

Mayo Clinic Health Letter

Reliable Information for a Healthier Life

Periodontitis

The care and keeping of gums

You've dutifully arrived for your regular dental checkup, and the dental hygienist is once again poking your gums and spouting off a list of numbers: "1, 1, 3 ... 2, 1, 3 ... 2, 3, 3 ..."

Although these numbers may seem mysterious, your hygienist is performing an essential check: Measuring the depth of the pockets between your gums and teeth. Any measurement between 1 millimeter (mm) and up to 3 mm is generally considered healthy.

Pockets 4 mm or deeper may be concerning, because they can provide an all-too-hospitable hideout for plaque, tartar and bacteria that can eat away at your tissues and teeth. These deep pockets can be a sign of a type of serious gum and bone disease called periodontitis.

Regular oral hygiene such as brushing and flossing helps keep your gums healthy. So can dental checkups. But a lapse in these habits can make you more likely to develop diseases of the gum and bone, which can ultimately lead to tooth loss or surgery.

The progression of gum disease

Healthy gums are firm and snug against the teeth. Though you may have heard that healthy gums are pink, that's not always true. The color varies and can include dark pink and brown shades.

But when plaque forms on your teeth, it can set off a harmful chain reaction. Here's a look at the progression:

- **Plaque forms** — Certain foods, especially sugary sweets, can interact with bacteria in your mouth to form a harmful, sticky bacterial film known as plaque. Brushing and flossing can remove plaque, as well as food and bacteria that haven't yet turned into plaque.

Healthy tooth

Crown

Alveolar bone

Periodontal ligament

Gingivitis

Plaque

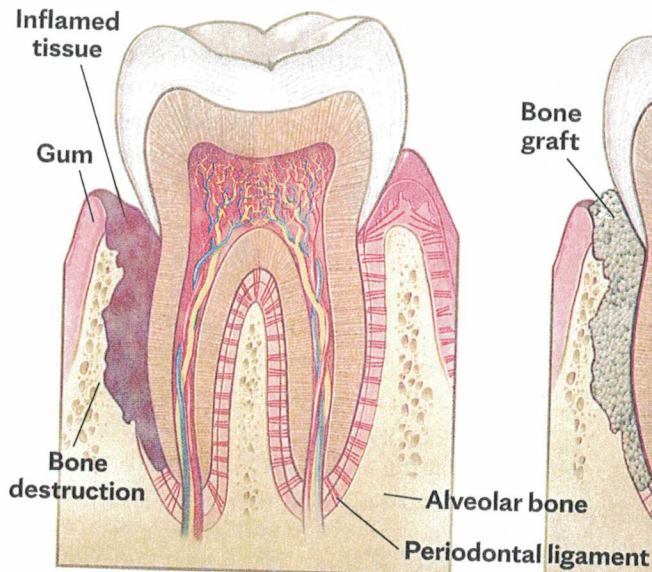
Periodontitis

Swollen gums pull away from tooth

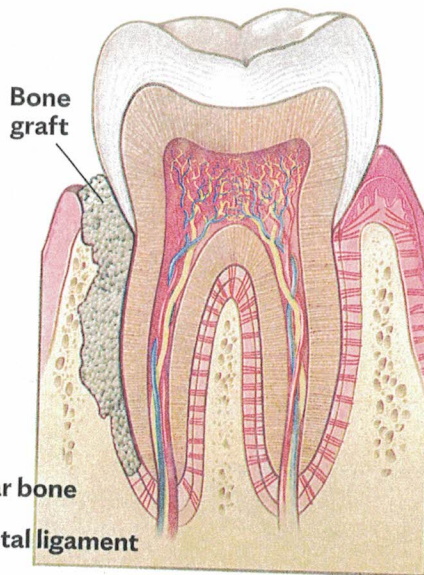
Loss of bone

Bacteria (plaque) and tartar can cause gum tissue to become inflamed and swollen, resulting in bleeding gums or gingivitis. If gingivitis is not treated, bacteria may migrate toward the tooth's root, leading to a loss of supporting tissue and bone. This condition is called periodontitis. Extensive bone loss and possible tooth loss can occur with untreated periodontitis.

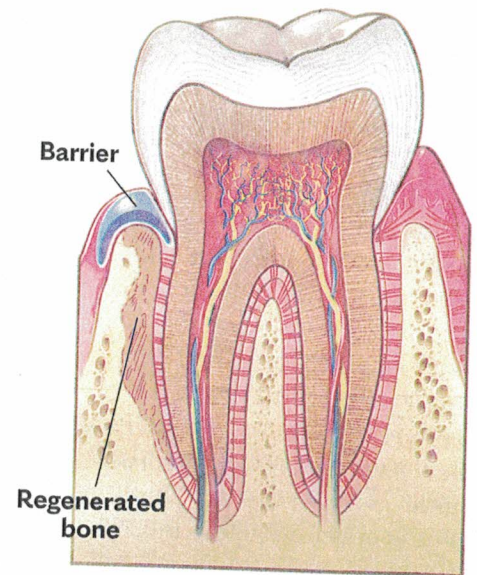
PERIODONTITIS



BONE GRAFT



REGENERATION



- *Have certain medical conditions* — As noted earlier, there is a complex relationship between oral health and overall health. Having diabetes or other health conditions may increase the risk of periodontal disease.
- *Take certain medications* — Some medications can cause your gums to grow too much, a phenomenon known as gingival overgrowth. This overgrowth covers too much of your teeth and hosts bacterial growth that can lead to gum disease. The medications linked to gingival overgrowth include the immunosuppressant cyclosporine, the anti-seizure drug phenytoin and some calcium channel blockers. Sometimes stopping the drug reverses this growth; other times the extra gum tissue has to be surgically removed.

