

Medicine for Managers

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Periodontal Disease

Periodontal disease is the sixth most common disease world-wide and it is becoming ever more prevalent. In the context of 50% of the population being over 50 and 25% of the population being pensioners by 2050 in the UK, it is estimated that three out of four people will have gum disease and over 80 percent of people aged 55-60 will have moderate to severe periodontal disease

What is Periodontal Disease?

The term 'periodontal' means literally '*peri*' – around and '*dontal*' – teeth. It refers to all the soft tissues which support the teeth. Strictly inflammation of the gums (*gingivae*) is called *gingivitis* and more extensive damage to the support tissues of the teeth is called *periodontitis* (literally meaning 'inflammation' - *-itis* around the teeth).

Gum disease or *gingivitis* is caused by a build up of plaque around the teeth. The plaque is sticky and full of bacteria. It can be easily removed by tooth brushing but if appropriate oral hygiene measures are not taken the plaque hardens and

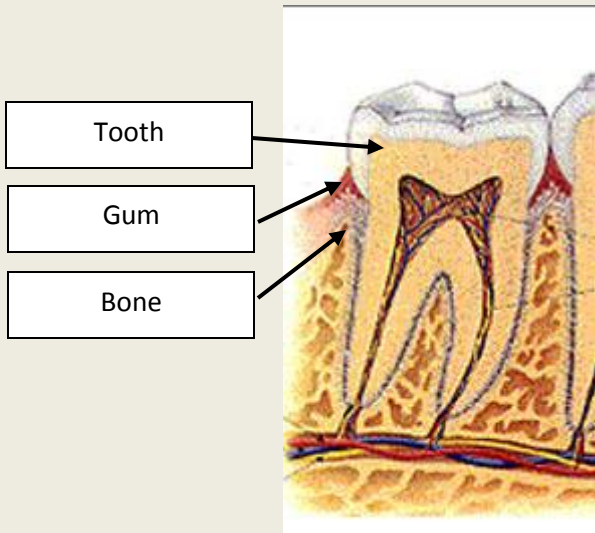


becomes thicker and cannot be removed with a toothbrush. The gums become inflamed and bleed easily particularly when brushing. The plaque is visible and unattractive and it can make the breath smell. Once the bacterial plaque, or **biofilm** as it is called, is hardened, it can only be removed by a dentist or a hygienist undertaking a scale and polish.

In cases where the gingivitis is not treated, it may progress to periodontitis. In these circumstances the bacterial deposits cause inflammation and destruction of the supporting tissues so that the gum falls away from the teeth to form spaces called **pockets**.

Increasing deposits lodge in the pockets causing increasing infection and further tissue breakdown. If the disease is not arrested, gums, tooth support tissue and bone are destroyed. In such circumstances the teeth become

increasingly loose and either fall out or may need to be extracted.



In the normal healthy mouth, the teeth are lodged firmly in the jaw with gum which is applied to the lower part of the crown of the tooth and bone which forms a socket and which extends up to the top of the root.



In an area of periodontitis, the gum becomes progressively more inflamed and the fibres which attach the tooth to the bone are gradually broken down resulting in separation

of the gum from the tooth with the formation of pockets (as illustrated above). If untreated the result is inevitable.

When the dentist does an examination he may X-ray the teeth, not only to detect decay in the teeth but to inspect the bone levels surrounding the teeth.



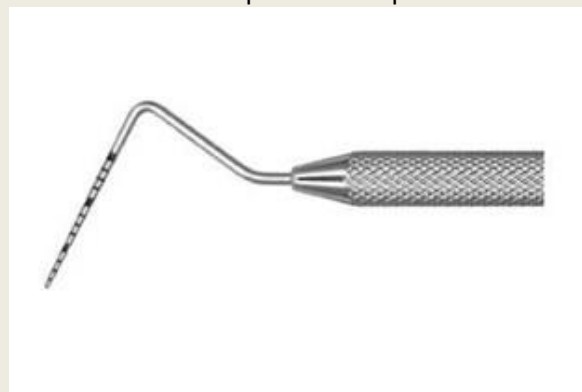
This X-ray shows bone extending up to the top of the root. Bone level is a red line



In this radiograph the bone has receded to below half way down the root. Again the approximate bone level is shown in red. In the lower radiograph, the amount of bone loss is considerable and the teeth may already be starting to become loose.

