

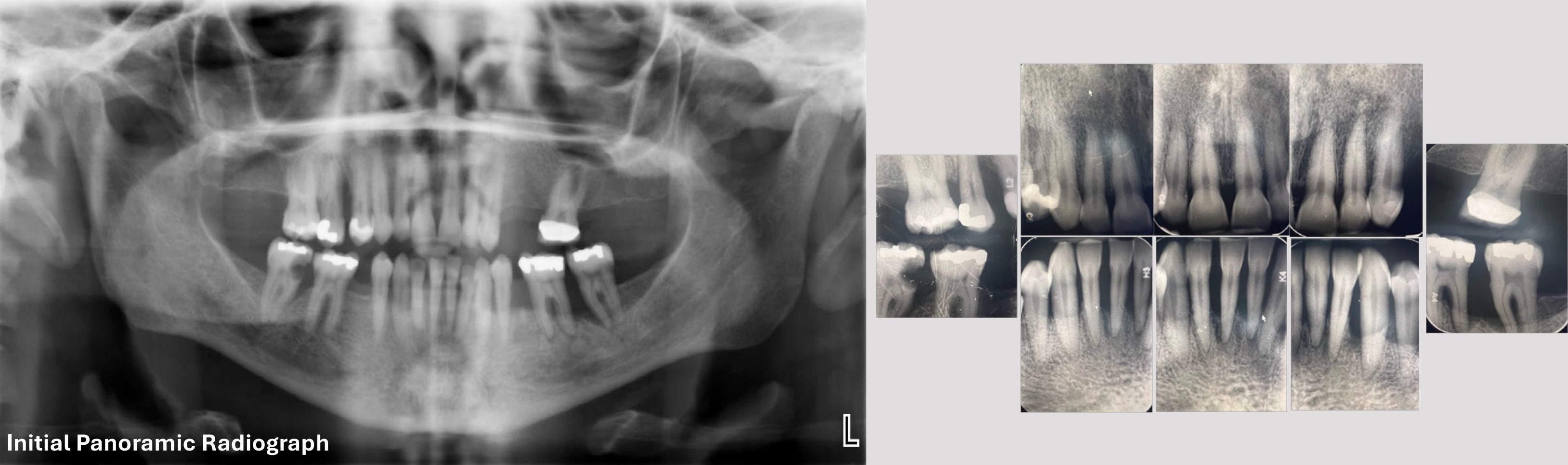


Case Report: Rehabilitation of an Edentulous Mandible with Locator Fixed Prosthesis

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Background

A 50-year-old female patient presented to the Rutgers School of Dental Medicine (RSDM) clinic for comprehensive care. She underwent periodontal and prosthodontic assessments, caries management, the extraction of non-restorable teeth, and the fabrication of a mandibular immediate denture in the predoctorate clinic.



The patient was then referred to the Postgraduate Prosthodontic department for evaluation and treatment.

Four implants were placed in the mandible in areas #19, #22, #27 and #30. The mandibular immediate denture, fabricated previously in the predoctoral clinic, was relined using a tissue conditioner (COE-Comfort, GC America). Implant sites were accessed 4 months later, and healing abutments were placed. Locator abutments were evaluated, ensuring angulation was within 20° for each individual implant, and each abutment was torqued twice to 30 Ncm (Zest Anchors, USA). Locator level impression copings were placed, and an impression was made.

The mandibular implants were placed initially for a traditional overdenture prosthesis. The patient had a strong preference for a fixed solution. She was recommended a complete arch Locator Fixed restoration for the final prosthesis.

Locator Fixed is a system that would provide a cost-effective fixed restoration to add to patient treatment regimens. A special gold housing and proprietary rigid inserts are used while maintaining the exact same abutment and workflow as the Locator attachment system. The restoration can only be removed by the practitioner.

