

Salivary Gland Diseases.....

The most common problems in the salivary gland occur when the ducts become blocked and saliva cannot drain.

Problems with the ducts includes

Sialolithiasis is a condition in which tiny salivary stones form in the glands. The stones, called sialoliths, are made of calcium.

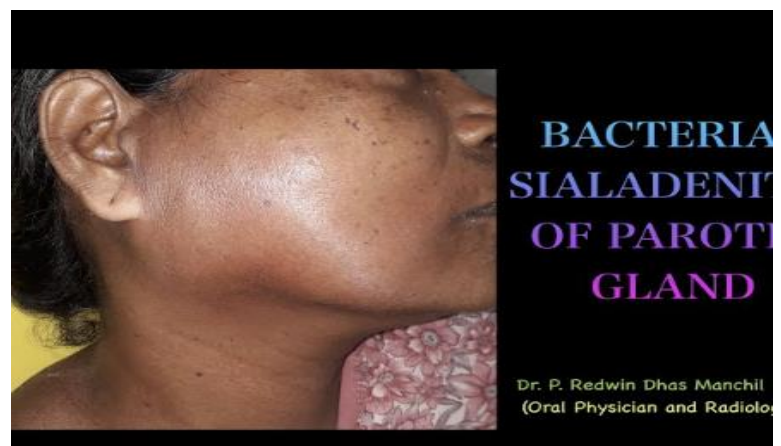
Some stones do not cause any symptoms, but some block the ducts.

The saliva flow is partially or completely stopped.

The gland might enlarge, and an infection can develop.

Sialadenitis is a painful infection of a salivary gland. Staphylococcus, streptococcus, Haemophilus influenzae or anaerobic bacteria are usually the cause.

The condition is common with elderly people who have salivary gland stones, but infants can develop sialadenitis during the first few weeks of life. Sialadenitis can become a severe infection if not treated properly.



Viral infections such as mumps, flu, Coxsackie viruses, echovirus and cytomegalovirus can make the salivary glands enlarge.



Cysts can develop in the salivary glands after injuries, infections, stones or tumors. Sometimes babies are born with cysts in the parotid gland because of a problem with early development of the ears.

Tumors

Most salivary tumors are benign (noncancerous), but they can also be cancerous. Most salivary tumors grow in the parotid gland.

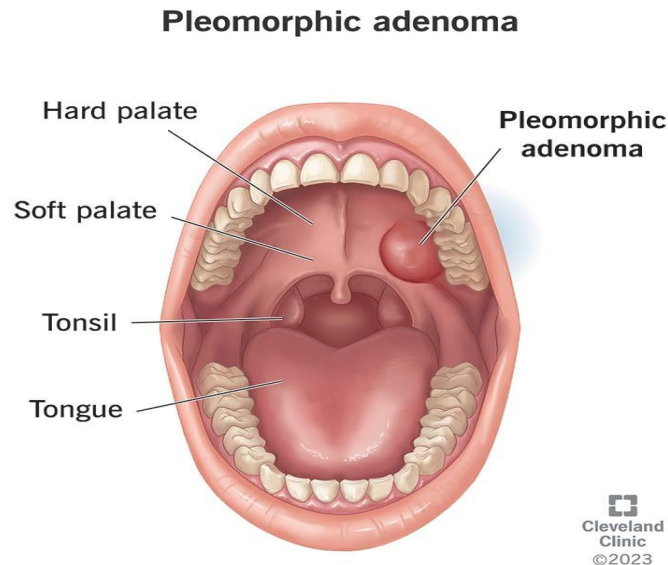
Pleomorphic adenomas are the most common parotid tumor.

It grows slowly and is benign.

A pleomorphic adenoma begins as a painless lump at the back of the jaw, just below the earlobe.

These are more common in women.

Surgeons treat these tumors by removing all or part of the affected gland. Once removed, pleomorphic adenomas typically don't come back.



Symptoms include:

- A single painless lump under the [skin](#) near your jaw, by your ear or in your [mouth](#).
- The lump may feel soft or firm.
- Typically, the lump will move when you push on it with your fingers.

Most pleomorphic adenomas measure 2 centimeters (about the size of a peanut) to 6 centimeters (about the size of an egg). Without treatment, however, pleomorphic adenomas may grow to be quite large, measuring as much as 35 centimeters (approximately 13 inches).

Around 5% of pleomorphic adenomas turn into [cancerous tumors](#) known as carcinoma ex pleomorphic adenomas. Medical researchers don't know why this happens

How are pleomorphic adenomas diagnosed?

