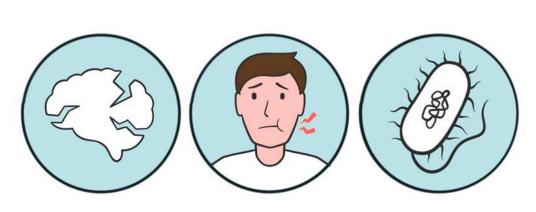
Aphthous Ulcers aka Canker Sores

Aphthous ulcers, commonly known as canker sores, are white or yellow inflamed spots that can appear temporarily on your tongue, gums, or inside your cheeks.

Anyone can get a canker sore, and although they can be painful, they are not contagious and typically heal on their own within a few weeks. If a canker sore does not go away on it's own, you should go see your dentist.

Experts are still trying to understand why some people get canker sores more often than others, but there are still ways to help prevent and treat canker sores.





What Can Cause Canker Sores?

- Acidic foods
- Injuries to the tongue, gums, or cheek
- Ibuprofen and other nonsteroidal antiinflammatory drugs
- H. pylori bacteria (also a common cause of stomach ulcers)
- Allergic reactions to food, toothpastes, or other oral hygiene products

How to Prevent Canker Sores?

- Limit or avoid acidic foods and drinks such as spicy foods, sour candies, and sodas
- Brush and floss regularly
- Ask your dentist about nutrient deficiencies
- If you have braces, dentures, or other dental devices that are rubbing, poking, or irritating your mouth in anyway, ask your dentist for help









How Can You Treat Canker Sores?

- Use a topical oral gel like benzocaine
- Use a non-alcoholic mouthwash or ask your dentist about a prescribed medicated mouthwash
- Take vitamins to reduce nutritional deficiencies
- Ask your dentist about cauterization with chemicals or by laser for severe cases

Cold Sores

Cold sores are the most common symptom of the very contagious viral infections, herpes simplex virus type 1 (HSV-1) and type 2 (HSV-2). An estimated 3.7 billion people under the age of 50 have HSV-1, and an estimated 490 million people aged 15-49 have HSV-2.

HSV-1 & 2 can increase the risk of other health issues in infants and in people that have HIV/AIDS, cancer, or have received an organ transplant. If you commonly have cold sores, you should get tested for HSV-1 & 2.

There is currently no cure for cold sores or HSV-1 & 2, but there are treatments and ways to prevent its spread.



What Are The Stages of a Cold Sore?



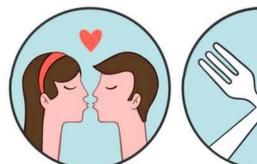
Stage 1 Itchy irritated areas of redness and swelling.



Stage 2
Irritated areas turn into blisters (fluid-filled bumps).



Stage 3
Blisters can turn into ulcers (open blisters).







How Can You Prevent Cold Sores?

- Avoid close contact with people who have cold sores
- Practice good sanitation and hygiene such as regularly washing your hands
- Reduce stress and be well-rested
- Use doctor-recommended lip balms that can keep your lips hydrated





How Can You Treat Cold Sores?

- Use pain medicines, numbing creams, or lip balms. After your cold sore clears, throw away any products used on or around your lips to prevent reinfection
- Ask your doctor, dermatologist, or dentist about an antiviral medication if your cold sore lasts more than 14 days

Early Childhood Caries aka Baby Bottle Tooth Decay

Dental caries (or tooth decay) is the most common chronic disease in children. Tooth decay experienced by children before age 6 is specifically called early childhood caries, or more commonly, baby bottle tooth decay.

The more common name comes from the tooth decay most often being caused by babies and toddlers falling asleep with a bottle that contains a sweetened drink, such as fruit juices, formulas, or milk. Baby bottle tooth decay is highly preventable with good oral hygiene, feeding, and drinking habits and can be treated by a dentist.





What Causes Baby Bottle Tooth Decay?

- Frequent bottle feeding at night
- Exposure of teeth to cavity-causing bacteria
- Over eating and drinking sugary products
- Poor oral hygiene

How to Prevent Baby Bottle Tooth Decay?

- Monitor your child when bottle feeding
- Regularly clean children's teeth and gums
- Remove the bottle when feeding is over
- Avoid prolonged pacifier use
- Do not dip pacifiers in honey or other sugary substances.







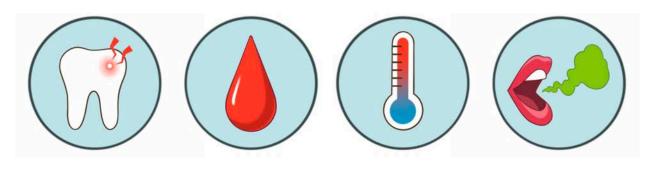


- Apply fluoride to remineralize teeth
- Remove decay and apply fillings
- Apply sealants to protect teeth from cavity-causing bacteria.
- Extract (or remove) the tooth in severe cases

Gingivitis and Periodontal Disease aka Gum Disease

Periodontal disease and gingivitis are different stages of gum disease. Anyone can have gum disease, but people with certain health conditions like diabetes and heart disease are more likely to experience it. Some people are also born with a genetically higher chance of having gum disease.

