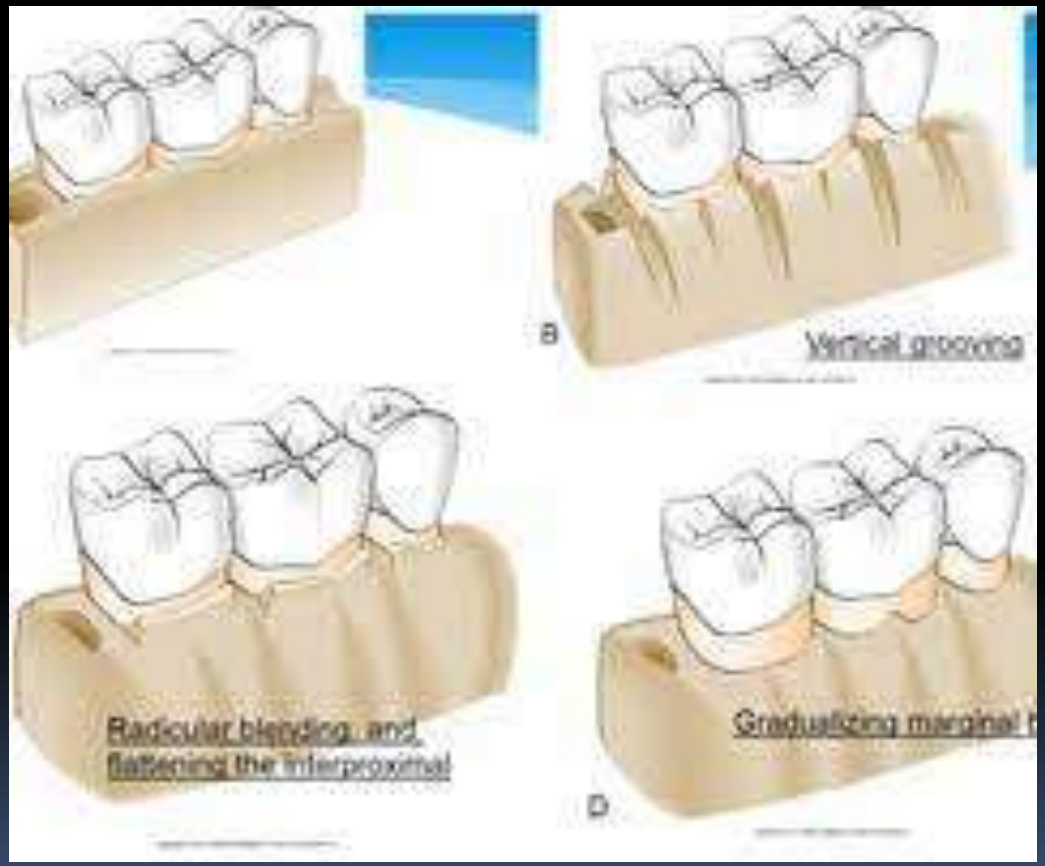
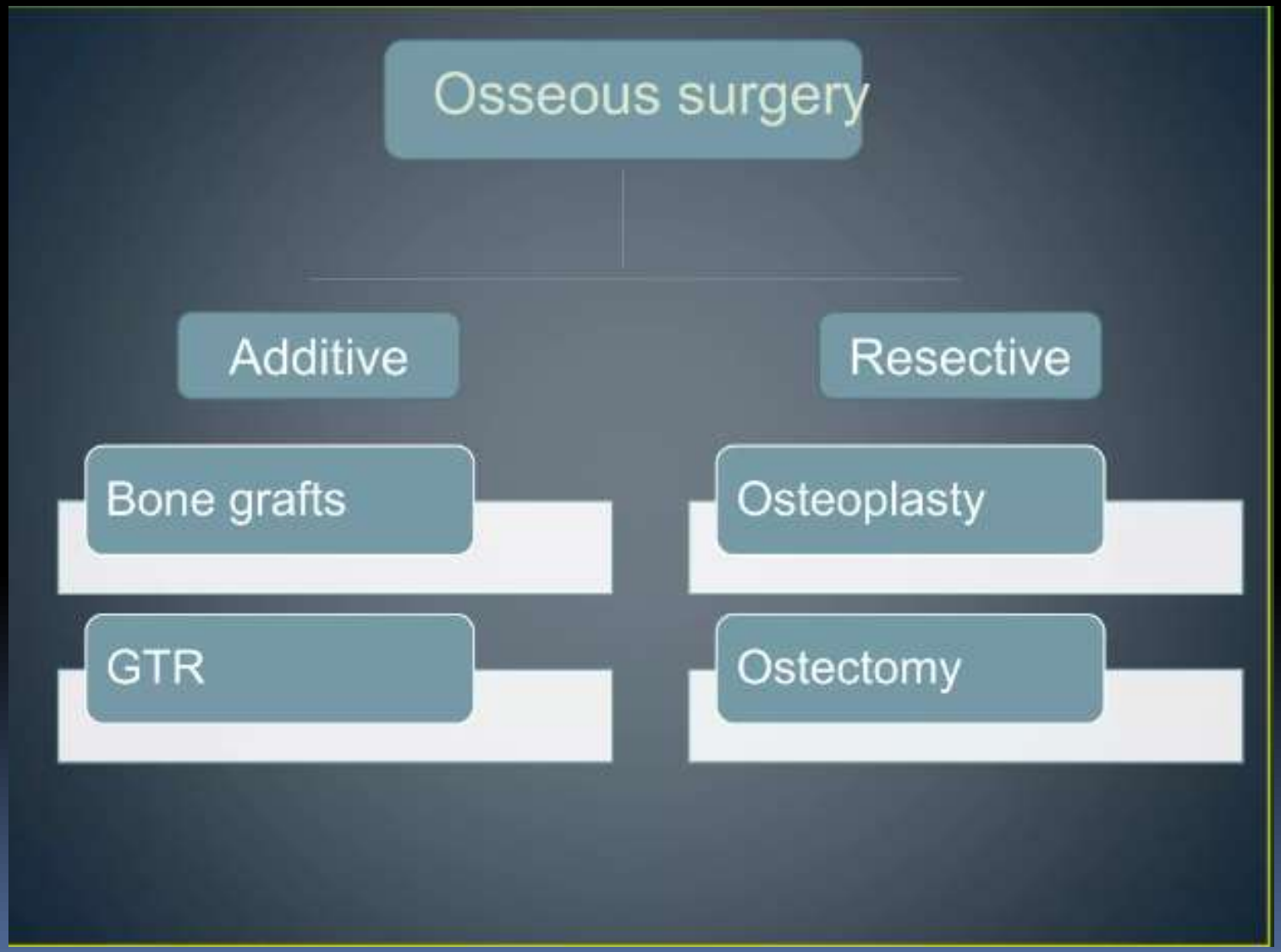
RESECTIVE OSSEOUS SURGERY



INTRODUCTION



Terminology

Osseous surgery:

