The surgical phase of therapy

Phase II Periodontal Therapy

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Suturing

- The needle is held with the needle holder, and it should enter the tissues at right angles and be no less than 2 mm to 3 mm from the incision. The knot should not be placed over the incision.
- The use of non irritating ,non resorbable ,mono-felamentous material is recommended. .
- The expanded polytetrafluoroethylene, synthetic, monofilament Suture is an excellent nonresorbable suture that is widely used today.
- The dimensions usually preferred are 4/0 ,5/0 .Finer suture materials(6/0,7/0) may be used particularly with periodontal micro and plastic surgery.
- Sutures are removed after 7-14 days.

Suturing technique:

1- Interrupted interdental suture:

Provides close adaptation between buccal and lingual flaps with equal tension on both units when buccal and lingual flaps elevated and repositioned at the same level .

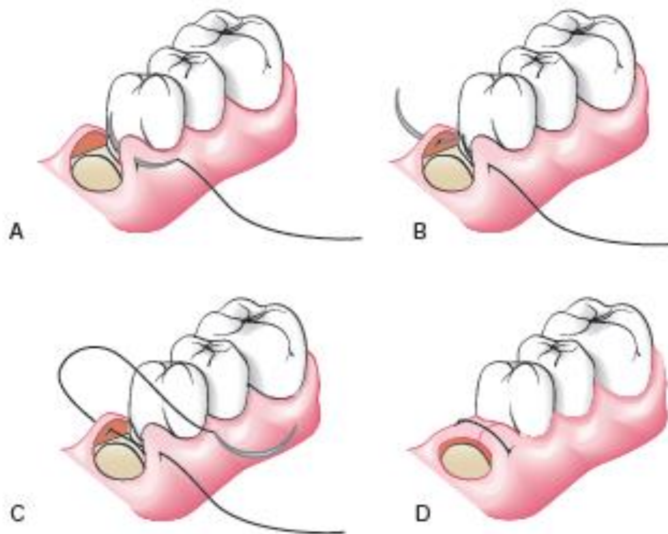


Figure 57-15 Simple loop suture is used to approximate the buccal and lingual flaps. **A,** The needle penetrates the outer surface of the first flap. **B,** The undersurface of the opposite flap is engaged, and, **C,** the suture is brought back to the initial side, where, **D,** the knot is tied.

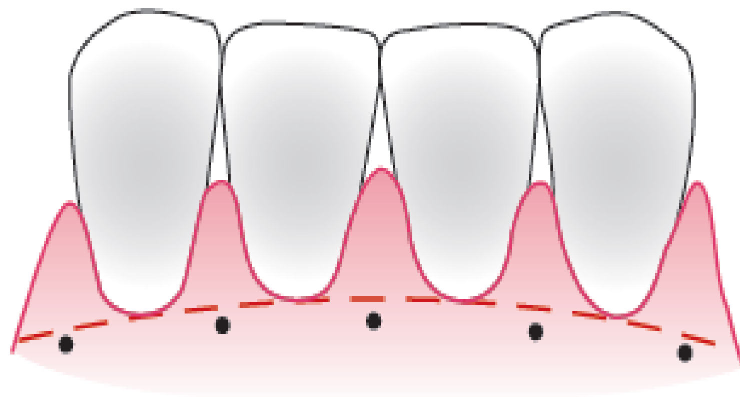


Figure 57-13 Placement of sutures in the interdental space below the base of an imaginary triangle in the papilla.

2-Figure-eight suture:

Used to approximate the buccal and lingual flaps when the flaps ar e not in close apposition as a result of the apical flap position or nonscalloped incisions. This is simple to perform than th e direct ligation.

