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## Periodontal (Gum) Disease



**National Institutes of Health**  
National Institute of Dental  
and Craniofacial Research



## Periodontal (Gum) Disease

If you have been told you have periodontal (gum) disease, you're not alone. An estimated 80 percent of American adults currently have some form of the disease.

Periodontal diseases range from simple gum inflammation to serious disease that results in major damage to the soft tissue and bone that support the teeth. In the worst cases, teeth are lost.

Gum disease is a threat to your oral health. Research is also pointing to possible health effects of periodontal diseases that go well beyond your mouth (more about this later). Whether it is stopped, slowed, or gets worse depends a great deal on how well you care for your teeth and gums every day, from this point forward.



## Periodontal (Gum) Disease

### What causes periodontal disease?

Our mouths are full of bacteria. These bacteria, along with mucus and other particles, constantly form a sticky, colorless “plaque” on teeth. Brushing and flossing help get rid of plaque. Plaque that is not removed can harden and form bacteria-harboring “tartar” that brushing doesn’t clean. Only a professional cleaning by a dentist or dental hygienist can remove tartar.

### Gingivitis

The longer plaque and tartar are on teeth, the more harmful they become. The bacteria cause inflammation of the gums that is called “gingivitis.” In gingivitis, the gums become red, swollen and can bleed easily. Gingivitis is a mild form of gum disease that can usually be reversed with daily brushing and flossing, and regular cleaning by a dentist or dental hygienist. This form of gum disease does not include any loss of bone and tissue that hold teeth in place.

### Periodontitis

When gingivitis is not treated, it can advance to “periodontitis” (which means “inflammation around the tooth.”) In periodontitis, gums pull away from the teeth and form “pockets” that are infected. The body’s immune system fights the bacteria as the plaque spreads and grows below the gum line. Bacterial toxins and the body’s enzymes fighting the infection actually start to break down the bone and connective tissue that hold teeth in place. If not treated, the bones, gums, and connective tissue that support the teeth are destroyed. The teeth may eventually become loose and have to be removed.



## Risk Factors

- **Smoking.** Need another reason to quit smoking? Smoking is one of the most significant risk factors associated with the development of periodontitis. Additionally, smoking can lower the chances of success of some treatments.
- **Hormonal changes in girls/women.** These changes can make gums more sensitive and make it easier for gingivitis to develop.
- **Diabetes.** People with diabetes are at higher risk for developing infections, including periodontal disease.
- **Stress.** Research shows that stress can make it more difficult for our bodies to fight infection, including periodontal disease.
- **Medications.** Some drugs, such as antidepressants and some heart medicines, can affect oral health because they lessen the flow of saliva. (Saliva has a protective effect on teeth and gums.)
- **Illnesses.** Diseases like cancer or AIDS and their treatments can also affect the health of gums.
- **Genetic susceptibility.** Some people are more prone to severe periodontal disease than others.

## Who gets periodontal disease?

People usually don't show signs of gum disease until they are in their 30s or 40s. Men are more likely to have periodontal disease than women. Although teenagers rarely develop periodontitis, they can develop gingivitis, the milder form of gum disease. Most commonly, gum disease develops when plaque is allowed to build up along and under the gum line.

## What can I do to prevent gum disease?

- Brush your teeth twice a day (with a fluoride toothpaste)
- Floss every day
- Visit the dentist routinely for a check-up and professional cleaning
- Don't use tobacco products

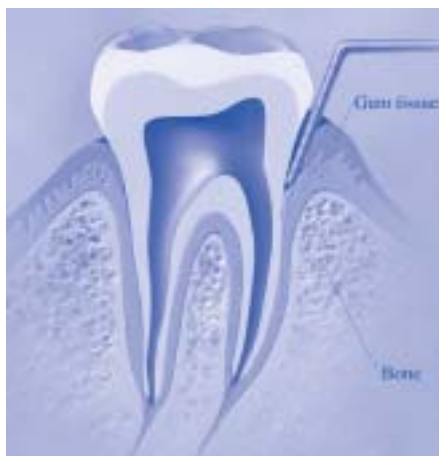
## How do I know if I have periodontal disease?

Symptoms are often not noticeable until the disease is advanced. They include:

- Bad breath that won't go away
- Red or swollen gums
- Tender or bleeding gums
- Painful chewing
- Loose teeth
- Sensitive teeth

Any of these symptoms may signal a serious problem, which should be checked by a dentist. At your dental visit:

- The dentist will ask about your medical history to identify underlying conditions or risk factors (such as smoking) that may contribute to periodontal disease.



- The dentist or hygienist will examine your gums and note any signs of inflammation.
- The dentist or hygienist will use a tiny ruler called a 'probe' to check for periodontal pockets and to measure any pockets. In a healthy mouth, the depth of these pockets is usually between 1 and 3 millimeters.
- The dentist or hygienist may take an x-ray to see whether there is any bone loss.

