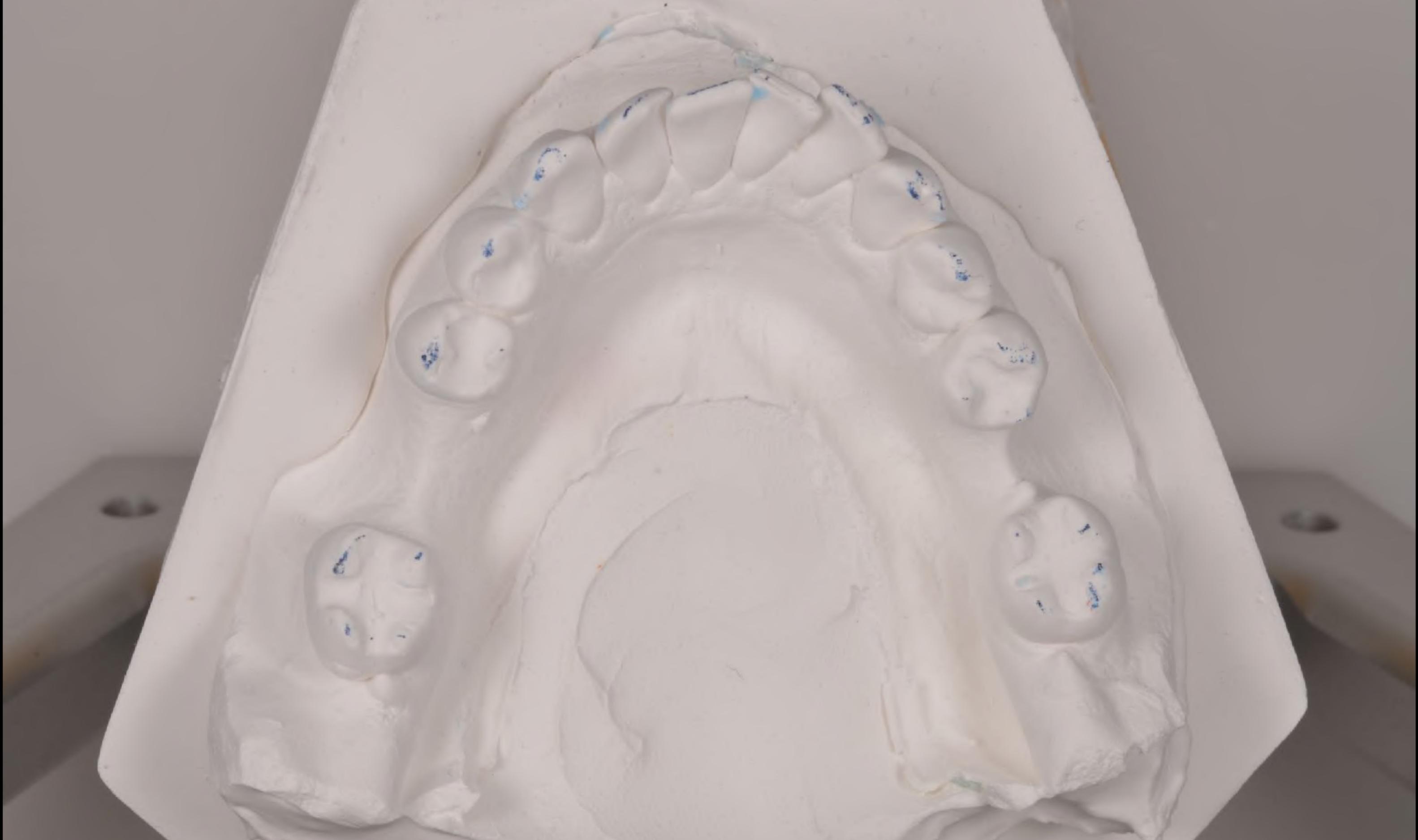












Treatment Plan

The interdisciplinary plan targeted:

1. Orthodontic correction and arch coordination.
2. Rehabilitation of posterior edentulous sites with implants.
3. Redesign of smile architecture using Digital Smile Design.
4. Functional and esthetic validation through a mock-up test drive.
5. Minimally invasive, mock-up-guided preparations.
6. All-ceramic, highly esthetic restorative solutions.
7. Long-term stability and functional balance.

Orthodontic Phase – Extractions, Mini-Implants, and Fixed Bimaxillary Appliance

The following were performed:

- **extraction of upper premolars** to allow proper alignment and space control,
- insertion of **two skeletal mini-implants** for controlled anchorage during orthodontic movement,
- placement of a **fixed bimaxillary metal orthodontic appliance**.

Objectives:

- achieve Class I molar and canine relationships,
- correct tilting, extrusion, and crowding,
- prepare the arches for the aesthetic restorative phase.

After orthodontic treatment, the posterior occlusion was stable, with **intentional anterior spaces** ideal for digital smile redesign.

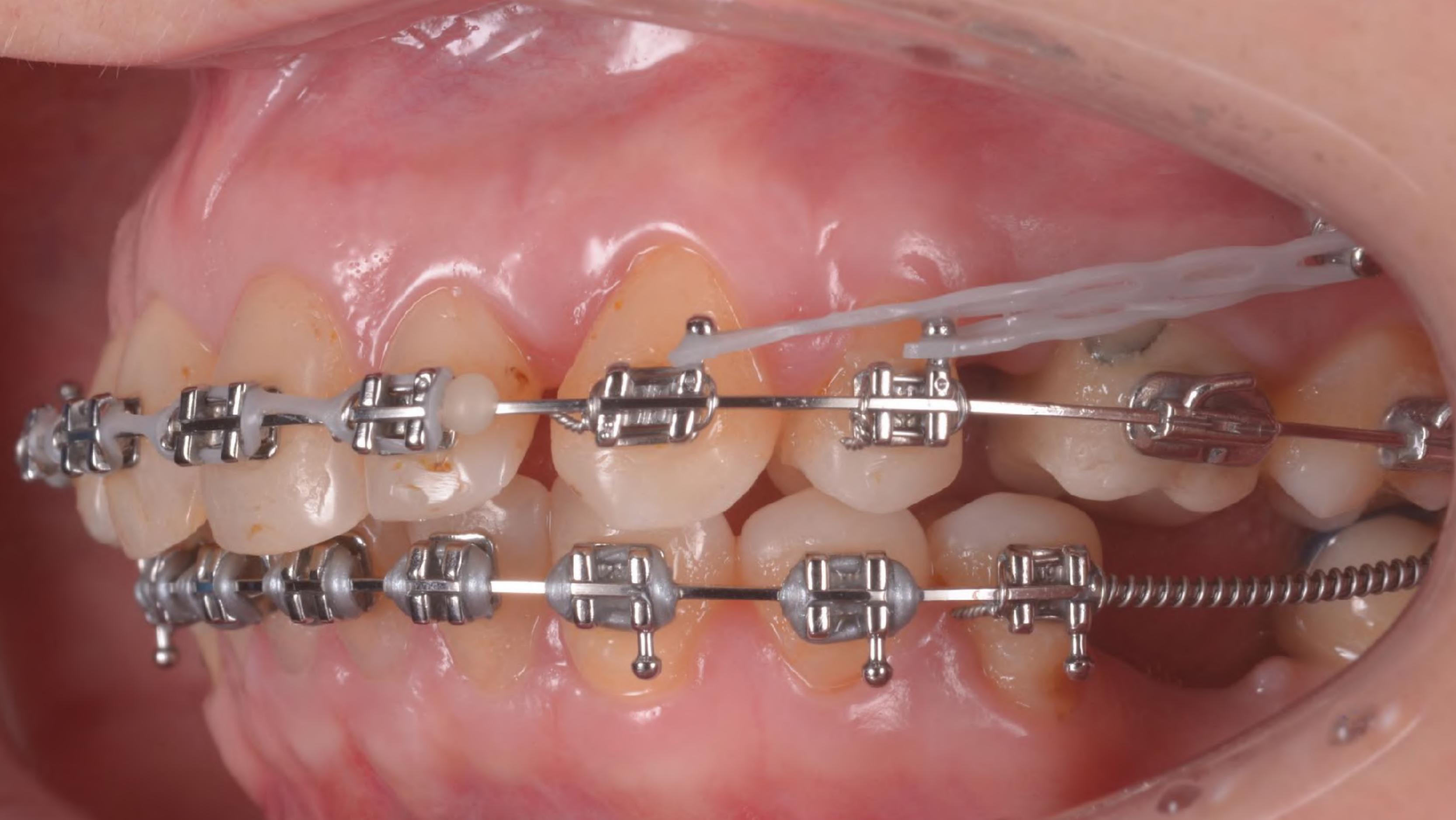
Orthodontic phase –
progressive alignment of
both arches using a fixed
bimaxillary appliance.

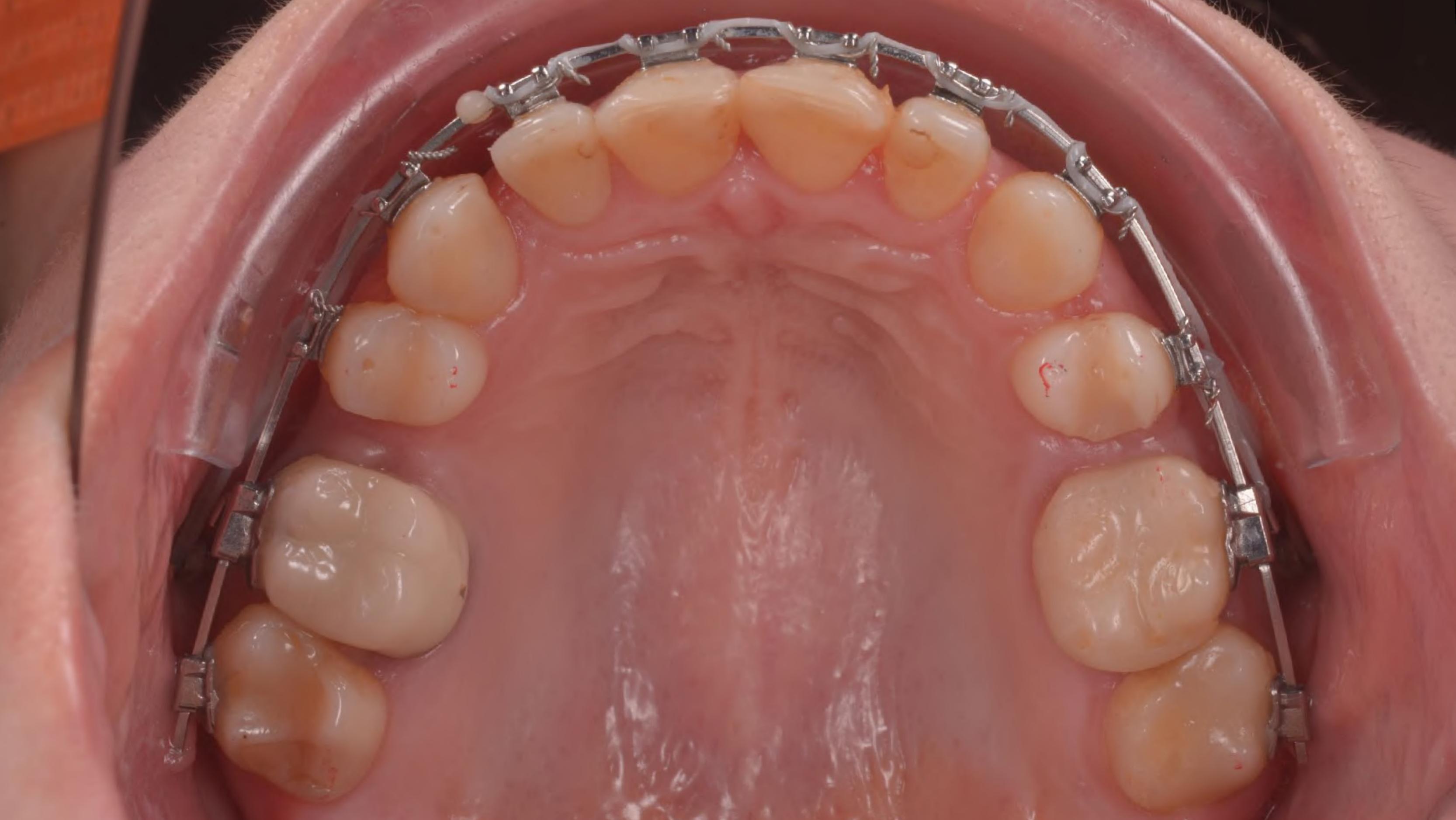














Orthodontic phase –
progressive alignment of
both arches using a fixed
bimaxillary appliance.