A variety of factors contribute to the development of periodontitis. Smoking is one of the most significant risks and impairs attempts at treatment. Diabetes and other chronic illnesses increase susceptibility. HIV/AIDS and any medical treatments that lower resistance to infection increase the risk of periodontitis and so do some medications. Men are about 10% more likely than women to develop periodontitis and Afro-Caribbean and Asian races are also more susceptible. The disease does not normally become apparent until the late thirties or early forties and the tell-tale symptoms will be tender, bleeding gums, swollen gums, bad breath, receding gums giving the appearance of elongated teeth and latterly loose teeth.

The diagnosis is made relatively easily by the dentist at a check-up. During the examination he will examine the hard tissues (teeth) and the soft tissues (gums). He will normally undertake a BPE (**Basic Periodontal Examination**) on a regular basis. This consists of using an instrument called a periodontal probe



The tip of the instrument is calibrated in 1 mm divisions. The mouth is divided into six areas,

upper and lower left and right back teeth and upper and lower front teeth. Each tooth is then examined with the periodontal probe and if there is any pocketing, the depth to which the probe passes down the pocket is measured for each tooth. The deepest pocket depth is recorded. In a perfect mouth, the score might appear as:

0	0	0
0	0	0

In a mouth with mild to moderate periodontitis the pocket depths in millimetres might show as:

3	2	3
2	3	3

In a patient with severe chronic periodontitis the pocket depths might be:

7	4	6
7	6	7

For the dentist, measuring pocket depth is very important, because, even in advanced cases, improvement can be obtained by a combination of dental care and patient commitment to good oral hygiene and pocket depth can actually be reduced. In many cases the treatment will be undertaken by a periodontologist who is a dentist who specialises in the treatment of advanced gum diseases.

The mainstay of treatment is to clean the mouth of bacteria, food debris and tartar. This is done by the dentist, periodontist or, most commonly, by the wonderful hygienists who skillfully clean all round the mouth removing plaque, tartar and stain and rendering the teeth clean. If the newfound cleanliness is maintained

and continues to be healthy there may be some reattachment of the gum tissue to the teeth reducing the pocket depth. The 'before' can be converted to the 'after' provided cleanliness is



maintained. The horrible, swollen and unpleasant gums can be restored to:



As is apparent from the photograph above, it is usually not possible to restore all the gum and triangular spaces remain between the teeth. However the healthy appearance can be restored, the inflammation resolved, the bleeding stopped and the bad breath eliminated.

Sometimes cleaning is insufficient on its own and other treatment is required. Antibiotic therapy is necessary for infected areas, and sometimes surgery provides the only realistic way of restoring reasonable gum health. **Flap surgery** involves lifting back the gums, cleaning

out tartar and repositioning the gums so that the tissues fit snugly round the teeth. In addition it may be necessary to replace the lost bone with **bone grafts** to provide additional support lost from round the teeth.

Acute necrotising ulcerative gingivitis

Formerly known as **trench mouth**, this is a rapidly progressive and destructive type of periodontal disease associated with abundant overgrowth of particular bacteria. It presents with all the symptoms of periodontal disease, in particular horrible breath but, in addition, crater-like ulcers on the gums, painful gums and feelings of ill health because of systemic effects. It can be treated in a matter of weeks using antibiotics followed by intensive hygienist treatment. Failure to diagnose and treat it is associated with rapid destruction of the periodontal tissues and loosening and loss of the teeth. It is astonishing that, during the first World War, sixty thousand troops were invalided out of the army on account of trench mouth.

As dental care improves in the UK and fluoride toothpaste and applications reduces the susceptibility of teeth to decay, gum diseases will become the principal cause of lost teeth.

Teeth and gums can be kept healthy by:

- **Not smoking**
- Brushing the teeth twice daily with a fluoride toothpaste

- Floss between the teeth regularly to remove plaque or use a special ***interdental brush (Tepe)***
- Visit the dentist regularly for an examination
- **And again... Do not smoke**

It doesn't take much effort to keep the teeth and gums in good shape. And remember

“You are never fully dressed without a smile”

Martin Charnin

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