

Fact Sheet

Periodontal Diseases

Periodontal diseases are a group of disorders of the gums, or gingiva, and the tissues around the teeth. Like most broadly descriptive terms, periodontal diseases vary in severity, from the reversible mild inflammation called *gingivitis*--that many people encounter off and on throughout their lives--to the sometimes irreversible *severe chronic periodontitis* that badly erodes the bone and other supporting structures of the tooth, leading to the loss of the tooth. An estimated 80 percent of American adults have some form of periodontal disease, and the condition tends to hit smokers hardest. The risk of periodontal diseases is higher in individuals with diabetes.

Fifty Years Ago

- In the 1950s, tooth loss was extremely common, largely because of rampant tooth decay and untreated periodontal diseases.
- The primary research focus was on oral bacteria. Periodontal diseases were thought to begin when chalky white deposits called calculus accumulated near the gingiva, along the base of the tooth. Many believed it served as an irritant and wedge that opened a small pocket between the tooth and gingiva, allowing bacteria to freely enter and progressively erode the bone and the other supporting structures of the tooth.
- Periodontal disease was viewed as a linear process that started with gingivitis. Without proper treatment, people were told their gingivitis would inevitably progress to periodontitis, advanced disease, and ultimately tooth loss. All people were thought to be susceptible to severe periodontitis, especially as they aged.
- The fundamental role of the immune system in causing periodontal diseases was largely overlooked just a generation ago. Research has established that periodontal diseases arise when specific oral bacteria infect gum tissue, triggering a complex immune response and progressive inflammation that play a major role in causing periodontitis. This knowledge has opened a critical area of study to improve periodontal care.
- Periodontal diseases are no longer viewed as an inevitable result of aging. Even though moderate disease affects a majority of adults, more severe periodontitis affects only five to 15 percent of adults.
- Gingivitis and more severe periodontal diseases now are recognized as distinct conditions. Researchers now know that gingivitis does not necessarily lead to severe disease and tooth loss.
- With this greater understanding, dentists can better treat their patients. In addition to improved consumer dental products to help prevent periodontal disease, a greater awareness exists about those at greatest risk and who might benefit from more regular periodontal care. These include smokers, people with diabetes, and those taking certain types of anti-seizure medications, cancer drugs, oral contraceptives, and some calcium channel blockers.

Today

- The most recent survey of the nation's oral health, released in 2005, showed a continued decline in periodontal disease among American adults and an associated reduction in tooth loss. According to the survey, Americans age 20 and older have on average about 24 of their natural teeth. Without research on the causes and treatment of periodontal disease, that number would be much lower.

Tomorrow

- Scientists now know that the bacteria in our mouths exist as a complex, multi-layered community, or oral biofilm. Scientists already are in the process of dissecting the dynamics of these bacterial

communities. This research may give dentists the tools to target their treatment specifically to the bacteria that trigger periodontal disease. At the same time, because biofilms form throughout the body and nature, research advances may have broad applications in medicine and environmental studies.

- For those who develop advanced periodontal disease, researchers are working to regenerate the damaged or lost bone and restore the tooth support to its natural state.
- Oral bacteria shed from chronic periodontal infections enter the circulatory system, and may contribute to diseases of the heart and other organs. The role of periodontal diseases in causing or contributing to other serious conditions is the subject of ongoing laboratory and clinical research. As this research unfolds in the coming years, it may be that a trip to the dentist not only could have benefits for your oral health but also help to reduce your chances of developing related systemic conditions.