- Aspect of periodontal surgery which deals with the modification of the bony support of the teeth (world workshop-1989)

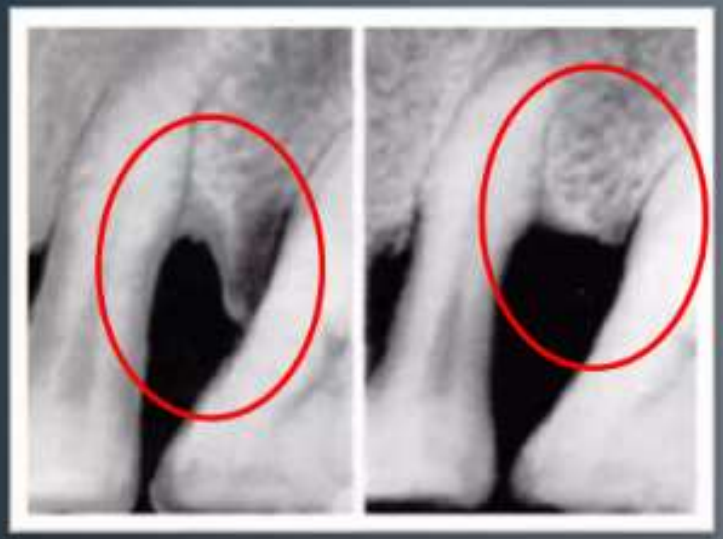
- Friedman : surgical removal of the gingival and reshaping of bone to eliminate the pocket and correct unphysiologic bone architecture.

- Carranza (1996): procedure by which changes in the alveolar bone can be accomplished to rid of deformities induced by periodontal disease process or other related factors-exostosis & tooth supraeruption.

- Osteoplasty: reshaping of the alveolar process to achieve a more physiological form without removal of supporting bone.

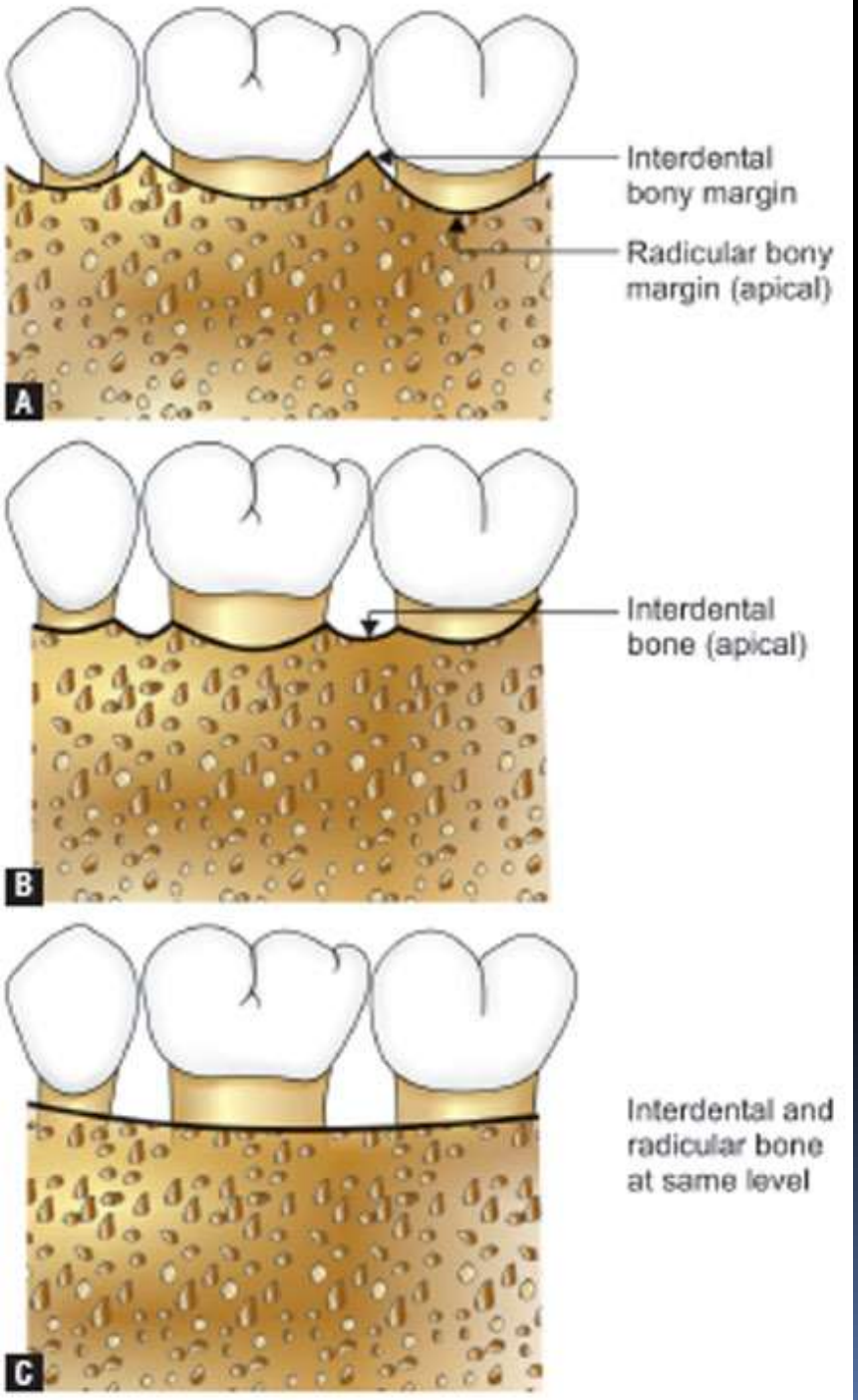
- Osteotomy: bone that is part of the attachment apparatus is removed to eliminate a periodontal pocket and establish gingival contours that will be maintained.
- Friedman 1955

- Subrtactive and additive osseous surgery



subtractive osseous *surgery* is designed to restore the form of preexisting alveolar bone to the level present at
the time of surgery or slightly more apical to this level