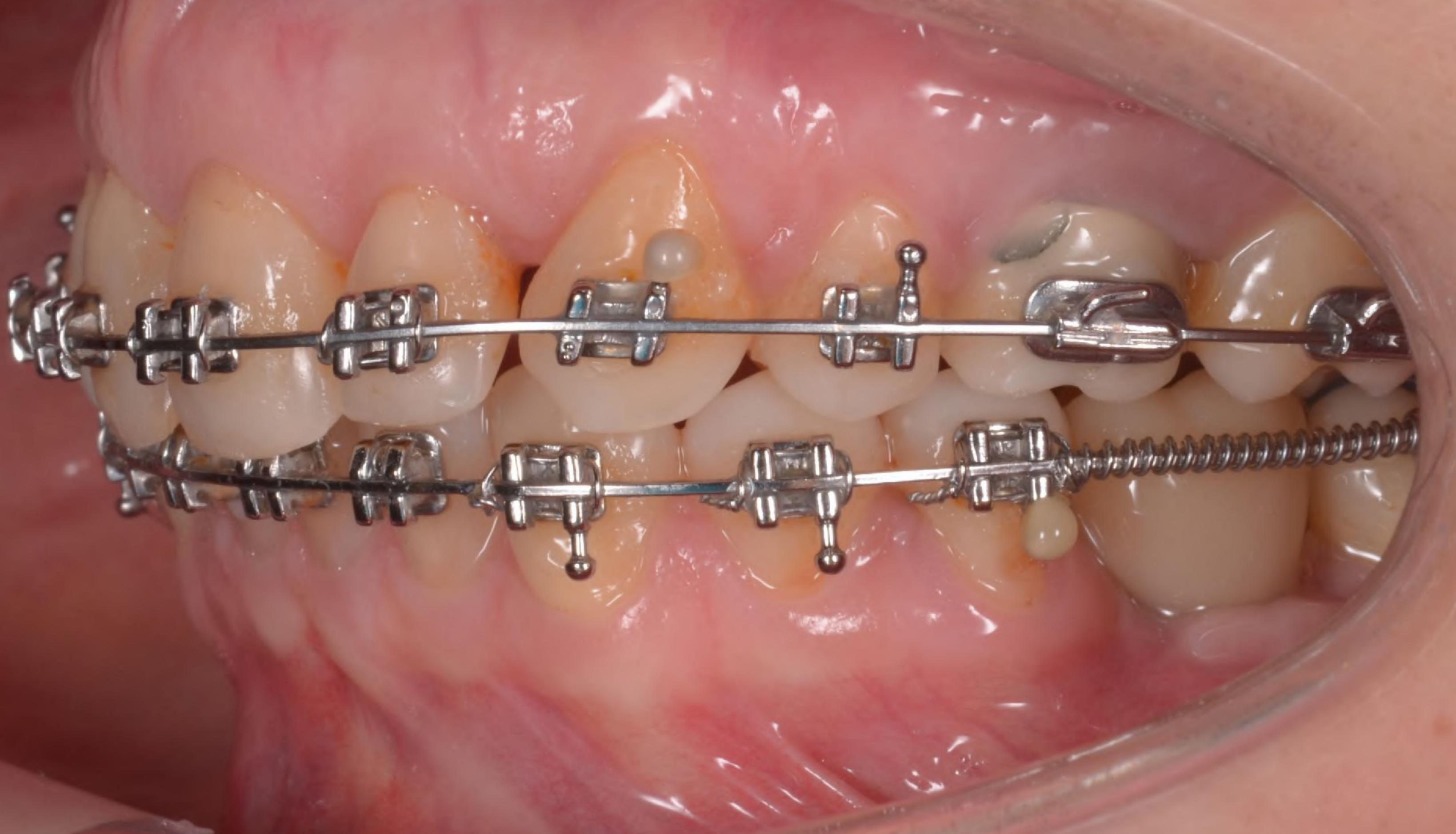














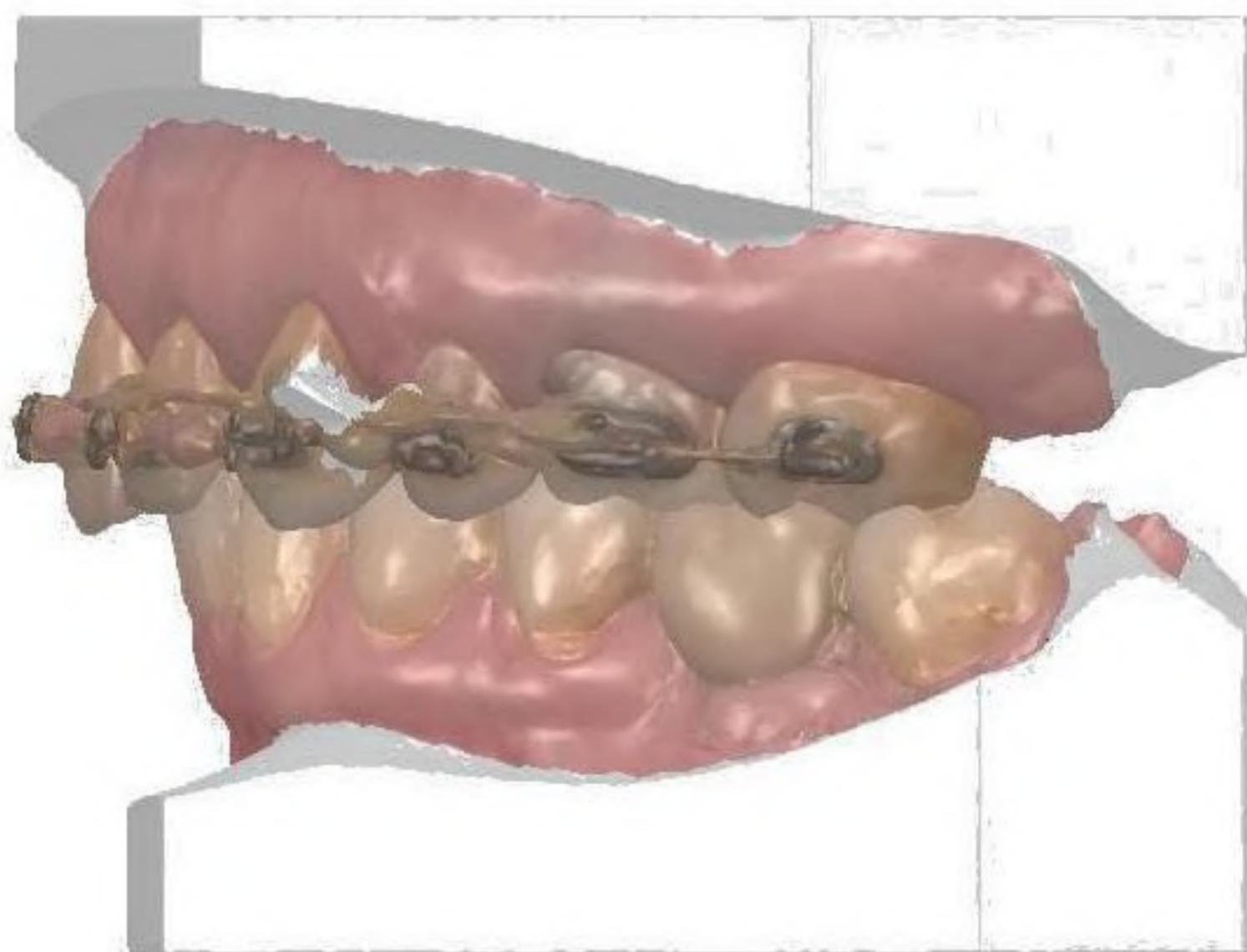
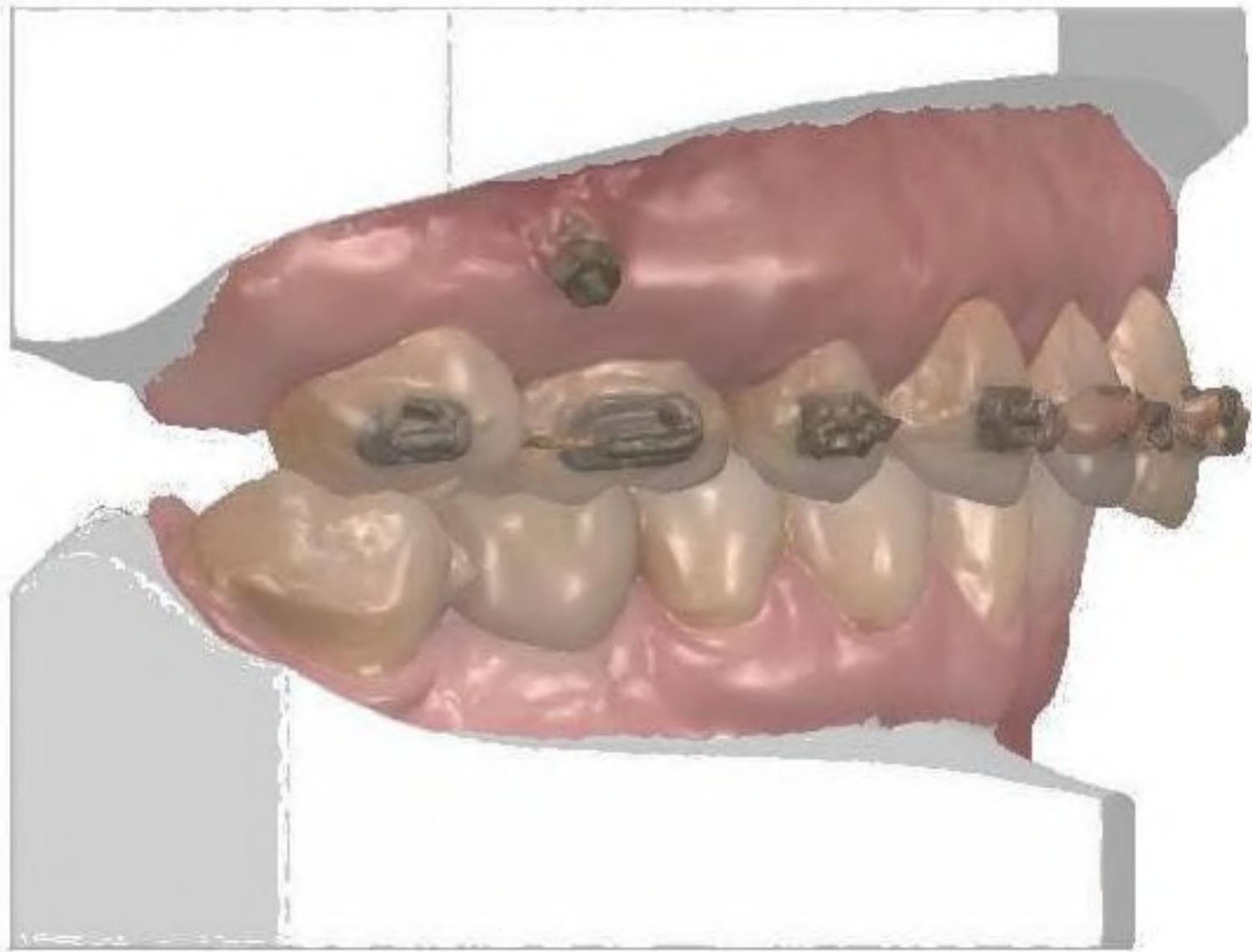
Implant Rehabilitation – Sites 36 and 46

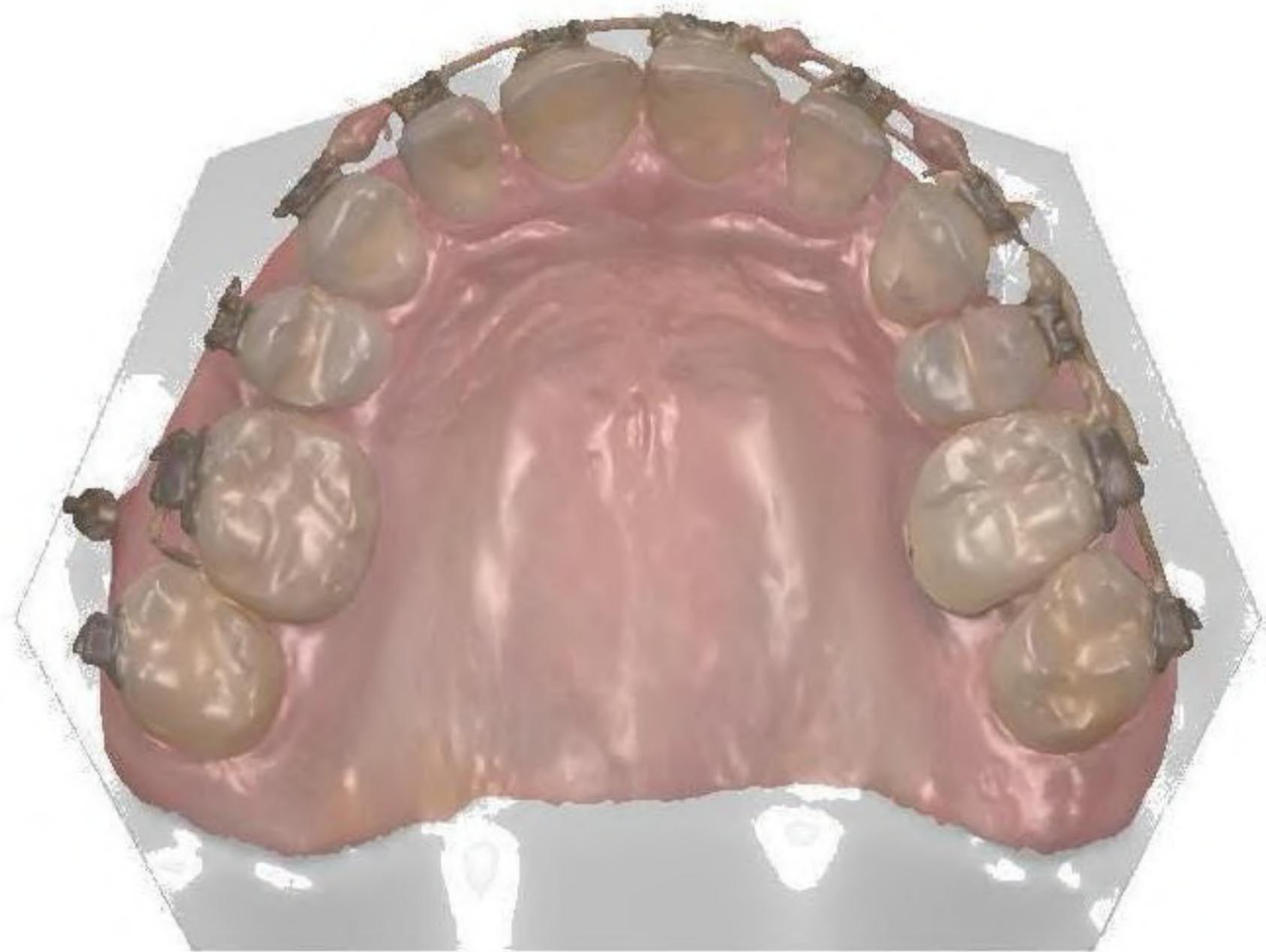
Due to old edentulous spaces, **two dental implants** were placed in sites 36 and 46.

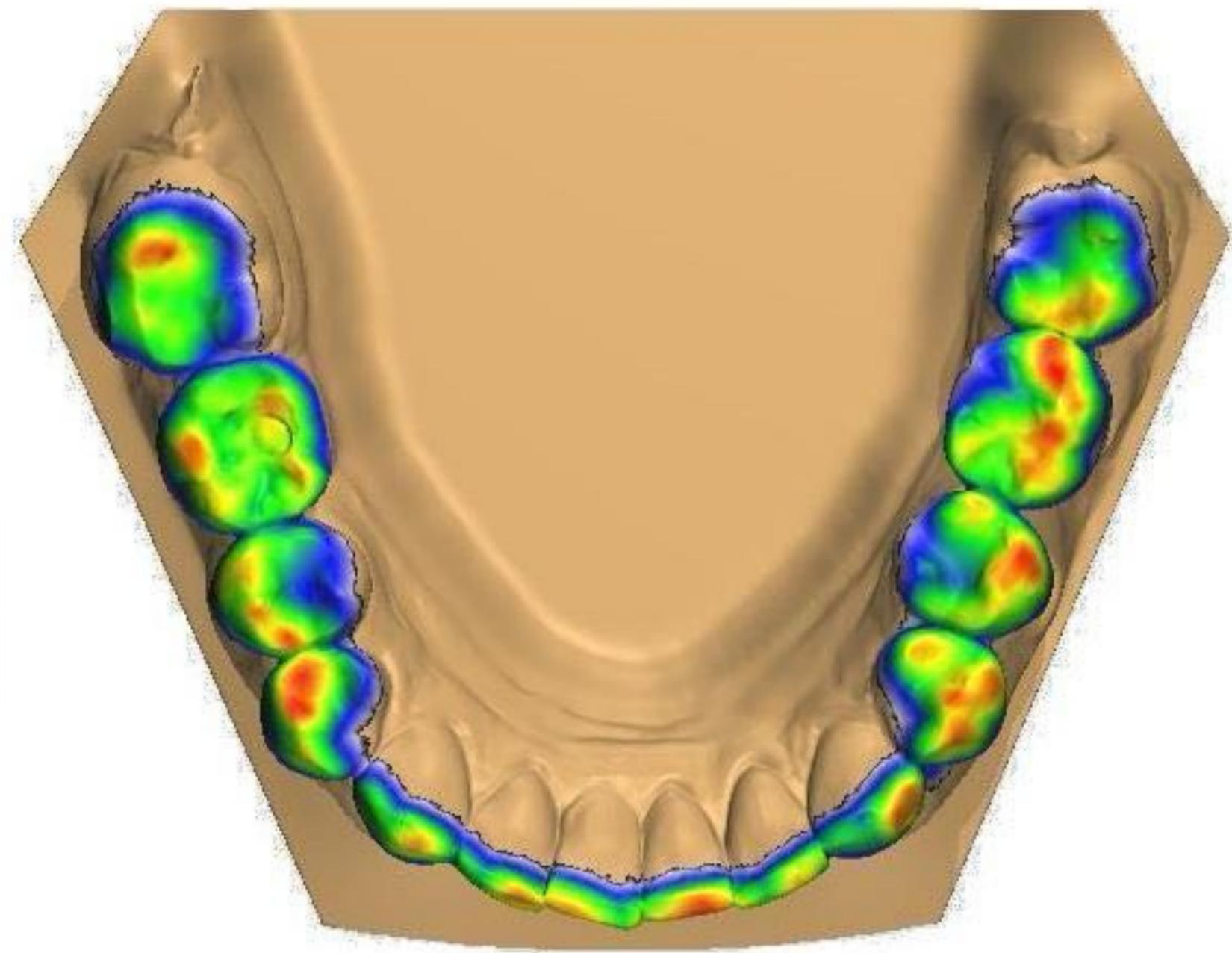
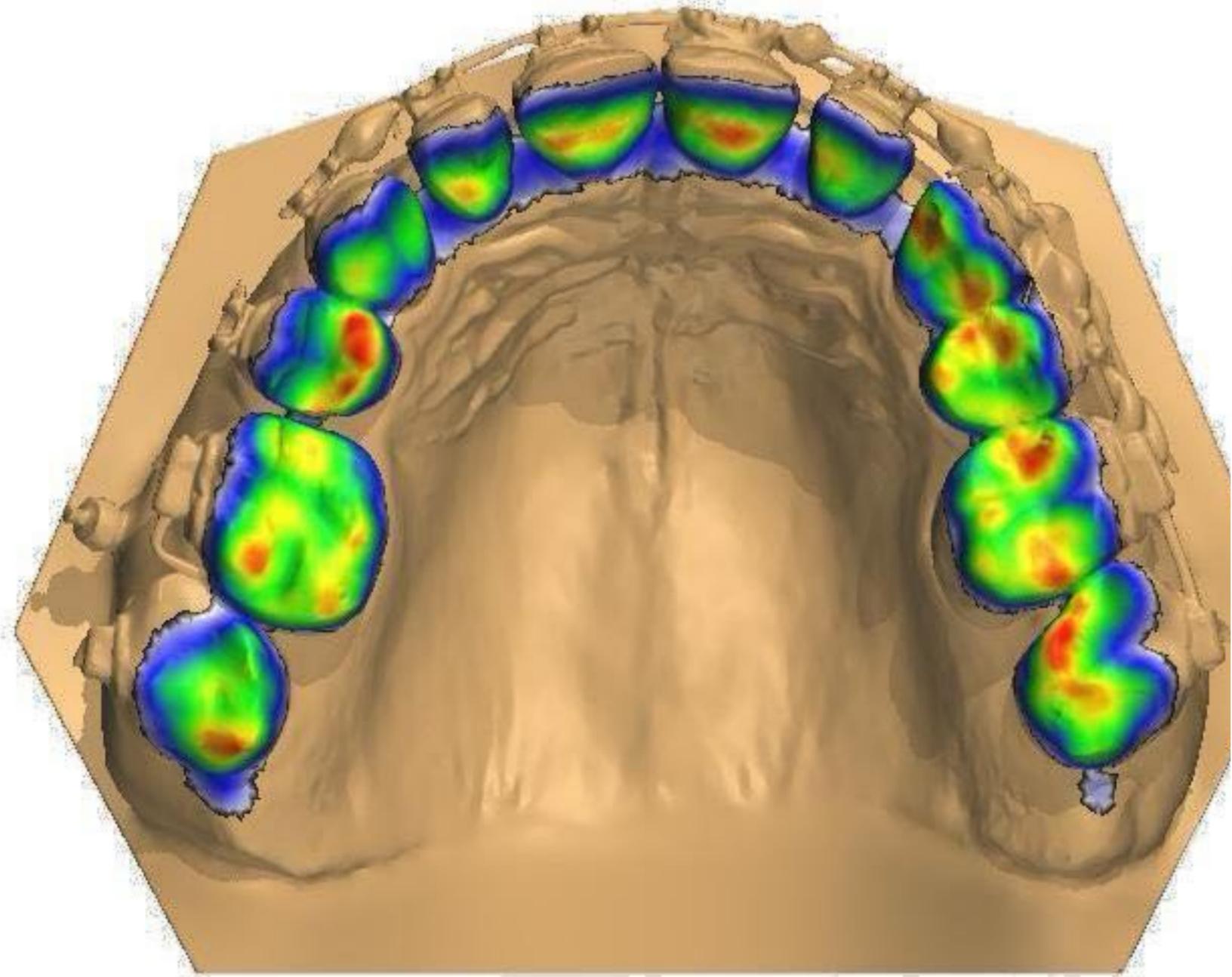
After prosthetic healing, **zirconia screw-retained crowns** were fabricated and integrated, ensuring functional symmetry and stability.











