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## **“Monday Morning Pearls of Practice by Bobby Baig”**

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### **Papilla Loss around Teeth:**

The gingival papilla is the tissue that fills the embrasure space between adjacent teeth. The interproximal bone, tooth morphology and adjacent tooth contact points influence size and shape of gingival papilla.

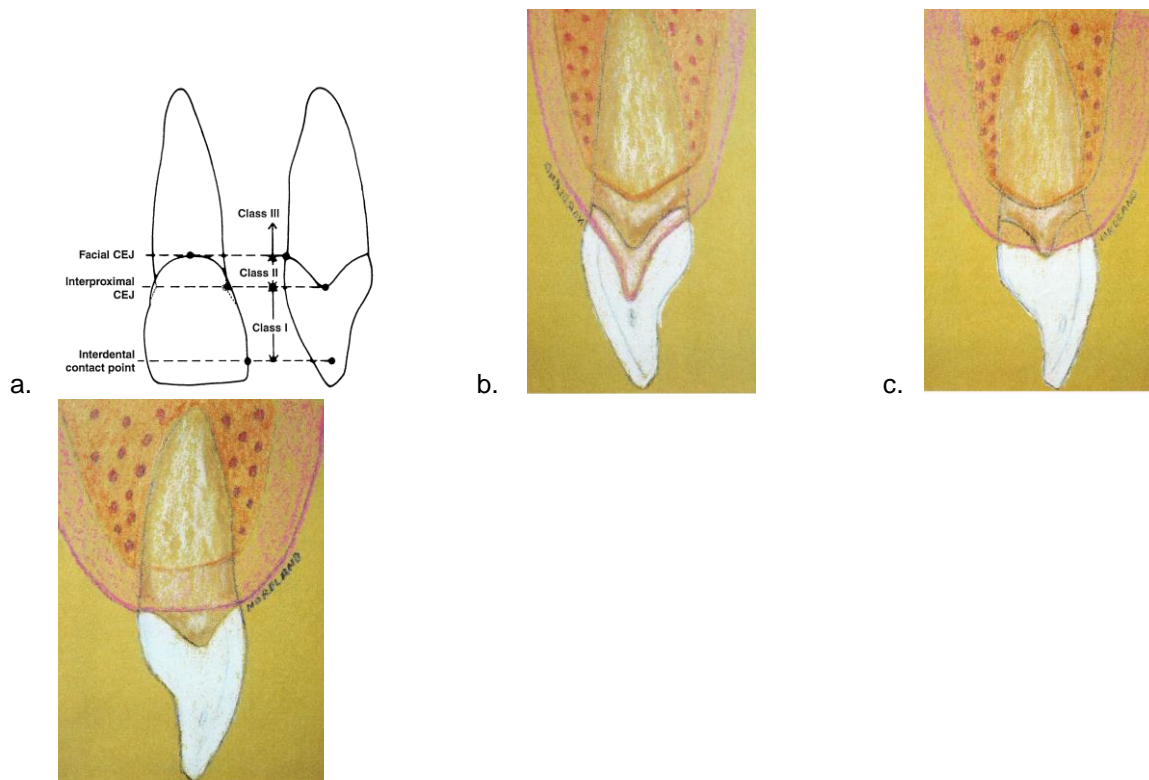
#### **Cohen 1959:**

First described the papilla and col. Papilla is composed of keratinized stratified squamous epithelium and the col consists of reduced enamel epithelium that is nonkeratinized or parakeratinized and, therefore, the weakest link and susceptible to breakdown.

#### **Nordland et al; 1998:**

Classification systems have attempted to identify and describe the loss of papillary height around natural teeth.

- **Normal:** Interdental papilla fills embrasure space to the apical extent of the interdental contact point/area.
- **Class I:** The tip of the interdental papilla lies between the interdental contact point and the most coronal extent of the interproximal CEJ. (Interproximal CEJ is not visible)
- **Class II:** The tip of the interdental papilla lies at or apical to the interproximal CEJ but coronal to the apical extent of the facial CEJ. (Interproximal CEJ is visible)
- **Class III:** The tip of the interdental papilla lies level with or apical to the facial CEJ.



**Interproximal view: Class 1: a, Class 2: b, Class 3: c.**

Open gingival embrasures can develop because of aging, periodontal disease, loss of interproximal alveolar bone height, interproximal contact point alterations, root malposition and triangular-shaped crowns.

**Tarnow et al: 1992**

- Loss of papilla, especially in the esthetic zone, leads to the appearance of black triangles, which are not only unaesthetic but also promote plaque accumulation and debris retention.
- The loss of gingival papilla can adversely affect the health of the periodontium.
- The presence of interproximal papilla depends on the distance between the bone crest and interproximal contact.
- When the distance from the contact point to the crest of bone was 5 mm or less, the papilla was present almost 100 percent of the time.
- When the distance was 6 mm, the papilla was present 56 percent of the time.
- When the distance was 7 mm or more, the papilla was only present 27 percent of the time or less.
- The periodontal biotype has also been suggested as a factor that influences the presence of interdental papilla.

**Papilla Management:**

- Papilla loss around natural teeth can be managed surgically and non-surgically.
- Non-surgical management includes orthodontic, restorative and prosthetic procedures.

### Orthodontic Treatment:

- Can be used to reposition roots and reduce gingival embrasures, lengthen contact points and move the papilla apically, thus enhancing papilla fill.

### Restorative Treatment:

- Through the use of provisional crowns, for example, can facilitate interdental tissue conditioning before delivery of definitive restorations.
- Refinement of provisional crowns can induce creeping papilla formation and alteration of interproximal contours of adjacent teeth.
- Using composites, for example, can apically reposition the contact point reducing the embrasure space. Prosthetic procedures can mimic lost interdental papillae using pink porcelain or resin.

### Surgical Management:

- There are myriad surgical options available for the reconstruction of interdental papillae.
- These procedures include gingival grafts, palatal roll techniques, pedicle flaps and sub epithelial connective tissue grafts with or without apically repositioned flaps.
- Complete and predictable restoration of lost interdental papilla is one of the biggest challenges in periodontal reconstructive surgery.

### Conclusion:

The vast majority of publications researching this topic are limited case reports. Currently, there are no surgical procedures that can predictably restore the lost gingival papilla around teeth.

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