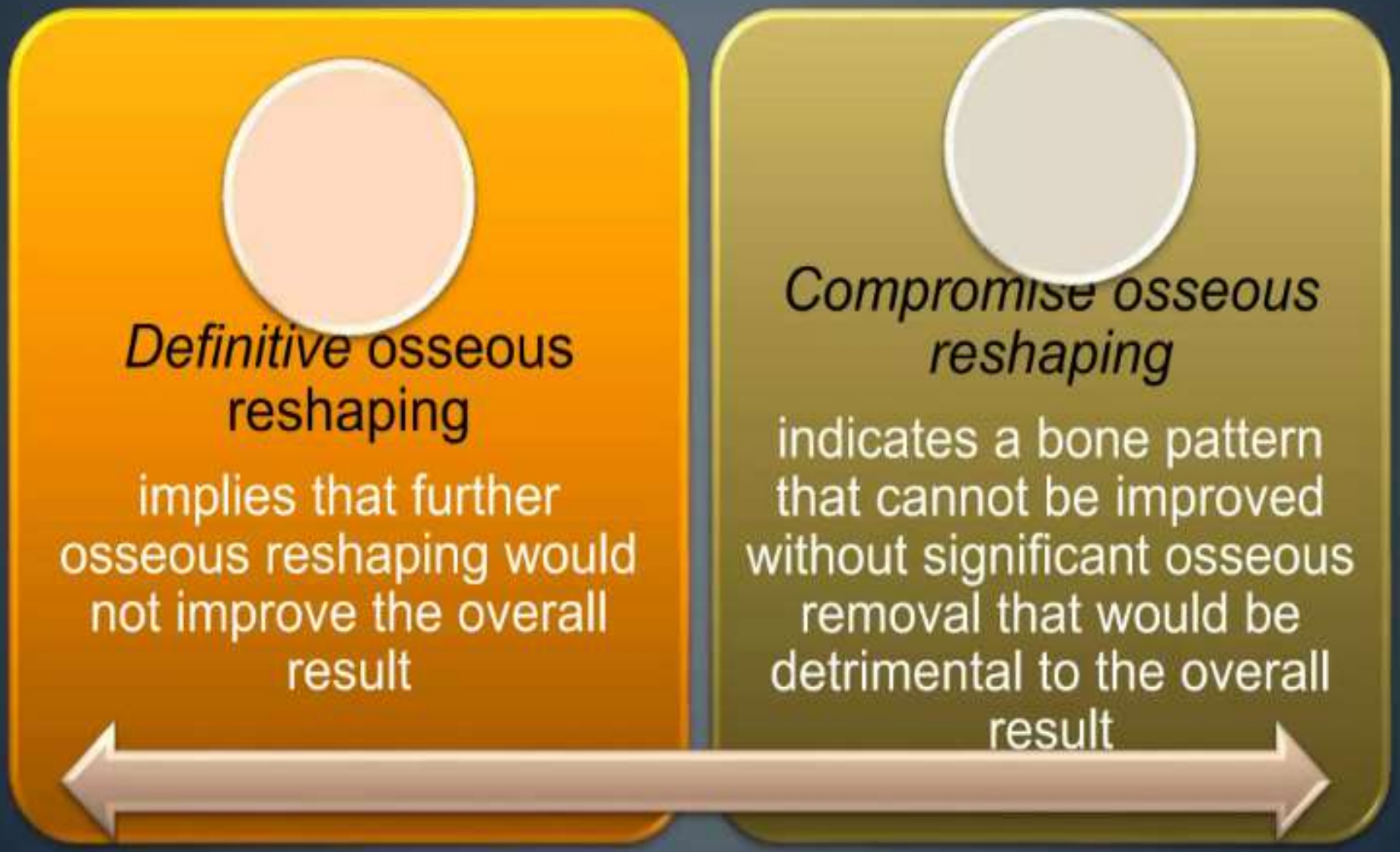
Additive osseous surgery includes procedures directed at restoring the alveolar bone to its original level



POSITIVE

REVERSED / NEGATIVE

FLAT

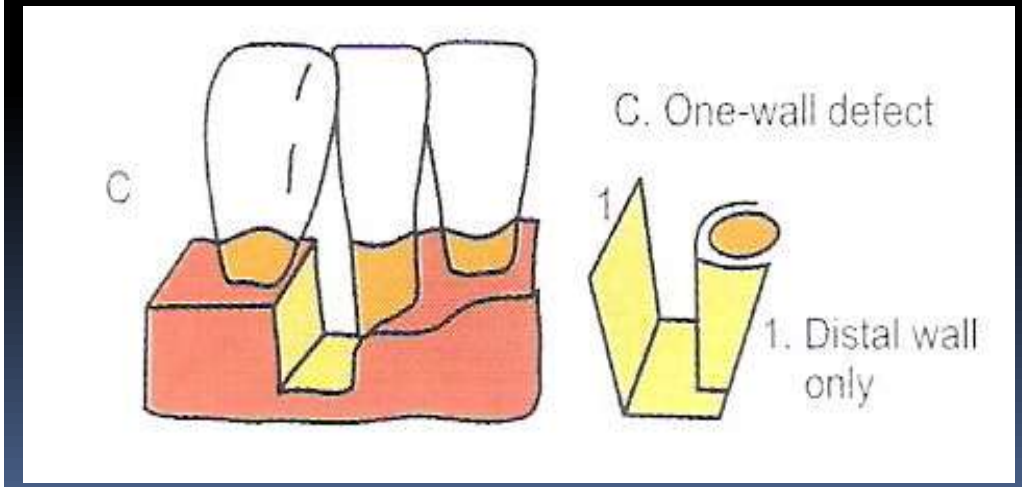

Definitive osseous reshaping
implies that further osseous reshaping would not improve the overall result
Compromise osseous reshaping
indicates a bone pattern that cannot be improved without significant osseous removal that would be detrimental to the overall result

