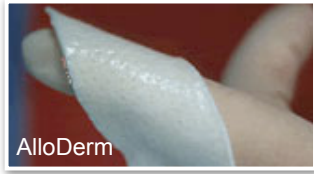


## WHAT ABOUT ALLODERM?

Sub-epithelial connective tissue can come from two primary sources: yourself (autograft) and from someone else (allograft).

AlloDerm is allograft connective tissue taken from a cadaver.



Autogenous connective tissue is fantastic and unique in that it can be left exposed in the mouth and still heal with new keratinized tissue in areas where there was no tissue prior.

Although connective tissue can do amazing things, the individual needing the graft needs enough tissue in the palate to act as a source for graft material. Often, patients with thin tissues, also known as a thin biotype, who may be at increased risk for root exposure or significant soft tissue shrinkage post extraction and/or implant placement, do not have enough palatal connective tissue to treat all the teeth or the area in question. In addition, the quality of the tissue may be more fatty than fibrous, and not provide a suitable graft. For that reason, AlloDerm is available to act as a secondary source of tissue. However, because it is not living tissue, it has its limitations. Unlike autogenous connective tissue with a blood supply which can be left exposed in the mouth, AlloDerm requires coverage by the existing flap of tissues in order to heal properly.

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## WHAT IS CONNECTIVE TISSUE?

Connective tissue is defined as tissue that is characterized by a highly vascular matrix and includes collagenous, elastic, and reticular fibers, adipose tissue, cartilage, and bone. It forms the supporting and connecting structures of the body. In the world of periodontics, we usually limit our use of the word to the sub-epithelial tissue in and around the hard palate. This tissue is primarily used for transplantation to other areas in the mouth for various purposes. The high vascularity of the tissue allows for its ability to survive in areas where other tissues may fail.



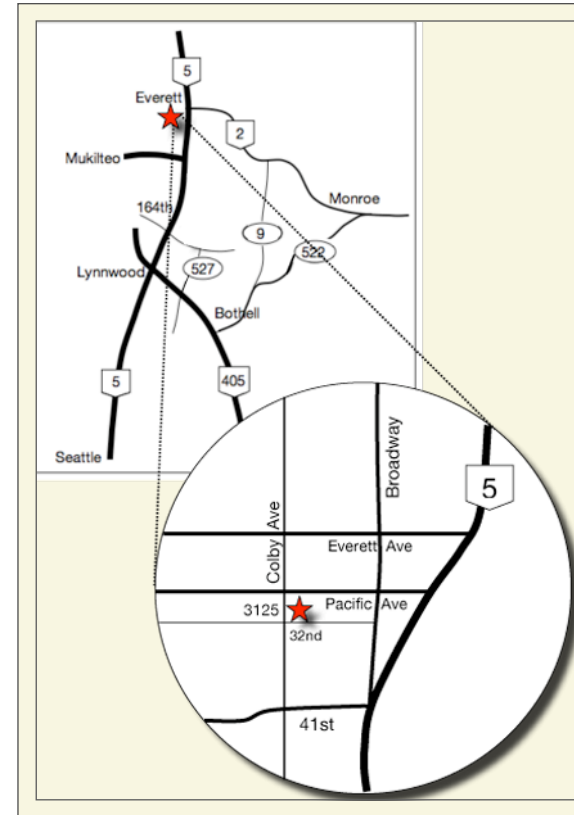
Historically, and the majority of the time, connective tissue is used for root coverage procedures, as described by Langer and Langer in 1985. Over time, and realizing the ability to create tissues where they are deficient, connective tissue is used to augment tissues in the absence of teeth, such as for ridge augmentation under a pontic, or to create natural tissue contours around implants.

This issue of **ProbeTips** will illustrate several cases using connective tissue for various outcomes, and why it can be a very powerful tool for re-establishing natural soft tissue contours. This is a two part series: part 1 focused on root coverage and ridge augmentation, and part 2 will focus on implant site development.

All cases are patients of Dr. Pamela Nicoara unless otherwise specified

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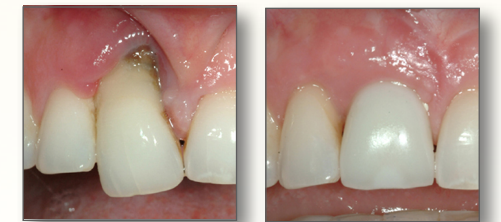
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# PROBE TIPS

A QUARTERLY PERIODONTAL  
NEWSLETTER

BY PAMELA NICOARA DDS MSD

I ♥ CTG  
(Connective Tissue Grafting)  
Part 2



VOLUME 8, NO. 3

NOVEMBER 2015

# Why I Love Connective Tissue

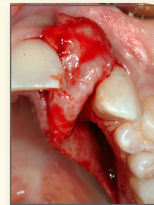
## IMPLANT SITE DEVELOPMENT

Although autogenous connective tissue is the king of root coverage in single attempts, for implant site development including ridge augmentation, a single procedure using palatal tissue may be inadequate. This is because of the significant variability of the quantity and quality of palatal soft tissues available, as well as the healing potential of the individual. If the palatal tissue and the biotype are thin, the volume of augmentation will be inadequate without additional procedures, or combination with other materials such as AlloDerm. Even if palatal tissues seem to have adequate thickness and volume, there are instances where patient healing is poor enough that any augmentation, even with bone, seems to melt away with time.

