Esthetics with implants: Platform switching

Long-term implant success achieved in environment of chronic periodontal disease

By David L. Hoexter, DMD, FACD, FICD, Editor in Chief

Platform switching is a means of achieving better esthetics and more predictable function by using a healing abutment that is narrower than the width of the platform of a root-form endosseous implant. The technique promotes a more predictable regenerative healing at the neck of the inserted implant.

Endosseous implants have been globally appreciated and accepted since the 1980s, although used for several years previously. Better and more predictable implants and their continuing success led to more successful adaptation by dentists and greater acceptance by the public. With improved biological acceptance of implants and improved function being realized by patients, dentists are striving to improve esthetic results.

In this presentation, “esthetics” means an implant appears, functions and is maintained just like one of the patient’s natural teeth. The implant requires biological acceptance and sufficient osseous support. Keratinized attached gingiva protects the implant and natural teeth and enables the patient to maintain good oral hygiene; however, it also serves as an esthetic, symmetrical background for the prosthetic, helping it blend in naturally and be maintained naturally.

Root-form endosseous implants have always tried to emulate the natural tooth. Various shapes, textures, coatings and other variables have been used to achieve function and replicate natural appearance.

Enhancing existing- and keratinized- gingiva regeneration supports healing and regeneration of the implant while also improving esthetics and the patient’s ability to hygienically maintain results.

This case demonstrates how platform switching aids in the healing and regeneration of the implant while also improving esthetics and the patient’s ability to hygienically maintain results.

ESTHETICS, page A6
BruxZir® Solid Zirconia has transitioned from being solely a posterior material to being an anterior material as well. By increasing the amount of yttria in the zirconia oxide, we were able to create BruxZir Anterior, which features increased translucency and esthetics.

**Flexural Strength Testing per ISO 6872 specification**

<table>
<thead>
<tr>
<th>Material</th>
<th>Average Strength</th>
<th>Maximum Strength</th>
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<tr>
<td>Lithium Disilicate</td>
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<tr>
<td>BruxZir® Anterior</td>
<td>650 MPa</td>
<td>720 MPa</td>
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**BruxZir Solid Zirconia Crowns and Bridges**

Four-year Clinical Performance

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**LONG-TERM CLINICAL PERFORMANCE**

**Conclusions**

Over the four-year evaluation period, BruxZir® Solid Zirconia Crowns and Bridges have proven to be excellent restorations with respect to esthetics and dependability. BruxZir® Solid Zirconia Crowns and Bridges received a 98% clinical performance rating.

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eration of the area supporting the implant (the sine qua non of success) and enhances keratinized gingival regeneration. Endosseous implants with a narrower abutment neck at the implant occlusal level can provide a pathway to improved esthetics, predictable maintenance and longevity.

**Case presentation**

For more than 20 years, Mr. B. was repeatedly made aware of his advancing periodontal disease. At every dental appointment (at least four times a year), he was shown his periodontal pockets and presented with treatment plans to arrest progression. But he refused any treatment beyond maintenance through hygienic techniques. His reasons were primarily financial and, to a lesser extent, based on his age and status as a self-supporting, life-long bachelor.

He presented on an emergency appointment at my practice with a large swelling on his upper left bicuspids #12 buccal area (Fig. 1). The #12 was mobile and elicited pain on touch. Years previous to commencing as my patient, Mr. B. had a root canal with post and crown on #12. The crown and post came out in total, leaving only the root. A fracture was seen on the occlusal aspect of the root (Fig. 2). After all options were presented, extraction of the #12 remaining root was recommended. Local anesthetic was administered (HuFriedy Hoexter Mesio-Distal Luxators), and the root was extracted. The root was removed in an m/d movement. A cyst at the apex (Fig. 3) was seen and was removed in total using the same movement. Buccal and lingual osseous walls were preserved. A bone graft was placed in the voided socket, and a GTR resorbable membrane (Transgraft) was used (Fig. 4). After months of uneventful healing, the area was re-entered surgically, exposing a regenerated osseous ridge (Fig. 5). An ankylose implant with a design compatible with platform switching was inserted. I placed a healing abutment at the time of implant insertion, as is my standard practice. Suturaing was followed with an X-ray (Fig 9b). The patient was given antibiotic and analgesic prescriptions and post-operative instructions. Healing was uneventful and comfortable. Mr. B. resumed good oral hygiene in the area as soon as he was comfortable doing so. After several months, integration was achieved. The patient returned to the referring dentist to complete final prosthetic components.

**Fig. 8:** Healed #12. Buccal view of keratinized gingiva, crown and solid implant.

**Fig. 9a, b:** X-ray pretreatment of #12 root canal/post/crown showing chronic bone loss (a). Bone regeneration (b).

**Figs. 9c, d:** X-ray of implant with healing platform-switching abutment (c); nine years post-op with permanent abutment and crown (d).

**Fig. 10:** Final buccal clinical view of #12 implant area.

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abutment and a final crown were placed correctly. Gingival level and height was symmetrically preserved, enabling oral hygiene to be maintained while creating an esthetic blending with the lateral surrounding area. There was no depression nor any noticeable differences with the adjacent areas. The gingiva on the adjacent teeth, however, had receded, exposing some dentin on the periodontally compromised teeth lateral to the implant. There is no probing depth on the implant. It is and has been the same for nine years since insertion.

Figure 10 shows the gingival tissue and its height being maintained, enabling the pinkish-white keratinized tissue to blend laterally with the gingival tissue of the natural adjacent teeth. The implant has been hygienically maintained. There is no depression nor any defect of the implant-gingival tissue. The implant is a success in esthetic appearance, health and function.

As alluded to earlier, there are different materials, textures and shapes used in healing abutments and permanent abutments. In this case, the platform-switching design of the healing abutment enabled us to predictably achieve a functional implant and maintainable esthetics that compare to natural teeth lateral in the area. Also confirmed is a successful continuing history of nine years in an environment of adjacent chronic periodontal disease.

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The exchange rate in recent days prior to press time has had the U.S. dollar worth more than 33.35 Canadian, which according to Pacific Dental Conference organizers, translates to great deals on travel, accommodations and other costs for U.S. residents attending the meeting.

But the deals are just the beginning. The real benefits come from the more than 193 sessions — and an exhibit hall with more than 600 booths. If that’s not enough to get you heading to Vancouver, the meeting also will include some St. Patrick’s Day fun, including a Celtic Celebration with Tiller’s Folly on March 17.

The PDC, which typically attracts more than 12,500 dental professionals, is from March 17-19 in Vancouver, British Columbia. Online registration is available at www.pdconf.com.

(Source: Pacific Dental Conference)