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FINISH LINE



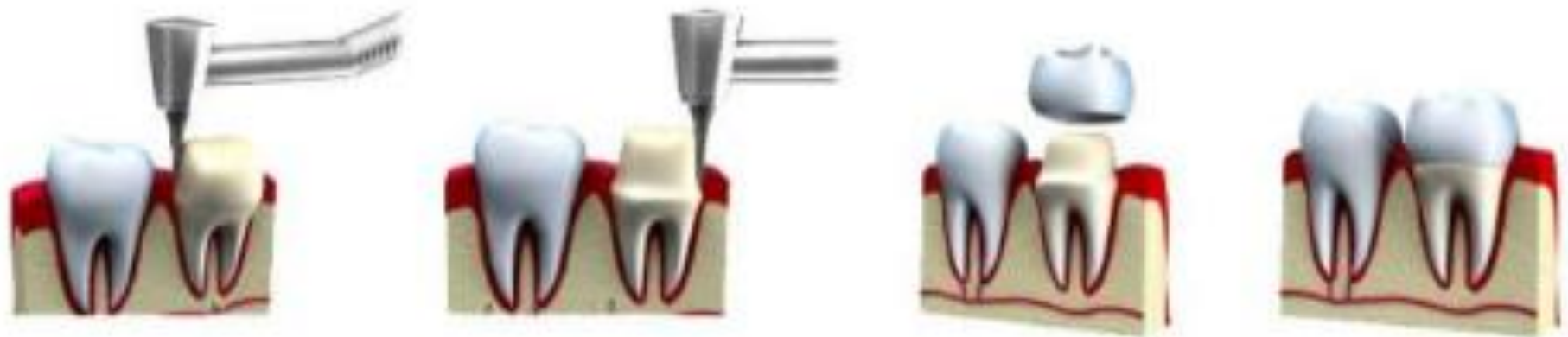
Introduction

- One of the basic tenets of restorative dentistry is to conserve as much tooth structure as possible consistent with the mechanical and esthetic principles of tooth preparation.



Introduction

- Restoration can survive in the biologic environment of the oral cavity only if the margins are closely adapted to the finish line of the preparation



Principles of tooth preparation

1. Preservation of tooth structure
2. Retention and resistance
3. Structural durability – Marginal geometry
4. Marginal integrity – Marginal adaptation
5. Preservation of the periodontium – Margin placement



