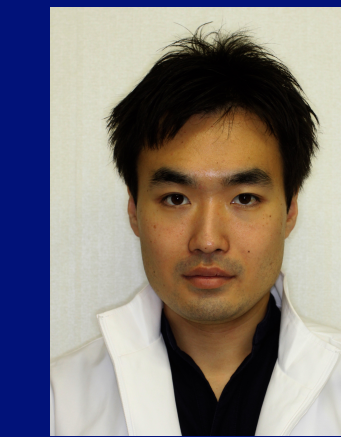
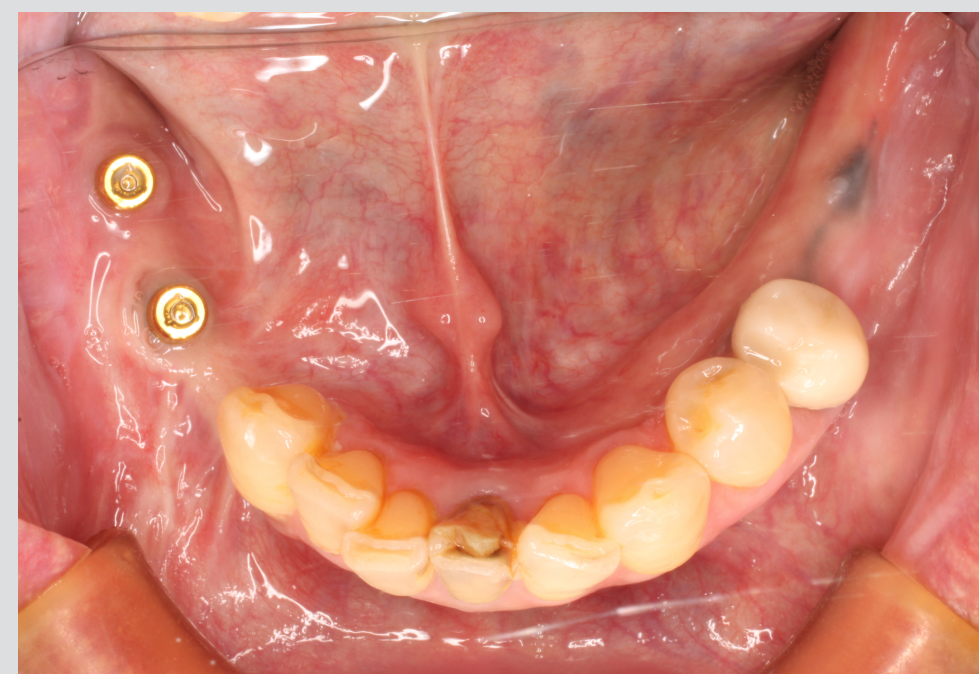




