A fully digital technique to transfer interim maxillomandibular relation for the fabrication of full-arch implant-retained restorations

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BACKGROUND

- The accurate transfer of the maxillomandibular relationship, accurate occlusion, morphology of a provisional restoration， the exact position of the placed implants to that of a definitive restoration is an essential process that contributes to sufficient function, esthetics and cleanability, especially in full-arch implant-retained restorations.

- The traditional process is complex, time-consuming, heavily relying on the clinical experience of dentists, and causes patient discomfort.

AIM

To describe a fully digital workflow to record multi-implants position, register maxillomandibular relation, and create a 4D virtual patient for manufacture the definitive full-arch implant-retained restorations.

OUTCOMES OF INTEREST

1. Feasibility of the method.
2. Long-term stability of restorations.

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1. 4D virtual patient

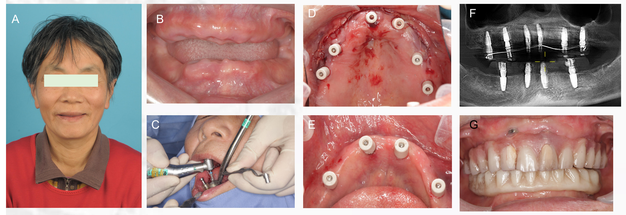

Figure 1. Provisional restoration was delivered after implant insertion

A and B. Pre-operation. C-E. After implantation uder the guidance of plate. F-G. Provisional restoration.

Figure 2. intraoral scan (IOS)

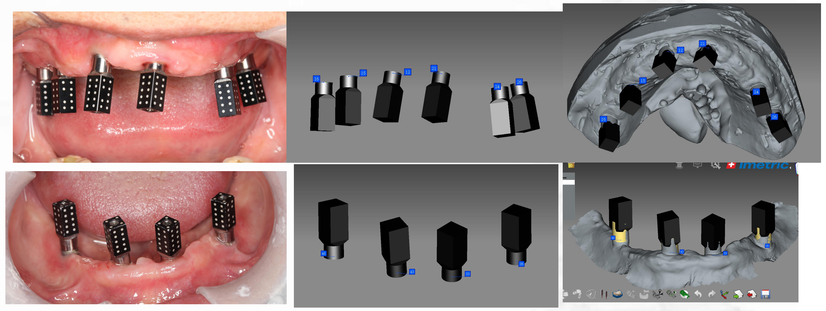

Figure 3. Photogrammetry (Icam4D) was used to record implant positions

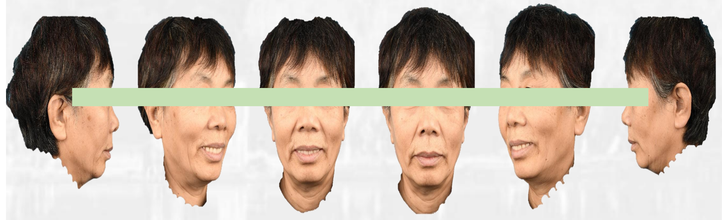

Figure 4. Facial scan

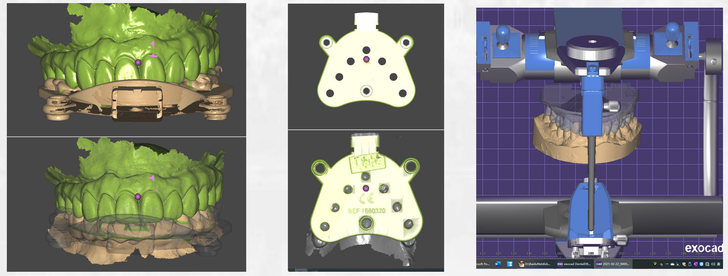

Figure 5. Jaw motion tracking system, and virtual articulator

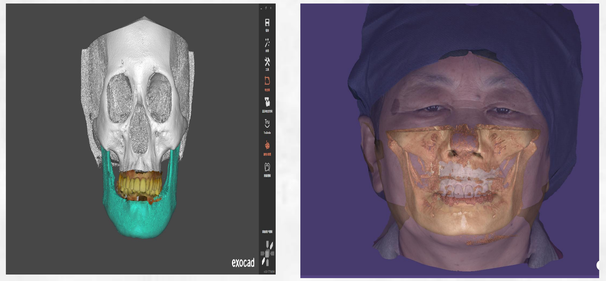

Figure 6. 4D virtual patient

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2. CAD/CAM

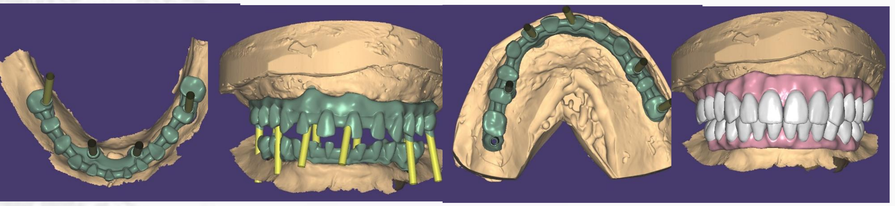

Figure 7. CAD

Figure 8. CAM

Figure 9. Try on

Figure 10. Zirconia bridge

Figure 11. Immediate final restoration

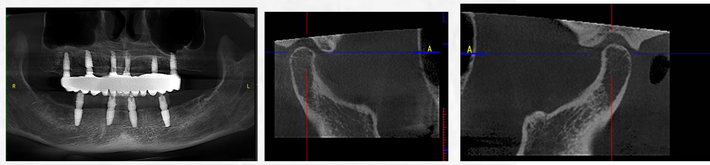

Figure 12. Radiology exmination

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3. Long-term stability (3 years later)

Figure 13. oral examination

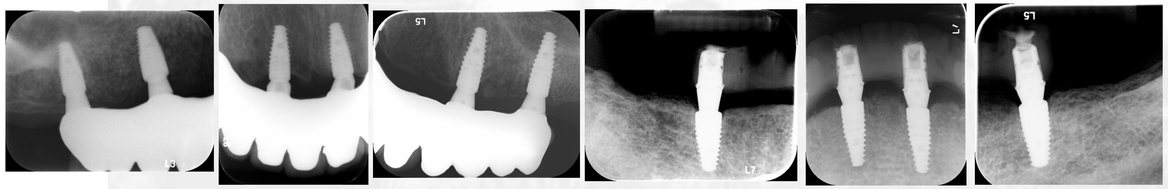

Figure 14. x-ray examination after immediate final restoration

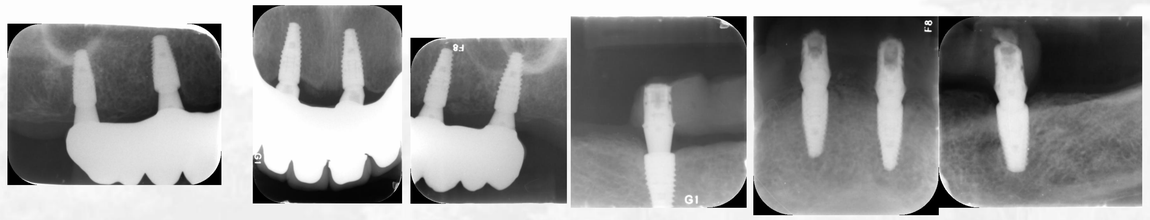

Figure 15. 3 years after final restoration

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