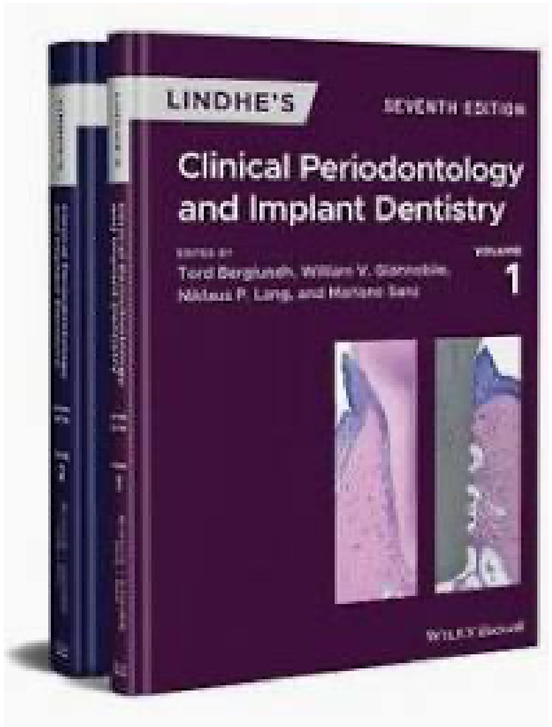
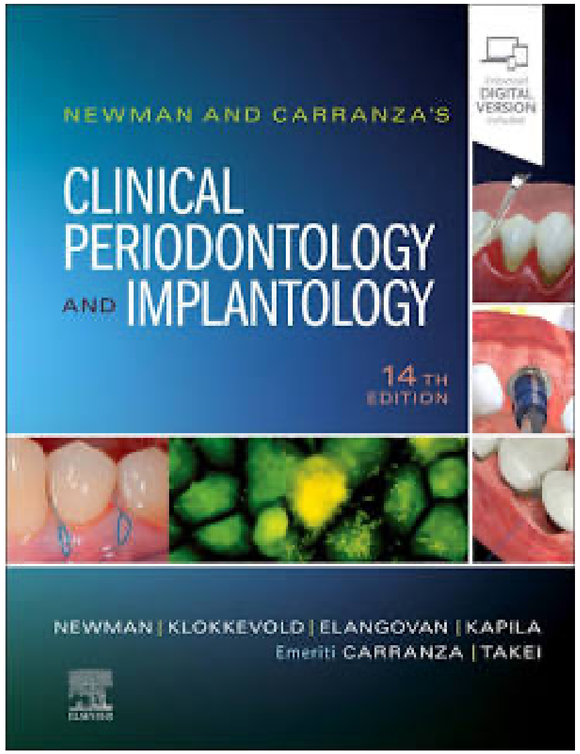
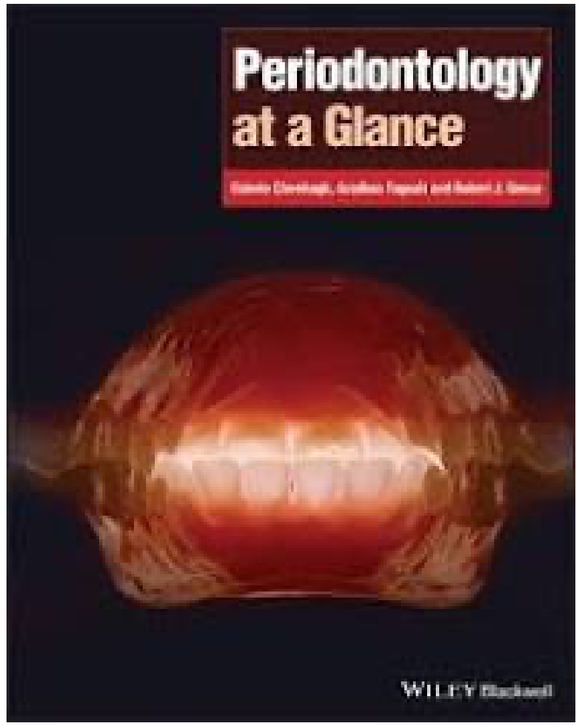
GINGIVAL RECESSION
GINGIVAL OVERGROWTH

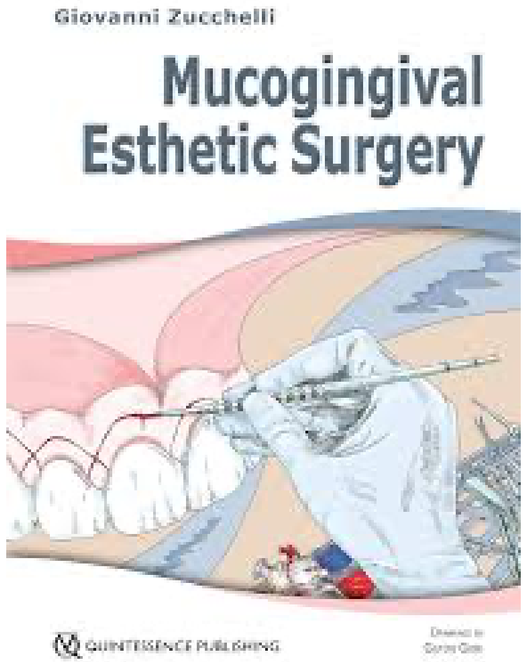
Amelia Hemmati

Key References









All images are from the above references as well as from Periodontics: The Complete Summary (2021) and Periodontal Review Q&A (2020)