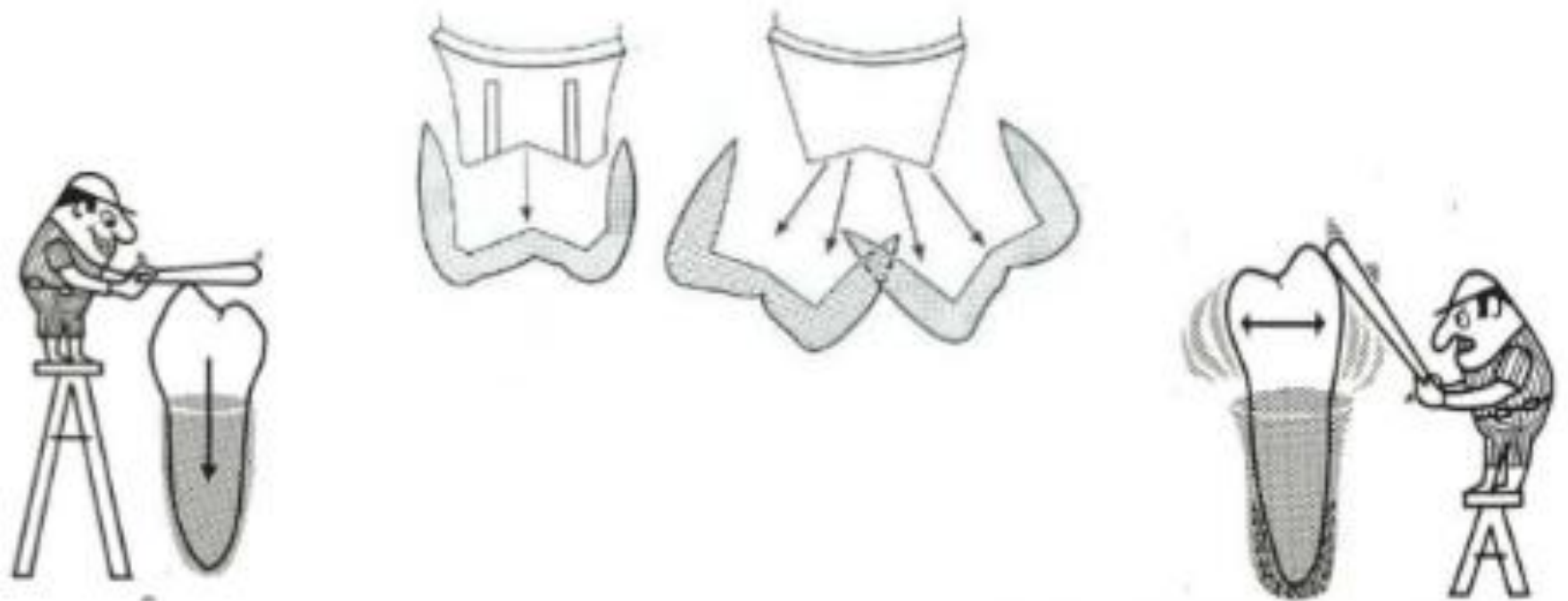
Preservation of tooth structure

- Avoid excessive destruction
- Design restoration to reinforce and protect remaining enamel and dentin



Retention & Resistance

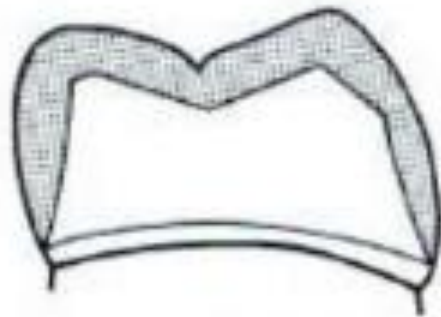
- Retention prevents removal of the restoration along the path of insertion or long axis .
- Resistance prevents dislodgement of the restoration by an apical/oblique forces



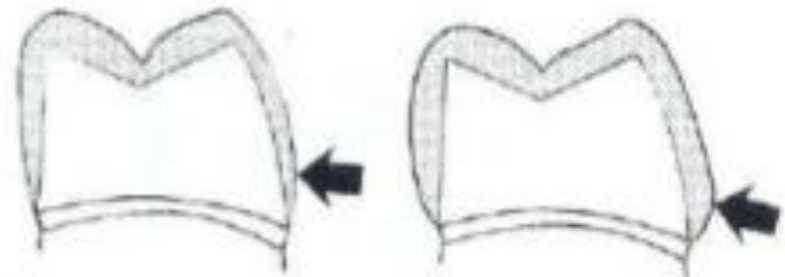
Structural durability

- Adequate space created by tooth preparation

Occlusal reduction



Axial reduction

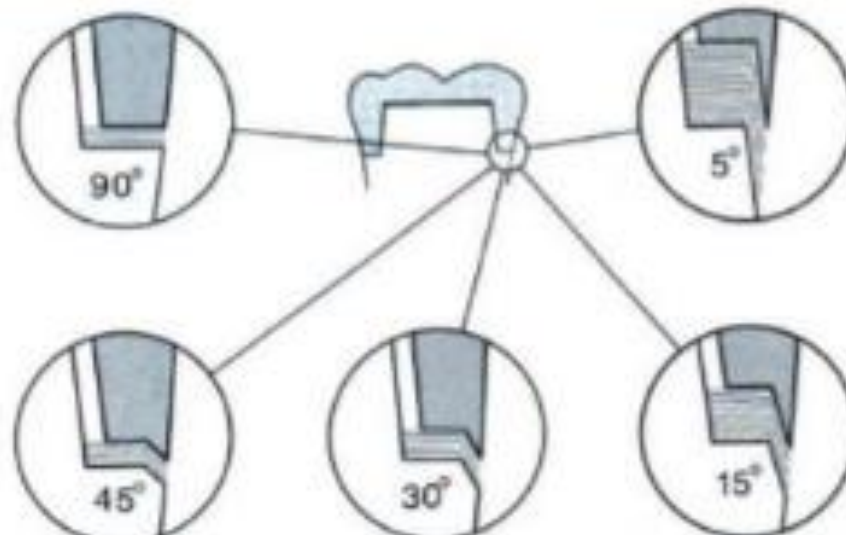


Marginal integrity

- Margins of restoration must be closely adapted to finish line of preparation
- Configuration of the preparation finish line dictates the shape of restorative material in the margin of the restoration

To bevel.....

....Not to bevel



Finish line in extracoronal restoration

Chamfer

Heavy chamfer

Shoulder

Sloping shoulder

Radial shoulder

Shoulder with bevel

Knife edge/ Feather edge

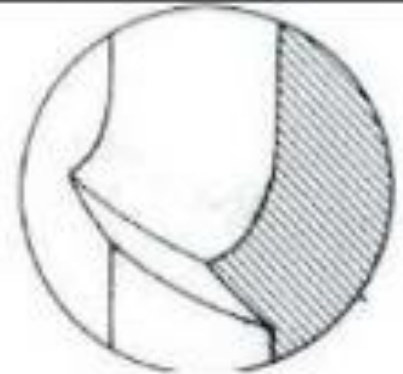
Chisel edge



Extracoronary restorations - Finish line configurations

- Finish line classification according to width
 - ❑ Marginal width less than 0.3mm - **Knife-edge/ feather edge**
 - ❑ Marginal width upto 0.3mm – **Chamfer**
 - ❑ Marginal width greater than 0.3mm - **Shoulder**

Chamfer



- GPT- A Finish line design for tooth preparation in which the gingival aspect meets the external axial surface at an obtuse angle.
- TYLMANN (1965): Concave extra coronal finish line that provides greater angulation than a knife-edge and less width than a shoulder.

