

Teeth extractions I.

Instrumentation



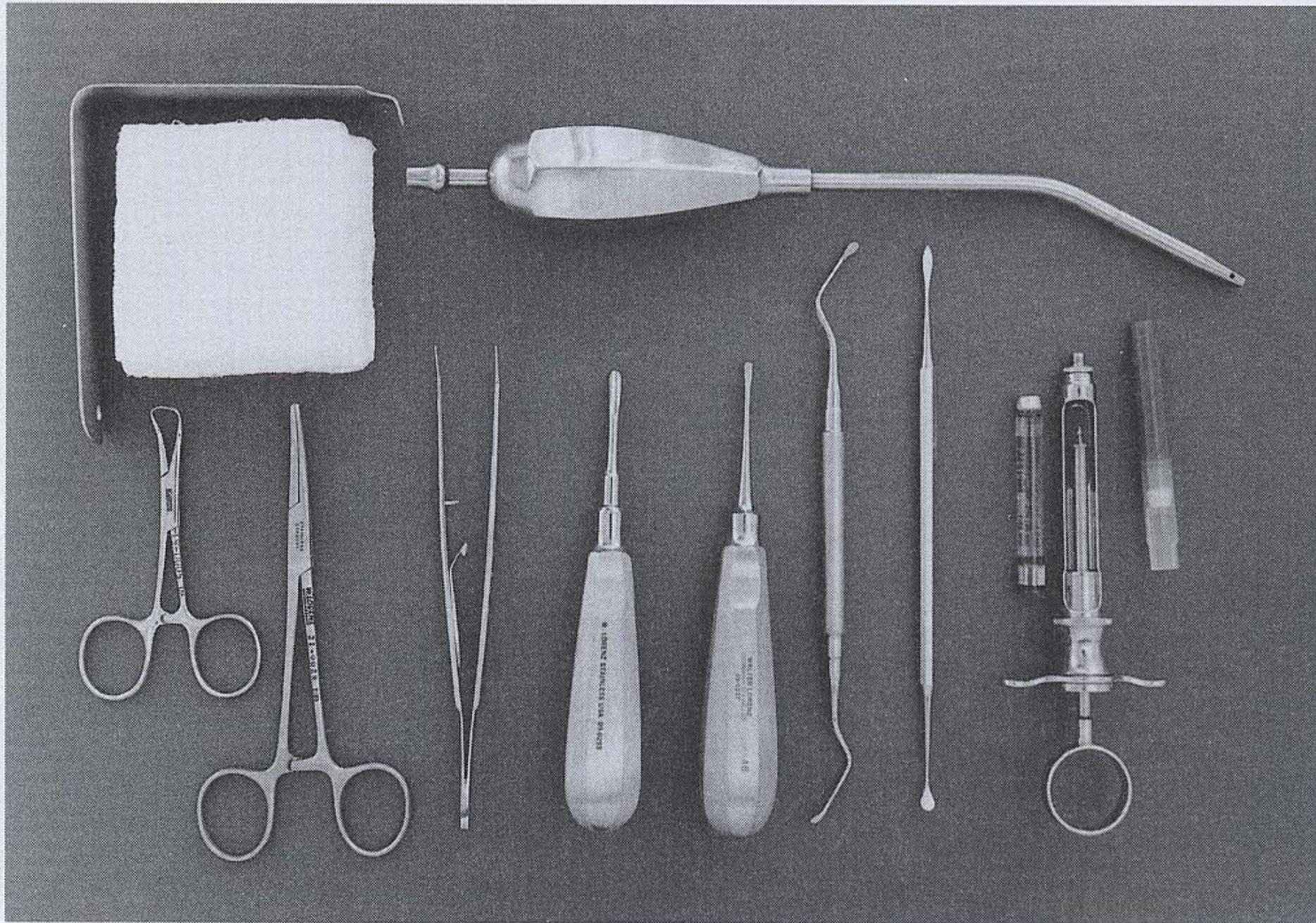


FIG. 6-62 Typical basic extraction tray.

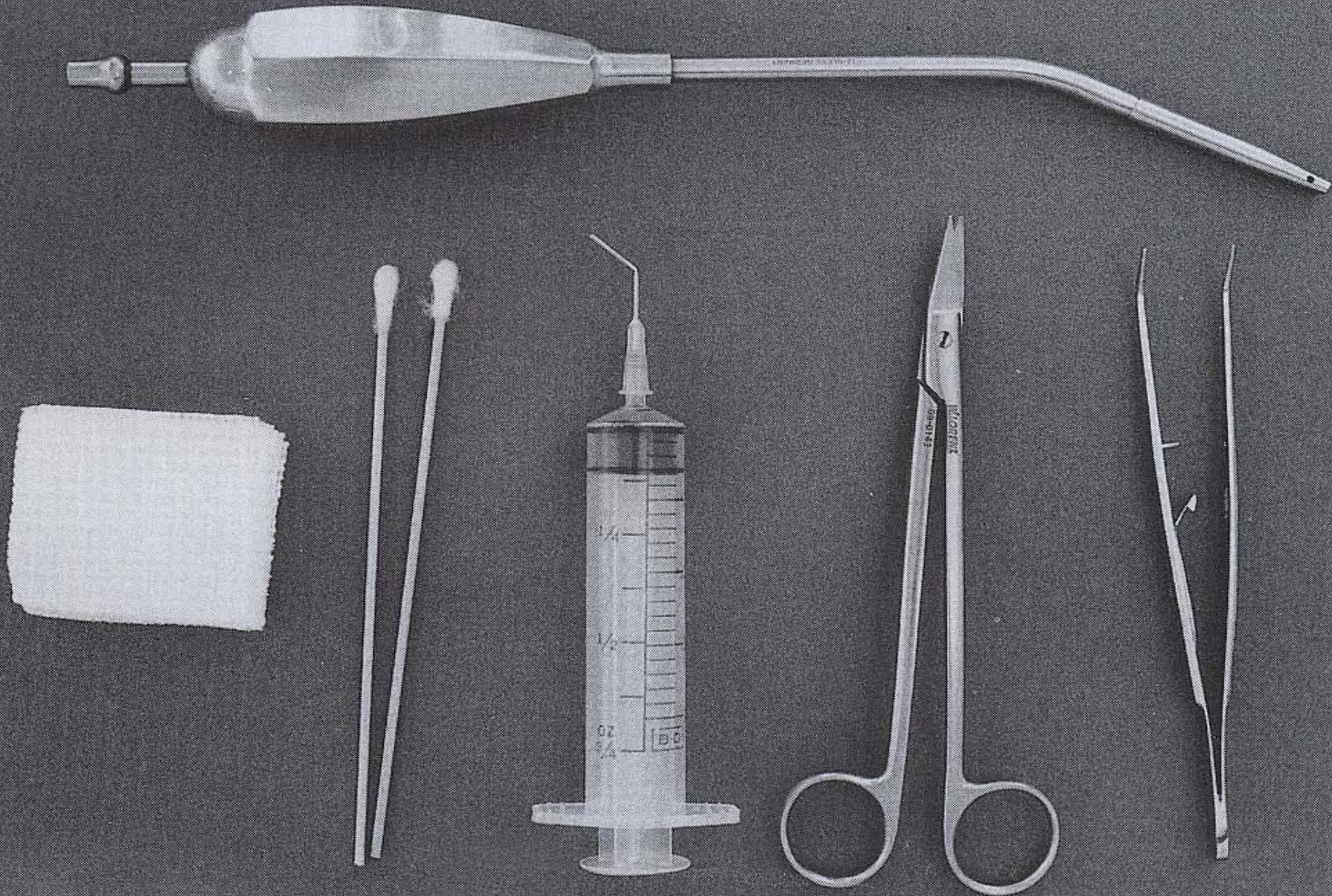


FIG. 6-65 Postoperative tray includes instruments necessary to remove sutures and irrigate mouth.



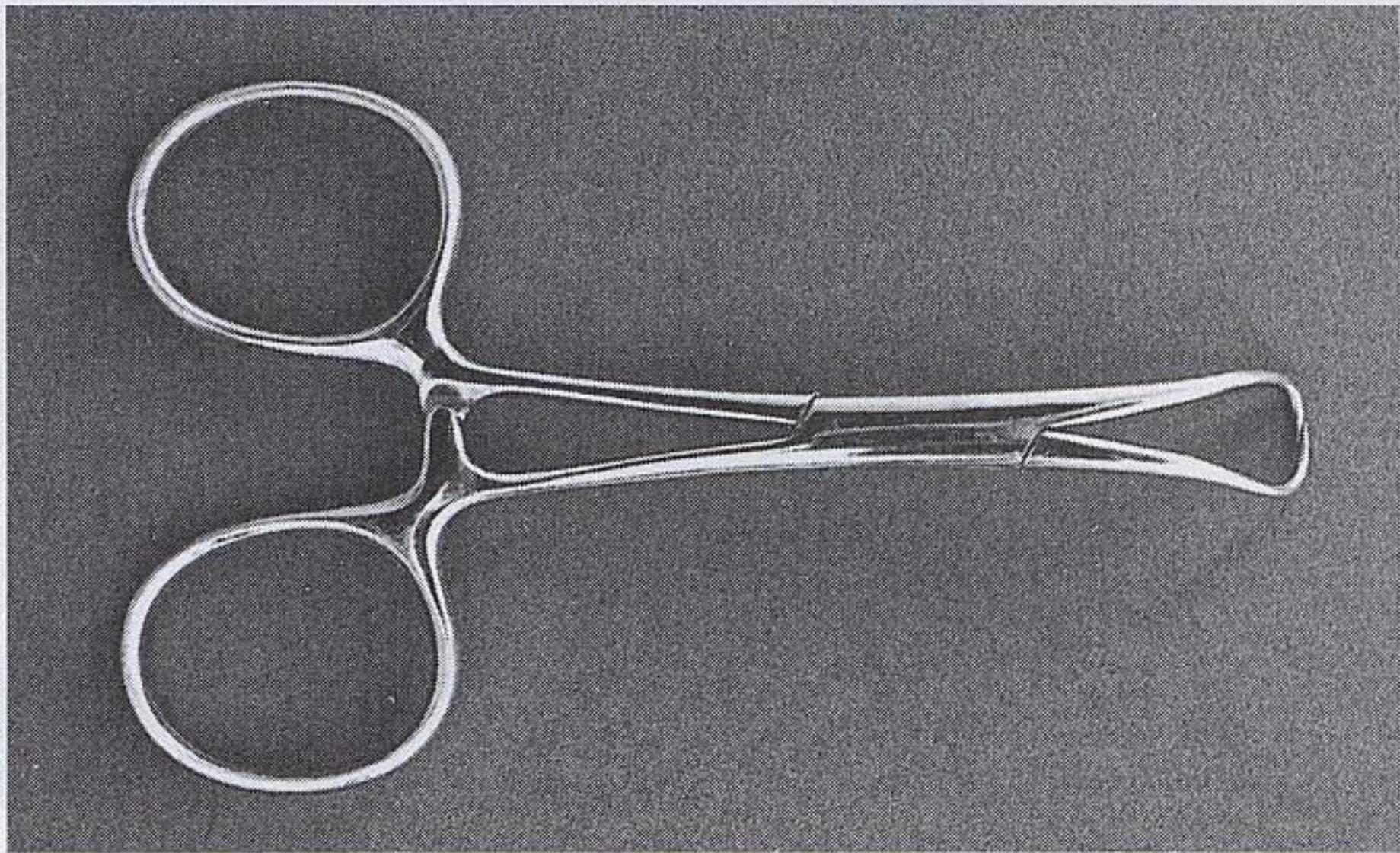


FIG. 6-33 Towel clip is used to hold drapes in position. Sharp points penetrate towels, and locking handles maintain drape in position. Towel clamps with nonpenetrating action are also available.





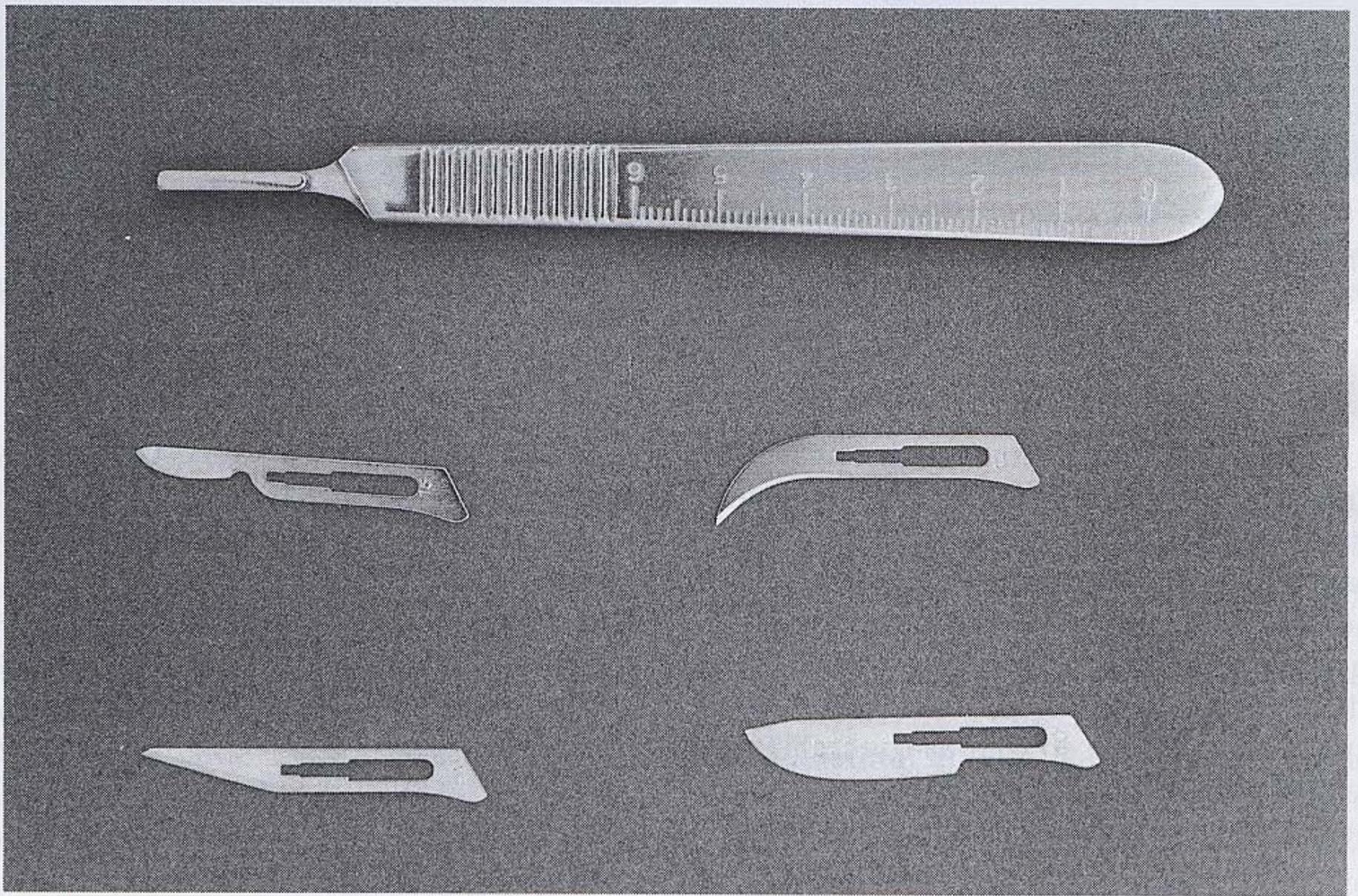


FIG. 6-2 Scalpel blades used in oral surgery include no. 15 (*middle left*), no. 12 (*middle right*), no. 11 (*lower left*), and no. 10 (*lower right*). No. 3 scalpel handle is above.

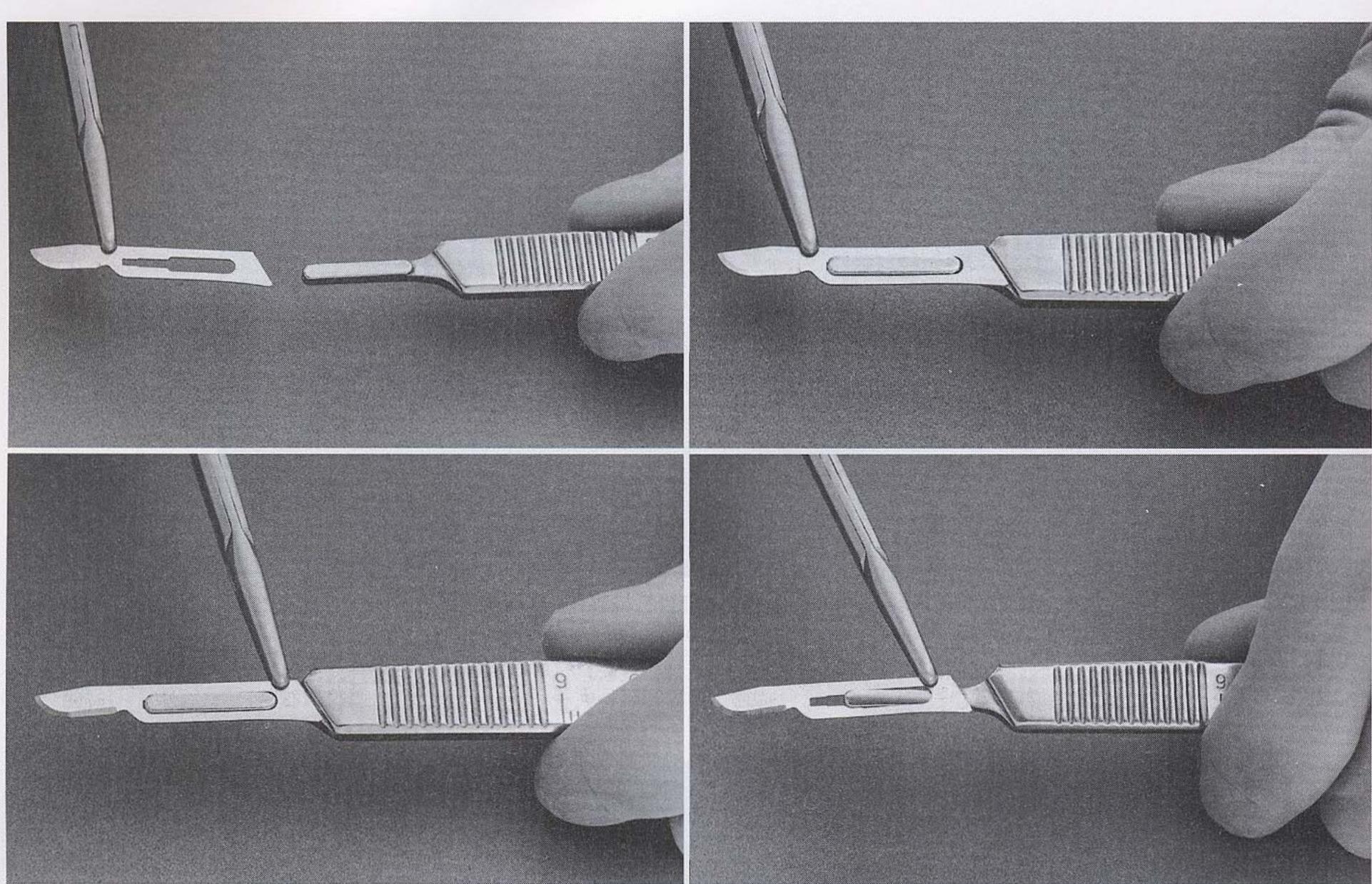


FIG. 6-3 A, When loading scalpel blade, surgeon holds blade in needle holder and handle, with male portion of fitting pointing upward. B, Blade is then slid into handle until it clicks into place. C, To remove blade, the surgeon uses needle holder to grasp proximal end of blade and lifts it to disengage it from fitting. D, Blade is then slid off handle.

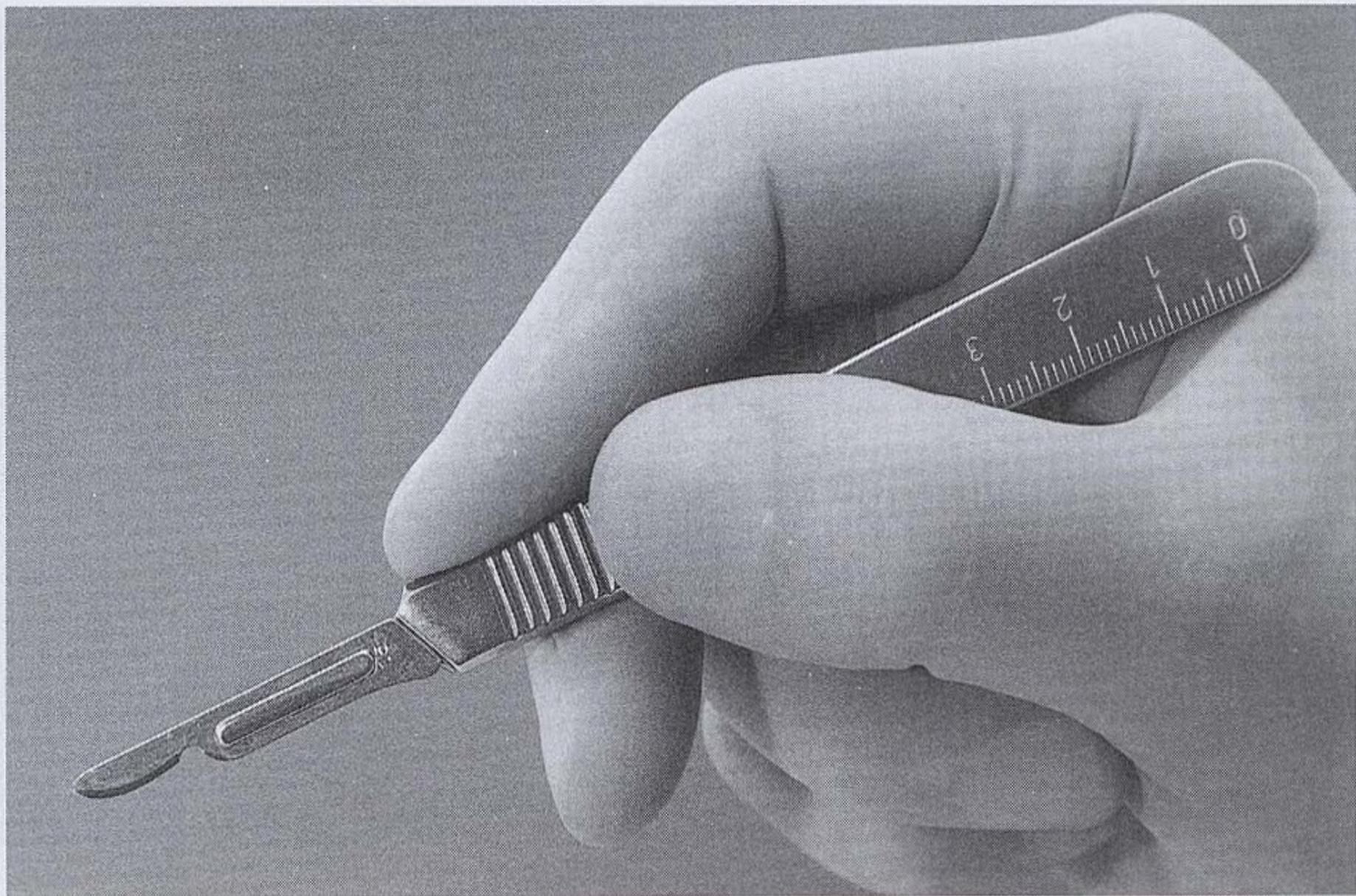


FIG. 6-4 Scalpel is held in pen grasp to allow maximal control.





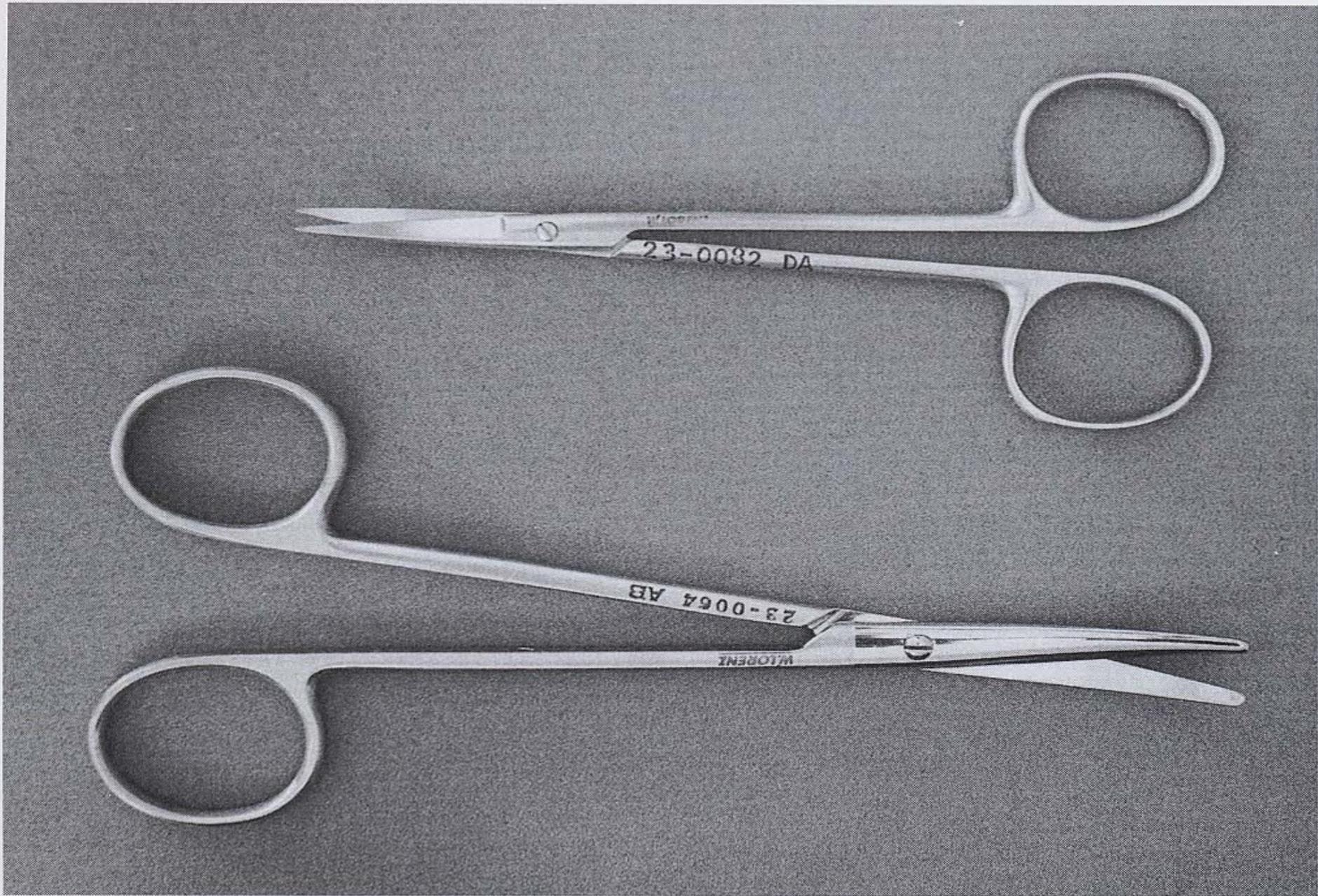


FIG. 6-28 Soft tissue scissors are of two designs: Iris scissors (*top*) are small, sharp-pointed scissors. Metzenbaum scissors (*bottom*) are longer, delicate, blunt-nosed scissors.

