



Salivary Mucoceles in Dogs

A salivary mucocele is a collection of saliva that leaks into surrounding tissues after damage or rupture of a salivary gland or duct.
In dogs, the mandibular and sublingual salivary glands are by far the most common source of salivary mucoceles.
Instead of saliva flowing normally into the mouth, it leaks under the skin or tissues, forming a soft fluid-filled swelling.

The good news:

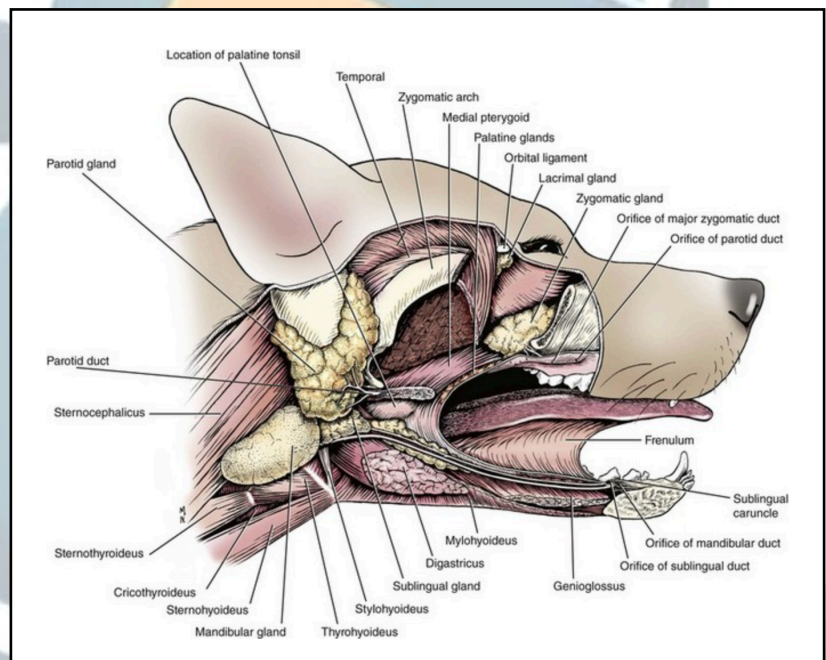
- Salivary mucoceles are usually benign
- They are very treatable
- Surgery is the treatment of choice

Most dogs recover completely after proper gland removal

1) What's going on inside?

Dogs have several salivary glands:

- Parotid
- Mandibular
- Sublingual
- Zygomatic



The mandibular and sublingual glands sit together under the jaw and share closely associated ducts. When one of these ducts or glands leaks:

- Saliva escapes into nearby tissues. ———>The body reacts by forming a pseudocapsule around the saliva ———> A soft fluid pocket forms = **salivary mucoceles**

Importantly:

This is NOT a true cyst

The lining is inflammatory tissue, not a true epithelial wall



2) Why mandibular and sublingual glands matter most

Approximately 70–90% of canine salivary mucoceles arise from the:

- mandibular gland
 - sublingual gland
- or their shared duct system

Because these structures are tightly associated: **Both glands are usually removed together surgically**, even if only one appears affected. This combined removal dramatically lowers recurrence risk.

3) Causes

Often no exact cause is identified, but possible triggers include:

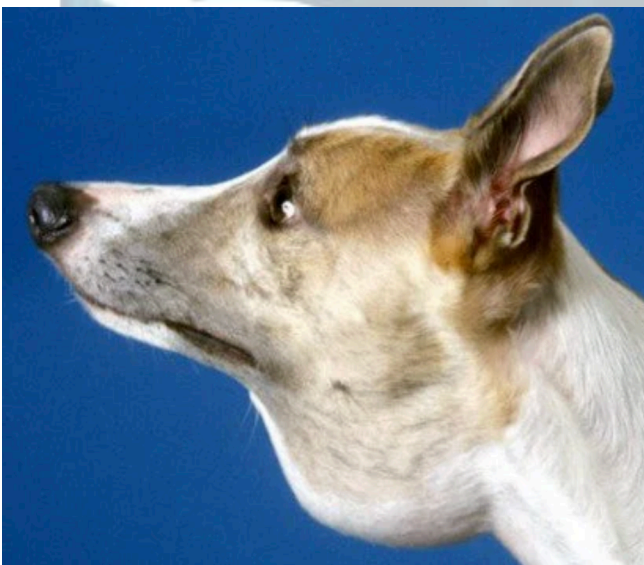
- Trauma
- Bite wounds
- Stick injuries
- Foreign bodies
- Excessive chewing
- Surgical trauma
- Neck compression
- Duct obstruction