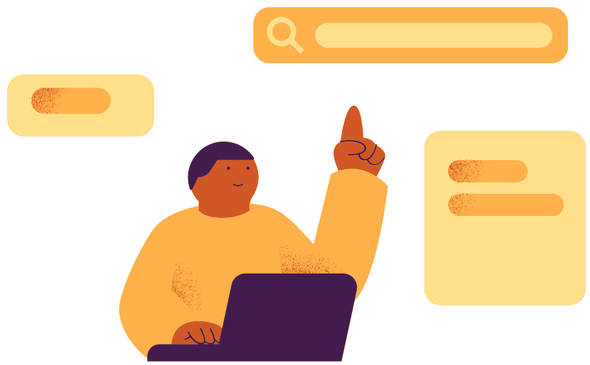
Contents

Gingival Recession

- Definition
- Epidemiology
- Aetiology
- Classification
- Clinical Consequences
- Indications for Treatment
- Management
- Prognostic Factors
- Evidence-Based Perspective

Gingival Enlargement

- Classification
- Pathogenesis of Drug-Induced Overgrowth
- Clinical Features
- Complications
- Management
- Recurrence



Part 1 - Gingival Recession

Definition

Gingival recession is the apical displacement of the gingival margin relative to the cemento-enamel junction (CEJ), resulting in root surface exposure.

Epidemiology

- Increases with age
- Common in patients with history of periodontitis
- Frequently seen in patients with high traumatic toothbrushing habits
- Highly prevalent in thin periodontal phenotypes

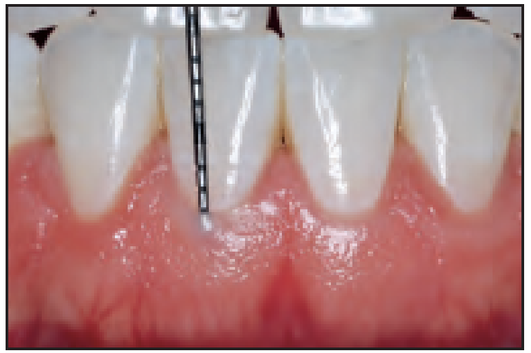


Fig 6-10 Thin periodontal phenotype.

Fig 6-11 Thick periodontal phenotype.

Aetiology

Anatomical Factors

- Thin periodontal phenotype
- Dehiscence and fenestration
- Prominent roots
- High frenum attachment

FIG. 65.2 High frenum attachments. (A) Frenum between the maxillary central incisors. (B) Frenum attached to the facial surface of the maxillary lateral incisors. (C) Frenum attached to the facial surface of a mandibular incisor. (D) Frenum attached to the facial surface of an incisor.

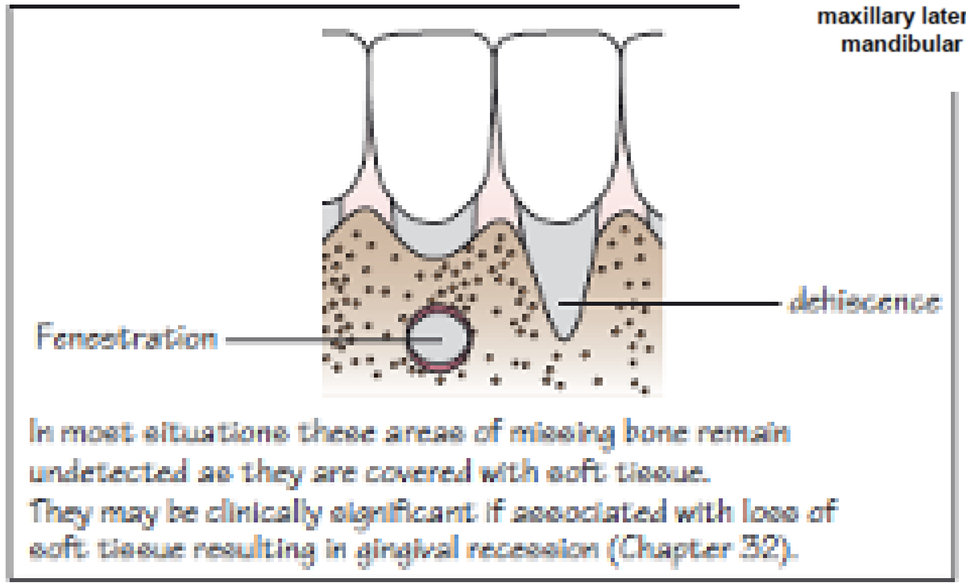


Figure 1.5 Bony fenestration and dehiscence.