The three cases adjacent illustrate situations where multiple surgical interventions were necessary, and multiple types of materials were used to gain hard and soft tissues necessary to mimic nature, not just for esthetics, but also for hygiene. Because an implant is not a natural tooth, does not have connective tissue attachment to the abutment, and may require more attention for cleaning than a natural tooth, the risk for bacterial contamination can be higher, particularly if there are areas of food impaction. The more natural the tissue contours, the less food impaction or bacterial accumulation, and the less risk for peri-implantitis. At this point there is still no predictable means for resolution of implant infection, and in most situations, the implant is either maintained in a chronic state of infection, or removed and a new implant is placed.

## CASE 1

In situations where a freed graft would still be insufficient, a pediculated graft can be utilized to keep the graft connected to its blood supply palatally. This can allow greater vertical augmentation in particular. This case serves as an example of a pediculated graft, as well as an attempt to regenerate lost papilla on the mesial of tooth #7. A taller healing cap was also used to 'tent' the soft tissues to gain further vertical augmentation.

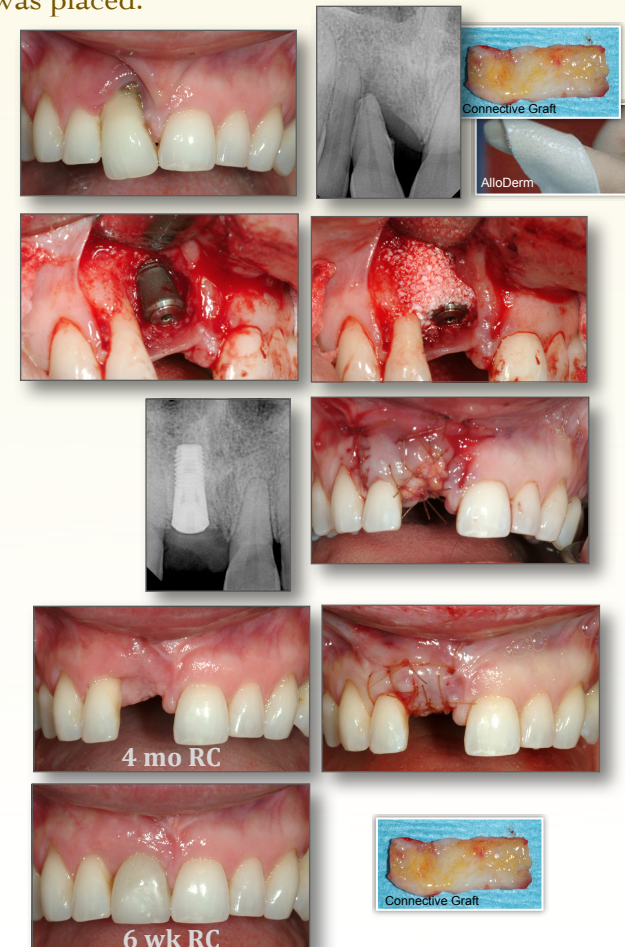


The result after the first graft at 4 months is quite good, but there is still a lack of papilla on the mesial of tooth #7. In this case, an additional graft of palatal connective tissue from the distal of tooth #2 is used as a very dense tissue to further attempt to augment the lack of interproximal papilla.



## CASE 2

In some cases, it is obvious from the beginning that multiple grafts are necessary to achieve the most natural tissue contours. Below, the first graft was a combination of AlloDerm layered under palatal CT at the time of extraction and implant placement with bone graft. A second CT graft was placed 4 months later. The temporary implant crown was placed 6 weeks after the second graft. The patient did not return for completion of the case after the temporary crown was placed.



## CASE 3

Finally, in some situations, using every means necessary to build the ridge vertically is required. In this case, 2 layers of AlloDerm were used in combination with a pediculated connective tissue graft, over a tall cover screw. This was performed after the initial implant placement with bone and a freed palatal connective tissue graft was placed 4 months prior. Notice the very thin gingival biotype to begin with.



## CONCLUSIONS

Although we are still limited by biotype and available tissues, with the use of AlloDerm, tenting abutments, and a patient willing to undergo multiple procedures, it is possible to mimic the original state of the tissues, or have more than what was originally there. GO, CTG, GO!!

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