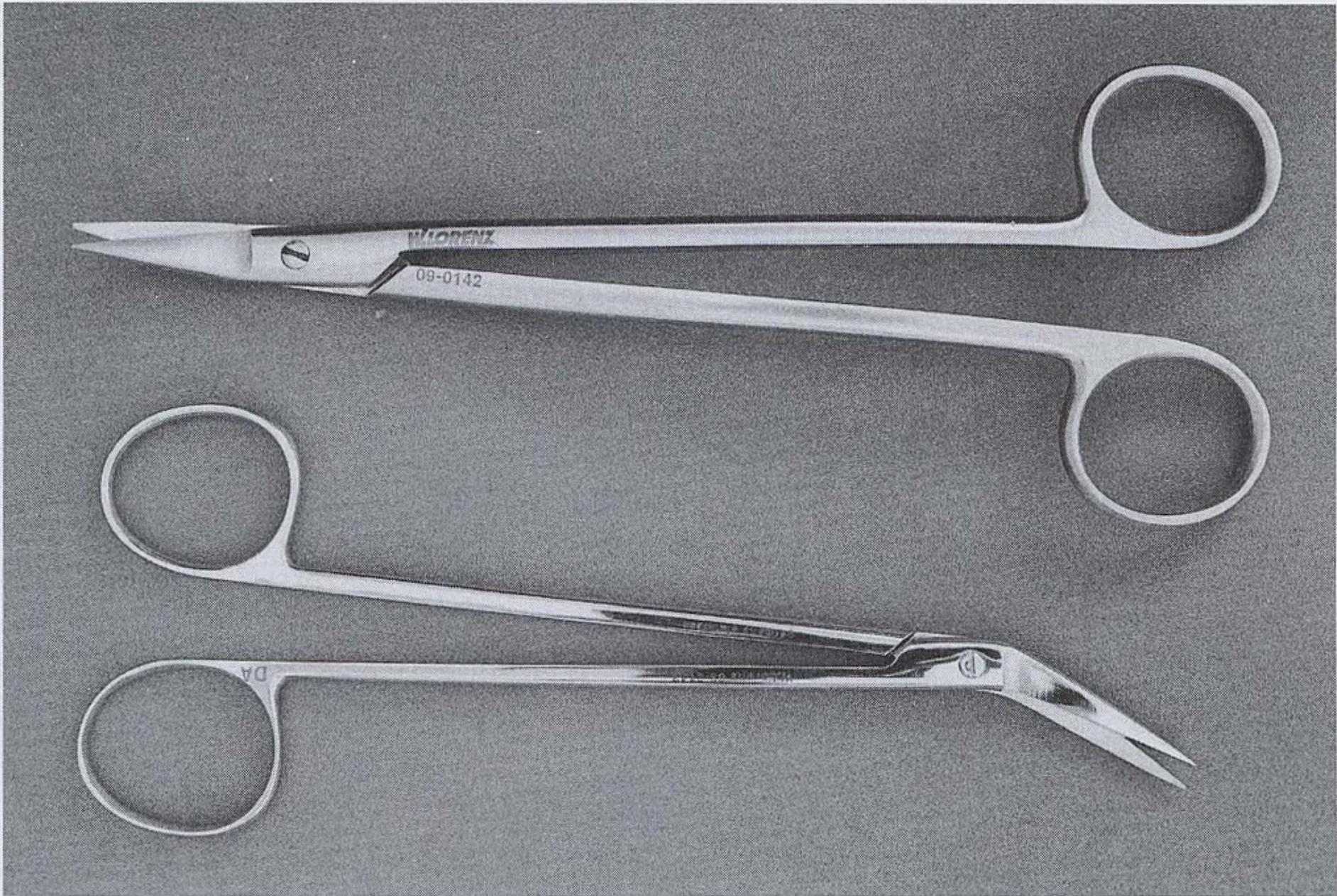
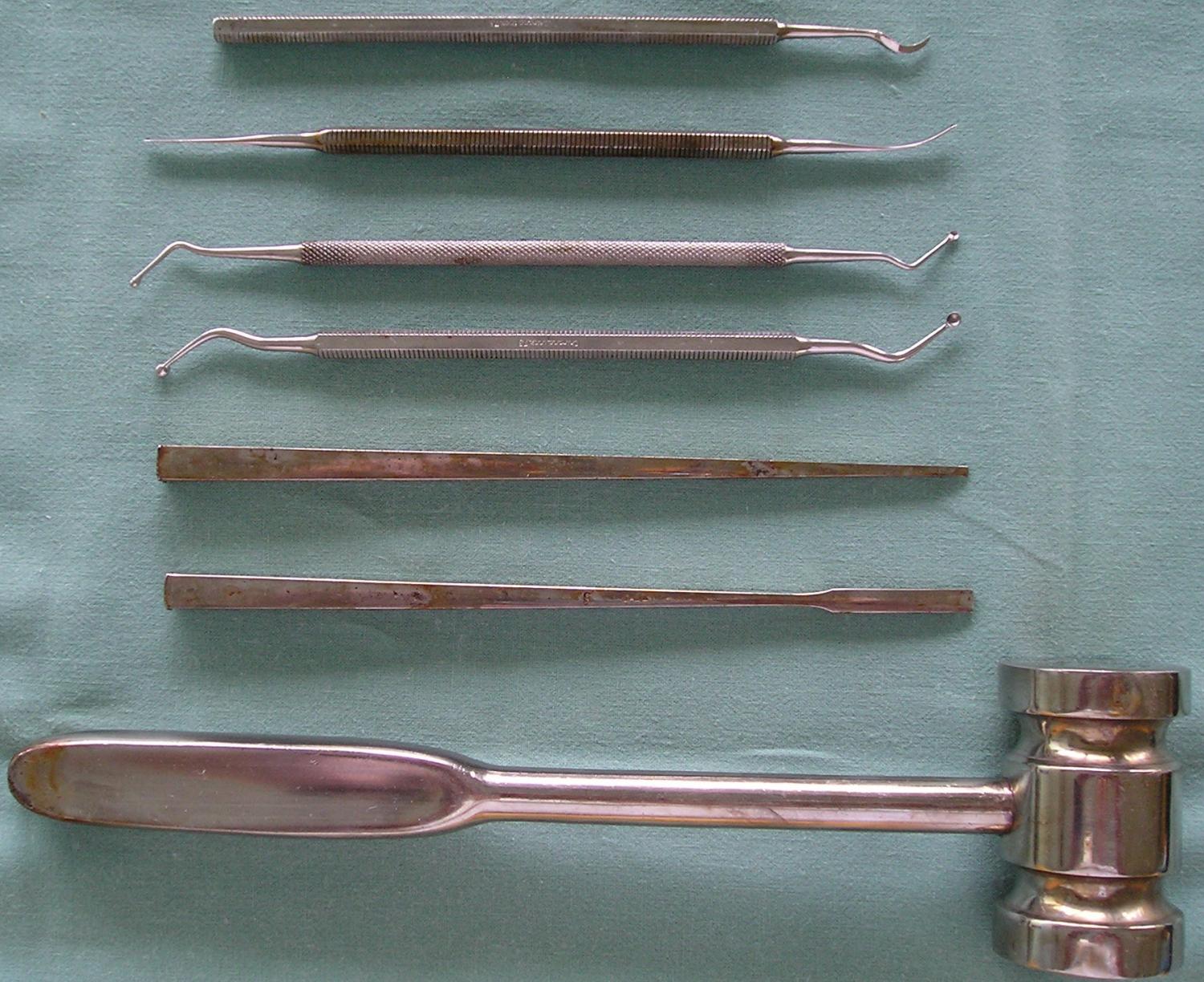
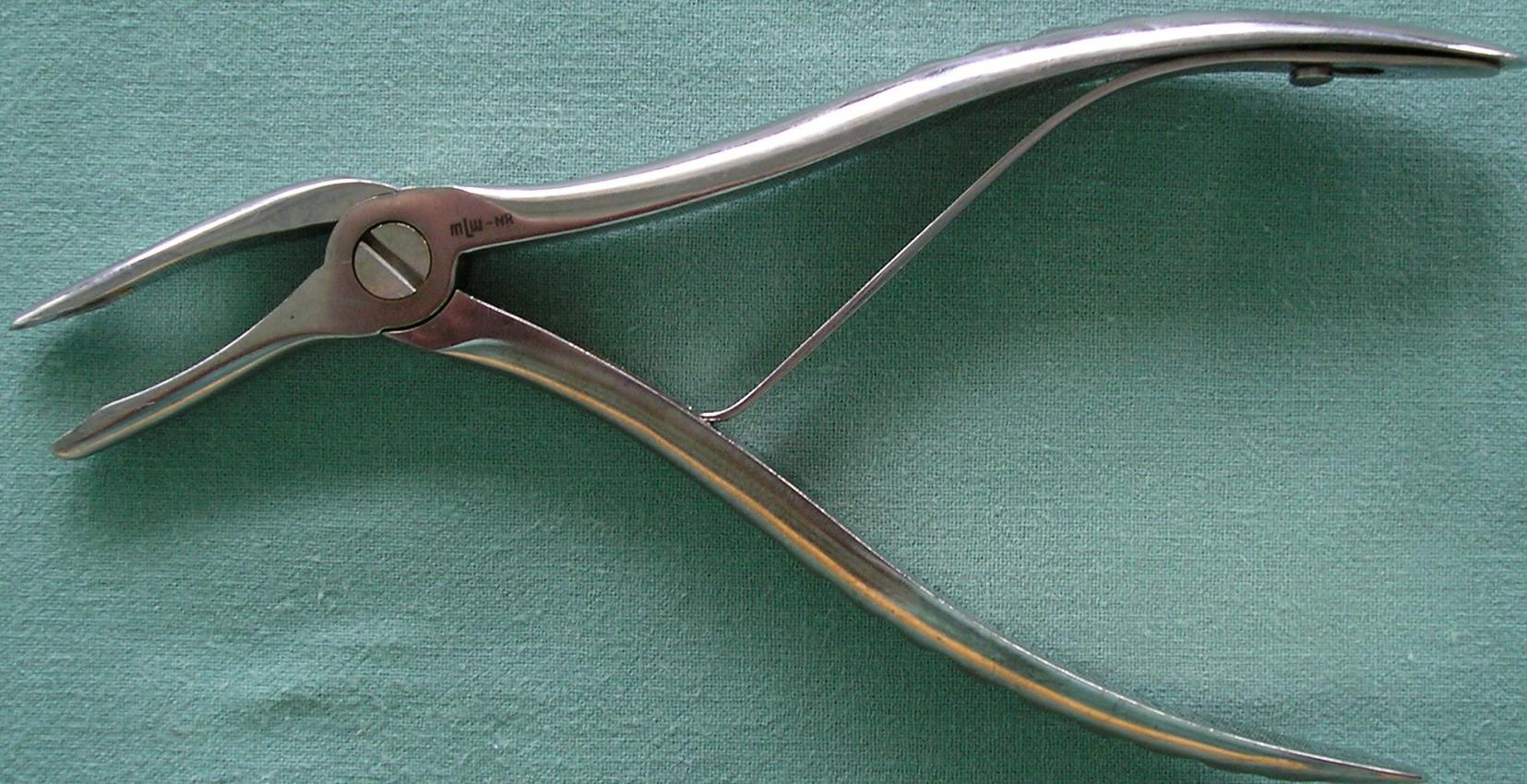
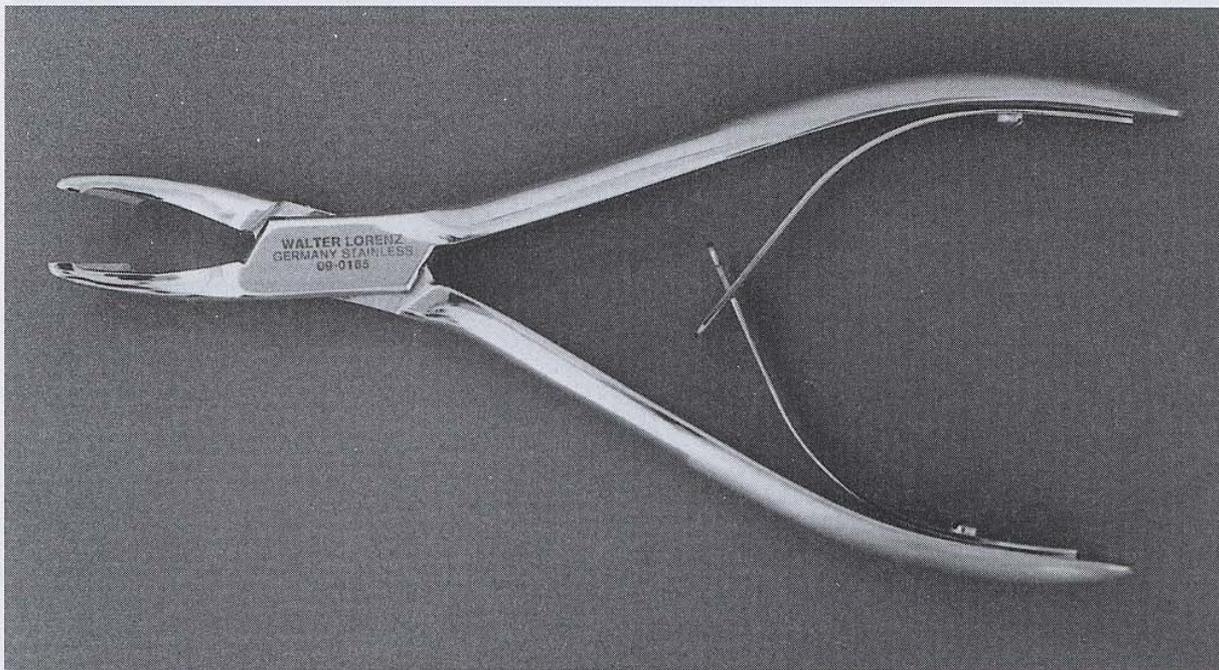


FIG. 6-26 Suture scissors have long handles and short blades. Blades may be angled slightly in either of two directions.







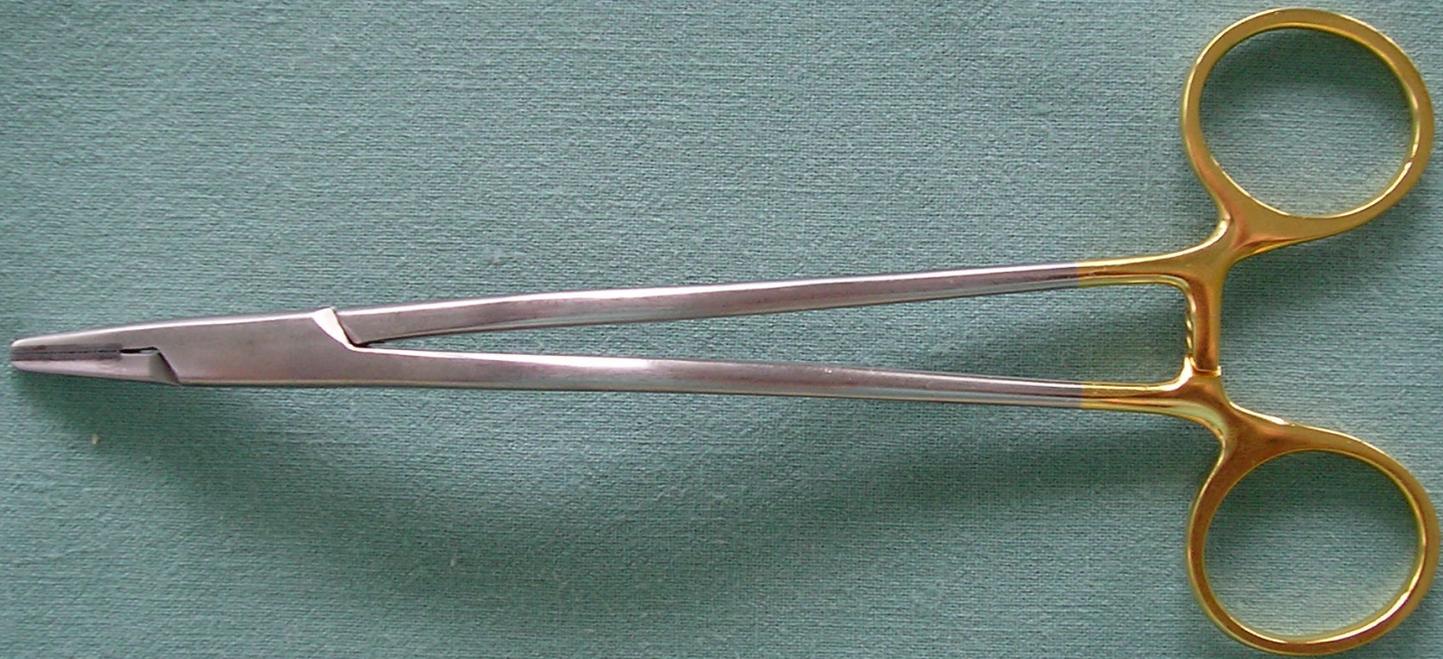


A



B

FIG. 6-16 A, Rongeurs are bone-cutting forceps that have spring-loaded handles. B, Blumenthal rongeurs are combination end-cutting and side-cutting blades. They are preferred for oral surgery procedures.



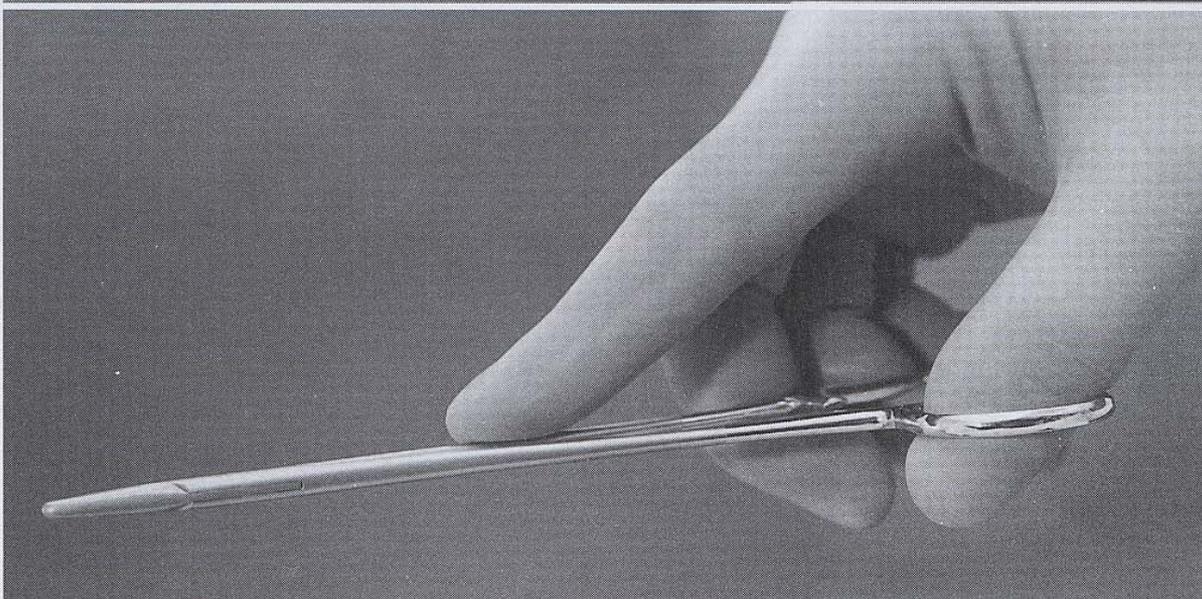
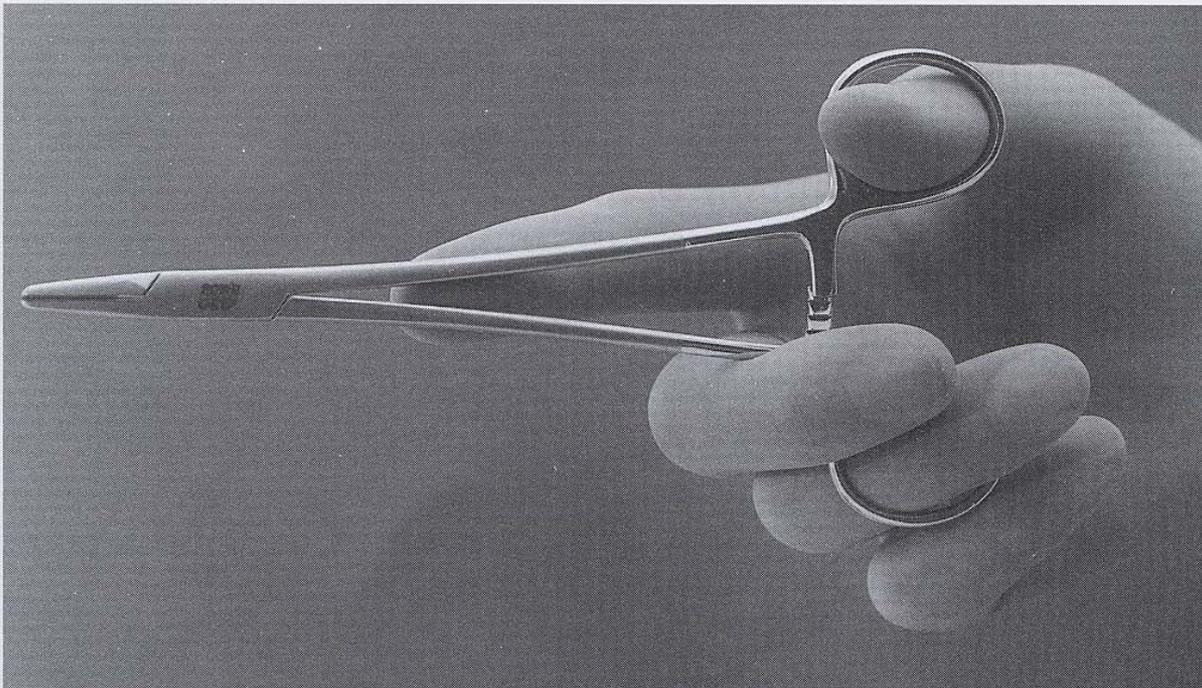
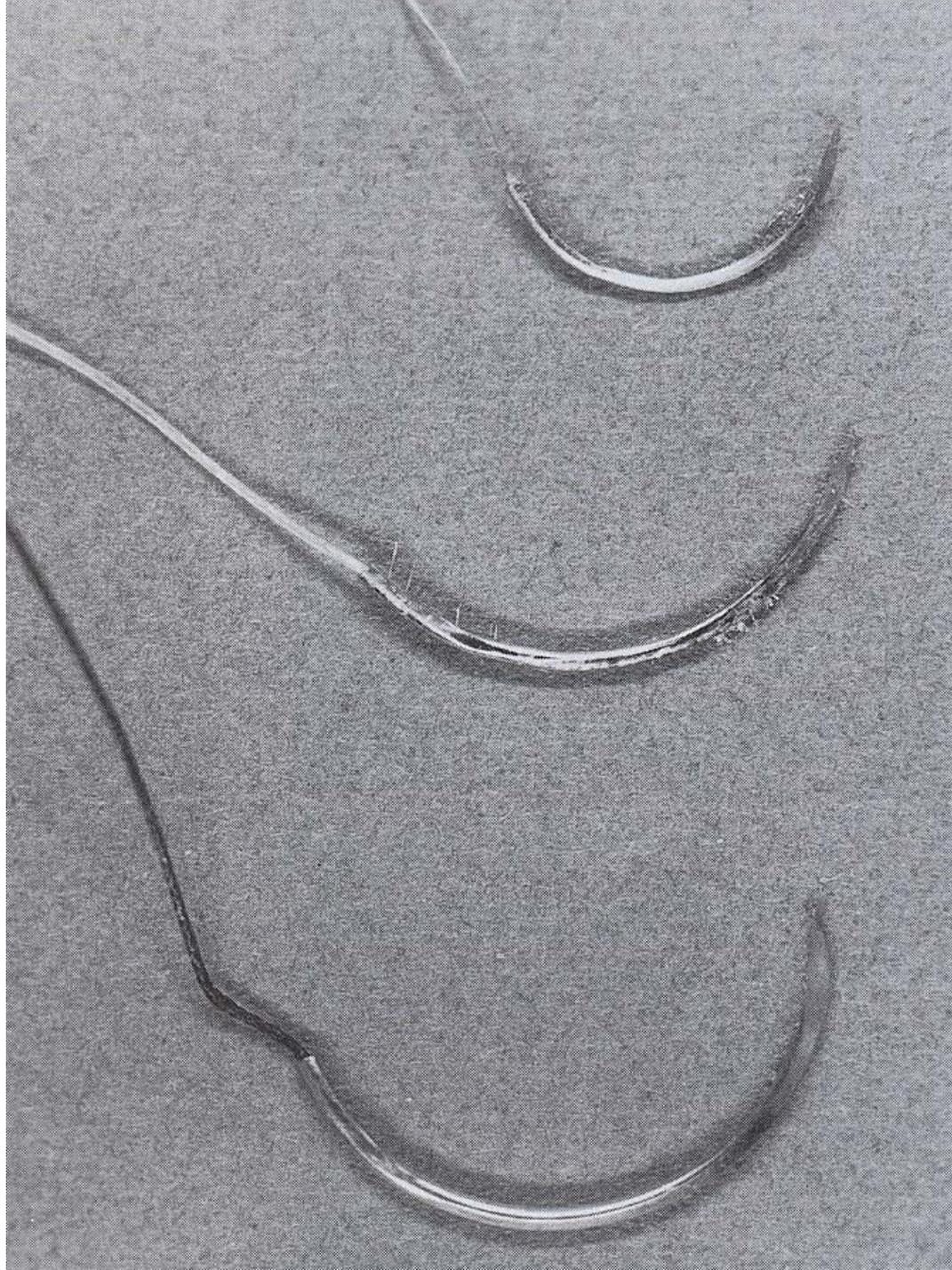


FIG. 6-23 Needle holder is held by using thumb and ring finger in rings (*top*) and first and second finger to control instrument (*bottom*).











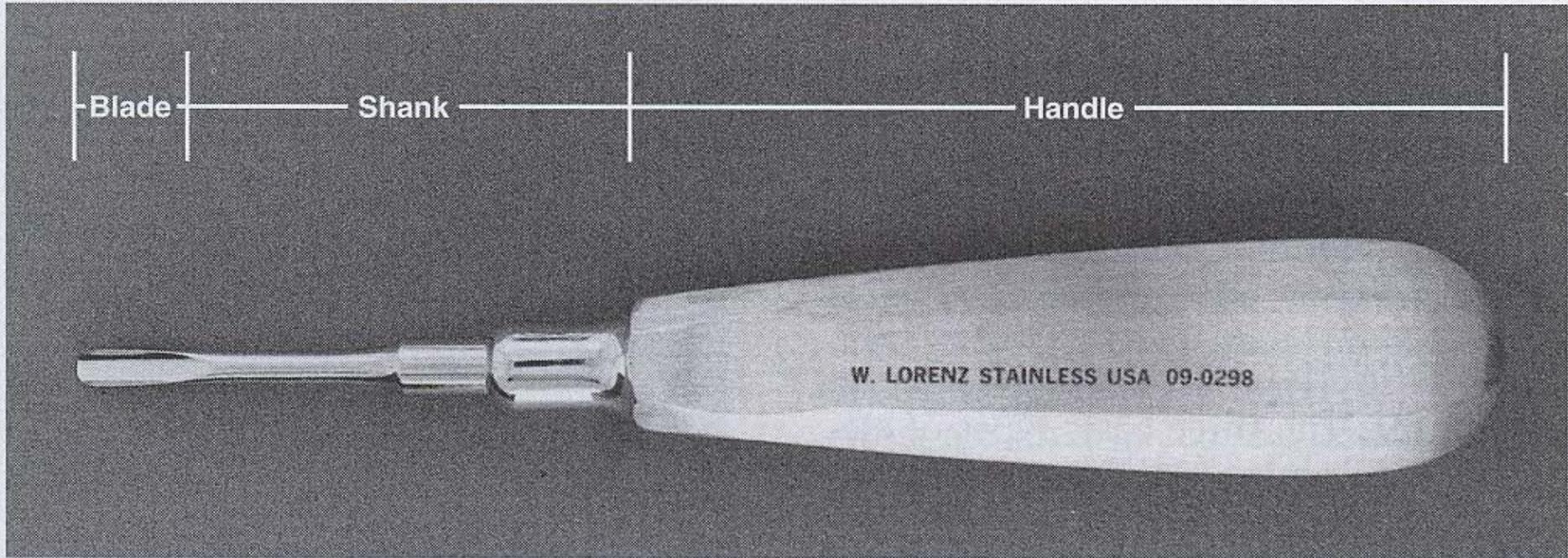


FIG. 6-35 The major components of an elevator are the handle, shank, and blade.

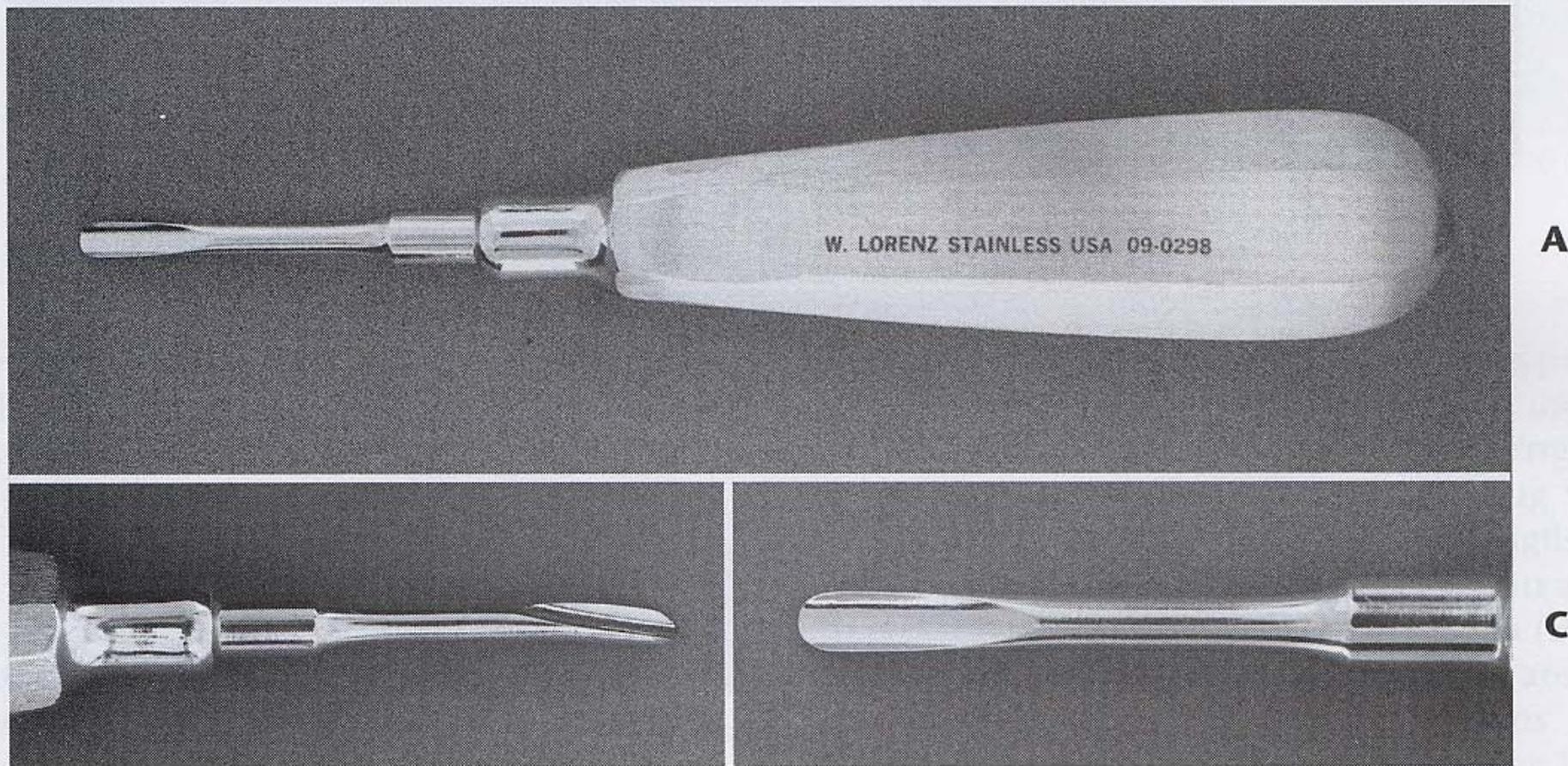


FIG. 6-37 A, Straight elevator is most commonly used elevator. B and C, Blade of straight elevator is concave on its working side.

