



# MAINTENANCE OF MARGINAL BONE SUPPORT AND SOFT TISSUE ESTHETICS AT IMMEDIATELY PROVISIONALIZED OSSEOSPEED IMPLANTS PLACED INTO EXTRACTION SITES: 2-YEAR RESULTS



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## Background

Placement of implants into extraction sockets is focused on the maintenance of peri-implant hard and soft tissue structures and the support of a natural and esthetic contour. The major advantages of immediate implant insertion in comparison to delayed implant placement protocols are a reduced treatment time, less number of sessions and the minimally invasive procedure. This study examined the clinical performance of OsseoSpeed implants placed into extraction sockets with immediate provisionalization in the anterior maxilla after a 2-year follow-up.

## Material and Methods

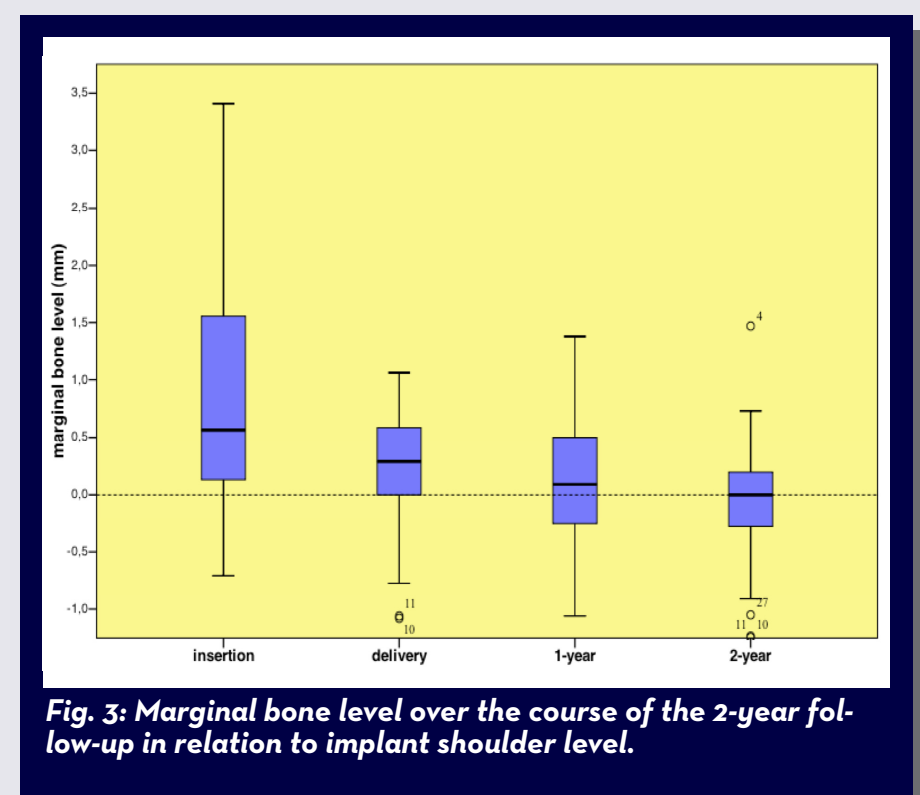
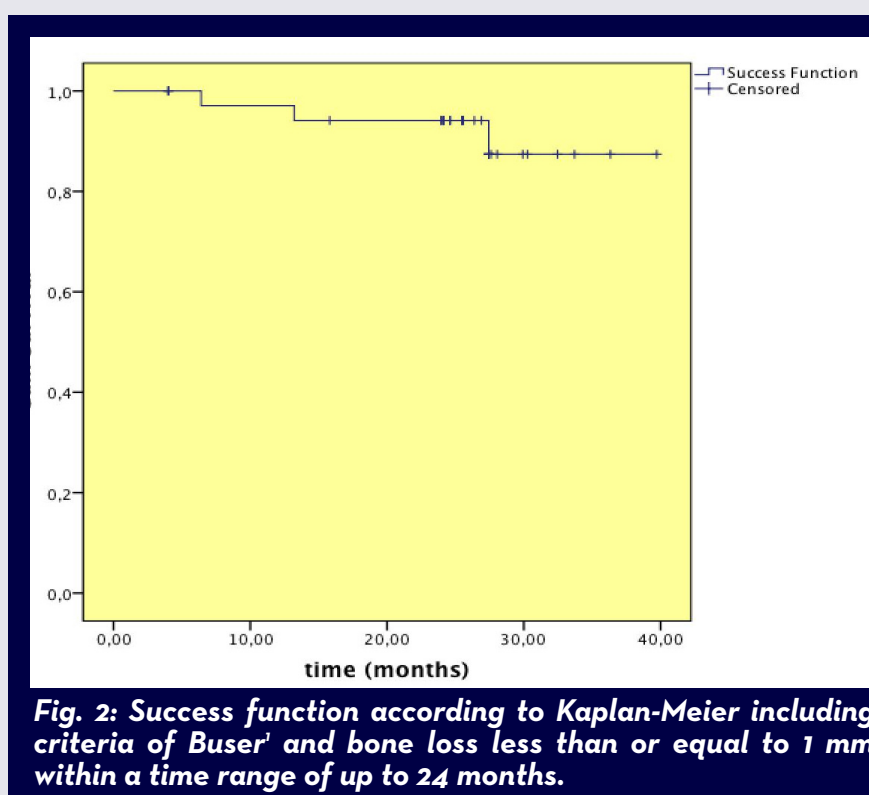
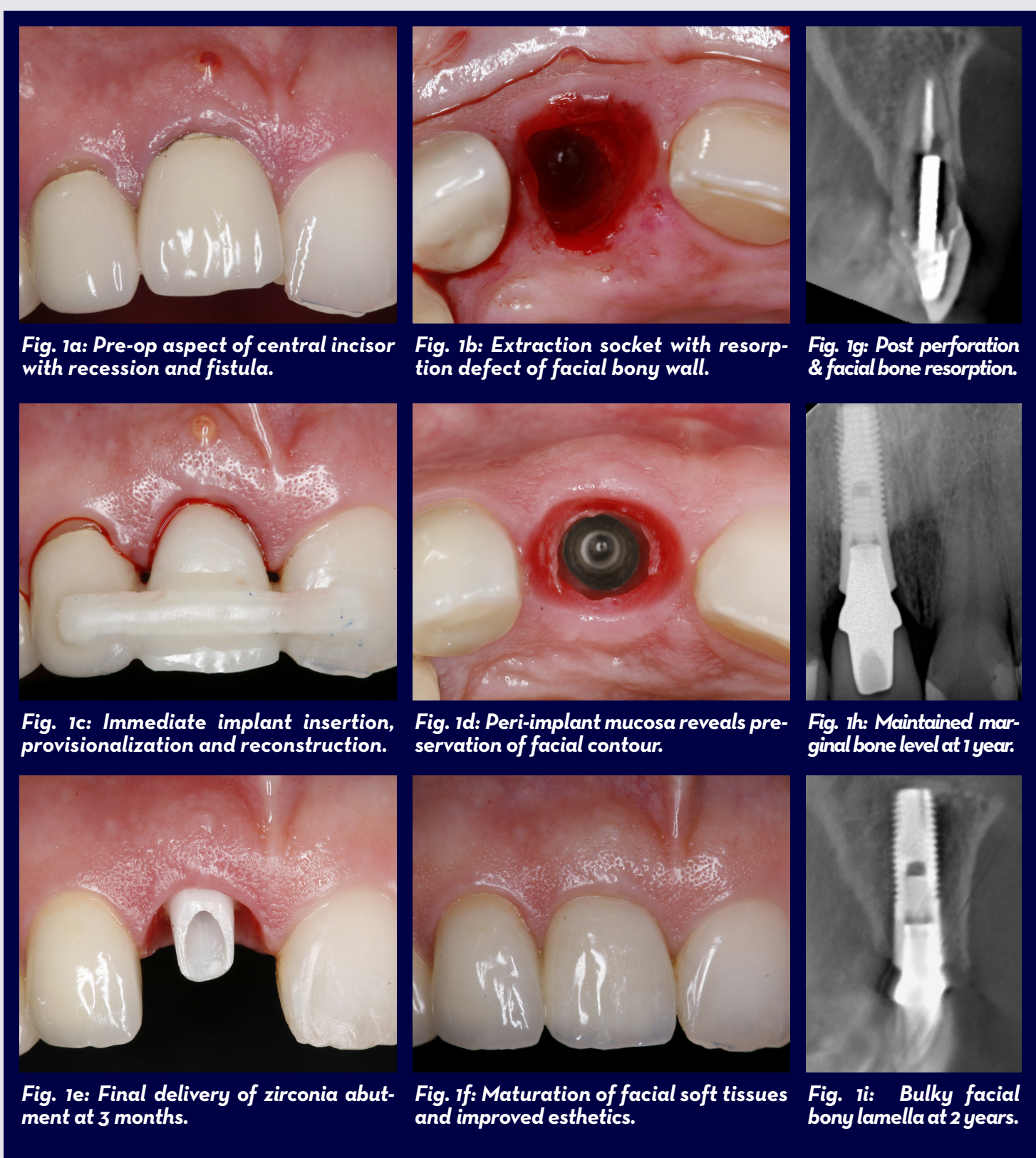
Twenty patients received a total of 37 OsseoSpeed implants which were immediately inserted into extraction sockets with and without facial bone deficiencies of various dimensions. A flapless procedure was applied and the implants were immediately provisionalized with temporary crowns without occlusal contacts. Facial gaps between implant surface and facial bone or the previous contour of the alveolar process were simultaneously grafted with autogenous bone chips. Implants in diameters 3.5, 4.0, 4.5 and 5.0 with lengths of 11 to 17 mm were used in the study. During the course of the study, implant success rates, marginal bone levels and the Pink Esthetic Score (PES) were assessed per implant.

