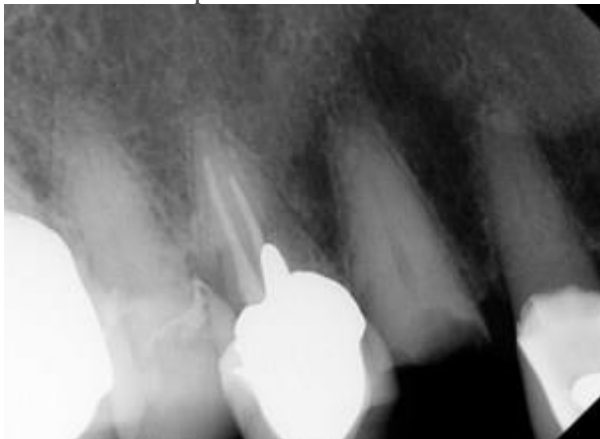


## Gingival Esthetics and Bone Grafting Immediate Implants

Immediate implants provide the most ideal esthetic results when temporized at the time of placement. However, clinicians who have placed a lot of immediate implants also know that temporization has the highest failure of integration rates. The compromise is to place and bury the immediate implant, which has very high success rates, but produces compromised esthetics.

The following case illustrates how to correct gingival problems associated with buried immediate implants and also discusses the effects of incomplete graft fill around grafted immediate implants.



Extraction of a maxillary canine commonly results in significant resorption of the buccal bone. The loss of buccal bone in this area of the dentition can affect the esthetics due to loss of the buccal prominence associated with a maxillary canine.



This patient is an 87 year old female presenting with an unrestorable maxillary canine. An immediate implant is planned.



The implant is placed and grafted with [Immediate Graft™](#). Since it was not possible to take this canine out of lateral excursive occlusal contact, the immediate implant was not temporized but buried at the time of placement.

The clinician has several options regarding how to handle the gap between the implant and bone. In the past, some clinicians choose not to graft the gap resulting with fibrous tissue in

the site or worse, granulation tissue. Consequently, most clinicians now graft the gap between the bone and implant surface and choosing the right product can determine the success of that immediate implant. For example, traditional graft materials such as cadaver bone grafts do not produce integration to the implant surface when placed around an immediate implant.

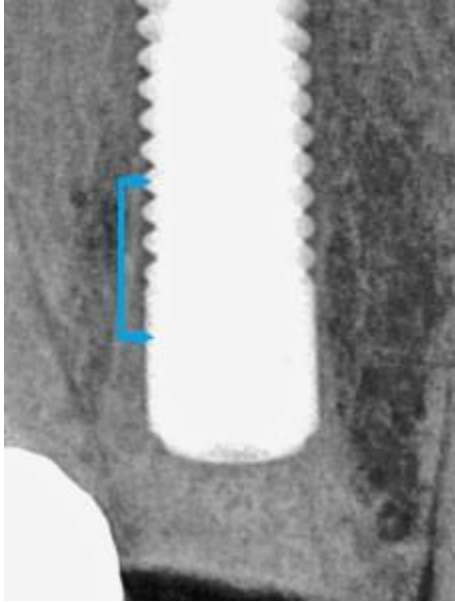
Becker, Urist et al, studied bone grafting around titanium micro screws in humans and concluded:

*“Xenograft bovine bone and DFDBA did not contribute to bone to micro screw contacts and are not recommended for enhancement of vital bone to implant contacts. Intraoral autogenous bone also does not appear to significantly contribute bone to implant contacts. Intraoral autogenous bone, xenograph bone, and DFDBA appear to interfere with normal extraction socket healing.”*

Cadaver bone grafts will fill the defect, but the bone does not integrate to the implant surface. As a result, where the load is the greatest there is no support.

Due to the process of how SteinerBio bone grafts regenerate bone, our technology is proven to produce integration to the implant surface at the site of the bone graft. As of now, we are the only bone grafts on the market proven to produce integration to the implant surface at the site of the bone graft. Grafting with Immediate Graft™, yields 100% integration to the surface of your immediate implant and produces results equal to delayed implants placed in mature bone.

