

Attrition, Abrasion, Erosion, Abfraction

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ATTRITION



ABRASION



EROSION



ABFRACTION



- **Tooth wear is a general term describing the loss of dental hard tissue from the surfaces of the teeth caused by factors other than dental caries, trauma and developmental disorders.**
- **Attrition, abrasion, erosion and abfraction usually cause alternations of tooth surface and manifest as tooth wear.**



• **ATTRITION**

- **is a progressive wearing away of tooth caused by mastication or grinding between opposing teeth. Contact can affect cuspal, incisal and proximal surface areas.**
- **commonly seen as normal part of aging, but excessive loss of tooth surface is pathological.**
- **Causes:**
 - **Bruxism-clenching or grinding teeth**
 - **Hard or rough-textured diet**
 - **Absence of posterior teeth support**
 - **Exposure to abrasive dust associated with some occupations (eg. miners)**
- **Dental impact:**
 - **if the attrition is severe, the enamel can be completely worn away leaving underlying dentin exposed, resulting in risk of dental caries and dentin hypersensitivity**



• ABRASION

- It is a progressive loss of tooth surface caused by mechanical actions other than mastication or tooth-to-tooth contact.
- Causes:
 - It is commonly associated with incorrect toothbrushing technique (vigorous horizontal brushing) creating notch at the junction of crown and root of the tooth.
 - It can also be seen in individuals using their teeth as a tool (eg., to remove bottle caps, to hold pins, clips and nails).
 - Long term use of tongue jewelry also creates abrasion, when the jewelry is hitting against the teeth.
- Dental impact:
 - Abrasion leads to increased tooth sensitivity to hot and cold
 - Increased plaque trapping that can lead to caries and periodontal disease.
 - Difficulty for dental appliances such as orthodontics and dentures to engage the tooth or teeth.





ABRASION





• EROSION

- Is a progressive loss of tooth substance by chemical or acid dissolution that does not involve known bacterial action.
- **Causes:**
- Frequent use of carbonated drinks or fruit juices with high levels of acidity.
- Problem for individuals suffering from gastrooesophageal reflux disease (GORD)
- Individuals who suffer from certain eating disorders (eg., anorexia, bulimia)
- Risk of erosion is high in individuals with xerostomia
- **Dental impact:**
- Certain foods (sweets) and hot and cold temperatures of foods may cause twinge of pain in the early stage of enamel erosion. In later stages of enamel erosion, teeth become extremely sensitive to temperatures and sweets.
- As the enamel erodes and dentin is exposed, the teeth become more yellow
- The occlusal and incisal surfaces become more rough, irregular and jagged as enamel erodes
- Indentations appear on the surface of the teeth

HEALTHY TOOTH SLIGHT EROSION SEVERE EROSION



• ABFRACTION



- It is a form of non-carious tooth tissue loss that occurs along the gingival margin. It is a wedge-shaped lesion with questionable etiology.
- Causes:
- Caused by forces of tooth to tooth from teeth touching together, lateral/ occlusal forces when chewing and swallowing. Tooth tissues is gradually weakened causing tissue loss and through fracture and chipping creating lesions. These lesions occur in both enamel and dentin around the cervical areas of the dentition.
- Dental impact:
- Clinically people with abfraction lesions can present with tooth sensitivity in associated areas.





• **PREVENTION**

- **Use of mouth guard during sleep for bruxism**
- **Correct toothbrushing technique (no vigorous horizontal brushing) with soft bristle toothbrush.**
- **Limit amount and frequency of drinking carbonated drinks and fruit juice with high levels of acidity.**
- **Teeth should not be used as a tool to grip or hold items**
- **Limit use of abrasive toothpaste (might be useful in stain removal, but also contributes to tooth wear)**
- **Use of fluoride toothpaste can combat tooth wear**



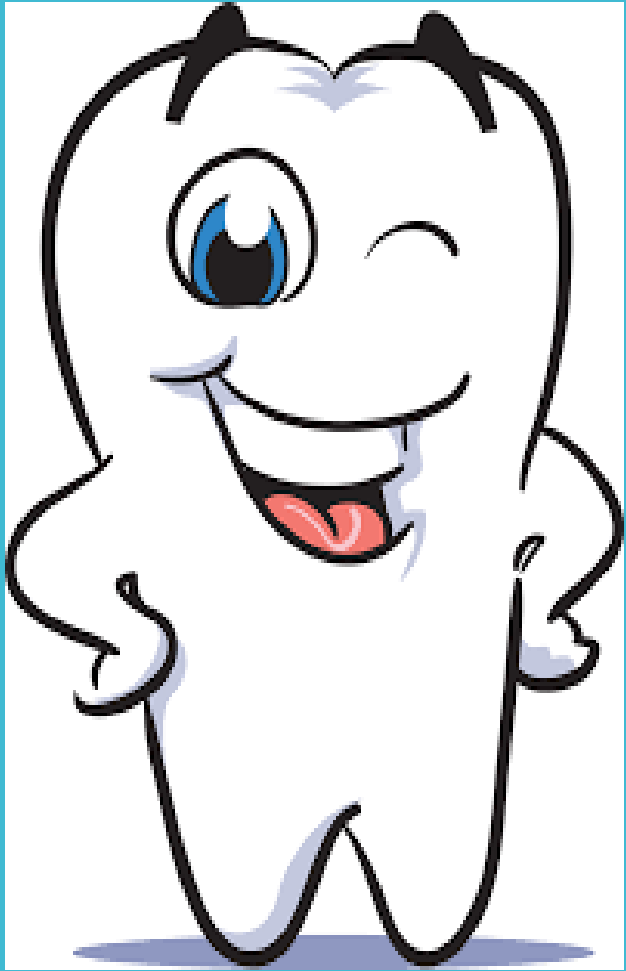
- **DENTAL TREATMENT**

- **Crowns and veneers-** tooth-like restorations will strengthen, protect the tooth, as well as, restore their appearance.
- **Bonding-** a tooth-colored adhesive filling material is bonded to the surface of the tooth, filling in the cavity and protecting the tooth from further damage.



Wow!





• **THANK YOU**