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2017 WORLD WORKSHOP

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Periodontology



Dental prostheses and tooth-related factors

Carlo Ercoli¹ | Jack G. Caton²

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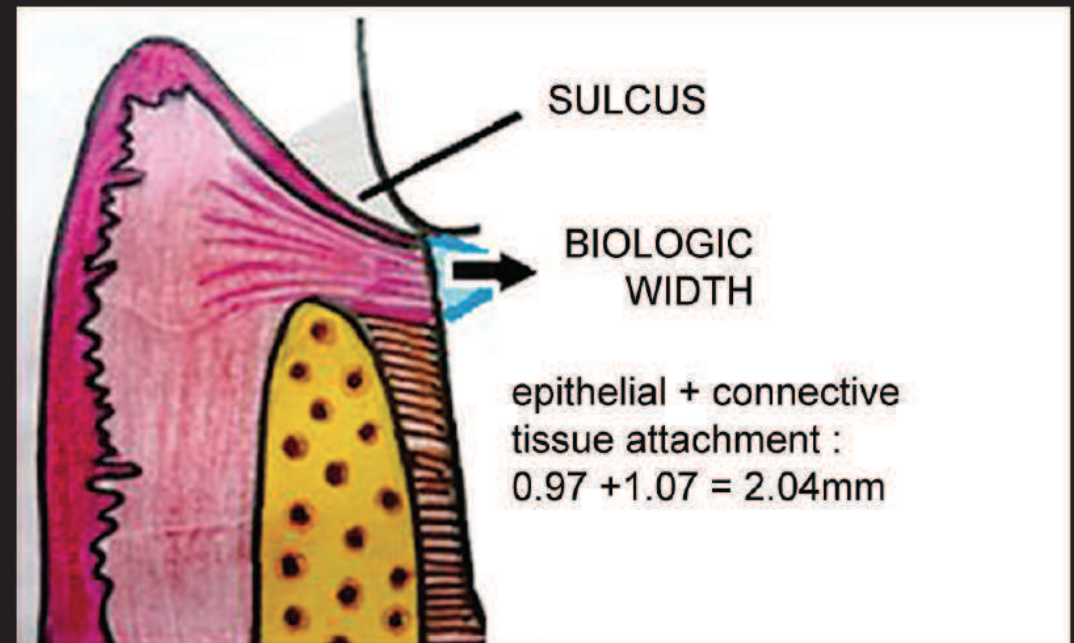
Dental prostheses and tooth-related factors

Carlo Ercoli¹ | Jack G. Caton²

- **Objective of Article** : reviews the role of **tooth-related factors** and **dental prostheses** on the initiation and progression of gingivitis and periodontitis
- **Materials and Methods** : PubMed database was searched for the time period from 1947 up to April 2017.

Results

Biologic width (BW)



Placement of restoration margins within the junctional epithelium and supracrestal connective tissue attachment can be associated with **gingival inflammation** and potentially **recession**, and **histologic evaluation** of these sites demonstrated **crestal bone loss and supracrestal connective tissue remodeling** within 0 to 8 weeks.

Fixed dental restorations and prostheses

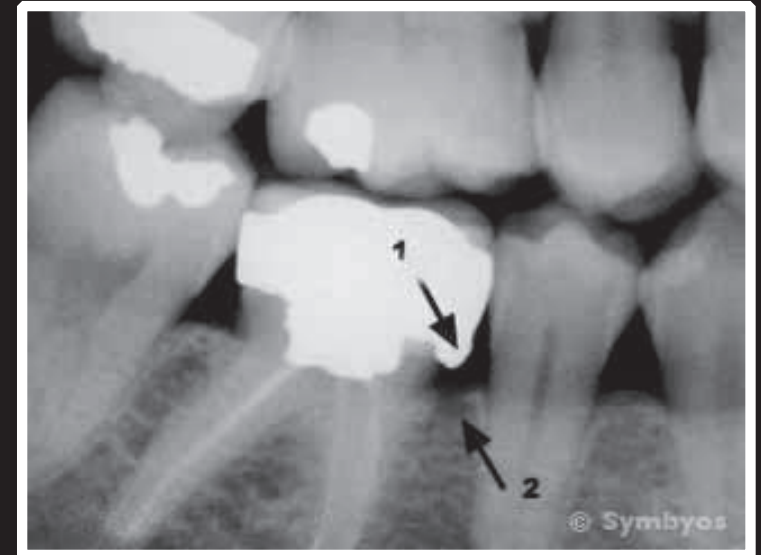
class II restorations :

gingival inflammation is significantly greater around subgingival margins compared with supragingival margins

Overhanging amalgam restorations :

- 1- gingival inflammation
- 2- Crestal bone loss
- 3- increased probing depth (PD) and bleeding on probing (BOP)

Removal of overhangs during scaling and root planing (SRP) causes resolution of gingival inflammation and decrease in PD



Fixed dental restorations and prostheses

Removable dental prostheses :



The presence of fixed prostheses finish lines within the gingival sulcus is partially, removable dental prostheses does not cause gingivitis if patients are compliant with **self-performed plaque control** and **periodic maintenance**. However, hypersensitivity reactions to the prosthesis dental material can be present. Procedures adopted for the fabrication of dental restorations and fixed prostheses have the potential to cause traumatic loss of periodontal supporting tissues.

