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SCIENTIFIC HIGHLIGHTS

SHORT OVERVIEWS ON RECENTLY PUBLISHED SCIENTIFIC EVIDENCE.

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CONTENT

IN THIS ISSUE

EDITOR'S CHOICE

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Clinical Oral Implants Research: Volume 37, Issue S30

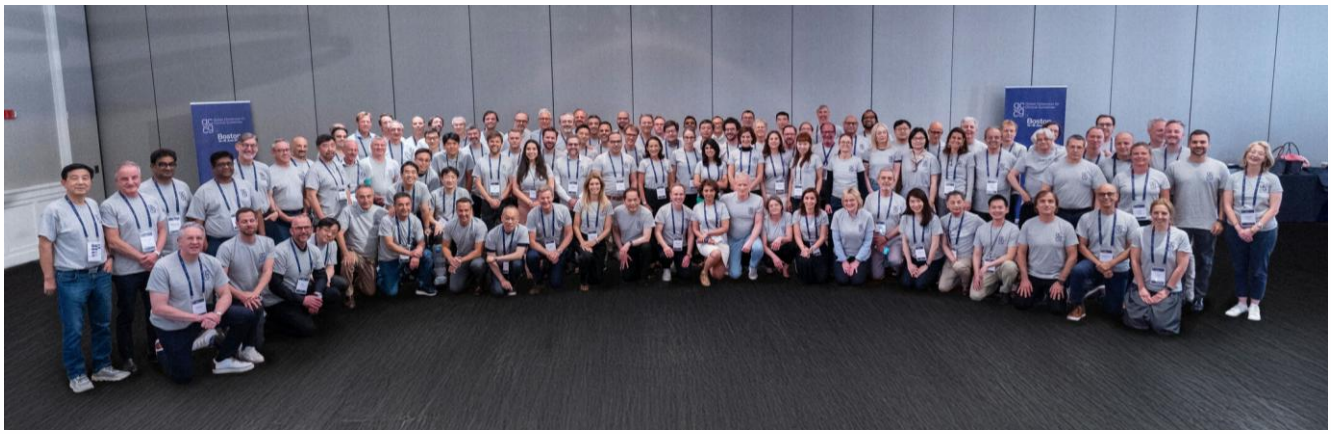
Special Issue: Proceedings of the 1st Global Consensus for Clinical Guidelines

Guest Editors: Frank Schwarz, Ronald E. Jung, Hom-Lay Wang

FREE full text

ABOUT

The Clinical Oral Implants Research Volume 37, Issue S30 presents the proceedings of the 1st Global Consensus for Clinical Guidelines, representing a major step toward standardized, evidence-based implant care. It focuses on the rehabilitation of the edentulous maxilla and delivers consensus recommendations across the full treatment pathway, from diagnosis to long-term maintenance. A key contribution is the introduction of a Core Outcome Set, aiming to harmonize clinical and patient-reported endpoints and improve comparability of future studies. The methodology combines systematic reviews, structured expert consensus, and patient input, elevating the rigor beyond traditional implant consensus statements. While some recommendations remain constrained by limited high-level evidence, the initiative clearly identifies critical research gaps and priorities. Overall, the issue establishes a foundation for more consistent clinical decision-making and aligns future research, education, and product development with standardized outcome-driven frameworks.



Oral Health Prev Dent. 2026 Feb 10:24:77-88

Impact of Immediate vs Delayed Dental Implants on Survival, Patient Satisfaction, and Quality of Life

Yi Yang, Shuncheng Zhou, Yihui Ma, Xiang Wang, Jinfang Chen, Qingshan Dong

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STUDY OBJECTIVES AND METHODS

This study investigated whether immediate placement confers any advantage over delayed placement with respect to implant survival (primary outcome), peri-implant health, patient-reported satisfaction (VAS) and oral-health-related quality of life (OHIP-14). This study included 220 patients with missing teeth, randomly divided into a control group (n = 110) and an observation group (n = 110) using a random number table (block = 10, concealed allocation). The control group received delayed implants, while the observation group received immediate implants. Outcomes measured included implant survival rate, periodontal indexes (PD, mPLI, mSBI), aesthetic evaluation (PES, WES), quality of life (OHIP-14), and patient satisfaction (VAS). Attachment level in the satisfaction assessment refers to the perceived gingival margin position relative to the restoration, evaluated subjectively by patients using a visual analogue scale rather than clinical probing measurements.

RESULTS

- At 1 year, implant survival rates were 95.45% in the immediate group versus 92.73% in the delayed group, with no statistically significant difference
- The observation group demonstrated significantly lower mean values compared to the control group for PD, mPLI, and mSBI. The PES total scores were significantly higher in the observation group than the control group, as were WES total.
- After 1 year of implantation, OHIP-14 total scores in the observation group were significantly lower than those in the control group.
- The satisfaction scores for Attachment Level, Colour, and Chewing Function were significantly higher in the observation group than in the control group (all P 0.05).