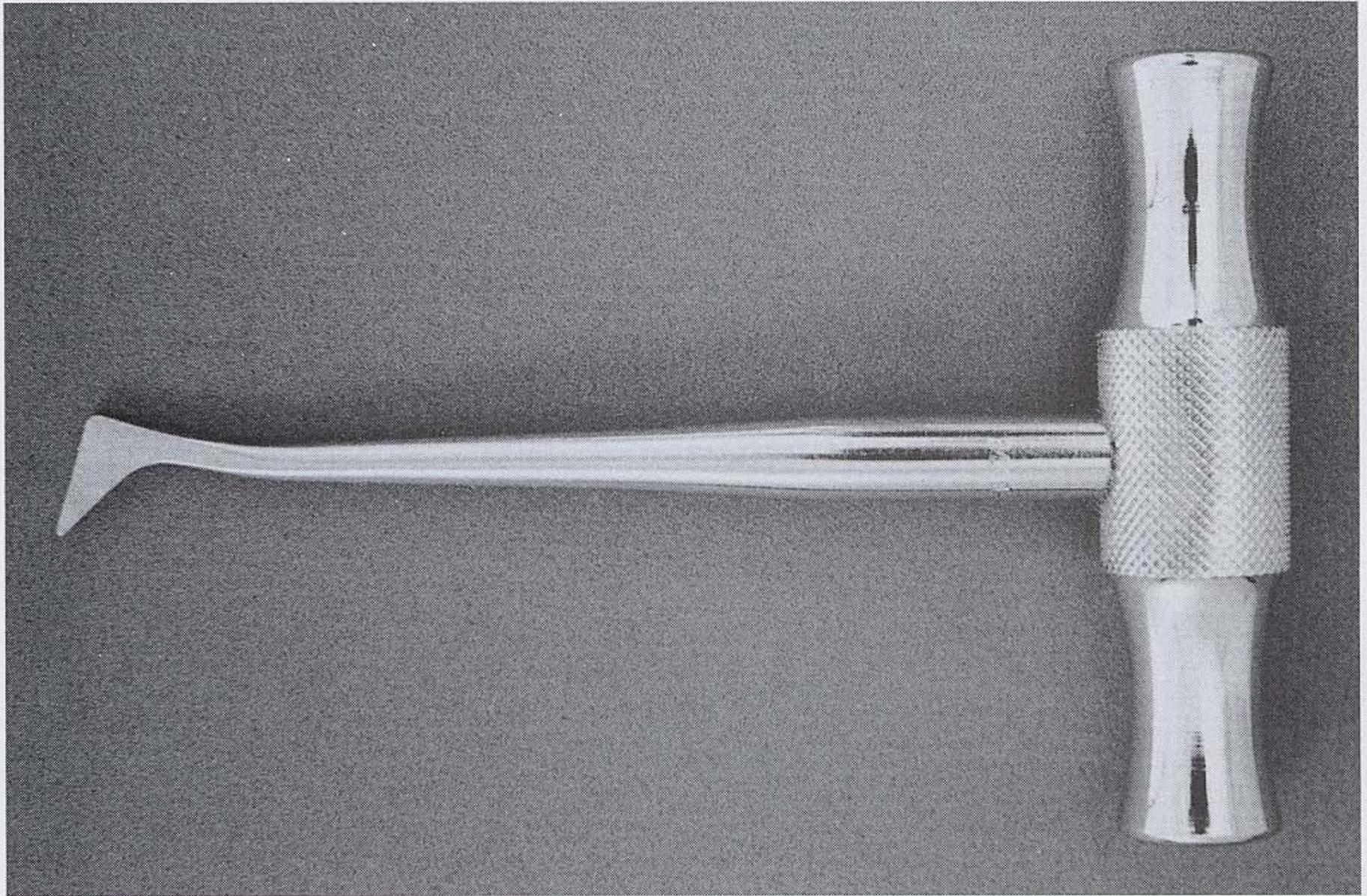


FIG. 6-36 Crossbar handle is used on certain elevators. This type of handle can generate large amounts of force and therefore must be used with caution.

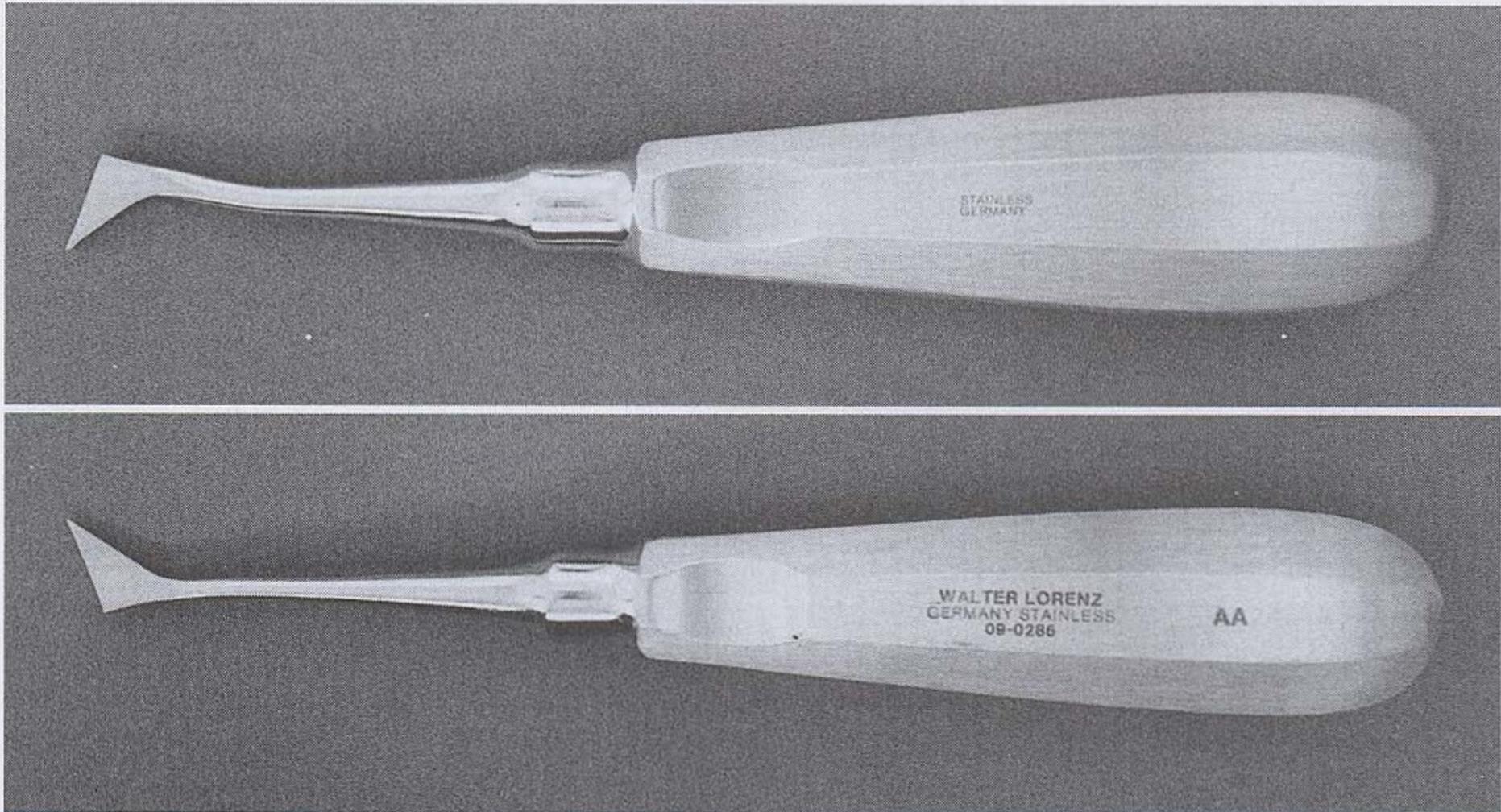


FIG. 6-39 Triangular-shaped elevators (Cryer) are pairs of instruments and are therefore used for specific roots.

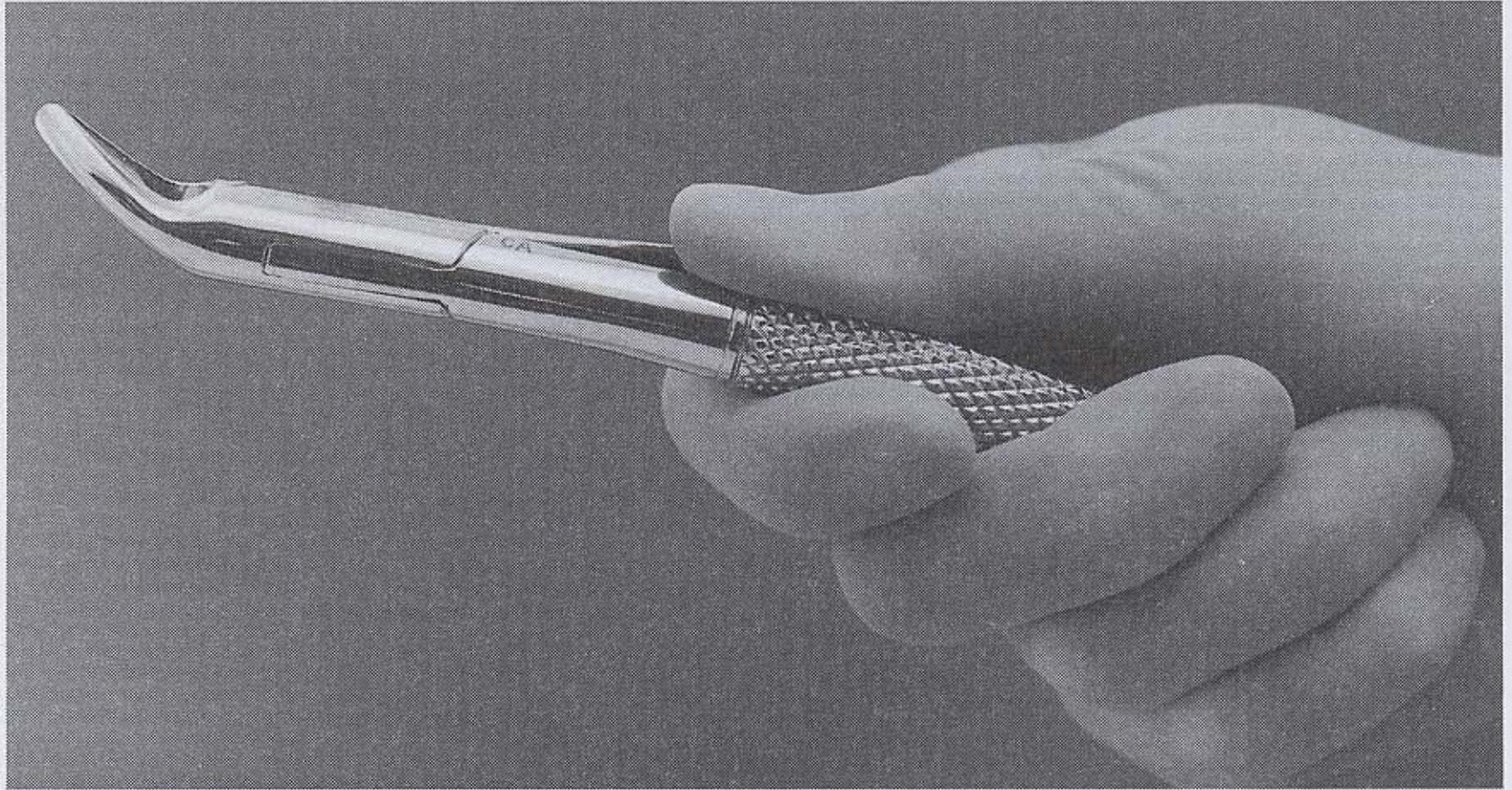
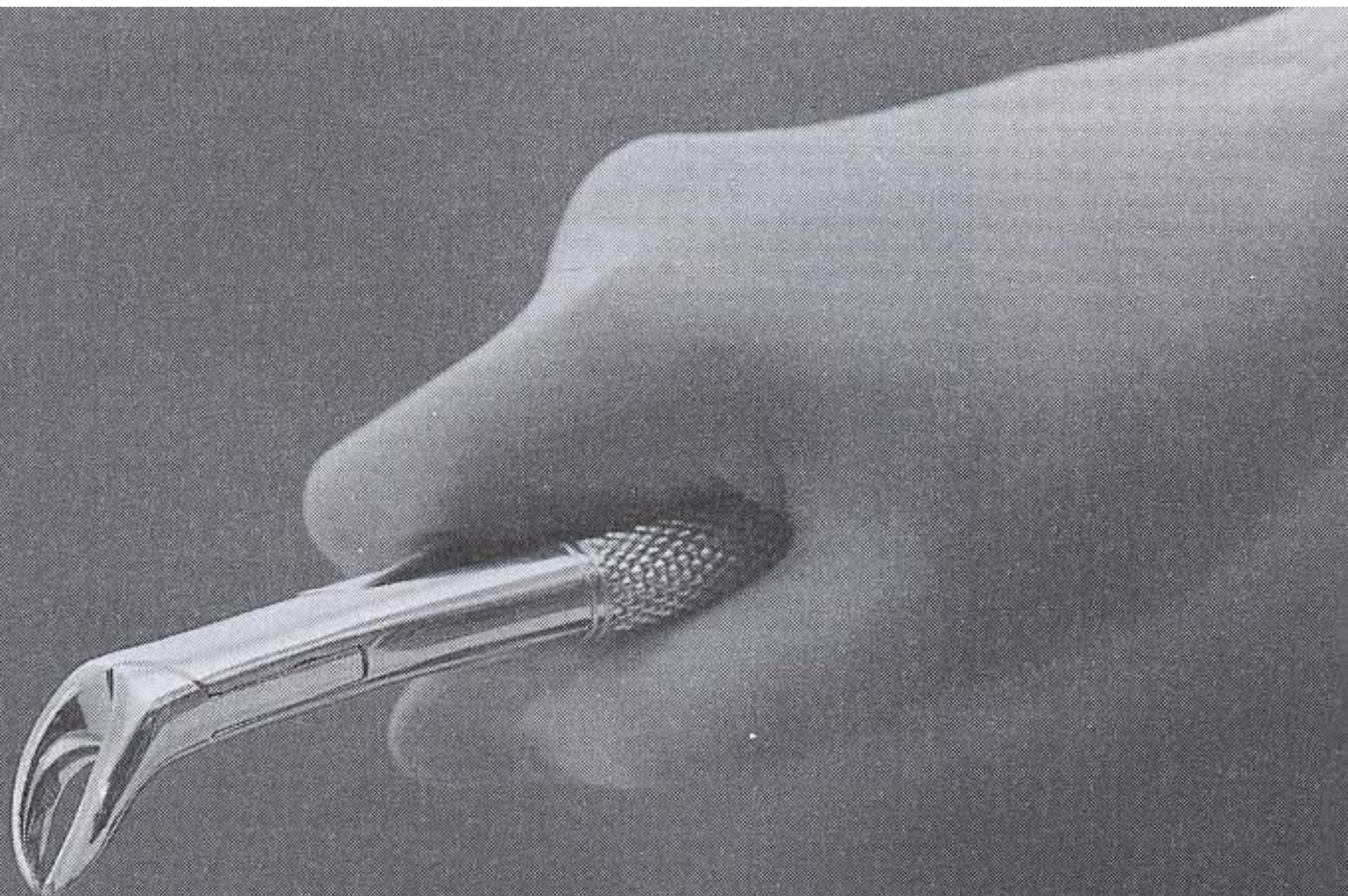
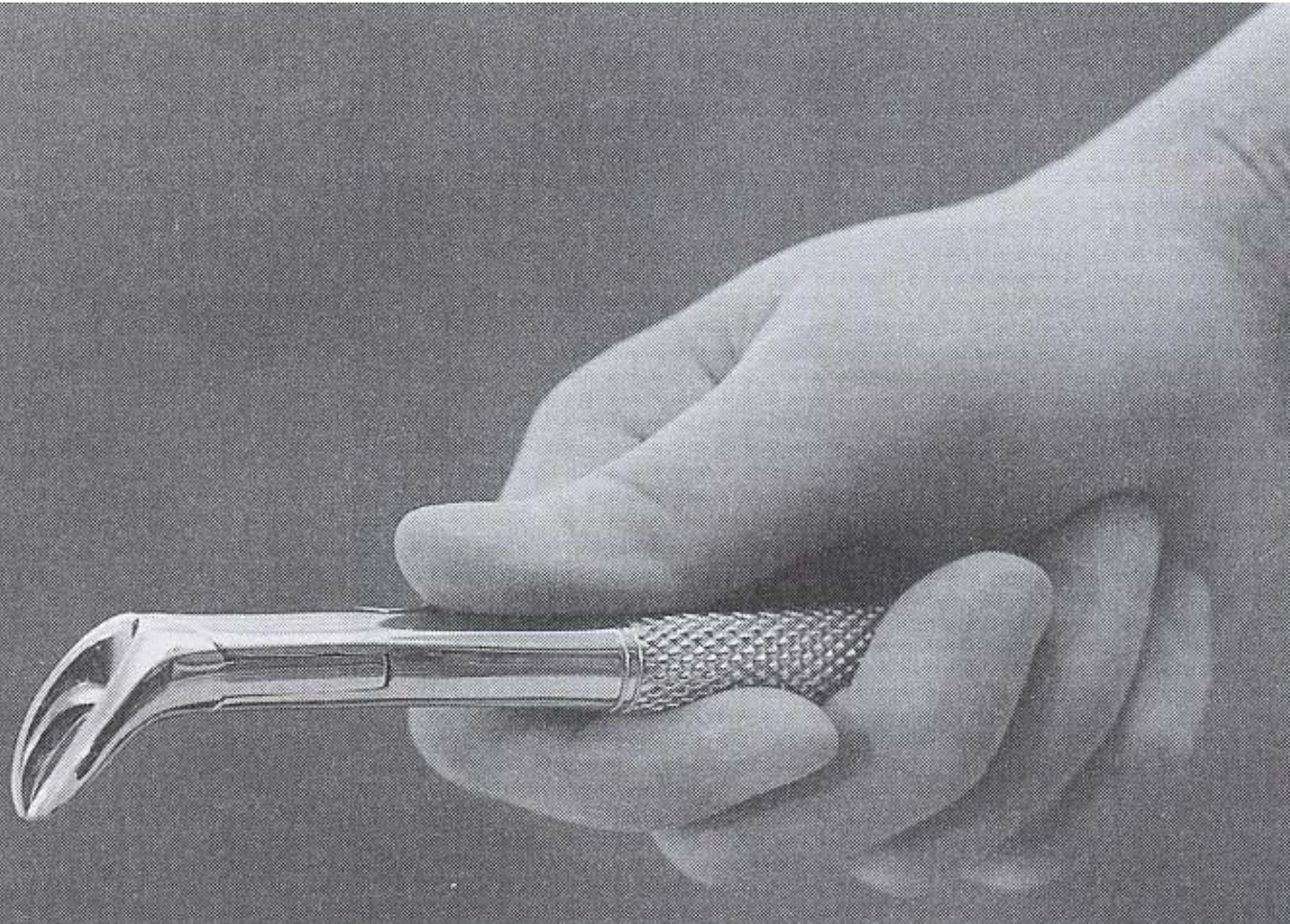
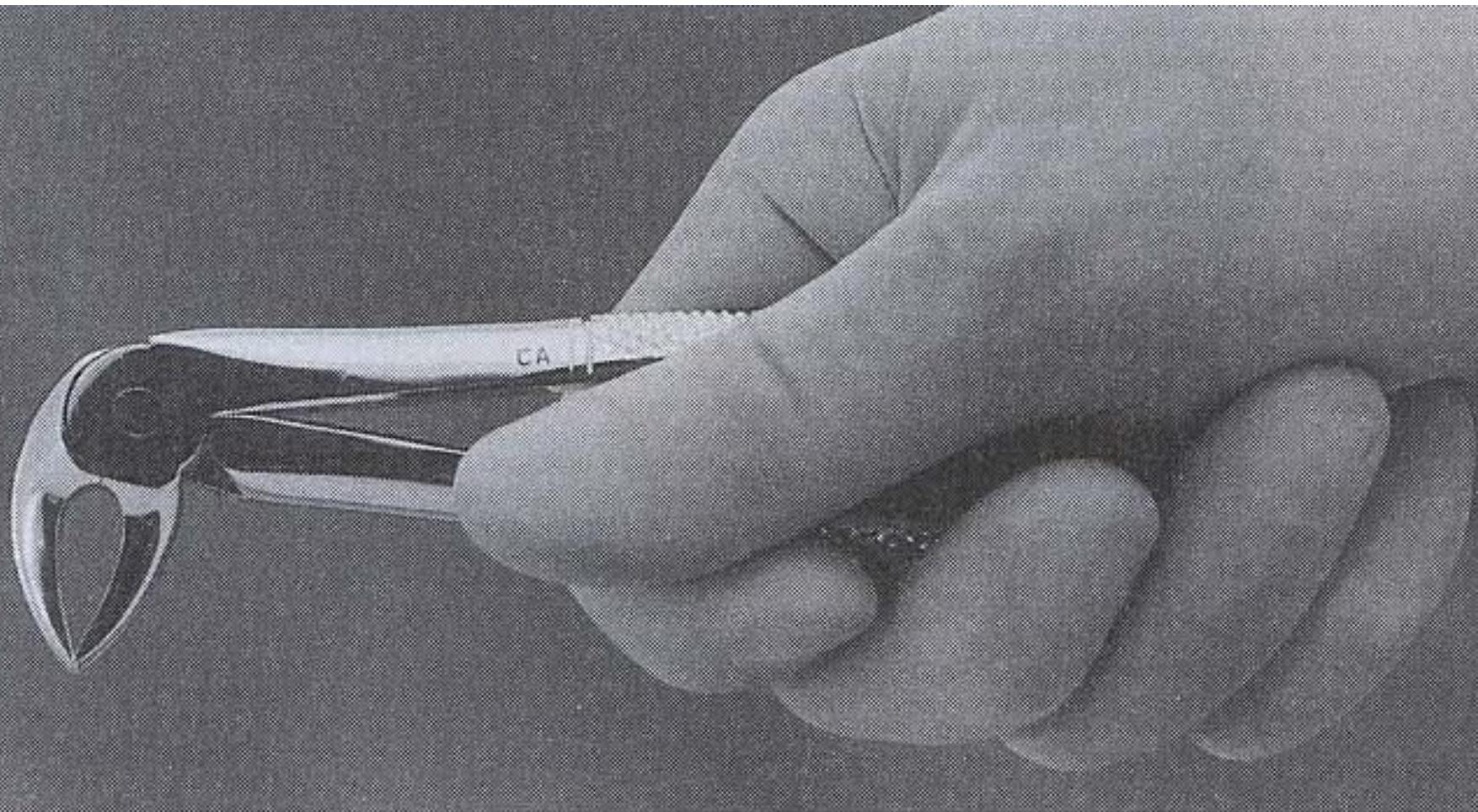


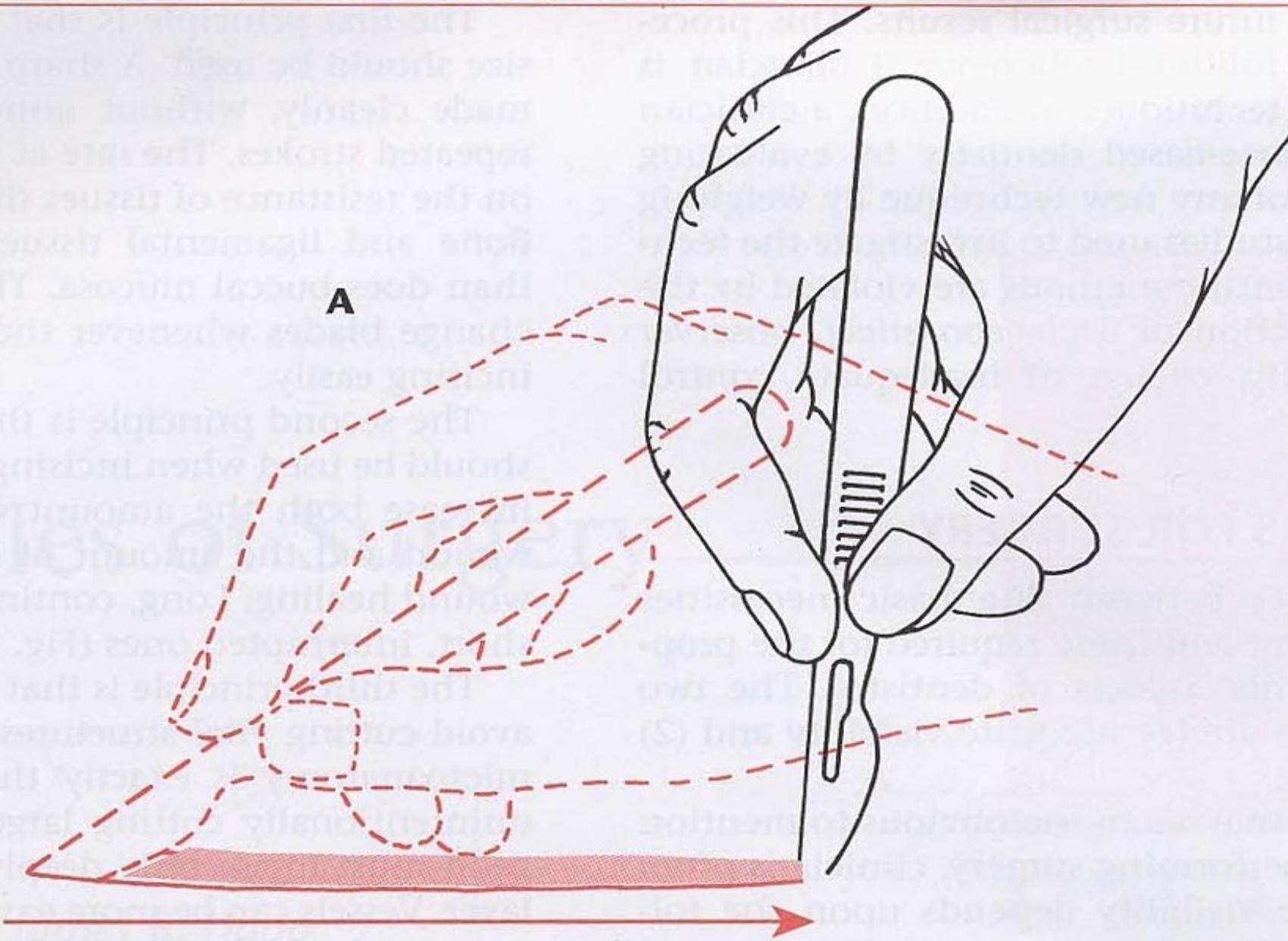
FIG. 6-43 Forceps used to remove maxillary teeth are held with palm under handle.







