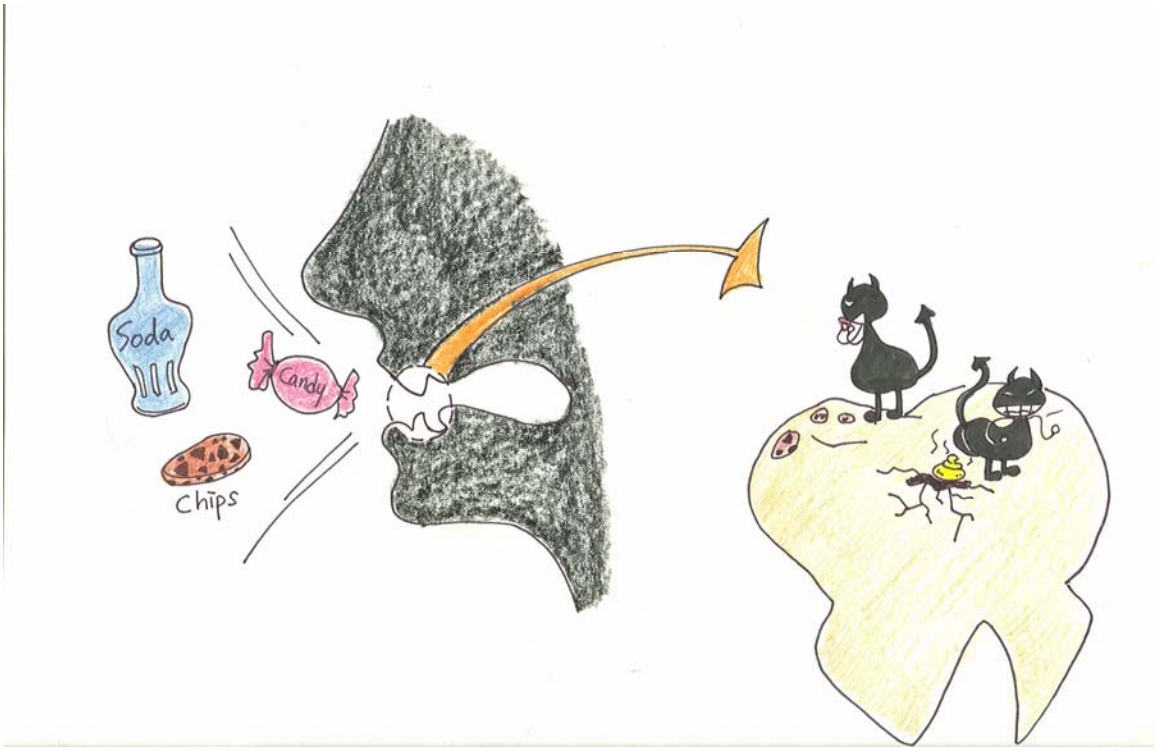
4 Etiology (Cause of Disease)

Decay

Decay is the dissolving of teeth. It is caused by the acid waste produced from bacteria in the mouth after eating sugar and carbohydrates (starch).



The photo to the left shows the results of decay on teeth. Notice the brown areas of the upper incisors. The enamel has dissolved and chipped away, exposing the underlying dentin. The decay process mentioned above is more rapid in dentin, and if not treated will spread to the pulp and cause infection of the pulp, and tooth ache.

Decay is prevented by either removing bacteria (brushing and flossing), or limiting the frequency of exposure to sugars and carbohydrates. Put another way, to prevent cavities, brush more, and eat sugar and starch less often. How to brush properly is found in Chapter 8, page 2.

Gingivitis

Gingivitis is red, swollen, bleeding gums. It is how the gums react to bacterial irritation. To stop gingivitis, remove the bacteria on the teeth along the gums. This is done by brushing, flossing, using a tooth pick, twig, cloth or similar. After only a few days of proper cleaning at least once per day, gingivitis will stop (See Chapter 8, page 2).

photo of gingivitis

photo of healthy gums

Calculus – Hard stones that form on teeth. It is caused my minerals from saliva solidifying within the colonies of bacteria that live on teeth. It irritates the bone holding teeth, and leads to the eventual loosening and loss of teeth. It must be removed to maintain firm teeth.

Periodontitis (gum disease)

Periodontitis is the loss of bone holding teeth. It is caused by the body's response to bacteria and calculus on the root under the gum line. The bone around teeth does not grow back, but the disease can be stopped from getting worse by removing calculus and bacteria from the root surface under the gums. Sometimes the disease causes too much damage, and cleaning is of little help. This is why it is very important to prevent it from starting by removing calculus while it is small.

photo of Periodontitis

photo of healthy gums

Compare the photos above. Notice the different color of the gums. The healthy gums are pink and tight. The gums in the periodontitis photo are redder and have receded. Also note how the papillae appear blunt and have lost their normal shape along the teeth.

Pulpitis

Pulpitis is when bacteria have infected the pulp of a tooth. It usually results in pain. If caught early, when symptoms (the things a patient tells you) are mild (short pain to sweets, cold, hot) a filling can usually stop the pain (this is called *reversible pulpitis*). If the decay reaches the point where teeth hurt spontaneously, or a long time after having cold, the condition is not curable (this is called *irreversible pulpitis*). If left untreated, the infection will eventually kill the nerve which may lead to abscess. There are only two good choices to get the patient with this kind of pulpitis out of pain. Either remove the whole tooth, or remove the nerve. Removing the nerve can be complicated and requires special instruments and training beyond the level of this program. If the patient wishes to save the tooth, he/she must see a dentist.

Abscess (periodontal)

Periodontal abscess is when infection has collected under the gum line around a tooth. This is usually a result of deep pockets (greater than 4mm) under the gum line that prevent proper cleaning.

Abscess (periapical)

Periapical abscess is when infection (usually with pus) has collected at the tips of the roots. It is usually caused by deep decay into the pulp of a tooth. It is usually slightly painful with increased pain to chewing or *palpation* (pressing on area). As the infection at the root tip becomes larger, it becomes more painful, and can spread to the face as in the photos below. This is a very serious problem and must be treated quickly.

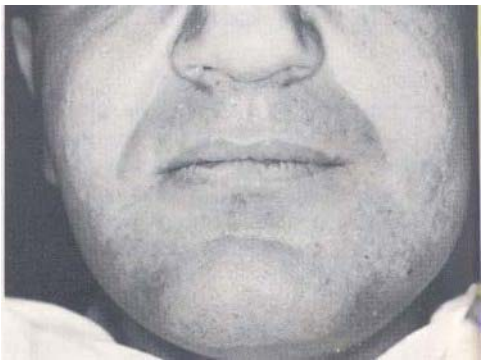


photo of periapical abscess (mandibular)

photo of periapical abscess (maxillary)