Gum Grafting — Soft Tissue Grafting & Recession Treatment

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Description:

Gum recession is far more common than most patients realise. When the gum margin pulls away from the tooth, it exposes the root surface — a surface that is softer, more sensitive, and more vulnerable to decay and wear...

Details:

Collins Street Specialist Centre — Gum Grafting, Soft Tissue Grafting and Recession Treatment

Gum recession is more common than most patients realise. When the gum margin pulls back from the tooth surface, it exposes the root — a structure that is softer, more sensitive, and more vulnerable to decay and wear than enamel. Left untreated, recession tends to worsen over time, leaving the exposed root open to sensitivity, structural damage, and changes in appearance.

Gum grafting — surgical augmentation of soft tissue in areas of deficiency — is the most reliable approach to managing recession. At Collins Street Specialist Centre, our specialist periodontists assess each case individually, choosing the grafting technique that best suits the site, the patient's anatomy, and the intended outcome.

What is gum grafting?

Gum grafting is a surgical procedure in which soft tissue is added to areas where the gum has receded or where insufficient gum tissue exists to protect and support a tooth or implant. The graft material may come from the patient's own tissue (autograft) or from processed donor tissue (allograft), depending on what each case requires.

The goals of gum grafting include:

- **Root coverage** — repositioning gum tissue over exposed root surfaces to reduce sensitivity and restore a more natural appearance - **Increasing keratinised tissue** — the band of firm, attached gum immediately adjacent to the tooth and around implants plays an important role in long-term tissue stability; grafting can widen this band where it is deficient - **Augmenting tissue thickness** — thin gum tissue carries a greater risk of future recession; increasing tissue volume creates a more resilient architecture - **Improving aesthetics** — recession produces an uneven gumline and an elongated tooth appearance; grafting can restore a natural-looking gum margin

Grafting Techniques in Detail

Connective Tissue Graft (CTG)

The most widely performed technique for root coverage and the gold standard for predictable aesthetic outcomes. Here's how it works:

Donor site (palate): A carefully positioned incision is made on the roof of the mouth. The surface tissue layer is retained in place while a strip of connective tissue is harvested from beneath it. This trapdoor approach minimises discomfort at the donor site and allows the palate to heal quickly from both the surface and the underlying tissue bed.

Recipient site: At the recession area, the gum tissue is gently elevated from the underlying bone and root surface, creating a tunnel or flap. The harvested connective tissue is positioned beneath this flap, directly over the exposed root surface. The flap is then repositioned coronally (moved upward) to cover both the graft and the previously exposed root. Fine sutures hold everything in place.

Why it works: The connective tissue graft receives blood supply from two sources — the overlying flap and the underlying periosteum — which makes it highly predictable. It delivers excellent root coverage, natural-looking results, and good colour match with surrounding tissue.

Best for: Single-tooth and multiple-tooth recession cases where root coverage and aesthetics are the primary goals.

Free Gingival Graft (FGG)

A strip of keratinised tissue — including the superficial epithelial layer — is harvested directly from the palate and secured at the recipient site with sutures.

Unlike the connective tissue graft, the free gingival graft takes the full-thickness surface tissue. This creates a different type of donor site wound — an open wound on the palate that heals by secondary intention (from the edges inward). This is generally more uncomfortable during healing than the CTG donor site.

The healed result: Free gingival grafts are excellent at increasing the width of keratinised tissue, creating a broader band of firm, attached gum. However, the healed graft may initially differ in texture and colour from the surrounding tissue (appearing slightly paler or thicker) because it retains the characteristics of palatal tissue rather than blending seamlessly with marginal gum tissue.

Best for: Increasing keratinised tissue width around teeth or implants, particularly in the lower jaw where the band of attached gum is often narrow. Less commonly used for pure root coverage in aesthetically prominent areas.