Incision and Mucoperiosteal Flap



A



B

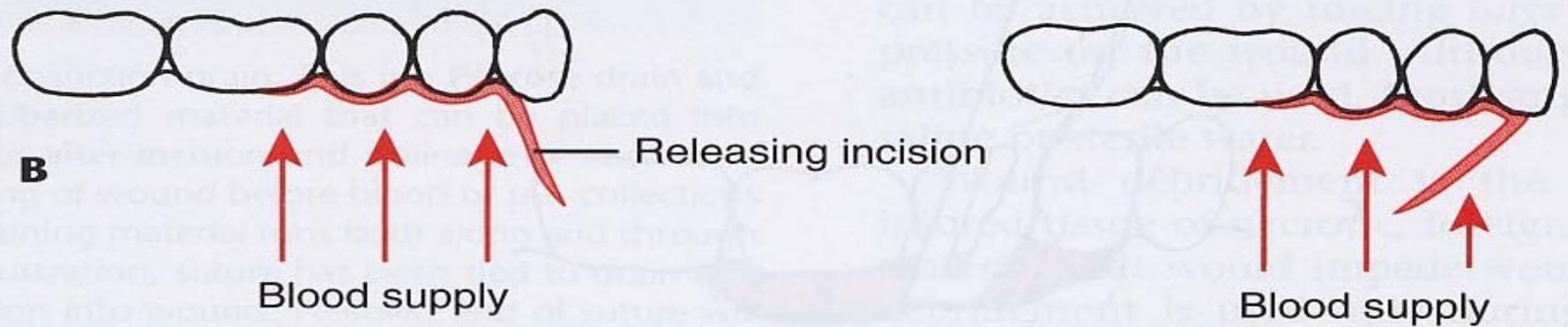
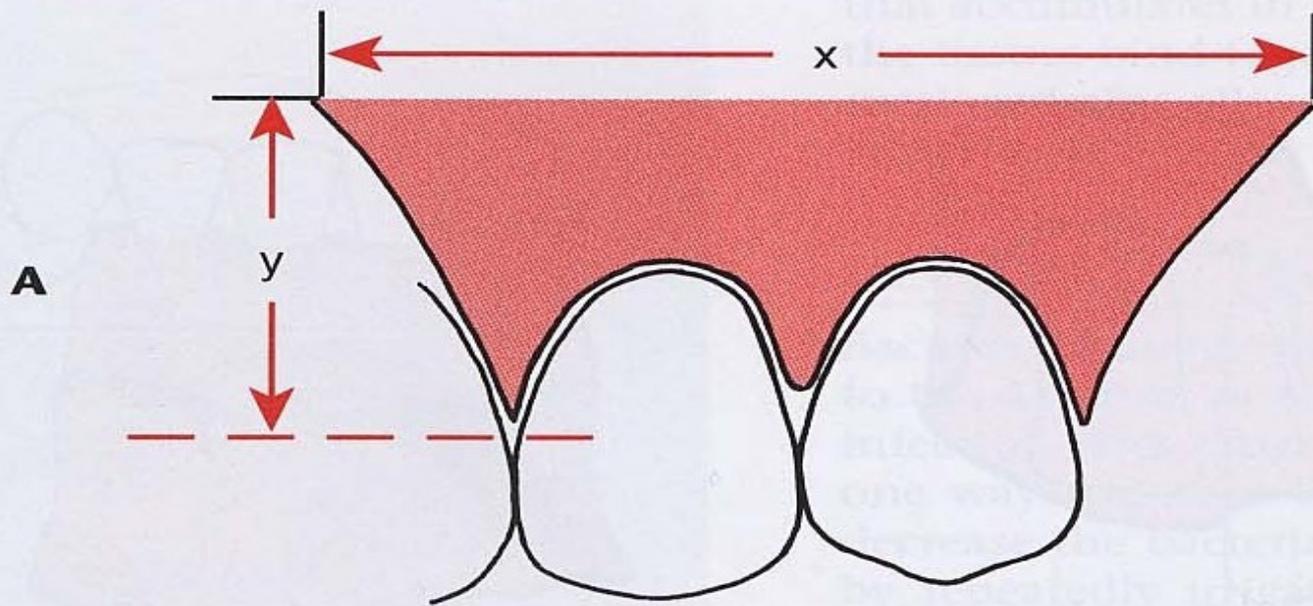


FIG. 3-2 A, Principles of flap design. In general, flap base dimension (x) must not be less than height dimension (y), and preferably flap should have $x = 2y$. B, When releasing, incision is used to reflect a two-sided flap; incision should be designed to maximize flap blood supply by leaving wide base. Design on left is *correct*; design on right is *incorrect*. C, When "buttonhole" occurs near free edge of flap, blood supply to flap tissue on side of hole away from flap base is compromised.

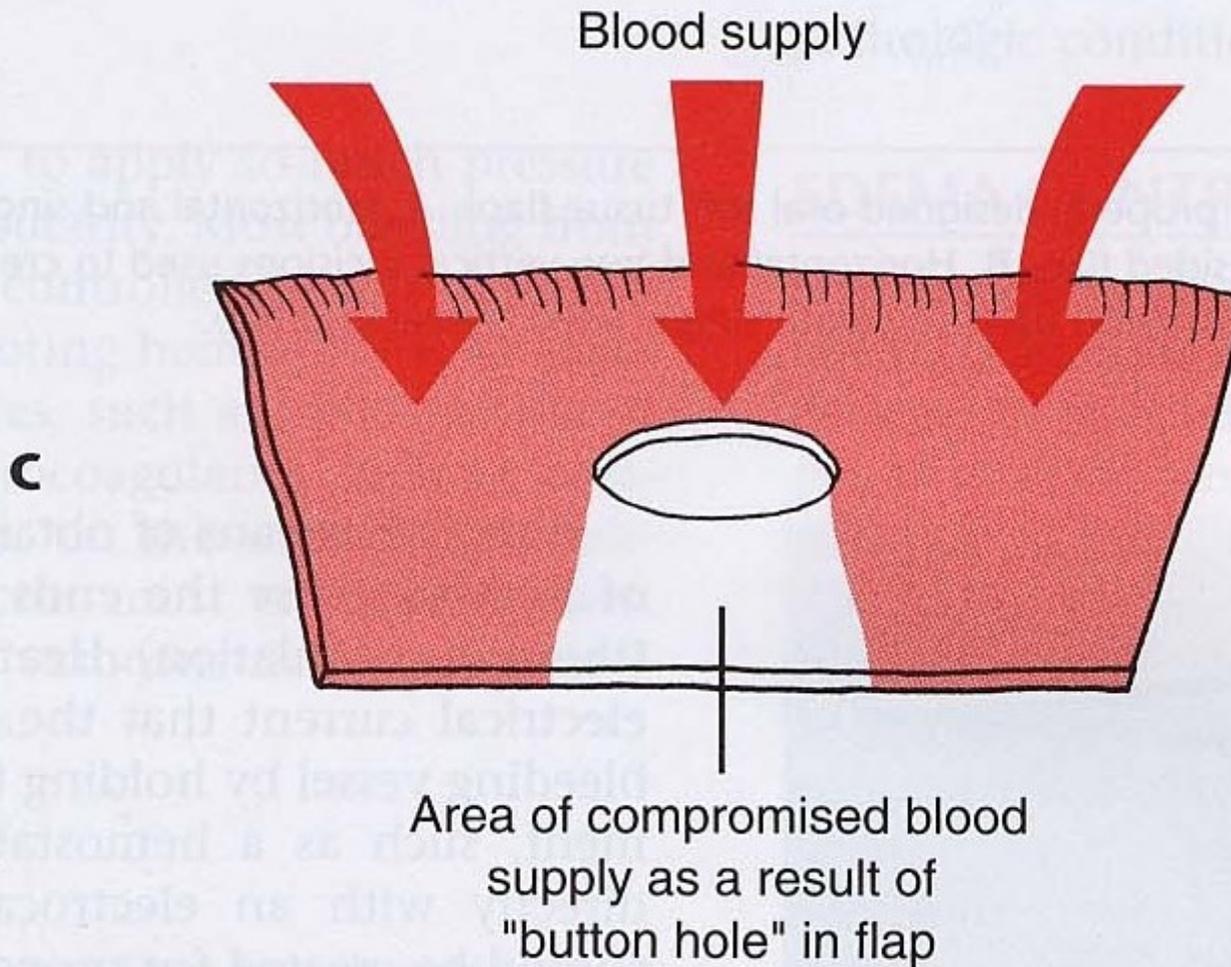


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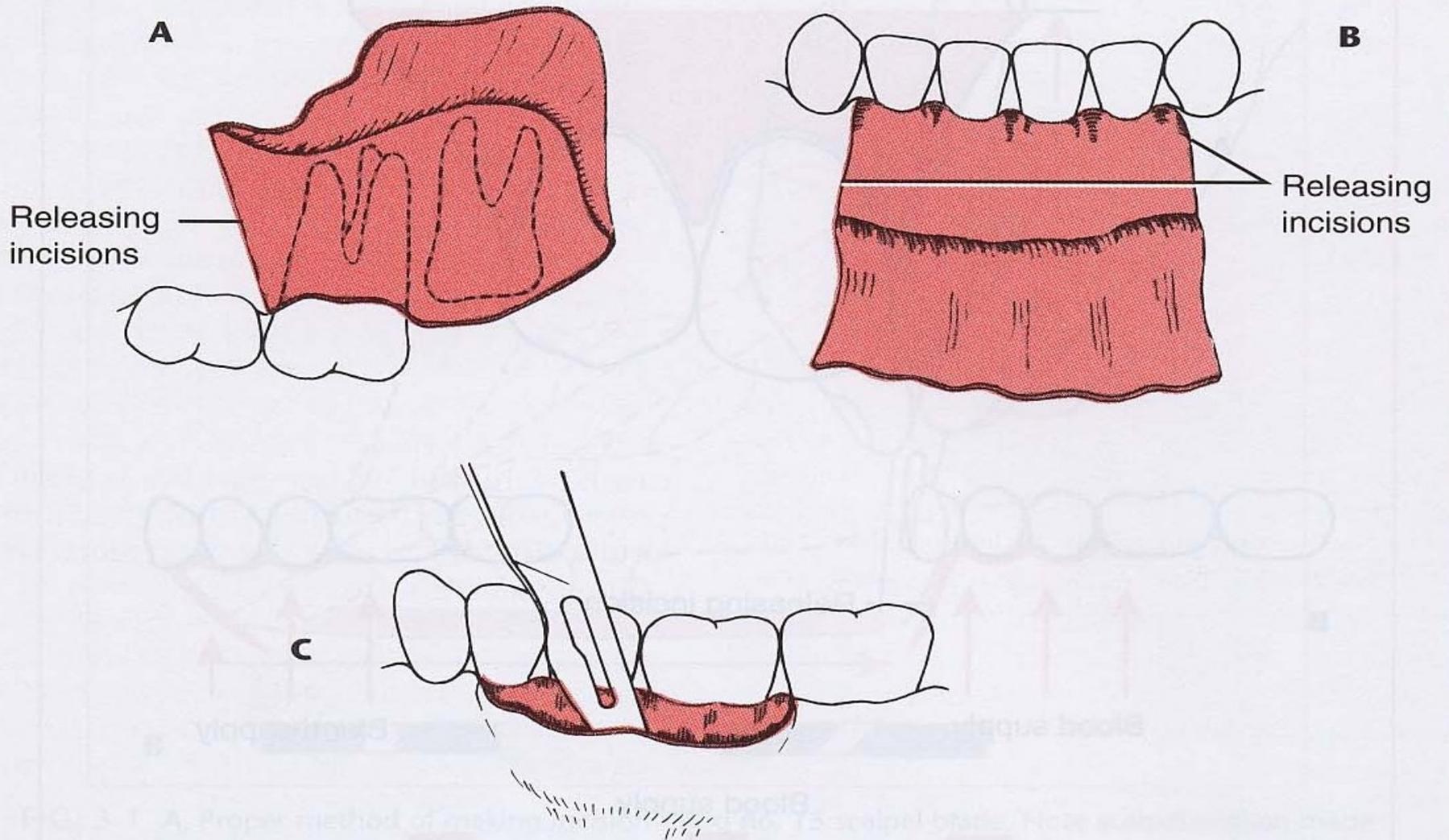


FIG. 3-3 Three types of properly designed oral soft tissue flaps. **A**, Horizontal and single vertical incisions used to create two-sided flap. **B**, Horizontal and two vertical incisions used to create three-sided flap. **C**, Single horizontal incision used to create single-sided (envelope) flap.

Causes of Tissue Damage

Physical

- Incision
- Crushing
- Overheating
- Overcooling
- Desiccation
- Irradiation
- Compromised blood flow

Chemical

- Agents with unphysiologic pH
- Agents with unphysiologic tonicity
- Proteases
- Vasoconstrictors
- Thrombogenic agents

Extraction

Extraction indications

Severe caries

Pulpal necrosis

Severe periodontal disease

Orthodontic reasons

Malopposed teeth

Cracked teeth

Preprosthetic extractions

Impacted teeth

Supernumerary teeth

Teeth associated with pathologic lesions

Pre-radiation therapy

Teeth involved in jaw fractures

Esthetic

Economics

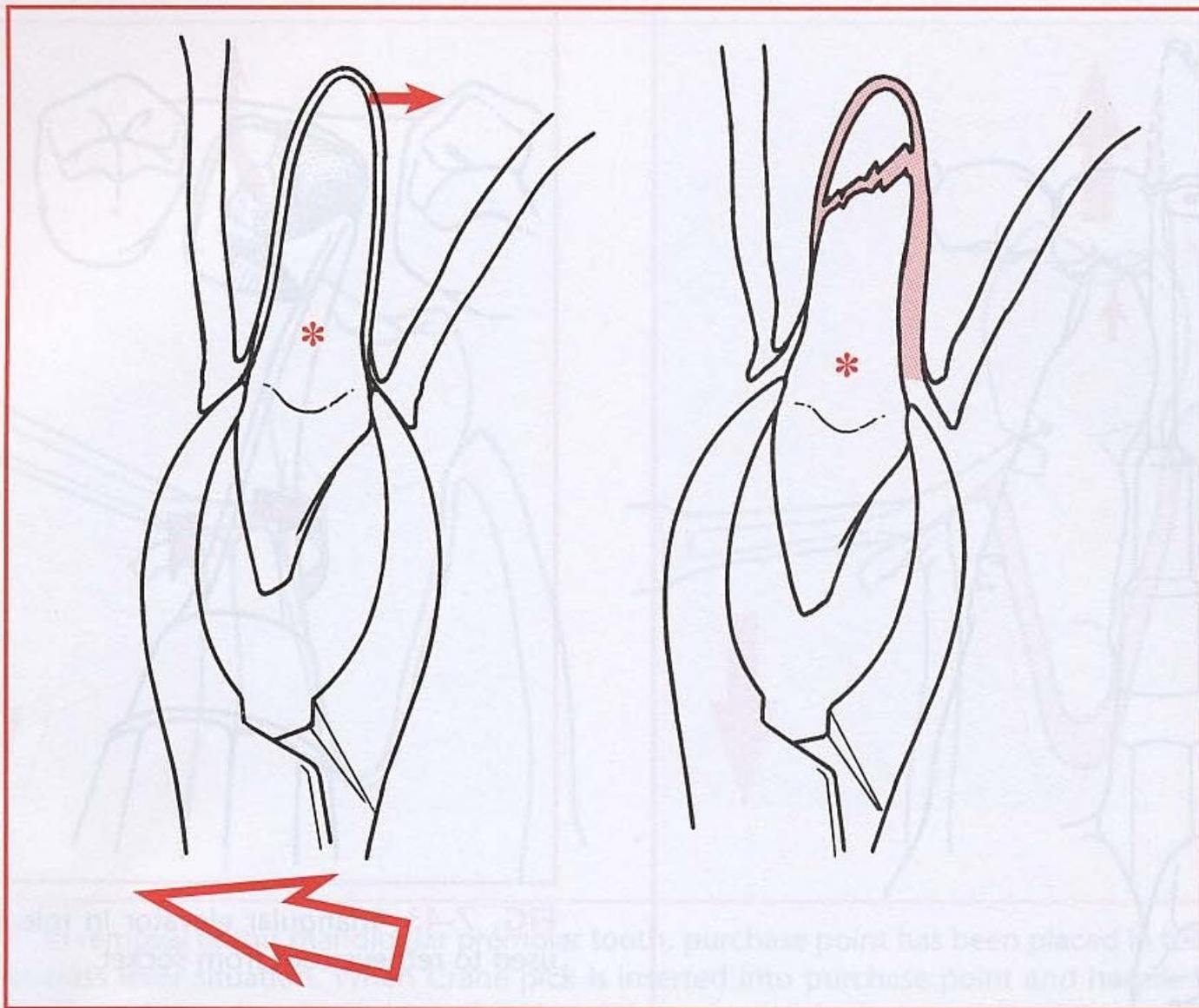


FIG. 7-45 If center of rotation (*) is not far enough apically, it is too far occlusally, which results in excess movement of tooth apex (A). B, Excess motion of root apex caused by high center of rotation results in fracture of root apex.

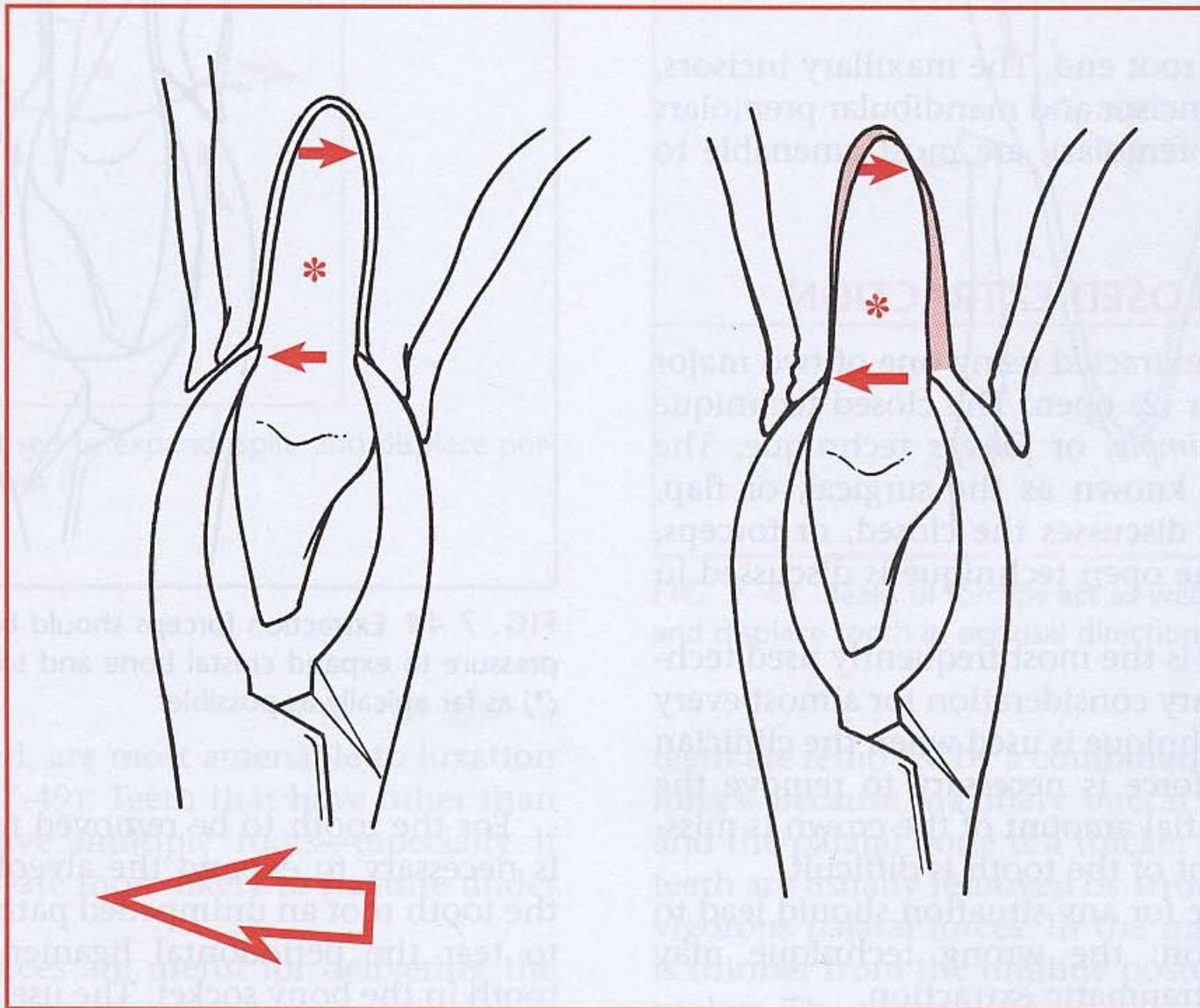


FIG. 7-46 If forceps is apically seated, center of rotation (*) is displaced apically and less apical pressures are generated (A). This results in greater expansion of buccal cortex, less movement of apex of tooth, and therefore less chance of fracture of root (B).

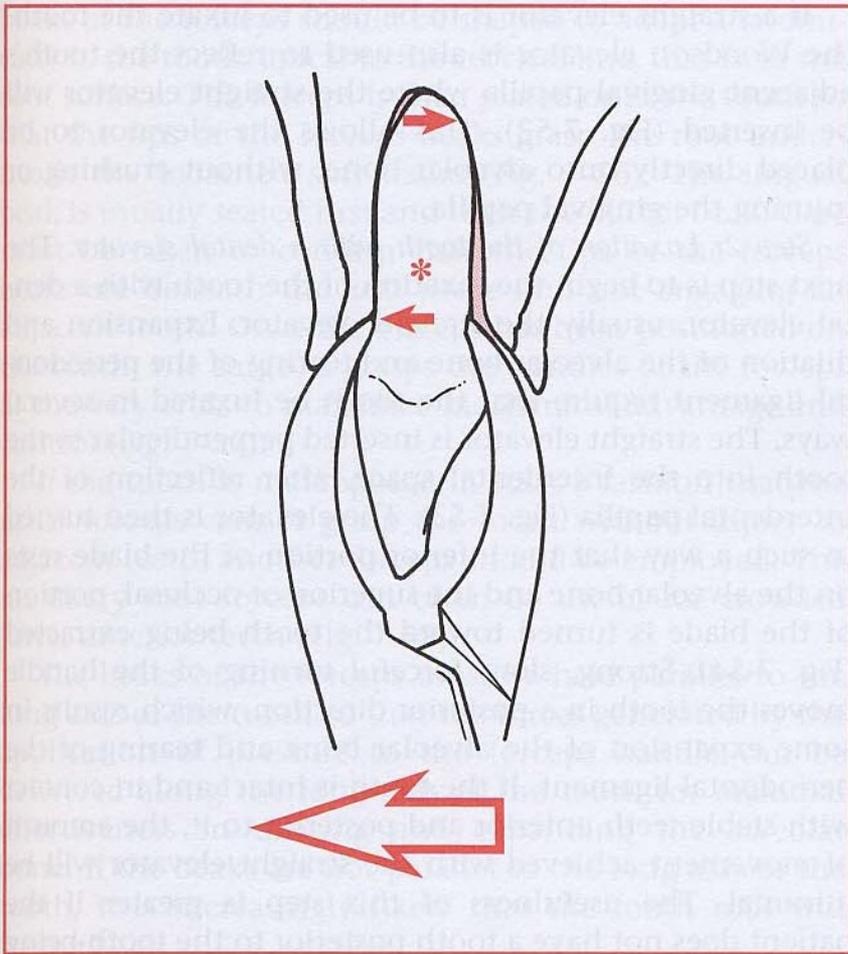


FIG. 7-47 Buccal pressure applied to tooth will expand buccocortical plate toward crestal bone, with some lingual expansion at apical end of root. *, Center of rotation.

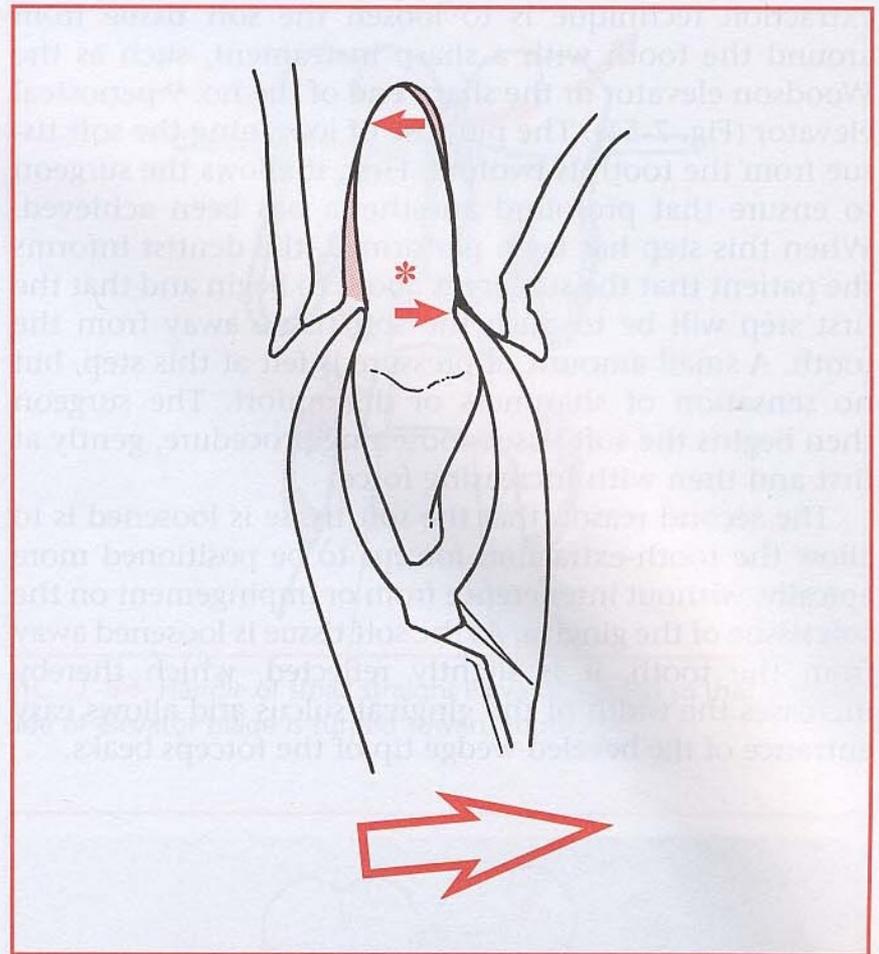


FIG. 7-48 Lingual pressure will expand linguocortical plate at crestal area and slightly expand buccal bone at apical area. *, Center of rotation.

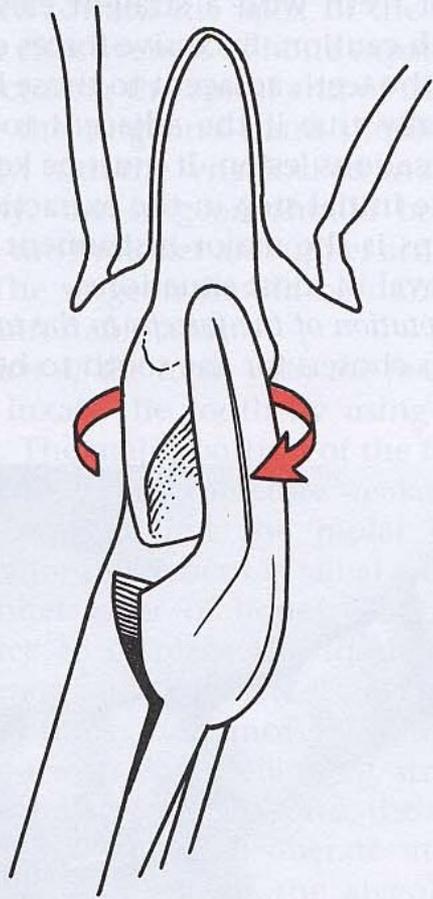


FIG. 7-49 Rotational forces, useful for teeth with conic roots, such as maxillary incisors and mandibular premolars.