Advantage	Disadvantage	Indication
<ul style="list-style-type: none"> • Distinct margin • Adequate bulk • Easier control 	<ul style="list-style-type: none"> • Care needed to avoid unsupported lip of enamel 	<ul style="list-style-type: none"> • Cast metal restoration • Lingual margin of metal ceramic



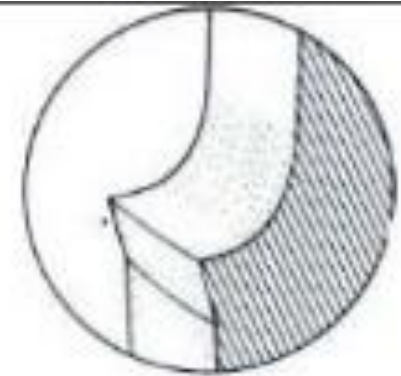
Round end taper



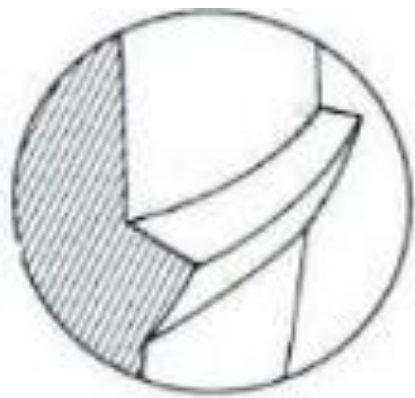
Round end taper

Bur

Heavy chamfer



- Provides 90 degrees cavosurface angle with a large radius rounded internal angle.
- A bevel can be added to the heavy chamfer for use with metal restoration.



Shoulder



- Finish line of choice for all-ceramic crown
- Wide ledge provides resistance to occlusal forces
- Produce the space for healthy restoration contours and maximum esthetic

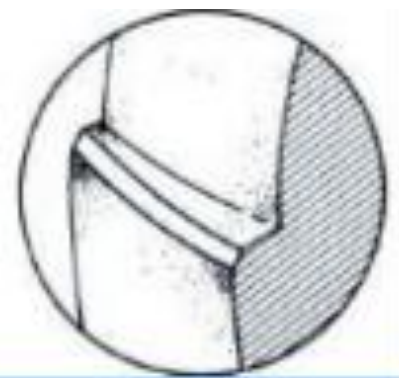
•Advantage	•Disadvantage	•Indication
•Bulk of restorative material	•Less conservative of tooth structure •Stress concentration at 90 degree internal angle of the finish line, hence conducive to coronal fracture	•Facial margin of metal ceramic crowns •Complete ceramic crown

Bur



Flat end taper

Shoulder with bevel

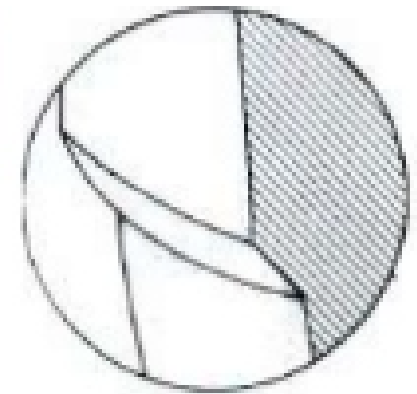
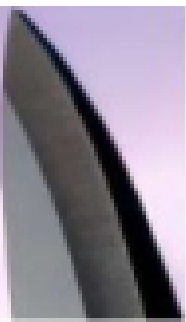


•Advantage	•Disadvantage	•Indication
•Bulk of material	•Less conservative, extend preparation apically	•Facial margin of posterior metal ceramic crowns with supragingival margin

❖ Uses –

- Gingival finish line on the proximal box of inlays and onlays
- Occlusal shoulder of onlays and mandibular three-quarter crowns
- Finish line for extremely short walls
- More destruction of tooth - **NOT USED** routinely for full veneer restorations

Knife edge/ Feather edge



- The ultimate finish line that permit an acute margin of metal
- Uses –
 - Lingual surface of mandibular posterior teeth
 - Very convex axial surfaces
 - Surface towards which tooth is tilted
- Disadvantage –
 - Axial reduction may fade out
 - Thin margins difficult to wax and cast
 - Overcontoured restorations