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SCIENTIFIC HIGHLIGHTS

SHORT OVERVIEWS ON RECENTLY
PUBLISHED SCIENTIFIC EVIDENCE.

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EDITOR'S CHOICE

Int J Oral Maxillofac Implants. 2026 May 6;0(0):1-18

Three-Year Outcomes of a Fully Tapered Implant With the One-Time Abutment Protocol Placed in Healed Ridges: A Prospective Case Series

Yago Leira, Gustavo Manfredi, María Vázquez-Reza, Hon Jin-Tan, Paula Ruiz-Henao, Antonio Liñares, Juan Blanco

STUDY OBJECTIVES AND METHODS

The aim of this study is to evaluate bone level changes three years after loading of a fully tapered implant with platform switching, using the one-abutment-one-time protocol. Twenty-eight patients (11 females, 17 males) received 28 BLX implants (Straumann, SLActive Roxolid). Interproximal bone level changes were measured radiographically. Clinical parameters including probing pocket depth (PPD), bleeding on probing (BoP), keratinized mucosa width (KMW), and modified plaque index (MPI) as well as esthetic outcomes using the Pink Esthetic Score (PES) were assessed at prosthetic loading, 1 year, and 3 years. Implant survival and success were recorded.

RESULTS

- Minimal increases in PPD (0.64-1.46 mm) and BoP were observed;
- KMW and crown length remained stable.
- No marginal bone loss was observed over the follow-up (mesial: 0.06 ± 0.47 mm; distal: 0.08 ± 0.38 mm).
- PES improved significantly from baseline to 3 years (9.39 ± 1.47 to 11.57 ± 1.34 , $p < 0.001$).
- Implant survival and success were 100%.

CONCLUSIONS

The one-abutment one-time protocol with fully tapered, platform-switched implants provide stable peri-implant bone, excellent clinical and esthetic outcomes, and high survival over 3 years

Adapted from Yago Leira et al., *Int J Oral Maxillofac Implants*. 2026 May 6;0(0):1-18, for more info about this publication, click [HERE](#)

J Funct Biomater. 2026 Apr 17;17(4):194

Accuracy of Static Computer-Aided Implant Surgery: A Clinical Comparison of Tooth-, Bone-, and Mucosa-Supported Surgical Guides

Igor Smojver, Roko Bjelica, Marko Vuletić, Luka Stojić, Vlatka Njari Galić, Dragana Gabrić



STUDY OBJECTIVES AND METHODS

The aim of this study was to evaluate the influence of different guide-support modalities on the linear and angular accuracy of implant placement. In this retrospective clinical investigation conducted at a single specialty hospital, a total of 180 implants were analyzed, divided into three equal groups ($n = 60$) based on the guide support type: tooth-supported, bone-supported, and mucosa-supported. Accuracy was assessed by superimposing preoperative virtual plans with postoperative cone-beam computed tomography (CBCT) scans, measuring linear deviations at the neck and apex of the implant, as well as angular discrepancies.

RESULTS

- The type of guide support was found to be a significant factor associated with surgical accuracy ($p < 0.001$).
- Tooth-supported guides demonstrated the highest level of accuracy, with a mean angular deviation of $1.81^\circ \pm 0.45^\circ$ and linear deviations at the neck and apex of 0.59 ± 0.18 mm and 0.73 ± 0.19 mm, respectively.
- These were followed by bone-supported guides ($2.14^\circ \pm 0.48^\circ$; 1.04 ± 0.26 mm; 1.61 ± 0.31 mm), while mucosa-supported guides exhibited the greatest deviations ($2.95^\circ \pm 0.60^\circ$; 1.47 ± 0.29 mm; 1.87 ± 0.37 mm).
- Significant intergroup differences and large effect sizes were observed, particularly regarding angular and horizontal discrepancies.

CONCLUSIONS

These findings demonstrate a distinct gradient of accuracy based on guide support, establishing tooth-supported guides as the most accurate, followed by bone-supported and, lastly, mucosa-supported guides. While all modalities are clinically applicable, the use of mucosa-supported guides necessitates increased safety margins to account for the increased risk of linear and angular discrepancies inherent to mucosal tissue displacement.

Adapted from I Smojver et al., *J Funct Biomater.* 2026 Apr 17;17(4):194, for more info about this publication, click [HERE](#)

J Funct Biomater. 2026 Apr 1;17(4):166

Effect of Implant Surface Decontamination Procedures on Surface Morphology-In Vitro Study

Furkan Özey, Selim Ersanlı



STUDY OBJECTIVES AND METHODS

The aim of this study was to compare, in vitro, the efficacy of the electrolytic cleaning device GalvoSurge (GalvoSurge, GalvoSurge Dental AG, Widnau, Switzerland) with that of an air-abrasive AIRFLOW unit (AIRFLOW, Master PiezonVR, EMS Electro Medical Systems, Herrliberg, Switzerland). Thirty-two SLA-surfaced dental implants were allocated to two groups ($n = 16$) and contaminated with permanent ink, after which they were placed into jaw models representing two different defect configurations. After treatment, implants were photographed and, using ImageJ, the residual stain area/percentage within a 4 mm region apical to the implant neck was calculated. Surface topography was further evaluated by SEM and EDS.