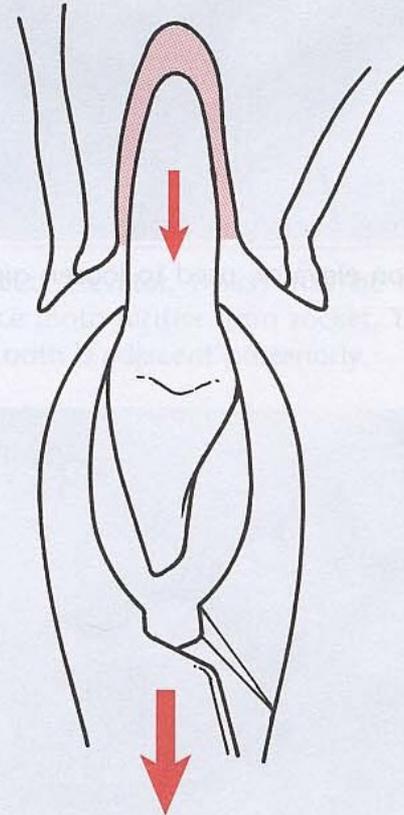
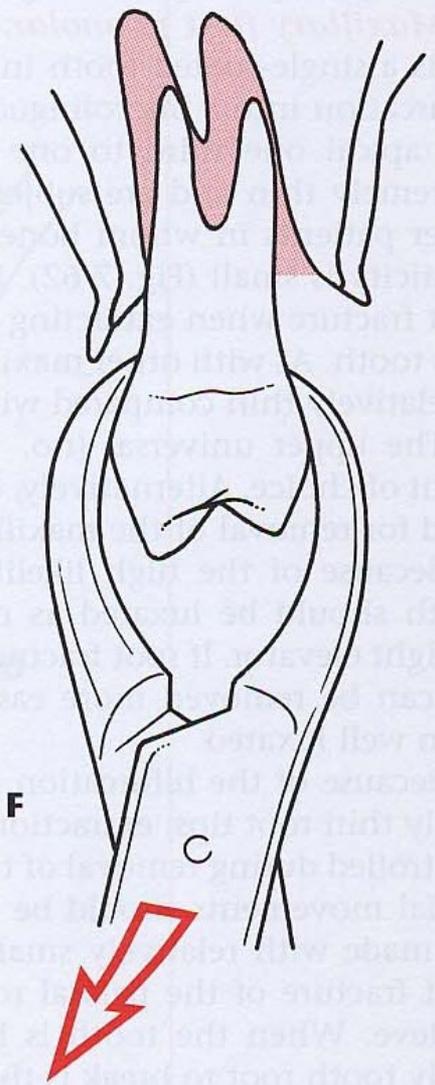
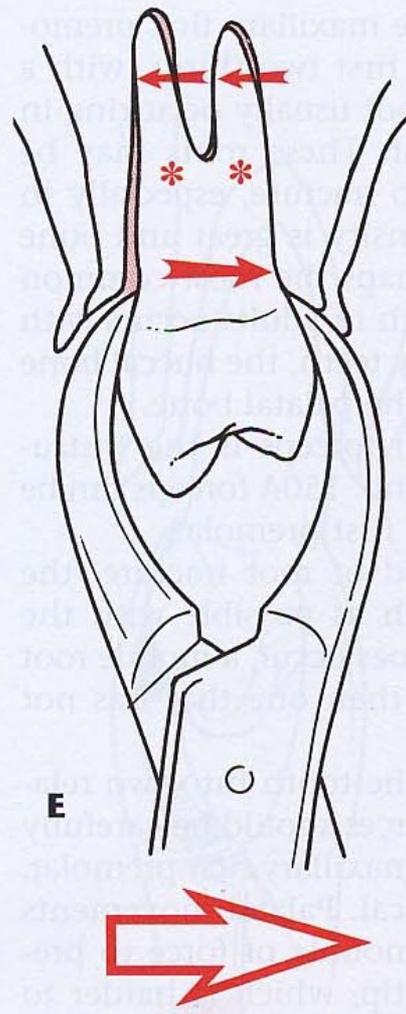
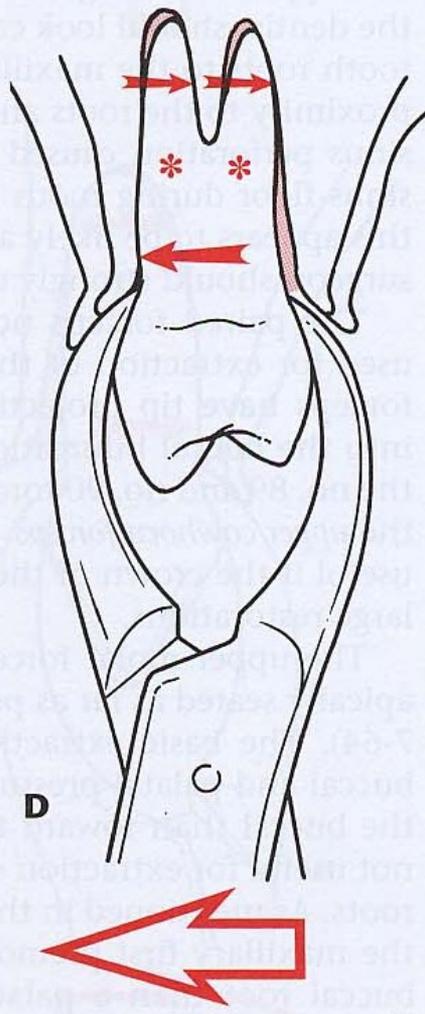
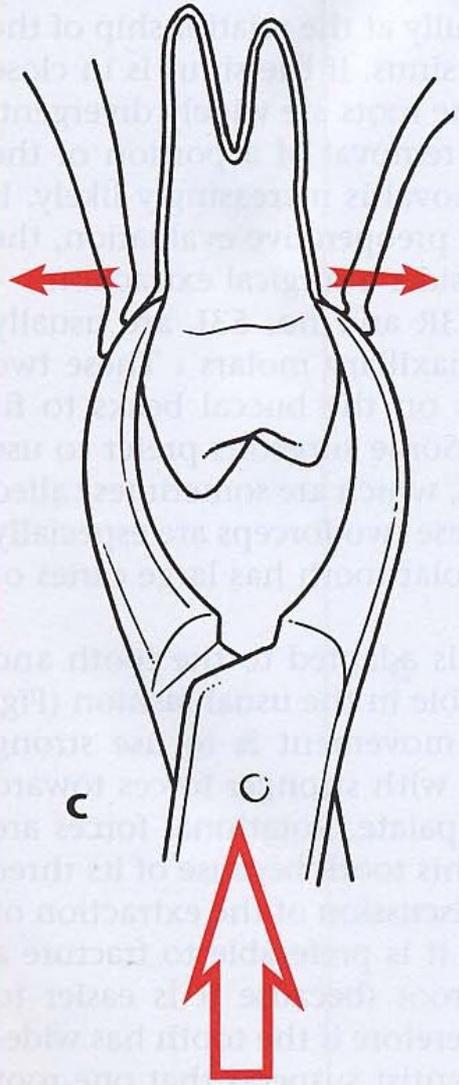


FIG. 7-50 Tractional forces are useful for final removal of tooth from socket. They should always be small forces, because teeth are not "pulled."



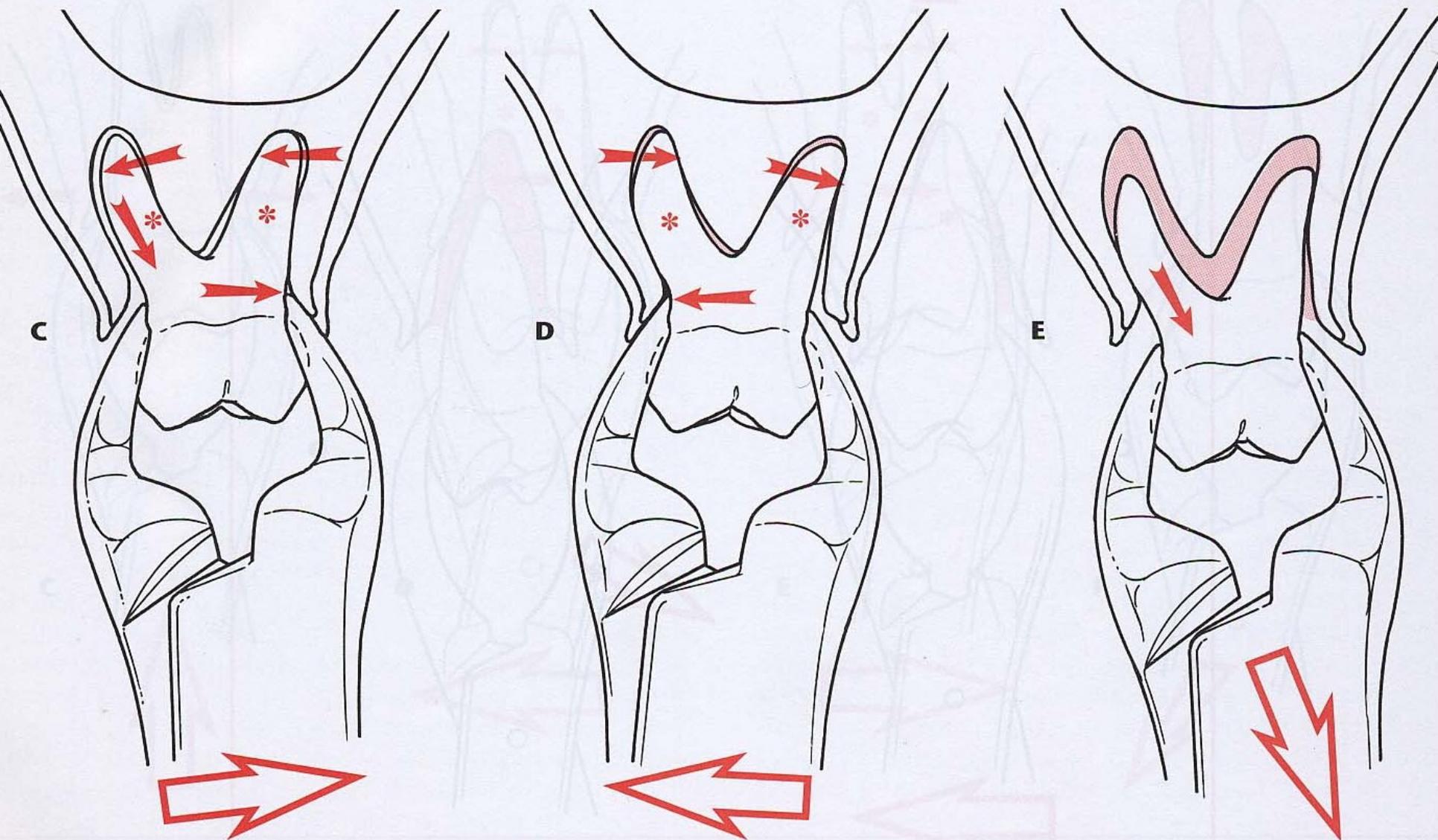


FIG. 7-64 A, Extraction of maxillary molars. Soft tissue of lips and cheek is reflected, and alveolar process is grasped with opposite hand. B, Forceps beaks are seated apically as far as possible. C, Luxation is begun with strong buccal force. D, Lingual pressures are used only moderately. E, Tooth is delivered in buccocclusal direction.

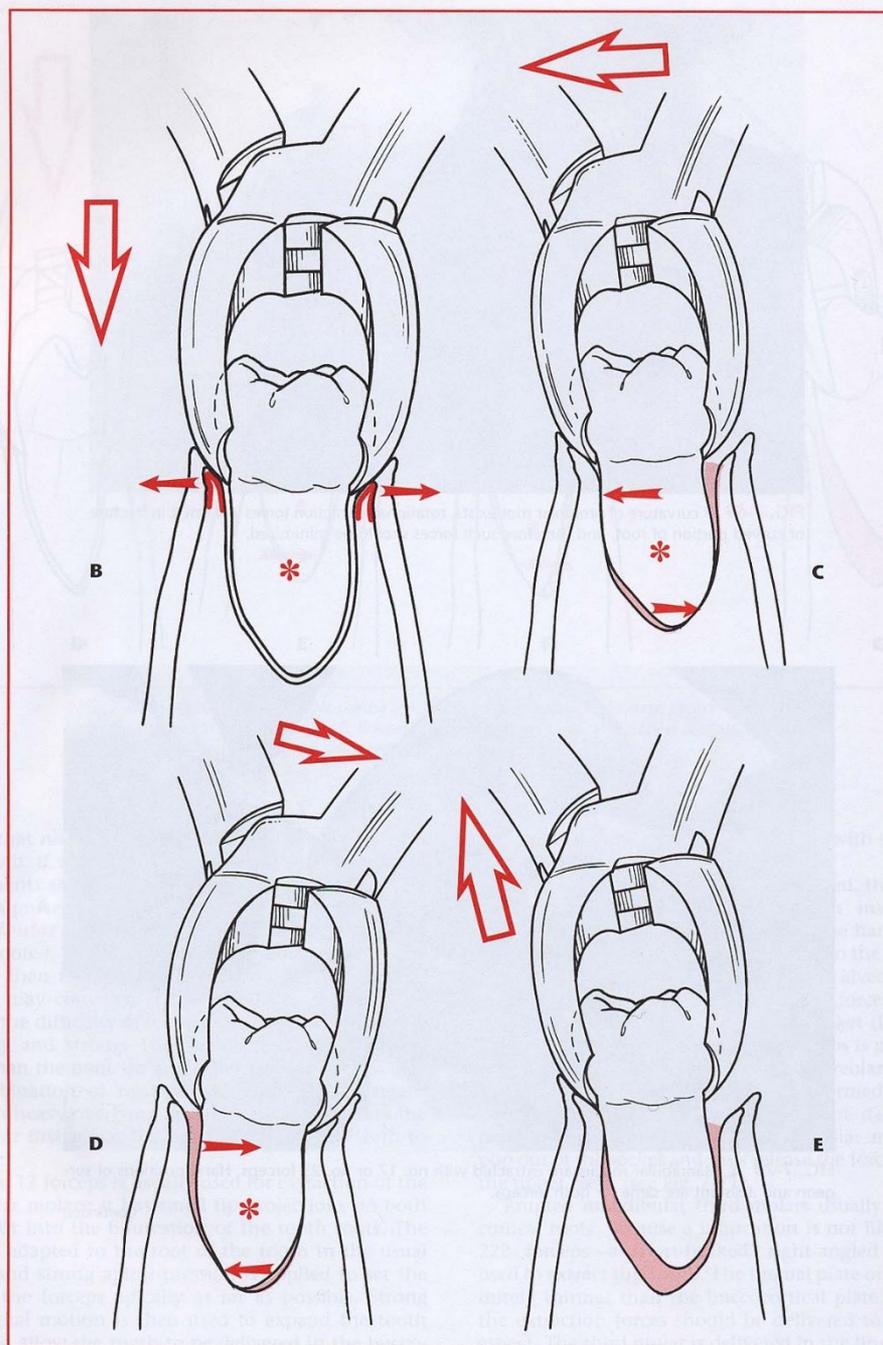


FIG. 7-70—cont'd B, No. 17 forceps is seated as far apically as possible. C, Luxation of molar is begun with strong buccal movement. D, Strong lingual pressure is used to continue luxation. E, Tooth is delivered in buccoclingual direction.

Complicated extractions

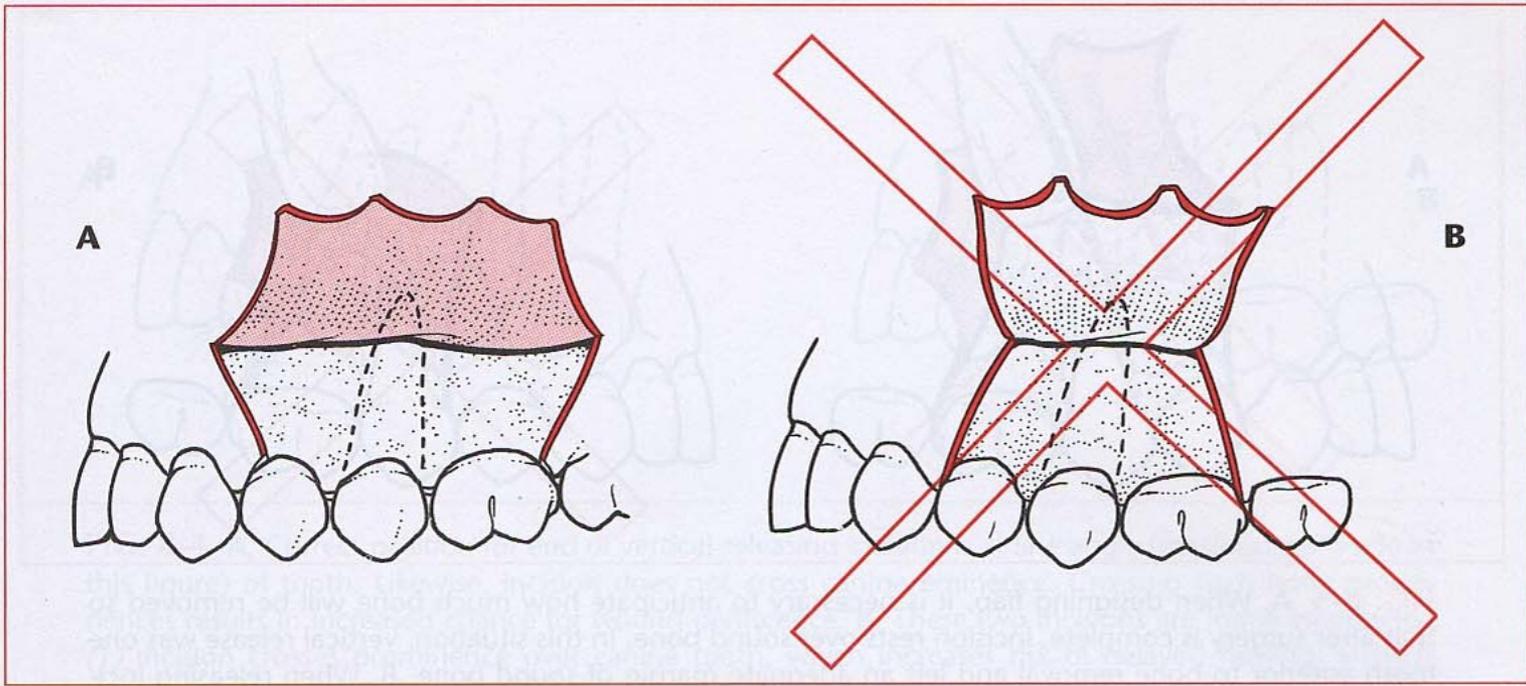


FIG. 8-1 A, Flap must have base that is broader than free gingival margin. B, If flap is too narrow at base, blood supply may be inadequate, which may lead to flap necrosis.

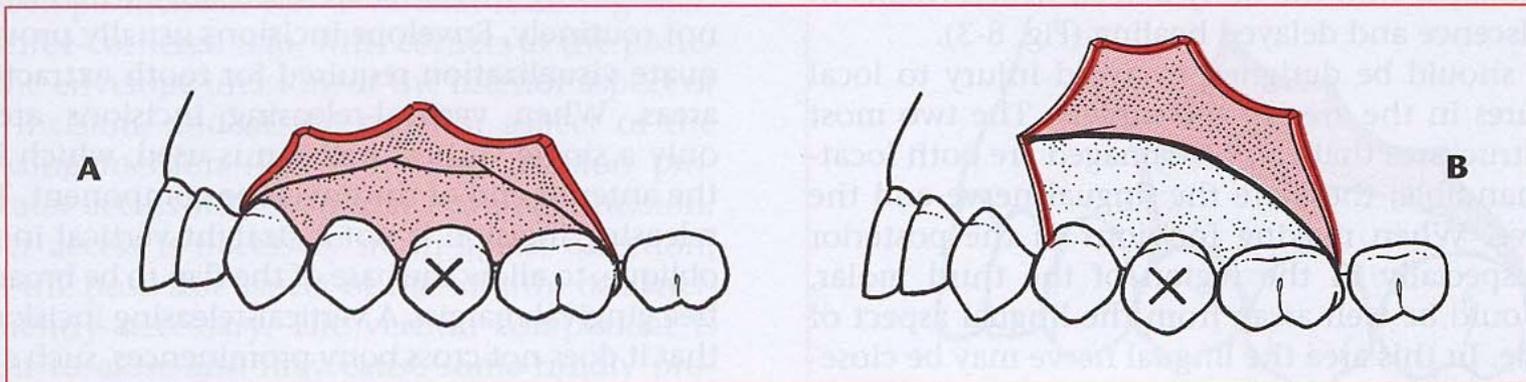


FIG. 8-2 A, To have sufficient access to root of second premolar, envelope flap should extend anteriorly, mesial to canine, and posteriorly, distal to first molar. B, If releasing incision (i.e., three-cornered flap) is used, flap extends mesial to first premolar.

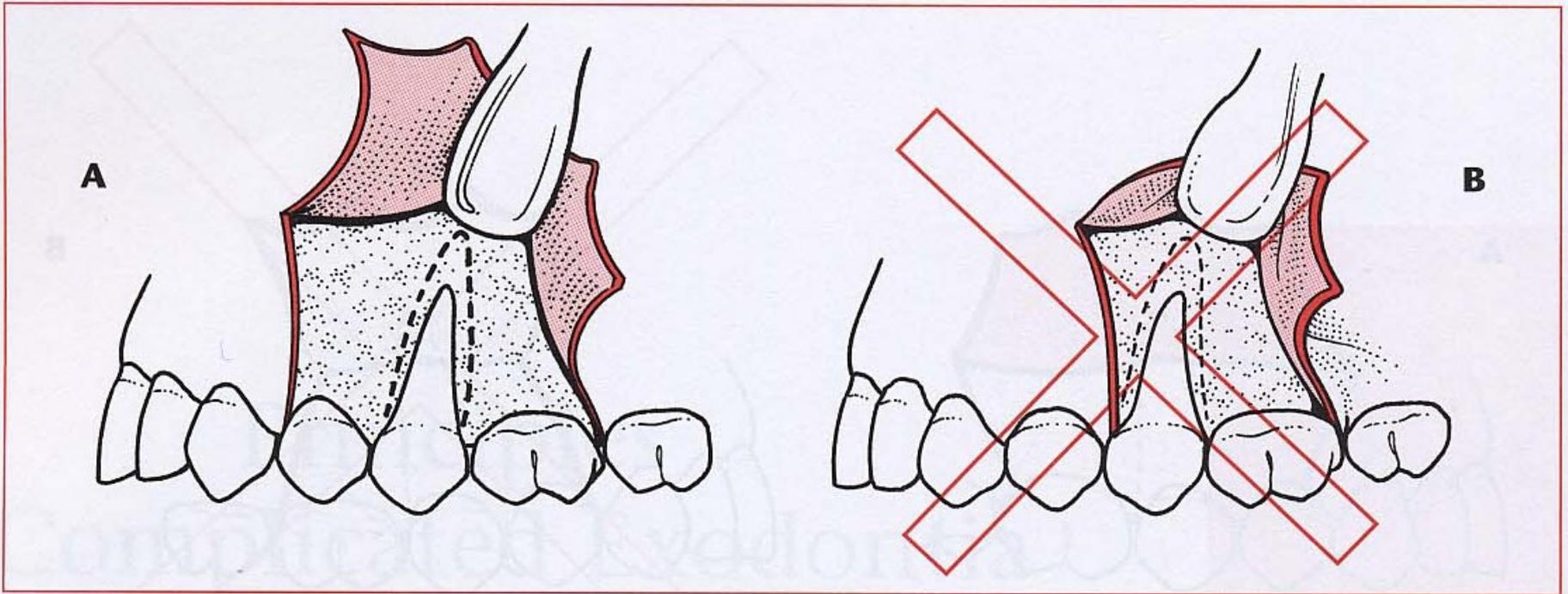


FIG. 8-3 A, When designing flap, it is necessary to anticipate how much bone will be removed so that after surgery is complete, incision rests over sound bone. In this situation, vertical release was one tooth anterior to bone removal and left an adequate margin of sound bone. B, When releasing incision is made too close to bone removal, delayed healing results.

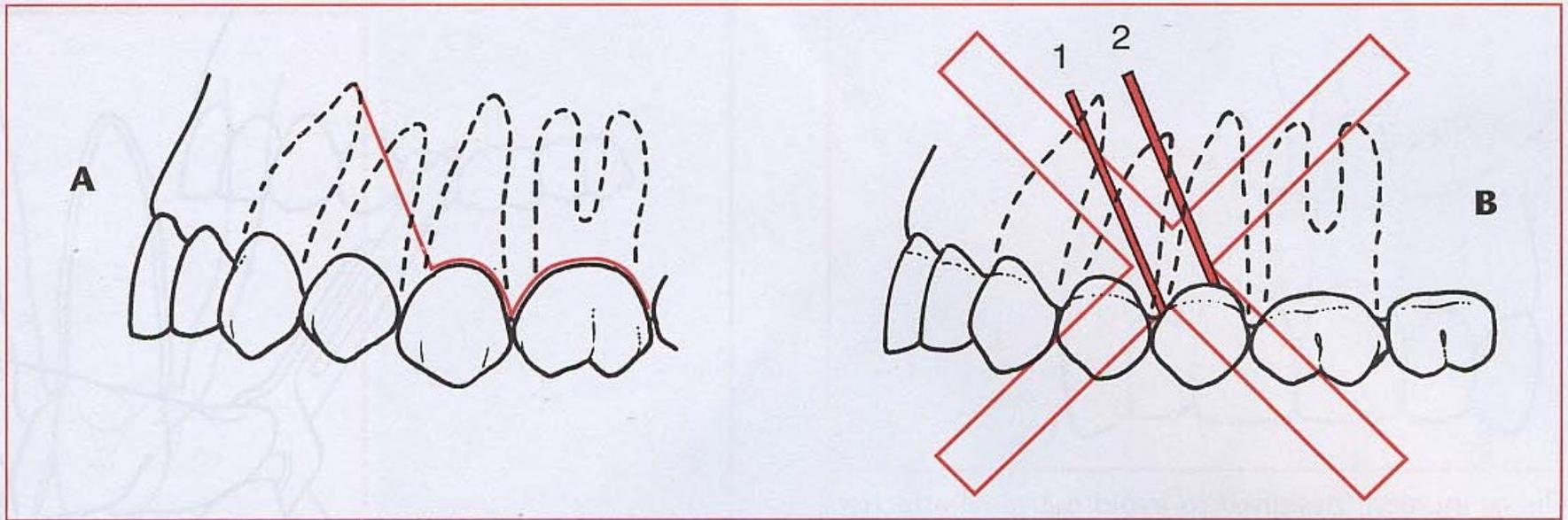


FIG. 8-4 A, Correct position for end of vertical-releasing incision is at line angle (mesiobuccal angle in this figure) of tooth. Likewise, incision does not cross canine eminence. Crossing such bony prominences results in increased chance for wound dehiscence. B, These two incisions are made incorrectly: (1) incision crosses prominence over canine tooth, which increases risk of delayed healing; incision through papilla results in unnecessary damage; (2) incision crosses attached gingiva directly over facial aspect of tooth, which is likely to result in soft tissue defect and periodontal deformity.

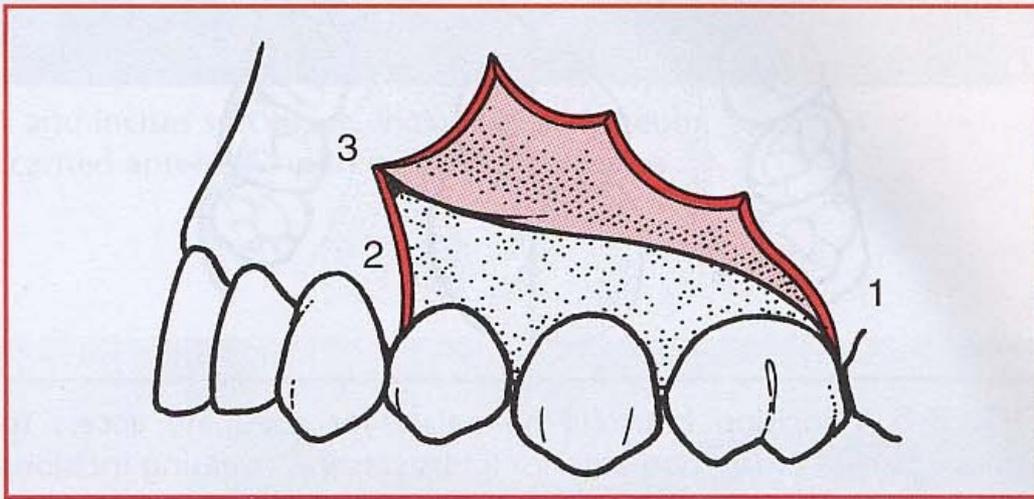


FIG. 8-5 Vertical-releasing incision converts envelope incision into three-cornered flap.

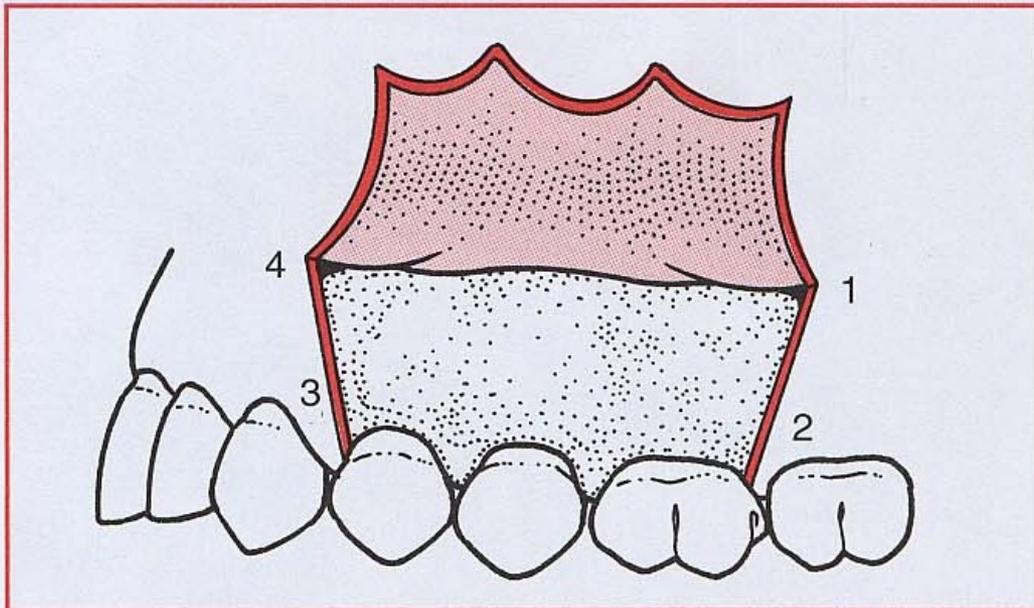


FIG. 8-6 Vertical-releasing incisions at either end of envelope incision convert envelope incision into four-cornered flap.