Post-orthodontic extraoral
and intraoral situation.

























Digital Smile Design + Aesthetic and Functional Analysis

Using standardized photography and scans, a **Digital Smile Design (DSD)** in **SmileCloud** was created and a **digital wax-up** was produced.

The mock-up was transferred intraorally using **spot-bonding**, allowing full evaluation of:

- esthetics,
- phonetics,
- functional parameters (guidance, contacts, dynamic occlusion).

Mock-up validation confirmed the feasibility of the planned design and guided the minimally invasive preparations.

Functional and aesthetic













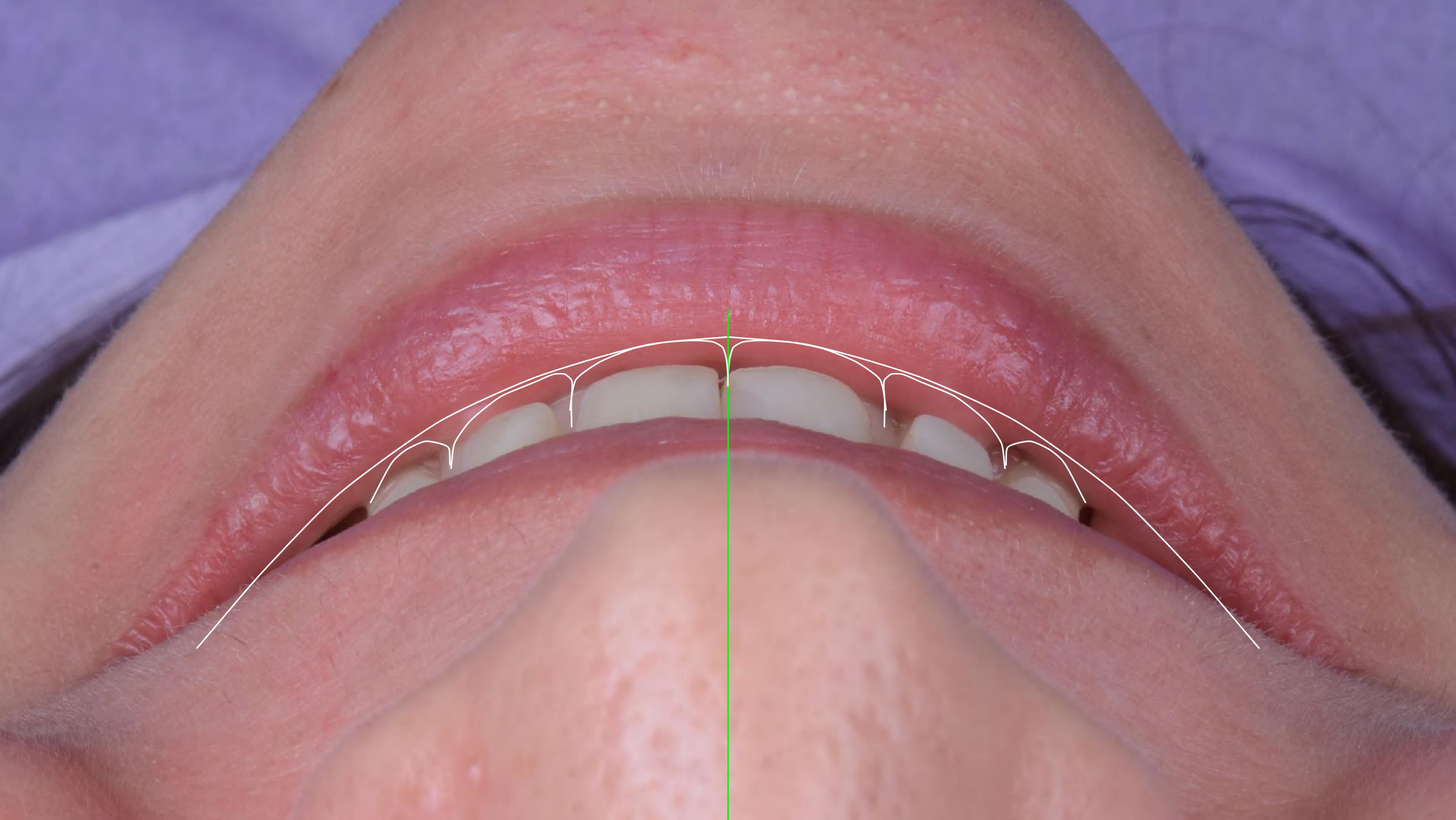




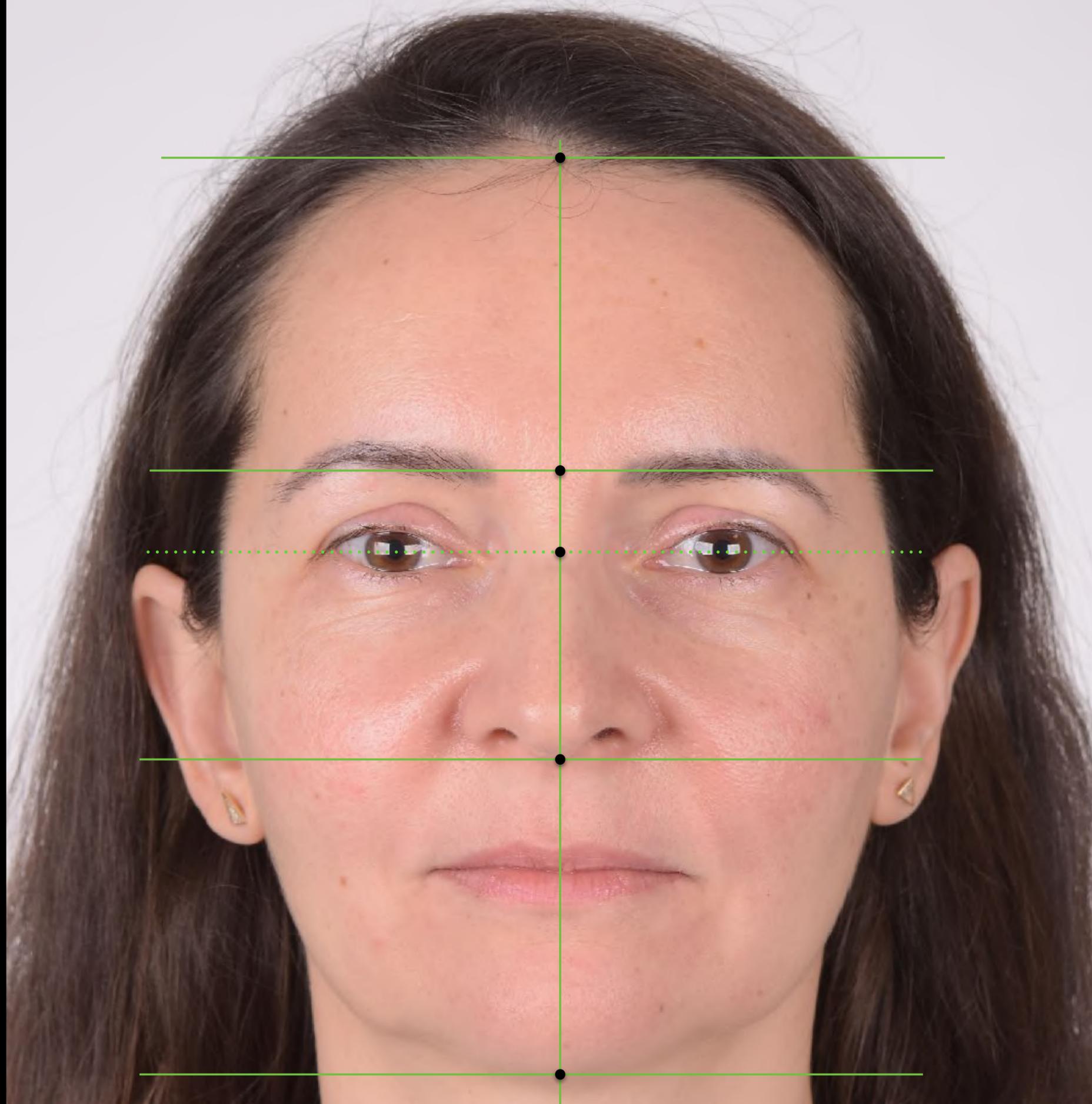


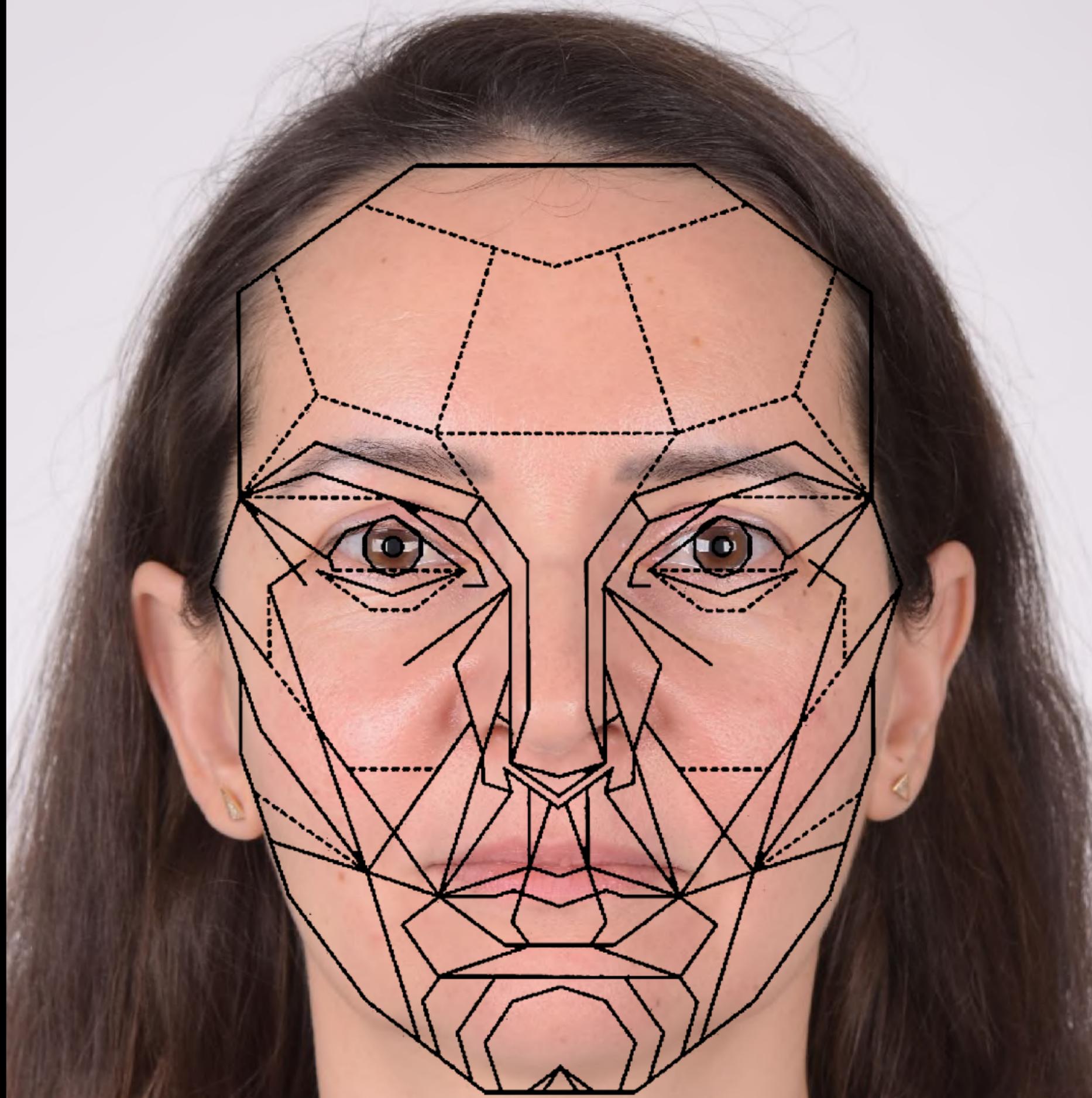






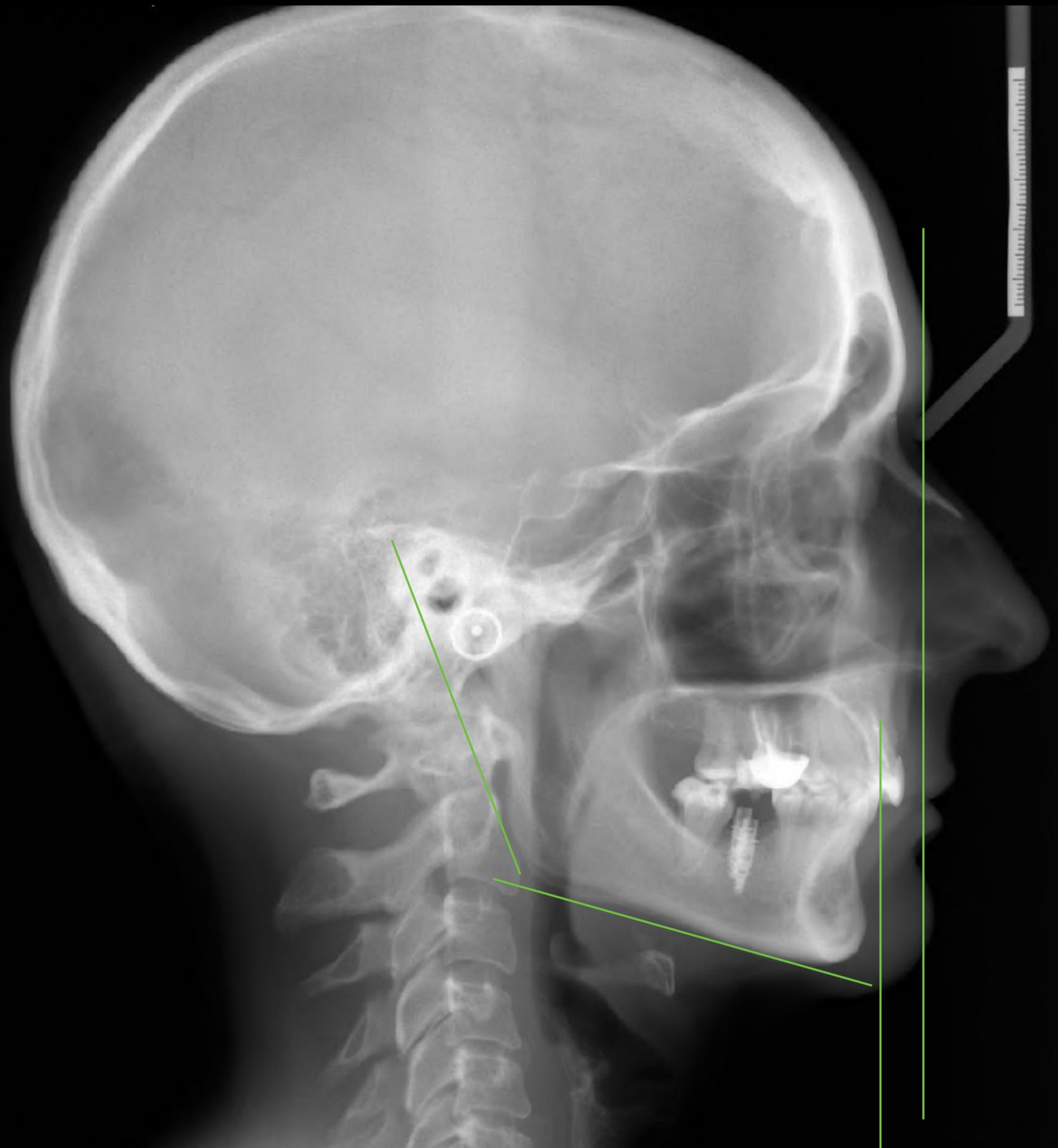


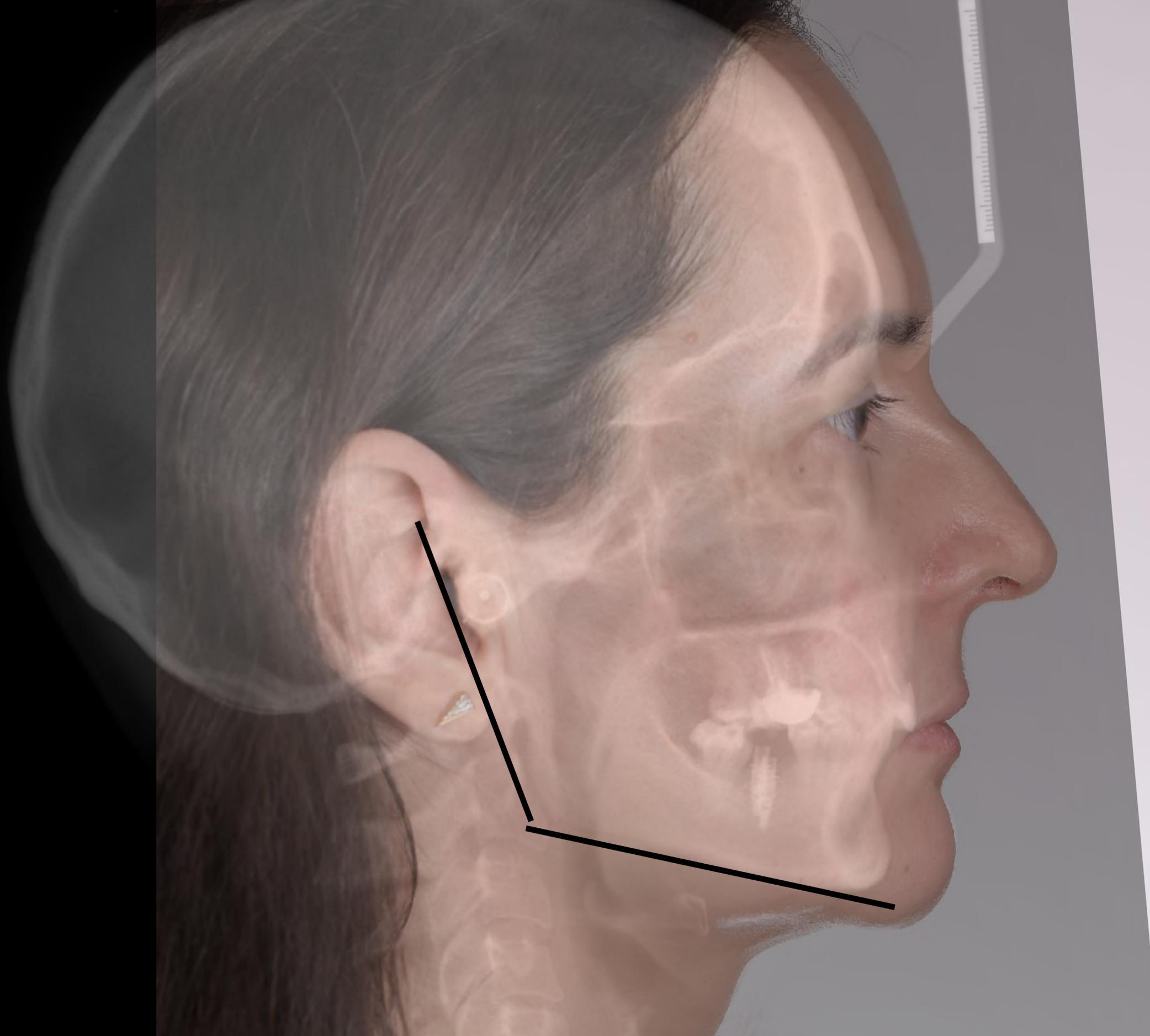






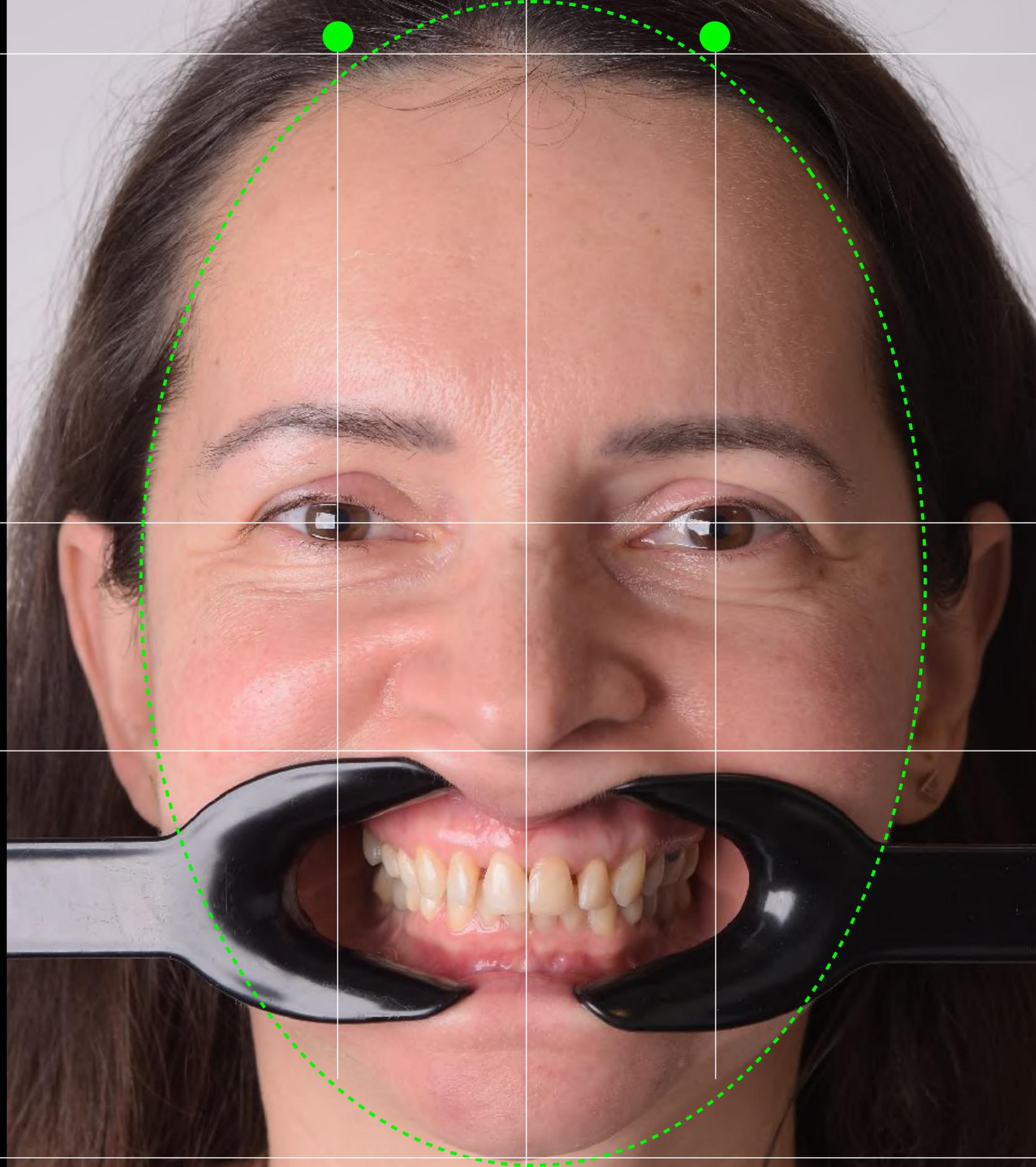


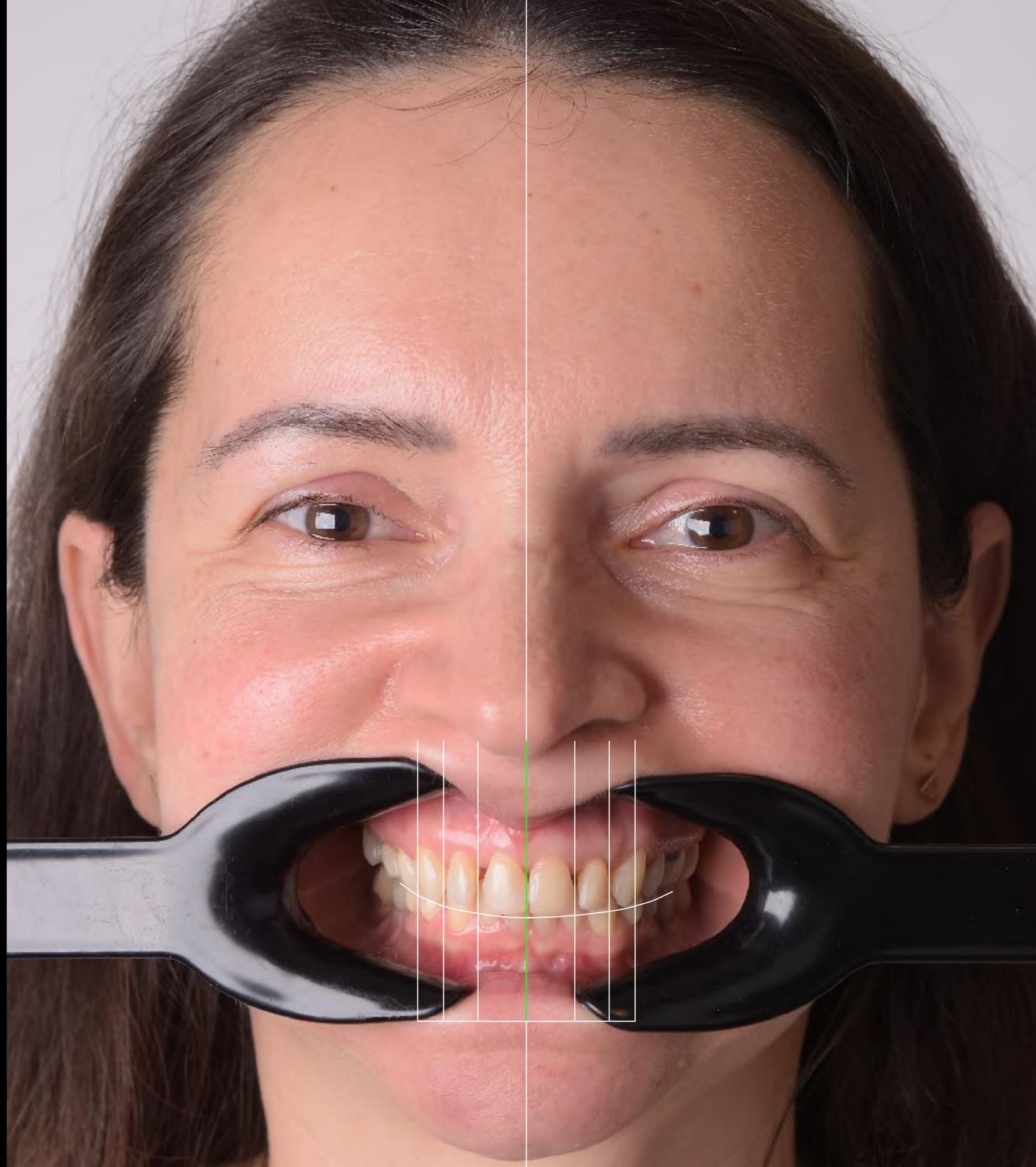
































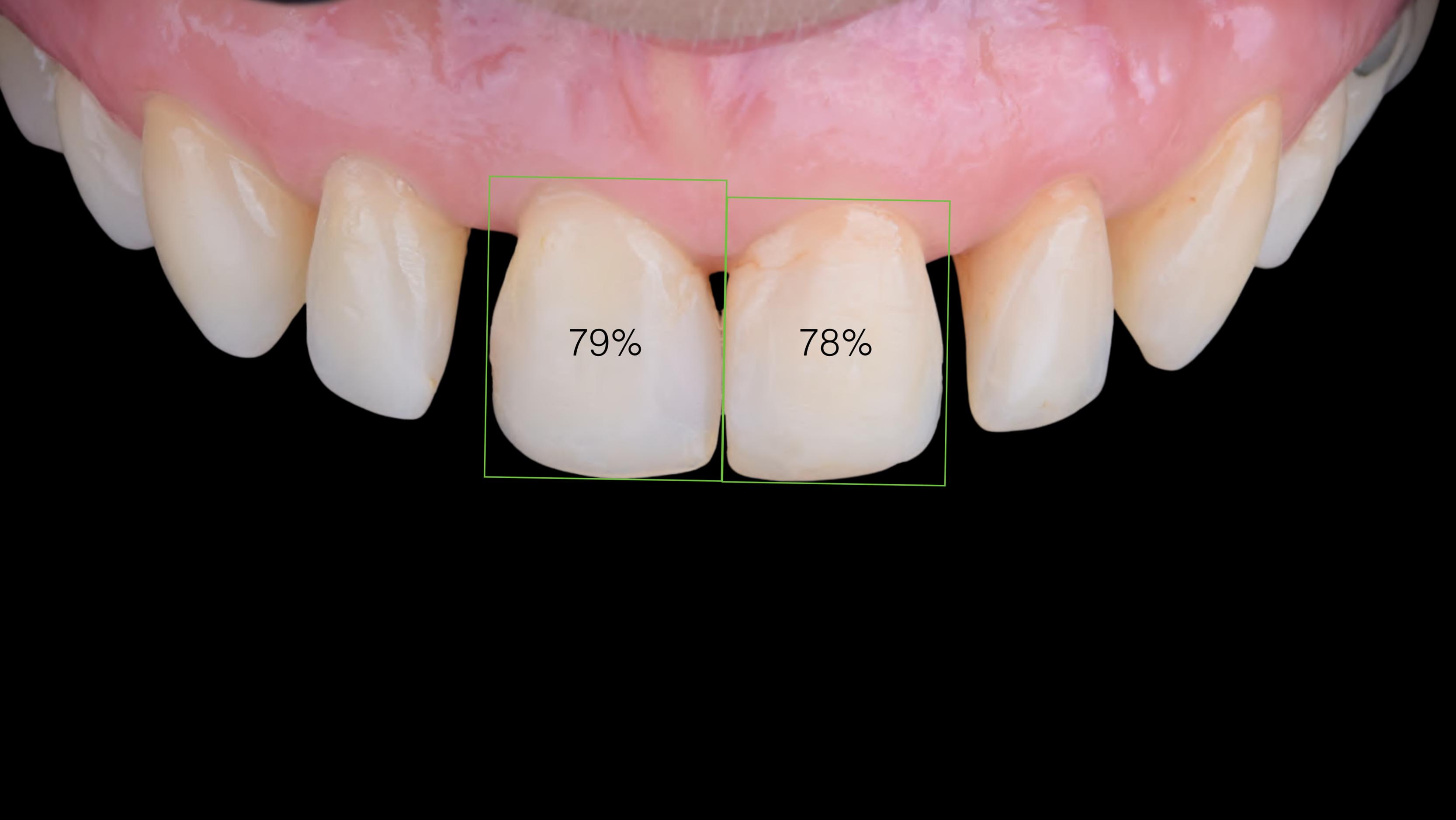






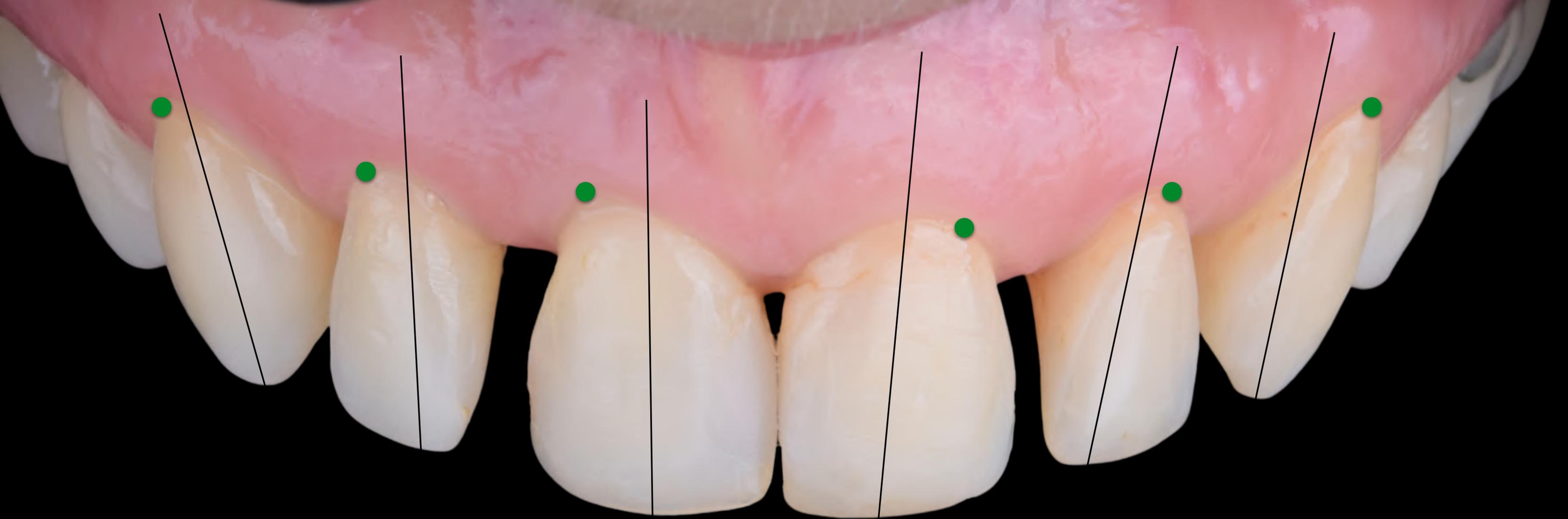


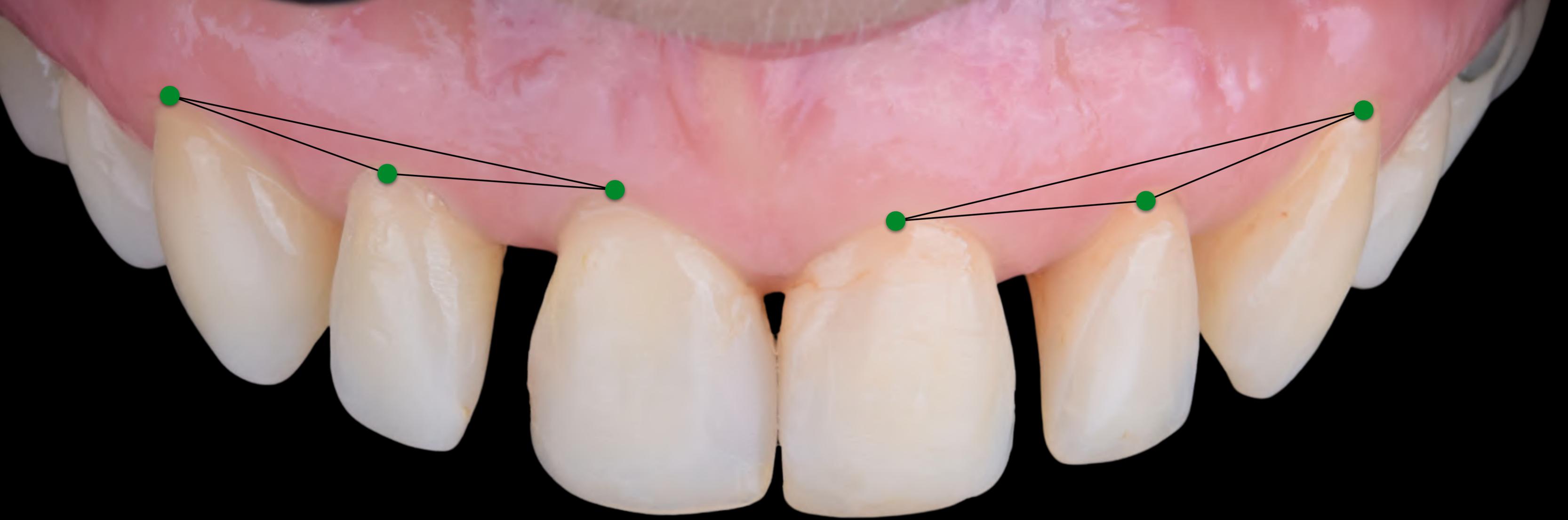




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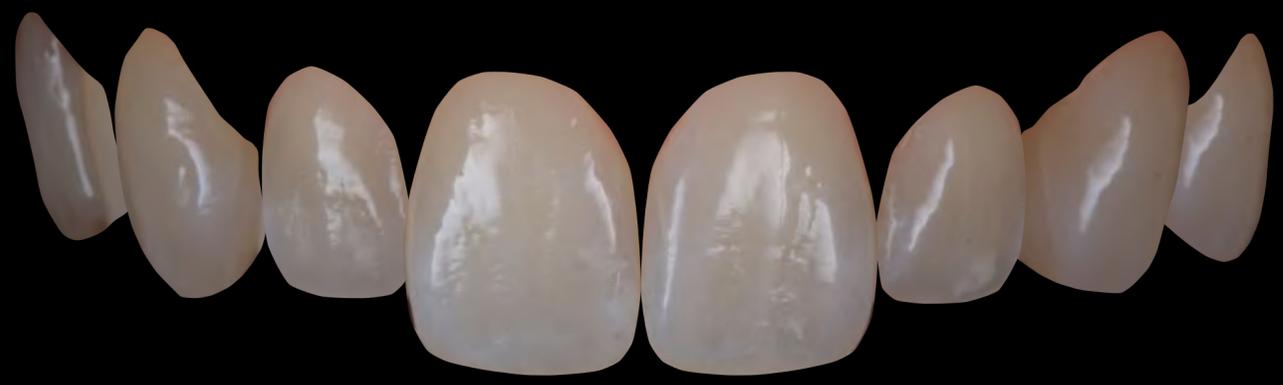


