TiUnite implants enhanced osseointegration compared with the Osseotite implants. Despite their smoother surface compared with the TiUnite implants, the Mg implants’ surface chemistry aided in bone formation.

This paper compared the level of experience of oral surgery residents with implant survival rates. The study evaluated 175 implants placed in 54 patients over a defined period during an oral surgery residency. The implants were placed in a 2-stage fashion and were followed at set intervals. The implants were evaluated for success with both clinical and radiographic criteria. The success rates were tabulated for each year of training of the resident surgeon (from 1 to 4 years). The results indicated no difference in the success rates, and the success rates were comparable with those found in the literature. These results suggest that level of training (experience) does not affect implant survival rates.

This study evaluated bone healing adjacent to implants placed in both artificially created defects and fresh extraction sites. Six dogs had their first and second premolars and first molars extracted bilaterally. After 3 months of healing, the right side was treated as follows. Implants were placed into the healed ridge sites that had osteotomies created with a residual defect 5 mm deep and up to 1 mm wide at the crestal portion of the implant (A sites).
On the same side the third and fourth premolars were extracted, and implants were placed into the distal socket of each tooth such that a residual defect of 1 mm was present between the implant and the socket (N sites). Abutments were placed on all implants, and flaps were sutured. After an additional 2 months of healing, an identical procedure was performed on the left side. After 2 more months of healing, the dogs were killed and their jaws were removed for analysis. The results indicated that at 2 months of healing there was bone fill into the apical portion of the defects. At 4 months of healing more crestal bone fill was present. When comparing the naturally created defects (N sites) with the artificial defects (A sites), there was a distinct difference between the 2 groups: the N sites had significant crestal bone resorption, and the A sites had almost complete bone fill of the defects. These results suggest that the bone heals differently adjacent to implants placed into similar-sized defects in healed edentulous ridges and fresh extraction sockets. Implants placed into extraction sockets experienced significant crestal bone loss.

**Implant Prosthodontics**


This prospective study examined the peri-implant health of both screw-retained and cement-retained prostheses. One hundred fifty-two ITI implants (Straumann, Waldenburg, Switzerland) were placed into the anterior maxilla of 80 patients in a 1-stage fashion. Porcelain fused to metal crowns and bridges were attached 3 to 5 months after implant placement: 61.9% were screw retained and 38.1% were cement retained. The clinical gingival health and esthetics of the restorations were recorded at defined intervals up to 36 months postloading. The results indicated that the screw-retained crowns had a more favorable gingival health over time. There was no soft tissue recession during the study, and patients did not have a preference for a particular prosthesis type from an aesthetic standpoint. These results suggest that screw-retained crowns may offer improved peri-implant soft tissue health compared with their cement-retained counterparts.

"Bone Grafting"


This paper examined the effect of adding platelet-rich plasma (PRP) to osteoconductive graft materials in a rat model. Thirty-eight rats had cranial defects grafted with a mixture of hydroxyapatite/b-tricalcium phosphate (60/40) alone or mixed with PRP in a liquid or gel state. Eight cranial defects were left ungrafted. The rats were killed after 4 weeks of healing and the defects were examined radiographically, histologically, and by histomorphometry. The results indicated similar bone growth in all 3 experimental groups. The authors concluded that PRP had no beneficial effects on bone formation in this animal model.


This paper examined the effect platelet-rich plasma (PRP) had on the osseointegration of dental implants in grafted sinuses. The study used minipigs who had their premolars extracted bilaterally. After 2 months of healing, the animals underwent bilateral sinus augmentation and simultaneous implant placement. The sinuses were grafted with autogenous bone alone (group A), autogenous bone plus PRP (group B), Biogran alone (Orthovita, Implant Innovations, Palm Beach, Fla) (group C), or Biogran plus PRP (group D). Any sinus membrane perforations were repaired with a bovine collagen sponge. The animals were sacrificed at 1, 2, 8, and 12 months after implant placement. In the latter 2 time frames, the implants were uncovered 6 months postplacement, and healing abutments were placed to allow functional loading for 2 to 6 months. The bone-implant contact was established with the use of microcomputed tomography. Histologic assessment of the bone was also conducted. The results indicated that the autogenous bone groups (A and B) had greater bone-implant contact compared with the Biogran groups (C and D). The addition of PRP did not significantly affect the levels of bone-to-implant contact.