RESECTIVE OSSEOUS SURGERY

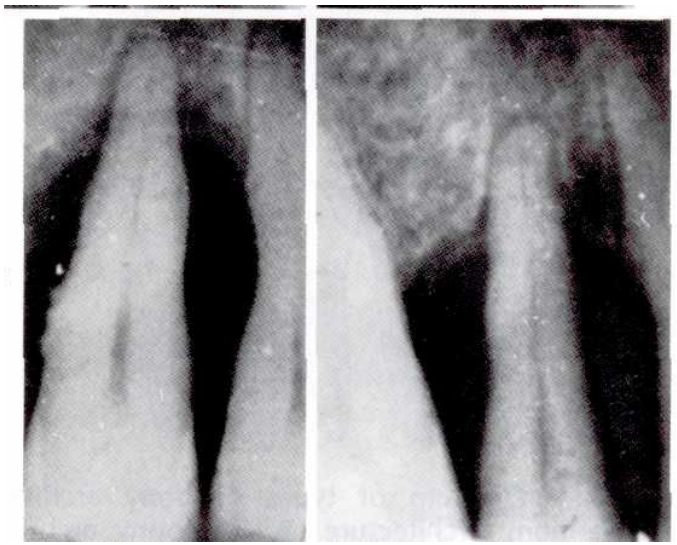
Osseous surgery

procedure by which changes in the alveolar bone -accomplished to ***rid it of*** deformities induced by the periodontal disease process or other related factors, such as exostosis and tooth supra eruption.

Osseous surgery

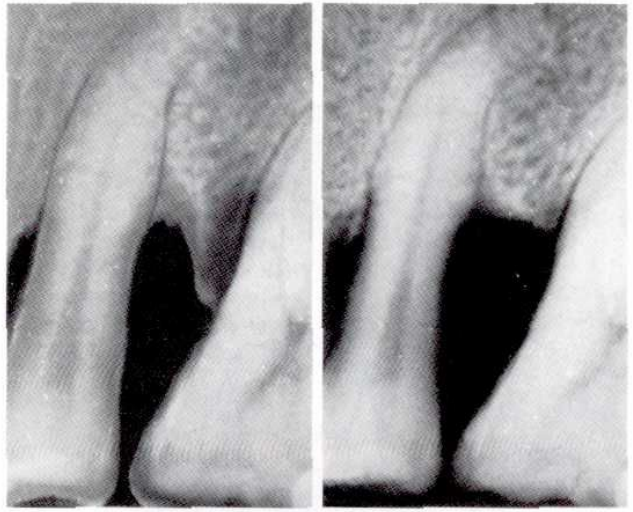
Additive Osseous surgery

restoring - alveolar bone - original level

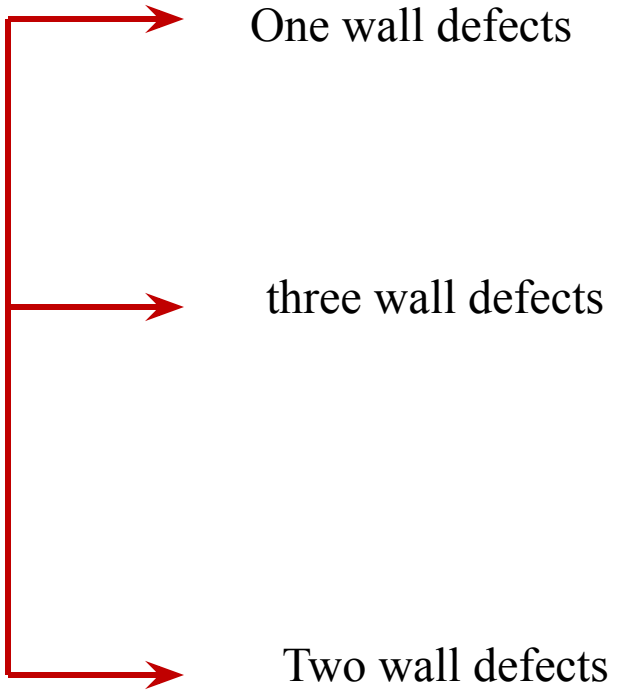


Subtractive Osseous surgery

restore - preexisting alveolar bone - level present - time of surgery or slightly more apical to this level