Introduction

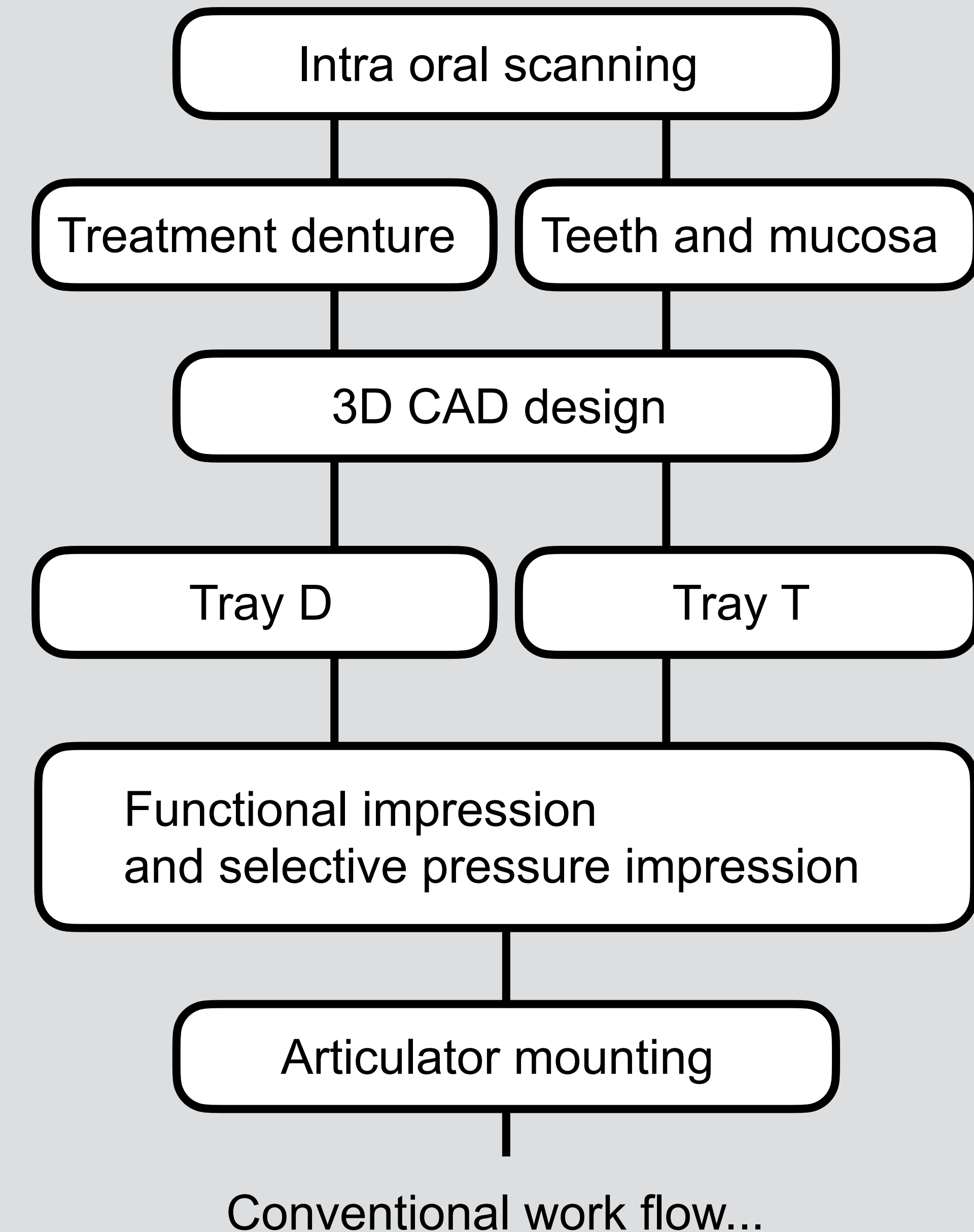
Implant-supported removable prostheses are regarded as an effective treatment option for maxillofacial defects, particularly for the restoration of alveolar ridge mucosa and facial morphology. In the treatment of maxillofacial defects, which often involves complex reconstructive procedures, it is common to adjust the prosthesis design during the treatment process to accommodate the progress of surgical interventions. Here, we report a case involving the fabrication of an implant-assisted partial denture using a 3D-printed custom tray that incorporates the form of a treatment denture.

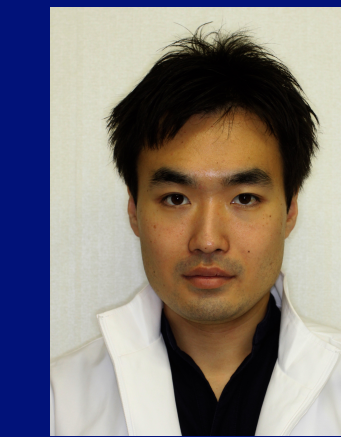
Patient



The patient, a 60-year-old woman, underwent a segmental mandibulectomy and subsequent mandibular reconstruction due to gingival carcinoma, followed by implant placement surgery and a second-stage procedure.

