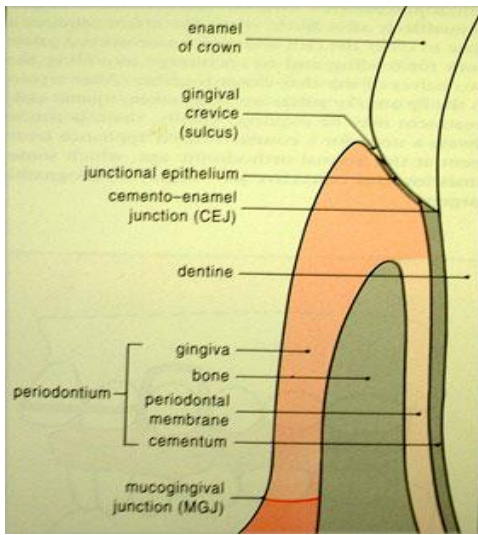


Periodontal Health and Disease



The tissues around the teeth are called **periodontal tissues**. The gums (also called **gingivae**) consist of soft, pink tissue, which covers the alveolar bone. Bone (**Alveolar bone**) is the bone in which the roots of teeth are attached. **Periodontal Membrane** are fibres that attach the roots of teeth to the bone.

Healthy gums. The attached gingivae forms a strong protective cuff around the necks of the teeth and is tightly attached by fibres and the tight pull of these fibres gives a stippled or indented appearance. In between the teeth the gum (interdental papillae) has a pointed appearance



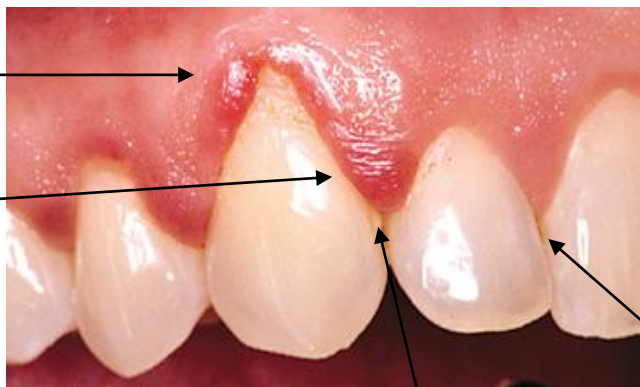
Dental plaque is a thin film of protein from saliva which sticks to the teeth, and bacteria in the mouth stick and grow on this film.

It will start to form soon after the tooth has been cleaned. Soft, sticky, carbohydrate foods with high amounts of sugar help plaque form. Plaque produces **toxins** which will cause inflammation and damage the periodontal fibres.

Gingivitis: This is inflammation or infection of the gums only. Most people have gingivitis at some time or other. It appears as red swollen gums that bleed when brushed. Good tooth brushing and interdental cleaning (removing plaque) can stop gingivitis.

At first gingivitis may be a little swelling and redness. There will be no pain but the gum will bleed when brushed.

Often patients will stop brushing firmly because they see bleeding and so more plaque will gather.



Inflammation: This is the first result of living tissue to injury or an attack of bacteria and other organisms. The tissue will be red, hot, swollen and painful. An inflammation can become an infection.

Infection: A disease caused by bacteria, viruses or fungi. It can result in the damage of gum, bone, nerves and blood vessels of teeth

When the gingivae is swollen it allows more plaque to collect than when the gum is tight and healthy. The more plaque that gathers the more inflammation there will be.

If a patient has bleeding gums they must be given good instructions on how to brush their teeth well, to include especially the areas they have been missing. They must also be shown interdental cleaning.

Periodontal Disease

This is an infection that can damage the periodontal tissues, that is, the gums, the bone and the periodontal membranes. It develops slowly over many years and will be present in more than half the adults. It is the main reason for losing teeth. Most patients will not know they have periodontal disease.

Bacteria within the plaque produce toxins (poison) which destroy the fibres of the periodontal membrane.