CONCLUSIONS

These findings suggest that immediate implantation may offer clinical advantages in early functional and aesthetic outcomes without compromising implant survival, providing patients with reduced treatment duration and improved peri-implant tissue preservation.

Adapted from Y Yang et al., Oral Health Prev Dent. 2026 Feb 10:24:77-88, for more info about this publication, click HERE

Int J Prosthodont. 2026 Mar 26;39(2):175-182.

Immediate Placement and Loading of Hybrid-Design Implants in the Posterior Region Using Optimized Digital Protocols: A Proof of Concept

Mohit Kheur, Tabrez Lakha, Supriya Kheur, Daniel Thoma, Ronald E Jung

STUDY OBJECTIVES AND METHODS

The purpose of this study was to use a hybrid/tissue-level implant design for immediate placement and immediate loading in the posterior region applying a digital workflow. In total, 12 patients with a single tooth to be extracted in the posterior maxilla or mandible were consecutively recruited. A CBCT examination and an intraoral scan were performed, and the digital data were used to fabricate a surgical guide and a provisional restoration for immediate loading. A flapless extraction was performed, and an implant with a hybrid design was placed in the extraction socket using a fully guided protocol. A prefabricated screw retained provisional prosthesis was then placed in full occlusion. After 2 to 3 months, a final intraoral scan was performed, and a definitive prosthesis was delivered. Patient-reported outcome measures (PROMs), marginal bone loss (MBL), and probing depth (PD) were recorded over a period of 6 months. Statistical analyses were performed using paired t test.

RESULTS

- Stable clinical (mean PD 2.8 ± 0.5 mm) and biologic (mean PI 4.9% ± 5%) outcomes were observed for all implants, rendering a 100% success and survival rate.
- PROMs were 9.5 ± 0.5 at baseline and 9.7 ± 0.4 at 6 months of follow-up.

CONCLUSIONS

The use of hybrid design implants placed immediately and subjected to immediate loading presents a viable treatment option in the posterior maxilla and mandible. Randomized controlled clinical trials should be performed with a larger sample size to further recommend such an approach for daily clinical use.

Adapted from M Kheur et al., Int J Prosthodont. 2026 Mar 26;39(2):175-182, for more info about this publication, click HERE

Dent J (Basel). 2026 Mar 6;14(3):150

Differential Attachment of Engineered Oral Soft Tissues to Implant Surfaces

Nour Jalaleddine, Emilia Barker, Kirsty Franklin, Mohamed Jamal, Momen A Atieh, Zaid H Baqain, Keyvan Moharamzadeh

FREE full text

STUDY OBJECTIVES AND METHODS

The aim of this study was to compare the differential attachment of tissue-engineered oral epithelium, connective tissue, and full-thickness human oral mucosa to various implant and abutment materials and surface topographies. Methods: Sand-blasted, large-grit, acid-etched (TiZr-SLA), machined TiZr (TiZr-M), machined zirconia (ZrO2-M), polished zirconia (ZrO2-P), and machined PEEK rods, along with commercially available titanium and ZrO2 healing abutments, were inserted into 3D oral mucosal models following a 4-mm punch biopsy. Inflammation was induced using Escherichia coli lipopolysaccharide. Analyses included histology, PrestoBlue viability assay, scanning electron microscopy, and ELISA quantification of cytokines IL-1β, IL-6, and IL-8.

RESULTS

- Epithelial attachment was greater on TiZr-SLA, ZrO2-P, and PEEK-M ($p < 0.05$ and $p < 0.01$) surfaces compared with TiZr-M and ZrO2-M.
- TiZr-SLA exhibited the highest connective tissue attachment ($p < 0.05$).
- Commercial titanium and ZrO2 healing abutments demonstrated the highest post-pull
- PrestoBlue viability and overall soft tissue attachment. SEM confirmed cell retention on all implant surfaces.
- Elevated IL-1β levels were detected in models exposed to ZrO2-M and PEEK-M, whereas IL-6 and IL-8 levels were not influenced by any material or surface topography.

CONCLUSIONS

In vitro epithelial and connective tissue responses are influenced by implant material, surface topography, and design. Rough TiZr-SLA surfaces promote superior connective tissue attachment, while smooth commercial abutments support optimal overall soft tissue integration. These findings highlight the importance of surface engineering in preclinical optimization of peri-implant soft tissue attachment.

Adapted from N Jalaleddine et al., Dent J (Basel). 2026 Mar 6;14(3):150, for more info about this publication, click HERE

REFERENCES

Special issue of Clinical Oral Implants Research: Volume 37, Issue S30 | **Y Yang et al.,** Oral Health Prev Dent. 2026 Feb 10:24:77-88 | **M Kheur et al.**, Int J Prosthodont. 2026 Mar 26;39(2):175-182 | **N Jalaleddine et al.**, Dent J (Basel). 2026 Mar 6;14(3):150 | source: **www.pubmed.gov** | Dr. Marcin Maj holds the position of Head of Global Scientific Affairs at Institute Straumann in Basel, Switzerland