RESULTS

- In the two-way analysis of variance, the effect of the decontamination method was statistically significant.
- The GalvoSurge group exhibited a lower residual stain percentage than AIRFLOW (overall 28.47 ± 10.13 vs. 37.14 ± 9.60 ; $p = 0.019$). This difference was independent of defect type ($p > 0.05$).

CONCLUSIONS

These findings indicate that electrochemical cleaning via galvanic current may be more effective, under in vitro conditions, for stain removal and surface decontamination; however, they also demonstrate that residual contamination could not be completely eliminated irrespective of the method.

Adapted from F Özey et al., *J Funct Biomater.* 2026 Apr 1;17(4):166, for more info about this publication, click [HERE](#)

BMC Oral Health. 2026 Apr 22. doi: 10.1186/s12903-026-08356-w

Trueness of fully guided static computer-assisted implant surgery for immediate implant placement in premolar and molar sites, an observational analysis

Vitalijs Gnusins, Samuel Akhondi, Dainius Razukevičius, João Afonso, German O Gallucci, Algirdas Puisys



STUDY OBJECTIVES AND METHODS

The aim of this study was to quantify the trueness of fully guided static computer-assisted implant surgery (s-CAIS) for immediate implant placement in premolar and molar sites, and to explore whether implant and workflow parameters are associated with angular deviation. In this observational analysis of a cohort derived from a previously randomized clinical trial, 49 implants were placed immediately after extraction using a fully guided s-CAIS workflow. Preoperative planning data were compared with a 3-month postoperative cone-beam computed tomography (CBCT) scan using a manufacturer-developed analysis module. Trueness was assessed as 3D, vertical, and lateral deviation at the implant platform, as well as angular deviation. Between group comparisons were interpreted as exploratory.

RESULTS

- In 49 implants (25 maxilla, 24 mandible; 34 molars, 15 premolars), mean (standard deviation, SD) platform deviations were 0.92 (0.40) mm for 3D deviation, – 0.26 (0.63) mm for vertical deviation (negative indicates shallower placement), and 0.66 (0.33) mm for lateral deviation.
- Mean (SD) angular deviation was 3.77 (2.28) degrees. In exploratory analyses, angular deviation differed between implant length groups ($p = 0.010$).
- Categories with a single implant in sleeve height (H2) and drill length (16 mm) were reported descriptively only.

CONCLUSIONS

In this observational cohort, fully guided s-CAIS yielded platform-based trueness and angular deviation values for immediate implant placement in premolar and molar sites that were within ranges reported in the guided surgery literature. Findings on factors associated with angular deviation should be interpreted as exploratory and require confirmation in further studies.

Adapted from V Gnusins et al., BMC Oral Health. 2026 Apr 22, for more info about this publication, click [HERE](#)

Med Oral Patol Oral Cir Bucal. 2026 May 1;31(3):e386-e389.

Scientific evaluation of design and surface advances in Straumann implants

P Cea-Arestín



STUDY OBJECTIVES AND METHODS

The aim of this study was to evaluate the performance of recent Straumann® implants-specifically comparing Bone Level Tapered (BLT) and Bone Level Conical (BLC) designs-in relation to peri-implant bone resorption and immediate loading protocols. A total of 84 BLT implants and 84 BLC implants were placed in 78 patients between 2023 and 2025 across several clinics in Spain. Radiographic and periodontal probe measurements were performed to assess crestal bone level changes at one year post-placement. This retrospective cohort study focused on primary outcomes including 1-year survival rates and the evaluation of marginal bone loss (MBL)

RESULTS

- The most significant result was the 98.8% success rate observed for BLC implants

CONCLUSIONS

While both Straumann® tapered implants represent excellent treatment options, BLC implants demonstrated superior improvements across all evaluated parameters. Future research should focus on identifying areas for further enhancement and comparing their performance with other leading implant systems.

Adapted from P Cea-Arestín et al., Med Oral Patol Oral Cir Bucal. 2026 May 1;31(3):e386-e389., for more info about this publication, click [HERE](#)

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Yago Leira et al., Int J Oral Maxillofac Implants. 2026 May 6;0(0):1-18 | I Smojver et al., J Funct Biomater. 2026 Apr 17;17(4):194 | F Özyay et al., J Funct Biomater. 2026 Apr 1;17(4):166 | P Cea-Arestín et al., Med Oral Patol Oral Cir Bucal. 2026 May 1;31(3):e386-e389 | V Gnusins et al., BMC Oral Health. 2026 Apr 22. doi: 10.1186/s12903-026-08356-w. | source: www.pubmed.gov | Dr. Marcin Maj holds the position of Head of Global Scientific Affairs at Institute Straumann in Basel, Switzerland