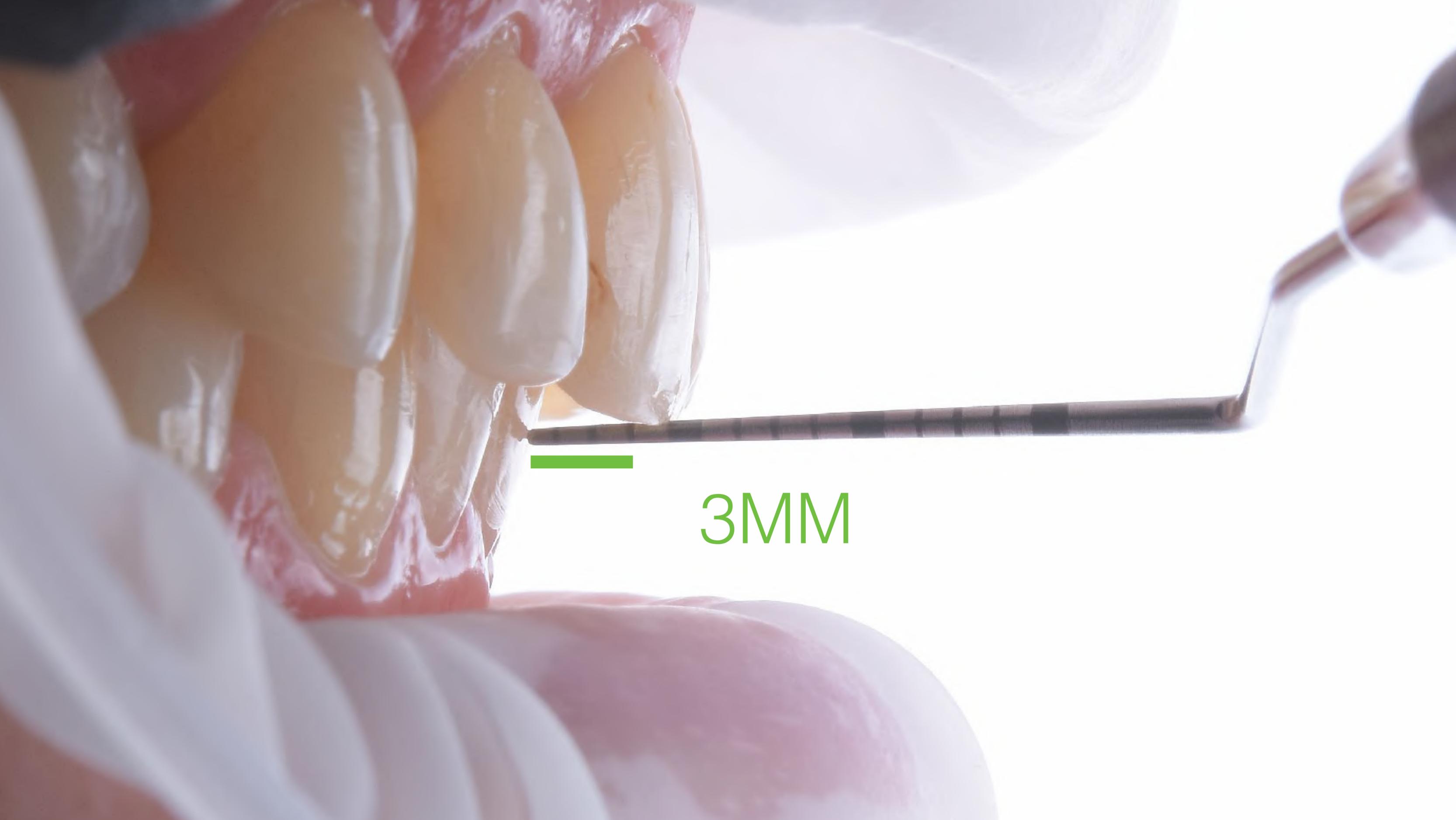






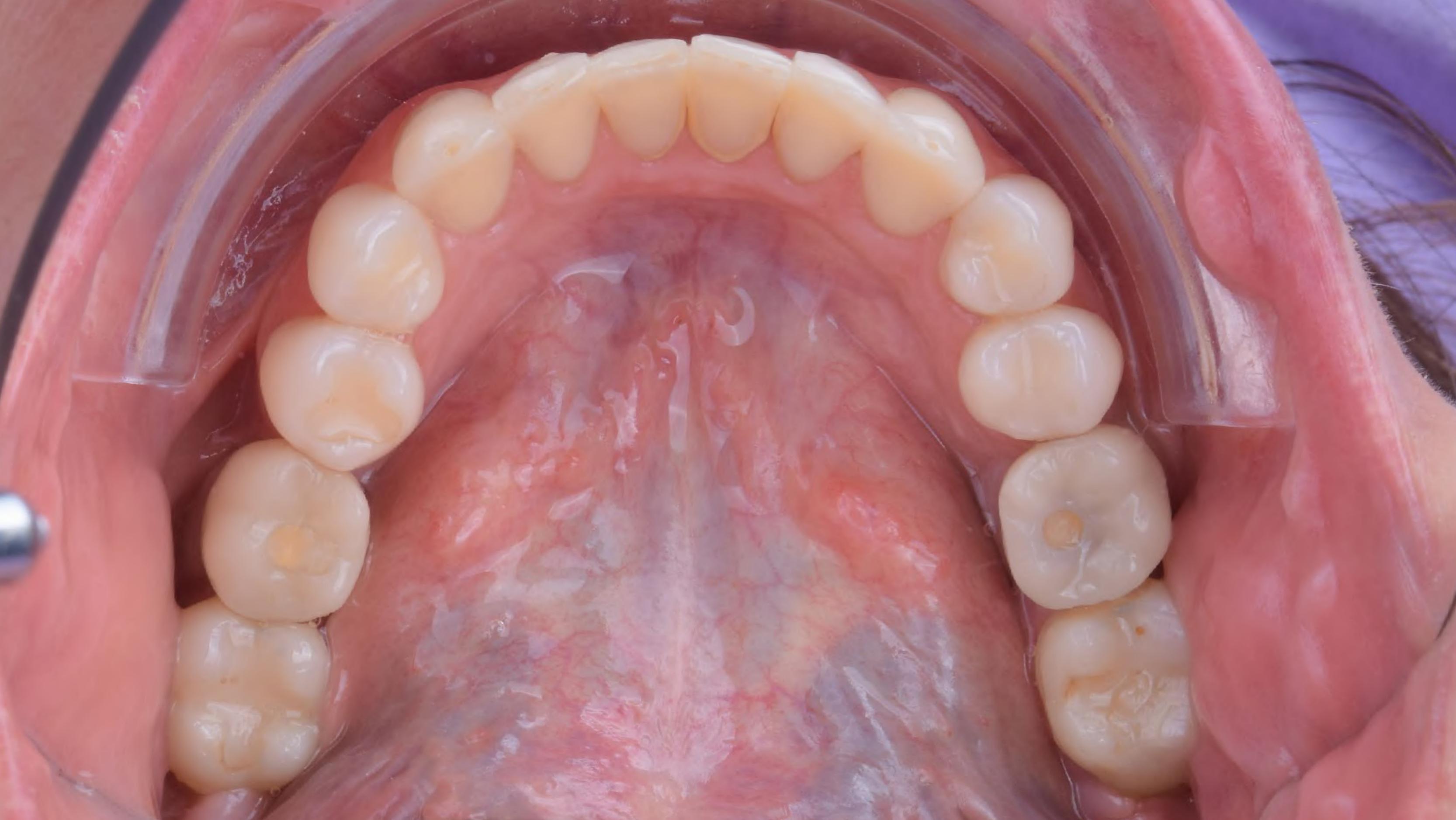




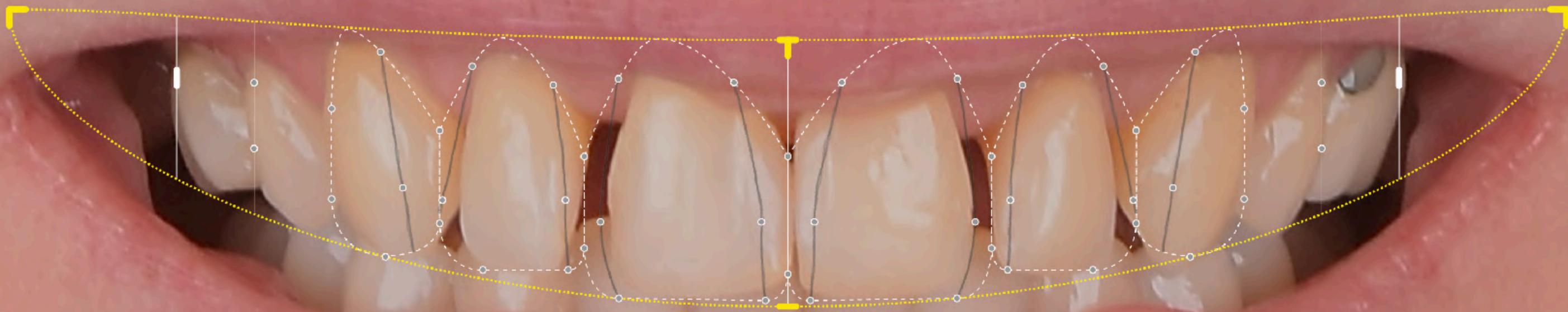


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DSD Smile Cloud

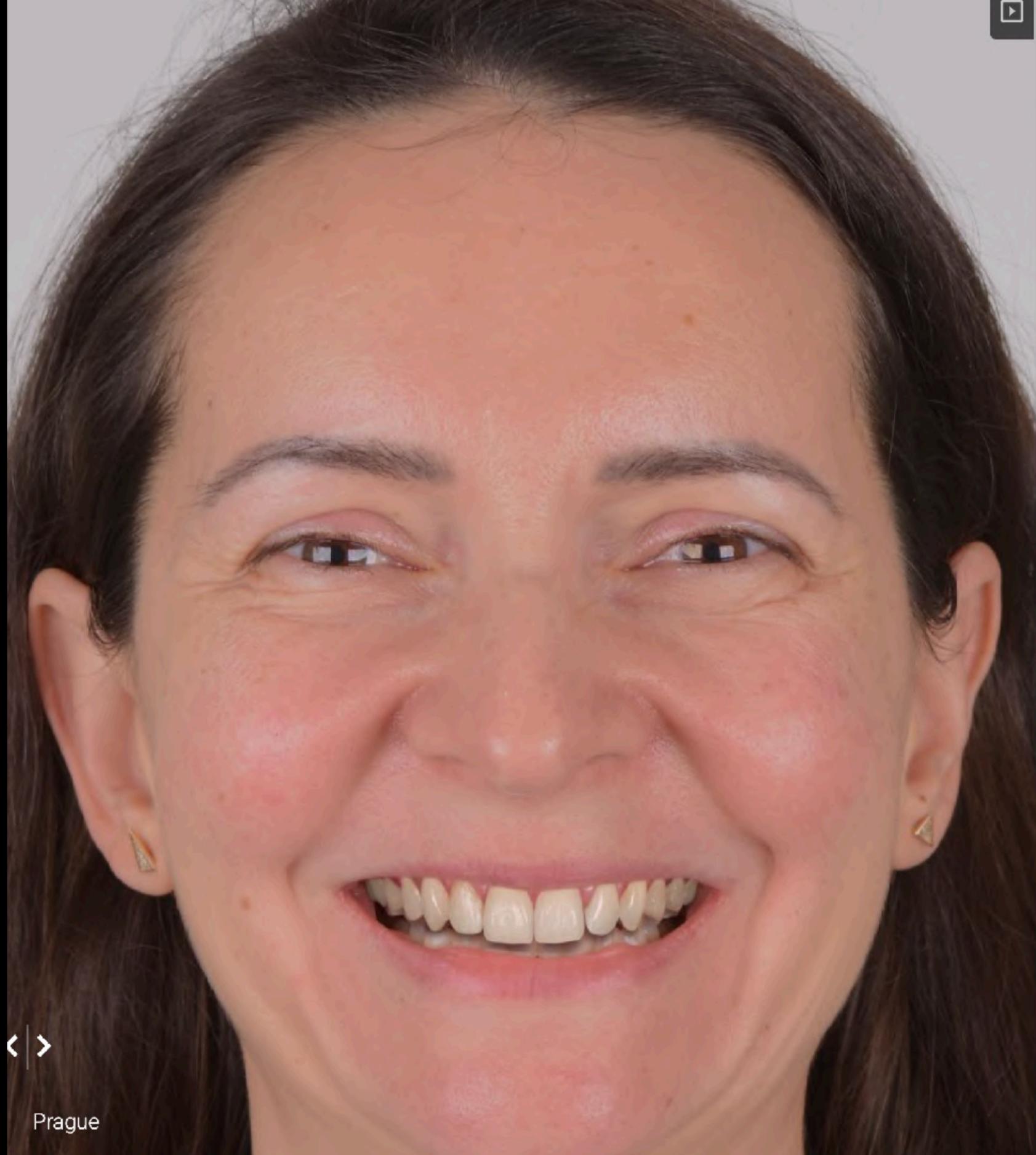




Prague







Prague

Mock Up































































Minimally Invasive Preparations

Guided by the Mock-Up

Following mock-up validation, preparations were performed using a **strictly minimally invasive approach**, guided by the pre-approved design.

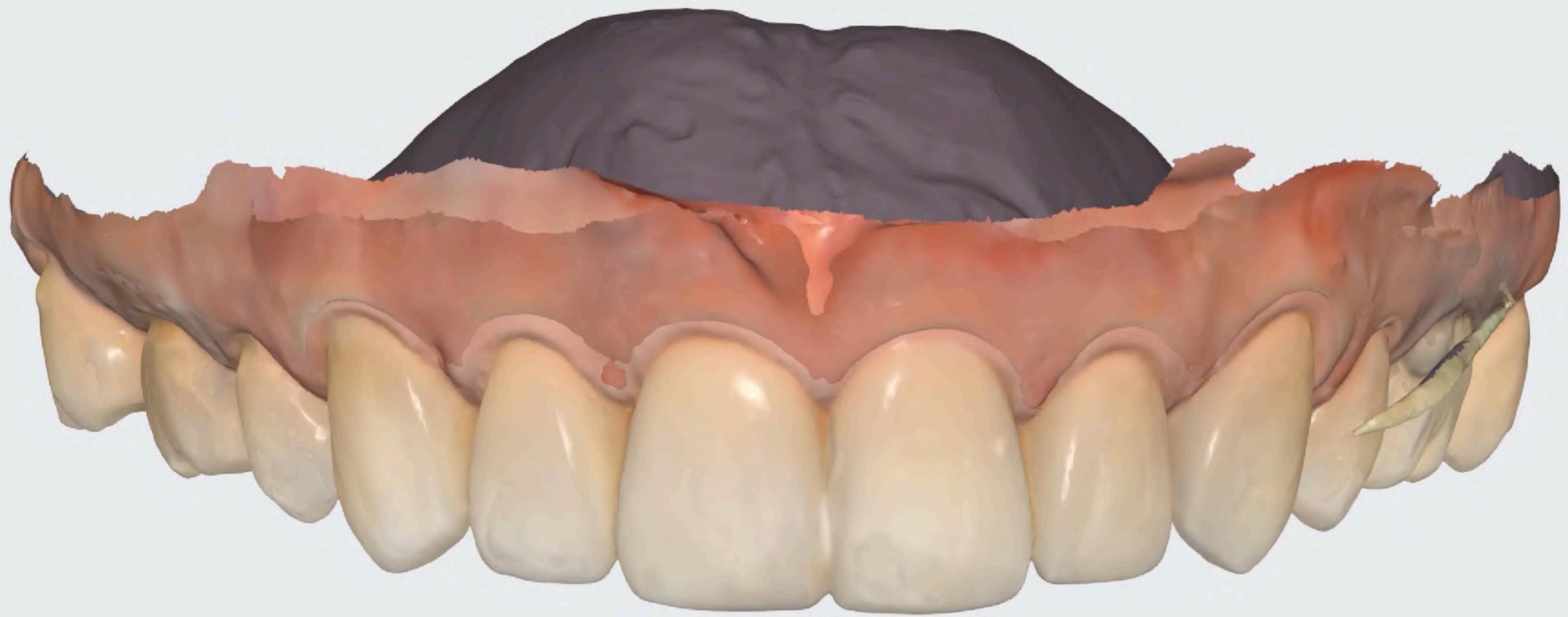