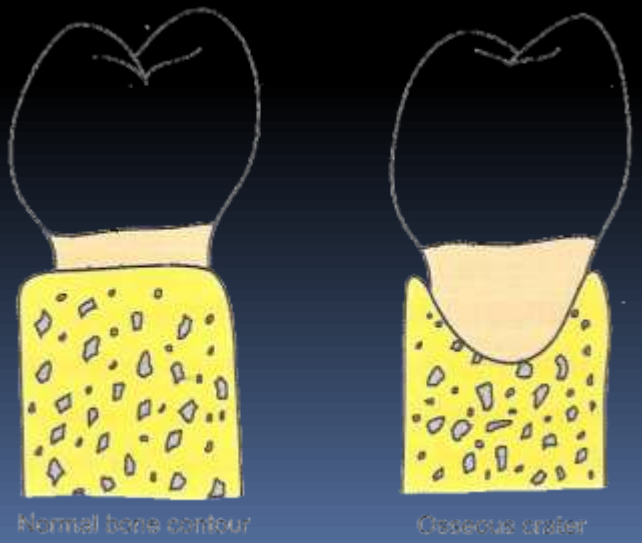
Selection of treatment techniques

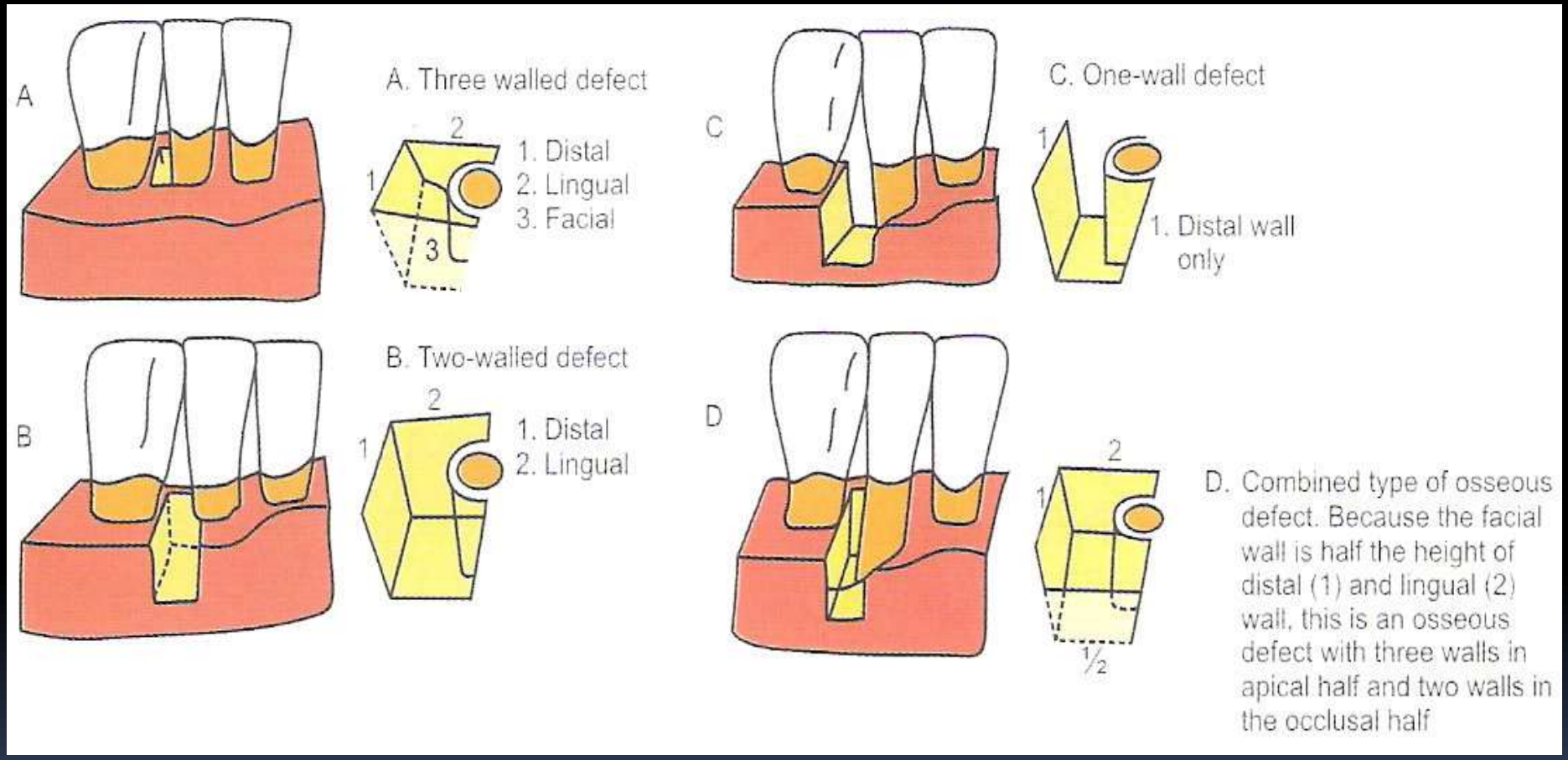
- One-wall angular defects usually need to be recontoured surgically.
- Three-wall defects, particularly if they are narrow and deep, can he successfully treated with techniques that strive for new attachment and bone reconstruction.
- Two-wall angular detects can be treated with either method, depending on their depth, width, and general configuration

INDICATIONS OF RESECTIVE OSSEOUS SURGERY

- ✓ ONE – WALLED ANGULAR DEFECTS
- ✓ THICK, BONY MARGINS
- ✓ SHALLOW CRATER FORMATIONS

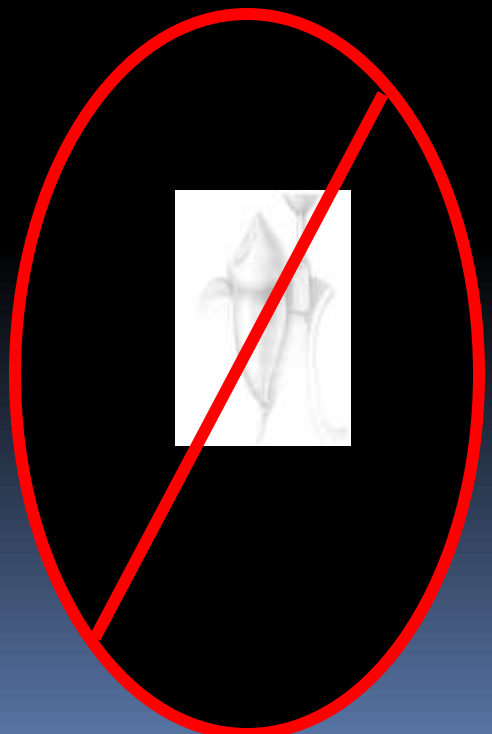





A
A. Three walled defect
2
1
3
1. Distal
2. Lingual
3. Facial
B
B. Two-walled defect
2
1
1. Distal
2. Lingual
C
C. One-wall defect
1
1. Distal wall only
D
2
1
1/2
D. Combined type of osseous defect. Because the facial wall is half the height of distal (1) and lingual (2) wall, this is an osseous defect with three walls in apical half and two walls in the occlusal half

CONTRA - INDICATIONS OF RESECTIVE OSSEOUS SURGERY

- ANATOMIC FACTORS SUCH AS CLOSE PROXIMITY OF ROOTS TO MAXILLARY ANTRUM OR RAMUS
- SYSTEMIC HEALTH
- IMPROPER ORAL HYGIENE
- HIGH CARIES INDEX
- EXTREME ROOT SENSITIVITY
- ADVANCED PERIODONTITIS
- UNACCEPTABLE AESTHETIC RESULTS