Gum disease is one of the most common oral health issues in the world. Almost half of the adult population has experienced some stage of gum disease. Early stages can be prevented and managed with proper oral hygiene habits, while severe gum disease requires treatment from your dentist and if left untreated can lead to tooth loss, infections, or major health issues in rare cases.



What Happens During The Different Stages of Gum Disease?

Stage 1: Gingivitis

- Swollen red gums that are soft and squishy
- Some bleeding from the gums may occur
- Bad breath
- Gum sensitivity

Stage 2: Periodontal Disease

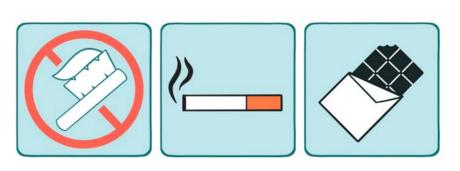
- Swollen, red, bleeding gums
- Gum recession (gums shrinking away from your teeth)
- Periodontal pockets (air pockets between your teeth and gums)
- Loose and sensitive teeth

Stage 3: Advanced Periodontal Disease

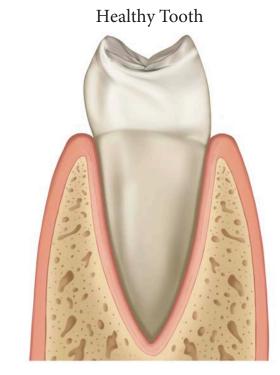
- Severe pain
- Severe gum recession and inflammation
- Tooth loss
- Painful abscesses (lumps filled with pus).
- Severe infection that can affect other parts of your body and your overall health.

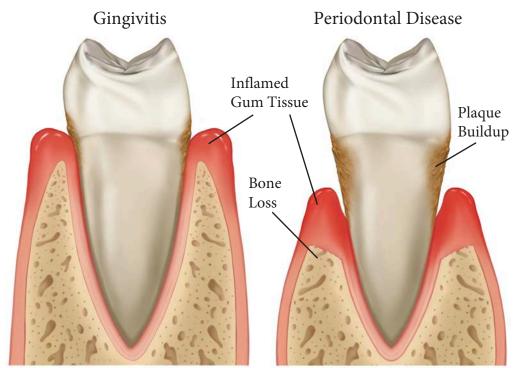


What Can Cause Gum Disease?



- Poor oral hygiene habits (not brushing and flossing regularly)
- Sugary food and drink choices
- Other diseases like diabetes, heart disease, lupus, and Chron's disease
- Smoking or drug use
- Hormonal changes or stress





Treatment Options for Gum Disease

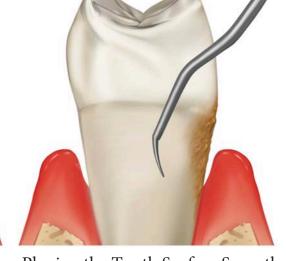
Stage 1: Gingivitis

Good oral hygiene habits like brushing, flossing, rinsing, going to the dentist, and making healthy food and drink choices can prevent and even reverse gingivitis.









Stage 2: Periodontal Disease

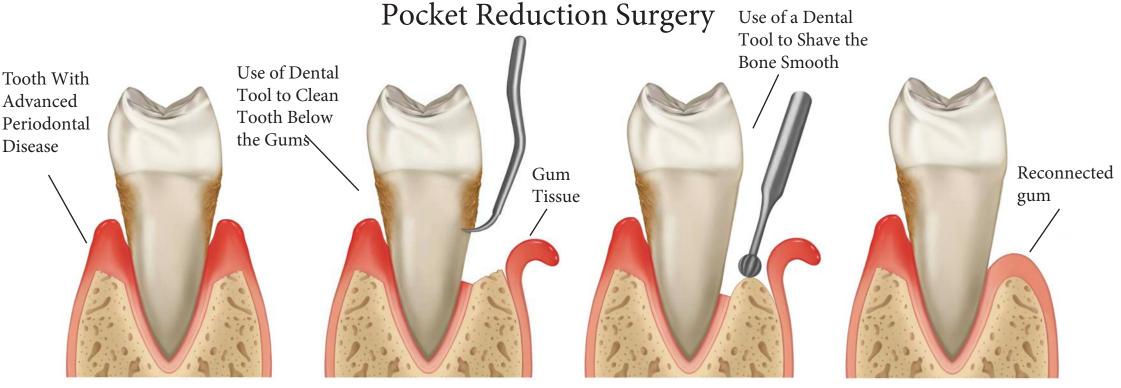
Scaling removes plaque and tartar buildup on your teeth above and below the gum line.

Root planing smooths out the rough surface of your teeth caused by decay. This helps remove places for bad bacteria to grow and to help your gums reattach to your teeth.