SELECTION OF TREATMENT TECHNIQUE

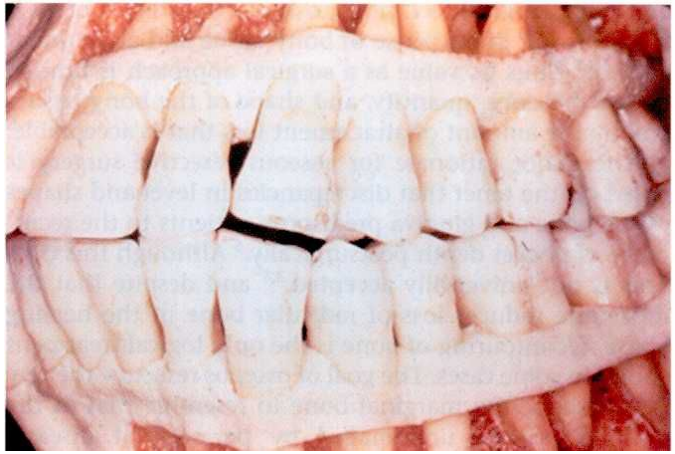


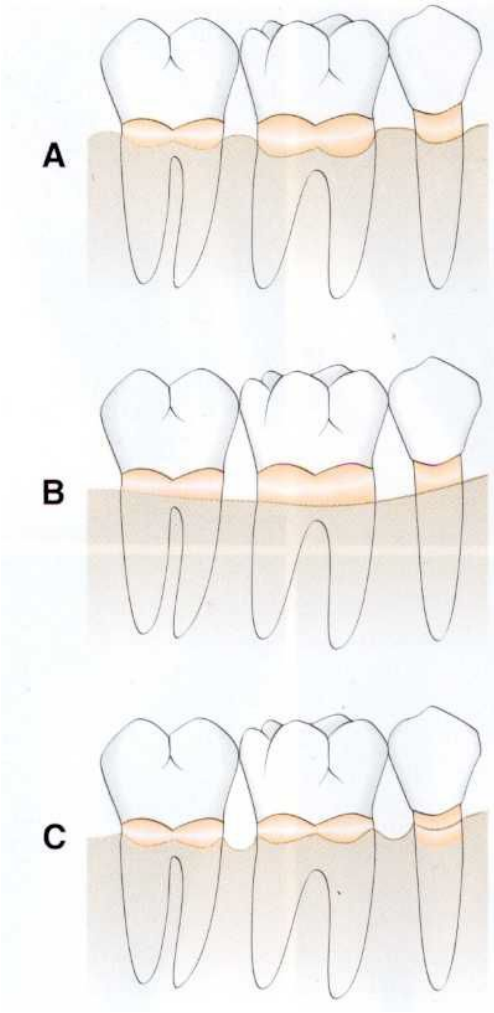
except for one-wall defects and wide, shallow two-wall defects, along with interdental craters, osseous defects - treated - objective - obtaining optimal repair - natural healing processes

RATIONALE

- Goal - osseous resective therapy - reshape - marginal bone - ***resemble*** -alveolar process ***undamaged*** by periodontal disease
- eliminates periodontal pocket depth - improves tissue contour - provide a more easily maintainable environment

NORMAL ALVEOLAR BONE MORPHOLOGY





Positive

Flat

Negative

TERMINOLOGY

Osteoplasty - *without* removing tooth-supporting bone

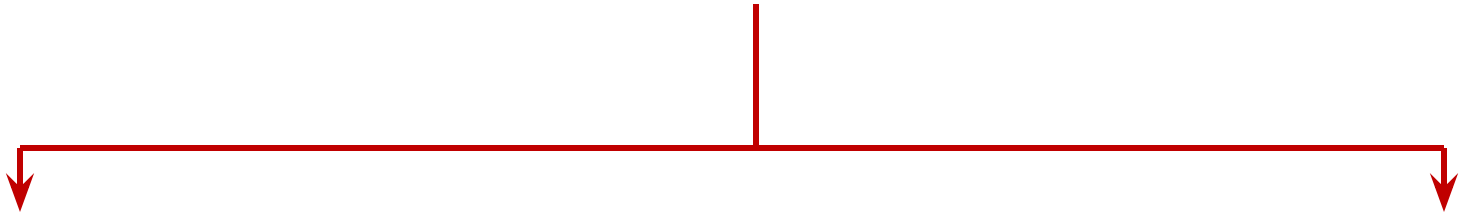
Ostectomy - *removal* of tooth-supporting bone

Definitive osseous reshaping implies- further osseous reshaping would not improve the overall result.

Compromise osseous shaping - bone pattern that cannot be improved without significant osseous removal that would be detrimental to the overall result

FACTORS IN SELECTION OF RESECTIVE OSSEOUS SURGERY

Relationship - depth and configuration of the bony lesion- root morphology and the adjacent teeth - extent that bone and attachment - removed – resection



technique - ostectomy - applied to patients - early to moderate bone loss (2-3 mm) - moderate-length root trunks - one or two walls

Patients - advanced attachment loss and deep intrabony detects - not candidates for resection to produce a positive contour

EXAMINATION AND TREATMENT PLANNING

Periodontal probing and exploration - key aspects - examination.

(1) pocket depth greater than that of a normal gingival sulcus

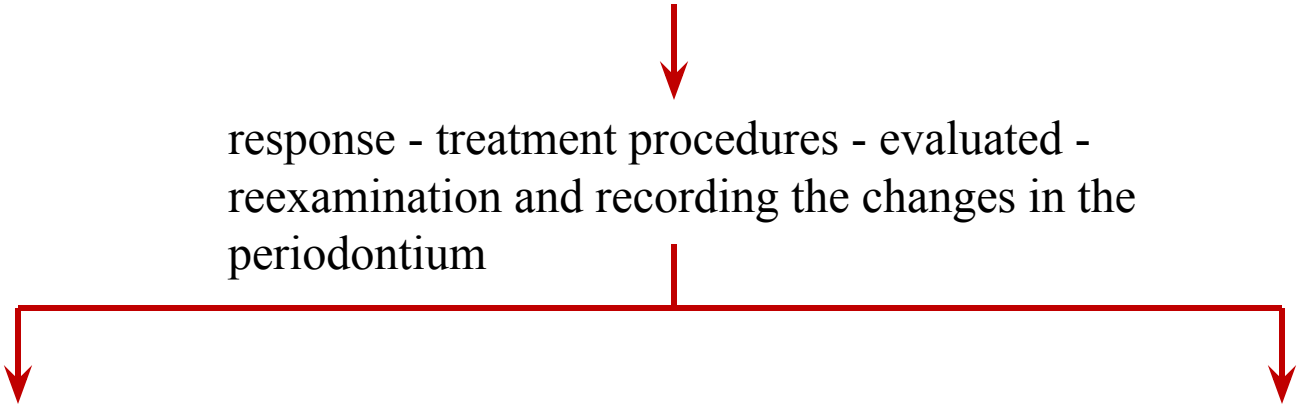
(2) the location of the base of the pocket relative to the mucogingival junction and attachment level on adjacent teeth

