

Simplant[®]—accuracy with guided implant surgery

What is Simplant?

- This patient-specific digital workflow solution covers all steps in guided implant surgery— from prosthetically driven implant planning to patient-specific surgical guides.
- The surgical guides are compatible with more than 100 implant brands, as well as with DICOM compatible CT scanners and major optical/intraoral scanners.
- The planning tool and surgical guides are closely developed alongside the Dentsply Sirona implants portfolio—PrimeTaper EV Implant, Astra Tech Implant EV, OmniTaper EV Implant, Ankylos and Xive.

Confident implant placement

- Implant placement using Simplant surgical guides attain similar^{1,2} or higher³⁻⁷ accuracy compared to non-guided surgery in standard clinical situations, as supported by pre-clinical data.⁸⁻¹⁰
- Tooth- and mucosa-supported guides, whether using half or full guides, can optimize implant placement^{2,14,17-20} in the short and long term (10 years).²¹
- Minimally invasive treatment, i.e. flapless surgery using Simplant surgical guides, showed less patient morbidity.^{1,7,12,23,28}
- No referenced study evaluating accuracy¹⁻²⁸ reported adverse events or problems (beyond standard implant surgery) when carefully using the guides with inbuilt safety margins.

There are minor deviations found in the accuracy of planned versus actual implant placement when using Simplant surgical guides in different positions in the mouth¹¹⁻¹⁴ and in different bone densities.^{15,16}

Guide accuracy^{11,13,15} and other factors, i.e. thin alveolar bone and necessary adjustment of the guide,^{4,16,24-27} is influenced by tolerances and length of the sleeves in the surgical guide^{22,23} and anchoring methods to the bone.

Conclusion

The published literature supports the use of the Simplant surgical guides for predictable implant surgery with higher accuracy compared to freehand surgery. However, a safety distance should always be considered if implants are placed near vital structures.

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