

FACT SHEET:

For New Zealand Cosmetic Teeth Whitening Association Registered Teeth Whitening Practitioners

Authorised by the New Zealand Cosmetic Teeth Whitening Association [NZCTWA] with the professional support of the Dentists, Chemists, Local Authorised Trainers and Global Teeth Whitening experts of NZCTWA Member Vendors including the World's foremost Teeth Whitening authority Beyond Dental and Health and its Dentist Founder Dr. Jenny Shen DDS, and Research Director Tara Erickson

A GUIDE TO GUM DISEASES

LOOKING OUT FOR GUM TROUBLE –

Immediately, Prior to any Teeth Whitening Procedure Refer your Client to their Dentist for Treatment

Gingivitis

Gingivitis ("inflammation of the gums") (gingiva) around the teeth is a general term for gingival diseases affecting the gingiva (gums). As generally used, the term gingivitis refers to gingival inflammation induced by bacterial biofilms (also called plaque) adherent to tooth surfaces.



Causes

Gingivitis is an irritation of the gums. It is usually caused by bacterial plaque that accumulates in the small gaps between the gums and the teeth and by calculus (tartar) that forms on the teeth. These accumulations may be tiny, even microscopic, but the bacteria in them produce foreign chemicals and toxins that cause inflammation of the gums around the teeth.

This inflammation can, over the years, cause deep pockets between the teeth and gums and loss of bone around teeth—an effect otherwise known as periodontitis.

Since the bone in the jaws holds the teeth into the jaws, the loss of bone can cause teeth over the years to become loose and eventually to fall out or need to be extracted because of acute infection. Regular cleanings (correctly termed periodontal debridement, scaling or root planing) below the gum line, best accomplished professionally by a dental hygienist or dentist, disrupt this plaque biofilm and remove plaque retentive calculus (tartar) to help prevent inflammation.

Once cleaned, plaque will begin to grow on the teeth within hours. However, it takes approximately 3 months for the pathogenic type of bacteria (typically gram negative anaerobes and spirochetes) to grow back into the deep pockets and restart the inflammatory process. Calculus (tartar) may start to reform within 24 hours.

Ideally, scientific studies show that all people with deep periodontal pockets (greater than 5mm) should have the pockets between their teeth and gums cleaned by a dental hygienist or dentist every 3–6 months.

People with a healthy periodontium (gums, bone and ligament) or people with gingivitis only require periodontal debridement (cleanings) every 12 months. However, many dental professionals recommend periodontal debridement (cleanings) every 6 months, because this has been the standard advice for decades, and because the benefits of regular periodontal debridement (cleanings) are too subtle for many patients to notice without regular education from the dental hygienist or dentist.

If the inflammation in the gums becomes especially well developed, it can invade the gums and allow tiny amounts of bacteria and bacterial toxins to enter the bloodstream.

The patient may not be able to notice this, but studies suggest this can result in a generalised increase in inflammation in the body and/or cause possible long-term heart problems.

Periodontitis has also been linked to diabetes, arteriosclerosis, osteoporosis, pancreatic cancer and pre-term low birth weight babies

Sometimes, the inflammation of the gingiva can suddenly amplify; such as to cause a disease called Acute Necrotizing Ulcerative Gingivitis (ANUG), otherwise known as "trench mouth." The aetiology of ANUG is the overgrowth of a particular type of pathogenic bacteria (fusiform-spirochete variety) but risk factors such as stress, poor nutrition and a compromised immune system can exacerbate the infection.

This results in the breath being extremely bad-smelling, and the gums feeling considerable pain and degeneration of the periodontium rapidly occurs. This can be successfully treated with a 1-week course of Metronidazole antibiotic, followed by a deep cleaning of the gums by a dental hygienist or dentist and reduction of risk factors such as stress.

When the teeth are not cleaned properly by regular brushing and flossing, bacterial plaque accumulates, and becomes mineralised by calcium and other minerals in the saliva

transforming it into a hard material called calculus (tartar), which harbours bacteria and irritates the gingiva (gums).

Also, as the bacterial plaque biofilm becomes thicker this creates an oxygen-staved environment, which allows more pathogenic (disease causing) bacteria to flourish and release toxins and cause gingival inflammation.