Aetiology

Inflammatory Factors

- Plaque-induced gingival inflammation
- History of periodontitis

Figure 8.6 Clinical plaque-induced gingivitis. There is visible plaque, blunted interdental papillae, and the marginal gingiva are red, slightly swollen and inflamed.

Figure 8.9 Patient with moderate chronic periodontitis showing swollen, inflamed gingivae and recession/clinical attachment loss. The gingival margins are blunted and there is loss of contour.

Aetiology

Traumatic Factors

- Aggressive toothbrushing
- Abrasive dentifrices
- Oral piercings

Aetiology

Iatrogenic Factors

- Orthodontic tooth movement beyond alveolar envelope
- Subgingival restorative margins
- Poorly designed RPD clasps

Classification

Miller Classification (1985)

- Class I–IV based on interdental tissue loss

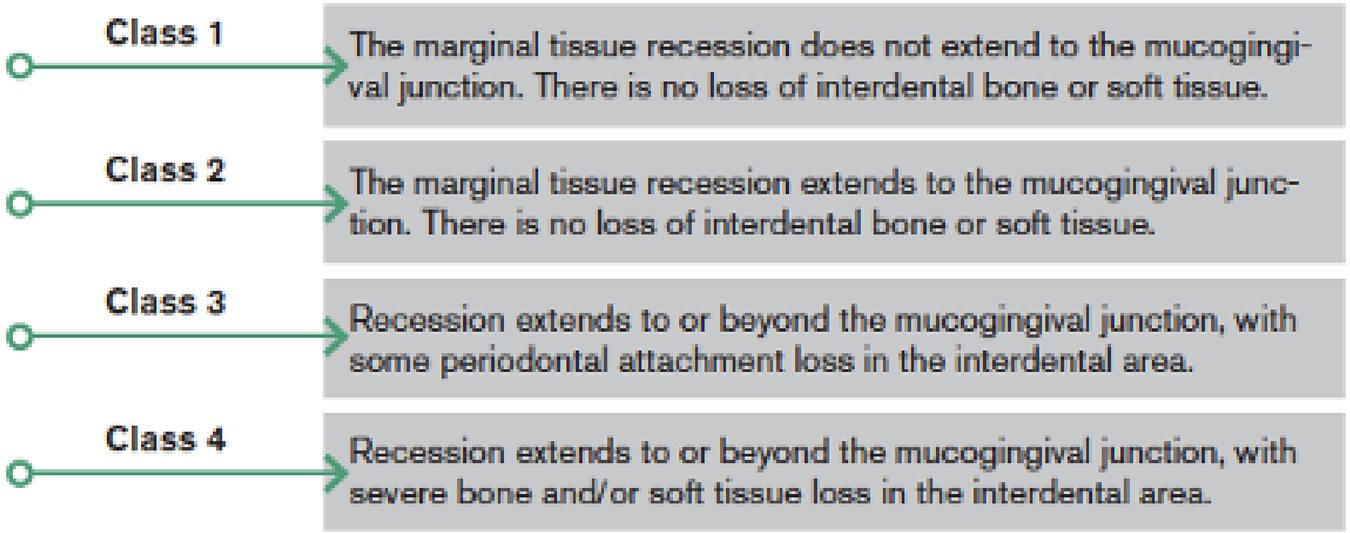
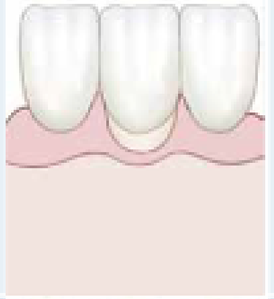
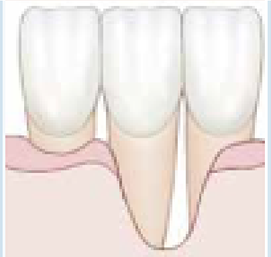


Fig 11-4 Miller's classification[25] of soft tissue recession.

TABLE 22-1 Classification proposed by Miller[15] in 1985

Class	Depiction	Description
I		• Recession does not extend to MGJ • No attachment loss (bone or soft tissue) interproximally • 100% root coverage anticipated
II		• Recession extends to or beyond MGJ • No attachment loss (bone or soft tissue) interproximally • 100% root coverage anticipated
III		• Recession extends to or beyond MGJ • Bone or soft tissue loss present interproximally or malpositioned teeth • Partial root coverage anticipated
IV		• Recession extends to or beyond MGJ • Bone or soft tissue loss present interproximally and/or severely malpositioned teeth • Root coverage cannot be anticipated

MGJ, mucogingival junction.

