All That Glitters....

Dental titanium implants have been touted as the ideal tooth replacement. Certainly they are the closest man-made option to natural teeth that are currently available. When steps are taking to build or maintain soft tissues, they can achieve a very esthetic relatively long term outcome. My own cases below prove this point.

8yrs 10yrs 7yrs

However, titanium implants are fixed in the bone, and our bodies are constantly changing. Even in adults, particularly in the anterior and especially for extreme facial shapes (very long or very short), and particularly in patients with a thin biotype, the long term expectations of a titanium implant can very egregiously fall short of ideal. You can see on the main panel, and in this **59 yr old** at 16 years, the relative intrusion of anterior implants as the face continues to grow downwards. A difficult situation to handle cosmetically without angled screw channels and further soft tissue grafting.

Additionally, once implants become infected for various reasons, decontamination and healing are questionable at best. There is no consensus in the literature on how to treat such implants, and often removal and bone rebuilding and implant replacement at great time and cost are often the only alternative.

Transplants do what titanium cannot:

1. Create alveolar bone.
2. Maintain natural soft tissues/papilla.
3. Erupt and move with facial growth.
4. Respond to conventional treatments.

Comparing Costs

Over the years I've gotten a fair amount of pushback over the value of tooth transplantation. Initially, the majority of the time the question was whether the treatment actually works!

I've heard comments like:

If transplantation was so great and so wonderful, why do we not do that regularly here in this country? Or…

I've read literature where all the teeth fail due to ankylosis or root resorption.

And while potential failure is a valid concern, the literature has been quite clear about the success of autotransplantation when done properly with success rates at 10 years of 99% in adolescents using immature donor teeth*, as well as documentation of transplant success for 41 years and counting!** (ask for references.)

And as to why autotransplantation hasn't been adopted well here, I feel that the large amount of money that dental implant companies have available to spend on dental schools and practicing clinicians to steer them towards using titanium implants in every situation tends to give us all tunnel vision.

But what has been the biggest retort of late has been that tooth transplantation is too costly or complicated, and that dental implants are quicker and easier and less expensive.

This issue of **ProbeTips** will make a case for ALL the benefits of autotransplantation over titanium dental implants in terms of the cost not just financially but also emotionally and physically.

Follow the links below for further information!

https://nicoaraperio.com/Referring%20Doctors_files/ToothTransplantation.pps

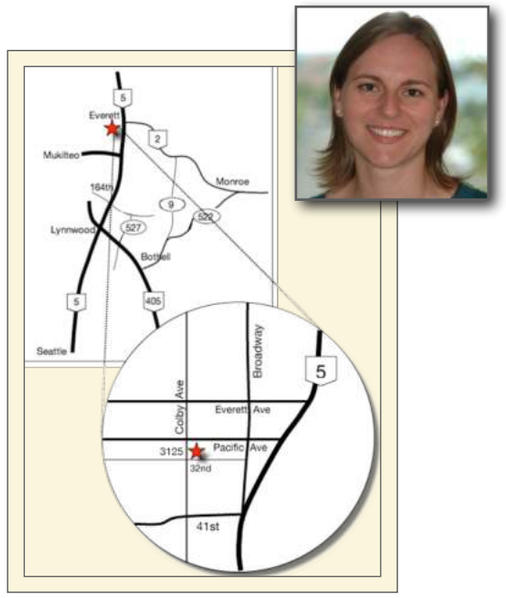
https://nicoaraperio.com/Referring%20Doctors_files/TransplantationOverview.pdf

Pamela A Nicoara DDS MSD PLLC

PERIODONTOLOGY IMPLANTOLOGY ORAL MEDICINE

Pamela Nicoara is a Board Certified Periodontist practicing in Everett since 2007. She is a UW Perio graduate, and a transplant from Dallas, Texas.

She is driven to achieve esthetic and predictable outcomes, particularly for anterior implant cases, and is always looking to improve processes and results. You can email her directly below with questions, comments, or suggestions for future newsletters.