The mock-up served as both the esthetic blueprint and the **provisional restoration**, maintaining form and function until the final ceramics arrived.

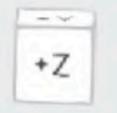
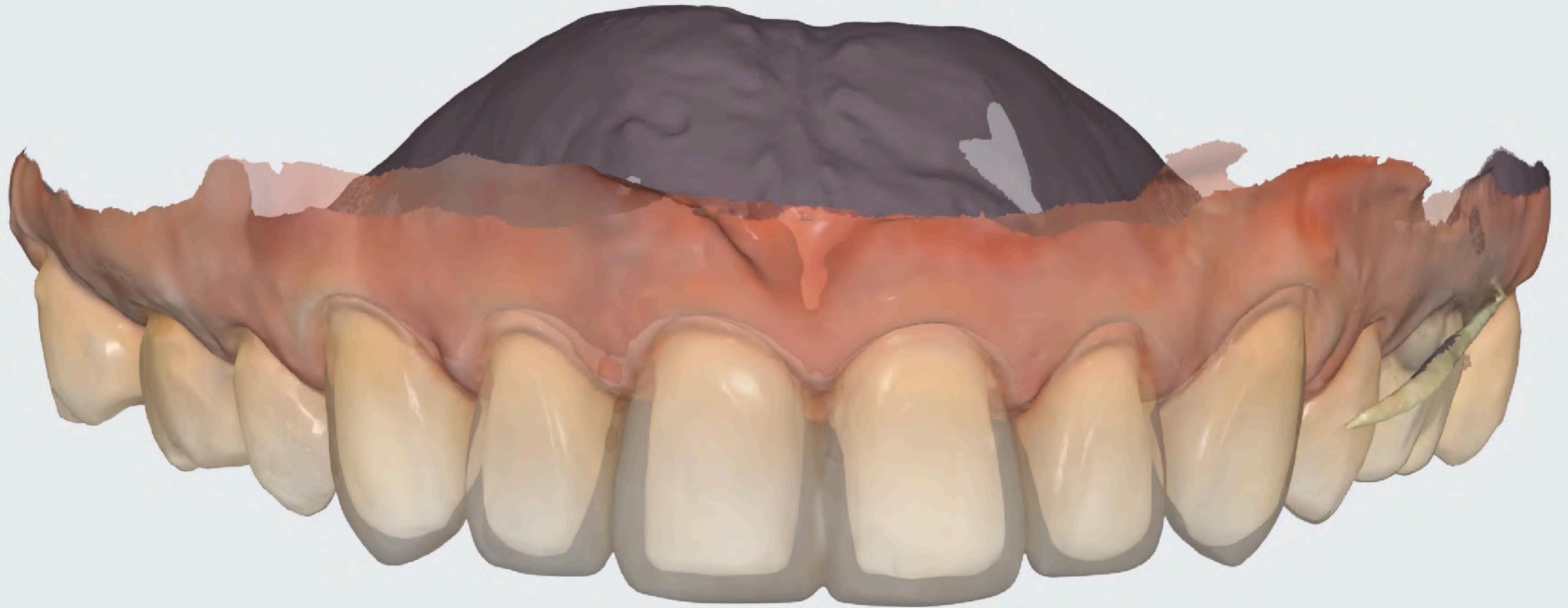
Minimally invasive
preparations guided by the
mock-up and final
restorations.













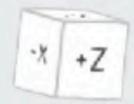
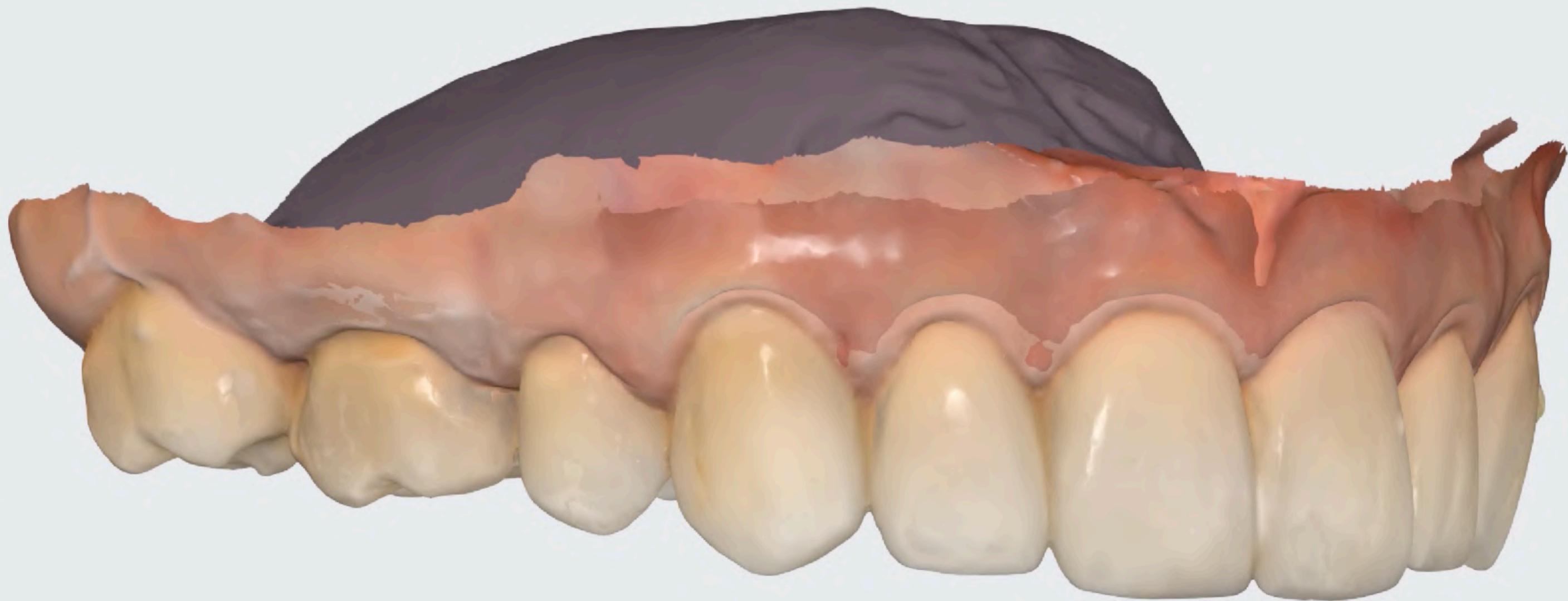
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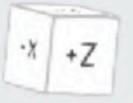
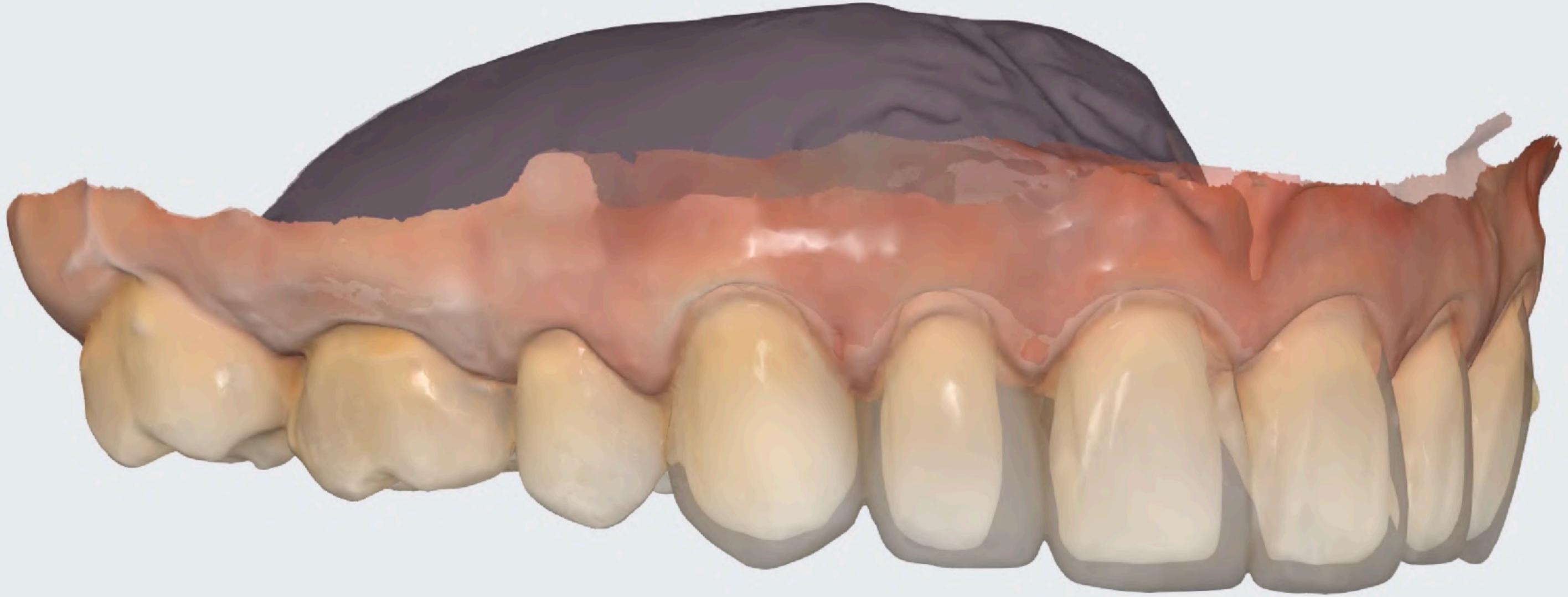


