# Physiologic form of the teeth & the periodontium

The form of the teeth & their arrangement are closely related to:

1. Prehension, incision, & crushing (mastication) of food.
2. Protection of the supporting structures (periodontium).
3. Jaw movements.

There are many factors that help in preserving teeth & aid in their self-cleansing ability:

1. Smooth rounded contour of the crown.
2. Mechanical abrasion of food during mastication.
3. Washing action of saliva.
4. Mechanical cleaning of cheek, tongue, & toothbrush.
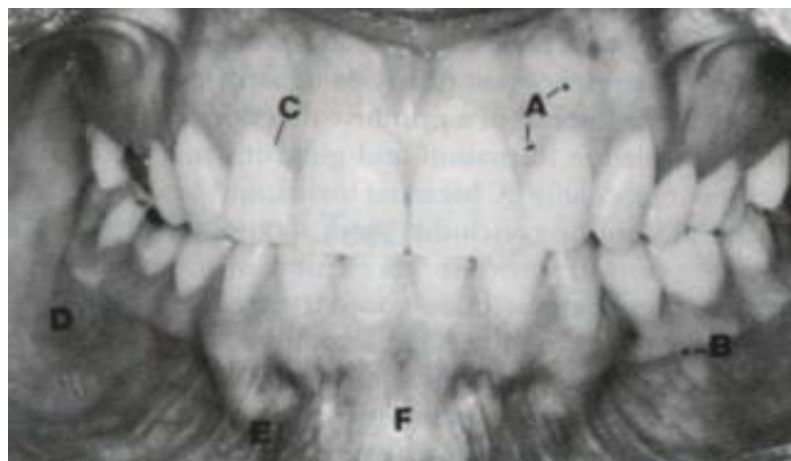
Proximal contact areas

It is the area of the mesial or distal surface of a tooth, which touches its neighbor in the arch. Soon after the alignment of all of the teeth in their positions in the jaws takes place, their should be a positive contact relation mesially & distally of one tooth to another in the same arch. Each tooth has two contacting members adjoining it. Except for the last molar, this is in contact only with the tooth mesial to it.

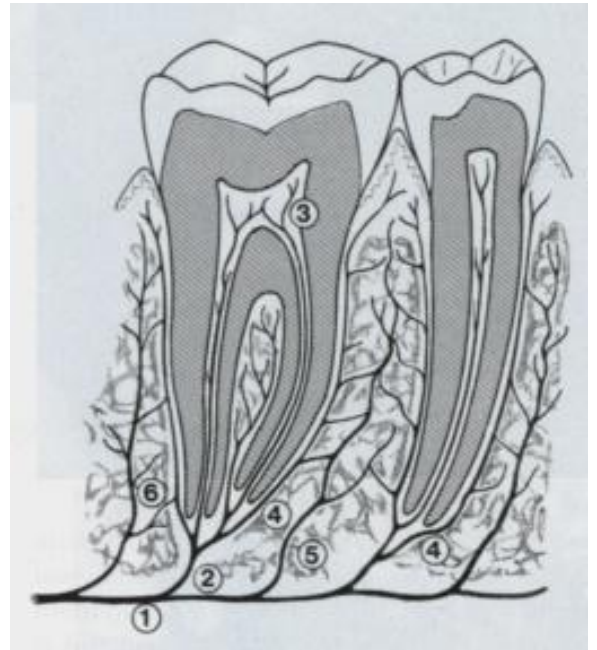The contact of each tooth with the adjacent teeth has important functions:
1. It helps prevent food impaction between the teeth, which can lead to decay & periodontal problem.
2. It protects the interdental papillae of the gingival by shunting food toward the buccal & lingual areas.
3. It helps to stabilize the dental arches by the combined anchorage of all the teeth in either arch in positive contact with each another.

Interproximal spaces

It is the triangular space between adjacent teeth cervical to their contact. It is formed by proximal surfaces in contact. The base of the triangle is the alveolar process; the sides of the triangle are the proximal surfaces of the contacting teeth, & the apex of the triangle is in the area of contact. This space normally filled with gingival tissue (gingival or interdental papilla). Sometimes this interproximal space is referred to as the *cervical embrasure* or the *gingival embrasure*.

The interproximal space has the following functions:

- Normal anatomic form of the teeth with proper contact & alignment of adjoining teeth allowing proper spacing between them for the normal bulk of gingival tissue attached to the bone & teeth.
- Since the teeth are narrower at the cervix mesiodistally than they are toward the occlusal surfaces & since the outline of the root continues to taper from that point to the apices of the roots, considerable spacing is created between the roots of one tooth & the roots of adjacent teeth. This arrangement allows sufficient bone tissue between one tooth & another, anchoring the teeth securely in the jaws. It provides a space for good blood & nerve supply to the surrounding alveolar process & other investing tissues.

Embrasures (spillways)

It is V-shaped spillway space adjacent to the contact area formed by the curvatures of two adjacent contacting teeth.