Scaling Away Plaque

Planing the Tooth Surface Smooth

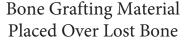
Stage 3: Possible Treatments for Advanced Periodontal Disease



Pocket reduction surgery is necessary when your gums become inflamed and create pockets between the gum and tooth for plaque and bacteria to grow. A periodontist may cut and pull back your gums to scale and plane the roots of your teeth, then suture (reconnect) your gums to heal and reconnect to your teeth.

Bone and Gum Grafting





Healed Tooth With New Bone Growth



Use of Dental Tools to Place Grafted Gum Tissue

A periodontist will use a dental bone graft to help repair damaged bone and support new bone growth. They will first clean the infected area and then place the grafting material over lost bone.

To cover new bone and repair gum tissue, the periodontist will then perform a gum grafting. Gum tissue is taken from another part of your mouth or may be donated from a tissue bank.

Halitosis aka Chronic Bad Breath

Halitosis is the medical term for chronic bad breath. If bad breath doesn't go away after brushing or rinsing with mouthwash, it may be because an underlying oral health issue or condition is causing the odor.

Halitosis can be a symptom of different conditions, and may be caused by a variety of issues. Halitosis is a common oral health issue, affecting about 30% of people at some point in their life. Most causes of halitosis are not life threatening and can be treated with home remedies, medications, and regularly brushing, flossing, and using non-alcoholic mouthwashes.



Bacteria Buildup on Gums

What Can Cause Halitosis?

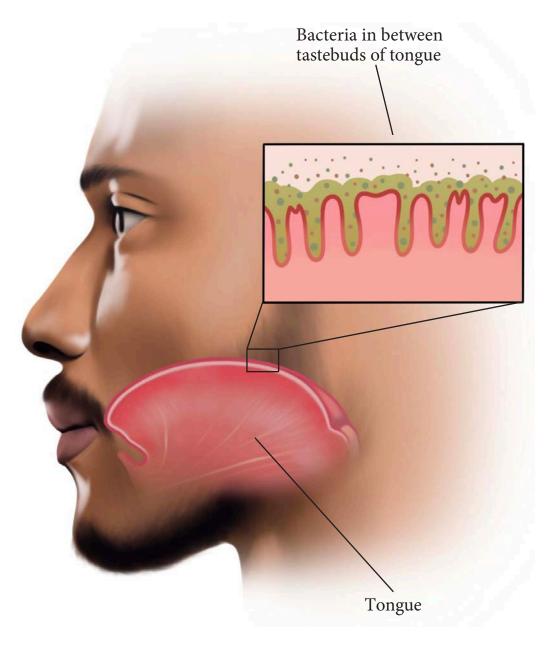
- Certain foods like garlic and onion
- Poor oral health
- Gum disease
- Bacteria buildup on your tongue
- Dry mouth
- Underlying health conditions like respiratory (breathing) diseases, sleeping disorders, and diabetes

How Can You Treat and Prevent Halitosis?

- Brush, floss, and rinse with non-alcholic mouthwash regulary
- Brush your teeth AND your tongue
- Drink plenty of water to keep your mouth hydrated
- If your bad breath doesn't go away, see your doctor or dentist to talk about potential causes and treatments







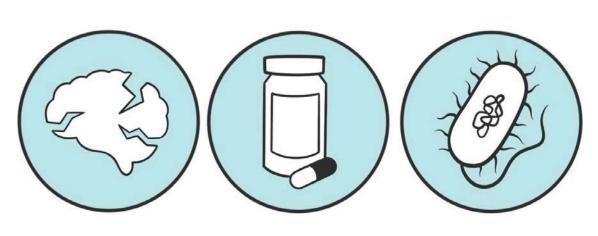
Oral Candidiasis aka Oral Thrush

Oral candidiasis, commonly known as oral thrush, is a fungal infection that grows in your mouth or throat, and most often on the tongue. Most people have very small amounts of the fungus in their mouth all the time that are not an issue.

When oral thrush shows itself as creamy white covering, it becomes an issue that can dry out and cause lesions (cuts) inside of your mouth. These lesions can become inflamed and cause mouth pain and redness, as well as bleed when brushing teeth. In severe cases, these lesions can spread to your esophagus and cause pain and fever.

Oral thrush most often affects toddlers, the elderly, and people with weakened immune systems. In people with cancer or HIV, oral thrush can spread to other vital organs.





What Can Cause Oral Thrush?

