

ORAL SURGERY CARE



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Dear Colleague,

Our goal is to be a source of information for you as well as providing oral surgery care for your patients. With our quarterly newsletter, we wish to share with you some of the latest developments in oral surgery and implant dentistry.

The Minnesota State Board of Dentistry allows hour-for-hour credit (elective category) for self-study activities such as literature review. You just need to document the date and amount of time spent in your portfolio.

We appreciate the trust you place in us by allowing us to participate in the care of your patients.



Oral Surgery Care

Regards,

Dr. Brent L. Florine

P.S. Limited space is still available for our CPR recertification classes on November 6 and 12th. Call for details.

A Comparison of Implant-retained Mandibular Overdentures and Conventional Dentures on Quality of Life in Edentulous Patients

Harris D, Höfer S, et al.
Clin Oral Implants Res. 2013 Jan;24(1):96-103

The purpose of this study was to determine any difference in patient response to implant overdentures compared with conventional complete dentures alone. In a randomized, prospective, controlled study, 122 edentulous patients (Mean age 64; 39 men, 83 women) underwent baseline assessment of denture satisfaction and quality of life using the Oral Health Impact Profile-49 (OHIP-49) and a Denture Satisfaction Questionnaire. All patients were provided with new conventional complete dentures (CCDs) that they wore for 3 months, at which point they were reassessed using the same measures. Patients were randomly assigned either to continue with CCDs (CC group) or to have implant-retained overdentures

(IODs) made (CI group). The CC group was assessed after a further 3 months (6 months after receiving CCDs). The CI group was assessed 3 months after receiving IODs.

Significant improvements in satisfaction and quality of life were found in the patients 3 months after receiving CCDs. No further improvements were found in the CC group at 6 months on any of the measures. The CI group showed significant additional improvements at 3 months following IODs on the functional limitation, physical pain, psychological discomfort, physical disability, social disability, psychological disability and handicap scales of the OHIP and on 10 of the 11 scales of the Denture Satisfaction Questionnaire. *The findings show that, controlling for expectancy bias and variability in baseline levels, IODs significantly increase patient satisfaction, dental function and quality of life over and above those achieved with good quality CCDs.*

Economic Evaluation of Single-Tooth Replacement: Dental Implant Versus Fixed Partial Denture

Kim Y, Park JY, et al.
Int J Oral Maxillofac Implants. 2014 May-Jun;29(3):600-7

This study assessed the cost-effectiveness from a societal perspective of a dental implant compared with a three-unit tooth-supported fixed partial denture (FPD) for the replacement of a single tooth in 2010. A decision tree was developed *continued on back page*

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dental and oral and maxillofacial surgery training at Louisiana State University and Charity Hospital in New Orleans, and the University of Minnesota Hospitals and Clinics. He is certified as a Diplomate of the American Board of Oral and Maxillofacial Surgery and has practiced oral surgery in Eagan since 1987.

Economic Evaluation...continued

to estimate cost-effectiveness over a 10-year period. The survival rates of single-tooth implants and FPDs were extracted from a previous studies. Medical costs included initial treatment costs, maintenance costs, and costs to treat complications. Patient surveys were used to obtain the costs of the initial single-tooth implant or FPD. Maintenance costs and costs to treat complications were based on surveys of seven clinical experts at dental clinics or hospitals. Transportation costs were calculated based on the number of visits for implant or FPD treatment. Patient time costs were estimated using the number of visits and time required, hourly wage, and employment rate. Future costs were discounted by 5% to convert to present values.

The results of a 10-year period model showed that a single dental implant cost US \$261 (clinic) to \$342 (hospital) more than an FPD and had an average survival rate that was 10.4% higher. The incremental cost-effectiveness ratio was \$2,514 in a clinic and \$3,290 in a hospital for a prosthesis in situ for 10 years. The sensitivity analysis showed that initial treatment costs and survival rate influenced the cost-effectiveness. If the cost of an implant were reduced to 80% of the current cost, the implant would become the dominant intervention. *Although the level of evidence for effectiveness is low, and some aspects of single-tooth implants or FPDs, such as satisfaction, were not considered, this study will help patients requiring single-tooth replacement to choose the best treatment option.*

Implant Treatment in Atrophic Posterior Mandibles: Vertical Regeneration with Block Bone Grafts versus Implants with 5.5-mm Intrabony Length

Peñarrocha-Oltra D, Aloy-Prósper A, et al.
Int J Oral Maxillofac Implants. 2014 May-Jun;29(3):659-66

The purpose of this study was to retrospectively compare the outcomes of implants placed in posterior mandibles vertically regenerated with onlay autogenous block bone grafts and short dental implants. Consecutive patients with vertical bone atrophy in edentulous mandibular posterior regions (7 to 8 mm of bone above the inferior alveolar nerve) were treated with either implants placed in regenerated bone using autologous block bone grafts (group 1) or short implants (with 5.5-mm intrabony length) in native bone (group 2) between 2005 and 2010 and followed for 12 months after loading. The procedure used was the established treatment protocol for this type of patient at an oral surgery unit at the time of surgery. All grafts were obtained using piezosurgery. The outcomes assessed were: complications related to the procedure, implant survival, implant success, and peri-implant marginal bone loss.

Thirty-seven patients were included, 20 (45 implants) in group 1 and 17 (35 implants) in group 2. In group 1, 13 implants were less than 10 mm long (2 were 7 mm and 11 were 8.5 mm), and 32 were 10 mm or longer; the diameter was 3.6 mm in 6 implants, 4.2 mm in 31, and 5.5 mm in 8. In group 2 all implants were 7 mm long; the diameter measured 4.2 mm in 14 implants and 5.5 mm in 21 implants. Complications related to the block bone grafting procedure were temporary hypoesthesia in one patient, wound dehiscence with graft exposure in three patients, and exposure of the osteosynthesis screw without bone graft exposure in one patient. After 12 months, implant survival rates were 95.6% in group 1 and 97.1% in group 2; success rates were 91.1% and 97.1%, respectively. The average marginal bone loss was 0.7 mm in group 1 and 0.6 mm in group 2. *When residual bone height over the mandibular canal is between 7 and 8 mm, short implants (with 5.5-mm intrabony length) might be a preferable treatment option over vertical augmentation, reducing chair time, expense, and morbidity*

Stage 0 Osteonecrosis of the Jaw in a Patient on Denosumab

Aghaloo TL, Dry SM, et al.
J Oral Maxillofac Surg. 2014 Apr;72(4):702-16

Osteonecrosis of the jaws (ONJ) is a complex disease involving multiple tissue and cell-type responses to wound healing or infection. AAOMS defines bisphosphonate related ONJ (BRONJ) as exposed, necrotic bone in the maxillofacial region that has persisted for more than 8 weeks in a patient with current or previous antiresorptive treatment, without a history of radiation therapy to the jaws. Since the first reported ONJ cases in 2003 and 2004, there has been little advancement in understanding the etiology and pathophysiology of ONJ.

Many hypotheses have been proposed, including bisphosphonate (BP) toxicity to oral epithelium, altered wound healing after tooth extraction, high turnover of the mandible and maxilla, oral biofilm formation, infection and inflammation, and suppression of angiogenesis and bone turnover. The current classification system of ONJ involves stages 0 to 3 and is based on patient clinical presentation. *This report describes a case of stage 0 ONJ in a patient on denosumab and indicates the full-spectrum similarities between BP- and denosumab-associated ONJ clinically, radiographically, and histologically.*

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