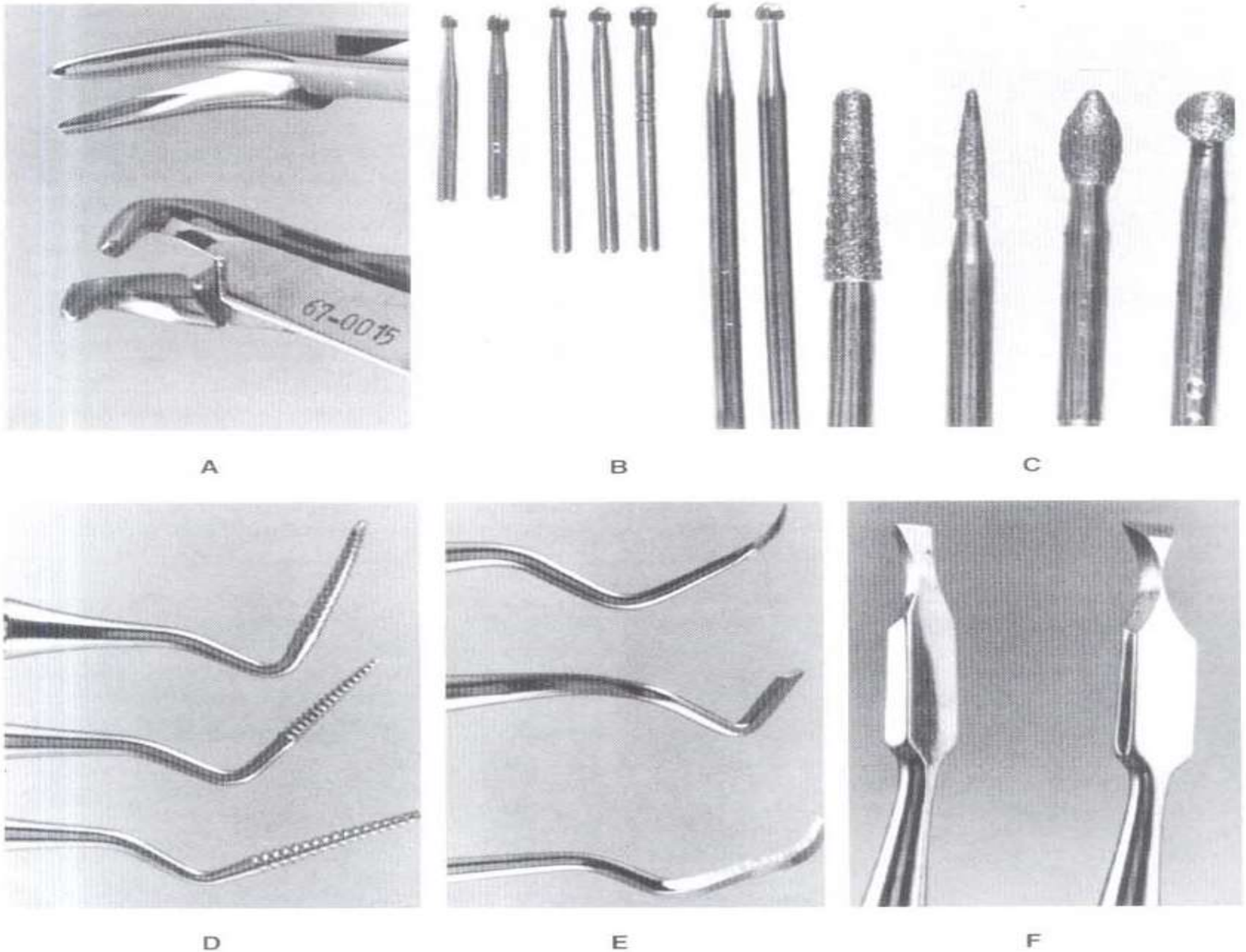


Fig. 62-8 Instruments often used in osseous surgery. **A,** Rongeurs: Friedman (top) and 90-degree Blumenthal (bottom). **B,** Carbide round burrs (left to right): friction grip, surgical-length friction grip, and slow-speed hand-piece. **C,** Diamond burrs. **D,** Interproximal files: Schluger and Sugarman. **E,** Back-action chisels. **F,** Ochsenbein chisels.

FACTORS IN SELECTION OF RESECTIVE OSSEOUS SURGERY

- POST-SURGICAL ARCHITECTURE:

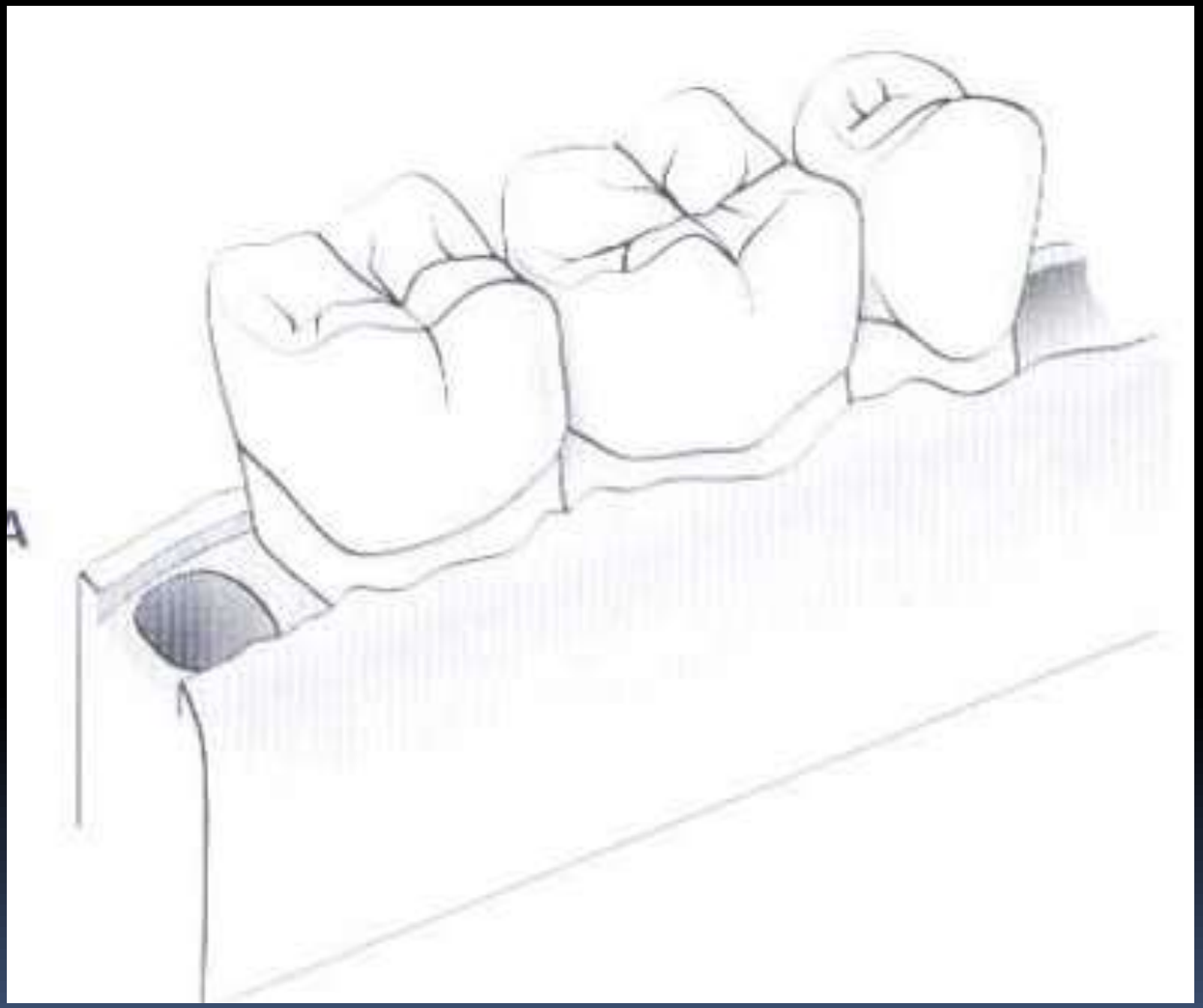
- OSTECTOMY TO A POSITIVE ARCHITECTURE REQUIRES REMOVAL OF WIDOW'S PEAKS
- SOME ATTACHMENT LOSS ON FACIAL AND LINGUAL ROOT SURFACES
- TOPOGRAPHICALLY MORE CLOSELY RESEMBLES NORMAL BONE FORM BEFORE DISEASE
- RESULTANT ARCHITECTURE IS CONDUCIVE TO THE FORMATION OF A MORE UNIFORM AND REDUCED SOFT TISSUE DIMENSION