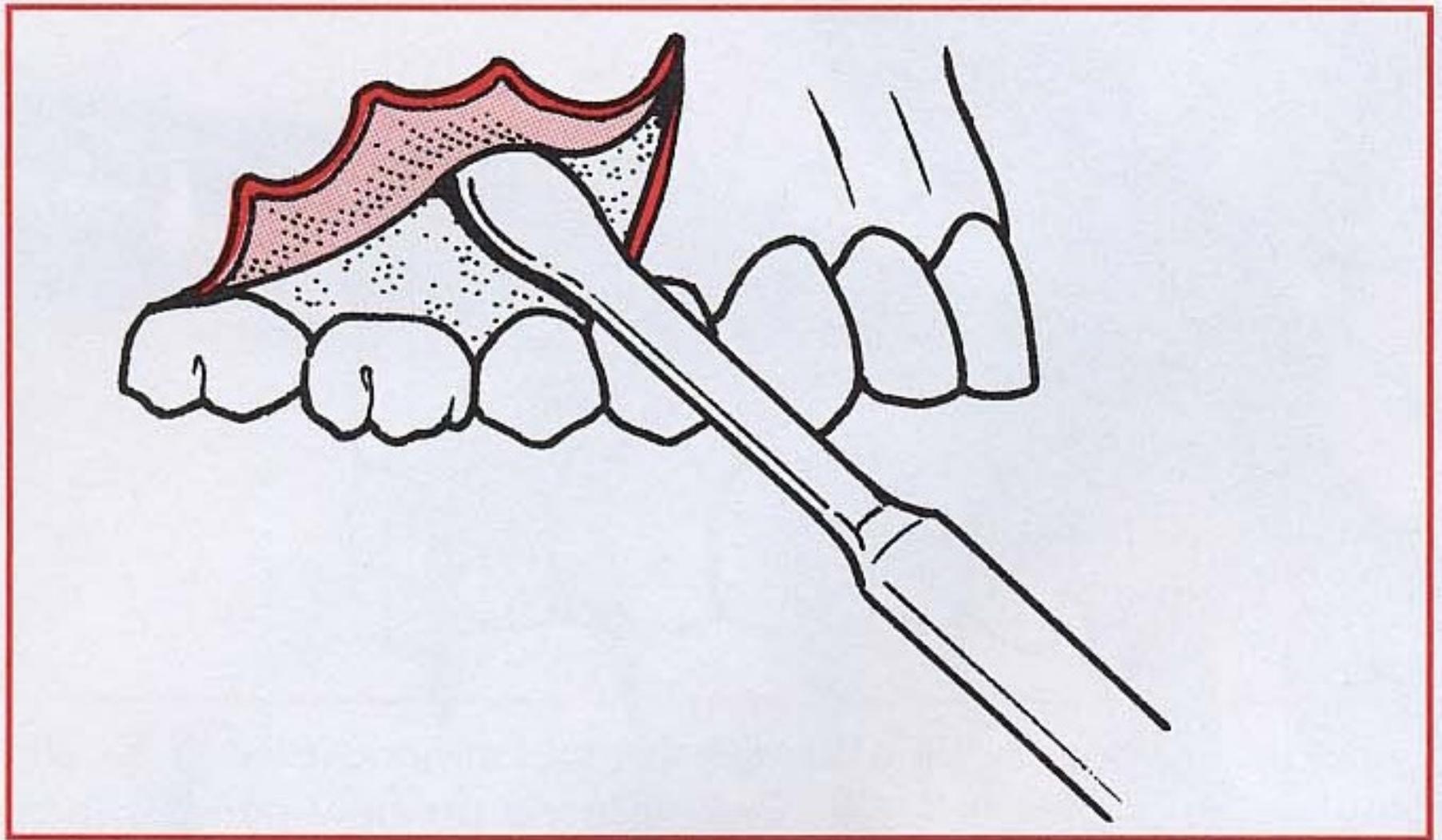


FIG. 8-13 When three-cornered flap is used, only anterior papilla is reflected with sharp end of elevator. Broad end is then used with push stroke to elevate posterosuperiorly.

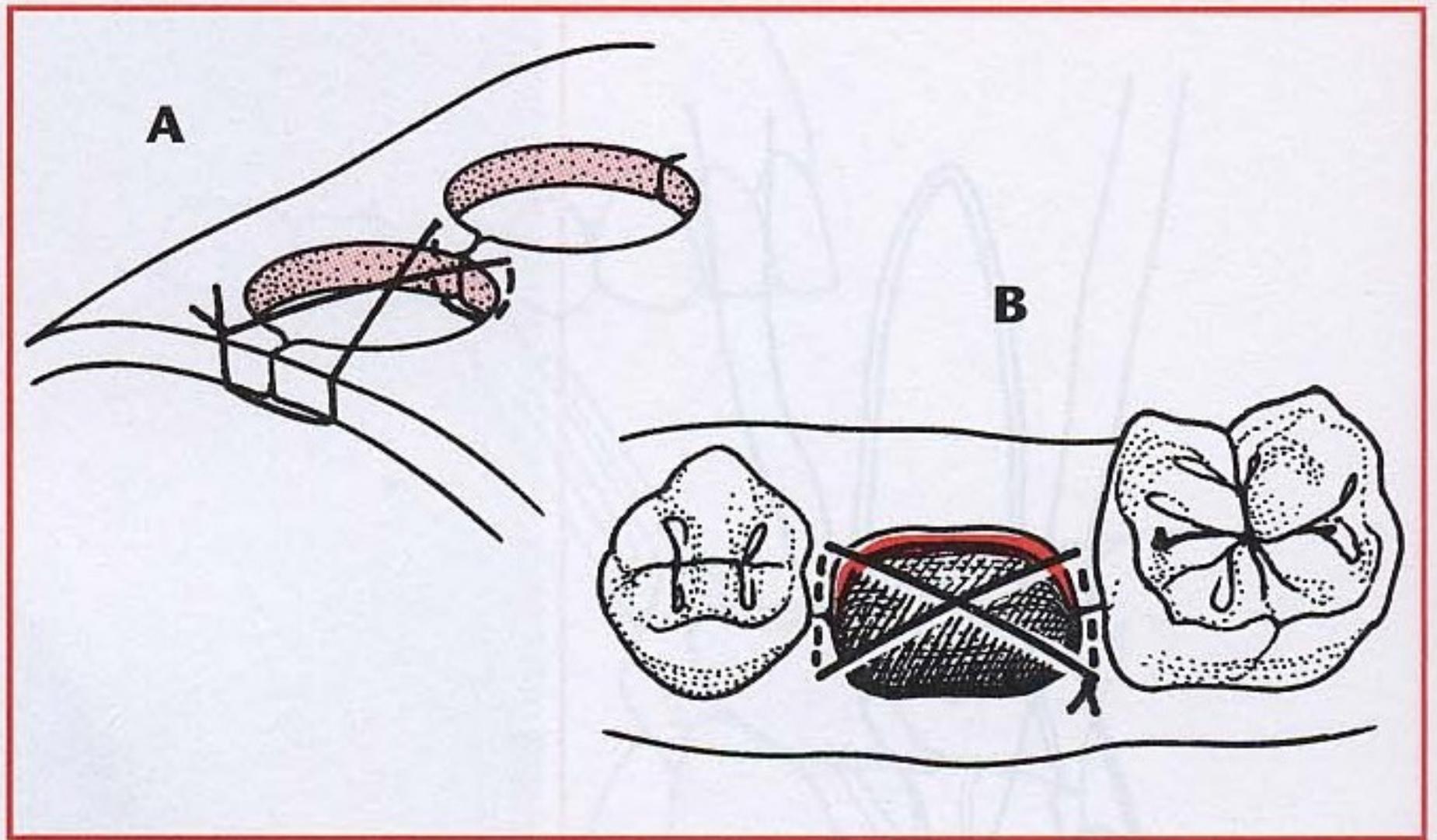


FIG. 8-15 A, Figure-eight stitch, occasionally placed over top of socket to aid in hemostasis. B, This stitch is usually performed to help maintain piece of oxidized cellulose in tooth socket.

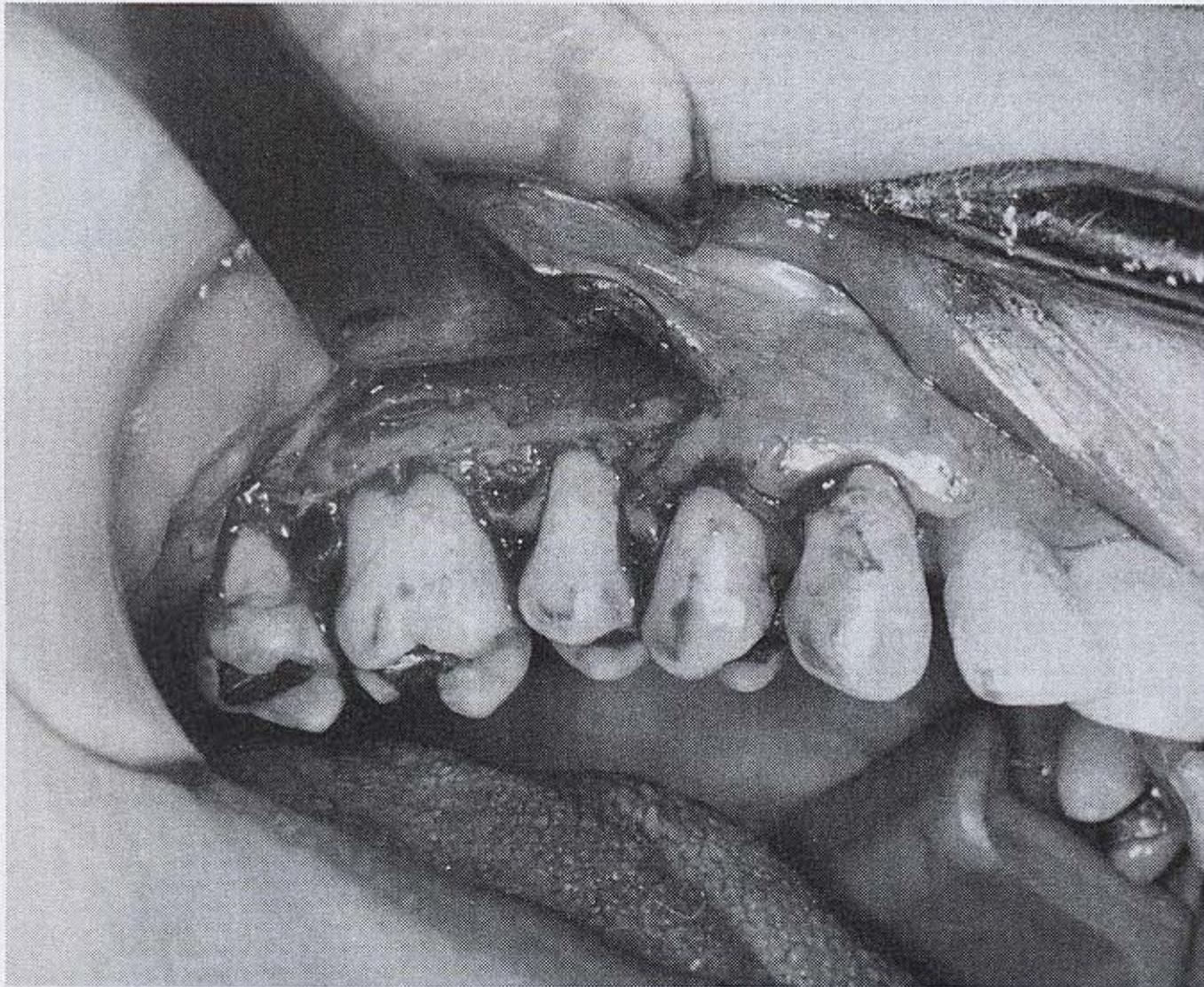


FIG. 8-14 Periosteal elevator (Seldin elevator) is used to reflect mucoperiosteal flap. Elevator placed perpendicular to bone and held in place by pushing firmly against bone, not by pushing it apically against soft tissue.

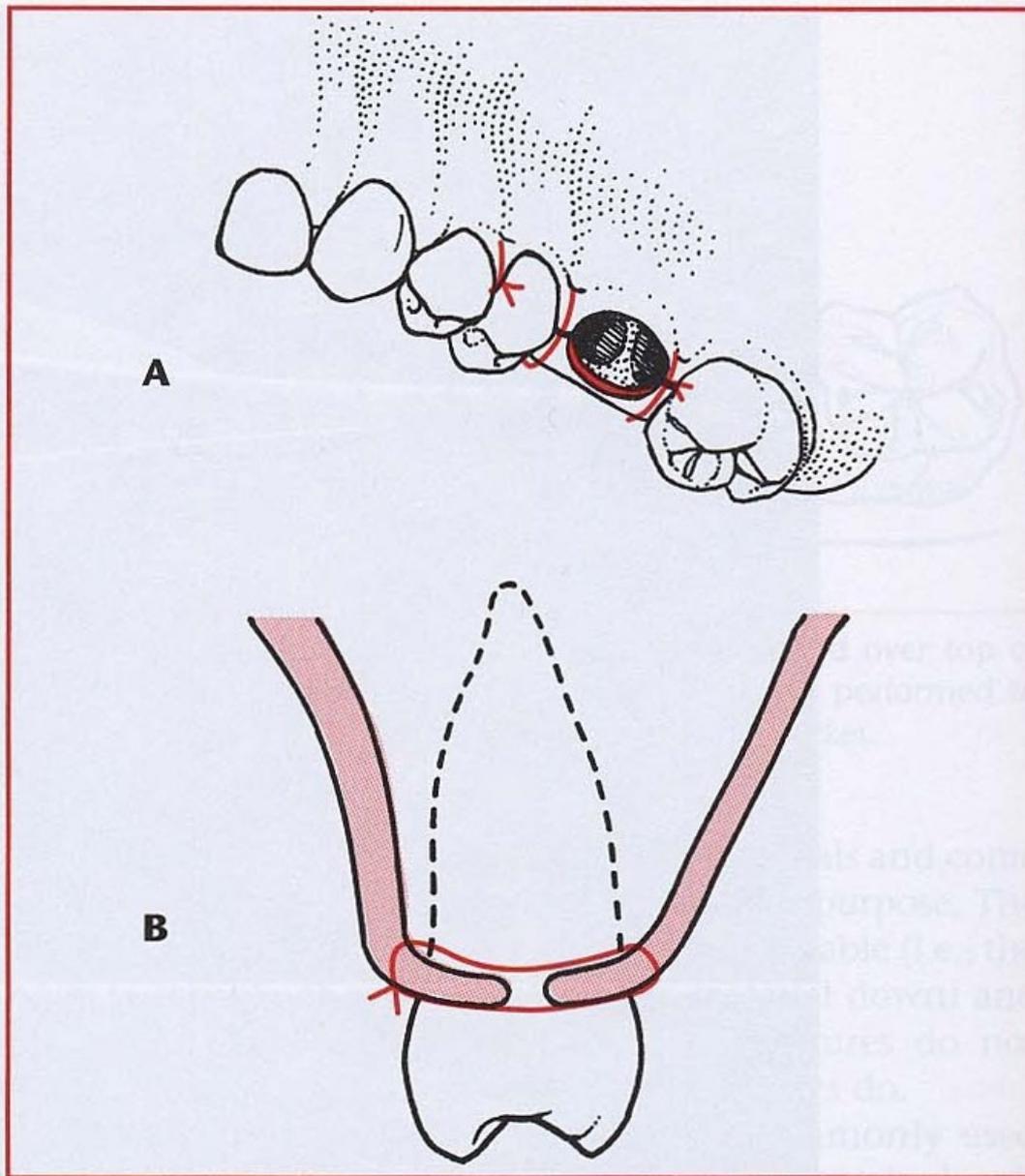
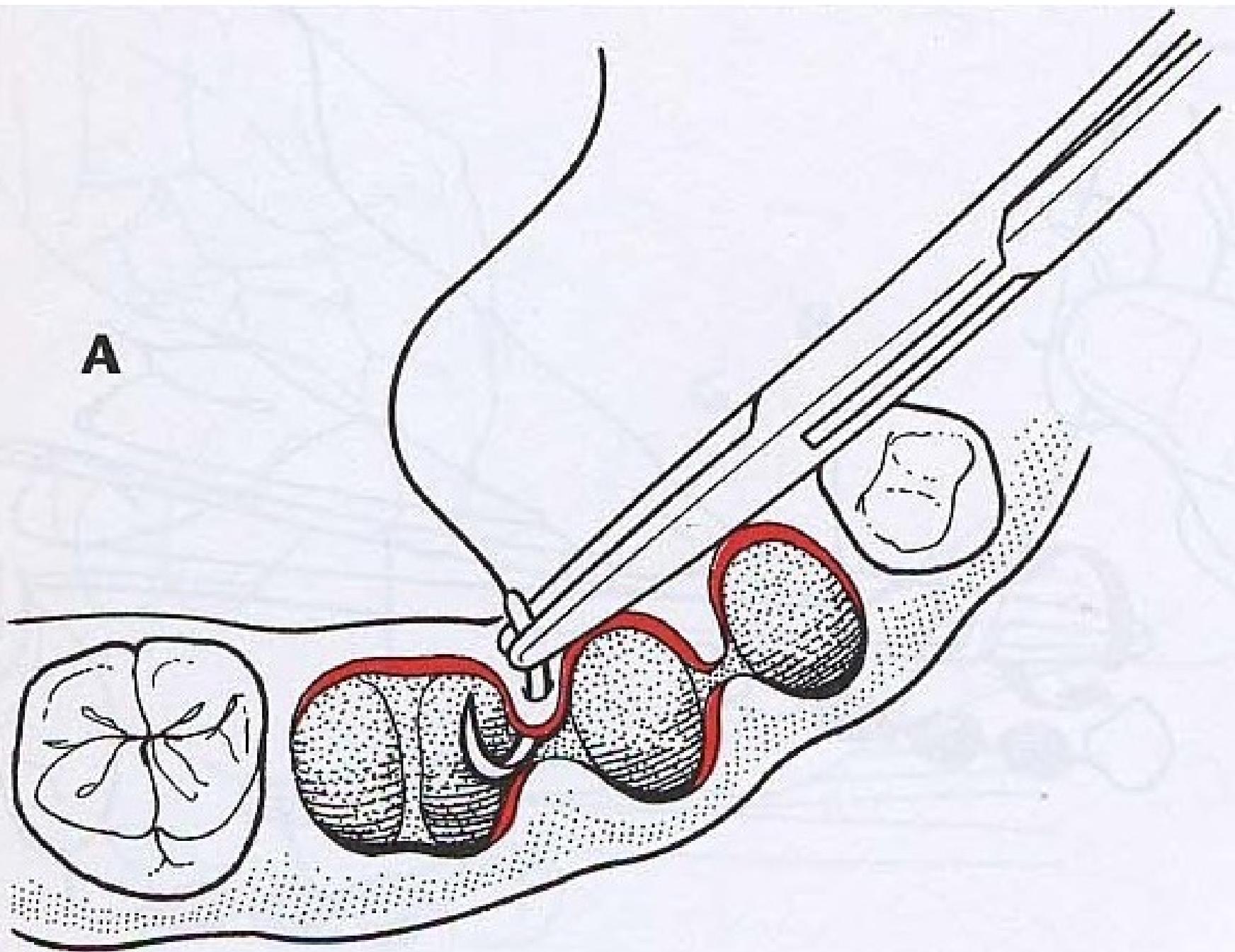
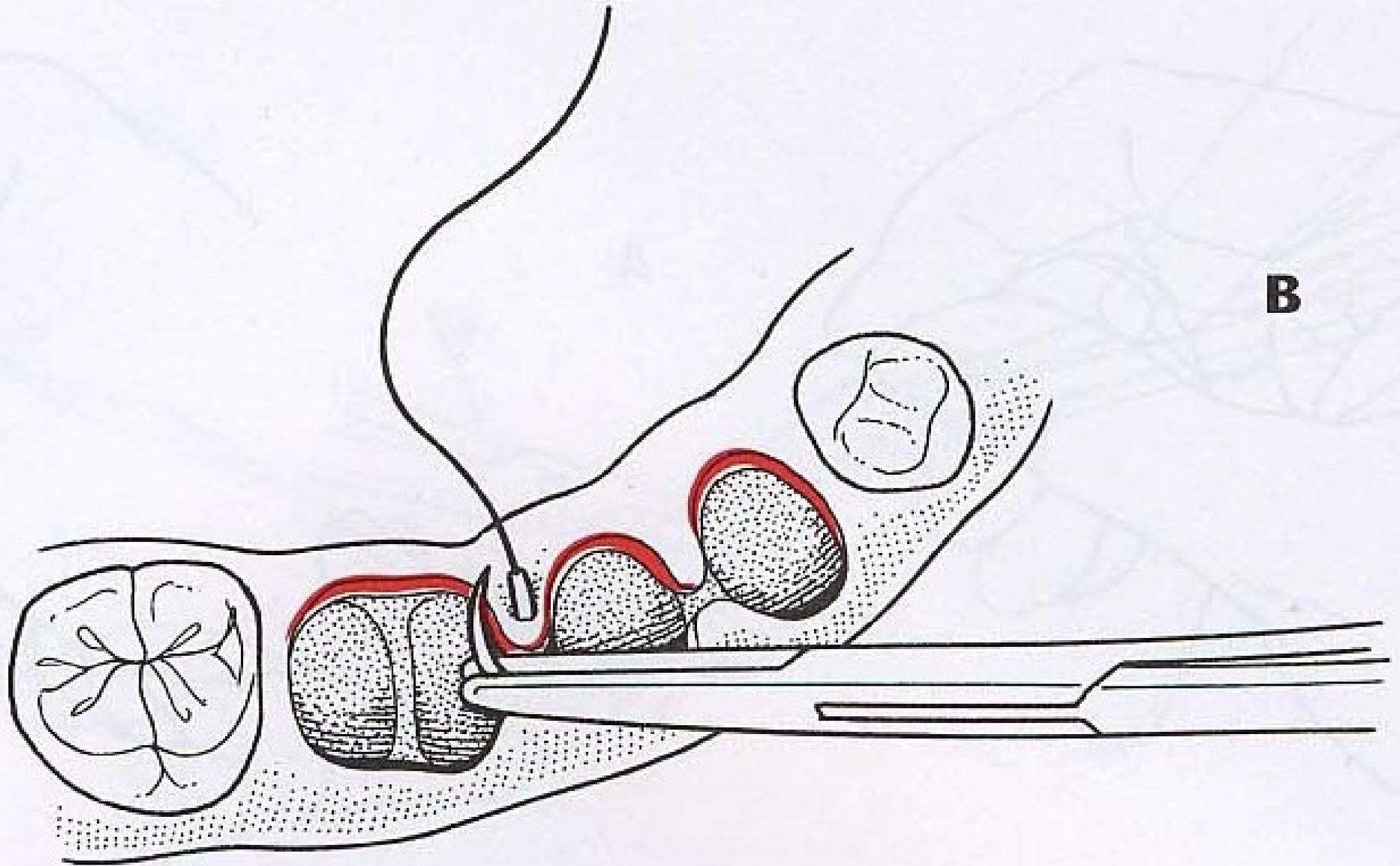
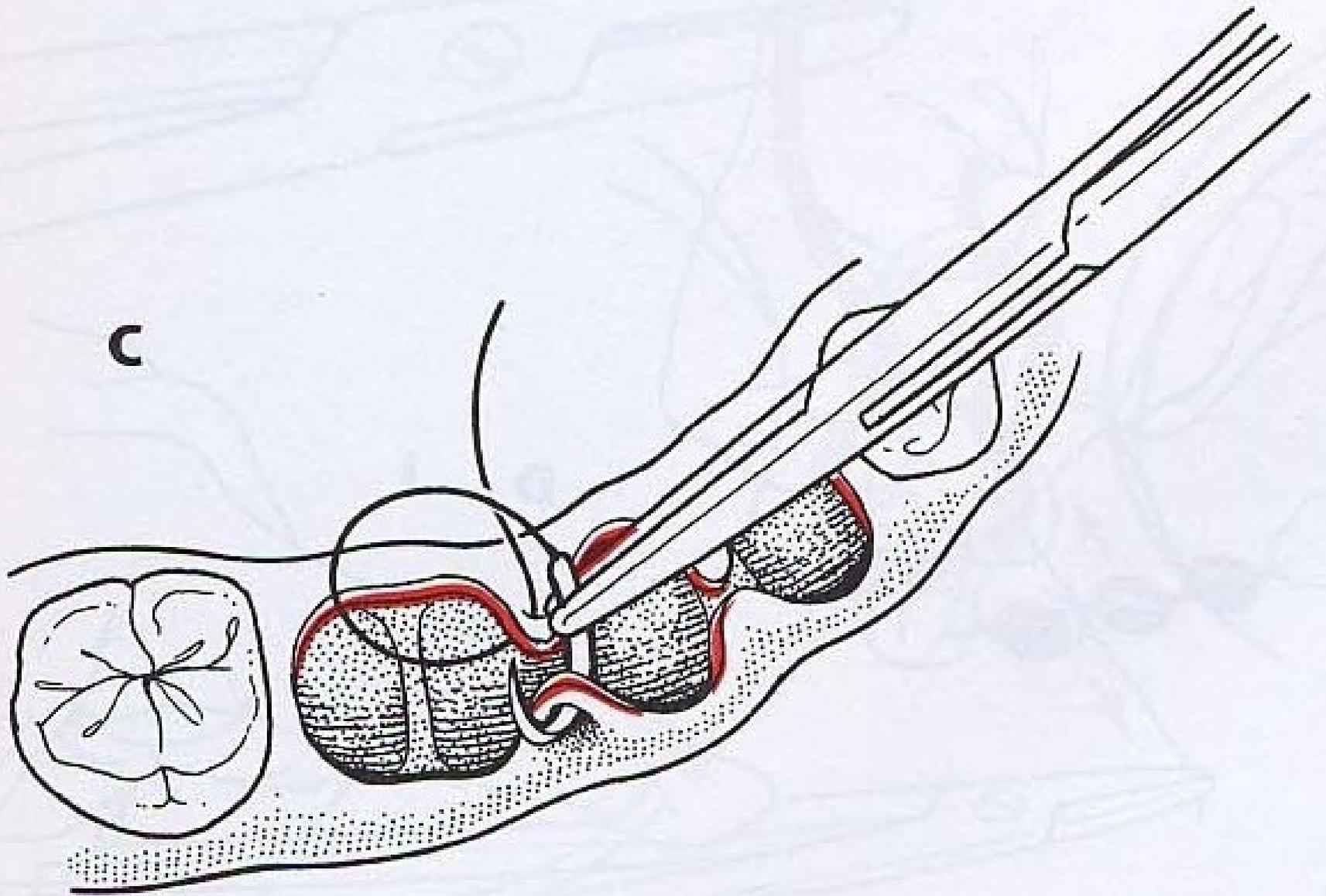


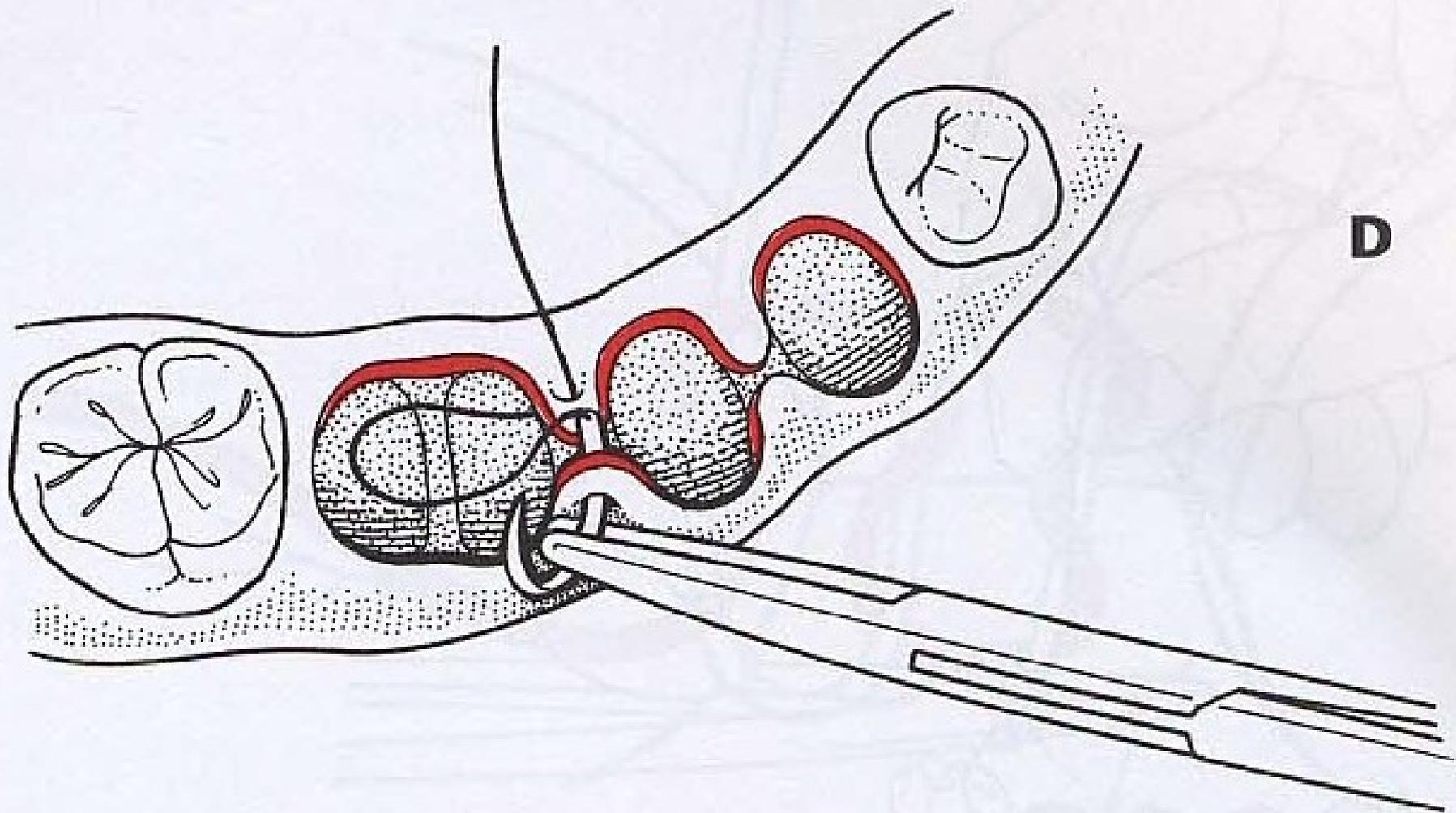
FIG. 8-18 A, Flap held in place with sutures in papillae. B, Cross-sectional view of suture.

