CONDITION

Salivary gland infections

A salivary gland infection causes painful swelling in a gland that makes saliva.

WHAT IT IS
Infection and inflammation of one or more saliva-making glands

BODY SYSTEM
Mouth and digestive system

MAIN SYMPTOMS
Painful swelling, tenderness, fever, bad-tasting drainage

WHAT CAUSES IT
Bacteria or viruses, often with blocked saliva flow

HOW IT IS DIAGNOSED
Examination, drainage culture, and imaging when needed

MAIN TREATMENT
Fluids, gland care, antibiotics, and blockage treatment

CAN IT BE CURED?
Sometimes - acute infections often clear with treatment

IS IT AN EMERGENCY?
Sometimes - breathing or swallowing becomes difficult

LONG-TERM OUTLOOK
Most acute infections recover; blocked glands may recur

Overview

Salivary gland infections develop when bacteria or viruses infect a gland that makes saliva. The medical term is infectious sialadenitis. "Sialadenitis" means inflammation of a salivary gland, although inflammation is not always caused by infection.

Saliva keeps your mouth moist, begins the digestion of food, and helps protect your teeth. It reaches your mouth through small tubes called ducts.

You have three main pairs of salivary glands. The parotid glands are in front of and just below each ear. The submandibular glands are under the jaw. The sublingual glands sit beneath the tongue. Many smaller glands are spread through the lips, cheeks, and throat.

Bacterial infection often happens when saliva is not flowing normally. A stone, narrowed duct, dehydration, or severe dry mouth can allow bacteria from the mouth to travel into a gland. The

parotid and submandibular glands are affected most often.

Viruses can also inflame the salivary glands. Mumps is a well-known cause of parotid swelling, although vaccination has made it less common in vaccinated populations.

Most acute infections can be treated successfully. Prompt assessment matters because an untreated bacterial infection may form a pocket of pus called an abscess or spread into nearby tissues.

Symptoms

Symptoms may begin quickly with a bacterial infection. Viral infections can develop more gradually and may affect glands on both sides of the face.

Possible symptoms include:

Pain during meals can suggest that a duct is partly blocked. Eating causes the gland to make more saliva, which raises pressure behind the blockage.

Mumps usually causes tender swelling of one or both parotid glands. It may also cause fever, headache, tiredness, muscle aches, or reduced appetite. These symptoms are not enough to confirm mumps because other infections and non-infectious conditions can look similar.

A painless lump is less typical of an acute infection. Any lump that remains after pain and swelling settle should be assessed.

- Painful swelling near the ear, cheek, jaw, or floor of the mouth
- Tenderness, warmth, or redness over the gland
- Pain that becomes worse when eating
- Fever, chills, or feeling unwell
- A dry mouth or reduced saliva
- A bad taste in the mouth
- Cloudy or pus-like fluid coming from a duct
- Difficulty opening the mouth fully

Causes and risk factors

Bacterial infections usually start when bacteria from the mouth enter a salivary duct. Staphylococcus aureus is a common cause, but several types of bacteria may be involved.

Normal saliva flow helps wash bacteria away. Anything that reduces or blocks this flow can raise the risk of infection, including:

Older or medically frail people may be more vulnerable during dehydration or illness. However, salivary gland infections can occur at any age.

Viruses that can affect the glands include the mumps virus. Influenza, HIV, and some other viral infections can also cause salivary swelling, although swelling does not always mean the gland itself is infected.

A stone can block saliva without causing an infection. If bacteria then grow behind the blockage, pain, fever, redness, or pus may develop.

- A salivary stone or narrowed duct
- Dehydration
- Severe illness or recovery after surgery
- Poor oral health
- Medicines that cause dry mouth
- Sjögren syndrome or another condition that reduces saliva
- Previous radiation treatment to the head or neck
- Scarring or structural changes in a duct

Diagnosis

A healthcare professional will ask when the swelling began, whether it changes with meals, and whether you have fever, dry mouth, dental problems, or repeated episodes.

They will examine the face, neck, and inside of the mouth. Gentle pressure on the gland may release saliva or pus from its duct. If drainage is present, a sample may be sent to a laboratory to identify bacteria and help guide antibiotic like amoxicillin or doxycycline choice.

Imaging is not required in every straightforward case. An ultrasound can look for stones, blocked ducts, or an abscess. A CT scan may be used when the infection seems severe, involves deeper tissues, or is not improving as expected. Other imaging may be needed if there is a persistent lump or concern about another cause.

Blood tests can look for signs of a significant infection or dehydration. If mumps is suspected, a swab or other laboratory test may be arranged. Public health teams may also become involved because mumps can spread between people.

Several conditions can resemble a gland infection, including dental infections, swollen lymph

nodes, autoimmune inflammation, cysts, and salivary gland tumours. The examination and test results help separate these causes.

Treatment and management

Treatment is based on whether the cause is bacterial, viral, or related to a blockage.

For a bacterial infection, treatment commonly includes an antibiotic that covers likely mouth bacteria. The exact medicine and whether it is taken by mouth or given through a vein are based on the severity of the infection, test results, allergies, and other health factors.

Supportive care helps saliva move through the gland. This may include:

An abscess may need to be drained. A stone or narrowed duct may need treatment if it keeps blocking saliva. Some stones can be removed through the mouth. Others may be treated with sialendoscopy, a procedure that uses a very small camera and instruments inside the duct.

Antibiotics do not treat viral infections. Treatment for a viral cause usually focuses on fluids, rest, and symptom relief. Someone with suspected mumps should avoid close contact with others and follow local testing and isolation instructions.