(3) the number of bony walls and

(4) the presence of furcation defects

treatment planning - provide solutions - active periodontal diseases and correction of deformities that result from periodontitis

oral hygiene instruction and scaling and root planing



response - treatment procedures - evaluated - reexamination and recording the changes in the periodontium

resolution of inflammation and decrease in edema and swelling

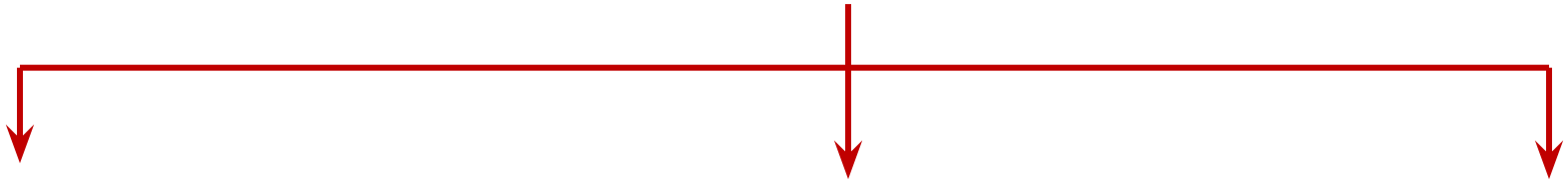
If the supragingival plaque control is good and the residual pocket depths are 5 mm or more - periodontal surgery.

Resective osseous surgery is also used to facilitate certain restorative and prosthetic dental procedures

METHODS OF RESECTIVE OSSEOUS SURGERY

- The reshaping process - attempt - gradualize the bone sufficiently - allow soft tissue structures - follow - contour of the bone

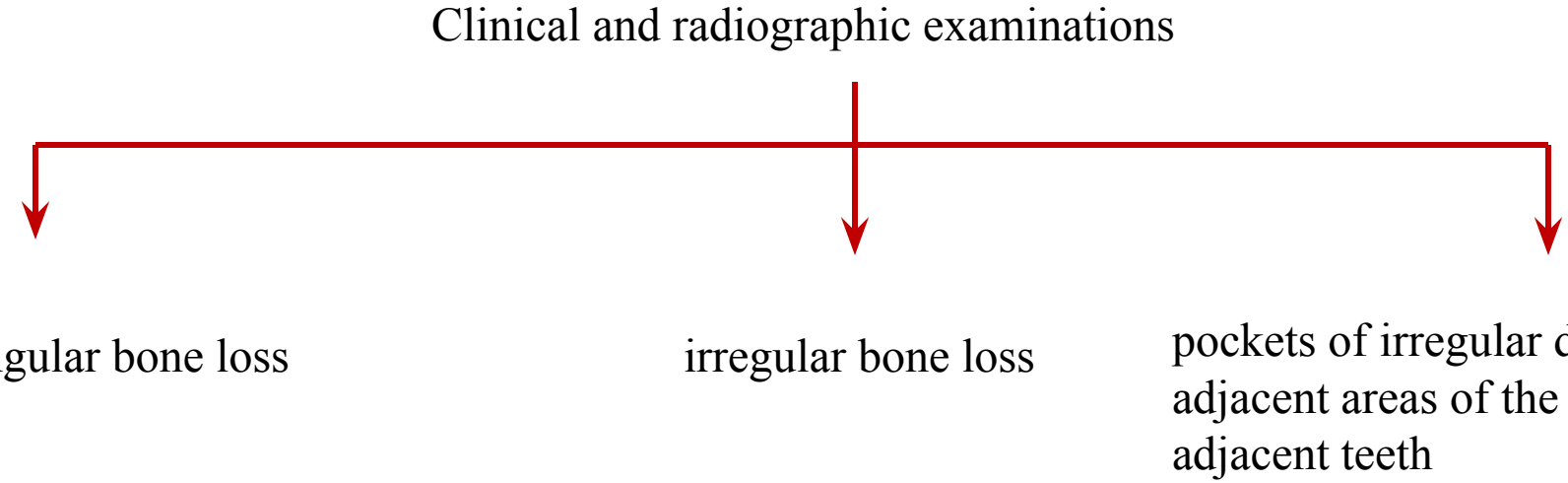
length and quality of connective tissue and junctional epithelium - reform -surgical site depend on



