

# Periodontal Disease: Causes and Consequences

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## Key points:

- Introduction
- Sign and symptoms
- Risks
- Treatment
- Prevention

## Introduction

Periodontal disease is a chronic inflammatory ailment that affects the supporting tissues of the teeth—encompassing the gums, periodontal ligament, and alveolar bone. Starting as gingivitis—that is, reversible inflammation of the gums—the condition can advance to periodontitis, which could cause permanent harm and possible tooth loss if not properly managed.<sup>1</sup>

## Symptoms

Periodontal disease's first signs are sometimes quite mild, so regular dental visits are absolutely necessary. Redness of the gum, swelling, and bleeding during flossing or brushing are often seen. As the disease progresses, symptoms can become more severe and include:

- Persistent bad breath (halitosis)
- Shallow gums giving elongated appearance of teeth
- Development of deep pockets between gums and teeth.<sup>2</sup>
- Increased tooth mobility and migration

- Painful mastication
- Pus discharge from gums.<sup>3</sup>

These symptoms show that the illness could have progressed beyond gingivitis into periodontitis, for which professional treatment is necessary.



Figure 1: Periodontal disease .<sup>11</sup>

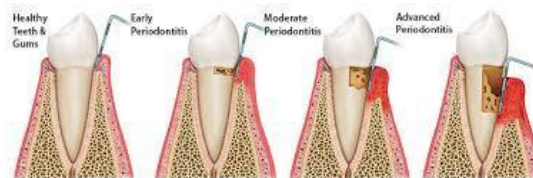


Figure 2: Periodontitis stages. <sup>12</sup>

## Risks

Although dental plaque is the main cause of periodontal disease, many risk factors may worsen the condition's onset and severity:

- Smoking: Periodontal disease is up to six times more common in smokers.<sup>3</sup>
- Poorly controlled diabetes mellitus: Causes the immune system to become compromised and patients become more vulnerable to periodontitis.<sup>4</sup>
- Hormonal changes: Gum sensitivity and swelling may be worsened by hormonal changes caused by pregnancy, menstruation and menopause.<sup>5</sup>
- Genetics: Some people are genetically predisposed toward aggressive kinds of the disease.<sup>6</sup>
- Poor oral hygiene: Irregular flossing and brushing let plaque and tartar accumulate, thus assisting the progression of periodontal disease.<sup>7</sup>
- Medications: Some medications like anticonvulsants or immunosuppressants, can lead to gum overgrowth or reduce saliva, thereby increasing the risk of periodontal disease.<sup>8</sup>

## Treatment

The level of illness dictates the therapy. Early on, non-surgical treatments are sometimes enough; later cases, on the other hand, could call for surgery.

- Non-Surgical Therapies :

A deep cleaning technique to remove plaque and calculus below the gumline like scaling and root planning (SRP).<sup>9</sup>

Antibiotics: Topical or systemic antibiotics are prescribed to reduce bacterial infection in gum pockets.<sup>10</sup>

Patient Education: Patients are educated on proper flossing and brushing techniques to maintain periodontal health.

- Flap surgery: The tissue is stitched back for improved healing after the gums are pulled back so more thorough cleaning can take place.
- Bone grafting: Employed in bone loss situations to restore the dental supporting structure.<sup>10</sup>
- Guided Tissue Regeneration (GTR): a procedure that promotes the regrowth of bone and ligaments lost due to periodontitis.

Correct therapy and regular maintenance can stop the progression of periodontitis and help control or even reverse many symptoms.<sup>10</sup>

## Conclusion

Though all too common, periodontal disease can be avoided. Early identification of symptoms, risk factor management, and seeking early treatment helps relevantly improve results.

## References

1. Kinane DF, Stathopoulou PG, Papapanou PN. Periodontal diseases. *Nat Rev Dis Primers*. 2017;3:17038.
2. Eke PI, Thornton-Evans GO, Wei L, et al. Periodontitis in US adults: prevalence and trends. *J Am Dent Assoc*. 2012;143(10):1007–1014.
3. Nazir MA. Prevalence of periodontal disease, its association with systemic diseases and prevention. *Int J Health Sci*. 2017;11(2):72–80.

4. Tomar SL, Asma S. Smoking-attributable periodontitis in the United States. *J Periodontol*. 2000;71(5):743–751.
5. Preshaw PM, Alba AL, Herrera D, et al. Periodontitis and diabetes: A two-way relationship. *Diabetologia*. 2012;55(1):21–31.
6. Mealey BL, Rose LF. Diabetes mellitus and inflammatory periodontal diseases. *Curr Opin Endocrinol Diabetes Obes*. 2008;15(2):135–141.
7. Shapira L, Wilensky A, Kinane DF. Genetic susceptibility to periodontitis: Recent advances. *Future Microbiol*. 2005;4(3):345–358.
8. Chapple IL, Van der Weijden F, Doerfer C, et al. Primary prevention of periodontitis: managing gingivitis. *J Clin Periodontol*. 2015;42 Suppl 16:S71–S76.
9. Seymour RA, Heasman PA. Drugs and the periodontium. *J Clin Periodontol*. 1988;15(1):1–16.
10. Cobb CM. Clinical significance of non-surgical periodontal therapy: an evidence-based perspective. *J Clin Periodontol*. 2002;29 Suppl 2:6–16.
11. <https://www.3stepsmiles.com/periodontics/>
12. <https://opentran.net/en/english-shona/gums.html>