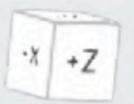
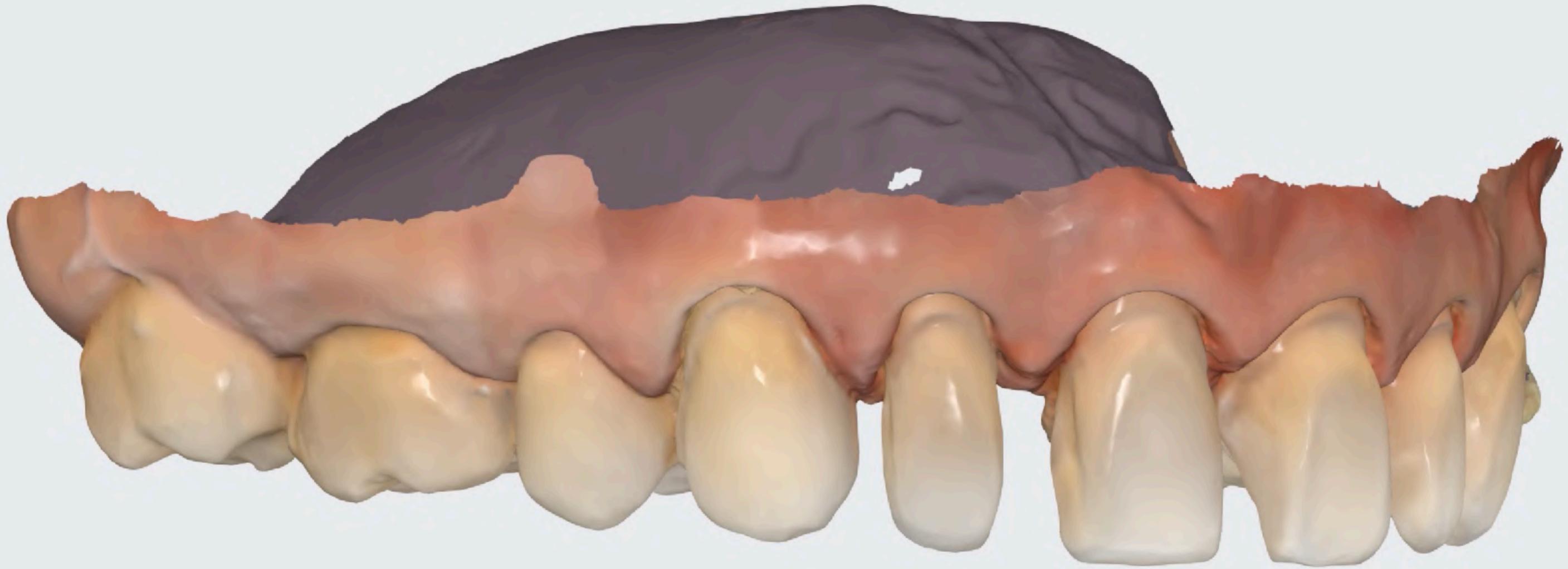








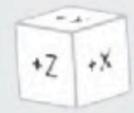
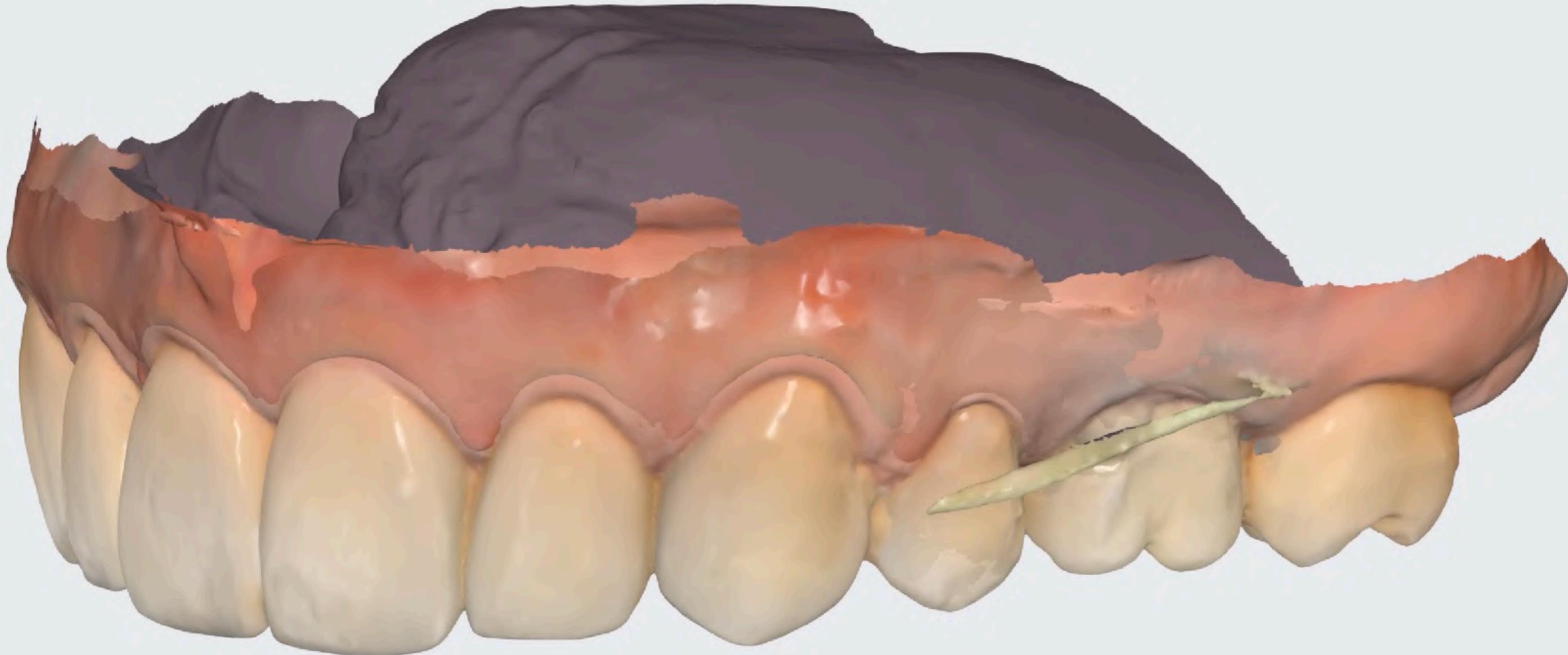