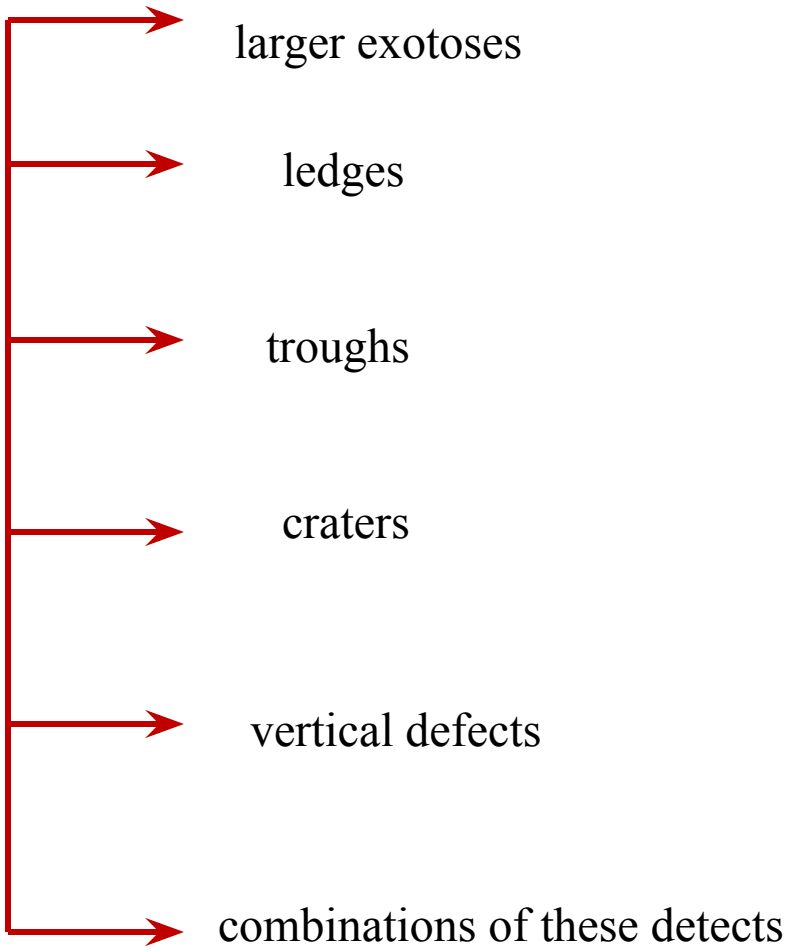
health of the tissue

condition and topography -root surface

proximity of the bone surrounding the tooth


Clinical and radiographic examinations
angular bone loss
irregular bone loss
pockets of irregular depth in
adjacent areas of the same toot
adjacent teeth