Healthcare providers diagnose pleomorphic adenomas by doing a physical examination and asking about your symptoms. They may order the following tests:

- [Computed tomography \(CT\) scan](#).
- [Magnetic resonance imaging \(MRI\) scan](#).
- [Needle biopsy](#). In this test, providers use a thin needle to obtain fluid and tissue samples for examination under a microscope
- **How are pleomorphic adenomas treated?**
- The most common treatment is surgery to remove all or part of the gland affected by a pleomorphic adenoma. For example, a surgeon would treat a pleomorphic adenoma of parotid gland by performing a [parotidectomy](#).

What are possible surgery complications?

All surgery comes with potential complications, including:

- Reaction to [anesthesia](#).
- Excessive bleeding.
- Infection.
- Facial nerve damage leading to temporary or permanent [facial paralysis](#).

- **Frey syndrome**: Facial nerves that are cut during surgery sometimes grow back to connect with your sweat glands. When this happens, you may sweat when you chew.

Trouble speaking or swallowing: Damage to nerves in your face and mouth may make it hard for you to speak or swallow.

Scarring: Surgery to remove salivary gland tumors may leave scars that you can see

Benign pleomorphic adenomas can also grow in the submandibular gland and minor salivary glands, but less often than in the parotid.

Warthin's tumor is the second most common benign tumor of the parotid gland. It is more common in older men.

Cancerous (malignant) tumors are rare in the salivary glands and usually occur between ages 50 to 60. Some types grow fast, and some are slow-growing

Sjögren's syndrome is chronic disease. White blood cells attack the moisture-producing glands such as the salivary glands, the tear-producing glands, and sometimes the sweat and oil glands. **Middle-aged women are most affected**. Sjögren's syndrome is frequently seen in people who have rheumatoid arthritis, lupus, scleroderma and polymyositis

What causes salivary gland disease?

The exact cause of stone formation is not known, but certain factors might contribute to the condition:

- Dehydration, which thickens the saliva
- Decreased food intake, which lowers the demand for saliva
- Antihistamines, blood pressure medications, psychiatric medications and other medication that can decrease saliva production

Risk factors for pleomorphic adenomas:

- Radiation exposure
- Smoking

Risk factors for salivary gland cancers:

- Sjögren's syndrome
- Exposure to radiation
- Smoking
- Sialadenosis is a recurrent, noninflammatory, nonneoplastic enlargement of salivary glands usually associated with an underlying systemic disorder. It mainly occurs in the parotid gland. It is often bilateral and recurrent. But few cases with unilateral.

Sialadenosis is more likely to develop in people who are:

- Obese
- Pregnant or breastfeeding
- Malnourished or have eating disorders
- Alcoholics with liver cirrhosis

- Having kidney failure or thyroid problems

What are symptoms of salivary gland disease?

- Sialolithiasis usually begins as a painful lump under the tongue. The stone blocks the flow of saliva, so pain might increase while eating.
- Sialadenitis creates a painful lump in the cheek or under the chin. Foul-tasting pus drains into the mouth.
- Fever can occur.
- Generalized viral infections cause fever, headache, muscle aches and joint pain in the entire body. If the virus settles in the parotid glands, both sides of the face enlarge in front of the ears.
- A mucocele, a common cyst on the inside of the lower lip, can burst and drain yellow mucous. Other cysts can hinder eating, speaking or swallowing

Extravasation and Retention:

Mucoceles and Ranulas

- ***Mucocele***
- Mucocele is a clinical term that describes swelling caused by accumulation of saliva at minor salivary gland duct.
- Mucoceles can be classified histologically as extravasation types or retention types.” the extravasation mucocele does not have an epithelial lining or a distinct border.

The retention type mucocele is caused by obstruction of a minor salivary gland duct often by sialolith,

The blockage of salivary flow results in the accumulation of saliva and dilation of the duct.

Clinical Presentation

Mucocele often present as discrete, painless, smooth-surfaced swellings that can range from a few millimeters to a few centimeters in diameter. Superficial lesions frequently have a characteristic blue hue.

Deeper lesions can be more diffuse, covered by normal appearing Mucosa without the distinctive blue color.

Extravasation mucoceles most frequently occur on the lower lip, where trauma is

The buccal mucosa, tongue, floor of the mouth, and retromolar region

These types of mucoceles are most commonly seen in children and teenagers. Mucous retention cysts are more commonly found on the upper lip, palate, rarely the lower lip.



In most cases, oral mucocele treatment is unnecessary since the cyst ruptures on its own — usually after three to six weeks

Treatment

Conventional definitive surgical treatment of mucoceles involves removal of the entire lesion along with the feeder salivary glands and duct. Incomplete removal of the mucocele may result in recurrence.

