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.

Unlike AlloDerm, Autogenous palatal 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 palatal 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 fiberous, 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, the primary deficiency being that it requires coverage by the existing flap of gingiva in order to heal properly.

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 will focus on root coverage and ridge augmentation, and part 2 will focus on implant site development.

All cases are patients of Dr. Pamela Nicoara

Pamela A Nicoara DDS MSD PLLC

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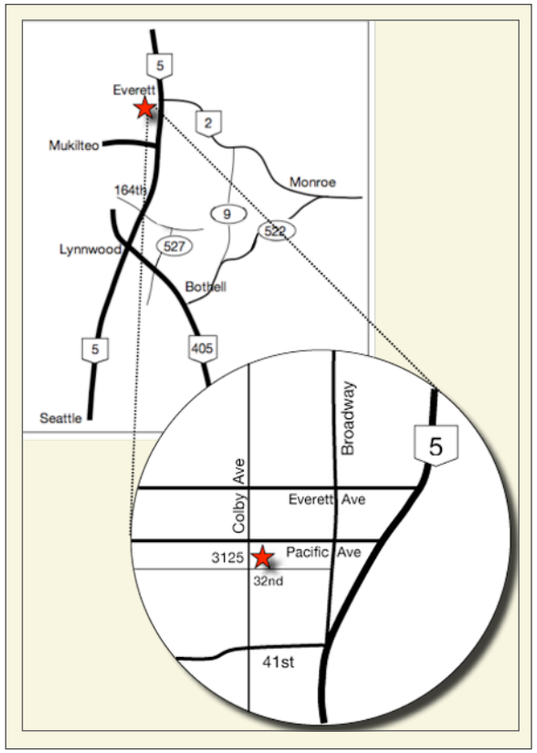

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ProbeTips

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I ♥ CTG

(Connective Tissue Grafting) Part 1

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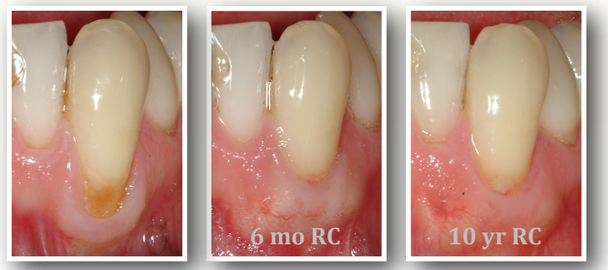
Why I Love Connective Tissue

Root Coverage Procedures

Autogenous connective tissue (CT) is the king of root coverage. Because it can be left exposed and still heal and regenerate missing tissues, it can treat areas in an esthetic way that previously would require multiple surgeries or extensive incisions with potential scar formation and unnatural looking results. Below is an example of one such case: the tissues are thin and the recession very deep. The root coverage attained and the esthetic result would be impossible to achieve with any other tissue. You can see that results are generally stable with maintained root coverage as seen in the the 7 year recall photograph.

Palatal CT is also able to cover and attach to the dentin of ex-cavated shallow root caries without the need for difficult to place root restorations that can leak and form new caries around the margins.



Unlike palatal CT, AlloDerm requires that the existing gingiva must cover the graft in order to achieve root coverage. But with consistent amounts of recession on multiple adjacent teeth, AlloDerm offers the advantage of an unlimited supply of tissue with a consistent thickness and quality of graft material. It is also useful in situations where patients may have a strong gag reflex and palatal access is limited.

In some situations, either type of graft can work equally well. For the patient below, although using palatal CT was the plan, the tissues were thin and using both sides of the palate was not desirable. Therefore, AlloDerm was used on the right side, and CT on the left side, with equally great results!

Ridge Augmentation

Besides root coverage, connective tissue can be used for ridge augmentation around implants or under a pontic space. The first case demonstrates the use of palatal CT over an extraction socket at the time of implant placement in order to keep bone graft material contained under the flap, and generate new soft tissues. The graft provided exactly what was necessary to prevent the post-operative shrinkage that would be a problem for this patient with such a high smile line.

In the next case, teeth #9 and 10 were hopeless and had root resorption. At the time of extraction, an implant was placed in site #9, and bone graft fills the socket of tooth #10 which was covered with palatal CT. The implant in site #9 serves as the abutment for a cantilever to replace tooth #10.

If soft tissue alone is not enough to augment a site, and bone grafting with a non-resorbable membrane is used, palatal CT can be placed over the membrane to aid in maintaining flap closure. In the case below, an implant was planned at the time of extraction. However, there was a complete lack of facial and lingual bone, so bone grafting was necessary using a non-resorbable membrane and tacs. Palatal CT was used to help ensure that the flap maintains living tissue over the membrane which otherwise has a tendency to uncover.

Conclusions

Although we are still limited by biotype and available tissues, with the use of AlloDerm and occasionally a second procedure, it is possible to mimic the original state of the tissues, or have more than what was originally there. GO, CT, GO!!

In the next issue, we'll focus on specific implant cases where the connective tissue graft was an integral part of treatment.

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