- Suppressed or weakened immune systems from stress or certain diseases
- Long-term steroid and antibiotic treatments
- Malnutrition or not having a healthy diet

How to Prevent Oral Thrush

Oral thrush rarely occurs in people with healthy immune systems. For people with weakened immune systems, you can do the following to help prevent oral thrush:

- Maintain a healthy diet
- Brush, floss, and rinse with mouthwash regularly









How Your Dentist or Doctor Can Treat Oral Thrush

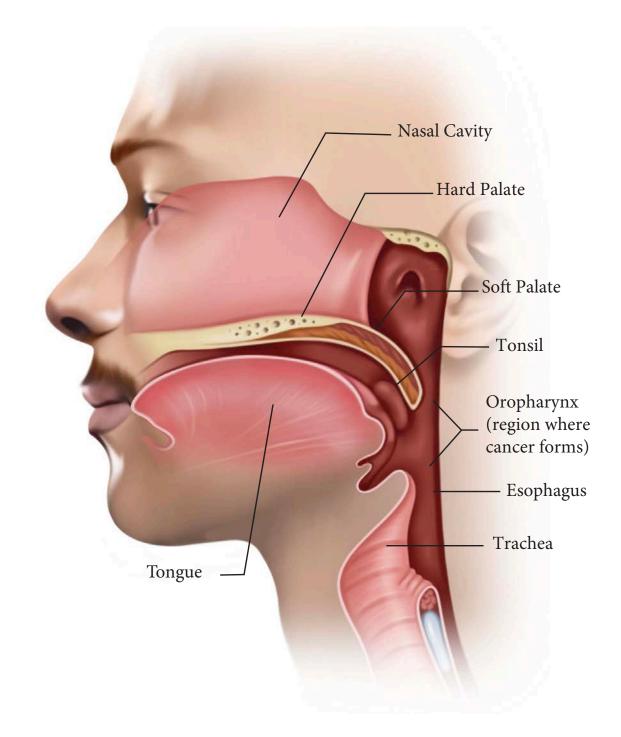
- Topical antifungal therapy (applying an antifungal cream on the infected areas)
- Medicated oral rinses and mouthwashes
- IV-fluids to help with malnutrition

Oral Human Papillomavirus Infection aka Oral HPV

Oral human papillomavirus infection, commonly known as Oral HPV is the most common sexually transmitted infection (STI).

Oral HPV affects the mouth and is found in about 10% of men and 3.6% of women. Most cases of HPV go away within 1-2 years, but in some people the infection lasts longer and can cause complications.

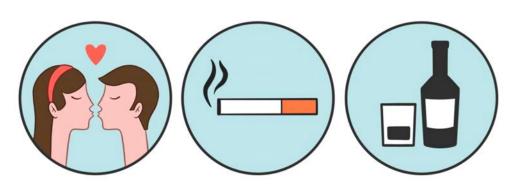
Oral HPV can lead to cancers of the oropharynx (back of the throat, tongue, and tonsils). HPV is associated with 70% of oropharyngeal cancer cases in the United States, although this may be a combination of HPV, tobacco, alcohol, and other contributing factors.



What Are The Symptoms of HPV-Associated Oropharyngeal Cancer?

- Developing oropharyngeal (back of the throat) cancer
- High pitched wheezing breaths
- Coughing blood

- Persistent sore throat and hoarseness
- Lesions on the tonsils
- Abnormal lumps
- Pain or swelling in the jaw.

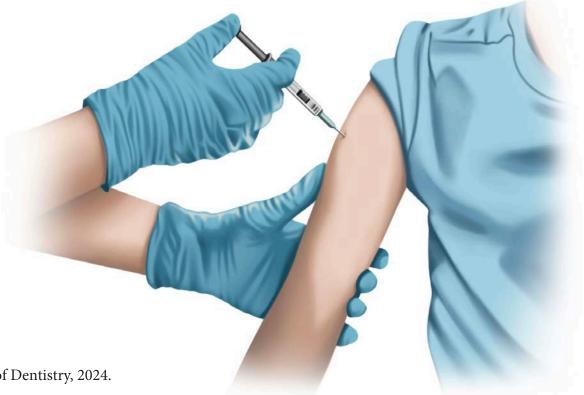


Risk factors for Oral HPV infection

- Oral sex and deep kissing
- Multiple sexual partners
- A compromised or weakened immune system caused by other health conditions or drug use.

How to Prevent and Treat HPV-Associated Oropharyngeal Cancer

- The best way to prevent HPV is with a vaccination. The CDC recommends vaccination at the ages of 11 or 12, but getting the vaccine at any time is safe
- Talk with any sexual partners about their STI history and share your own
- If Oral HPV results in cancer it can be treated with surgery, chemotherapy, and radiation therapy



This poster was illustrated and created by Jacob Kozak for the National Museum of Dentistry, 2024.

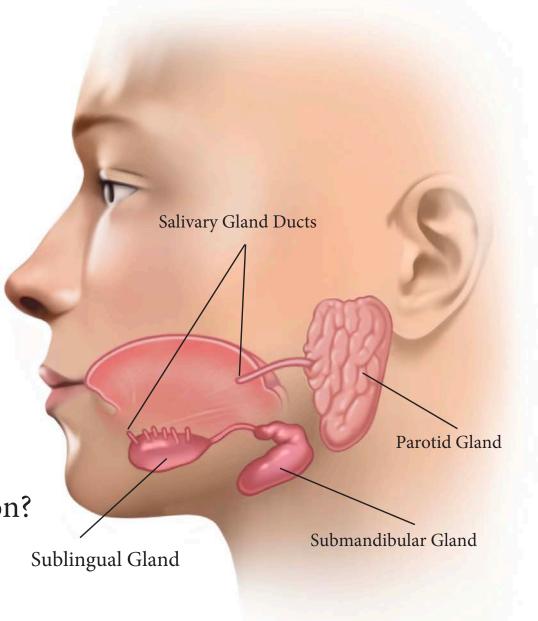
Sialadenitis aka Salivary Gland Infection