A









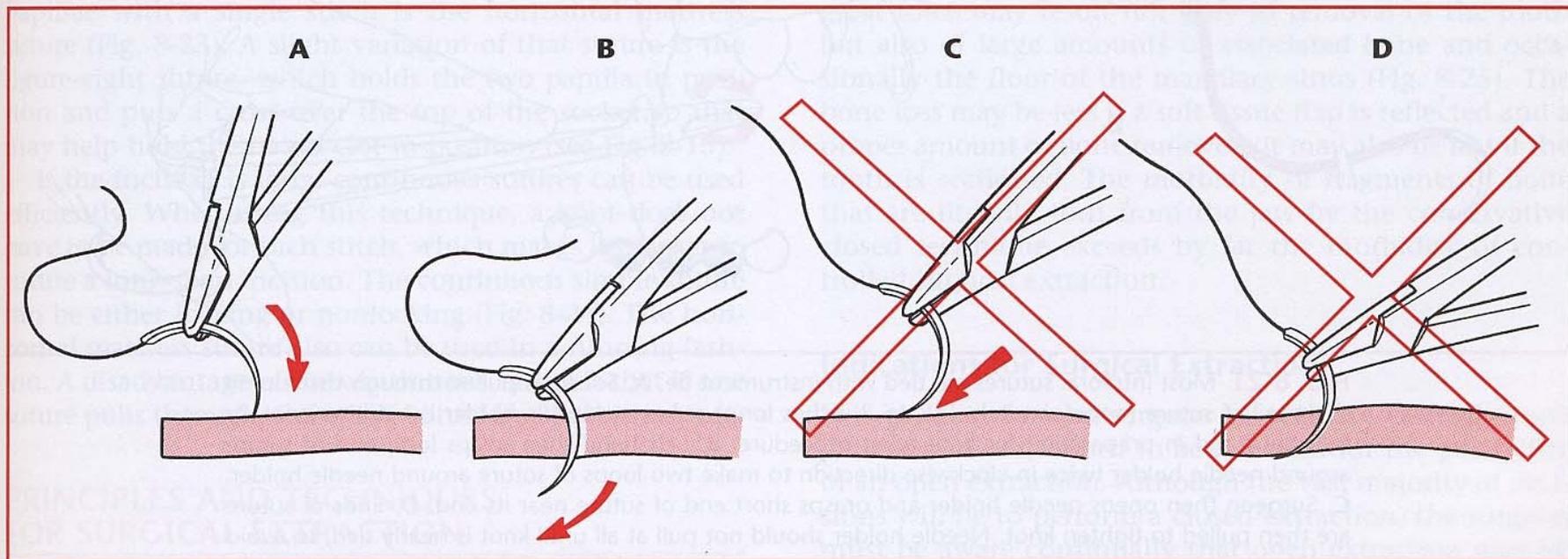
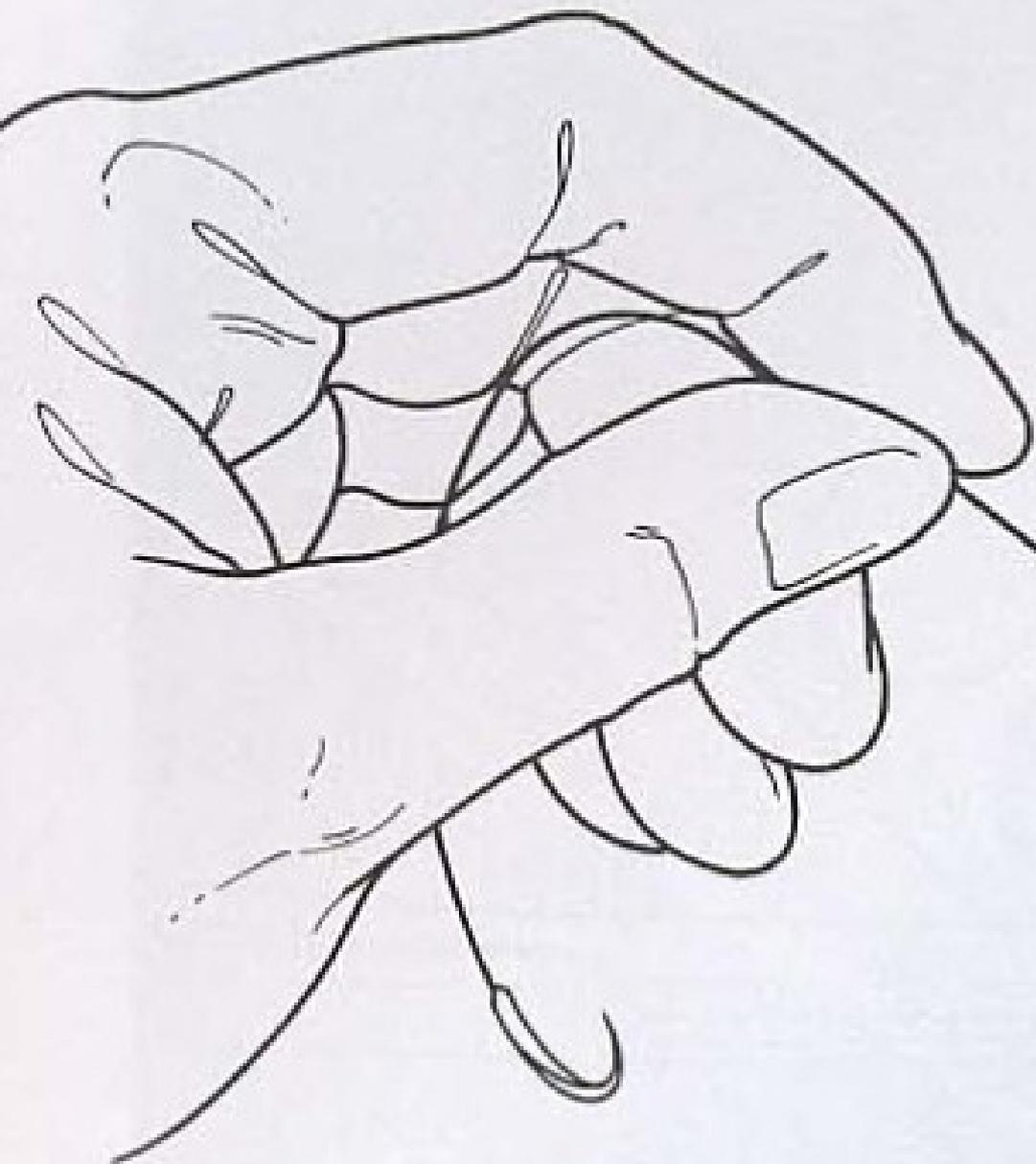
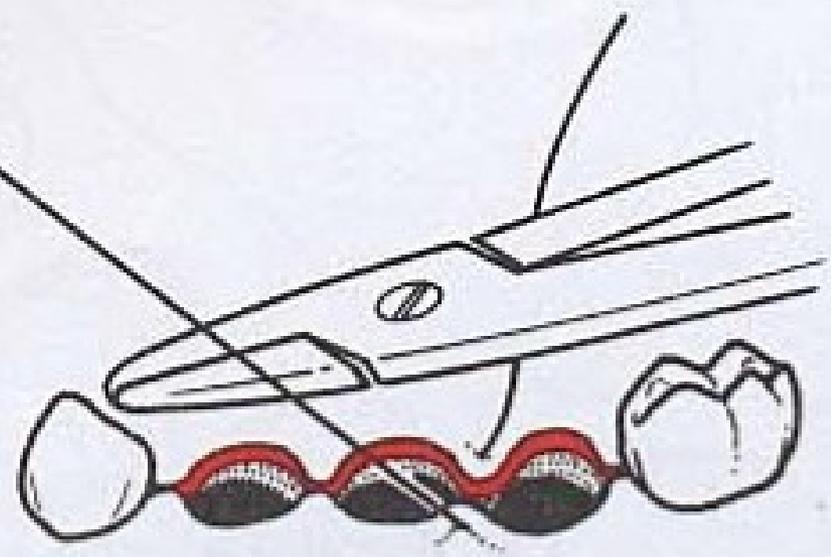
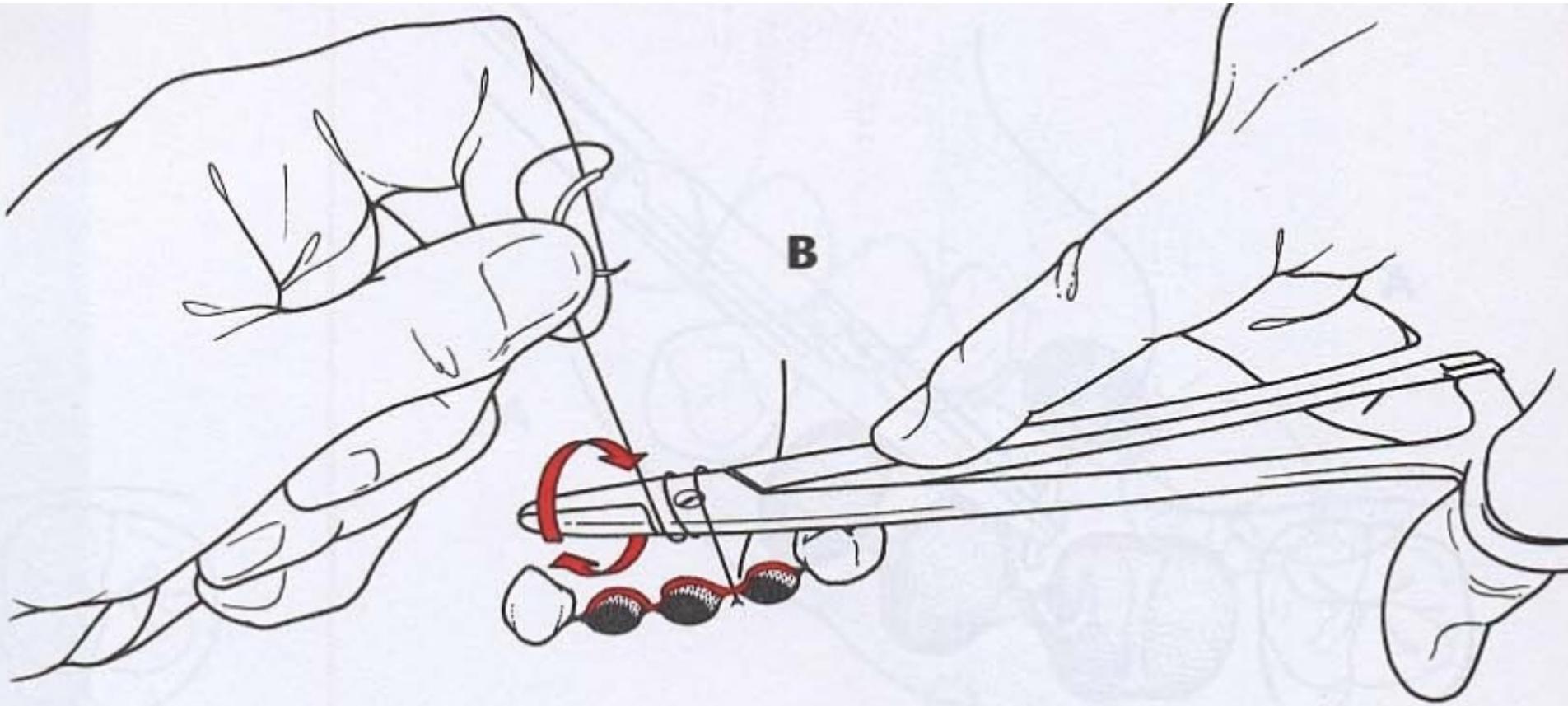


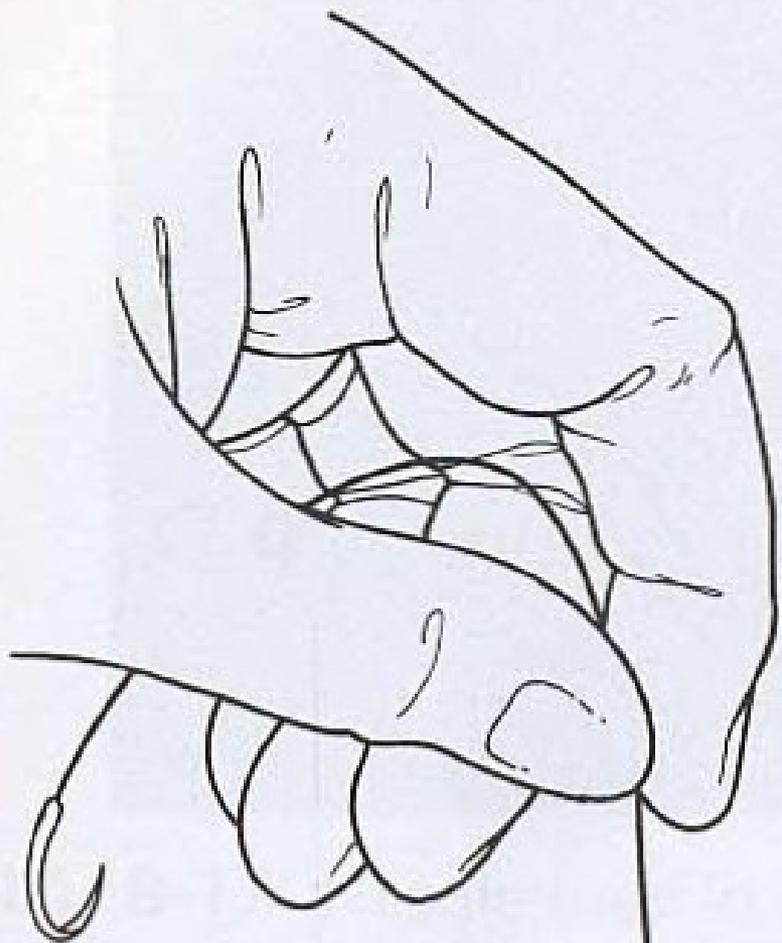
FIG. 8-20 A, When passing through soft tissue of mucosa, needle should enter surface of tissue at right angle. B, Needle holder should be turned so that needle passes easily through tissue at right angles. C, If needle enters soft tissue at acute angle and is pushed (rather than turned) through tissue, tearing of mucosa with needle or with suture is likely to occur (D).