Classification

Sullivan and Atkins (1968)

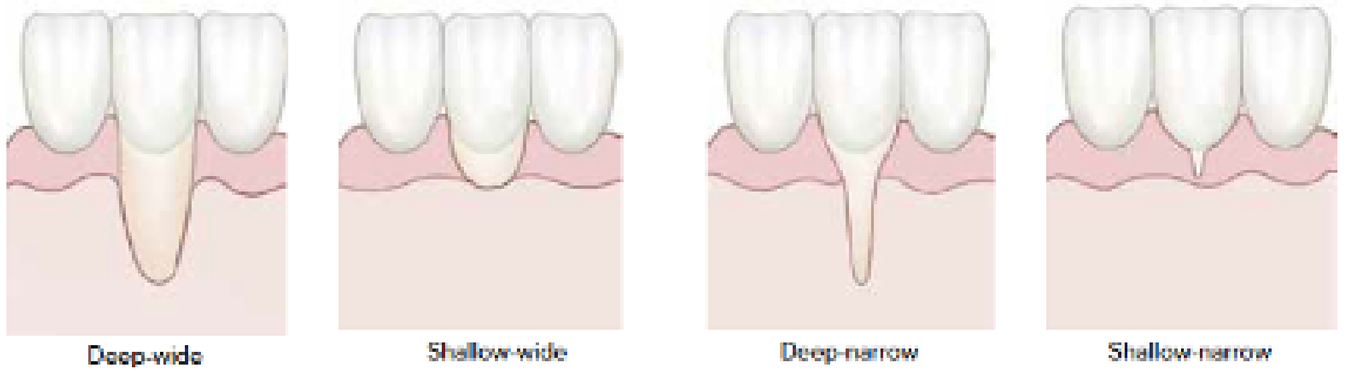


Fig 22-2 Classification proposed by Sullivan and Atkins[2] in 1968.

Fig 11-5 Sullivan and Atkins classification.[28]

Classification

Fig 11-3 Staging.[24]

Cairo Classification (2011)
Developed following the 2017 World Workshop by the
American Academy of Periodontology
and
European Federation of Periodontology

- RT1: No interproximal attachment loss
- RT2: Interproximal loss ≤ buccal loss
- RT3: Interproximal loss > buccal loss

(Cairo classification is now preferred.)

TABLE 22-2 Classification proposed by Cairo et al[14] in 2011

Class	Depiction	Description
RT1		• No interproximal attachment loss • Not detectable interproximal CEJ
RT2		• Loss of interproximal attachment • Interproximal attachment loss ≤ buccal attachment loss
RT3		• Loss of interproximal attachment • Interproximal attachment loss > buccal attachment loss

RT, recession type; CEJ, cementoenamel junction.

Clinical Consequences

- Root sensitivity
- Root caries
- Non-carious cervical lesions
- Aesthetic concerns
- Plaque retention
- Cervical abrasion

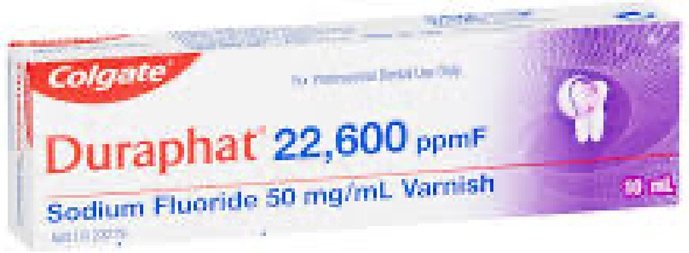
Indications for Treatment

- Aesthetic concerns
- Dentine hypersensitivity
- Progressive recession
- Root caries
- Patient request
- Pre-prosthetic or orthodontic considerations

Management

Non-Surgical

- Oral hygiene modification
- Desensitising agents
- Monitoring
- Risk factor control



