



**April 18, 2016**

## **“Monday Morning Pearls of Practice by Bobby Baig”**

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### **Recession in Implants: Biologic Complications, Diagnosis, Treatment and Prevention: Recession**

#### **Recession around Implants:**

##### **Introduction:**

In stark contrast, very little is known about the diagnosis, etiology, prevalence or treatment of recession defects around dental implants. A classification system to diagnose implant recession does not exist. In addition, very few prospective studies and only a small number of clinical case reports have been published on treatment. Even the term “recession” around implants is confusing.

##### **CEJ around Implants:**

Recession around teeth is defined as apical migration of the gingival margin from the CEJ. Because a CEJ does not exist around an implant, a standard reference point for the purpose of diagnosis, evaluation and study comparisons is not well defined or universally accepted. Moreover, there are significant morphologic differences between periodontal and peri-implant tissues. When recession occurs around a tooth, a loss of attachment typically has occurred. This is not necessarily the case around a dental implant. Therefore, for purposes of this report, implant recession refers to the migration of the peri-implant mucosa apical to an ideal position in relation to the adjacent dentition.

##### **Etiology:**

The etiology of mucosal recession around implants appears to be multifactorial.

##### **Cosyn et al: 2012:**

In a systematic review on the frequency of advanced recession following single immediate implant treatment, they concluded that soft tissue recession could be expected following immediate implant placement and that multiple factors contribute to the phenomenon. Implants that are buccally inclined, or placed in close proximity to a cortical plate or implants that are oversized for the specific site, can promote loss of bone and subsequent mucosal recession.



**Fig 1**



**Fig 2**

Fig 1 and 2: Malposition of implant leads to loss of bone and soft tissues. [Caplanis et al 2014](#).

Ross SB et al 2014:

A five-year retrospective study on 47 patients receiving single maxillary incisor immediate implants and immediate provisionalization concluded that implant diameter, gingival biotype, surgical technique and the reason for original tooth loss influence the amount of gingival recession.

Bengazi et al 1996:

A two-year longitudinal prospective study on recession around dental implants suggests that peri-implant soft tissue recession might be the result of soft tissue remodeling to establish a biologic width. The study also found that most recession occurs within six months of prosthesis delivery. A greater amount of implant recession was found in women than men, in the mandible than in the maxilla, and at lingual sites than in facial sites.

**Treatment of Recession around Implants:**

Treatment of mucosal recession around dental implants is elusive.

Coronally Advance Flap:

In a review of the literature, patients were treated with an over compensated coronally advanced flap in conjunction with an interpositional connective tissue graft. These patients had a mean mucosal recession of 3 mm prior to surgery. A mean “over” coverage of the recession defect up to 1.2 mm was obtained immediately following the procedure. After one month, a mean coverage of 75 percent was achieved and after six months, 66 percent was retained.

Zucchelli et al 2013:

Patients with a mean mucosal recession of 3 mm were also treated using a coronally advanced flap in conjunction with an interpositional connective tissue graft harvested from the palate. In this study, the original restorations were removed in preparation for the procedure and replaced with new ones following surgery. The authors reported a statistically and clinically significant improvement in implant recession coverage with a mean coverage of 96.3 percent. However, complete coverage was only achieved in 75 percent of the treated sites. It should be noted that subject’s recruited for this study also had a mean recession of about 3 mm and no interproximal attachment loss on the adjacent teeth. This clinical situation represents a Miller Class I or II type of defect where 100 percent coverage is routinely achieved around teeth.

Complete Removal of Implant Abutment:

A few case reports have introduced a technique involving the complete removal of the implant abutment and restoration, allowing the tissues to naturally overgrow and re submerge the implant with or without the addition of a connective tissue graft. This technique may hold some promise for the future but additional studies are warranted to determine its predictability and efficacy.

Cochran et al Review 1997:

A systematic review of the literature for the Cochran collaboration group attempted to answer the question of what are the most effective techniques for soft tissue management around implants. The authors concluded that there is insufficient reliable evidence to provide a recommendation on which is the most effective soft tissue augmentation technique around dental implants. Prosthetic protocols such as platform-switching show some promise in minimizing crestal bone loss and recession, but further research is needed before any definitive conclusions can be made.

Envelope flap with an Interpositional Connective Tissue Graft:

Mucosal recession around an implant in the maxillary left canine position exposing approximately 3 mm of the titanium abutment is shown in fig 3 and 4.



Fig 3



Fig 4

Fig 3 and 4: An interpositional connective tissue graft within an envelope flap was used to cover the exposed titanium abutment in a single procedure. [Caplanis et al 2014](#)

An envelope flap with an interpositional connective tissue graft harvested from the palate was performed. After a single surgical procedure, complete coverage of the exposed titanium abutment was achieved. An implant was placed in site No. 11. Following final abutment connection four months after implant placement, mucosal recession occurred exposing approximately 2 mm of the titanium abutment. Three separate surgical procedures were performed to achieve recession coverage, including a coronally advanced flap with an interpositional connective tissue graft, followed by an envelope flap with another interpositional connective tissue graft and finally a semi-lunar advanced pedicle flap.



Fig 5



Fig 6



Fig 7



Fig 8

Multiple surgical procedures were required to achieve coverage of the exposed titanium abutment. Note the divided amalgam tattoo associated with the semi-lunar pedicle flap procedure. [Bickert 2014](#).

#### Conclusion:

In summary, recession repair around implants when compared to teeth is not as well studied or understood and treatment is not as predictable as it's described.

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