## Results

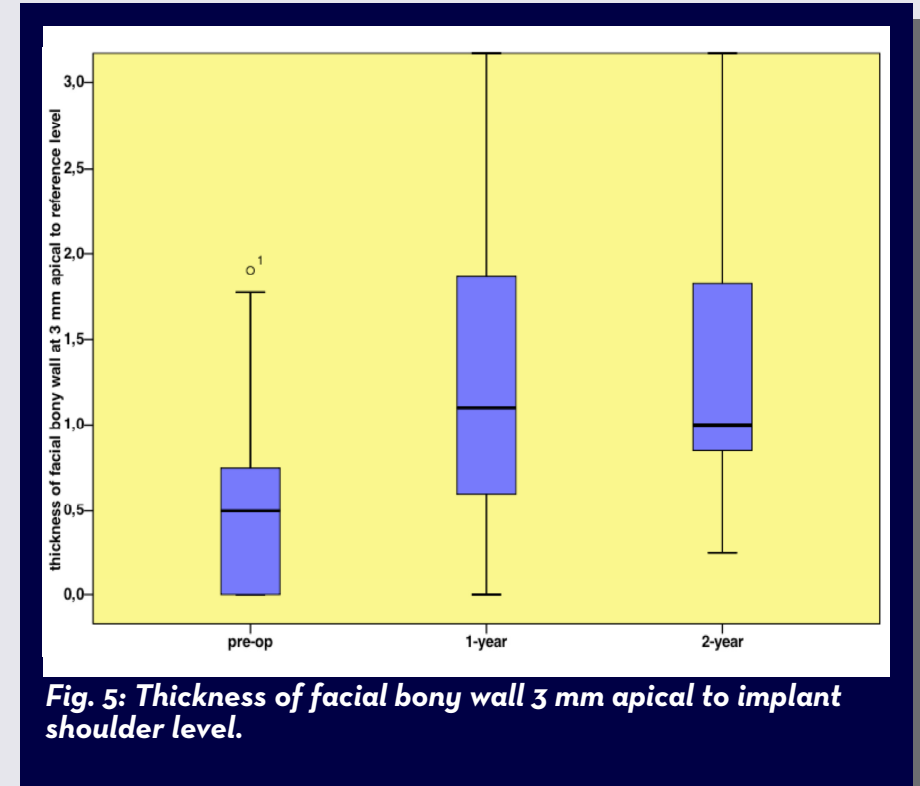
One patient with three implants resigned from the study after final delivery of the prosthesis at 4 months. The mean follow-up period of remaining 34 implants was 27 months (range, 12 to 40 months). All 34 implants were still in function at the final follow-up (survival rate: 100%). The mean interproximal marginal bone level (as measured against the implant shoulder) changed from  $0.79 \pm 1.00$  mm at implant insertion, to  $0.24 \pm 0.58$  mm at permanent prosthesis delivery, and further to  $0.14 \pm 0.57$  mm at the 1-year follow-up. Finally, at the 2-year follow-up  $-0.07 \pm 0.58$  mm were recorded. The mean PES score changed from  $10.65 \pm 1.96$  pre-op, to  $11.94 \pm 1.59$  at 1-year, and to  $11.3 \pm 1.78$  at the 2-year follow-up. Improved or stable scores for the PES were noticed in 24 patients (77 %).

## Conclusion

Survival rates, marginal bone levels, and esthetic results suggest proof of principle for the preservation of marginal bone level at immediately placed and provisionalized OsseoSpeed implants after a two-year follow-up. Implant sites with facial bony deficiencies can be predictably treated with a favorable esthetic outcome using the immediate implant insertion, immediate reconstruction and immediate provisionalization technique.



	pre-op	1-year	2-year
papilla mesial	$1.38 \pm 0.49$	$1.35 \pm 0.54$	$1.12 \pm 0.6$
papilla distal	$1.27 \pm 0.61$	$1.35 \pm 0.49$	$1.15 \pm 0.62$
soft tissue level	$1.43 \pm 0.65$	$1.76 \pm 0.5$	$1.85 \pm 0.36$
soft tissue contour	$1.78 \pm 0.42$	$1.79 \pm 0.48$	$1.76 \pm 0.44$
alveolar process	$1.95 \pm 0.23$	$1.82 \pm 0.39$	$1.61 \pm 0.5$
soft tissue colour	$1.43 \pm 0.56$	$1.91 \pm 0.29$	$1.94 \pm 0.24$
soft tissue texture	$1.38 \pm 0.55$	$1.94 \pm 0.24$	$1.88 \pm 0.33$
sum PES pre-op	$10.65 \pm 1.96$	$11.94 \pm 1.59$	$11.3 \pm 1.78$



## Literature

<sup>1</sup> Buser et al. (1990). Tissue integration of non-submerged implants. 1-year results of a prospective study with 100 ITI hollow-cylinder and hollow-screw implants. Clin Oral Implants Res 1: 33-40

<sup>2</sup> Fürhauser et al. (2005). Evaluation of soft tissue around single-tooth implant crowns: the pink esthetic score. Clin Oral Implants Res 16: 639-44

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