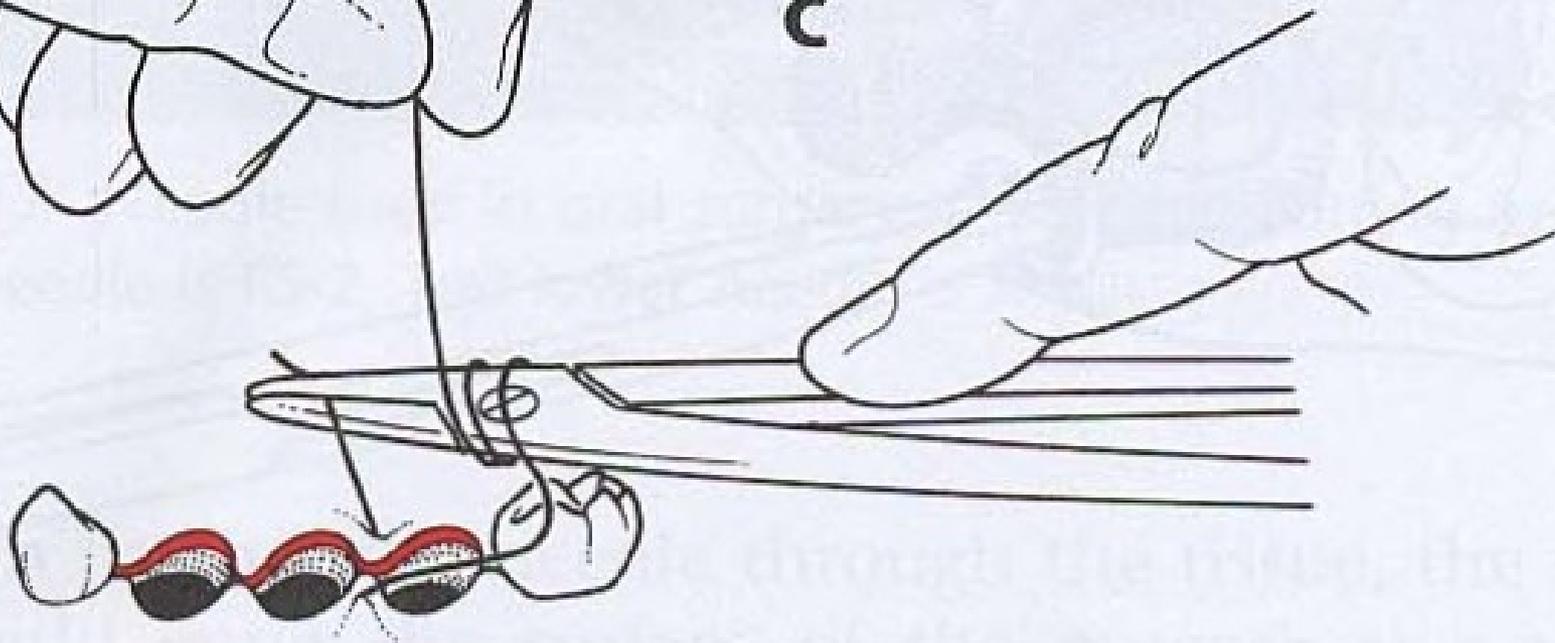
A

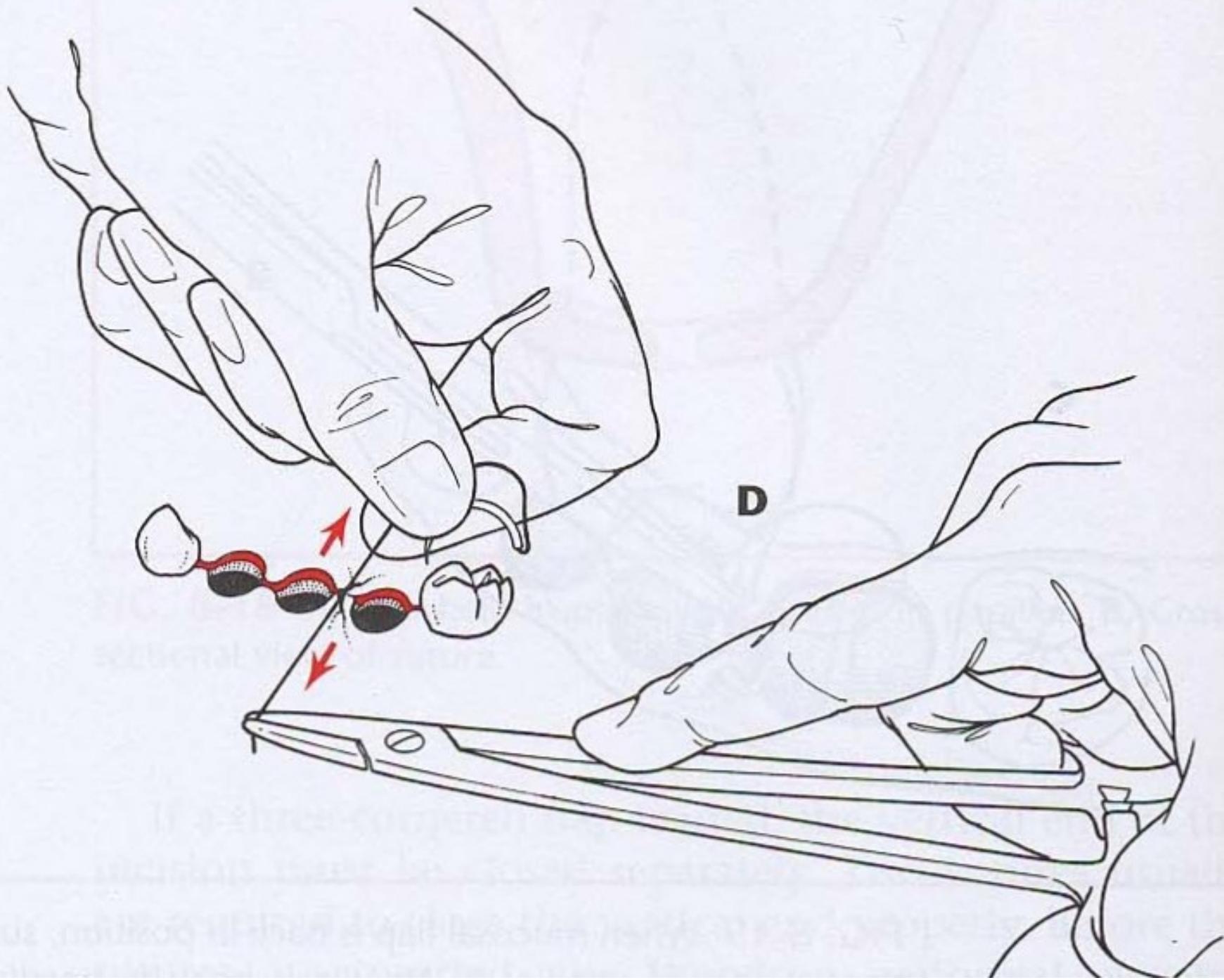




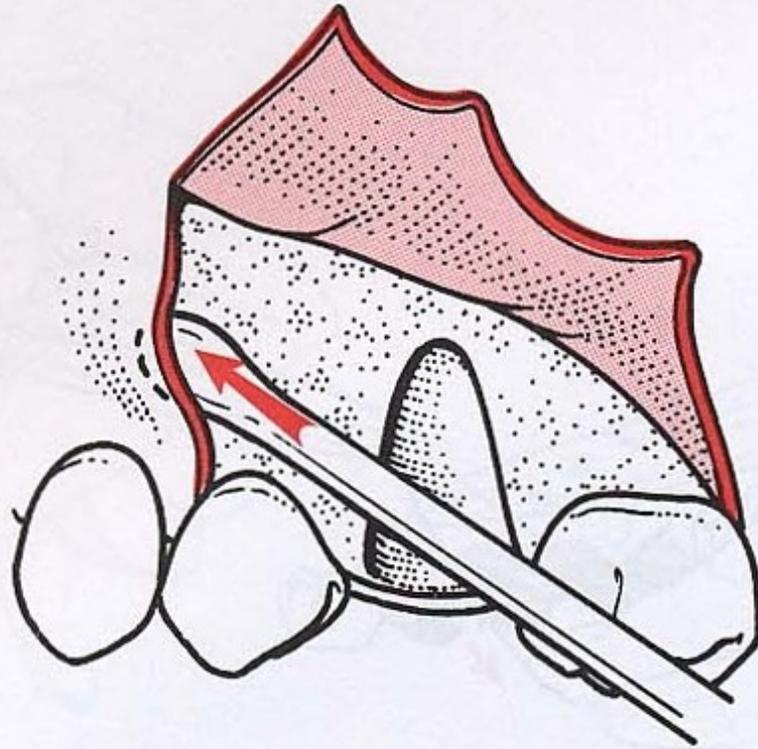


C

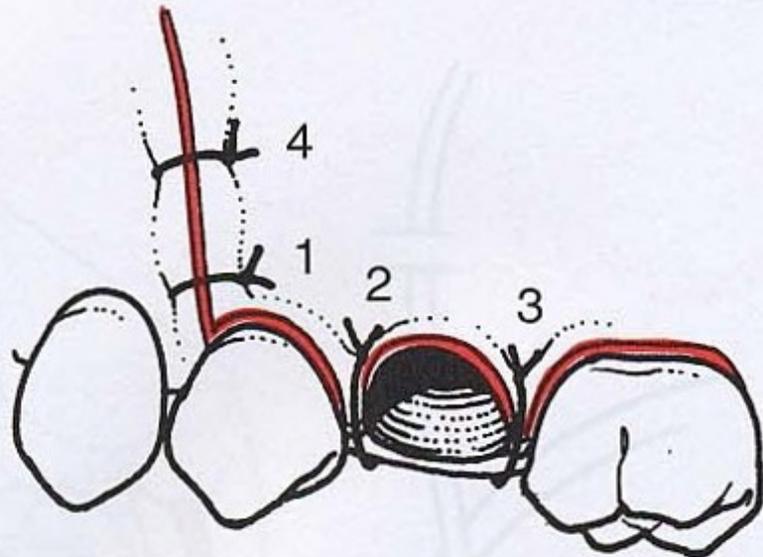


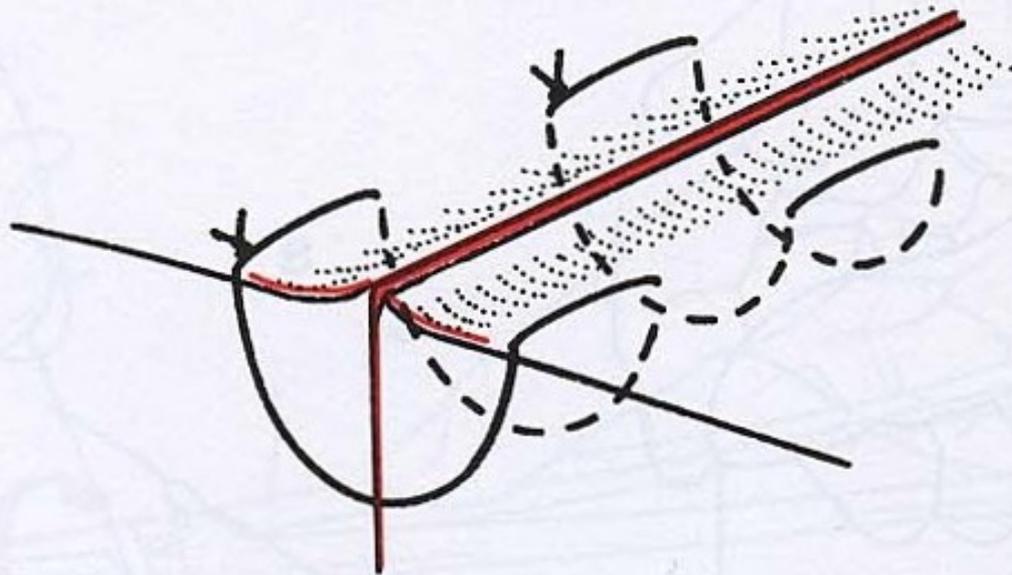


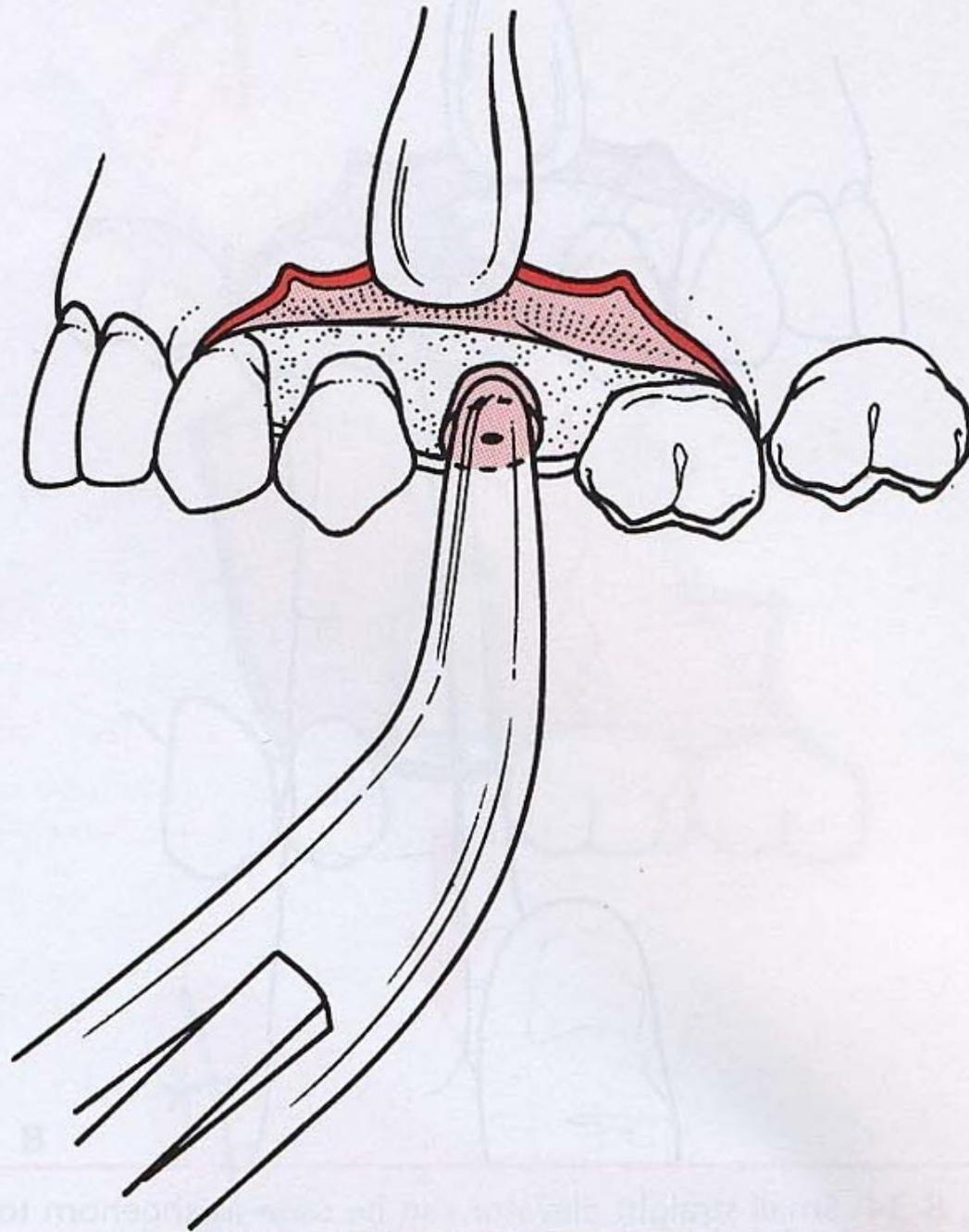
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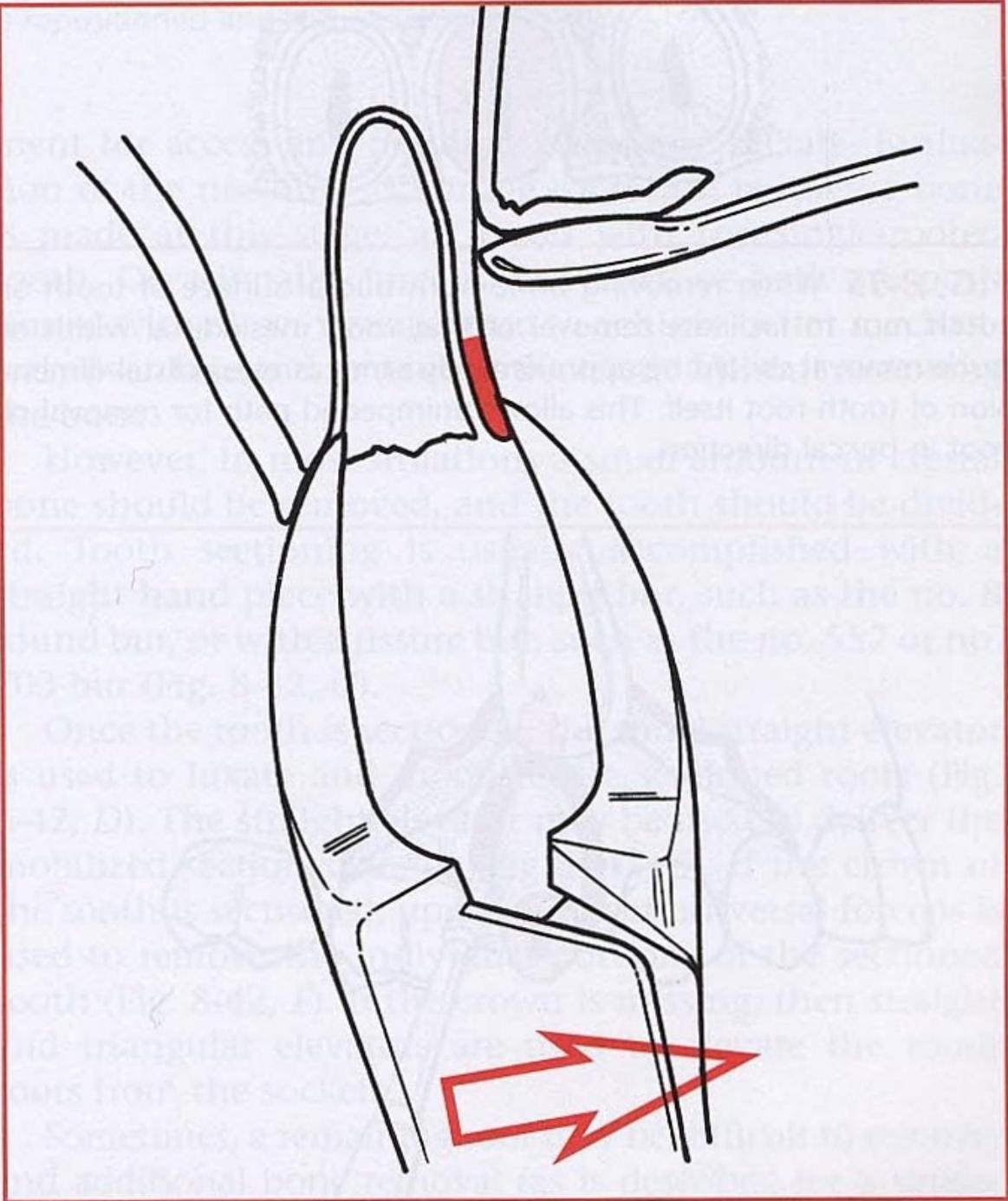


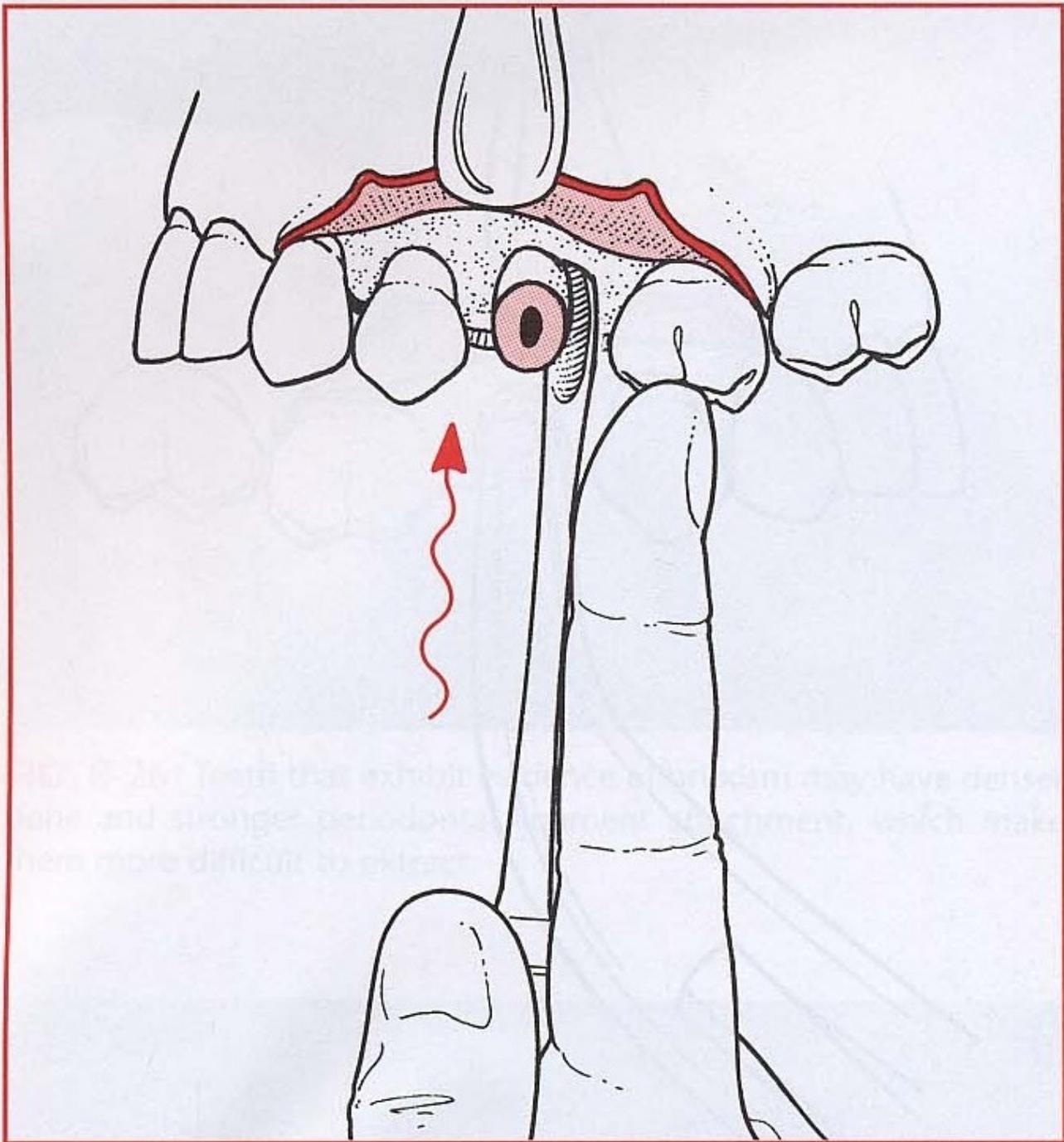
B

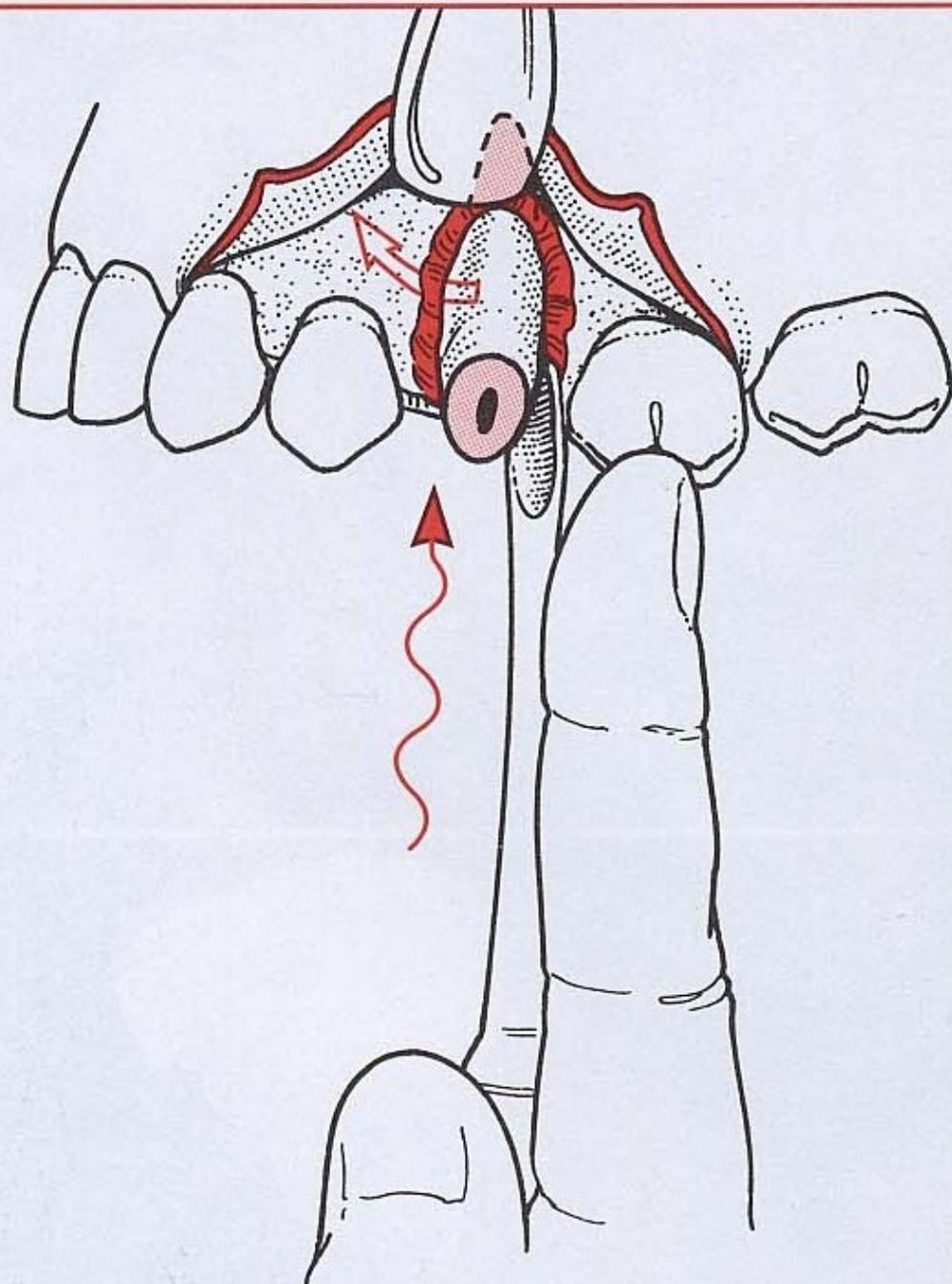


A**B**

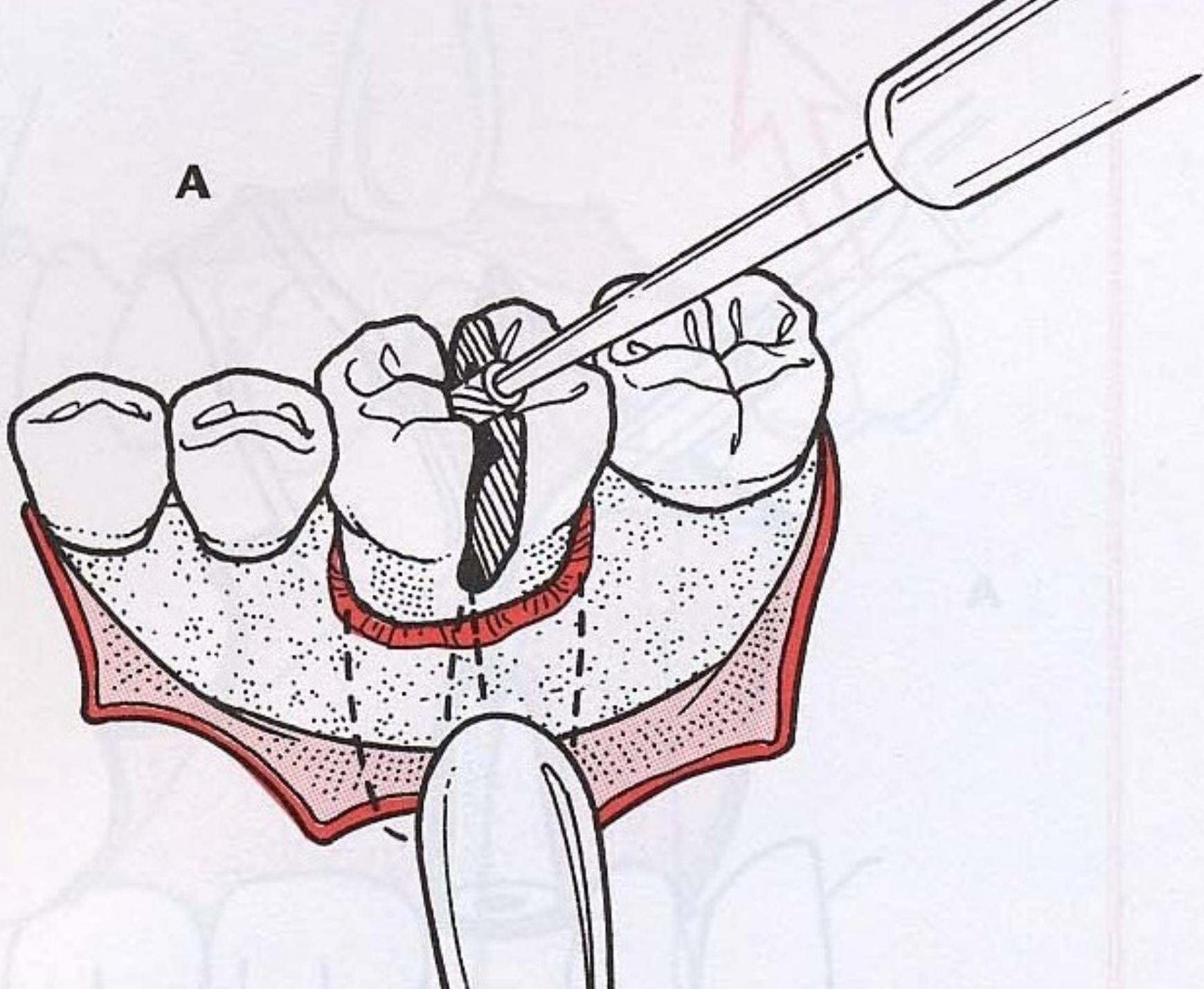








A



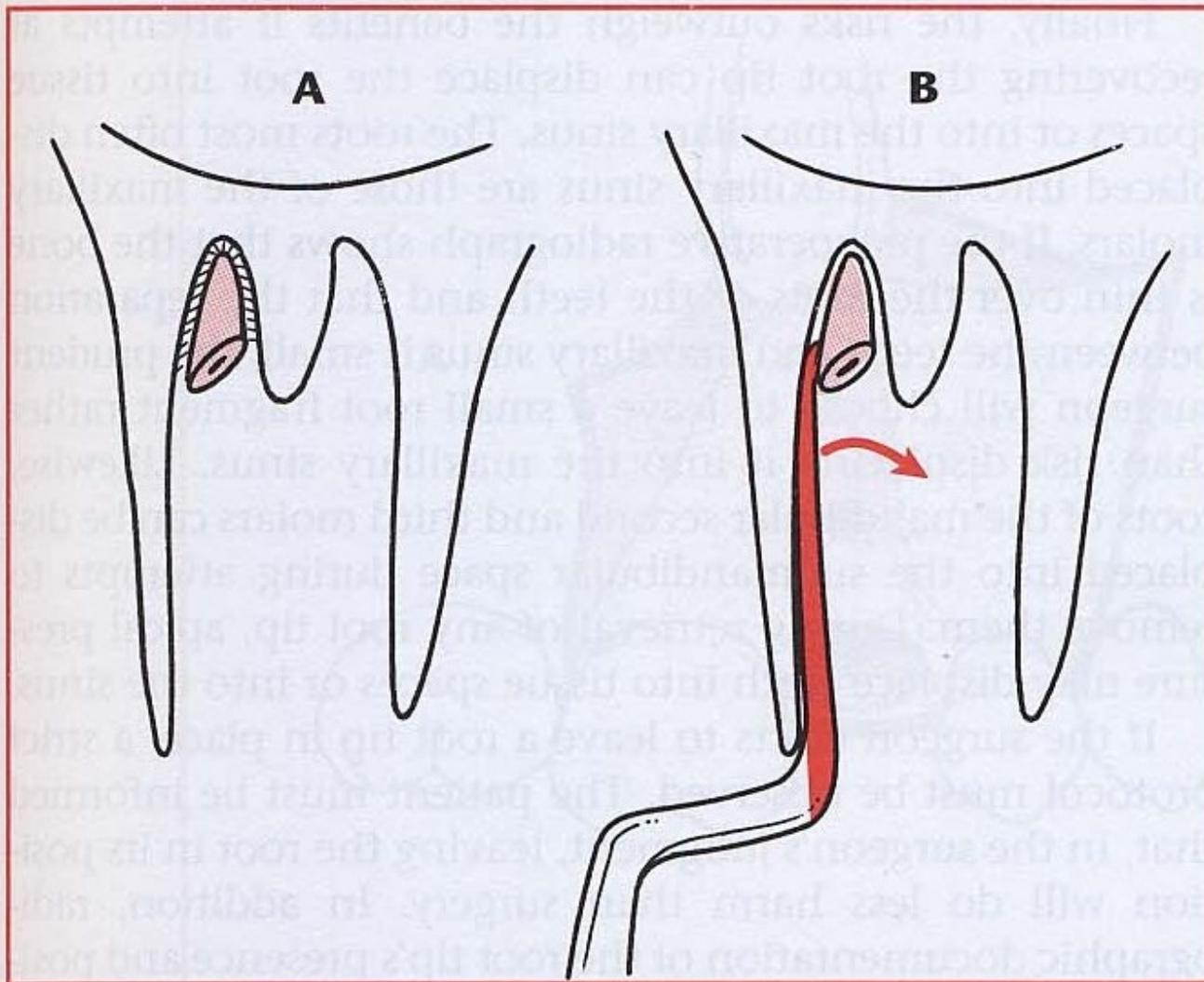
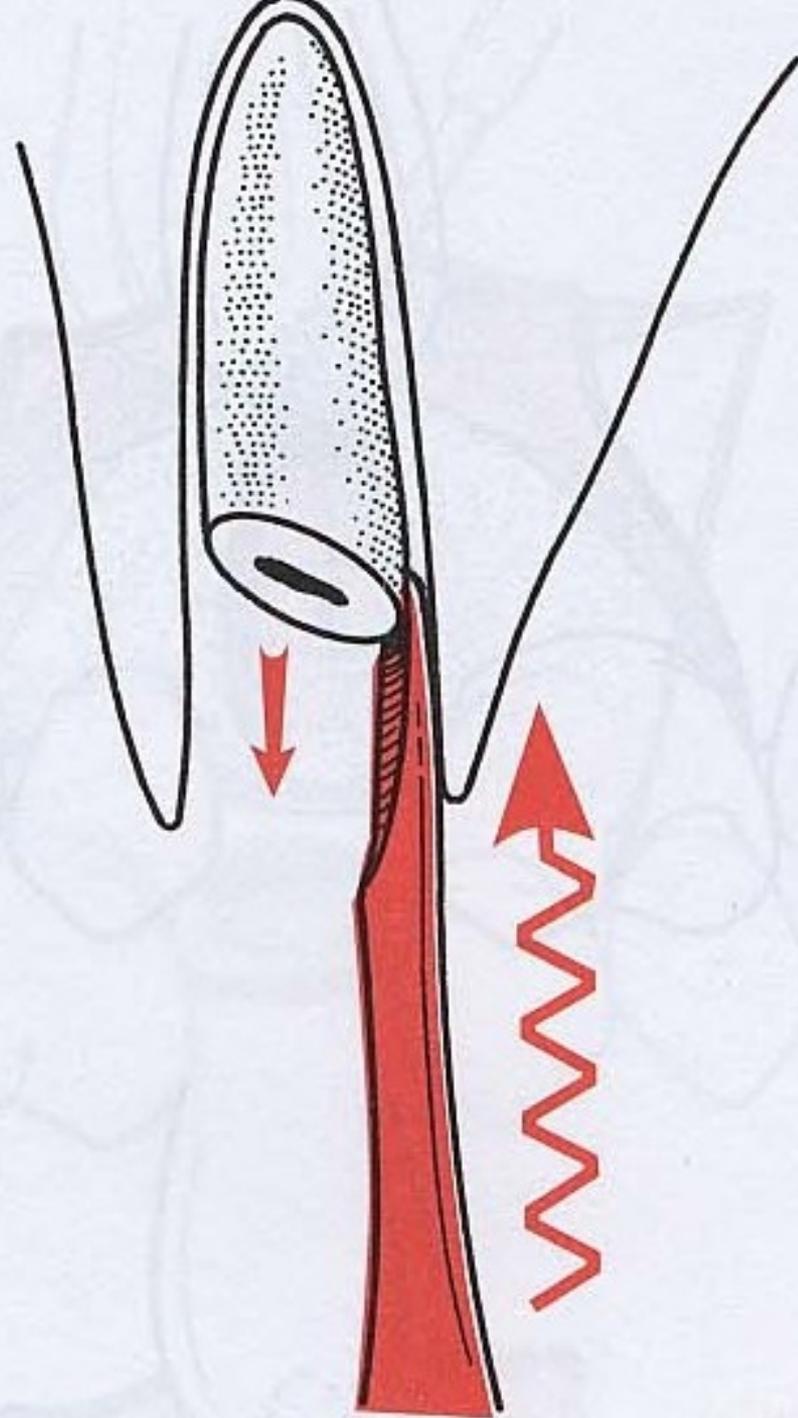
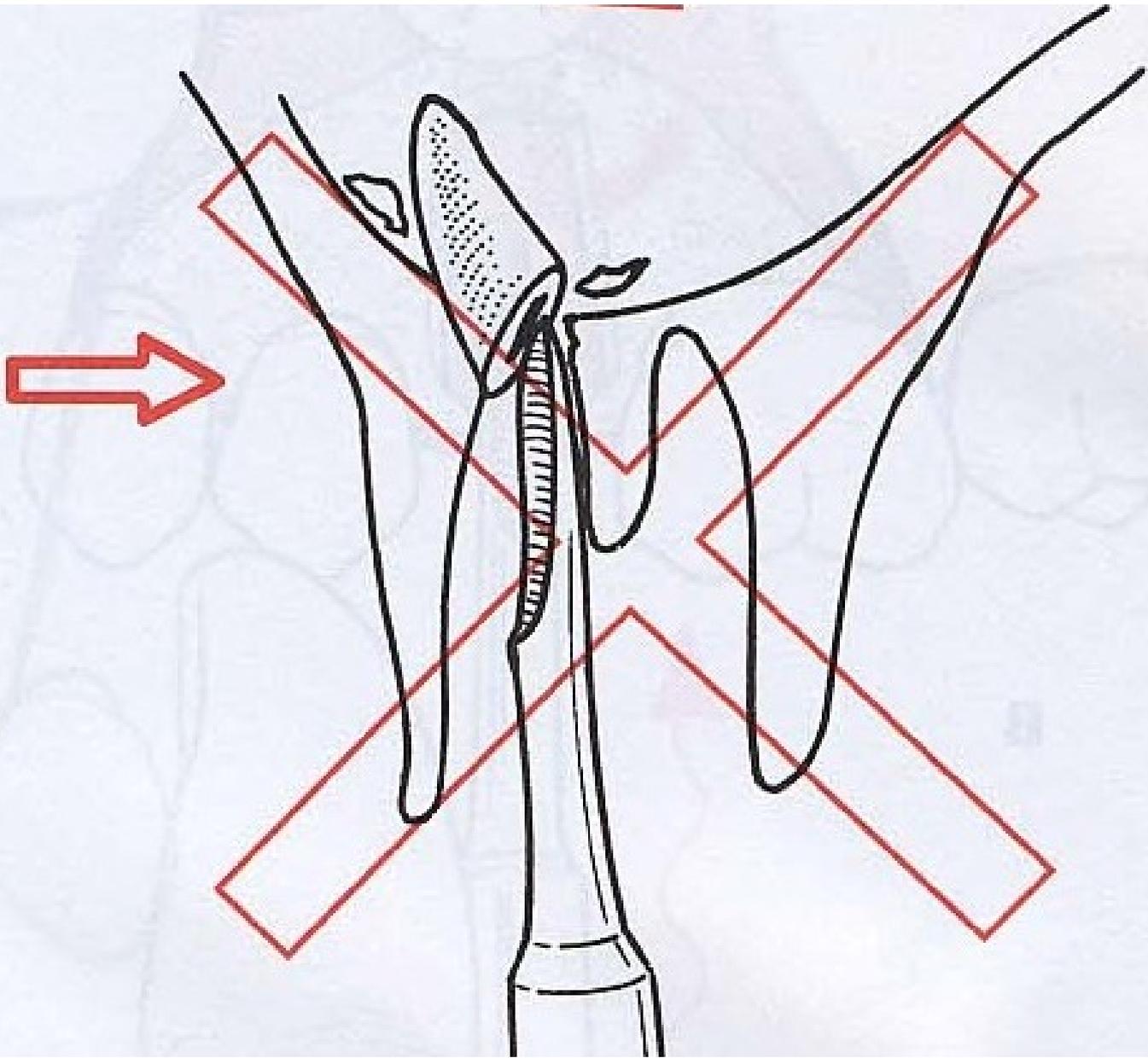


FIG. 8-47 A, When small (2 to 4 mm) portion of root apex is fractured from tooth, root tip pick can be used to retrieve it. B, Root tip pick is teased into periodontal ligament space and used to luxate root tip gently from its socket.

A





B