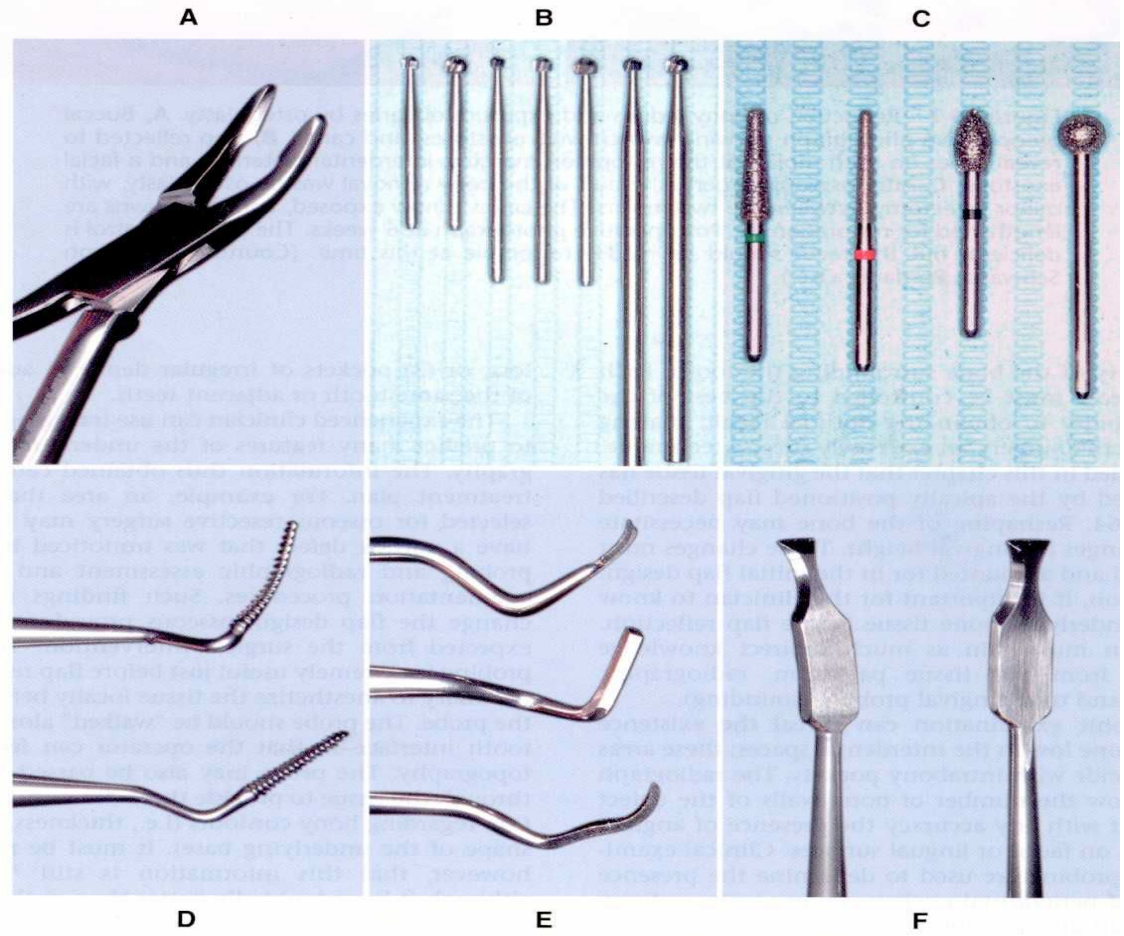
Removal of soft tissue



each osseous situation - uniquely challenging problems

OSSEOUS RESECTION TECHNIQUE

Instrumentation



A, Rongeurs ***B, Carbide round burs.*** C, Diamond burs. **D, Interproximal files:** Schluger and Sugarman. **E, Back-action chisels. F, Ochsenbein chisels**

STEPS

Vertical grooving

↓

Radicular blending

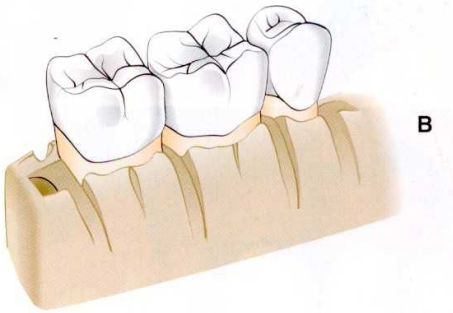
↓

Flattening interproximal bone

↓

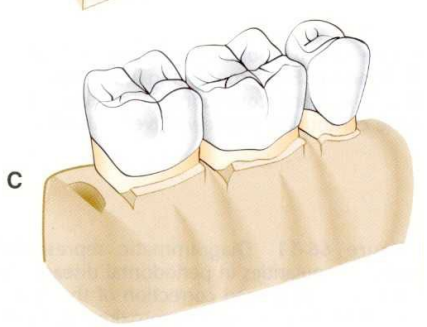
Gradulization of marginal bone

VERTICAL GROOVING



- reduce - thickness - alveolar housing and to provide relative prominence - radicular aspects of the teeth
- performed - rotary instruments, such as round carbide burs or diamonds
- thick bony margins, shallow crater formations, or other areas that require maximal osteoplasty and minimal ostectomy
- contraindicated in areas with close roots or thin alveolar housing

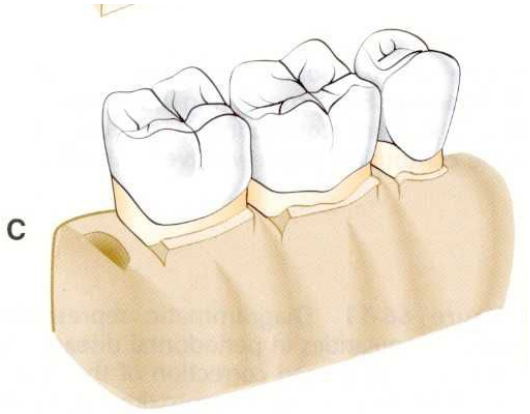
RADICULAR BLENDING



- Attempt - gradualize the bone over the entire radicular surface to provide the best results from vertical grooving.
- smooth, blended surface for good flap adaptation
- shallow crater formations, thick osseous ledges of bone on the radicular surfaces, and class 1 and early class II furcation involvements are treated almost entirely with these two steps

FLATTENING INTERPROXIMAL BONE

- removal of very small amounts of supporting bone
- one-walled interproximal defects



GRADUALIZING MARGINAL BONE

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

Interdental craters. **B, Vertical grooving, the first step in correction by osseous reshaping. C, Radicular** blending and flattening of interproximal bone. **D, Gradualizing the marginal bone**