- The dentist may refer you to a periodontist, a specialist who treats gum diseases.

### How is periodontal disease treated?

The main goal of treatment is to control the infection. The number and types of treatment will vary, depending on the extent of the gum disease. Any type of treatment requires that the patient keep up good daily care at home. Additionally, modifying certain behaviors, such as quitting tobacco use, might also be suggested as a way to improve treatment outcome.



### Deep Cleaning (Scaling and Root Planing)

The dentist, periodontist, or dental hygienist removes the plaque through a deep-cleaning method called scaling and root planing. Scaling means scraping off the tartar from above and below the gum line. Root planing gets rid of rough spots on the tooth root where the germs gather, and helps remove bacteria that contribute to the disease.

### Medications

Medications may be used with treatment that includes scaling and root planing, but they cannot always take the place of surgery. Depending on the severity of gum disease, the dentist or periodontist may still suggest surgical treatment. Long-term studies will be needed to determine whether using medications reduces the need for surgery and whether they are effective over a long period of time. Listed on the next page are some medications that are currently used.

Medications	What is it?	Why is it used?	How is it used?
Prescription antimicrobial mouthrinse	A prescription mouthrinse containing an antimicrobial called chlorhexidine	To control bacteria when treating gingivitis and after gum surgery	It's used like a regular mouthwash
Antiseptic “chip”	A tiny piece of gelatin filled with the medicine chlorhexidine	To control bacteria and reduce the size of periodontal pockets	After root planing, it's placed in the pockets where the medicine is slowly released over time.
Antibiotic gel	A gel that contains the antibiotic doxycycline	To control bacteria and reduce the size of periodontal pockets	The periodontist puts it in the pockets after scaling and root planing. The antibiotic is released slowly over a period of about seven days.
Antibiotic micro-spheres	Tiny, round particles that contain the antibiotic minocycline	To control bacteria and reduce the size of periodontal pockets	The periodontist puts the micro-spheres into the pockets after scaling and root planing. The particles release minocycline slowly over time.
Enzyme suppressant	A low dose of the medication doxycycline that keeps destructive enzymes in check	To hold back the body's enzyme response — If not controlled, certain enzymes can break down gum tissue	This medication is in pill form. It is used in combination with scaling and root planing.



### Surgical Treatments

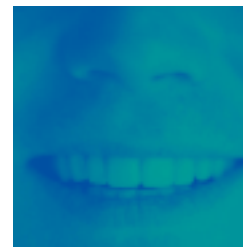
**Flap Surgery.** Surgery might be necessary if inflammation and deep pockets remain following treatment with deep cleaning and medications. A periodontist may perform flap surgery to remove tartar deposits in deep pockets or to reduce the periodontal pocket and make it easier for the patient, dentist, and hygienist to keep the area clean. This common surgery involves lifting back the gums and removing the tartar. The gums are then sutured back in place so that the tissue fits snugly around the tooth again.

**Bone and Tissue Grafts.** In addition to flap surgery, your periodontist may suggest bone or tissue grafts. Grafting is a way to replace or encourage new growth of bone or gum tissue destroyed by periodontitis. A technique that can be used with bone grafting is called guided tissue regeneration, in which a small piece of mesh-like fabric is inserted between the bone and gum tissue. This keeps the gum tissue from growing into the area where the bone should be, allowing the bone and connective tissue to regrow.

Since each case is different, it is not possible to predict with certainty which grafts will be successful over the long-term.

Treatment results depend on many things, including severity of

the disease, ability to maintain oral hygiene at home, and certain risk factors, such as smoking, which may lower the chances of success. Ask your periodontist what the level of success might be in your particular case.



### Second Opinion

When considering any extensive dental or medical treatment options, you should think about getting a second opinion. To find a dentist or periodontist for a second opinion, call your local dental society. They can provide you with names of practitioners in your area. Additionally, dental schools may sometimes be able to offer a second opinion. Call the dental school in your area to find out whether it offers this service.





## Can periodontal disease cause health problems beyond the mouth?

Maybe. But so far the research is inconclusive. Studies are ongoing to try to determine whether there is a cause-and-effect relationship between periodontal disease and:

- an increased risk of heart attack or stroke,

- an increased risk of delivering preterm, low birth weight babies,
- difficulty controlling blood sugar levels in people with diabetes.

In the meantime, it's a fact that controlling periodontal disease can save your teeth — a very good reason to take care of your teeth and gums.

## Clinical Trials

Clinical trials are research studies of new and promising ways to prevent, diagnose, or treat disease. If you want to take part in a clinical trial about periodontal disease, visit [www.clinicaltrials.gov](http://www.clinicaltrials.gov). In the box under “Search Clinical Trials”, type in: periodontal diseases. This will give you a list of clinical trials on gum disease for which you might be eligible.