Alternatively, excessive injury to the gums caused by very vigorous brushing may lead to recession, inflammation and infection. Pregnancy, uncontrolled diabetes mellitus and the onset of puberty increase the risk of gingivitis, due to hormonal changes that may increase the susceptibility of the gums or alter the composition of the bacterial population at the junction between the gingival attachment and the tooth

Misaligned teeth, the rough edges of fillings, and ill fitting or unclean dentures, bridges, and crowns, increase the risk of gingivitis. This is due to their plaque retentive properties. The drug phenytoin, birth control pills, and ingestion of heavy metals such as lead and bismuth may also cause gingivitis

The sudden onset of gingivitis in a normal, healthy person should be considered an alert to the possibility of an underlying viral aetiology, although most systemically healthy individuals have gingivitis in some area of their mouth, usually due to inadequate brushing and flossing.

Symptoms

The symptoms of gingivitis are as follows:

- Swollen gums
- Mouth sores
- Bright-red, or purple gums
- Shiny gums
- Swollen gums that emit pus
- Severe oral odour
- Gums that are painless, except when pressure is applied
- Gums that bleed easily, even with gentle brushing, and especially when flossing.
- Gums that itch with varying degrees of severity.

Prevention

Gingivitis can be prevented through regular oral hygiene that includes daily brushing and flossing. Mouthwash is optional, usually using a saline solution (water and salt) or chlorhexidine. Rigorous plaque control programs along with periodontal scaling and curettage also have proved to be helpful.

Researchers analysed government data on calcium consumption and periodontal disease indicators in nearly 13,000 people representing U.S. adults. They found that men and women who had calcium intakes of fewer than 500 milligrams, or about half the recommended dietary allowance, were almost twice as likely to have gum disease, as measured by the loss of attachment of the gums from the teeth. The association was particularly evident for people in their 20s and 30s

Research says the connection between calcium and gum disease is likely due to calcium's role in building density in the alveolar bone that supports the teeth.

Diagnosis

It is recommended that a dental hygienist or dentist be seen after the signs of gingivitis appear. A dental hygienist or dentist will check for the symptoms of gingivitis, and may also examine the amount of plaque in the oral cavity.

A dental hygienist or dentist will also look for signs of **periodontitis**

In some people, gingivitis progresses to periodontitis - with the destruction of the gingival fibres, the gum tissues separate from the tooth and deepened sulcus, called a periodontal pocket.

Subgingival bacteria (those that exist under the gum line) colonize the periodontal pockets and cause further inflammation in the gum tissues and progressive bone loss. Examples of secondary etiology would be those things that, by definition, cause plaque accumulation, such as restoration overhangs and root proximity.

The excess restorative material that exceeds the natural contours of restored teeth, such as these, are termed "overhangs", and serve to trap plaque, potentially leading to localized periodontitis.

If left undisturbed, bacterial plaque calcifies to form calculus, which is commonly called tartar.

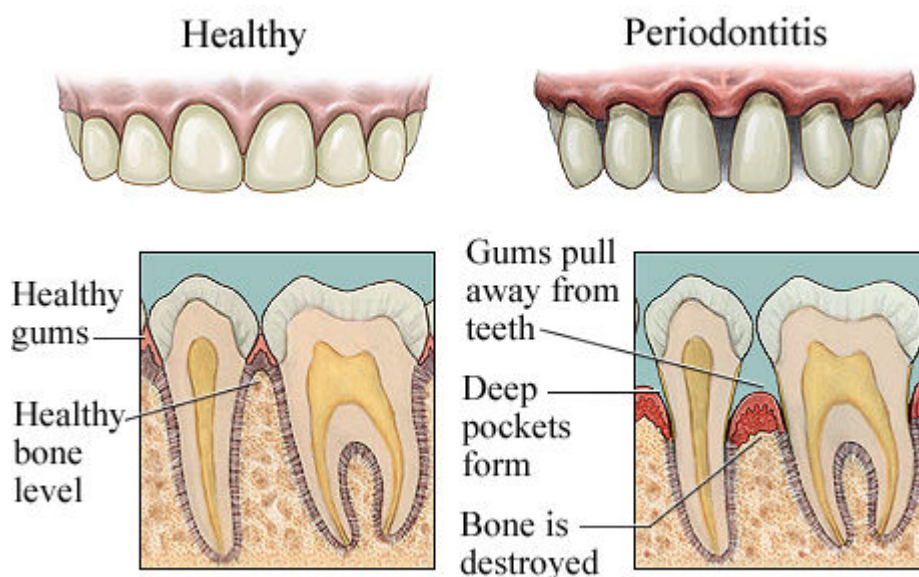
Calculus above and below the gum line must be removed completely by the dental hygienist or dentist to treat gingivitis and periodontitis.