Alternative treatments that have been explored with varying degrees of success include electrosurgery, cryosurgery using liquid nitrogen, laser surgery and micromarsupialization, intralesional injections of corticosteroids, and sclerotherapy

Ranula

- **Etiology :**
- A form of mucocele located in the floor of the mouth is known as a *ranula*. *Ranulas are believed to* mechanical trauma to its ducts of Rivinus, resulting in extravasation of saliva. Other possible causes include an obstructed salivary duct or a ductal aneurysm. A congenital predisposition toward development of ranulas has been In addition particular anatomic variations of the ductal system of the sublingual gland may contribute to the formation of ranulas



Diagnosis

Imaging to diagnose an oral ranula may not be necessary due to its characteristic clinical appearance, but to rule out other cystic lesions (e.g., thyroglossal duct cyst, epidermoid cyst, cystic hygroma),

FNA, ultrasound, CT with contrast, and MR have been used.

Ultrasound has been recommended for oral ranulas

Treatment

The most predictable method of eradicating to remove the associated sublingual gland because this will

Other procedures used for the treatment ,simple excision, marsupialization,injection of the sclerosing agent OK-432, silver nitrate, & Botulinum toxin

Postsurgical complications include lesion recurrence, sensory deficits of the tongue, and damage to Wharton's duct.

Frequency of recurrence is related to the surgical technique

Clinical Presentation

The most common presentation of the "oral" ranula is a painless, slow-growing, fluctuant,

Usually, the lesion forms to one side of the lingual frenulum; however, if the lesion extends deep into

As observed with mucoceles, superficial ranulas can have a typical bluish hue, but when the lesion is normal appearance.

With tumors, a cancerous or noncancerous lump can grow in the roof of the mouth, in the cheek, on the tongue or under the chin. It often grows slowly and is painful.

Sjögren's syndrome causes decreased moisture in glands. Dry mouth, tooth decay, mouth sores, enlarged salivary glands, sialoliths and recurrent salivary gland infections are possible symptoms.

The syndrome also affects moisture in the eyes, which might cause chronic eye infections, corneal ulcers and vision loss.

How is salivary gland disease treated?

Small stones might pass out of the duct without treatment. A doctor might be able to remove a stone by pressing on it if the stone is close to the opening of a duct.

Ultrasound waves can be used to shatter large stones into small pieces. Deep or large stones are more difficult. If they cannot be removed and symptoms of pain or infection persist, the entire salivary gland may need to be removed.

Bacterial infections require taking antibiotics and extra fluid either by mouth or intravenously. Warm compresses are placed on the infected gland. Chewing sour candies encourages the flow of saliva. Surgery may be needed to drain the gland

Antibiotics do not help cure a viral infection. The body must use its own defense system to clear itself of a virus. Bed rest, increased fluids, and acetaminophen for fever are the best ways to help the body cure itself.

Small cysts may drain without treatment. Large cysts might need surgery.

Benign tumors usually require surgical removal. Some are treated with radiation to keep them from coming back.

Malignant tumors require surgery if possible. Some tumors need surgery only; others require radiation and chemotherapy in addition to surgery.

Radiation and chemotherapy are also used for tumors that are inoperable.

Prescribed medications help decrease dry mouth

Parotidectomy

Parotidectomy is the removal of the parotid gland, the largest salivary gland. The paratoid is usually removed because of a tumor, a chronic infection or a blocked saliva gland.

Most parotid gland tumors are not cancerous.

The nerve that closes the eyes, wrinkles the nose and moves the lips grows through the middle of the parotid gland. Small branches of the nerve might need to be trimmed if the gland is large and the surgeon cannot remove it. Decreased motion of facial muscles might occur while the nerve recovers from surgery. If facial movement does not completely return, rehabilitation can help restore facial movements

After surgery

After surgery you might feel:

- **Numbness of the earlobe and incision site from the scar**

- **Weak face muscles**

Nerves that link to the saliva-producing areas in the parotid gland sometimes link with the nerves that control sweating in the skin. **This might cause sweating of the skin at meal time (Frey's syndrome)**

Submandibular Sialadenectomy

A submandibular sialadenectomy is used for chronic infections, stones and tumors. Submandibular gland tumors are often malignant, in which case entire gland needs to be removed.

Many other glands in the mouth make saliva, so the mouth will still have enough saliva after the submandibular gland is removed

Sublingual gland surgery

The incision for sublingual gland surgery is through the mouth. No incision is made in the face or neck.