Surgical Root Coverage Procedures

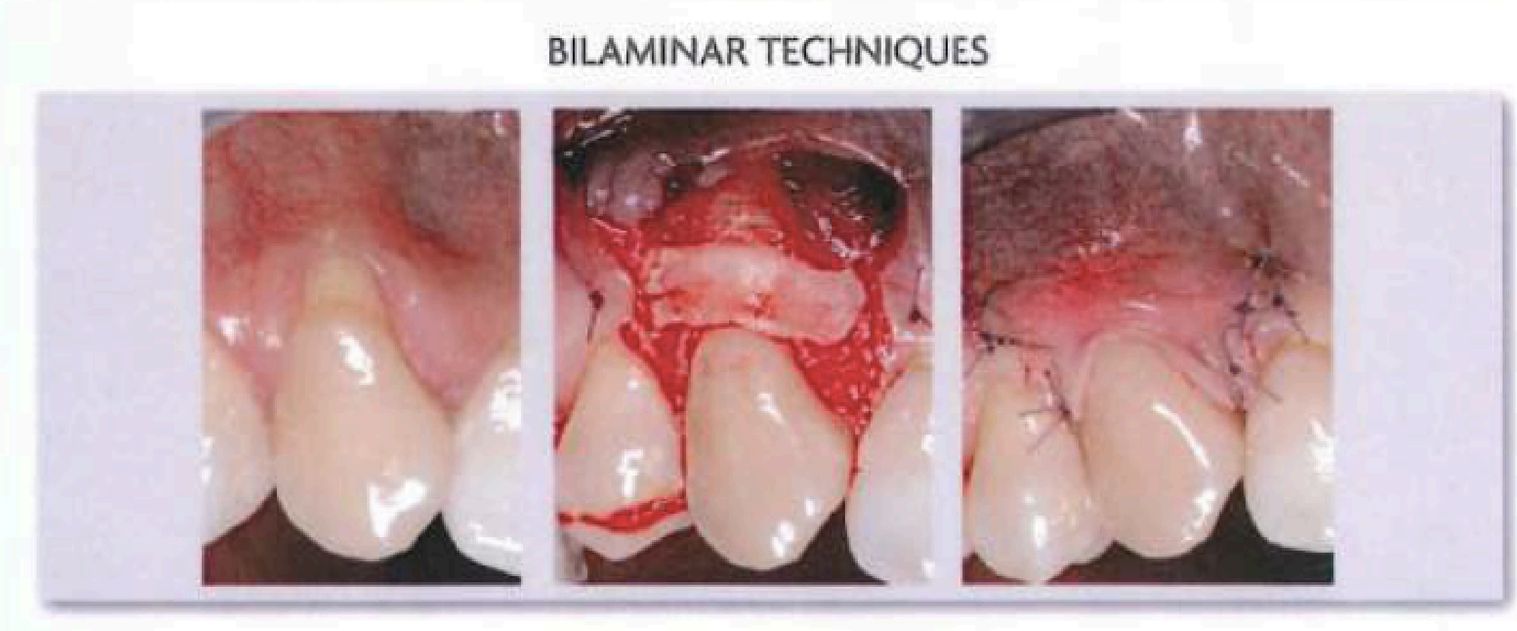
Coronally Advanced Flap (CAF)

- Gold standard for RT1 defects

Surgical Root Coverage Procedures

CAF + Connective Tissue Graft (CTG)

- Most predictable technique
- Improves tissue thickness



Surgical Root Coverage Procedures

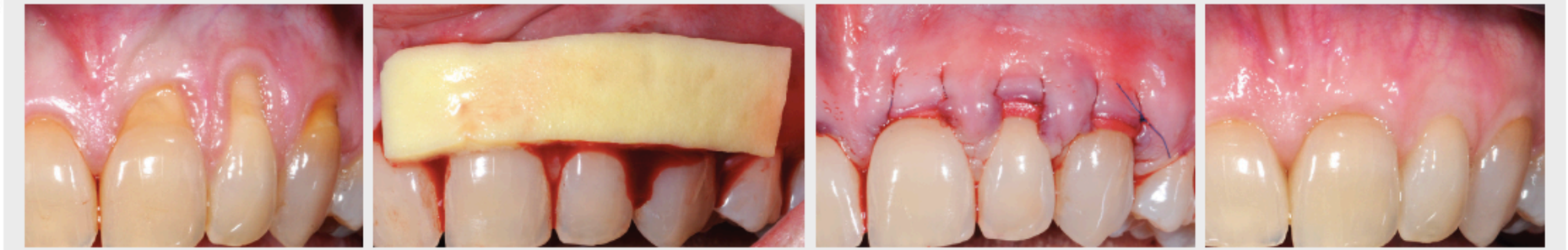
Free Gingival Graft (FGG)

