

The Compromised Immune System and Your Mouth

When your immune system does not work optimally you are at greater risk for developing infections, including infections of the oral cavity. Oral diseases can impact overall health, especially when dealing with conditions or procedures that compromise your immune system. A number of signs or symptoms could indicate an immunocompromised condition.

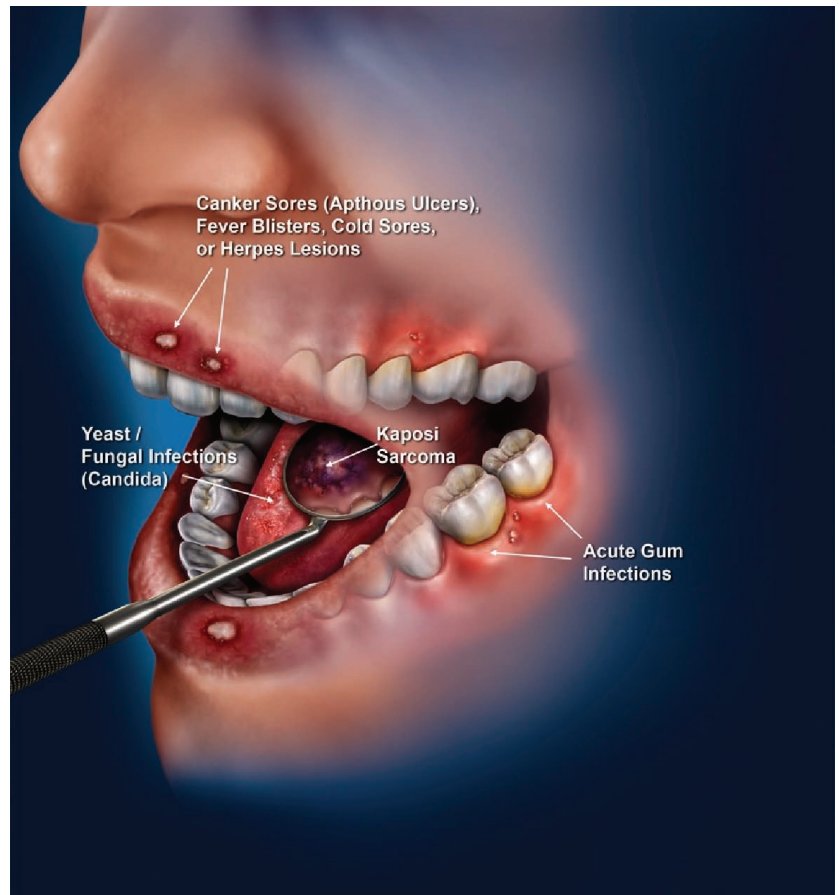
What kind of signs or symptoms in the mouth could indicate an immunocompromised condition?

- Frequent, unexplained yeast or fungal infections found orally or genitally (also known as Candida)
- Frequent and/or slow healing mouth lesions such as canker sores (Aphthous ulcers), fever blisters or cold sores, oral or genital herpes lesions
- Recurrent and persistent bacterial and/or viral illnesses
- Slow growing, reddish-purple lesions that are painless and occur on the gums, lining of the cheeks or the roof of the mouth (Kaposi's sarcoma)

These symptoms make eating, chewing, and speaking difficult; and as a result, the mouth and the rest of the body become more prone to infection. For people who experience these signs and symptoms, it is important to seek medical care.

Infections associated with a compromised immune state can be a “two-way street”, moving between the body and mouth in both directions. Normally, the uniqueness of oral and throat tissues and saliva protect people from the bacteria and viruses including specific bacteria which place the oral cavity at greater risk for infection. When people become immunocompromised they lose these kinds of protection and consequently infection can occur.

One source of infection in the mouth is the bacterial biofilm contained in plaque, which adheres to both teeth and other surfaces in the mouth. Biofilm is plaque which is a highly organized mass of bacterial colonies within a sticky substance. With bacteria encased in this sticky biofilm, microorganisms associated with gum disease (periodontal disease) are more resistant to removal. Bacterial biofilms in the mouths of people with suppressed immune systems have the potential to become more potent because the immune system is less capable of defending itself. Periodontal disease and decay can occur in anyone, but when the immune system is not functioning optimally, susceptibility and severity of oral disease can increase. Periodontal disease and tooth decay can also be more invasive and severe in people who are immunocompromised.



What are the things that can compromise a healthy immune system?

Your immune system can be compromised by a number of diseases, conditions, and/or therapies including the following:

Diseases or Conditions

- HIV/AIDS
- Sjogrens Syndrome
- Diabetes
- Rheumatoid Arthritis
- Systemic Lupus Erythematosus
- Hashimoto's Thyroiditis

Procedures

- Cancer therapy; both chemotherapy and radiation therapy
- Anti-rejection medications associated with transplant surgery

If I am immunocompromised, what should I do to prevent oral infections?

Immediately after diagnosis of an immunocompromised condition or disease and/or prior to initiation of treatment, it is imperative that patients learn how to achieve and maintain optimal oral health to prevent oral infection and the potential for systemic complications. For example, anti-rejection medications are often prescribed prior to organ transplant. These not only suppress the immune system which can make individuals more prone to infections, but may also result in swollen, enlarged gums that can cover portions of teeth. This can be unsightly and uncomfortable. This outcome, as well as infections, can largely be avoided with meticulous oral hygiene. Consequently, before initiating transplant surgery or radiation/chemotherapy treatment, a first priority should be a comprehensive oral evaluation conducted by a dentist and dental hygienist to assess your current oral health status. A complete set of radiographs (x-rays) can determine whether there is bone loss indicative of periodontal disease and decayed teeth. These conditions need to be treated prior to cancer treatment or transplant surgery since such infection in the mouth can pose a greater risk when the immune system is not optimal.

The best way to minimize the risk of oral infection is

compliance with meticulous oral hygiene procedures as recommended by your dentist and dental hygienist. These procedures may include the following:

- More frequent visits to your dental provider for check-ups and oral prophylaxis
- Use of extra-soft toothbrushes if it becomes painful to brush your teeth
- Use of a power toothbrush, which can be more effective at biofilm removal if gum tissue is not too tender
- A technique to supplement brushing that can reach and remove biofilm between teeth
- Use of antimicrobial mouth rinses
- Brushing the tongue
- Control of any current oral disease or infection

During cancer treatment, the intact mucous membranes of oral and throat tissues may become raw and painful as a result of the effect of strong chemotherapeutic agents on normal cell growth. This oral condition is termed *mucositis* and can be one of the more painful and troubling side effects of treatment of head and neck cancer. **Suggestions for the discomfort of mucositis** include the following:

- Avoid foods with sharp or rough surfaces such as potato chips, crackers, pretzels, etc.
- Avoid spicy, strongly flavored, or acidic foods or beverages
- Ask your dentist or dental hygienist to recommend a salivary substitute to prevent trauma to the oral tissue
- Ask your dentist to prescribe an oral corticosteroid elixir to reduce the painful inflammation

If you receive radiation cancer therapy to the head or neck area, you can experience long-term and severe dry mouth due to irradiation of your salivary glands. You may not realize the value of saliva until you try to eat, swallow, or chew without it. Saliva substitutes and food and drink choices as described above can relieve the discomfort.

Working closely with your dentist and dental hygienist as well as following through with their suggestions at home, can help minimize the “*two-way street*” created by passing infections between your mouth and the rest of your body until your immune system is fully protecting you again.