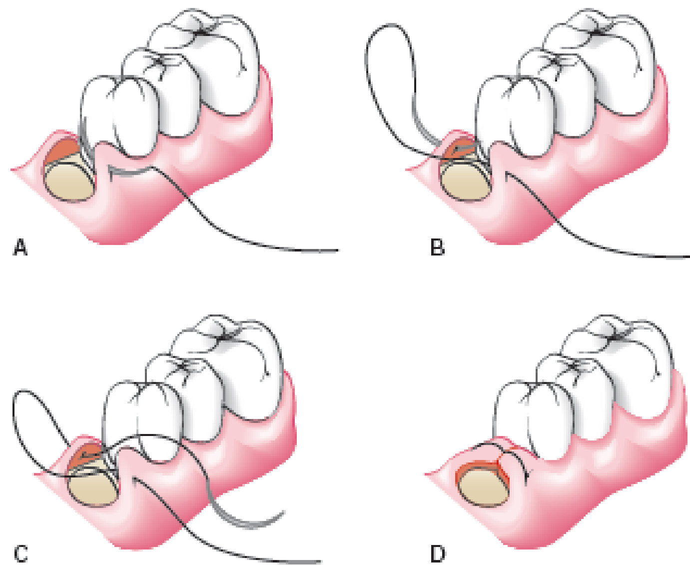


Figure 57-16 Interrupted figure-eight suture is used to approximate the buccal and lingual flaps. **A**, The needle penetrates the outer surface of the first flap and, **B**, the outer surface of the opposite flap. **C**, The suture is brought back to the first flap, and, **D**, the knot is tied.

3- Suspensory suture (Independent Sling Suture)

Used when the flap elevated on one aspect buccal or lingual, or when buccal and lingual flaps are to be repositioned at different levels.

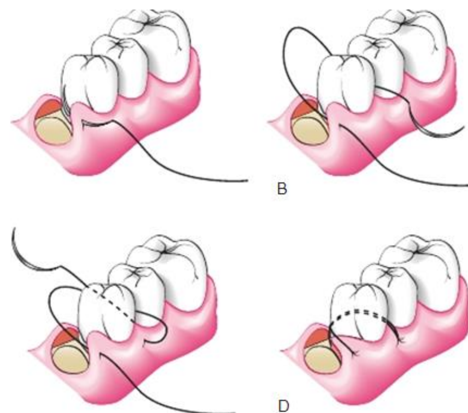


Figure 57-17 Single, interrupted sling suture is used to adapt the flap around the tooth. **A,** The needle engages the outer surface of the flap and, **B,** encircles the tooth. **C,** The outer surface of the same flap of the adjacent interdental area is engaged. **D,** The suture is returned to the initial site, and the knot is tied.

4-The continuous independent sling suture:

Used in surgical procedures involving several teeth when buccal and lingual are to be repositioned apically .one flap at a time secured in its correct position.

5-Anchor Suture:

Used in the mesial or distal wedge procedures.

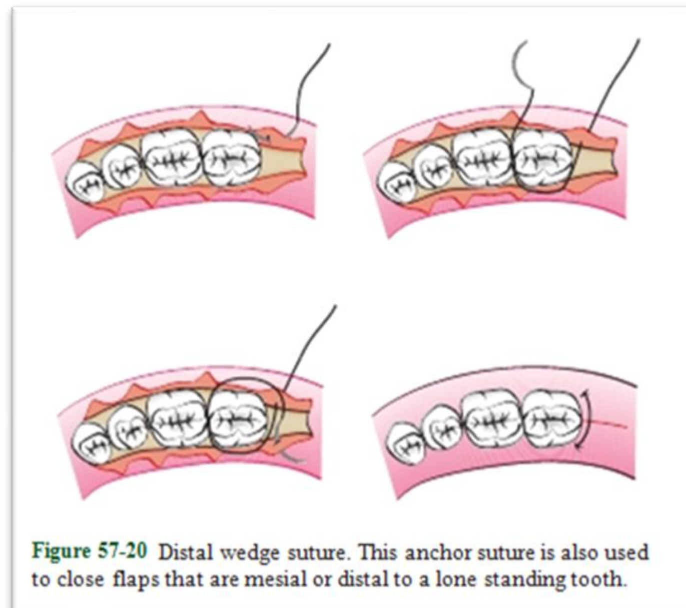
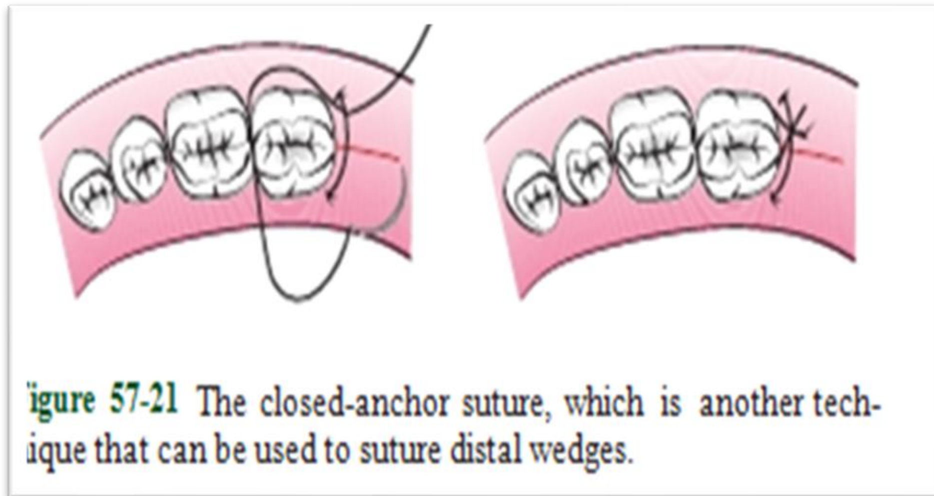


