

# WHAT YOU NEED TO KNOW ABOUT GUM DISEASE



*Significance* Dental Specialists  
Periodontics Orthodontics Endodontics

## Gum Disease (Periodontitis)

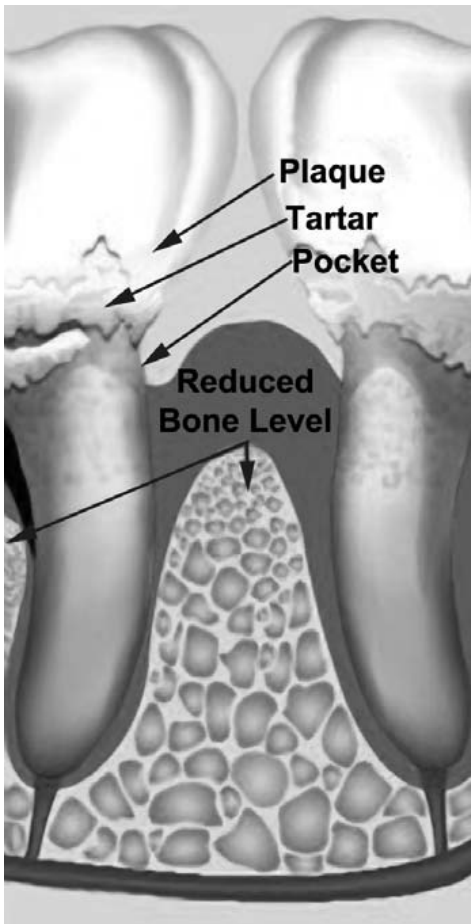
Gum disease, also known as periodontal disease or periodontitis, is something that has been with man for thousands of years. Early man didn't experience gum disease seriously enough for it to be written about or talked about except in some ancient Indian texts. The reason is that the average life span was quite short, around age 21 at the time of Alexander the Great. Periodontitis simply did not have the time to develop.

As life spans got longer over time, gum disease became more prevalent.

As man is living longer, the need to keep your teeth in good health grows, too. Understanding gum disease and its effects is very important to your life and health.

Even in societies that had no refined sugar, gum disease was still prevalent. This has been found through anthropological digs that showed gum disease around the teeth on skulls.

So, what's this got to do with you?



Gum disease is one of the leading causes of tooth loss, and it affects your entire body and overall health.

When gum disease is present, treating it and stopping it takes time, energy and effort on your part and on your dentist's part. Not treating it is worse, far worse.

In fact, if you have gum disease you should think of it as a chronic problem that you'll have to manage the rest of your life. To think otherwise is kidding yourself. This proactive approach yields the best long-term results.

If you had gum disease and "It went away," then you're four times more likely to get it again than someone who never had gum disease in the first place.

So, why is it so wicked? What's so difficult about gum disease? The effects of periodontal disease are silent at first, no pain and no outward signs of trouble except for a little gum bleeding when you brush. From there, gum disease can progress rapidly, sometimes taking only weeks to cause major destruction. However, it most often takes longer to wreak its havoc. Over a period of time, the gum disease gets worse and more clinical signs can be picked up by your dentist. You'll start to notice more bleeding, teeth that get loose and bad breath that won't go away. At the terminal stages, overt pain starts to be felt. Bone and supporting gum tissue have been lost. Now you can visually see it!

When you can see it, you are already in big trouble. When pain increases - and it will for most - the trouble means teeth need to come out. The lack of pain lulls people into thinking "it is just a little problem" or "it will get better on its own," or "I am fine. My gums just bleed and they do that all the time so it must be normal." This is wishful thinking. People who believe this are kidding themselves to the detriment of their own health and the family and friends who love them.

What people don't know is that the bacteria that cause gum diseases can be passed from one human to another, especially those that live together, sharing food and drinks.

So how does this get started? It starts with a biofilm called plaque.