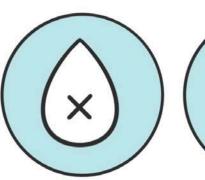
Sialadenitis is the inflammation of one or more of your salivary glands, which is why it is commonly known as a salivary gland infection. Salivary glands make saliva (spit) that helps you swallow and digest food, and that helps protect your teeth.

A salivary gland infection can be a sudden, long term, or recurring condition. Anyone can get an infection, but it most commonly occurs in adults older than 50, newborn infants, people recovering from surgery, and people with autoimmune diseases.

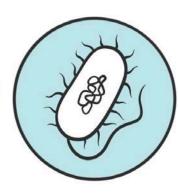


- Bacterial or viral infection
- Dehydration
- Medications such as diuretics, antihistamines, and beta blockers
- Autoimmune diseases
- Poor oral hygiene
- Contact with the saliva of someone who is has a salivary gland infection











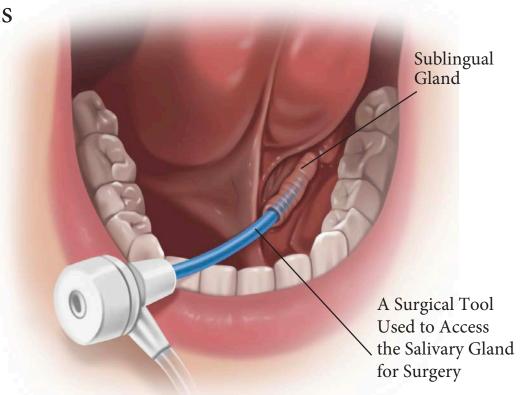


How Can You Prevent A Salivary Gland Infection?

- In many cases a salivary gland infection cannot be prevented
- Brush, floss, and rinse with mouthwash regulary to help
- Drink water regularly to keep your mouth hydrated

How Dentists Treat Salivary Gland Infections

- Prescribed antibiotics and antiinflammatory medicines
- Recommended home remedies such as staying hydrated, sucking on sour candy, massaging salivary glands, and improving oral hygiene.
- For severe cases antibiotics can be administered via an IV
- For severe cases surgery can remove the infection from your salivary gland.



If left untreated the infection can move into other parts of the body and cause severe health problems. If you experience symptoms like enlarged, tender, or discolored salivary glands, fever, pain, lack of saliva, or swelling in your cheek or neck, see your doctor or dentist.

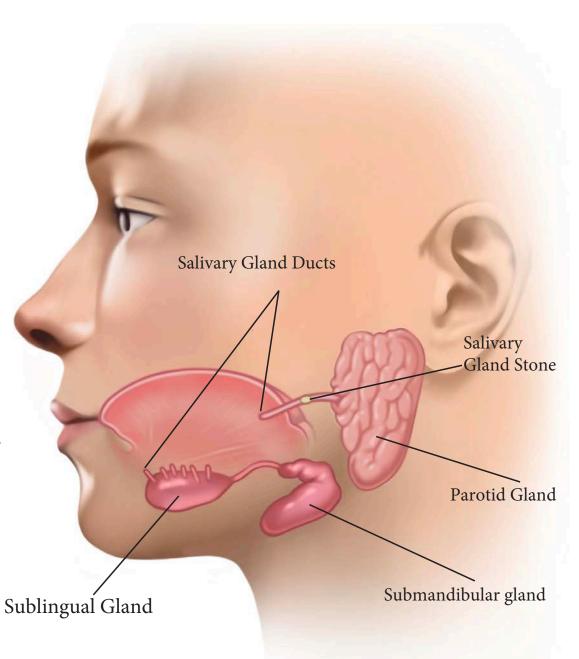
Sialolithiasis aka Salivary Gland Stones

Sialolithiasis is the formation of stones within the salivary glands., which is why it is commonly known as salivary gland stones.

These stones can block saliva flow causing dry mouth. Other symptoms can include facial pain, swelling, unusual taste, pr bumps under the tongue.

Salivary gland stones most frequently affect males ages 30-60, and rarely affect children. Salivary gland stones are rare, affecting 1 in 30,000 individuals.

Although preventing salivary gland stones is not totally possible, there are ways to help prevent and treat the condition.



What Can Cause Salivary Gland Stones?