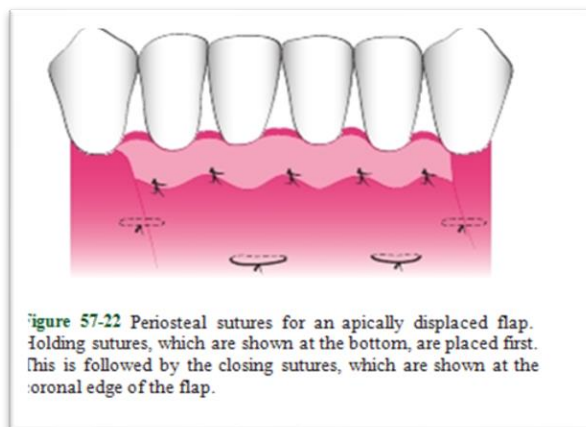
Figure 57-20 Distal wedge suture. This anchor suture is also used to close flaps that are mesial or distal to a lone standing tooth.



igure 57-21 The closed-anchor suture, which is another tech-
ique that can be used to suture distal wedges.

6-The periosteal suture

Used to hold the
apically displaced partialthickness flaps on the periosteum.



igure 57-22 Periosteal sutures for an apically displaced flap.
Iolding sutures, which are shown at the bottom, are placed first.
This is followed by the closing sutures, which are shown at the
oronal edge of the flap.

Periodontal Dressings (Periodontal Packs)

At completion of the periodontal surgical procedure, clinicians may elect to cover the area with a surgical dressing. In general, dressings have no curative properties but assist healing by protecting the tissue rather than providing healing factors.

Purpose of Periodontal dressings:

1. It protects the wound post-surgically.

2.It maintains close adaptation of the flap to the underlying bone.

3. It helps in prevention of bleeding.

4. It prevents the formation of excessive granulation tissue.

5. It also protects newly exposed root surfaces from temperature changes

6. It facilitates oral hygiene maintenance.

7. It facilitates masticatory process.

8. . It helps in prevention of infection.

9.It aids in comfort to the patient.

Properties :

1.Soft and flexible to facilitate its placement and adaptation .

2.Hardens within a reasonable time .

3.Should be sufficiently rigid to prevent fracture and dislocation.

4.Should have smooth surface after setting to prevent irritation to the cheeks and lips .

5.Should have bactericidal properties to prevent plaque formation .

6.Should not interfere with healing .

Zinc Oxide–Eugenol Dressing

- Dressings that are based on the reaction of zinc oxide and eugenol.
- Zinc oxide–eugenol dressings are supplied as a liquid and a powder that are mixed before use.

- Eugenol in this type of dressing may induce an allergic reaction that produces reddening of the area and burning pain in some patients.

Zinc Oxide–Noneugenol Dressing

This is supplied in two tubes, the contents of which are mixed immediately before use until a uniform color is obtained. one tube contains zinc oxide, an oil (for plasticity), a gum (for cohesiveness), and lorothidol (a fungicide). The other tube contains liquid coconut fatty acids that have been thickened with colophony resin (or rosin) and chlorothymol (a bacteriostatic agent).

Cyanoacrylates

tissue conditioners (methacrylate gels):

Antibacterial Properties of Dressing:

- Improved healing and patient comfort with less odor and taste have been obtained by incorporating antibiotics into the dressing.
- Tetracycline (Terramycin),. Care must be taken when any antibiotic products are used because they may produce hypersensitivity reactions. The emergence of resistant organisms and opportunistic infections has been reported. generally recommended, particularly when long and traumatic surgical procedures are performed.

Postoperative Instructions

- Should take the prescribed medications regularly and without fail
- The pack should remain in place for at least 1 week or until removed by the dentist at the next visit.
- For the first 3 hours after the operation avoid hot foods to permit the pack to harden.
- Semi solid or finely foods are suggested.

