

# Screw-retained surgical guide for implant placement

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## Abstract

**Introduction:** For patients with extended edentulous areas, with existing implants, and in need of additional implant placement, the use of the osseointegrated implants for guide fixation seems to be a logical alternative. Current options for the fabrication of surgical guides in this type of cases, involve creating surgical guides that are supported by the teeth, by the teeth and mucosa or retained by fixation pins. Since these existing techniques involve inherent inaccuracies, particularly when supported by the mucosa, or by failing teeth, the fabrication of surgical guides that are screw-retained at the implant or abutment level would probably reduce those inaccuracies by stabilizing the guide.[1]

The purpose of the present technical report is to illustrate a step-by-step digitally planned guided implant placement protocol for terminal dentition patients with salvageable existing implants requiring full-arch implant rehabilitation or partial rehabilitation.

**Case series:** Five patients received eight implants using a screw-retained guide. None of the implants was immediate loaded. In two of the cases single implants were placed using only one screw retention. The other 3 cases were full-arch cases, where several screw-retained implants were used. All implant planning was done using COdiagnostix® and to make the guides screw retained Exocad GmbH software was used to attach the prosthetic connection. All guides were printed on a Phrozen Mini 8k printer using NextDent SG biocompatible resin.

The success rate was 100% after one year follow up and the final implant position, when compared to the planning, was within the acceptable clinical deviations values reported in the literature.

**Conclusion:** The purposed protocol seems to enhance the accuracy of guided implant placement with screw-retention, simplifying the transition from failing teeth to implants, and reducing chairside time. However, further studies are needed to corroborate the findings of this case series.

## References:

1. Papaspyridakos P, De Souza A, Kudara Y, Basha V, Bokhary A, Sinada N, et al. Screw-retained surgical guide for implant placement in terminal dentition patients with existing implants. J Prosthodont. 2022 Aug 14;31(7):639–43.