- Dehydration (not drinking enough water)
- Smoking and drug use
- Trauma to your salivary glands
- Autoimmune diseases such as lupus and Sjogren's syndrome
- Medications such as diuretics





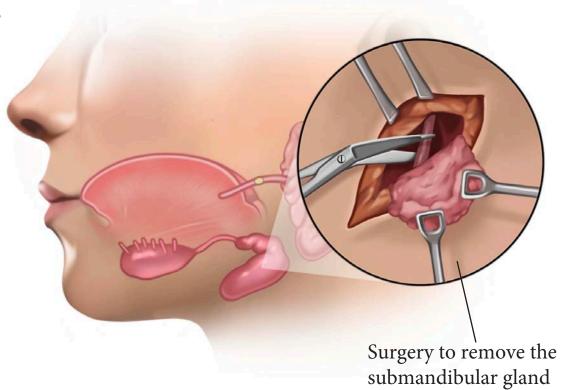


How Can You Prevent Salivary Gland Stones?

- Stay hydrated by drinking water regularly
- Avoid tobacco products and other drugs
- Practice good oral hygiene by brushing, flossing, and rinsing with non-alcoholic mouthwash regularly

How You Can Treat Salivary Gland Stones

- Consult a dentist or doctor to determine a treatment plan
- If cleared by your doctor, at home remedies such as a gland massage or NSAID's can be used
- If infection is causing the stones, antibiotics can be prescribed
- Surgery to remove the stones or the entire salivary gland is sometimes needed

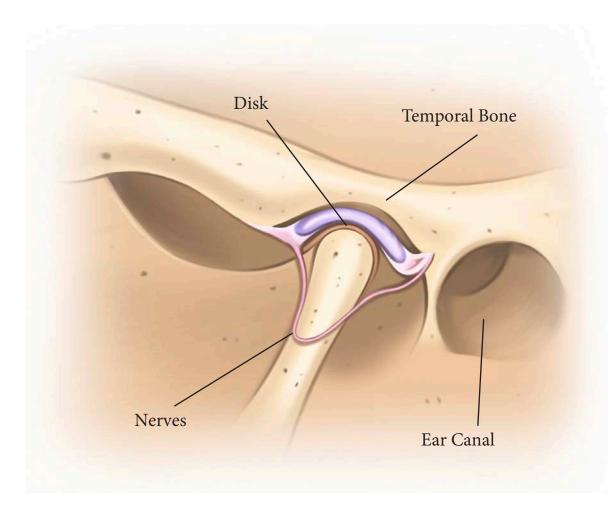


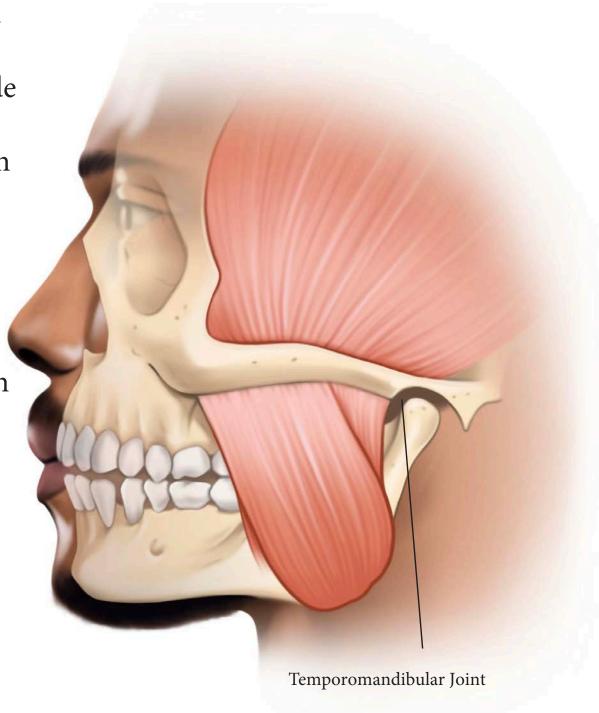
Temporomandibular Disorders (TMD)

The temporomandibular joint (TMJ) is a joint that slides and rotates to connect your lower jaw to your skull on either side of your head. Temporomandibular disorders, commonly known as TMD can cause pain in this joint or in the muscles surrounding it, making jaw movement painful and difficult.

Anyone can get TMD, but most cases occur in adults age 20-40, and more often in women instead of men. Most TMD only last for a short time, but they can become chronic (re-occuring) or long lasting without treatment.

Signs that you may have TMD include, pain in the jaw or around the ear, difficulty chewing or swallowing, aching facial pain, or locking of the joint.





What Can Cause TMD?

The exact causes of TMD are still being studied, but there are multiple conditions that can increase the chances of TMD, which include:

- Trauma to the disk in between bones or the jaw bones
- Stress
- Psychological conditions like depression and anxiety
- Bruxism (teeth grinding)
- Abnormal posture
- Weakened immune systems

How Can You Treat TMD?

- Eating soft foods
- Limiting jaw use
- Warm compress (heat) on the painful area
- Over-the-counter anti-inflammatory medications (like ipubrofen)
- In severe cases, surgery or injections (like botox) can be performed by your doctor or dentist.