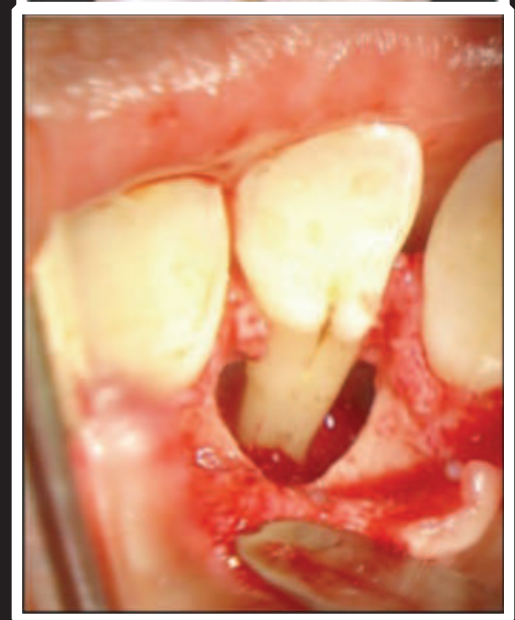
Tooth Anatomy and Position

Cervical enamel projections (CEP) and enamel pearls (EP) :

- Tooth anatomic factors, have been associated with furcation invasion, increased PD, and loss of clinical attachment.
- act as **plaque-retentive factors** and increase the likelihood of gingivitis and periodontitis

Developmental grooves :

The most frequent developmental groove appears to be the palatal groove, most often located in the **maxillary lateral incisor**



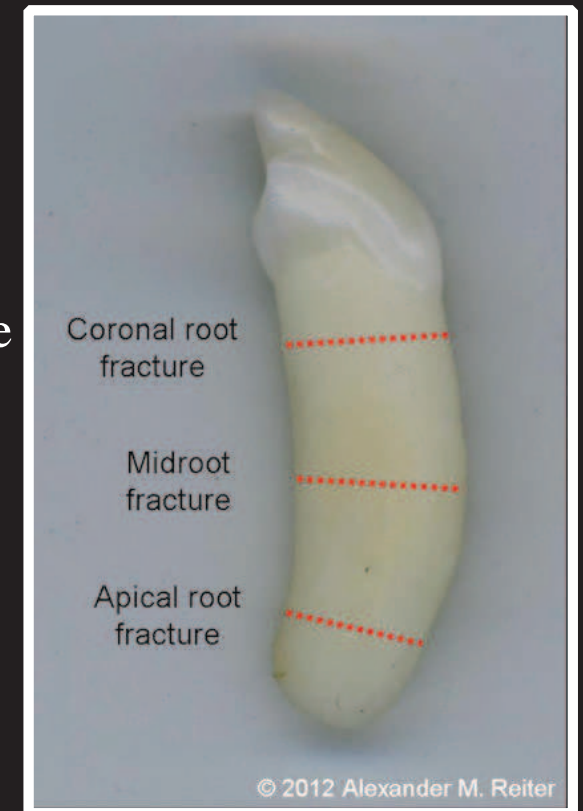
Tooth and Root Fractures

Tooth fractures

If tooth fractures occur coronal to the gingival margin and do not extend to parts of the tooth surrounded by periodontal tissues, they do not initiate gingivitis or periodontitis, unless the surface characteristics of the fracture area predispose to greater plaque retention.

Root fractures

they can act as plaque-retentive factors and indirectly cause gingivitis and periodontitis. In addition, they can directly traumatize the surrounding periodontium due to mobility of the fractured tooth surfaces.



Root resorption

when is located within the cervical third of the root, it can easily communicate with the sub gingival microbial ecosystem . **Cemental** can potentially lead to localized periodontal breakdown.



Tooth Position :

Tooth position and periodontal biotype and their interaction can be factors that influence the likelihood of mucogingival deformities

Root proximity:

Open contacts :

Conclusions

The evidence in several of these areas, especially related to the biologic mechanisms by which these factors affect the periodontium, is inconclusive and need for additional well-controlled animal studies to elucidate biologic mechanisms, as well as longitudinal, prospective human trials.

Adequate periodontal assessment and treatment, instructions and motivation in self-performed plaque control, and compliance with maintenance protocols appear to be the most important factors to limit or avoid potential negative effects on the periodontium associated with fixed and removable prostheses.