Tunnel Technique

A more advanced and technically demanding approach that produces particularly good aesthetic results:

How it works: Instead of raising a conventional flap with releasing incisions, the periodontist creates a tunnel beneath the existing gum tissue through small access incisions at either end. The graft (usually connective tissue) is threaded through this tunnel across multiple adjacent recession sites. Because the existing gum margin is not cut or released, it heals with minimal disturbance to the tissue architecture.

Advantages: Excellent aesthetics because the papillae (gum tissue between teeth) are preserved intact, reduced post-operative discomfort compared to conventional flap techniques, and the ability to treat multiple adjacent teeth in a single procedure.

Best for: Multiple adjacent recession defects in the aesthetic zone, cases where papilla preservation is important, and patients seeking the best possible cosmetic outcome.

Allograft (Donor Tissue)

Processed human tissue from a registered tissue bank may be used in place of palatal donor tissue. AlloDerm and similar products are acellular dermal matrix materials — they provide a scaffold that the patient's own cells populate during healing.

Advantages: Eliminates the palatal donor site entirely, reducing overall surgical morbidity and post-operative discomfort. Only one surgical site is involved, which simplifies recovery.

Considerations: Allografts perform well for increasing tissue thickness and width. For predictable root coverage in aesthetically sensitive areas, many periodontists still prefer autologous tissue (particularly connective tissue grafts) because the evidence for root coverage is strongest with the patient's own tissue. However, allografts are a very good option for patients who strongly prefer to avoid the palatal donor site, or for cases where extensive grafting would require more donor tissue than the palate can comfortably provide.

Xenograft and Synthetic Materials

Collagen-based matrices derived from porcine or bovine tissue, and synthetic scaffold materials, represent newer options in gum grafting. These materials aim to provide the benefits of allografts with potentially improved availability and consistency. Evidence continues to evolve, and your periodontist can advise whether these materials are appropriate for your specific case.

Who Is a Candidate for Gum Grafting?

Gum grafting may be recommended if you have:

- **Visible gum recession** — Exposed root surfaces on one or more teeth, causing sensitivity, aesthetic concerns, or vulnerability to root decay - **Thin gum tissue** — Even without visible recession, very thin gum tissue carries a higher risk of future recession and may benefit from augmentation - **Narrow band of keratinised tissue** — Teeth or implants with minimal attached gum are at higher risk of continued recession, inflammation, and plaque accumulation - **Recession before orthodontic treatment** — In some cases, grafting is recommended before braces or Invisalign to reinforce thin tissue that might recede further during tooth movement - **Recession around dental implants** — Soft tissue grafting around implants can improve tissue thickness, protect against peri-implant disease, and enhance aesthetics - **Sensitivity from exposed roots** — Root surfaces lack enamel and are more sensitive to temperature, touch, and chemical stimuli. Covering them with grafted tissue eliminates this sensitivity

Factors That Affect Candidacy

- **Smoking** — Smoking significantly impairs graft healing and is the single greatest risk factor for graft failure. Patients who smoke are strongly encouraged to stop before surgery - **Oral hygiene** — Good oral hygiene is essential for graft success. Uncontrolled plaque accumulation undermines healing - **Cause of recession** — If recession was caused by aggressive brushing, this must be corrected to prevent recurrence. If periodontal disease is the cause, the disease must be controlled before grafting - **Tooth position** — Teeth that are positioned outside the arch (buccally prominent) are more prone to recession and may have a less predictable grafting outcome. Orthodontic correction may be recommended before or instead of grafting in some cases

The Procedure — Step by Step

Before the Procedure

Your periodontist will:

1. **Assess the recession** — Measuring the depth and width of recession at each affected tooth, evaluating tissue thickness and keratinised tissue width 2. **Identify the cause** — Determining whether recession was caused by brushing technique, tooth position, periodontal disease, orthodontic treatment, or other factors 3. **Review medical history** — Identifying any conditions or medications that might affect healing 4. **Discuss treatment options** — Recommending the most appropriate grafting technique for your specific situation and explaining expected outcomes 5. **Provide pre-operative instructions** — Including any medications to take or avoid, and guidance on smoking

cessation if applicable

During the Procedure

Gum grafting is typically performed under local anaesthetic, sometimes supplemented with oral sedation or nitrous oxide for patient comfort. The procedure takes 60 to 90 minutes depending on the extent of grafting.