- Avoid citrus fruits or fruit juices, highly spiced foods and alcoholic beverages
- Do not smoke the heat ,smoke will irritate the gums and the immunological effects of nicotine will delay healing
- Do not brush over the pack, the patient should be advised to brush and floss the areas of the mouth not covered by the pack
- Rinse with 0.12% chlorhexidine immediately after the surgical procedure and twice daily after until normal plaque control technique can be resumed
- For the first day apply ice intermittently on the face over the operated area.
- Swelling is not unusual, but may be seen 1 to 2 days after the surgery and subsides in 3 to 4 days

First Postoperative Week

When the therapy is properly performed, periodontal surgery should present minimal postoperative problems.

The following complications may arise during the First postoperative week:

1.Persistent bleeding after surgery. The dressing is removed, and local anesthesia may be needed before the bleeding areas are located. The bleeding is stopped with pressure, or if necessary the area may have to be anesthetized and resutured. After the bleeding has been stopped, the area is again redressed.

2. Sensitivity to percussion. Extension of inflammation into the periodontal ligament may cause sensitivity to percussion. The patient should be questioned regarding the progress of the symptoms. Gradual diminishing discomfort is a favorable sign. The dressing should be removed and the surgical area checked for localized areas of infection or irritation. The area should be irrigated or incised to

provide drainage if areas of localized exudate are present. Particles of calculus that may have been overlooked should be removed. Relieving the occlusion can be helpful. Sensitivity to percussion may also be caused by excess dressing, which interferes with the occlusion. Removal of the excess usually corrects the condition.

3. Swelling. During the first 2 postoperative days, some patients may report a soft, painless swelling of the cheek in the surgical area. Lymph node enlargement may occur, and the temperature may be slightly elevated. The area of operation itself is usually symptom free. This type of involvement results from a localized inflammatory reaction to the surgical procedure. It generally subsides by the fourth postoperative day without necessitating the removal of the dressing. If swelling persists, enlarges, or is associated with increased pain, amoxicillin (500 mg) should be taken every 8 hours for 1 week. The patient should also be instructed to apply moist heat intermittently over the area.

4. Feeling of weakness. Occasionally, patients report having experienced a "washed-out," weakened feeling for about 24 hours after surgery. This represents a systemic reaction to transient bacteremia induced by the procedure. This reaction can be prevented by premedication with amoxicillin (500 mg) every 8 hours. This protocol should be started 24 hours before the next procedure and continued for 5 days postoperatively.

Removal of the Dressing and Return Visit

When the patient returns in 1 week, the periodontal dressing is removed by inserting a curette along the margin and exerting gentle lateral pressure. Pieces of the dressing retained interproximally and particles adhering to the tooth surfaces are also removed with curettes. Particles of dressing and debris may be enmeshed in the surgical surfaces and should be carefully removed with cotton pliers. The entire area is irrigated with peroxide to remove the superficial debris.

Redressing

After the dressing is removed, it is usually not necessary to replace it. However, redressing for an additional week is advised for the following types of patients:

(1) those with a low pain threshold who are particularly uncomfortable when the dressing is removed;

(2) those with unusually sensitive root surfaces post surgically; or

(3) Those with an open wound where the flap edges have increased. Clinical judgment helps when deciding whether to redress the area or to leave the initial dressing for a longer period.

Tooth Mobility

Tooth mobility usually increases immediately after surgery.8 This results from edema in the periodontal ligament space from the inflammation that occurs post surgically. The mobility diminishes to the pretreatment level by the fourth week.The patient should be reassured before surgery that the mobility is temporary.

Mouth Care Between Procedures

Care of the mouth by the patient between the treatments as well as after the surgery is completed is extremely important. The patient has had instructions on oral hygiene before surgical therapy but must be instructed again after surgical therapy. Plaque or biofilm removal post surgery is different from that of presurgical hygiene because the areas are still healing and uncomfortable. Vigorous brushing is not feasible during the first week after the dressing is removed. However, the patient is informed that biofilm and food accumulation impair healing and is advised to try to keep the area as clean as possible with the gentle use of a soft toothbrush and light water irrigation. Rinsing with a chlorhexidine mouthwash or applying such a rinse topically with cotton-tipped applicators is indicated for the first few postoperative weeks. Brushing is introduced when the healing of the

tissues permits, and the overall hygiene regimen is increased as healing progresses.

Patients should be told that

(1) some gingival bleeding will occur when the wounded areas are gently cleaned;

(2) this bleeding is normal and will subside as healing progresses; and

(3) the bleeding should not deter them from following their oral hygiene regimen.