- Increases keratinised tissue
- Less aesthetic

Surgical Root Coverage Procedures

Tunnel Technique

- Minimally invasive
- Suitable for multiple recessions



AlloDerm SELECT™ RTM case images courtesy of Dr. Edward P. Allen, Dallas, Texas

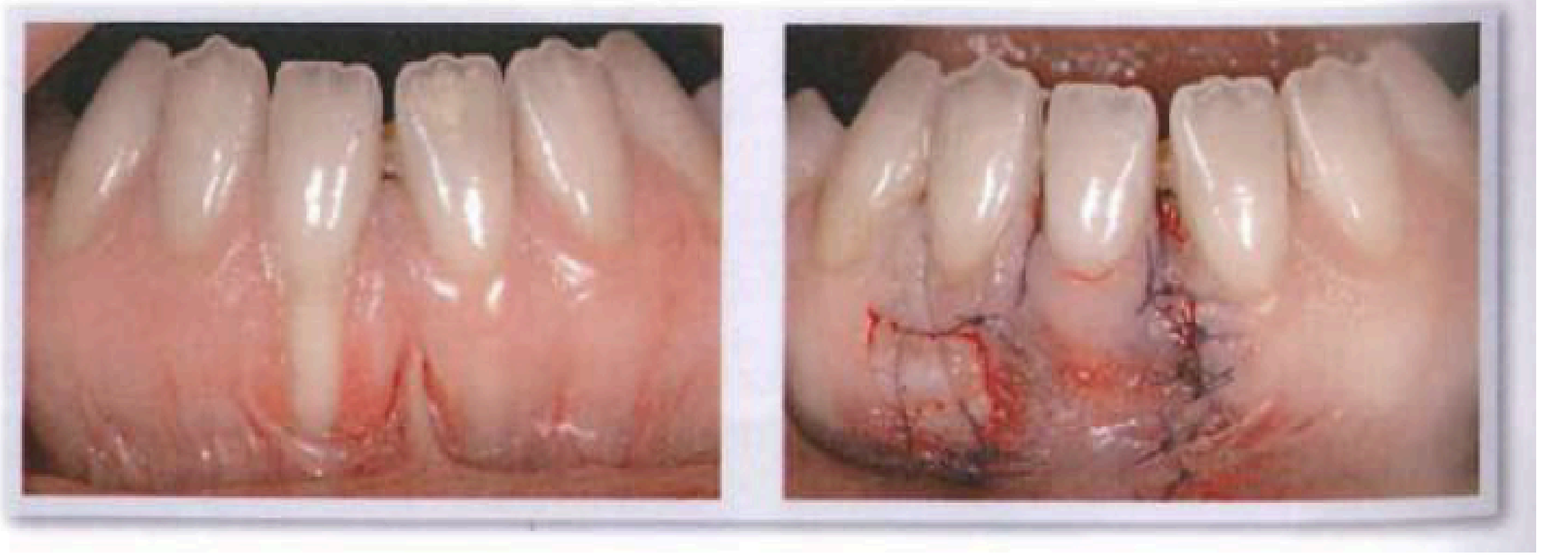
Surgical Root Coverage Procedures

Laterally Positioned Flap

LATERAL SLIDING FLAP

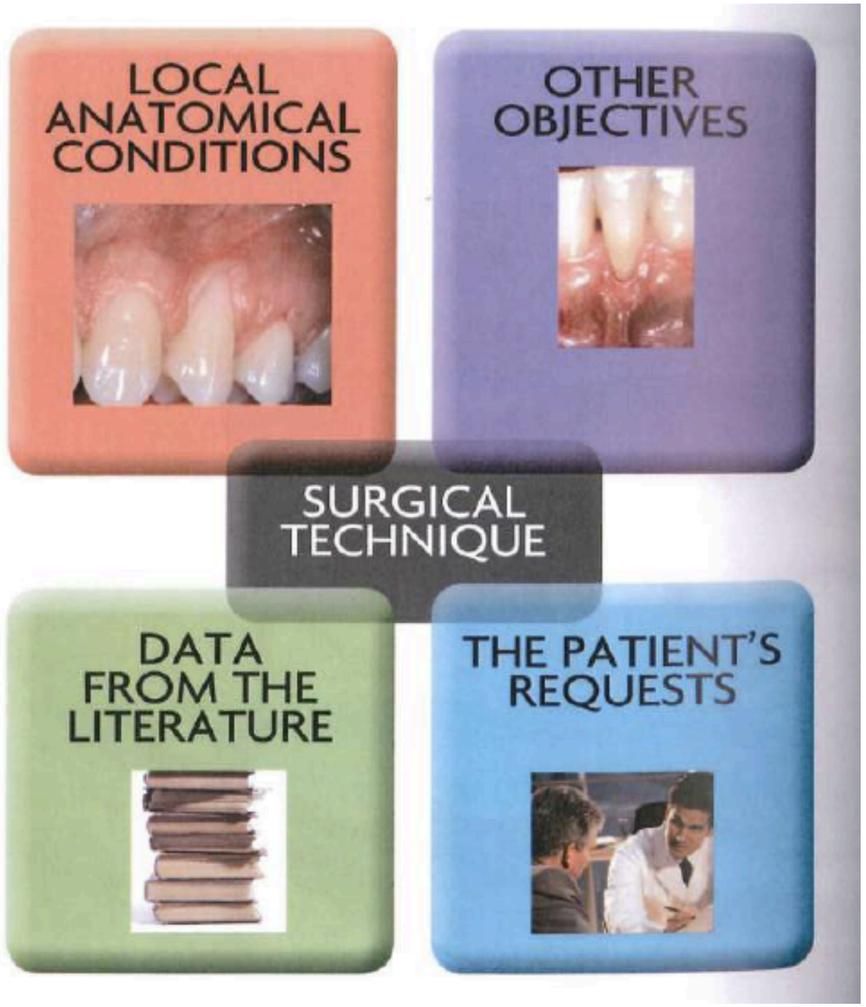
In a lateral sliding flap, the soft tissue mesial or distal to the exposed root is used for coverage.

This technique is indicated for treatment of isolated recession defects.



Prognostic Factors

- Defect depth and width
- Interproximal attachment level
- Tissue thickness
- Smoking status
- Operator skill
- Patient compliance



Evidence-Based Perspective

- CAF + CTG provides highest predictability for complete root coverage
- Thick phenotype improves long-term stability
- Long-term stability depends on plaque control and maintenance

Periodontal Soft Tissue Root Coverage Procedures: A Systematic Review From the AAP Regeneration Workshop

Leandro Chambrone* and Dimitris N. Tatakis†

Part II - Gingival Overgrowth

Definitions

Gingival overgrowth (enlargement) is an increase in gingival volume due to inflammatory, drug-induced, systemic, or idiopathic causes.