EXAMINATION

- EVALUATION OF SIGNS AND SYMPTOMS OF PERIODONTITIS
- PERIODONTAL PROBING & EXPLORATION
- RADIOGRAPHIC EXAMINATION

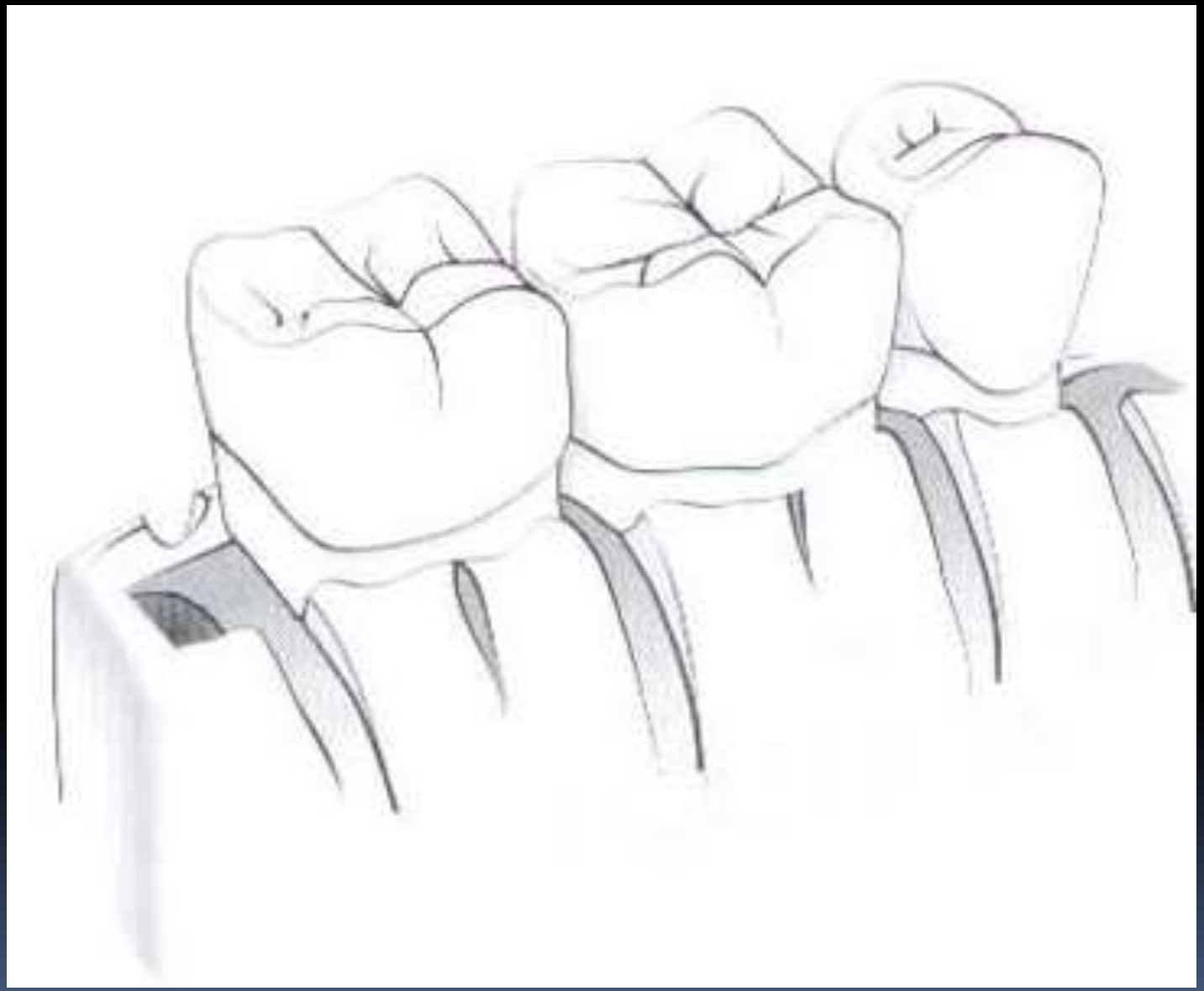
STEPS IN RESECTIVE OSSEOUS SURGERY

- Vertical grooving
- Radicular blending
- Flattening of interproximal bone
- Gradualization of marginal bone



VERTICAL GROOVING

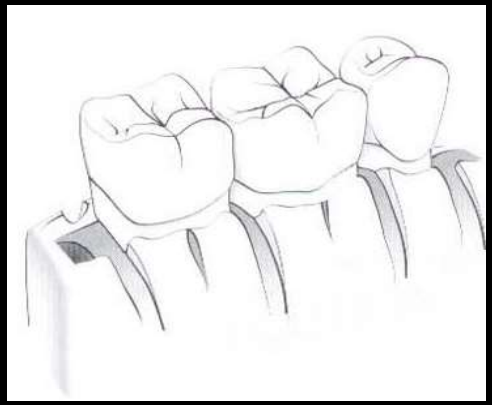
- It is designed to reduce the thickness of the alveolar housing and to provide relative prominence to the radicular aspects of the teeth
- It is first step of the resective process because it can define the general thickness of alveolar housing