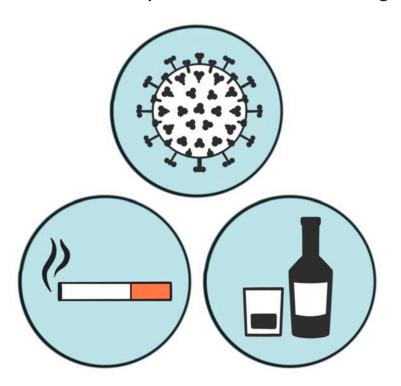
Tongue Cancer

Tongue cancer can either be a type of oral cavity (mouth) cancer, or an oropharyngeal (throat) cancer depending on where the cancer is located on the tongue. Most tongue cancer begins in the thin, flat cells that line the surface of your tongue.

Tongue cancer is most common in people ages 40 and up, it affects men twice as much as woman and African American men in particular are at higher risk.

Tongue cancer can be a deadly disease, and you should consult your dentist immediately if you notice any large red bumps or growths that did not result from an injury (accidentally biting your tongue). Like all cancers, tongue cancer is not 100% preventable, but you can make choices that reduce your chances of tongue cancer.





What Can Increase Your Chances of Tongue Cancer?

- Human papillomavirus aka HPV (especially in women)
- Smoking (tobacco use, vaping, or marijuana use)
- Drinking alcohol
- Aging (most cases occur in people over 40)
- Poor nutrition and malnutrition
- Genetics (if there is a history of tongue cancer or cancer in your family, you are at a greater risk)

How The Dentist Can Treat Tongue Cancer

Tongue cancers are classified in four stages, T1, T2, T3, and T4. T1 and T2 are considered early stage and T3 and T4 are considered advanced stage. Treatment options for each stage can include:

T1 and T2 stages:

• Surgery or radiation (when surgery is not a good option for the patient)

T3 and T4 stages:

- A combination of surgery and radiation
- Chemotherapy is used for severe cases where the cancer has spread to beyond the tongue, most commonly to the lymph nodes.







Tooth Decay and Cavities

Tooth decay is the breaking down of your teeth due to a complex interaction between bacteria and sugars, resulting in cavities.

Cavities are the world's most common health condition affecting an estimated 2.5 billion people. Anyone not practicing proper oral hygiene can get cavities, which can permanently damage your teeth but are rarely life threatening.

Tooth decay is measured in 5 stages, beginning when bacteria in your mouth make acids that damage your tooth's outer layer, the enamel, which can create a hole - the cavity. Eating or drinking sugary foods and not brushing your teeth increases the acids in your mouth, which can cause more cavities that lead to other painful issues.



Stage 1 Symptoms:

- Plaque (a sticky film of bacteria) begins to form.
- The bacteria in the plaque release acids that weaken and discolor your enamel.



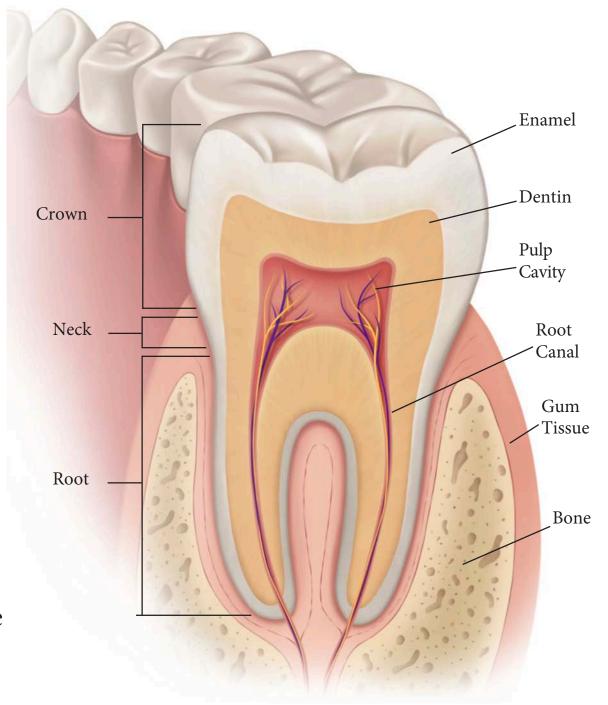
Stage 2 Symptoms:

 Decay continues and cavities begin to form deep into the enamel.



Stage 3 Symtpoms:

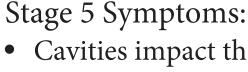
- Cavities reach the softer dentin layer of your tooth.
- Teeth begin to become more sensitive.
- You begin to feel mild tooth pain.





Stage 4 Symptoms:

- Cavities reach the pulp cavity of the tooth.
- Teeth become very sensitive.
- Pain becomes more severe.
- An infection may begin.



- Cavities impact the entire tooth and may cause pieces to break or fall out.
- Bacterial infection is guaranteed, and impacts your pulp cavity and root canals, allowing the infection to enter your blood stream.
- Severe pain and inflammation occur around the affected teeth.