What is dental plaque? Bacteria live in and around your mouth just like they do throughout your digestive tract. That's normal.

Dental plaque is a sticky, nearly invisible substance that adheres to the teeth, the gums and the tooth roots. It is a biofilm created by these oral bacteria. These bacteria secrete acids and enzymes that cause inflammation in the tissue and breakdown of the bone. Moreover, these bacteria stimulate an immune response from your body when the biofilm has been on a tooth long enough that actually causes bone to melt away. Your body "sees" the bacteria as disease and starts a chain of events to shed this diseased tooth and tissue away from the body.

There are different stages of gum disease. The first one is called gingivitis. Gingivitis quite literally means "inflammation of the gingiva" or gum tissue around the teeth. Gingivitis is reversible. It is confined to the soft tissue. If left untreated, it can progress into increasingly severe levels of periodontitis, permanent loss of gum attachment and bone.

Perio, means "around" and dont - means "tooth": The tissues around the tooth. With periodontitis, bacteria attack the tiny little ligaments that hold teeth in place next to bone, embed themselves into the outer layers of the tooth root and then infiltrate the bone itself.

Then these bacteria infiltrate into the gum tissues and often end up circulating throughout the entire body. In fact, cultures have found oral bacteria in the arterial plaques in the blood vessels in coronary arteries.

There are bacteria that we consider "good ones" and some we consider "bad ones." Here's how it usually develops.



1. Here we see the side view of healthy gums. There is sufficient attached gingiva and there is no recession or inflammation.



2. If the teeth are not kept properly clean, then there may be formation of 'calculus'. This is a hard substance sometimes called dental stone which is irritating to both the soft (gums) and hard (bone) tissues.

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3. In response the gums may recede or inflame. The bone will try to move away from the calculus and therefore recede. This in turn will create deeper pocketing (if the gums do not recede as well) and less bone support of the teeth