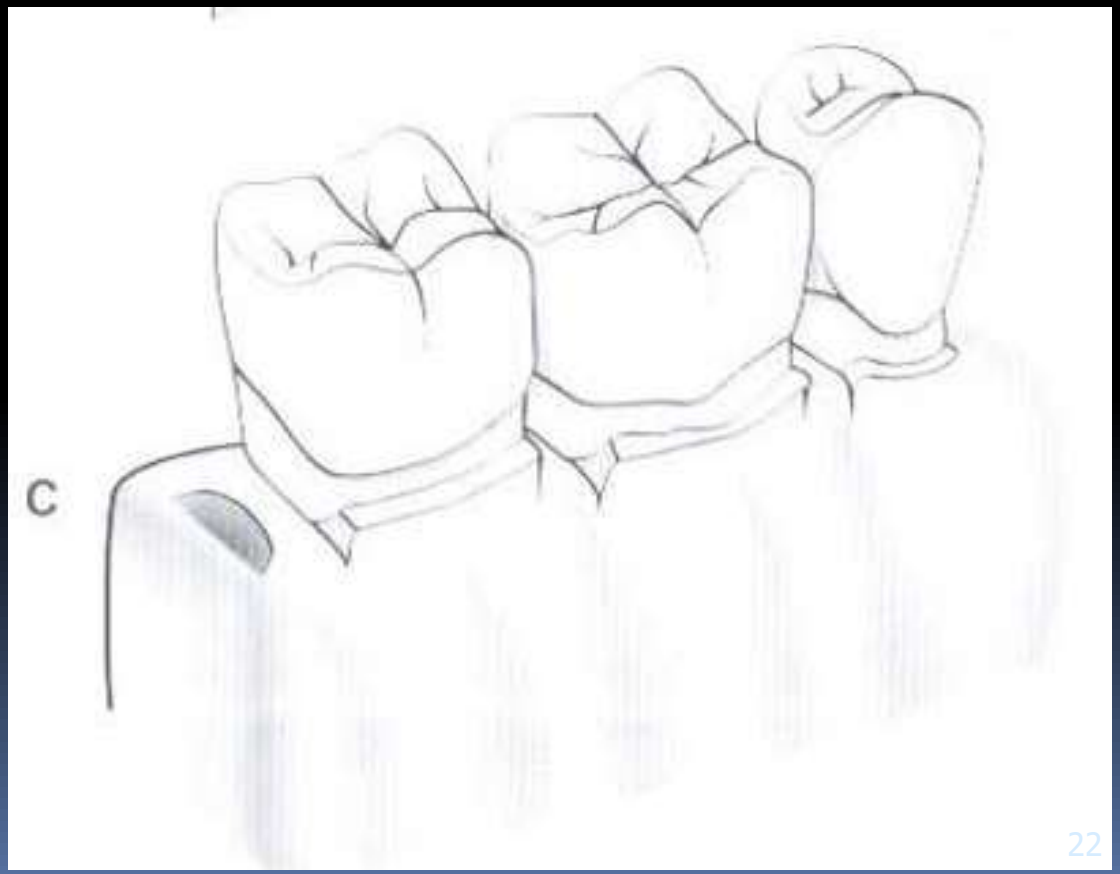


- This step is usually performed with rotary instruments such as round burs or diamonds.
- Vertical grooving is contraindicated in areas with close roots or thin alveolar housing

RADICULAR BLENDING

- It is the second step of the osseous reshaping extension of vertical grooving
- It is an attempt to gradualize the bone over the entire radicular surface to provide the best results from verical grooving

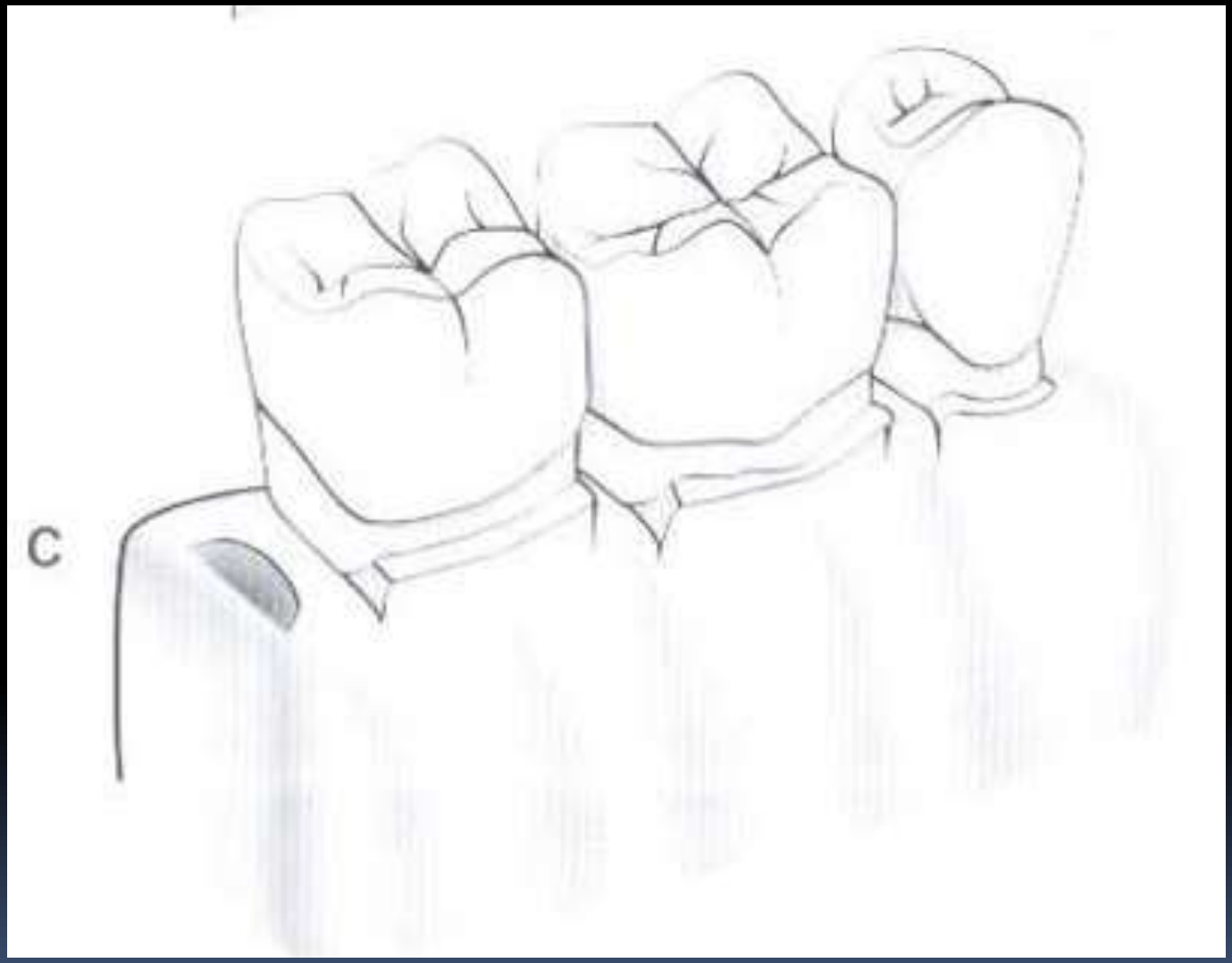



C

- This step provides a smooth, blended surface for good flap adaptation.
- This step is not necessary if the vertical grooving is very minor or if the radicular bone is thin.
- Both vertical grooving and radicular blending are purely osteoplastic techniques that do not remove supporting bone