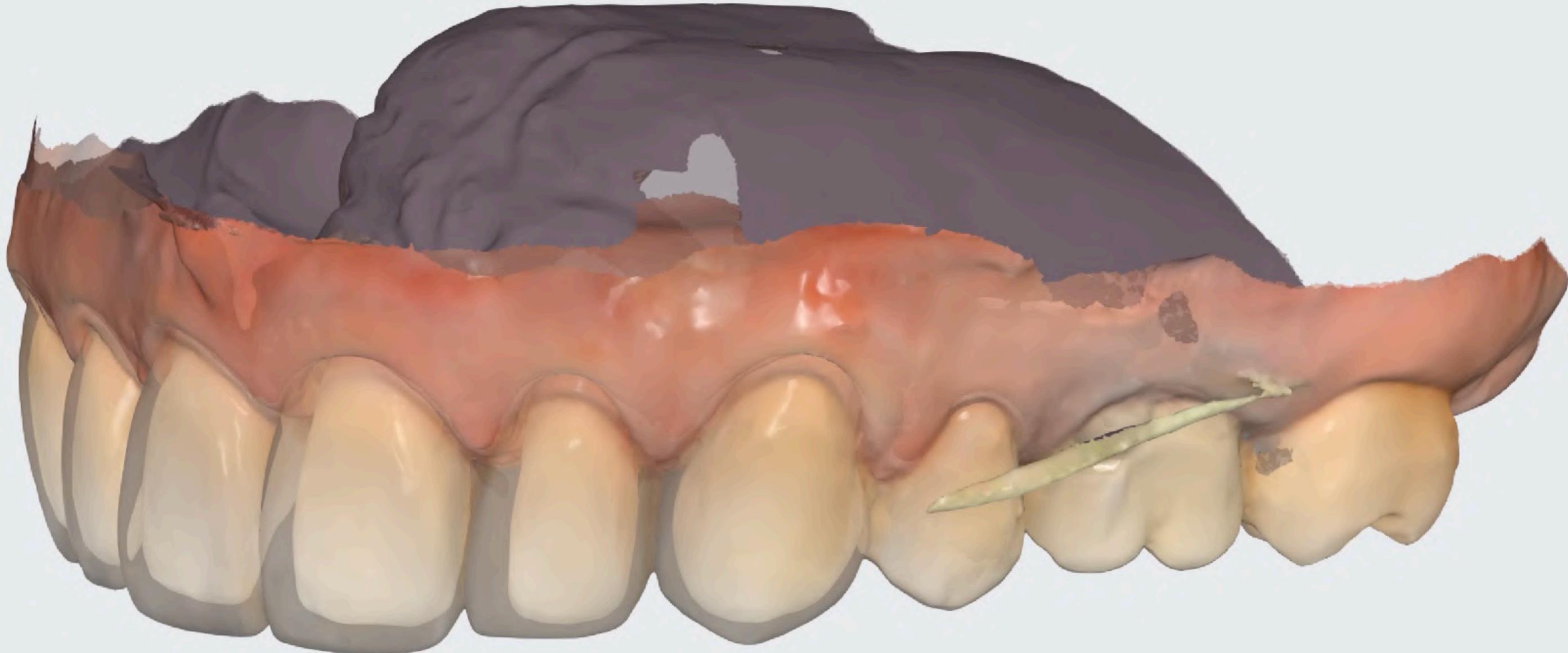


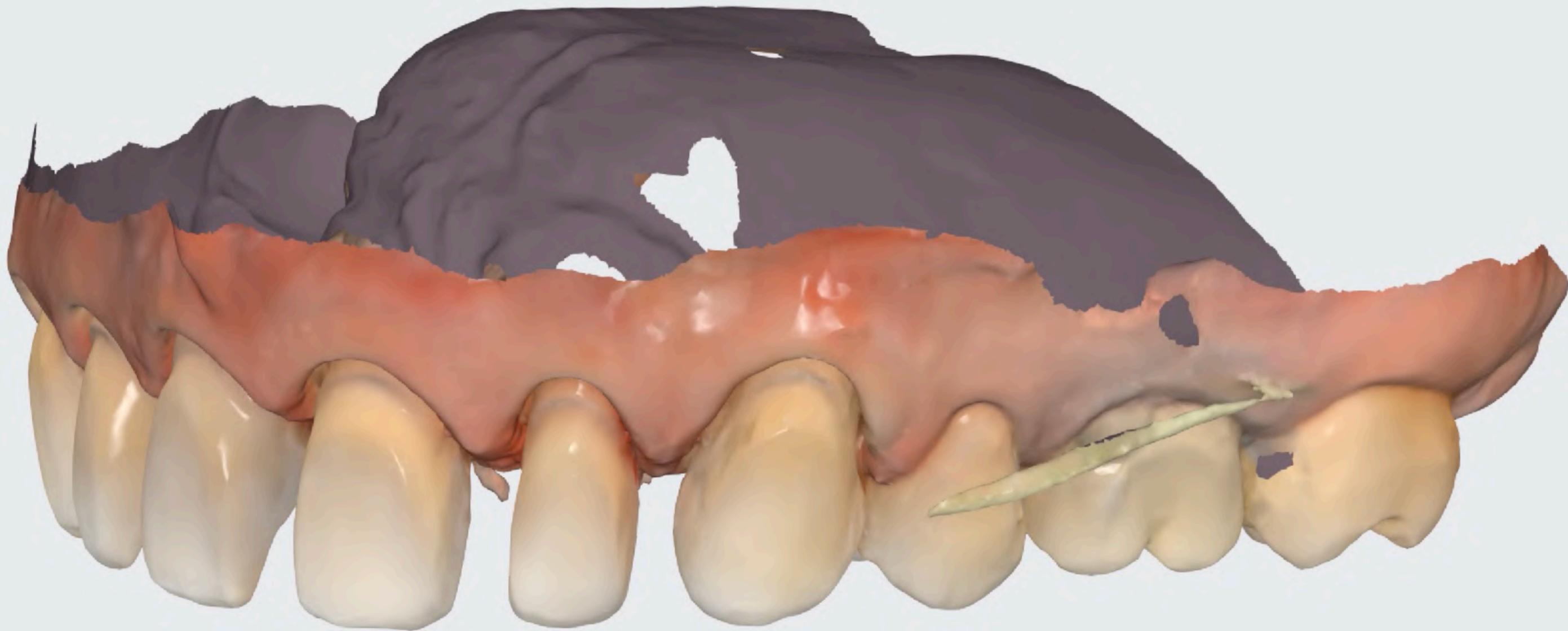








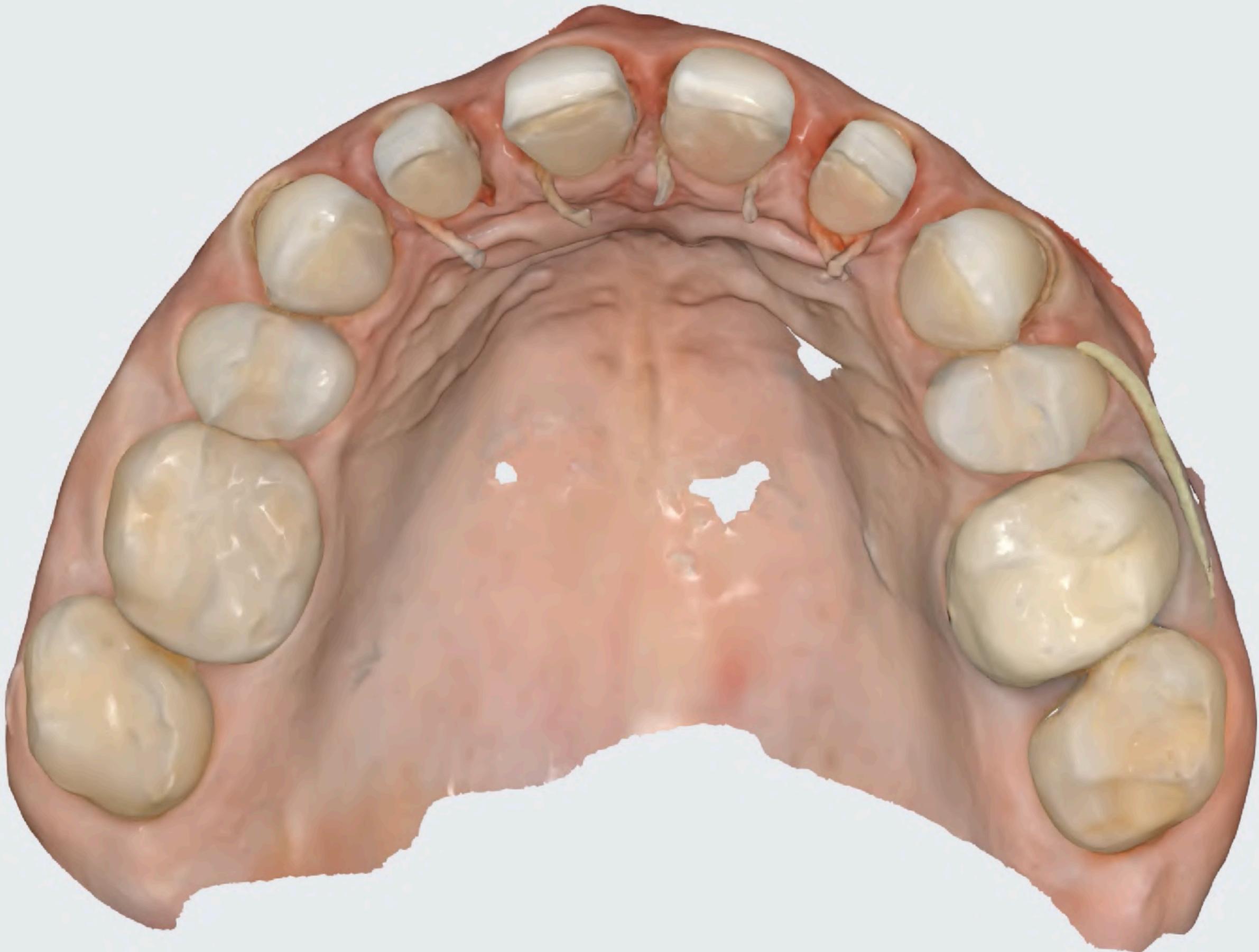




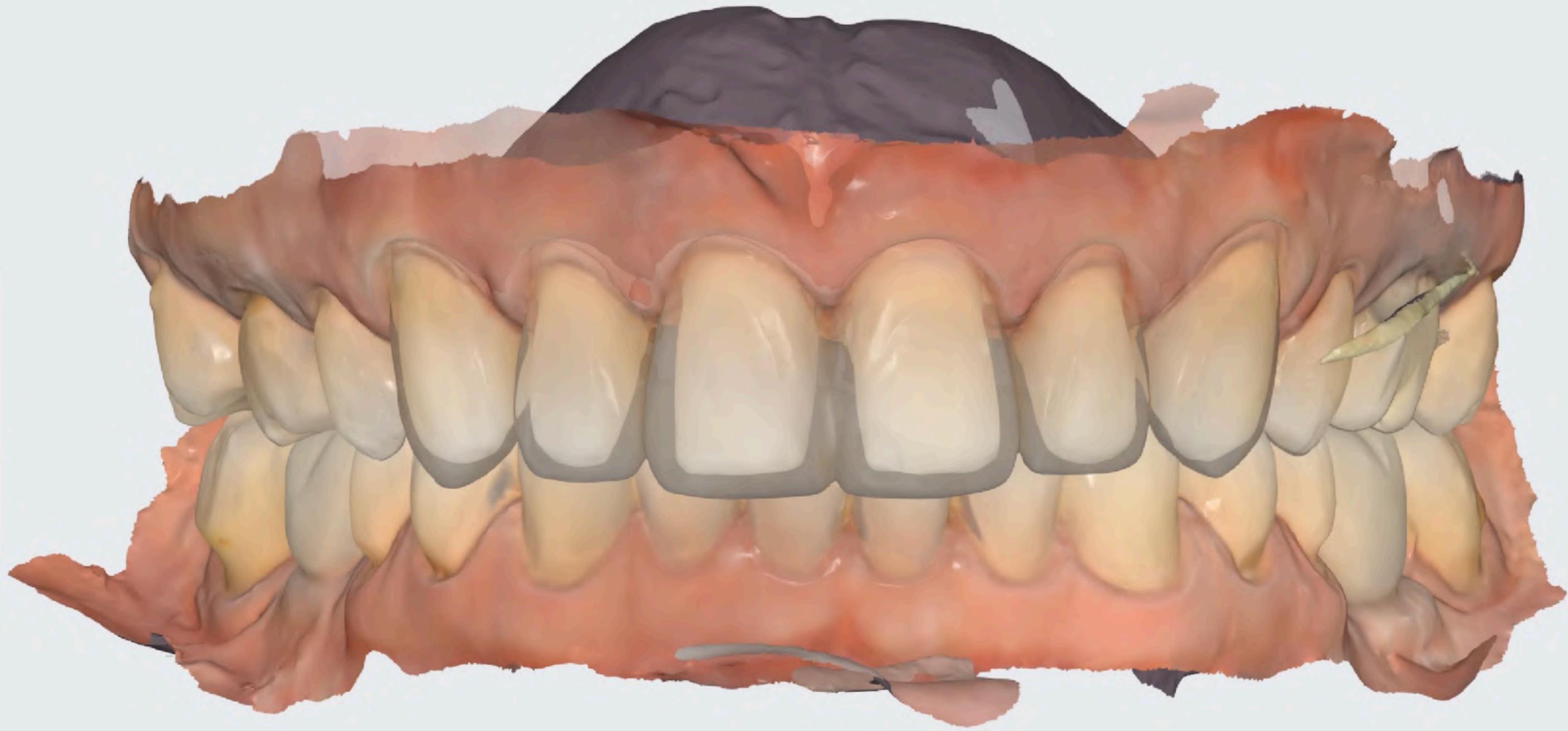












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Final Restorations

The definitive restorations consisted of:

- **feldspathic veneers on refractory dies** in the anterior maxillary and mandibular regions,
- **zirconia implant-supported crowns** on 36 and 46,
- **replacement of tooth 2.6** with a zirconia crown for improved harmony and light dynamics.

All final restorations were adhesively cemented following strict bonding protocols.

Post - cimentation

























Gingival healing 3 weeks



Two-Year Follow-Up

At the **two-year evaluation**, the restorations showed:

- excellent integration,
- no chipping, delamination, or fractures,
- stable gingival architecture,
- consistent functional balance.

The patient described a **major improvement in confidence**, particularly noting:

- the emotional impact of having disliked her smile for years,
- the difficulty of smiling during orthodontic treatment when multiple spaces were visible,
- the tremendous joy of completing the case right before her vacation —
allowing her, for the first time in many years, **to smile freely in every photo.**

Follow-up 2 years

























Occlusal and Functional Verification

- stable maximum intercuspation,
- functional anterior and canine guidance,
- balanced excursive movements,
- harmonious distribution of occlusal forces.



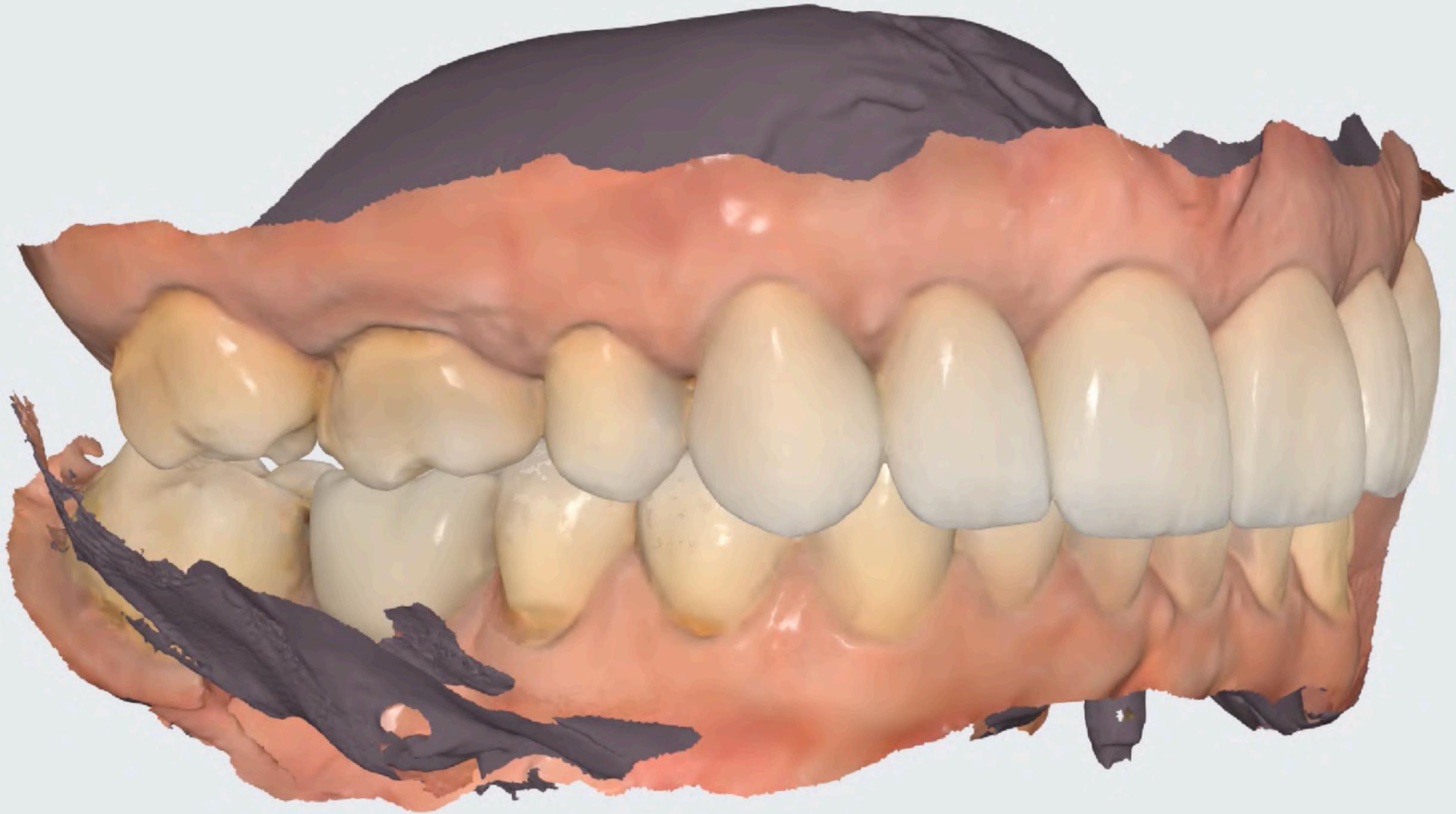




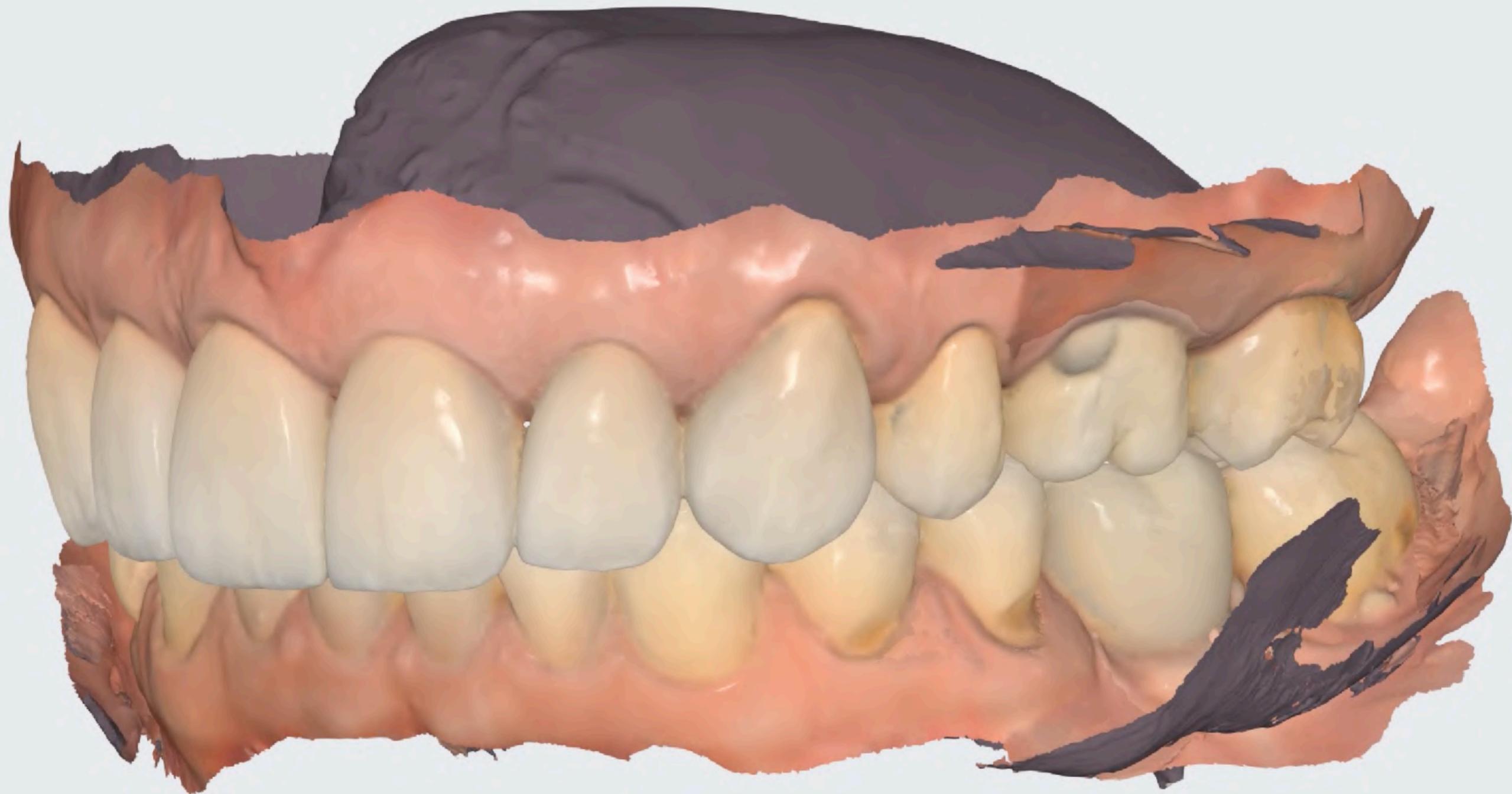


















Conclusions & Clinical Significance

This case demonstrates the value of a fully integrated aesthetic protocol in which digital planning, orthodontics, implantology, and minimally invasive ceramic restorations work together seamlessly.

Key benefits included:

- predictable smile design,
- functional mock-up validation,
- enamel-preserving preparations,
- harmonious, natural feldspathic esthetics,
- excellent long-term stability,
- significant emotional and social impact.

A refined, elegant smile.

A confident patient.

A complete modern aesthetic dentistry success story.

Case Summary.



























Thank you for your
attention!