4. If not cleaned, the calculus will continue to accumulate and come closer to the bone.



5. The bone in turn recedes more and there is even more bone loss and increased pocketing.



6. The calculus again accumulates and continues the vicious cycle of periodontal disease.



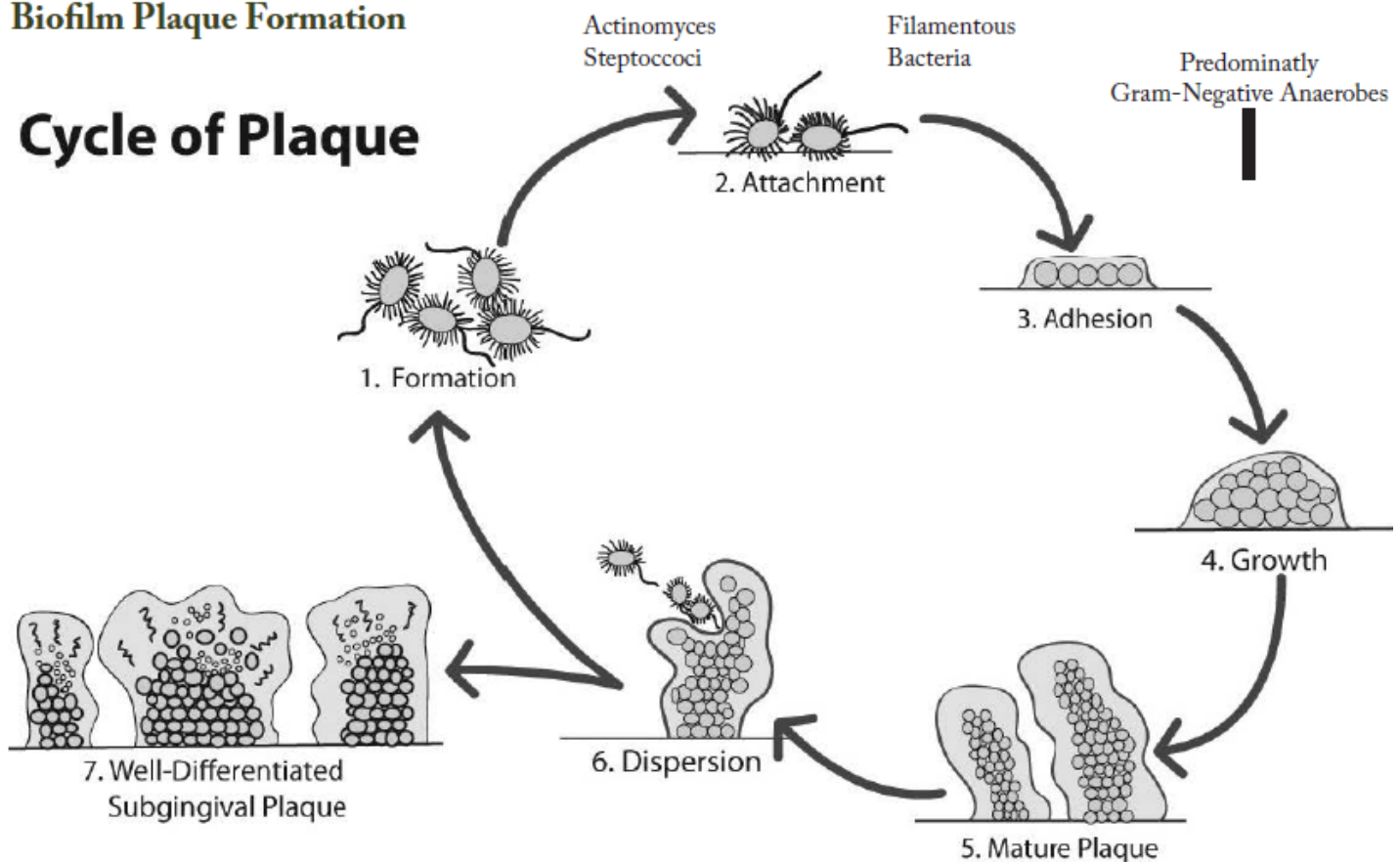
7. Left untreated this results in bad breath, bleeding, red puffy gums and mobile teeth.

These bad bugs evolve over time. Studies have shown that bacteria evolve from good ones to bad ones over a period of about 13 weeks, assuming that the bacteria contained in dental plaque are not cleaned off. They evolve over this short period of weeks from benign oxygen loving ones to destructive anaerobic ones that can thrive deep in the little pocket next to your tooth. Anywhere in your mouth that you can't, don't or won't clean thoroughly is subject to gum disease.

Over time, the normal healthy environment around the teeth degrades. Without daily removal with brushing and flossing, the bacteria find protection by invading deeper into the tissues. The deeper they are able to invade, the harder it is for you to mechanically remove them. Once the damage is done, the bacteria are able to go where your toothbrush and floss can't reach! These bacteria that adhere to your teeth lie deep down inside pockets next to your tooth roots have a lovely environment. They've got warmth, they have shelter inside those pockets, and they've got a food source: the foods you eat. And as you might guess, the more sugar you give them, the happier they are.

What's frightening is that these single-celled bugs evolve to act like multi-cellular organisms. Over time they evolve and actually reach out to other bacteria and connect with one another. Now instead of acting like single cell bacteria, they become almost like multi-cellular organisms, capable of acting together to survive your attempts to eradicate them. In response to your cleaning efforts and your body's immune system, they can change their shape, secrete protective layers to hide under, and secrete enzymes to inactivate the body's defenses.