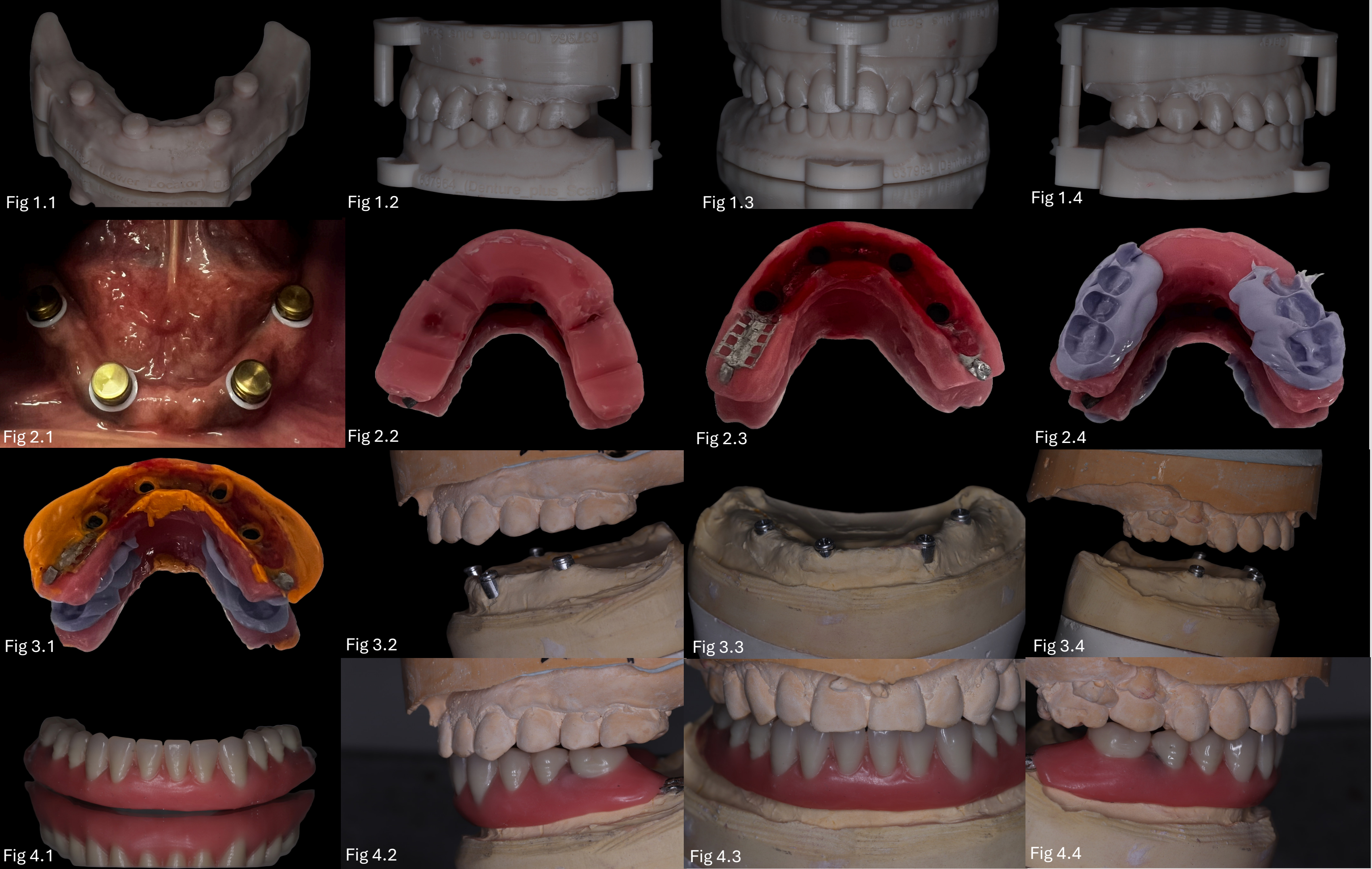
Our ongoing research project aims to prove the ability to provide this restoration to patients in an academic environment and to perform follow-up retrospective studies on the longevity, implant health, and survival of the prosthesis in three and five years.

Locator Fixed Workflow

A digital scan of the patient was retrieved (Figures 1.1 to 1.4). The laboratory fabricated a wax rim on a metal framework.

The Locator Fixed housing and spacer were fitted onto the patient's Locator abutments and were picked up intraorally using GC resin (Figure 2.1). Excess resin was removed. Black processing inserts were placed in all four implant sites and complete seating was verified.

The vertical dimension of occlusion (VDO) was assessed. A centric relation (CR) record was then made (Figures 2.2-2.4). An impression was made using Aquasil Light Body (PVS) to ensure the accuracy of the mandibular cast (Aquasil LV, Dentsply Sirona USA).



The maxillary cast was poured and articulated using a facebow record. The mandibular cast was poured using locator analogs (Figures 3.2-3.4). The new casts were digitized at the laboratory. The mandibular denture teeth subsequently were arranged in wax for the upcoming wax try-in visit (Figures 4.1-4.4).

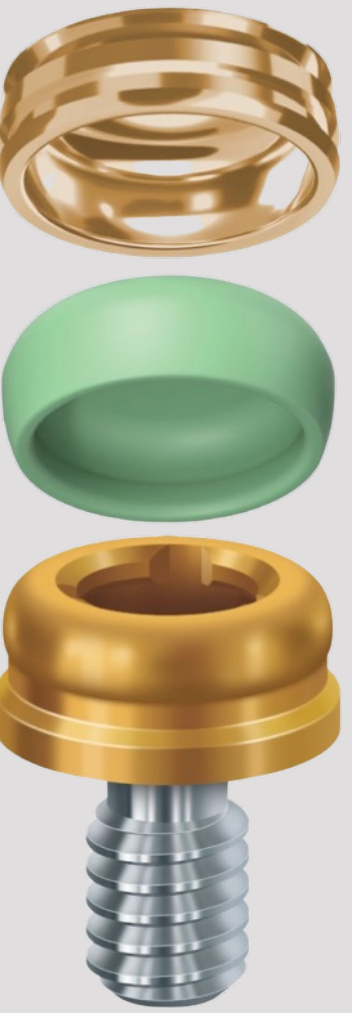
The CR record was verified (Figures 5.1-5.2). The case was returned to the laboratory for the fabrication of a short-term FP1 provisional restoration made from milled PMMA (Figures 6.1-6.2).

The initial provisional restoration required significant adjustment. The provisional was adjusted (not pictured), and a new CR record was obtained. A second provisional restoration was milled at the laboratory (Figures 7.1-7.2). Clear nylon inserts were used to verify complete seating, and a CR record was made to verify articulation. The clear inserts were replaced with blue nylon inserts (Figures 8.1-8.2). The provisional was delivered to the patient for two weeks (Figures 9.1-9.8).



Next Steps and Conclusion

At the final delivery appointment, the FP1 provisional restoration will be retrieved and a complete arch PMMA restoration will be delivered. The prosthesis will be tried in to ensure complete seating using black processing inserts. Occlusion will be evaluated prior to final delivery of the prosthesis with green Locator Fixed attachments, which are milled attachments.



References