However, for those clinicians who use Immediate Graft™ we commonly get questions regarding areas where they have been unable to fully pack the bone graft along the implant surface. The concern is what will happen in this area?

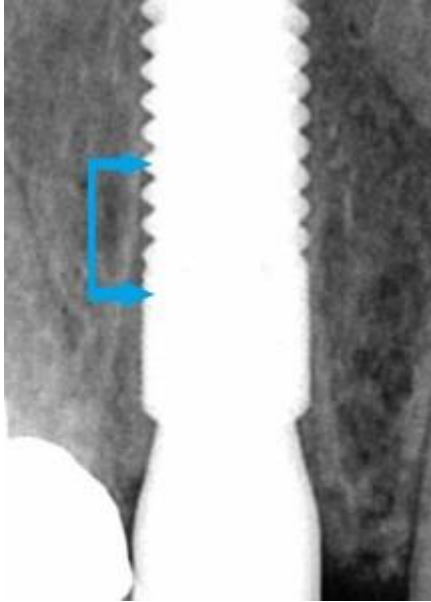


A closer look at the grafted area on the previous radiograph shows an area on the implant that was not adequately grafted. There is a small void in the area outlined by the arrows.



Three months post op.

The healing abutment is placed showing excellent mineralization of the crest around the implant.



A closer look at the same radiograph three months after grafting shows a lack of bone contact where the graft material failed to fill the void. Three grooves and the apical extent of the microthreads have no bone contact. This radiographic image documents the requirement of the bone graft to be in contact with the implant surface for bone to implant integration to occur. We will revisit this area 2 years after loading.



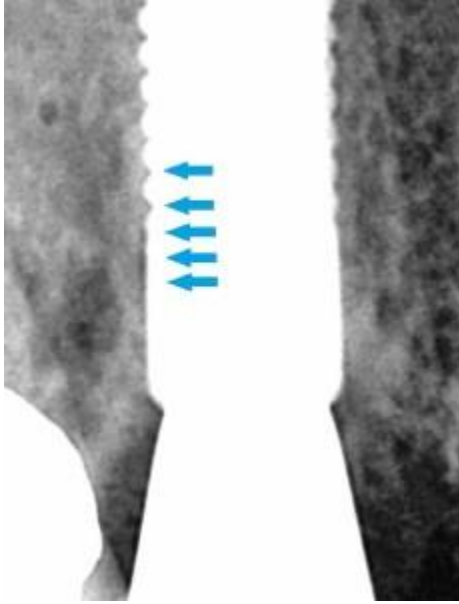
At the healing abutment appointment, the photographs show maintenance of the buccal prominence with no buccal bone resorption. However, invariably there is collapse of the gingival margin compromising esthetics. In this case sulcular incisions are made on the adjacent teeth and carried to the lingual of the crest.



The crestal gingival is moved buccally to fill in the buccal gingiva over the buccal prominence. The vertical aspect of the gingiva is restored by inverting the flat crestal gingiva. The healing abutment holds the uprighted gingiva in place.



This photograph was taken two years after restoration. Nothing was done to the gingiva after the healing abutment appointment. The gingiva remodeled itself producing an excellent esthetic result.



After two years of function, bone covers the entire crestal portion of the implant. However, what about our void? Close inspection shows bone fill onto the threads and up to the microthreads but integration has not occurred in the area of the bone graft void. It is obvious the bone is in contact with the top of the threads but has not filled the grooves. The definition of osteointegration requires that bone must fill the groove not merely contact the threads.

So, what is the result of not fully grafting an immediate implant? In this case nothing, but it establishes the need to fully graft the implant gap. In a future blog post, we will provide tips on how to accomplish complete grafting of an immediate implant. Don't forget to leave your thoughts in the comment section below!