## Biofilm Plaque Formation



Meanwhile, they are fighting for their survival and secreting toxins and enzymes into the gum tissue. These periodontal pathogens can make themselves almost hidden to your immune system by inactivating the antibodies your body sends to fight them. It is like the bacteria have kryptonite to fight the Superman antibodies your body sends out to rescue your gums. Then, comes the scary part. The

teeming bacteria will cause an immune response that causes the body itself to remove the bone around the diseased teeth so the teeth can come out. The body decides that if it can't overcome the bacteria, it will remove the body parts that are holding on to them. It is as if the body itself is amputating the disease laden tissue rejecting the teeth.

These pathogens cause ulcerations inside the gum tissue where you can't see. To get an idea of the size of this ulcer, look at the palm of your hand. In cases where the gum bleeds around virtually every tooth, the ulcerated tissue could be as large as the size of the palm of your hand. These bacteria infiltrate into the body through the blood stream increasing inflammation and sapping the body's energy and ability to handle stress. Research continues to find more and more diseases and health conditions affected by periodontal disease. The list is long already and getting longer!

Everybody has this biofilm we call plaque. To maintain dental health you must mechanically remove the dental plaque from your teeth and tooth roots. That means physically scraping with a toothbrush or dental floss - something to mechanically remove it. Washing it away won't work. Mouthwash won't work. They help you feel better but fail to remove the biofilm. That biofilm is one tough cookie.

## Here are some of the areas of study of periodontitis and the effects on you:

**Coronary Artery Disease** - A British study showed that poor oral hygiene and periodontitis both increased the risk of coronary heart disease by 25 percent. In that same study, the risk was 72 percent higher among younger men under the age of 50.

**Heart Attack** - Researchers determined that people who have markers for periodontal disease in their bloodstream ran a risk of heart attack that was two to four times higher than those who didn't have periodontitis.

**The American Heart Association** has identified periodontitis as one of the major chronic infections that put you at higher risk for atherosclerosis and coronary heart disease later in life.

**Pregnancy Risks** - increased incidence of low birth weight babies, premature births and preeclampsia (dangerous high blood pressure) during pregnancy Increased Lung problems- affecting pneumonia, emphysema and other respiratory problems

**Diabetes** - worsened by periodontitis and vice versa

**Stroke** - gum disease can double the risk

**Cancer** - increased incidence of cancer

## Active Treatment, not Watch and Wait, While Periodontal Disease is at hand

For many people with periodontal disease they must see a dentist for active care to a.) get these bacteria cleaned out and b.) to enable the tissues to heal so the area become cleansable again.

Without active treatment from a dentist who understands this process, you are doomed to lose some or all of your teeth.

Eighty-five percent of the problems occur between teeth where your brush can't reach. That is why dentists prescribe dental floss use. Floss isn't the only way to get between teeth, we have others.

By the way, this thirteen week period of bacterial evolvement into destructive bacteria is the reason for returning to your dentist every 3 months for maintenance. If you have had gum disease, these every 13 week periodontal therapy sessions wipe out the bad bugs and start the cycle all over again.

I suggest if you are a non-flossing person that you request your dentist to show you other ways to clean between your teeth.

When these bacteria have remained on the teeth and roots for weeks, months and years, their destructiveness multiplies- bad breath that won't go away; bone loss; spongy, red inflamed gums that bleed when you brush; loose teeth; pain and tooth loss are the typical results. Not a pretty picture. The stark truth is that it is even worse, as I'll describe later.

Not knowing the truth about your mouth gets you in trouble. That is one of the big reasons for this report- so you can know.

Even Shakespeare wrote about "being long in the tooth". That is as a result of gum disease causing a breakdown of bone and gum tissue around it.

Gum disease is serious for you. Not only can it become a serious reason for losing your teeth, more and more evidence leads one to realize that it can cause one to lose his life.

Gum disease causes an inflammatory chain reaction that affects your whole body.

One of the main precepts of current dental medicine is that oral infection causes a chronic inflammatory burden on the body's entire system. It's based in part on evidence that oral pathogens have evolved the capacity to directly invade tissues throughout the system, triggering inflammatory events that have consequences for other organs and systems.

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