Although the primary cause of both gingivitis and periodontitis is the bacterial plaque that adheres to the tooth surface, there are many other modifying factors. A very strong risk factor is one's genetic susceptibility. Several conditions and diseases, including Down syndrome, diabetes, and other diseases that affect one's resistance to infection also increase susceptibility to periodontitis.

Periodontitis

Periodontitis (*peri* = around, *odont* = tooth, *-itis* = inflammation) refers to a number of inflammatory diseases affecting the periodontium — that is, the tissues that surround and support the teeth. Generally the bacterium (micro organisms) of Periodontitis 'eats' the gums away.

See pix below and notice how gums have receded, dangerously exposing the Dentin





Signs and Symptoms

Symptoms may include the following:

- Occasional redness or bleeding of gums while brushing teeth, using dental floss or biting into hard food (e.g. apples) (though this may occur even in gingivitis, where there is no attachment loss)
- Occasional gum swellings that recurs
- Halitosis, or bad breath, and a persistent metallic taste in the mouth
- Gingival recession, resulting in apparent lengthening of teeth. (This may also be caused by heavy handed brushing or with a stiff toothbrush.)
- Deep pockets between the teeth and the gums (pockets are sites where the attachment has been gradually destroyed by collagen-destroying enzymes, known as collagenases)
- Loose teeth, in the later stages (though this may occur for other reasons as well)

Patients should realise that the gingival inflammation and bone destruction are largely painless. Hence, people may wrongly assume that painless bleeding after teeth cleaning is insignificant, although this may be a symptom of progressing periodontitis in that patient

Periodontitis involves progressive loss of the alveolar bone (tooth socket) around the teeth, and if left untreated, can lead to the loosening and subsequent loss of teeth.

Periodontitis is caused by a convergence of bacteria that adhere to and grow on the tooth's surfaces, along with an overly aggressive immune response against these bacteria.

A diagnosis of periodontitis is established by inspecting the soft gum tissues around the teeth with a probe and radiographs by visual analysis, to determine the amount of bone loss around the teeth.

Specialists in the treatment of periodontitis are periodontists; their field is known as "periodontology" and "periodontics".

Although the different forms of periodontitis are all caused by bacterial infections, a variety of factors affect the severity of the disease. Important "risk factors" include smoking, poorly controlled diabetes, and inherited (genetic) susceptibility.

This genetic susceptibility to destructive periodontal disease can now be tested with the PST® test; however the efficacy of this test remains to be studied in a long-term peer-reviewed prospective trials.

Epidemiology*

*(*The branch of medicine that deals with the study of the causes, distribution, and control of disease in populations)*

Periodontitis is very common, and is widely regarded as the second most common disease worldwide, after dental decay, and in the United States has a prevalence of 30-50% of the population, but only about 10% have severe forms.

Etiology*

*(*The study of the causes)*

Periodontitis is an inflammation of the periodontium—the tissues that support the teeth in the mouth.

The periodontium consists of four tissues:

- The gingiva, or gum tissue;
- The cementum, or outer layer of the roots of teeth;
- The alveolar bone, or the bony sockets into which the teeth are anchored;
- The periodontal ligaments (PDLs), which are the connective tissue fibres that run between the cementum and the alveolar bone.

The primary etiology, or cause, of gingivitis is the accumulation of a bacterial matrix at the gum line, called dental plaque.

Other contributors are poor nutrition and underlying medical issues such as diabetes.