FLATTENING INTERPROXIMAL BONE

- It requires the removal of very small amounts of supporting bone.
- It is indicated when interproximal bone levels vary horizontally.
- Best indication for this step are one walled interproximal defects or hemiseptal defects.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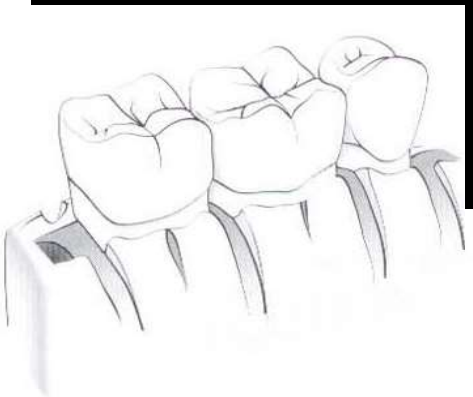
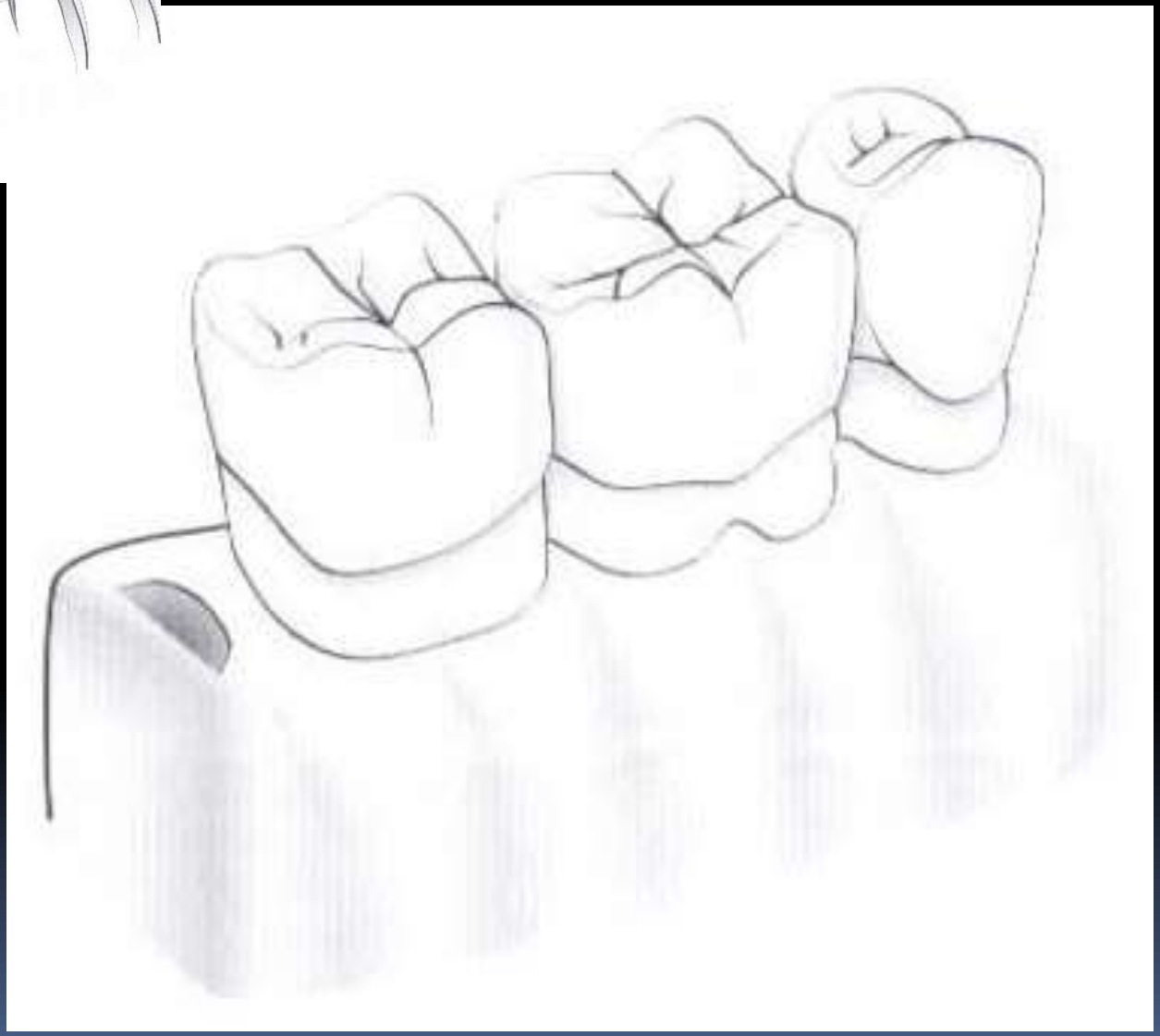
GRADUALIZATING MARGINAL BONE

- Final step in osseous reduction also a ostectomy process.
- Bone removal is minimal but necessary to provide a sound, regular base for the gingival tissue to follow





- Failure to remove small bony discrepancies on the gingival line angles (windows peaks) allows the tissue to rise to a higher level than the base of the bone loss in the interdental area.

FLAP PLACEMENT AND CLOSURE

- Flaps may be replaced to their original position to cover the new bony margin or they may be apically positioned.

POSTOPERATIVE MAINTENANCE

- Sutures may be removed at various time after placement.
- Nonresorbable sutures removed after 1 week of healing but newer synthetic material may be left for up to 3 weeks

(B) Resective Osseous Surgery

- Specific osseous re-shaping situations
  *next to edentulous region

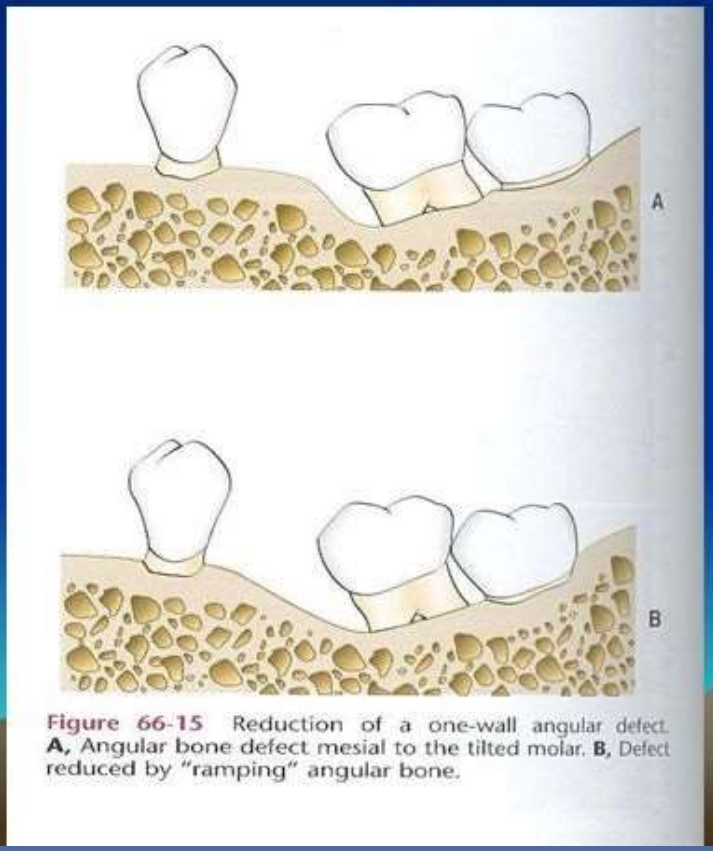


Figure 66-15 Reduction of a one-wall angular defect. **A,** Angular bone defect mesial to the tilted molar. **B,** Defect reduced by "ramping" angular bone.

Thank You