Bone Grafting for Socket Preservation

Dr. Karl R. Koerner

2 week post-op.

1 month post-op.

One month post-op.

One month postop. (PTFE membrane just removed.)

Immediate implant.

Same appointment.
Colla-Tape 1” X 3”

PTFE Membrane 12 mm X 20 mm

One month post-ops – PTFE just removed. collagen tape utilized underneath PTFE.

Place PTFE on lingual first.

Sept 22, 2014. Previous extraction. Ridge too narrow for a 3.5mm diameter implant. Grafted to make it wider.
Patient didn’t return for 3 ½ months.

3 week post-op. PTFE membrane just removed. Still particulate. How to prevent?
• More closure to begin with. (longer envelope, periosteal release)
• PTFE tucked 4 mm
• Collagen under PTFE
• PTFE “tucks more” and doesn’t “buckle” with the first suture.
9-day post-op.
Collagen membrane dissolved out.
Bone graft gone.
Platform of implants exposed.

How to prevent?
• Better initial closure.
• Adequate suture material.
• Good patient compliance.

Cut bridge
Extract #13
Bone graft #13
PTFE/Colla-Tape membrane #13
Implant/sinus bump #14

2 weeks later
Deflaccence on palate and PTFE came out 2 weeks early
Healing “between” the sutures.
Not too many.
Primary closure.
Strong sutures to last 2 weeks.
Peridex for 2 weeks.
Antibiotic “pre-op”.

PRF

Platelet-rich fibrin (PRF), developed in France by Choukroun et al. (2001), is a second-generation platelet concentrate widely used to accelerate soft and hard tissue healing. Its advantages over the better-known platelet-rich plasma (PRP) include ease of preparation/application, minimal expense, and lack of biochemical modification (no bone morphogen or anticoagulant is required). PRF is a strung autologous fibrin matrix containing a large quantity of platelet and endothelial cytokines. This article serves as an introduction to the PRF concept and its potential clinical applications.

Abstract

PRF: fast, easy, cheap, noticeably effective.

From Toffler's article.

Platelet Rich Fibrin: Used to accelerate soft and hard tissue healing.

1. The fibrin clot plays a mechanical role with the PRF membrane maintaining and protecting the graft between bone particles.

2. Integration of the fibrin network into the regenerative site facilitates cellular migration particularly for endothelial cells necessary to the vascularization and survival of the graft.
For smaller areas of non-closure (2-3 mm).

Smashed ½ of a plug.

Bone graft.

Bone graft (HA).

Bridge pontic site.

Colla-Plug.

Two sutures:
First a cross-suture.
Then an interrupted across the middle.
Only two knots.
Dental super-glue optional (PeriAcryl).
Provisional bridge adds protection.
A few other choices:

Steps for placing a PTFE barrier membrane over a socket without primary closure.

Dr. Karl Hoeer

- If fully exposed, the socket should be covered with a membrane or other material.
- This technique describes the method for a "truly" primary closure.
- Prescribe an antibiotic to start group. Example: Erythromycin 500 mg, 2x daily, plus dental prophylaxis.
- The graft is a block of harvested bone placed in the same step in the procedure.

1. Before insertion of the bone graft into the socket, reflect full-thickness mucoperiosteal flaps on the facial and lingual.
2. Use tissue pickups and lift flap to evaluate tension release.
3. New 15 blade, cut distal to mesial 1-3 mm deep in a single motion 60-90 degrees to periosteum.
4. Stay well apical to MG junction – never cut in keratinized mucosa.
5. Evaluate for adequate advancement. Broaden the cut with blunt dissection (scissor or PE). May need more parallel cuts.
6. Avoid the mental nerve and facial artery in the lower arch.
7. Advancement for sinus: Reflected flap margin should overlap at least a few mm to avoid tension and seal.

Clinical Periosteal Releasing Incision for Successful Coverage of Augmented Sites. A Technical Note

George E. Romanos, DDS, Dr.med.dent., PhD

The periosteal releasing incision (PRI) is a very common surgical procedure in oral implantology. When flap advancement is indicated, that is, when vertical or horizontal augmentations take place, this technique describes the surgical skills for sufficient flap advancement. Complications due to improper PRI are also discussed.

Key Words: flap advancement, periosteum, releasing incision


Introduction

The periosteal releasing incision (PRI) is a very common surgical procedure in oral implantology. When flap advancement is indicated, that is, when vertical or horizontal augmentations take place, this technique describes the surgical skills for sufficient flap advancement. Complications due to improper PRI are also discussed.

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Introduction

Search/analysis of the clinical outcome of different augmentation procedures showed different clinical results using guided bone

Six Guidelines:

1. Full-thickness flap lifted at least 10 mm apical to MG junction.
2. Use tissue picks and lift flap to evaluate tension release.
3. New 15 blade, cut distal to mesial 1-3 mm deep in a single motion 60-90 degrees to periosteum.
4. Stay well apical to MG junction – never cut in keratinized mucosa.
5. Evaluate for adequate advancement. Broaden the cut with blunt dissection (scissors or PE). May need more parallel cuts.
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Implants and Antibiotics

Prophylactic Antibiotic Regimens in Oral Implantology: Rationale and Protocol

Amoxicillin, start pre-op, use loading dose.

The use of antimicrobials reduces the incidence of surgical wound infection in oral implantology. Antimicrobial prophylaxis is indicated in all Class 2 (clean-contaminated) surgical procedures, which include sufficient blood levels at the time of bacterial contamination of dental implant and bone graft procedures. Timing and dosage are critical to the efficacy of antimicrobials.

Cefazolin = Ancef (1000 mg)
Cephalexin = Keflex
Both cephalosporins.
$2.50 + shipping. So. Anesthesia & Surgical (800-624-5926)

Pre-op x-ray. Post-op surgery.

Bone graft from loss for 3-4 weeks.
CRITICAL SUMMARIES

Patients who received preoperative antibiotics showed fewer early implant failures

A critical summary of Esposito M, Coccione R, Buser D. Systematic review. J Periodontol. 2014;85(6):1-12. The authors conducted a systematic review of 21 randomized controlled trials involving a total of 1,751 implants. The primary outcome was the rate of implant failure. The authors concluded that preoperative antibiotics were effective in reducing the rate of implant failure.

Conclusions: Preoperative administration of antibiotics appears to reduce the incidence of early implant failures, with a significant reduction in implant failure rates in the treatment group (relative risk 0.36; 95% confidence interval 0.18-0.69) compared to the control group. Therefore, the authors recommend the use of preoperative antibiotics for patients undergoing implant surgery.

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