FLAP PLACEMENT AND CLOSURE

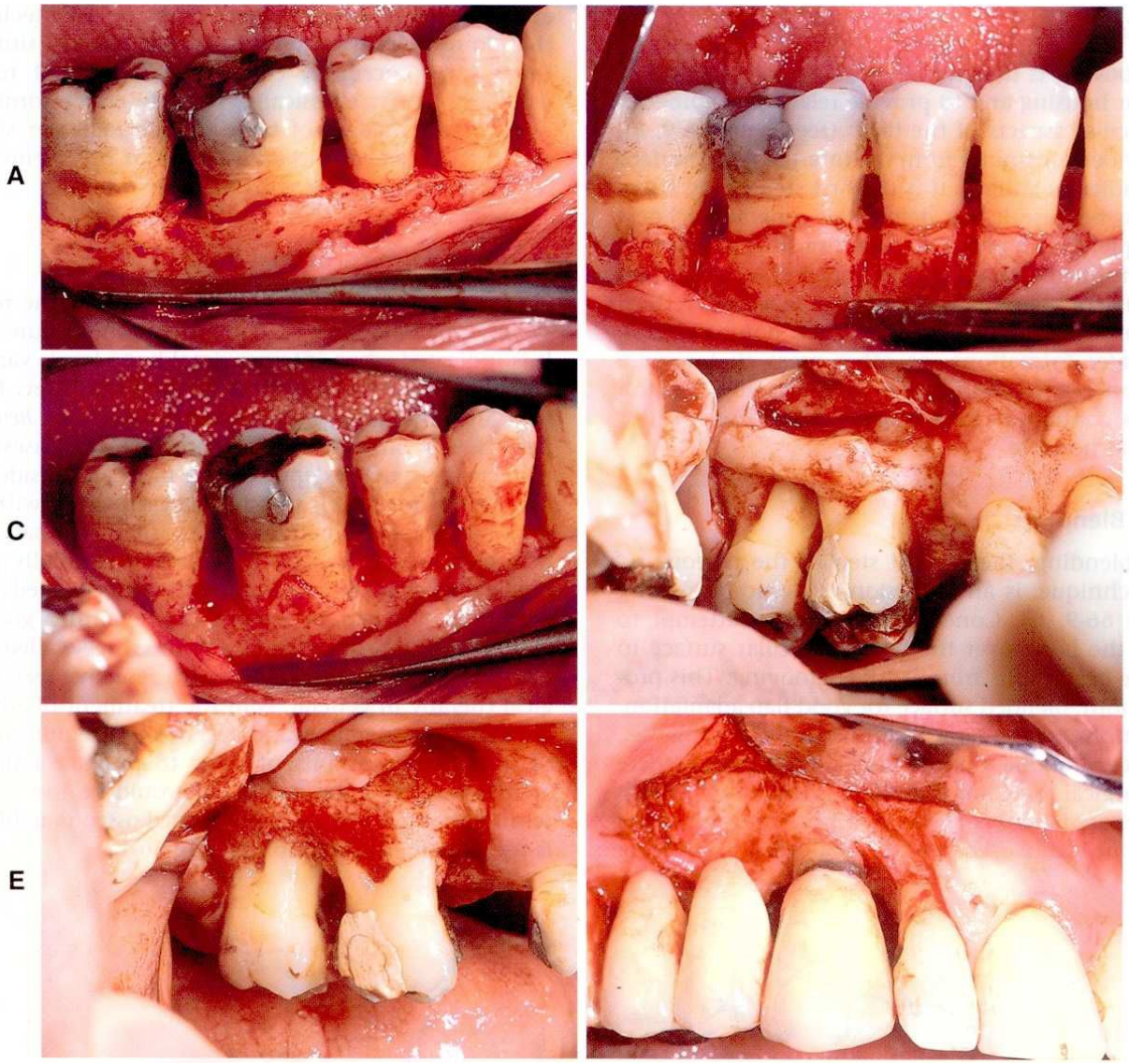
- Flaps - replaced to their original position, to cover the new bony margin, or they may he apically positioned
- sutures - placed with minimal tension to coapt the flaps, prevent their separation, and maintain the position of the flaps

POSTOPERATIVE MAINTENANCE

- Professional prophylaxis - complete plaque removal - every 2 weeks until healing is complete or the patient is maintaining appropriate levels of plaque control
- Healing - uneventfully, with the attachment of the flap to the underlying bone completed in 14 to 21 days.
- Maturation and remodeling can continue for up to 6 month

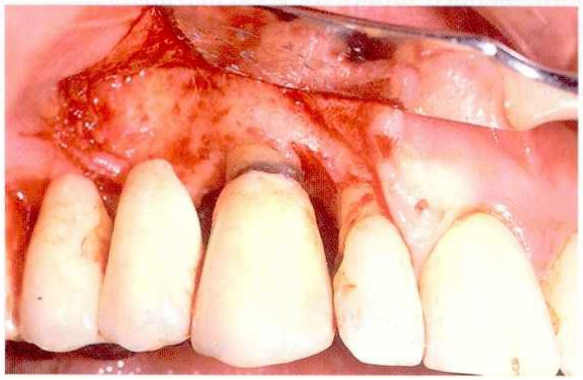
SPECIFIC OSSEOUS RESHAPING SITUATIONS

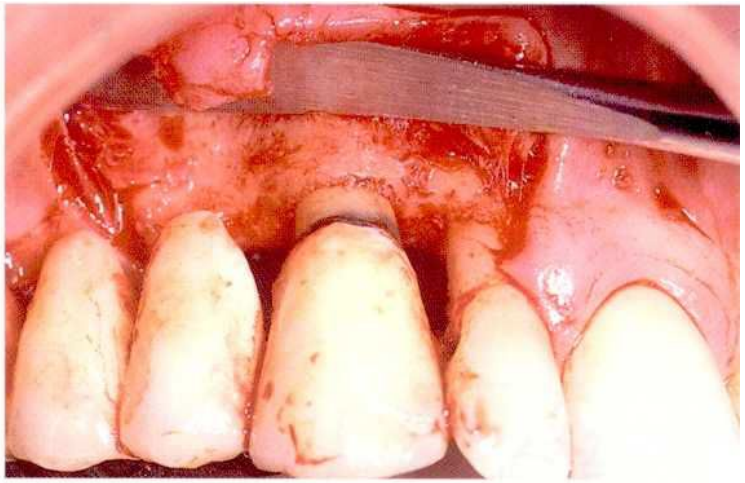
- Correction - one-walled hemiseptal defects - bone be reduced - level - most apical portion of the defect.
- The reduction should be made to remove the least amount of alveolar bone required to (1) produce a satisfactory form, (2) prevent the therapeutic invasion of furcations, and (3) blend the contours with the adjacent teeth.