If you fall into one of these higher risk categories, you may need to see your dentist more often than once or twice a year. You also may need to be referred to a specialist known as a periodontist for care. If you smoke, connect with your healthcare team about resources to quit. Your care team also may be able to help treat dry mouth, which may include changing any problem-causing medications.

When gum disease goes too far

If your gingivitis ultimately progresses to periodontitis, you will need professional help to get your mouth back on track. For less severe periodontitis, treatments include scaling and root planing. Scaling is when a dental professional removes plaque and tartar from your teeth with a dental instrument, laser or ultrasonic device. Scaling is done routinely at regular dental appointments — you may think of it as the “scraping” portion of the appointment. It can be very tricky to remove plaque and tartar below the gum line and in the gum pockets and may require specialized techniques. Root planing smooths down the surfaces of the tooth roots, removes bacteria and tartar, and encourages your gums to reconnect to the teeth. Your dentist may place an antibiotic in the gum pocket.

However, if the pockets between your gums and teeth become too deep — typically, 6 mm or more — then additional, advanced treatment may be required. This may include surgery performed by a periodontist. Options include:

- *Flap surgery* — In this surgery, the periodontist cuts into the gums to access the root surfaces.

This allows for more in-depth cleaning than regular scaling and root planing. The periodontist may rebuild or reshape damaged alveolar bone. Then the gum tissue is stitched back into place in a way that decreases the size of the pockets between the teeth and gums.

- *Soft tissue grafting* — When you have periodontitis, your gums can pull away from your teeth (recede), exposing the roots of your teeth. To protect your roots and reduce further gum loss, a surgeon may take a small amount of tissue from a donor or elsewhere in your mouth — such as the roof of your mouth — and stitch it into your gums.
- *Bone grafting or regeneration* — If periodontitis has damaged the alveolar bone, a surgeon can place a small amount of natural or artificial bone in its place. This serves as a platform for bone growth. In an alternative procedure known as guided tissue regeneration, a dental professional places a barrier between the bone socket and the tooth. This prevents tissue from growing in that space, allowing the alveolar bone surrounding the tooth to regrow. These two procedures are shown in the illustration above. ■

- *Plaque can turn to tartar* — If you don't successfully remove plaque, it calcifies into the more-difficult-to-remove tartar. Tartar also contains bacteria and is harmful to your teeth. At this point, standard brushing won't cut it; you'll need a professional dental cleaning.
- *Plaque and tartar can cause gingivitis* — Plaque and tartar can cause gum tissue (gingiva) to become inflamed and swollen, which can result in gingivitis. This is the earliest form of gum disease. At this point, gums may look darker and puffy, feel tender, and bleed when you brush your teeth or floss — or when a dental professional uses a tool to probe your gum. Unfortunately, it's tough to avoid gingivitis, and many adults have at least some. But improving your oral hygiene habits may help resolve mild forms of gingivitis. Sometimes you may need professional cleaning to address it.
- *Gingivitis can progress to periodontitis* — If gingivitis is not treated, bacteria can migrate toward the roots and damage the supporting tissue and bone holding the teeth in place, called alveolar bone. This disease is known as periodontitis, and it can create deep pockets between your gums and teeth.

The pockets also host bacteria, which can worsen the problem. The destruction of the alveolar bone and tissue holding your teeth in place can result in teeth loosening or falling out. X-rays will show alveolar bone loss.

- *Gingivitis and periodontitis may lead to problems elsewhere in your body* — Your oral health is important to your overall health. It's not always clear how the two affect each other, but periodontal disease has been connected with a wide variety of health conditions, including cardiovascular disease, diabetes, rheumatoid arthritis, dementia and chronic lung disease. Periodontal disease may increase the risk of or worsen these conditions. This could possibly be because gingivitis and periodontitis cause inflammation, or because bacteria from the mouth can get into the bloodstream.

To prevent this progression, brush your teeth for at least two minutes, twice a day. Floss once a day, and schedule routine dental appointments — typically every 6 to 12 months.

Beyond brushing and flossing

Although good oral hygiene and regular dental cleanings and checkups play a big role in oral health, they're

not the only important factors. It's also important to be aware of risk factors — some of which you may be able to address. You're at a higher risk of gum problems if you:

- *Smoke* — Smoking makes you more prone to many diseases, including gum disease.
- *Have a dry mouth* — Saliva washes food away from your teeth and gums and defends the teeth from destructive acid and bacteria. But many adults experience dry mouth, sometimes due to medical conditions such as Sjogren syndrome or side effects from certain medications.