

Reference Landmarks Improve Accuracy in Full-Arch Digital Workflows

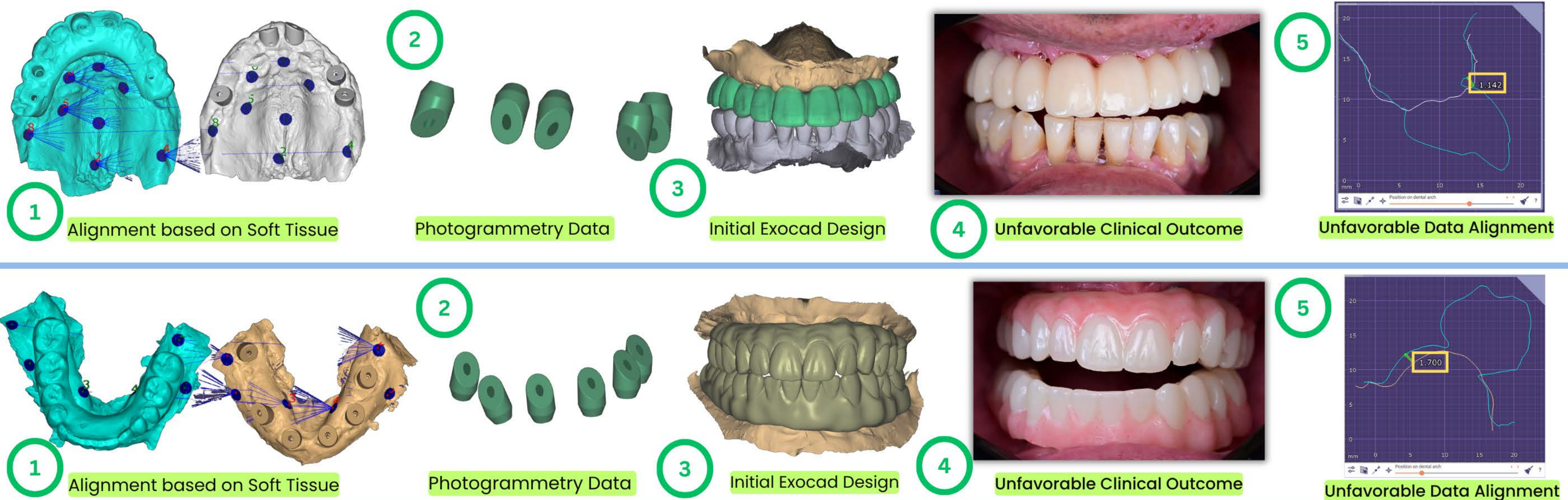
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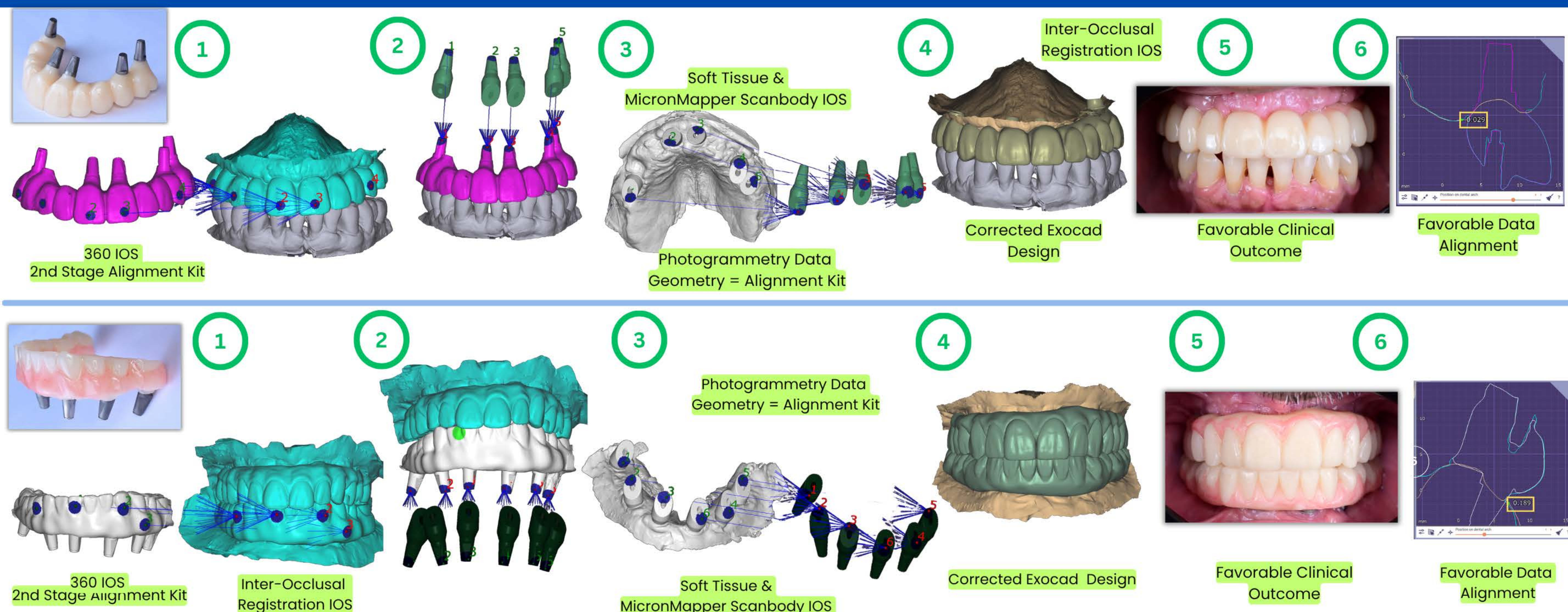
Abstract

To present a technique using an alignment kit (Second-Stage MicronMapper, SIN360) to improve the accuracy and clinical predictability of digital cross-mounting and alignment of intraoral scans and photogrammetry data in a CAD software for full-arch implant workflows. Two patients rehabilitated with full-arch implant-supported interim restorations showed unfavorable clinical outcomes despite appearing correctly articulated in the digital software. Initial design relied on alignment of reference points located in soft tissue for aligning implant position, tissue and occlusal information. Instead, a favorable clinical outcome was achieved when the workflow was repeated using fixed reference landmarks for digital articulation. The alignment kit was secured at the abutment–prosthesis interfaces and scanned 360 degrees allowing stable and repeatable alignment between maxillo-mandibular records, similar to cross-mounting in conventional analog workflows.

Alignment Based on Soft Tissue Reference Points



Alignment Based on Fixed Reference Points (Alignment Kit)



Clinical Significance

Digital alignment using soft tissue–reference points in two full-arch implant cases resulted in unfavorable clinical outcomes. Instead, incorporating fixed reference points using an alignment kit secured at the abutment–prosthesis interfaces and scanned 360 degrees produced improved accuracy in digital articulation and favorable clinical outcomes. Fixed reference landmarks improved design transfer, minimized adjustments, and supported predictable esthetic and occlusal outcomes.

References



Instructional
Video by
S.I.N. 360®



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