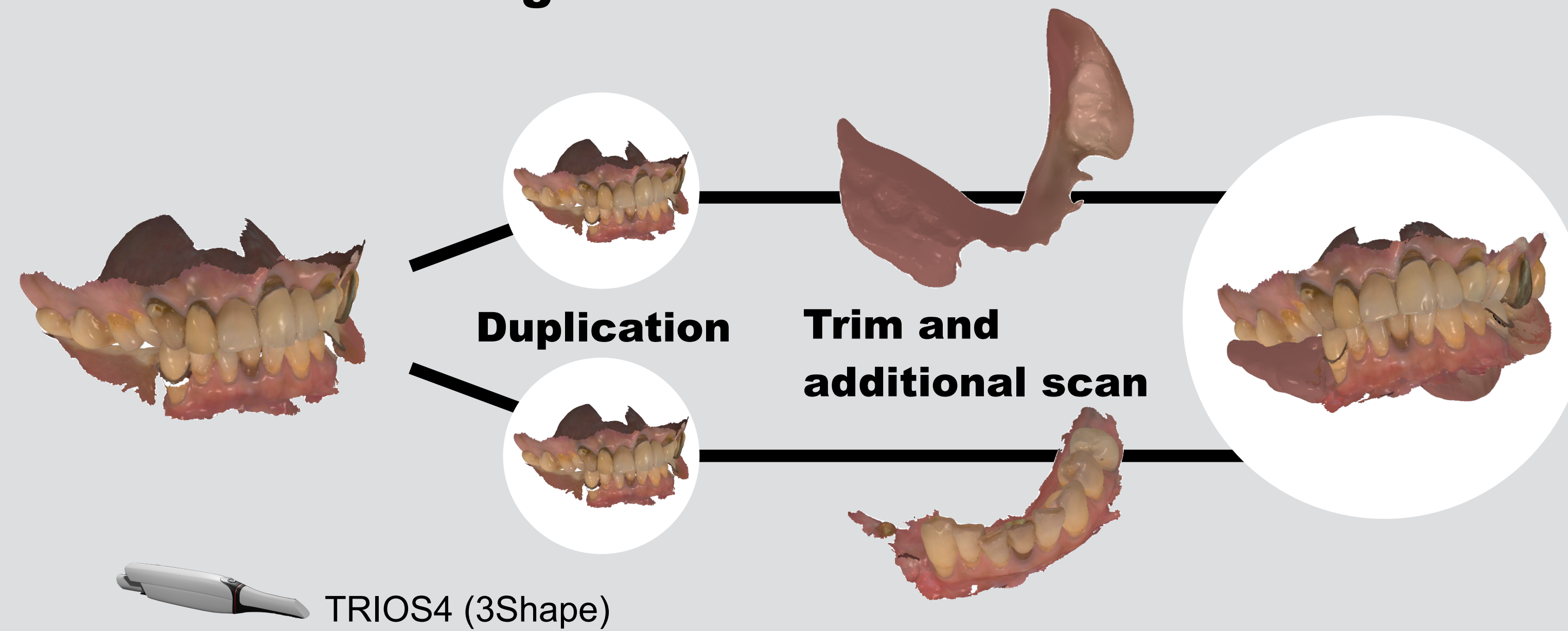
Clinical workflow





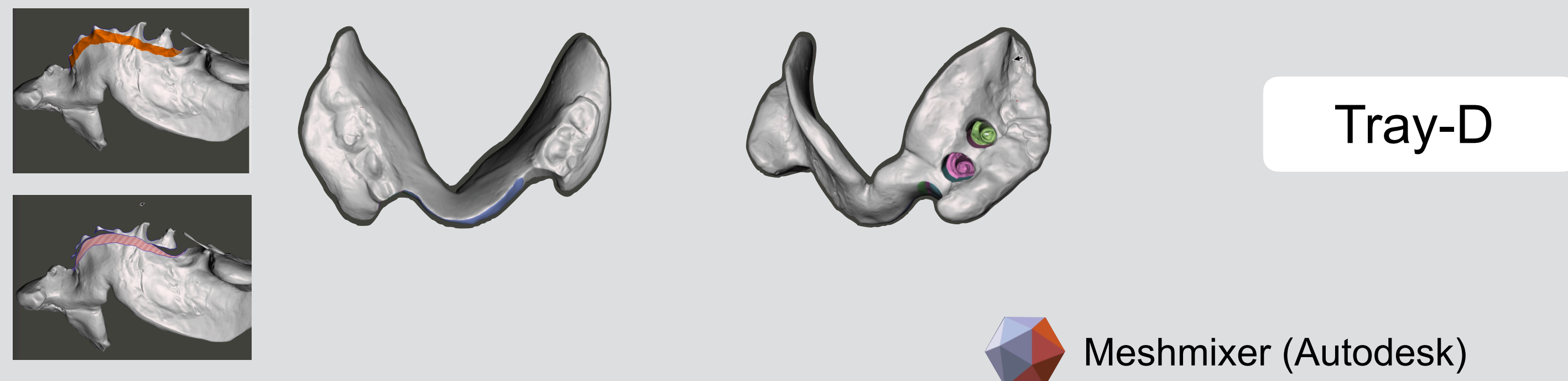
Methods

1. Intraoral scanning



2. Design of custom tray

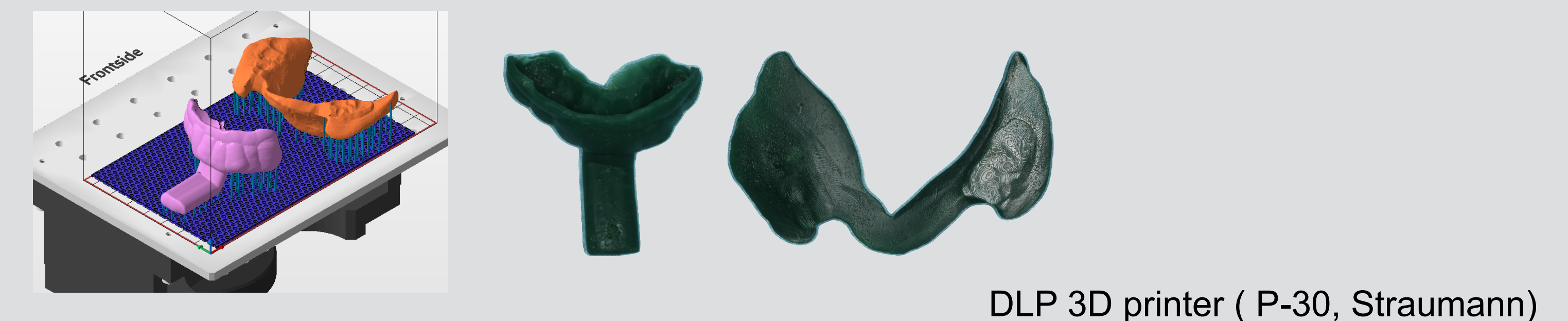
a. Custom tray for parcial edentulous

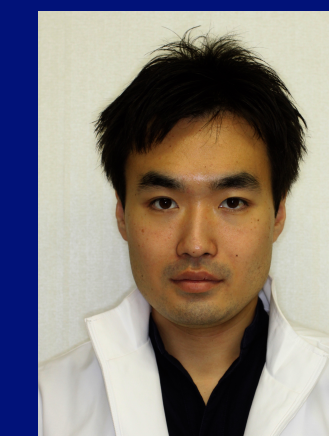


b. Custom tray for residual tissue



3. Building of custom tray





4. Impression using 3D-printed custom tray



After obtaining the occlusal record and functional impression using tray D, a selective pressure impression is performed by assembling tray T with tray D.

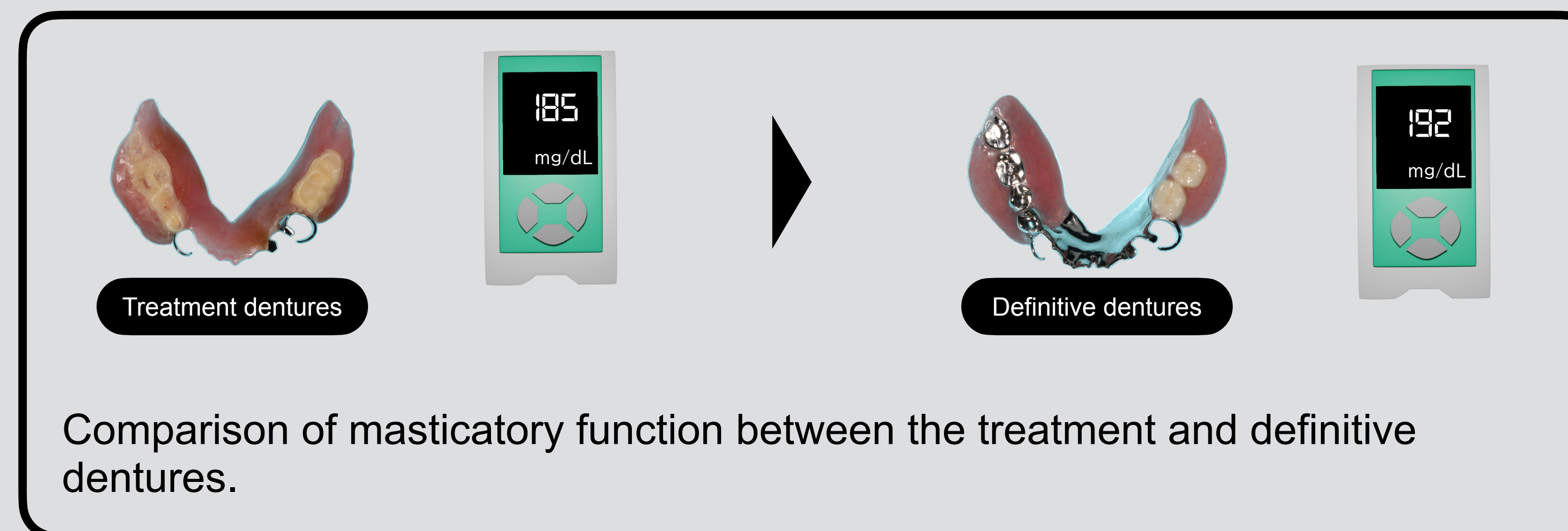
5. Mounting the working cast on the articulator



The working model was mounted on the articulator using tray D.

Result

The implant-assisted partial denture demonstrated satisfactory adaptation to the alveolar ridge mucosa and maintained proper occlusal relationships. Additionally, no significant differences in masticatory efficiency were observed between the treatment and definitive dentures.



Conclusion

In this patient, duplicating the adjusted provisional denture allowed the ideal morphology and occlusion to be transferred to the final prosthesis, simplifying the treatment process.