Classification

A. Inflammatory Enlargement

- Plaque-induced
- Chronic or acute

B. Drug-Induced Gingival Overgrowth (DIGO)

Common drugs:

- Phenytoin
- Cyclosporine
- Calcium channel blockers (e.g., nifedipine, amlodipine)

C. Systemic-Associated

- Leukemia
- Hormonal changes (pregnancy, puberty)

D. Hereditary Gingival Fibromatosis

FIG. 88.33 Puberty gingivitis in a 14-year-old girl was associated with poor hygiene, crowding of teeth, and mouth breathing. Gingival hyperplasia was confined to the anterior regions.

FIG. 88.35 Localized gingival enlargement occurred in a 24-year-old woman who was in the seventh month of pregnancy. The lesion was first noticed in the fourth month by the patient.

Pathogenesis of Drug-Induced Overgrowth

- Altered fibroblast function
- Increased extracellular matrix production
- Reduced collagen degradation
- Exacerbated by plaque accumulation
- Genetic susceptibility plays a role

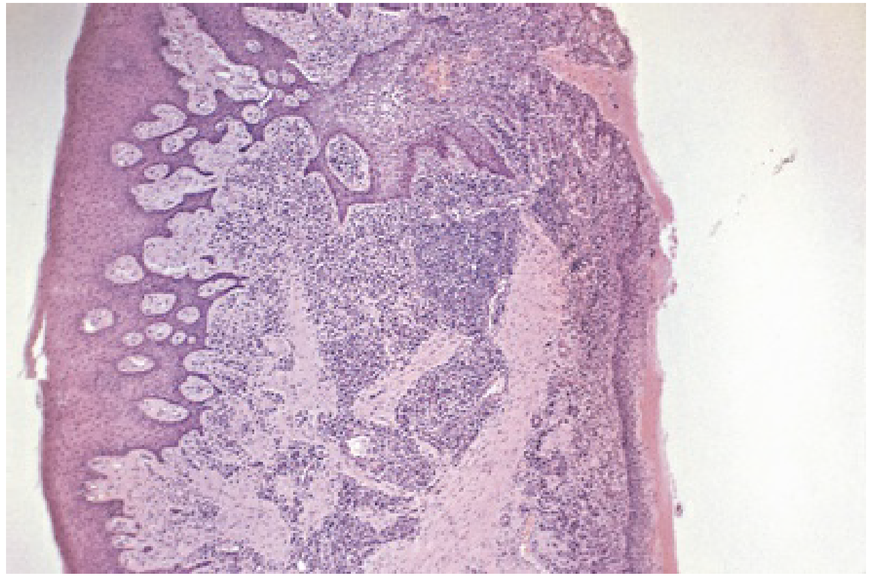


FIG. 19.6 Survey section of chronic inflammatory gingival enlargement shows the inflamed connective tissue core and strands of proliferating epithelium.

Clinical Features

Inflammatory Enlargement
- Red, oedematous
- Bleeds easily
- Associated with plaque

Drug-Induced
- Firm, fibrotic
- Begins at interdental papillae
- May cover crowns

Leukemic Enlargement
- Boggy, hemorrhagic
- Spontaneous bleeding

FIG. 19.1 Chronic inflammatory gingival enlargement localized to the anterior region.

FIG. 5.5 A 12-year-old female with a primary medical diagnosis of leukemia that exhibits swollen/spongy gingiva.

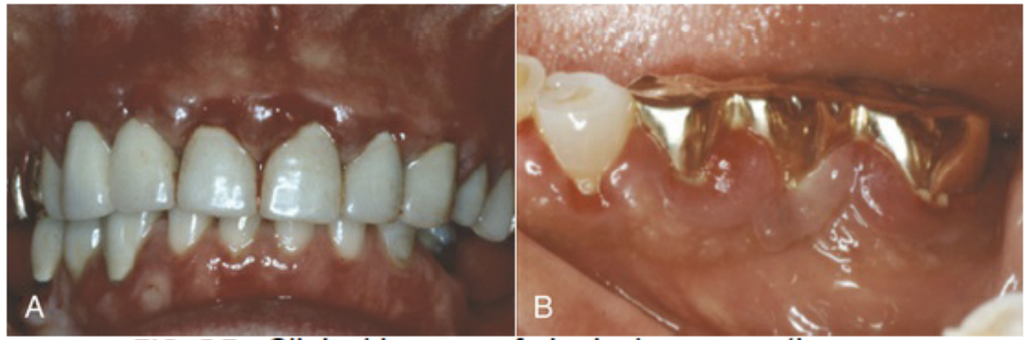


FIG. 5.7 Clinical images of gingival overgrowth following use a of calcium channel blocker to control hypertension.

