



## First Year Dentistry

### Chapter IV

## PERIODONTAL DISEASE

- 1- Periodontal [gum] diseases, including **gingivitis** and periodontitis, are serious infections that, left untreated, can lead to tooth loss. The word periodontal literally means « around the tooth. » Periodontal disease is a **chronic** bacterial infection that **affects** the gums and bone supporting the teeth.
- 2- Periodontal disease can affect one tooth or many teeth. It begins when the bacteria in **plaque** cause the gums to become inflamed.
- 3- In the mildest form of the diseases, gingivitis, the gums redden, swell and bleed easily. There is usually little or no **discomfort**. Gingivitis is often caused by inadequate oral hygiene. Gingivitis is reversible with professional treatment and good oral home care.
- 4- Untreated gingivitis can advance to periodontitis. With time; plaque can spread and grow below the gum line. **Toxins** produced by the bacteria in plaque irritate the gums. The toxins stimulate a chronic inflammatory response in which the body in essence turns on itself and the tissues and bone that support the teeth are broken down and destroyed. Gums separate from the teeth, forming pockets (space between the teeth and gums) that become infected.

As the disease progresses, the pockets deepen and more gum tissue and bone are destroyed. Often, this destructive process has very mild symptoms. Eventually, teeth can become loose and may have to be removed.

- 5- The main cause of periodontal disease is bacterial plaque. However, genetic and other factors can also affect the health of your gums. A study has proved that up to 30% of the population may be genetically susceptible to gum disease. Despite aggressive oral care **habits**, these people may be six times more likely to develop periodontal disease.
- 6- The study concluded that giving dental patients a genetic test, which can be performed through a saliva sample, before they show signs of periodontal disease and getting them into early treatment might help them keep their teeth for a lifetime.





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#### **Periodontal Disease – Overview**

Periodontal diseases are chronic infections of the gums and supporting structures of the teeth, primarily caused by bacterial plaque. The term "periodontal" refers to the tissues surrounding the teeth. The condition begins as **gingivitis**, a mild and reversible inflammation of the gums, often due to poor oral hygiene. If untreated, it may progress to **periodontitis**, a more severe form where the infection spreads below the gum line, leading to tissue and bone destruction, pocket formation, and eventual tooth loss.

While plaque is the main cause, factors like genetics can also increase susceptibility. Studies suggest that around 30% of individuals may be genetically predisposed to periodontal disease, and early detection through genetic testing could be key in preventing tooth loss. Despite its seriousness, the disease often progresses with minimal symptoms, making early diagnosis and consistent oral care essential.

**1. Definition and Nature of Periodontal Disease:** Periodontal diseases are chronic bacterial infections affecting the gums and bone supporting the teeth. (The term *periodontal* means "around the tooth.")

## **2. Types and Progression**

### **2.1. Gingivitis:**

- The mildest form; causes redness, swelling, and easy bleeding.
- Usually painless and reversible with proper care.

### **2.2. Periodontitis:**

- Occurs when untreated gingivitis worsens.
- Plaque spreads below the gum line, causing destruction of tissue and bone.
- Leads to pocket formation, loosening of teeth, and potential tooth loss.

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### 3. Symptoms and Characteristics

- Symptoms can be mild despite severe tissue damage.
- Signs include gum recession, bleeding, bad breath, and tooth mobility.
- Disease can affect a single tooth or multiple teeth.

### 4. Causes and Risk Factors

- **Main cause:** Bacterial plaque.
- **Other factors:** Genetics, systemic health, and poor oral hygiene.
- Up to 30% of people may be genetically predisposed and more prone to gum disease.

### 5. Importance of Early Detection

- Genetic testing via saliva may identify at-risk patients before symptoms appear.
- Early treatment increases chances of keeping natural teeth for life.