

## BASIC INFORMATION

### Description

A salivary mucocele or sialocele is an accumulation of saliva under the skin in a sac-like swelling. Several sets of salivary glands are present on both sides of the mouth and head. Mucocele swellings are usually located under or behind the lower jaw, alongside the face, or occasionally under the tongue. When a salivary mucocele develops under the tongue, it is called a *ranula*. Salivary mucoceles arise more commonly in dogs than in cats, and the most common mucocele of the cat is the ranula.

### Causes

Salivary mucoceles usually develop when saliva leaks from a salivary duct or a portion of a salivary gland. The specific cause of a salivary mucocele is often unclear. Blunt trauma (blows, automobile accidents) or penetrating trauma (bite wounds, foreign bodies) to the jaw or side of the head and face can lead to rupture of a salivary duct and leakage of saliva into the surrounding soft tissues. Rarely, gritty deposits or stones composed of saliva and minerals, called *sialoliths*, obstruct a salivary duct and cause it to rupture.

When saliva leaks into the soft tissues, it stimulates a strong inflammatory reaction. This reaction can lead to scar tissue formation, which further obstructs the salivary duct and worsens leakage of saliva. Eventually, a sac-like structure forms that keeps the saliva collected in one area.

### Clinical Signs

Salivary mucoceles vary in their appearance, size, and texture. They may be soft, flabby, and nonpainful or large, firm, and painful. In dogs, the most common locations are under the lower jaw or on the side of the head, behind the jaw. When a ranula forms, a reddish fluid-filled swelling can be seen, usually on one side, under the base of the tongue. Ranulas can interfere with eating, and the animal may drool excessively or have foul breath. If the salivary gland under the eye is affected, the eye may protrude on that side and/or a soft swelling may be seen below the eye.

### Diagnostic Tests

The diagnosis of a salivary mucocele or ranula is often suspected based on the appearance and location of the swelling. Aspiration of the swelling using a small needle and syringe reveals fluid that contains saliva and mucoid material. Evacuation of fluid and collapse of the swelling helps to rule out tumors of the salivary glands, which may occur in the same locations but are usually solid.

In many cases, the salivary gland that is affected is obvious from the location of the swelling, but with some large mucoceles (except for ranulas) it can be hard to tell which gland is involved. A number of techniques can be used to identify the gland, including the following:

- Plain x-rays may be taken to search for sialoliths.
- A special x-ray procedure called *sialography* may be performed. A liquid that shows up white on x-rays is injected into the salivary duct that is believed to be involved, in order to determine if the duct is leaking or obstructed.
- Advanced imaging, such as computed tomography (CT scan) or magnetic resonance imaging (MRI), often identifies the gland involved.
- The mucocele can be surgically explored and the leakage traced back to its origin.

Your veterinarian may be able to perform some of these procedures and may recommend referral to a veterinary specialty practice or institution for the others.

## TREATMENT AND FOLLOW-UP

### Treatment Options

In some cases, surgery to drain the saliva and mucus is all that is necessary. Some mucoceles recur after drainage, and surgical removal of the entire affected salivary gland, with the mucocele, must be performed. Depending on the gland in question, referral to a veterinary surgery specialist may be recommended, because some of the salivary glands are very close to important blood vessels and nerves, and the surgery can be very intricate.

### Follow-up Care

Postoperative follow-up is usually scheduled 7-14 days after surgery for removal of sutures. If simple drainage was the only procedure performed, further recheck visits may be needed to monitor for recurrence. In these instances, notify your veterinarian if the swelling recurs.

### Prognosis

Prognosis for most salivary mucoceles is good, although recurrence is possible if the gland is not removed with the mucocele. Surgical removal of the entire affected salivary gland, while invasive, has an extremely good chance of a complete cure. Salivary mucoceles are not immediately life-threatening, but they may become painful and disfiguring if not treated appropriately.