Complications

- Plaque retention
- Pseudopockets
- Difficulty in oral hygiene
- Aesthetic compromise
- Impaired mastication
- Speech interference (severe cases)

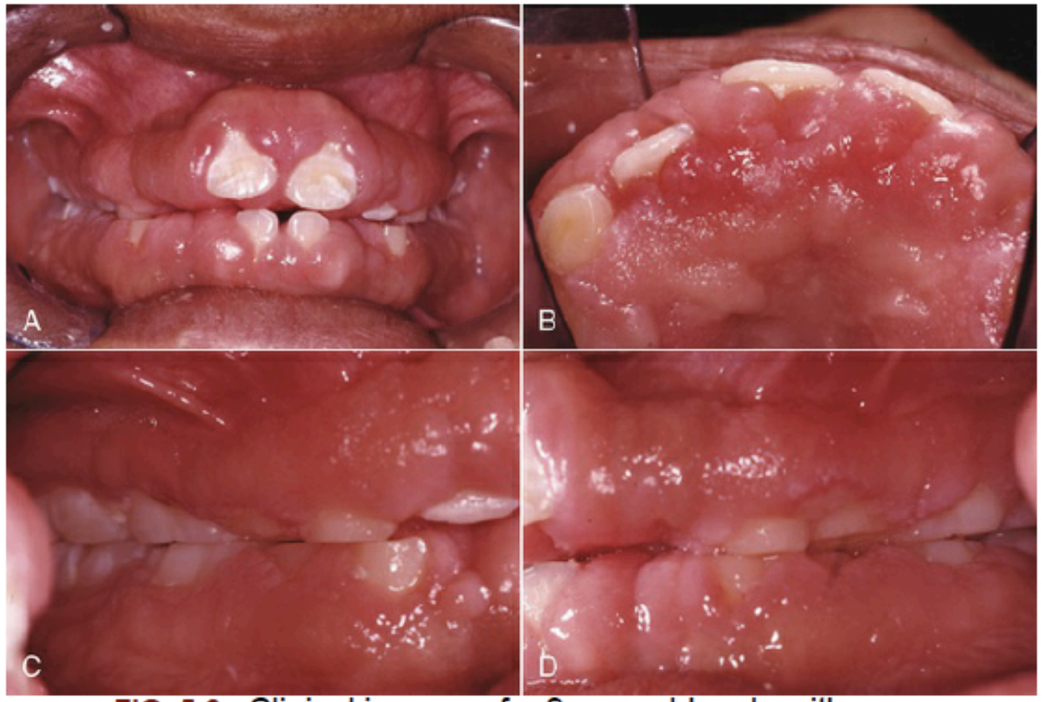


FIG. 5.6 Clinical images of a 9-year-old male with severe gingival overgrowth secondary to heart transplant and cyclosporine therapy.

Management

A. Non-Surgical

- Intensive plaque control
- Scaling and root planing
- Chlorhexidine adjunct
- Liaise with physician for medication substitution

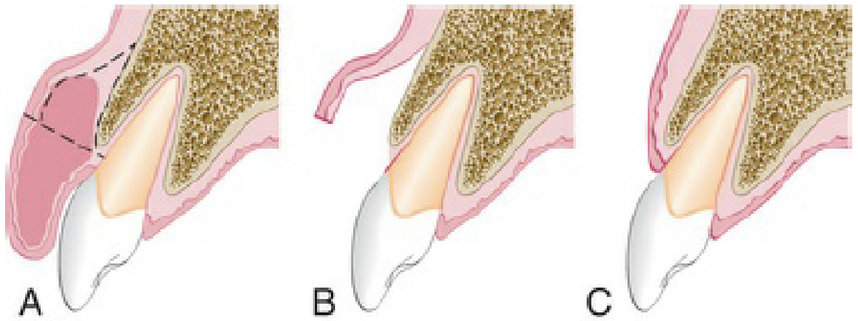


FIG. 61.5 Periodontal flap treatment for drug-induced gingival enlargement. (A) Initial reverse bevel incision followed by thinning of the enlarged gingival tissue; *dotted lines* represent incisions, and the *shaded area* represents the tissue portion to be excised. (B) After flap elevation, the enlarged portion of the gingival tissue is removed. (C) The flap is placed on top of the alveolar bone and sutured.

B. Surgical Management

Indicated when:

- Fibrotic component persists
- Functional/aesthetic compromise
- Persistent pseudopockets

Procedures:

- Gingivectomy (external bevel)
- Internal bevel gingivectomy
- Flap surgery if true pockets present
- Laser excision (selected cases)

Recurrence

- Common in DIGO
- Dependent on:
- Drug continuation
- Plaque control
- Genetic factors

Key Take-Home Message

- Gingival recession is primarily a soft tissue deficiency problem.
- Predictability depends on interproximal attachment.
- Gingival overgrowth is often plaque-modified and drug-associated.
- Maintenance therapy is critical for both conditions.