Repeated infections may require treatment of the underlying problem. Surgery to remove a gland is sometimes considered when there is severe, ongoing disease that cannot be controlled in other ways, but it is not needed for most infections.

- Drinking enough fluid, unless you have been told to limit fluids
- Applying a warm compress to the swollen area
- Gently massaging the gland toward its duct
- Keeping the teeth and mouth clean
- Using sugar-free sour sweets or gum to stimulate saliva, if comfortable
- Using suitable pain relief according to its label or professional advice

Complications

Most treated infections settle without lasting problems. Complications are more likely when a bacterial infection is severe, treatment is delayed, or saliva remains blocked.

Possible complications include:

Deep swelling can occasionally press on the airway or make swallowing difficult. This requires emergency care.

Mumps can sometimes affect other parts of the body. Complications include inflammation around the brain and spinal cord, inflammation of the testicles or ovaries, pancreatitis, and hearing loss. These are separate from the local gland swelling and need medical assessment.

- An abscess inside or around the gland
- Infection spreading through the skin or deeper neck tissues
- Infection entering the bloodstream
- Scarring or narrowing of a salivary duct
- Repeated episodes of pain and swelling
- Reduced saliva and ongoing dry mouth

Prevention

Not every salivary gland infection can be prevented. Stones, narrowed ducts, and medical conditions that reduce saliva may occur despite good self-care.

Keeping your mouth clean and drinking enough fluid can support normal saliva flow. Regular dental care may reduce the amount of harmful bacteria in the mouth.

If a medicine causes troublesome dry mouth, ask a healthcare professional whether it could be contributing. Do not stop a prescribed medicine on your own.

The measles, mumps, and rubella vaccine helps prevent mumps. It does not prevent bacterial salivary gland infections or infections caused by other viruses.

If you have a contagious viral infection, following advice about isolation, handwashing, and avoiding shared cups or utensils can reduce spread to other people.

Living with it and what to expect

An acute bacterial infection often begins to improve after appropriate treatment, although swelling and tenderness may take longer to disappear completely. Finish prescribed treatment as directed, even if you feel better sooner.

Viral swelling usually settles as the infection passes. Recovery time is influenced by the virus, the severity of symptoms, and your general health.

When a stone or narrowed duct remains, symptoms may return. You may notice pain or swelling during meals, followed by improvement as saliva slowly drains. Repeated episodes can gradually scar the duct or gland.

Between episodes, many people have no symptoms and continue their usual activities. Those with ongoing dry mouth may need regular dental care because saliva helps protect against tooth decay and mouth infections.

Repeated infections are not something you simply have to accept. An ear, nose, and throat specialist or an oral and maxillofacial specialist can assess the duct and discuss procedures that may improve drainage.

A lump that does not disappear after the infection settles needs follow-up. Persistent swelling does not automatically mean cancer, but it should not be assumed to be part of the infection.

When to get medical help

Seek emergency care if you have:

These symptoms can mean that swelling or infection is affecting deeper tissues or the airway.

Arrange urgent, same-day medical assessment for painful gland swelling with fever, pus, worsening redness, or feeling seriously unwell. Prompt assessment is also important if you cannot drink enough, have a weakened immune system, or the swelling is getting worse quickly.

If mumps may be possible, contact the healthcare service before arriving. This allows staff to reduce the chance of exposing other people.

Routine follow-up is appropriate for swelling that repeatedly appears during meals, ongoing dry mouth, or infections that keep returning. Get reviewed if symptoms are not beginning to improve after treatment or if a lump remains after the pain and inflammation have settled.

- Difficulty breathing
- Difficulty swallowing saliva or new drooling
- Rapidly increasing swelling under the tongue or in the neck
- Severe weakness, confusion, or fainting

Common questions

Is a salivary gland infection contagious?

Bacterial infections caused by a blocked duct are not usually passed directly from one person to another. Viral causes can be contagious. Mumps spreads through respiratory droplets and saliva.

Can a salivary stone cause an infection?

Yes. A stone can trap saliva behind it, allowing bacteria to grow. The stone itself is not an infection, but it can cause repeated swelling and create conditions in which infection develops.

Will a salivary gland infection go away on its own?

Some mild viral infections improve with supportive care. A suspected bacterial infection should be assessed because it may require antibiotics, drainage, or treatment of a blockage. Symptoms alone may not reliably show which cause is present.

Why does the pain get worse when I eat?

Food stimulates saliva production. If a duct is blocked or narrowed, pressure builds inside the gland and causes pain or swelling. This pattern is especially common with salivary stones.

Is salivary gland swelling always mumps?

No. Stones, bacterial infections, medicines, autoimmune conditions, cysts, and tumours can all cause swelling. Laboratory testing may be needed when mumps is suspected.

Should I see a doctor or a dentist?

Either may identify a possible salivary or dental cause. Fever, spreading swelling, pus, or significant illness usually needs medical assessment. A dentist can also check whether a tooth or gum infection is causing nearby swelling.

Sources

- Moore J, Simpson MTW, Cohen N, Beyea JA, Phillips T. "Approach to sialadenitis." Canadian Family Physician , 2023
- Wilson KF, Meier JD, Ward PD. "Salivary Gland Disorders." American Family Physician , 2014
- Merck Manual Professional Edition. "Sialadenitis."
- Centers for Disease Control and Prevention. "Clinical Overview of Mumps."
- Hammett JT, Walker C. "Sialolithiasis." StatPearls , National Center for Biotechnology Information