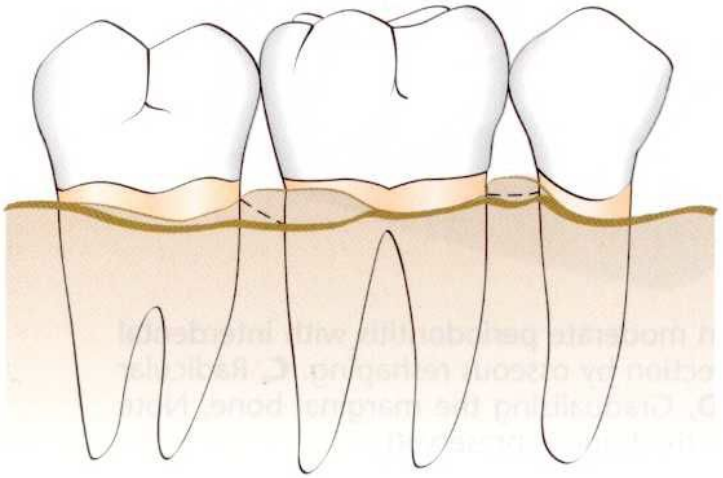


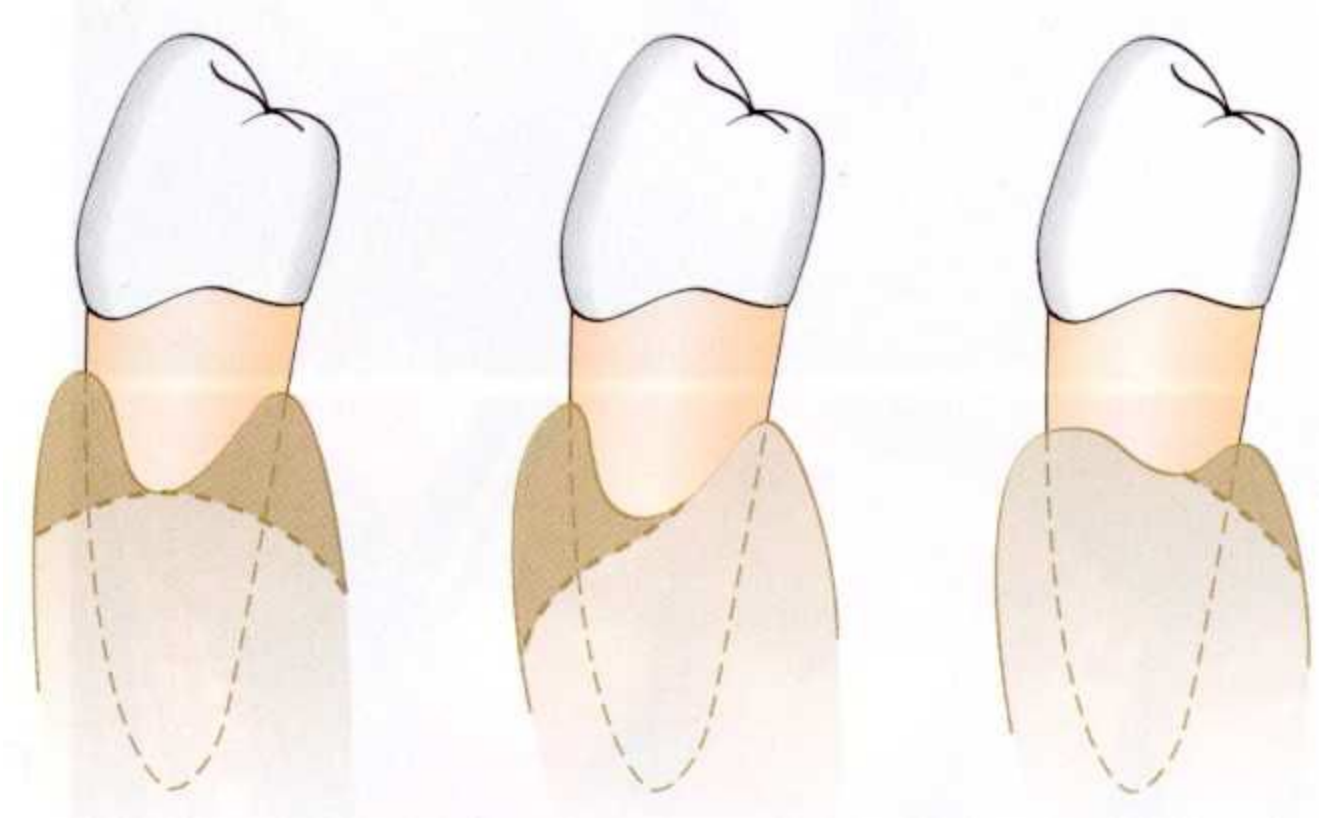
Bone contouring in flap surgery. **A, B,** and C, Bone contouring in interdental craters. **D and E, Bone contouring in exotoses.**

