

Dental Implants

THE ISSUE WITH THE TISSUE

Dr. Hoda Hosseini
Periodontist in Winnipeg

INTRODUCTION

The soft tissue around dental implants assumes a different quality from the tissue around natural teeth. Reduced vasculature means that it does not have as good a defence, nor is it as strong as it contains less collagen fibres. Furthermore, soft tissue does not insert into the body of an implant the way it does with natural teeth and so does not have the same protective ability.

By increasing both the *thickness* and the *height* of the soft tissue around implants using surgical grafts, it can be made more robust and better protect the implant.

SOFT TISSUE THICKNESS

- There is no single recommended optimal tissue thickness, but most literature suggests 2mm thickness or more around dental implants.

SOFT TISSUE HEIGHT

- In anterior teeth, a taller soft tissue is considered desirable as it leads to a more aesthetic emergence profile.
- In posterior teeth, while the aesthetic emergence profile is not so important, cleansability is a priority.
- 2015 research (Puisys & Linkevicius Tissue Thickening Preserves Crestal Bone Stability Clin. Oral Impl. Res. 2015) looked at posterior bone-level implants with different heights of tissue. The study observed that if biological width was not respected (i.e. if the head of the implant was less than 3mm from the crestal soft tissue margin), the soft tissue dissolved away bone to make room for itself.
- Recommended height of tissue is 3mm or more.

CASE STUDY 1

Recession and thinning of soft tissue around anterior implant



- Patient with thin tissue biotype, dental implant 10 years ago
- Darkness of crown implant and hue is visible through soft tissue
- Recession also evident on natural teeth
- Recession around implant is causing aesthetic compromise
- Palatal soft tissue graft is performed to thicken the tissue around the implant



2-3 Months after soft tissue graft

- Coverage of recession around implant improved dramatically by increasing the thickness of the soft tissue
- This improvement is not due to attachment as with natural teeth, but because the biotype of the tissue is changed
- By increasing the thickness of the tissue, it is possible to also increase the height

CASE STUDY 2

Recession around implant – pain on brushing



- Recession of soft tissue around anterior implants
- Lack of keratinization
- Thin tissue biotype
- Pain on brushing
- Priority is to establish the patient's ability to keep implants clean



- Free gingival graft harvested from the palate
- Although graft tissue around titanium implant becomes inflamed, at least the area can now be cleaned.
- Patient put on a maintenance interval. Follow up ensured no further bone loss around implant.

CASE STUDY 3

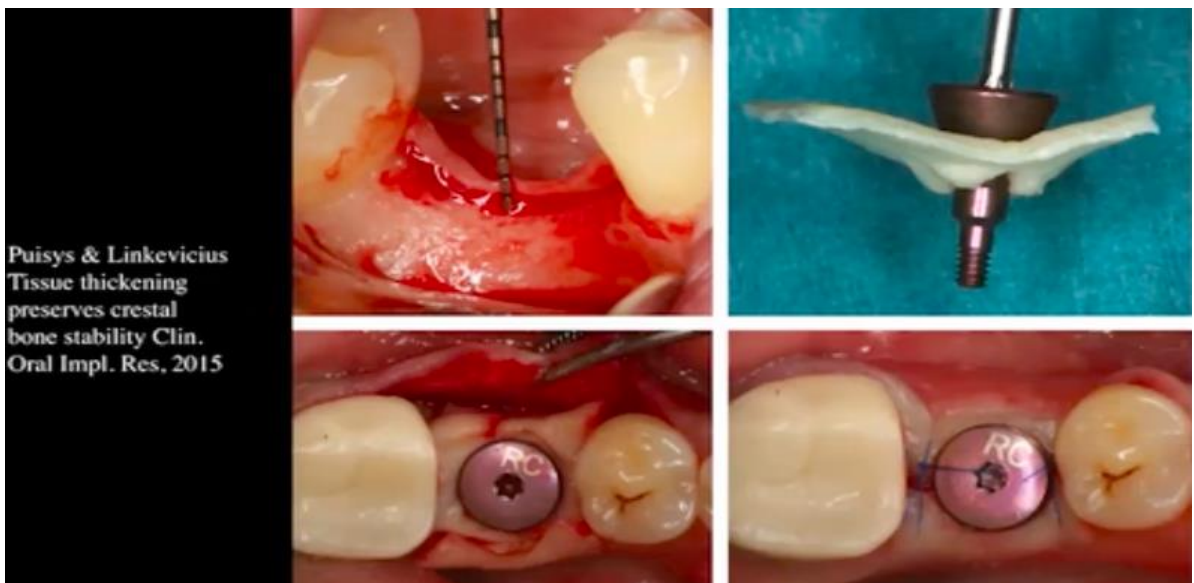
Heightening of soft tissue in posterior tooth



- Bone graft and implant require heightening of soft tissue in posterior tooth
- While waiting for bone graft to solidify there is an opportunity to augment thin tissue *before* the implant is placed
- Free gingival graft harvested from palate to increase thickness and height of soft tissue

CASE STUDY 4

Use of allograft material



- At the time of implant placement, a healing abutment is utilized to secure allograft material to the site
- Advantage is that it does not require a second surgical site

CASE STUDY 5

Delayed soft tissue graft



- After placement of implant, patient did not present for soft tissue graft for 1 year
- By then the tissue had dissolved the crestal bone exposing the rough neck of the implant leading to plaque accumulation and further loss of bone.
- This highlights the importance of soft tissue augmentation before or at the same time as placement of dental implant.

KEY TAKEAWAYS

- When assessing a site for implant placement it is not just the restorative space that is required. Soft tissue thickness and soft tissue height are also required.
- PREVENTION
 - Early consult between GP and periodontists is preferable
 - Better to augment the soft tissue prior to implant placement or at least before restoring the dental implant.

RESOURCES

- Puisys & Linkevicius Tissue Thickening Preserves Crestal Bone Stability Clin. Oral Impl. Res. 2015