The steps vary by technique (as described above) but generally involve:

1. Administering local anaesthetic to both the recipient site and the donor site (if applicable) 2. Preparing the recipient site — elevating the gum tissue to create access for the graft 3. Harvesting the graft material from the palate (for CTG and FGG) or preparing the allograft material 4. Positioning the graft precisely over the exposed root or deficient area 5. Securing the graft and overlying tissue with fine sutures 6. Placing a protective periodontal dressing over the surgical sites if indicated

After the Procedure

You'll receive detailed post-operative instructions. Key points include:

- Rest for the remainder of the day - Apply ice packs to the outside of the cheek (20 minutes on, 20 minutes off) for the first four to six hours - Eat soft, cool foods on the opposite side of your mouth - Take prescribed medications as directed (pain relief, antibiotics if prescribed, chlorhexidine mouthwash) - Avoid disturbing the graft — don't pull the lip to look, don't brush the area, and don't use a straw - No smoking for at least two to four weeks (ideally longer)

Donor Site Healing

For patients receiving a connective tissue graft or free gingival graft, the palatal donor site requires its own healing period. Understanding what to expect helps manage the recovery:

Connective Tissue Graft Donor Site

Because the surface tissue layer is retained, healing is relatively quick and comfortable. The site may feel tender for three to five days, and patients often describe a sensation similar to a mild burn on the roof of the mouth. Most discomfort resolves within a week, and the site is fully healed within two to three weeks.

Some periodontists place a protective acrylic palatal stent (like a retainer) over the donor site, which provides comfort and protects the area during the first few days.

Free Gingival Graft Donor Site

The open wound on the palate heals by secondary intention — from the edges inward. This takes longer than the CTG donor site (typically three to four weeks for complete coverage) and can be more uncomfortable during the first week. The acrylic palatal stent is particularly useful for FGG donor sites.

Expected Results and Timeline

Healing after gum grafting occurs in phases:

- **Week 1:** Initial healing. The graft may appear white, yellow, or pale — this is normal revascularisation (blood vessels growing into the graft) in progress - **Weeks 2–3:** The graft begins to take on a more pink, healthy colour as blood supply establishes. Stitches dissolve or are removed - **Month 1–3:** Tissue maturation. The graft blends progressively with surrounding tissue in colour and texture. Root coverage stabilises - **Months 3–12:** Final maturation. Some additional root coverage may occur through "creeping attachment" — a gradual process where the gum tissue migrates further over the root surface

The final amount of root coverage depends on the initial recession depth, the technique used, the quality of the patient's tissue, and adherence to post-operative instructions.

Alternatives to Grafting

Not all recession requires surgical intervention. Alternatives or adjuncts to grafting include:

- **Monitoring** — Mild, stable recession without sensitivity may be managed with observation and improved brushing technique - **Desensitising agents** — For sensitivity-driven complaints, desensitising toothpastes, fluoride varnishes, or bonded resin coatings may provide symptomatic relief without surgery - **Orthodontic correction** — Moving a prominently positioned tooth back into the arch can sometimes resolve recession without the need for grafting - **Composite bonding** — Tooth-coloured resin can cover exposed root surfaces, addressing aesthetics and sensitivity — though this doesn't replace the biological protection of gum tissue - **Pinhole Surgical Technique** — A minimally invasive approach where the gum is repositioned through a small pinhole incision without traditional flap surgery. This technique has advocates but is less widely adopted than conventional grafting approaches

Your periodontist will discuss all appropriate options and recommend the approach that best suits your clinical situation and goals.

Concerned about gum recession? Contact Collins Street Specialist Centre on (03) 9654 5705 to book a consultation with one of our specialist periodontists. We'll assess your gums, discuss your options, and create a treatment plan tailored to your needs.