F and G, Bone contouring in one-wall vertical defect

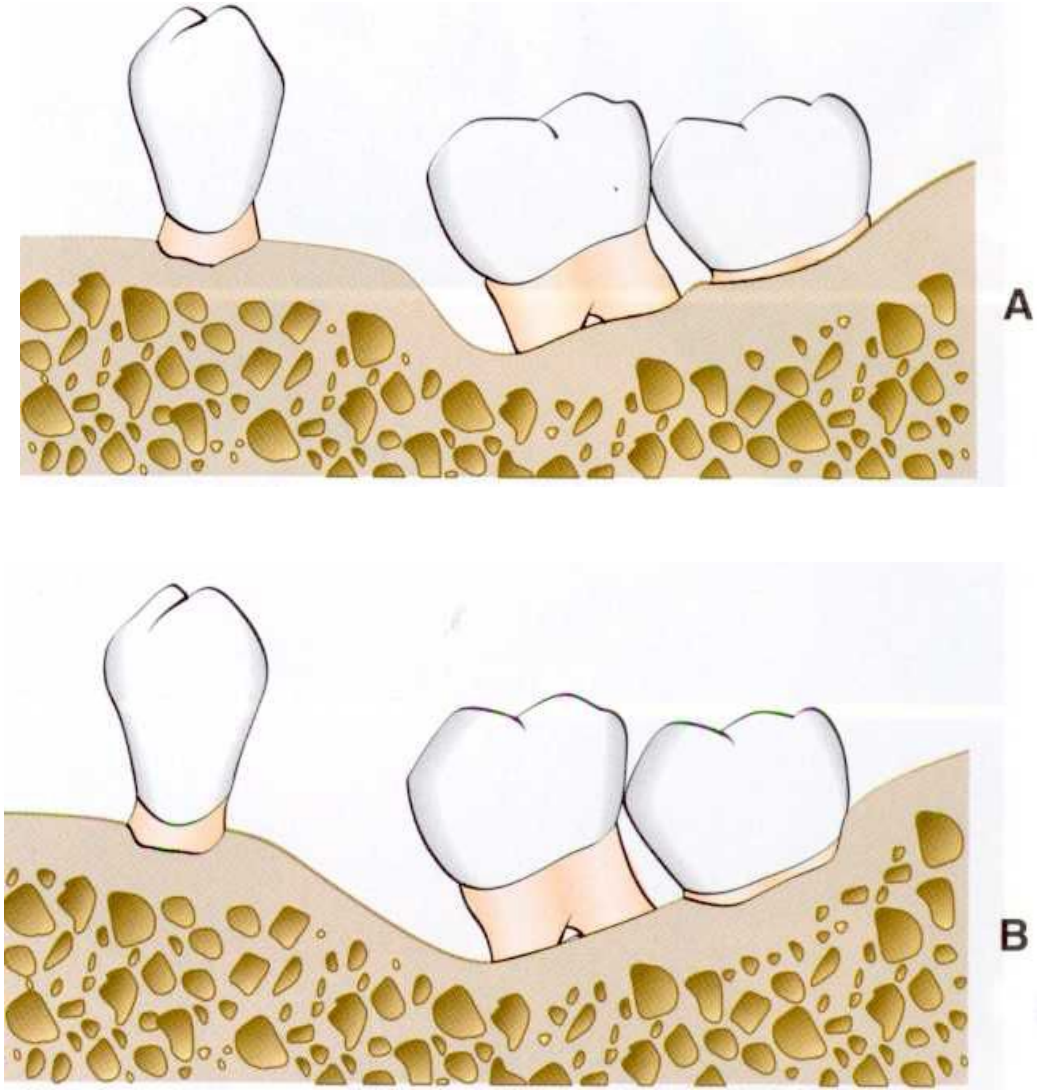








Interproximal craters. The shaded areas illustrate different techniques for the management of such defects. The technique that reduces the least amount of supporting bone is preferable

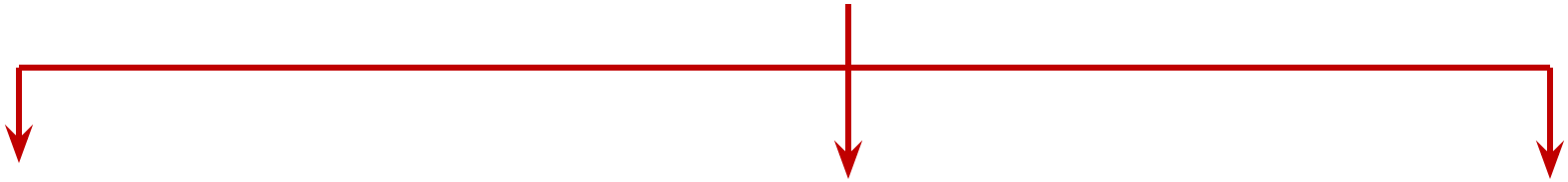


Reduction of a one-wall angular defect. **A,** Angular bone defect mesial to the tilted molar. **B, Defect** reduced by "ramping" angular bone.

SUMMARY

- When properly performed, resective osseous surgery - physiologic architecture of marginal alveolar bone conducive to gingival flap adaptation with minimal probing depth
- advantages of this surgical modality include a predictable amount of pocket reduction that **can enhance** oral hygiene and periodic maintenance.

osseous resection technique permits recontouring of bony abnormalities



hemiseptal defects

tori

ledges

Substantial benefits include

- proper assessment for restorative procedures (e.g., crown lengthening)
- Assessment of restorative overhangs and tooth abnormalities (eg, Enamel projections, enamel pearls, perforations, fractures).

Therefore, resective osseous surgery can be an important technique in the armamentarium necessary to provide a maintainable periodontium for periodontal patients.

THANK YOU