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Probe Tips

A Quarterly Periodontal Newsletter

By Pamela Nicoara DDS MSD

Autotransplantation vs Titanium Implants

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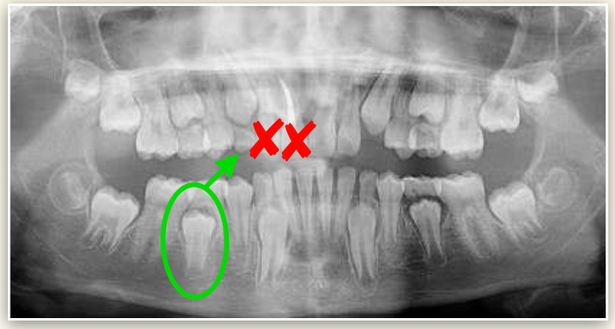
Autotransplantation vs Titanium Implants

Time, Fees, and Advantages of Tooth Transplantation


A lower premolar will be extracted and placed in the area of the two missing teeth. The space will be reduced orthodontically by moving back teeth forward and substituting the canine for a lateral.


Case taken from Dr. Janakievski and Dr. Kinzer

Severely infected teeth after trauma on the left side need to be removed. As an 11 year old, bone loss is severe when teeth are lost early (see the defect in the patient adjacent). Titanium implants cannot be placed until age 20 for boys, and age 18 for girls. Long term temporization is a problem, particularly in a growing patient.



Because the tooth is not the right shape for its new location, a restoration is needed to hide the fact that is is a transplant. These photos are of a different patient to demonstrate the restorative outcome.

Advantages: **Single surgery** to maintain a natural tooth that can be moved orthodontically over resorting to a titanium dental implant which will not **move as the patient grows**. The transplant **will maintain bone and gingiva**, and **can last the lifetime** of the patient. Should the transplant fail, the time of titanium implant need is greatly reduced, and likely better outcomes are available with improved future titanium implant technologies.

Disadvantages: Time required in orthodontic appliances which in most cases would have been needed even if transplantation was not required. Small risk for ankylosis or root resorption.

-Transplant fee ranges are based on whether dental insurance provides coverage.

-IV sedation is required and cost depends on the complexity of the case in terms of surgical time.

-Orthodontic treatment may be limited for situations where single transplants are able to be placed very near to their final location.

Surgery #1 Transplant fee	$1000 to $3500
IV sedation fee	$1000 to $2000
Orthodontics fee	$2000 to $7000
Final Crown fee	$1500 or less

$5,500 or more

Time, Fees, and Advantages of Titanium Dental Implants

Severe bone loss from early loss of teeth.

Surgery #1: Bone grafting is required to rebuild the ridge. This requires expensive GoreTex titanium membranes and tacs, and expensive biologic materials to regain a good foundation of bone. *Nine months* of healing are necessary.



Surgery #2: Implant is placed into the new bone as seen on the CBCT slice with the intended implant position and size overlaid. But the gums are still deficient, so gum tissue from the roof of the mouth is used to further rebuild the ridge. *Four months* of healing is required.

Surgery #3: The implant is ready for use but the gums still need surgical adjustment to bring the keratinized tissue apically and attempt to build more tissue at the embrasure of the pontic to enhance the papilla. A temporary crown is placed. *Two months* of healing is required before the final crowns can be placed.

Advantages: Better than a removable denture.

Disadvantages: **Multiple surgeries** & **high cost** for **less than ideal cosmetic outcome** compared to a natural tooth. **Bone and gingiva will not be maintained**. Likely needs to be **redone in 20 years** particularly with potential significant changes in implant relative position with **continued facial growth**. Will need **temporary tooth replacements** while waiting until age 20.

Who wants 2 years of surgeries at age 20?

Surgery #1 Bone fee	$6000 or more
Surgery #2 Implant fee	$6000 or more
Surgery #3 Gum fee	$2000 or more
Final Crown Fee	$2000 or more

$16,000 or more

-The cost of implant site preparation and placement will be greater than listed below if it is delayed by 10 years waiting for maturation to minimize facial changes with time.

-While implants can last long periods of time when placed properly and restored properly, they will lose bone naturally, as well as with insults such as occlusal overload, or subgingival cement or food impaction.

-Maintenance of ailing implants increases costs especially if local antibiotics are placed per quarter, and inflammation is still circulated systemically.