

# ORAL SURGERY CARE



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Spring 2023

Hello Spring!

As the snow has finally receded from our lawns, parking lots and short term memories, enjoy all that Spring offers. We deserve it more this year than most.

Enjoy also our Spring newsletter with summaries of recent literature about oral surgery and dental implants. Please contact us if you have suggestions about topics for future newsletters.

We appreciate being a part of your dental care team, and we take your trust in our care seriously. Let us know if there is ever anything we can do to improve your patients' experiences or to make the referral process easier for you or your patients.



Oral Surgery Care

Best Regards,

*Dr. Brent Florine*

## Evidence-Based Criteria for an Ideal Abutment Implant Connection-A Narrative Review

Michael Block  
*J Oral Maxillofac Surg 2022 Oct;80(10):1670-1675*

Long-term success with a dental implant restoration relies on a stable connection between the abutment and the implant. The purpose of this article was to review the current knowledge of the abutment interface, identify problems that develop due to wear and mismatch of parts, and use a problem list to propose a solution. The objective was to provide a concise overview that clinicians can then use to choose a system that addresses the problems of the abutment implant interface. Manufacturing methods will result in surface variations across the surface of the abutment and implant. Microgaps change in dimension upon function due to wear. Bacterial leakage can lead

secondary to functional wear, and the microgap will get larger. The increase in the microgap with function has been clinically verified. Micromotion will result in larger areas of surface gap in both flat and conical connections, with gaps larger than the size of bacteria.

*The author concludes that for an ideal abutment, an implant system must have high tolerances for manufacturing with minimal gap formation along the abutment to implant surface; a connection that is resistant to micromotion; screws that have minimal deformation during loading; and a microgap less than 1 micron which is maintained during implant function.*

## Oral Manifestations of Covid-19-A Literature Review

Huma Farid, Madiha Khan, et al.  
*Rev Med Virol 2022 Jan;32(1)*

Initially, it was reported that coronavirus 2019 disease (Covid-19) affects respiratory, gastrointestinal and neurological systems, but the oral, olfactory and integumentary systems are also involved. This review discusses various oral manifestations of Covid-19 reported in the literature along with possible underlying mechanisms. The reported manifestations include taste impairment, oral mucosal changes (petechiae, ulcers, plaque-like lesions, reactivation of herpes simplex virus 1(HSV1),

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## Oral Manifestations ...continued

geographical tongue and desquamative gingivitis) and dry mouth. The prominent location for mucosal lesions are the tongue, palate and labial mucosa. The exact pathogenesis of these oral symptoms is not known. Angiotensin-converting enzyme 2 (ACE2) cell receptors are expressed in abundance on oral mucosa allowing severe acute respiratory syndrome-coronavirus-2 (SARS-CoV-2) to infect them.

*Gustatory impairment along with olfactory changes is now listed as a symptom of Covid-19 by the World Health Organization, but further research is needed to confirm a link between reported additional oral symptoms. Covid Dental professionals may encounter individuals with Covid-19 and be called upon to identify various oral manifestations of this disease.*

## The Effect of Initial Biologic Width on Marginal Bone Loss

Ping Sun, Dan Yu, et al.  
*Int J Oral Maxillofac Implants 2022 Jan-Feb;37(1):190-198*

The purpose of this study was to evaluate the short-term effect of dental implant placement, mucosa thickness, and their combined effects (initial biologic width) on marginal bone loss. This study included patients who received implant surgery in the posterior region without bone augmentation surgery between 2012 and 2016, and implants had been loaded for more than 12 months. Each patient received radiographic examination before and after implant surgery, before the stage-two surgery, and during the 1- to 5-year follow-up. The thickness of mucosa, depth of dental implant placement, and crestal bone loss were evaluated on digital radiographs. The interaction was discussed by defining the combination of initial mucosal thickness and implantation depth as the initial biologic width. The implants were divided into four study groups based on the quartile of the initial biologic width.

This study included 266 patients (94 male and 172 female, 22 to 85 years of age, mean age: 51years), with 413 dental implants placed including 239 Straumann implants and 174 Ankylos implants. The average follow-up was 21.50 months. After 1 to 5 years, the median crestal bone loss around implants was 0.35 mm (0.30 mm for Straumann BL and 0.40 mm for Ankylos). The implants were divided into four groups: group A ( $\leq 2.85$  mm), group B (2.85 to 3.40 mm), group C (3.40 to 3.97 mm), and group D ( $> 3.97$  mm). Group B showed significantly less crestal bone loss than group A (0.38 mm vs 0.25 mm) and group C (0.25 mm vs 0.40 mm) during the follow-up. Significantly more crestal bone loss around implants was observed in the thin mucosa group than in the thick mucosa

group (0.50 mm vs 0.30 mm), while implants placed beneath the bone level displayed a significantly higher amount of marginal bone loss than implants placed even with the bone crest (0.50 mm vs 0.10 mm). The initial biologic width has an effect on crestal bone loss. When the initial biologic width was between 2.85 and 3.40 mm, the marginal bone loss was lowest. *Based on radiographic evaluation, implants placed in thick gingiva and even with the bone level showed less alveolar marginal bone loss compared with implants placed in thin gingiva and below the crestal bone level.*

## Prognosis of Teeth in Mandibular Fracture Lines

Won-Bum Lee, Yong-Deok Kim, et al.  
*Dent Traumatol 2021 Jun;37(3):430-435*

Teeth in a jaw fracture line, because of the presence of the periodontal ligament, may communicate with the oral cavity. There are no guidelines for the management of teeth in mandibular fracture lines. The purpose of this study was to investigate the factors related to dental problems with teeth involved in mandibular fracture lines and to determine the best treatment option. This study was based on the medical and radiographic records of patients with mandibular fractures. The relationships among the patient's age, gender, smoking history, amount of bony displacement, surgery, trauma-surgery period, apical involvement, tooth mobility, and periodontal status were investigated. Group comparisons were performed using appropriate statistical analysis.

A total of 238 patients (247 fracture lines) with mandibular fractures including a tooth in the line of the fracture were examined. Post-operative dental complications occurred in 42 cases (17.0%). Extraction of related teeth occurred in 34 cases (80.9%) compared to eight cases (19.0%) related to root canal therapy. This study defined "dental problem" as "a case with a tooth extracted or endodontically treated after trauma." The variables associated with an increased risk of dental problems were the amount of bony displacement, tooth mobility, and pre-existing marginal alveolar bone loss. *The authors concluded that the prognosis of teeth in mandibular fracture lines was related to tooth mobility, periodontal state, and the amount of bony displacement.*

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