A gap or pocket will develop between the gum and the tooth as the periodontal fibres are destroyed. Once a pocket has formed it is harder to remove all the plaque from that space.

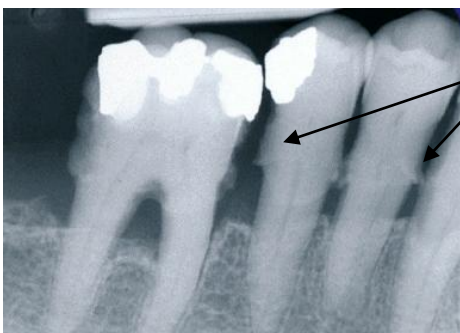


Periodontal disease does not always show unless a perio probe is used to check if there are any pockets.

As pockets get deeper it is harder to remove plaque and more toxins are produced and so the disease continues.

Supra gingival calculus forms at or above the gingival margin and is usually yellow in colour: the calcium salts come from saliva. It easily breaks away from the tooth and it is usually found near the saliva ducts close to the lingual surface of the lower anteriors, and the buccal surface of the upper molars. It is not a direct cause of periodontal disease though it does help plaque retention.

Subgingival calculus forms below the gingival margin and is less visible and is best detected by probing. It is usually dark brown or green due to pigmentation by blood breakdown products: the calcium salts are derived from the gingival crevicular fluid. Calculus is a local factor in contributing to periodontal disease because of its rough irritant surface and its ability to increase plaque retention. It provides a reservoir for many pathogenic microorganisms.



The radiograph clearly shows the sub gingival calculus and the extracted tooth shows a large deposit of calculus that has taken many years to form and is really hard to remove



Other Factors that Contribute to Periodontal Disease

- Smoking is a main cause of periodontal disease.
- Puberty and pregnancy can make periodontal disease more possible.
- Medical problems such as diabetes.
- Medicines such as birth-control pills, and drugs for treating heart disease.



During puberty changes in hormone levels can effect the gingivae.

During pregnancy there can be large swellings of the gingivae – known as “pregnancy epulis” as well as bleeding gums.



Progression of Periodontal Disease

A periodontal pocket is the space that develops between the tooth and the gum when plaque toxins (poisons) have damaged the attachment of the gum to the tooth.

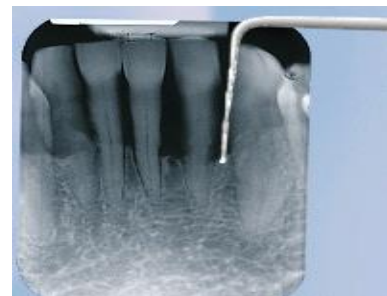
Toothbrushing cannot remove plaque from pockets, and so the plaque toxins continue to damage the attachment of the tooth.

Pockets show how far the disease has progressed.

The bone around the tooth will be become infected and will be damaged. The loss of bone means the tooth will become loose.

Pockets and their contents cause bad breath.

The aim of the treatment is to eliminate the pocket, or at least to reduce its depth.



Prevention of periodontal disease.

Periodontal disease that is caused by plaque can be prevented by the regular daily removal of plaque. Good oral health care by the patient and scaling by the dentist/hygienist to remove calculus deposits are needed.



Disclosing solutions or tablets are useful to show patients where plaque grows and where they miss when they clean their teeth



It is good to teach people to start at one corner of their mouth and work their way round the outside of the teeth to the other side, then do the same for the inside, then the same for the biting surface, then the same with the other jaw. A medium nylon tooth brush must clean the gingival margin, but it cannot clean between the teeth and so we need “interdental cleaning”.

Interdental Cleaning



Patients must be shown how to clean between their teeth.

It takes a lot of practice to be able to use floss well and care must be taken with interdental brushes or woodsticks that they do not damage the gingivae. Each patient is different in their skills and their teeth are different so if a patient is not able to manage one type of interdental cleaning then they must be shown an alternative until they are able to clean between their teeth.

It is very important that they learn to clean between the molar teeth where there are large interdental spaces a toothbrush cannot reach.