Tooth Decay and Cavities Treatment



Tooth Decay Stage 1
Treatment: Good oral hygiene

- Brushing, flossing, and rinsing
- Going to the dentist regularly
- Making healthy food and drink choices

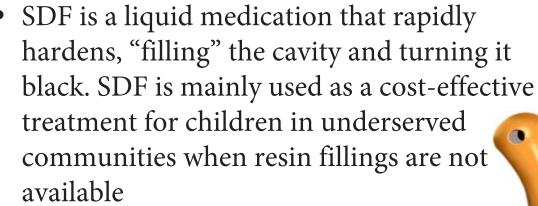






Tooth Decay Stages 2 & 3 Treatment: Fillings or SDF

- A dentist will "clean" the cavity, removing the decay with a dental tool to make sure the filling attaches to a healthy part of the tooth
- Resin fillings that can match the color of your teeth are the most common type of filling material used today

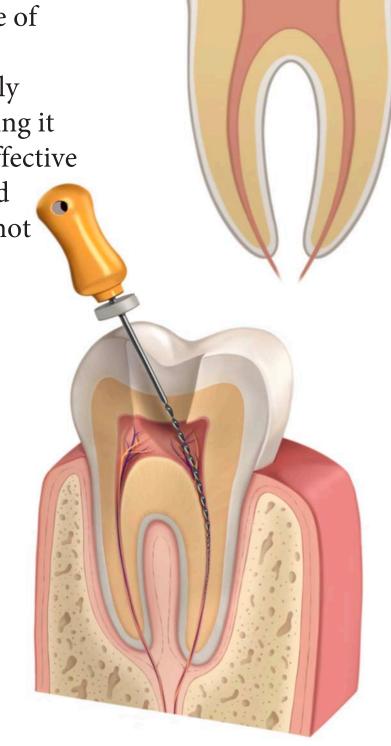




Tooth Decay Stages 4 & 5

Treatment: Root Canals or Extraction (tooth removal)

- Root canals remove infected tissues and nerves with a dental instrument, preparing (cleaning) the cavity for a filling
- After your tooth heals, you will return to your dentist for a crown that will help protect your tooth.
- Tooth extraction



What Choices Can You Make to Lower Your Chances of Tooth Decay and Cavities?



- Choose sugar-free drink options over sugary drinks
- Switch your starchy (like potato chips) or sugary (like candy) snacks for crunchy vegetables
- Brush twice a day with a fluoridated toothpaste
- Floss and rinse with a non-alcoholic mouthwash
- Visit your dentist regularly

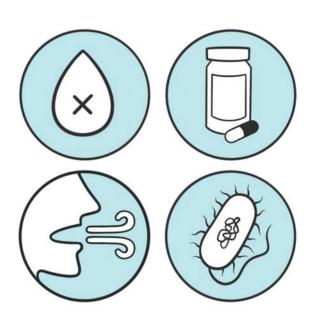


Xerostomia aka Dry Mouth

Xerostomia, more commonly known as dry mouth, occurs when your mouth is not producing enough saliva (spit) The condition affects about 1 in 5 people.

The salivary glands in your mouth produce saliva to lubricate and keep your mouth healthy. Experiencing dry mouth occasionally is normal due to things like dehydration, nervousness, and stress. However, if dry mouth is persistent it could be a symptom of an underlying health condition, or even be the cause of a new health problem. The underlying causes can be treated and dry mouth is never a fatal condition.



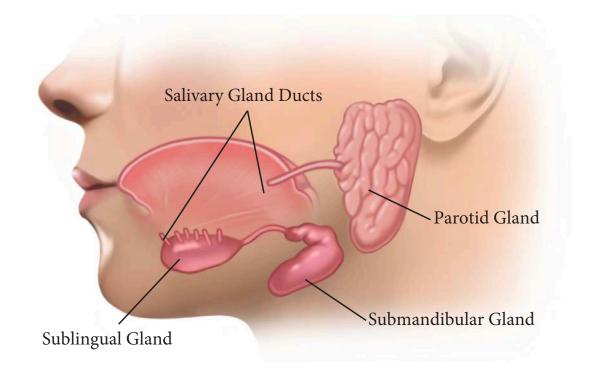


What Can Cause Dry Mouth?

- Dehydration
- Mouth breathing
- Medications such as antihistamines, decongestants, or antidepressants
- Underlying conditions like salivary gland issues, diabetes, Alzheimer's, Sjogren's syndrome, or stroke

What Are Symptoms of Dry Mouth?

- Sticky, itchy, dry, or painful feelings in the mouth, throat, or on the lips
- Trouble chewing, swallowing, tasting, or speaking
- Rough, dark red, or deeply cracked looking lips or tongue
- Bad breath
- Mouth sores and infections
- Cavities and gum disease





How Dry Mouth Can Be Prevented and Treated

- Chew gum, suck on ice cubes, and drink water to increase saliva production
- Avoid smoking, carbonated drinks, alcohol, and acidic or spicy foods
- Ask your dentist about changing medications if side effects include dry mouth
- Treating any underlying conditions
- Prescription strength lozenges
- Medication to stimulate saliva flow
- Surgical salivary gland repair