



# WESTSIDEOMS ORAL SURGERY & DENTAL IMPLANT CENTER

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Summer 2018 ~ A Quarterly Update

Dear Colleague:

Each year we continue to see growth and development in our practice accompanied by an increase in treatment success. Through this quarterly newsletter, we wish to share with you some of the latest developments in oral surgery and implant dentistry, as well as open communication with your office.

If we can provide any additional information, or if you would like to see an article on a particular topic in our next issue, please do not hesitate to call. We appreciate the trust you place in us by allowing us to participate in the care of your patients.

Regards,

*Dr. Rupi Dhadli*

## Five-Year Survival of Short Single-Tooth Implants (6 mm)

J Dent Res. 2018 Mar 1:2  
Naenni N, Sahrman P, et al.

The purpose of this study was to evaluate whether 6-mm dental implants in the posterior segments of either jaw perform equally well in terms of clinical and radiographic outcomes when compared with 10-mm implants after 5 years of loading. Patients with single-tooth gaps in the posterior area who were scheduled for implant therapy were randomly assigned to a group receiving either a 6- or 10-mm implant. After a healing period of 10 weeks, implants were loaded with a screw-retained single crown and followed up at yearly intervals. Of 96 patients, 86 could be recalled after 5 years.

The implant survival rates amounted to 91% for the 6-mm group and 100% for the 10-mm group. Median crown-to-implant (C/I) ratios were 1.75 for the 6-mm group and 1.04 for the 10-mm group, whereas the median marginal bone levels measured -0.29 mm (IQR) for the 6-mm group and -0.15 mm (IQR) for the 10-mm group after

5 years. The C/I ratio turned out to be statistically significant, whereas marginal bone levels showed no significant difference between the groups.

The 6-mm implants exhibited significantly lower survival rates than the 10-mm implants over 5 years, whereas there was no difference between upper and lower jaws in terms of survival. Lost implants did not show any sign of marginal bone loss or peri-implant infection previous to loss of osseointegration. *High C/I ratio and implant length had no significant effect on marginal bone level changes or technical and biological complications.*

## The Influence of the Crown-Implant Ratio on the Crestal Bone Level and Implant Secondary Stability: 36-Month Clinical Study

Hadzik J, Krawiec M, et al.  
Biomed Res Int. 2018 May 16

When the era of dental implantology began, the pioneers defined some gold standards used in dental prosthetics treatment for implant-supported restorations. Referring to traditional prosthetics, it was taken for granted that the length *continued on page 2*

Dr. Dhadli is dual degreed Oral and Maxillofacial Surgeons both a physician and dental surgeon. Dr. Dhadli attended Dental School and Medical School at Case Western Reserve University. She furthered her training and education through a 5 year intensive residency program in Oral and Maxillofacial Surgery and Anesthesia at University Hospitals of Cleveland, OH, Mt. Sinai Medical Center, Rainbow Babies and Children Hospital, and Metrohealth Medical Center in Cleveland, OH.



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## Crown-Implant Ratio...continued

of an implant placed in the alveolar bone (the equivalent of the root) should exceed the length of the superstructure. The purpose of this study was to determine whether implant length and the crown-to-implant (C/I) ratio influence implant stability and the loss of the surrounding marginal bone and whether short implants can be used instead of sinus augmentation procedures.

The patients participating in the study (n = 30) had one single tooth implant, a short (OsseoSpeed™ L6 Ø4 mm, Implants) or a regular implant (OsseoSpeed L11 and L13 Ø4 mm, DENTSPLY Implants), placed in the maxilla. The evaluation was based on clinical and radiological examination. The crown-to-implant ratio was determined by dividing the length of the crown together with the abutment by the length of the implant placed crestally. Mean crown-to-implant ratios were calculated separately for each group and its correlation with the MBL (marginal bone loss) and stability was assessed. The authors compared the correlation between the C/I ratio values, MBL, and secondary implant stability.

Positive results in terms of primary and secondary stability were achieved with both (short and conventional) implants. The MBL was low for short and conventional implants being 0.34 mm and 0.22 mm, respectively. No significant correlation was found between the C/I ratio and secondary stability as well as the C/I ratio and the marginal bone loss. *Short implants can be successfully used to support single crowns. The study has revealed no significant differences in the clinical performance of prosthetic restorations supported by short implants.*

## The Effect of Single Tooth Implant Restorations on the Survival, Morbidity, Pulpal, and Periapical Health of Adjacent Teeth

Duqum I, Barker S, et al.  
*Clin Implant Dent Relat Res.* 2018 Jun 19

**T**he purpose of this study was to determine whether the placement and restoration of a single tooth posterior implant affects the survival, morbidity, pulpal, and periapical health of adjacent natural teeth. A retrospective chart review identified patients who received single posterior tooth implants between August 2004 and July 2015 at the UNC SOD and met the study inclusion criteria. Preoperative and postoperative records were reviewed; survival and changes in coronal, pulpal, and periapical status of teeth adjacent to the implant and contralateral tooth were recorded. Dichotomous survival, restoration, and retreatment outcomes were analyzed

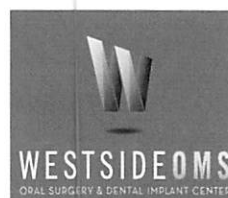
using appropriate statistical analysis with patients as strata and implant versus control as the predictor.

Five hundred and fifty-five sites with follow-up time averaging 5 years were reviewed. Teeth adjacent to implants had 1.75 times the odds of restorative retreatments as compared to controls. On the implant side, 48 adjacent teeth (4.5%) were more heavily restored at follow up, while 84 (7.9%) experienced retreatment with comparable number of surfaces restored. On the contralateral side, 54 adjacent teeth (5.0%) were more heavily restored, and 56 (5.2%) experienced comparable levels of retreatment. In addition, 17 (1.7%) implant adjacent teeth required root canal treatment, compared to 12 (1.2%) on the contralateral side; 1 implant adjacent tooth required root canal retreatment. Forty-two teeth (3.8%) adjacent to implants were lost, compared to 35 (3.2%) adjacent to natural teeth. *The incidence for restorative retreatment was significantly higher on teeth adjacent to implant restorations as compared to the contralateral controls.*

## The Use of Cone-Beam Computed Tomography in Management of Patients Requiring Dental Implants

Rios HF, Borgnakke WS, et al.  
*J Periodontol.* 2017 Oct;88(10):946-959

**A**pplication of cone-beam computed tomography (CBCT) has grown exponentially across dentistry with a clear impact in implant dentistry. This review attempts to provide the scientific context to understand if CBCT imaging should become the standard of care for patients requiring dental implants. The current available literature reflects an increased optimization of emerging CBCT imaging protocols and further highlights its diverse applications for dental implant therapy. This technology continues to be considered an advanced point-of-care imaging modality and should be used selectively as an adjunct to two-dimensional dental radiography. *As with other ionizing radiation imaging modalities, CBCT imaging should be used only when the potential benefits to the patient outweigh the risks. Dental health care professionals should consider CBCT imaging only when they expect the diagnostic information yielded will lead to better patient care, enhanced patient safety, and ultimately facilitate a more predictable, optimal treatment outcome.*



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