

Soft-Tissue Regeneration



Treatment concept of Dr. Michael K. McGuire and Dr. E. Todd Scheyer, Houston, USA



> Increasing Keratinised Tissue with Geistlich Mucograft®

1. Indication profile

Region	<input checked="" type="checkbox"/> aesthetic region	<input checked="" type="checkbox"/> non-aesthetic region
	<input type="checkbox"/> single tooth	<input checked="" type="checkbox"/> multiple teeth
Soft-tissue situation	<input checked="" type="checkbox"/> recession	<input type="checkbox"/> no recession
	<input checked="" type="checkbox"/> inflamed	<input type="checkbox"/> infected
	<input type="checkbox"/> thick biotype	<input checked="" type="checkbox"/> thin biotype
	<input type="checkbox"/> adequate keratinised tissue	<input checked="" type="checkbox"/> inadequate keratinised tissue
		<input type="checkbox"/> uneventful

Literature references

- ¹ Bowers GM. A study of the width of the attached gingiva. J Periodontol 1963;34:201-209.
- ² Marquez IC. The role of keratinized tissue and attached gingiva in maintaining periodontal/peri-implant health. Gen Dent 2004;52:74-78.
- ³ Hall WB. The current status of mucogingival problems and their therapy. J Periodontol 1981;52:569-575.
- ⁴ Hangorsky U, Bissada NF. Clinical assessment of free gingival graft effectiveness on the maintenance of periodontal health. J Periodontol 1980;51:274-278.
- ⁵ McGuire MK. Periodontal plastic surgery. Dent Clin North Am 1998;42:411-466.

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Background information

Dr. Michael K. McGuire:

Most teeth in a healthy environment present with a band of keratinised tissue (KT), which varies in width depending on the location in the mouth.¹ Consequently, clinicians have developed a variety of surgical techniques to increase the zone of KT, but it is the free gingival graft (FGG) developed a half century ago that remains the gold standard, primarily because of its high level of success.²⁻⁵ Limitations of this technique include the need for a remote surgical site for harvesting of donor tissue, the limited amount of tissue available for grafting, and colour and texture differences with adjacent tissues. This case documentation compares and contrasts the use of Geistlich Mucograft[®] to the FGG with the aim of increasing the zone of KT around teeth. The obvious advantages of Geistlich Mucograft[®] are the unlimited amount of donor tissue (collagen matrix) available, no donor site, and better aesthetics.

Patients: Various patients referred for grafting to increase KT.

Chief Complaints: Increasing recession, sensitivity of the mucosa to daily home care procedures, inflammation of the mucosa despite the patient's good home care.

Anamnesis: Good general health, non smokers.

Intraoral Examination: Generalised recession with little to no KT.

Initial Treatment Plan: Increase the zone of KT either by free gingival graft or Geistlich Mucograft[®].

Treatment Objective: Increase KT in an effort to prevent further recession, but no attempt made to cover existing recession.

Surgical Treatment Plan: Gingival augmentation either with the free gingival graft or Geistlich Mucograft[®].

2. Aims of the therapy

- > Increase keratinised tissue sufficient to maintain periodontal health and prevent further recession

3. Treatment concepts

Treatment with Free Gingival Graft



Pre-op photo.



6 months post-op.

Treatment with Geistlich Mucograft[®]



Pre-op photo.



6 months post-op.

- > similar amount of keratinised tissue
- > no donor site
- > better aesthetic blend with adjacent tissue

Surgical procedure: Treatment with Free Gingival Graft (FGG)



Fig. 1 Pre-op photo of patient with inadequate KT.



Fig. 2 A partial thickness bed is created for the FGG.



Fig. 3 The FGG is harvested from the palate.



Fig. 4 The FGG.



Fig. 5 The FGG sutured to the bed with 5-0 gut sutures.



Fig. 6 Six months following the FGG demonstrating an increase in KT.

Surgical procedure: Treatment with Geistlich Mucograft[®]



Fig. 1 Pre-op photo of patient with inadequate KT.



Fig. 2 A partial thickness bed is created for the Geistlich Mucograft[®].



Fig. 3 Geistlich Mucograft[®] is trimmed to the size of the defect and placed dry on the bed.



Fig. 4 Geistlich Mucograft[®] is sutured with 5-0 gut sutures and absorbs the blood from the bed.



Fig. 5 The clinical appearance of the Geistlich Mucograft[®] at one week.



Fig. 6 Six months following the Geistlich Mucograft[®] demonstrating an increase in KT and better aesthetic blend with adjacent tissue.