- **Labial or buccal & lingual interproximal embrasures:**

The spaces that widen out from the contact area labially or buccally & lingually. These embrasures are continuous with the interproximal spaces between the teeth.
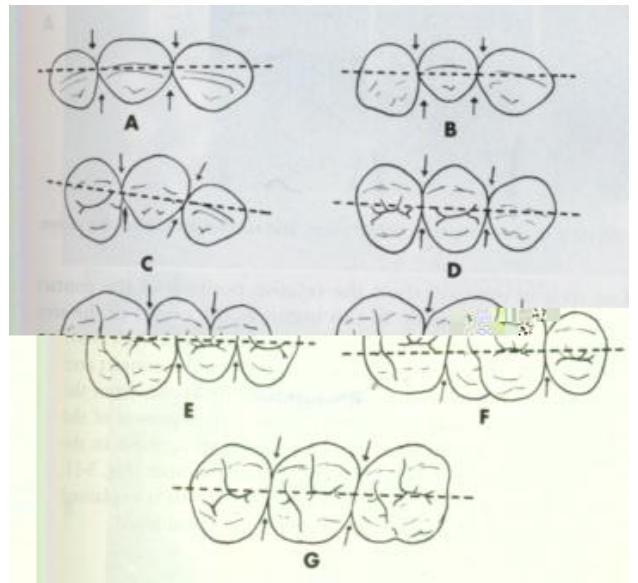
- **Incisal or occlusal embrasures:**

The spaces that widen out from the contact areas incisally or occclusally, which are bounded by the marginal ridges as they join the cusps & incisal ridges. These embrasures are continuous with the labial or buccal & lingual embrasures are continuous.

This embrasure form serves two purposes:
1. It makes a spillway for the escape of food during mastication, that help to reduce forces applied on the teeth.
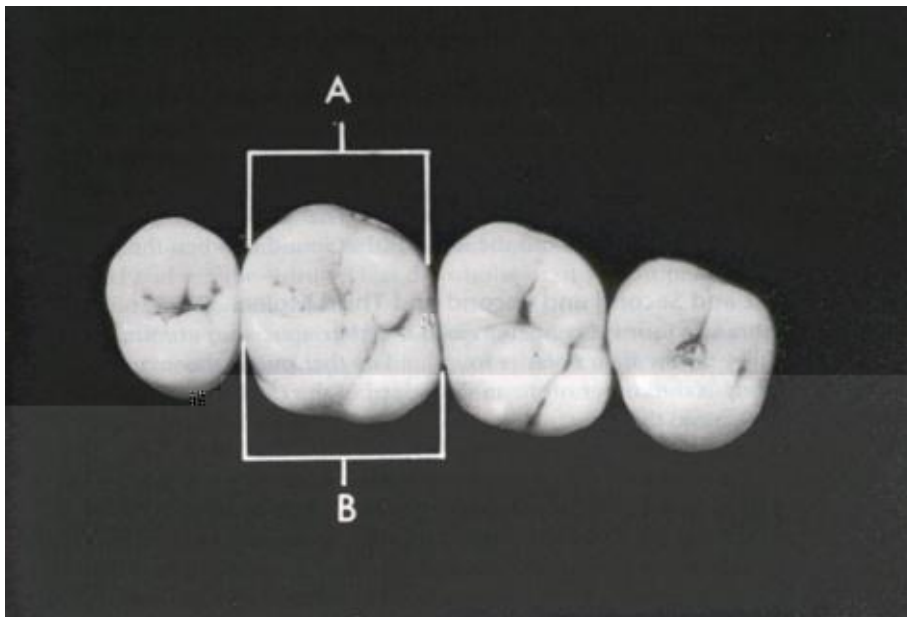2. It prevents food from being forced through the contact area.
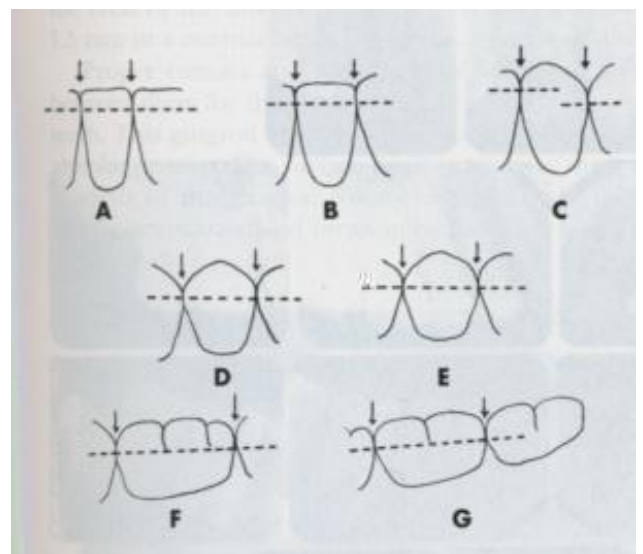
Facial & lingual contours at the cervical thirds (cervical ridges) & lingual contours at the middle thirds of the crown:

The uniform curvatures at the cervical thirds and at the middle thirds of the crown labially or buccally & lingually, depending on the teeth being examined. These curvatures are sometimes called protective contours or curvatures.

They thought to be helpful in:
1. Protection of the gingiva from trauma.
2. Stimulation of the gingiva.

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