Young to middle-aged dogs are commonly affected.

Breeds reported more frequently include:

- Dachshunds
- Poodles
- German Shepherds
- Australian Silky Terriers

4) Types of salivary mucoceles





A) Cervical mucoceles (most common)

Swelling under the jaw or upper neck.
Usually painless and fluctuant.

B) Ranula

A mucoceles **under the tongue.**

Can interfere with:

- eating
- swallowing
- tongue movement

C) Pharyngeal mucoceles

Occurs near the throat.

May cause:

- breathing difficulty
- gagging
- noisy breathing

Potentially urgent.

D) Zygomatic mucoceles (rare)

Occurs near the eye.

Can cause:

- bulging eye
- pain opening mouth

5) What owners typically notice

- Soft swelling under the jaw or neck
- Non-painful fluid-filled lump
- Intermittent swelling
- Drooling
- Difficulty eating
- Bloody saliva occasionally
- Tongue displacement (ranula)
- Gagging or breathing changes in severe pharyngeal cases
- The swelling often slowly enlarges over days to weeks.

6) Diagnosis

A) Physical examination

The swelling is usually:

- soft
- fluctuant
- painless

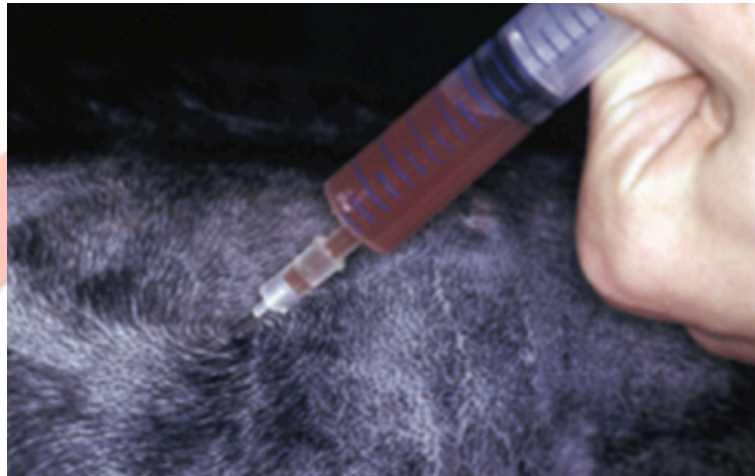
B) Fine needle aspiration (very important)

Typically yields:

- thick, stringy saliva



- clear or blood-tinged fluid
- Microscopy often confirms salivary material.



C) Imaging

- Ultrasound
Helpful to identify: fluid pocket, associated glands, abscesses or masses
- CT scan
Useful for: deep pharyngeal mucoceles, recurrent cases, surgical planning

7) Treatment Overview

Aspiration alone is NOT curative
Draining the swelling temporarily removes saliva but:

- the damaged gland keeps leaking
- recurrence is extremely common

Repeated drainage can also cause inflammation, infection or scarring

Therefore, surgical removal of the mandibular and sublingual glands is the gold-standard treatment

8) Surgical treatment — Mandibular/Sublingual Sialadenectomy

Gold-standard procedure

Because the mandibular and sublingual glands share anatomy: surgeons remove them together as a unit. This is called: Mandibular–sublingual sialadenectomy

Surgical goals

- Remove leaking salivary source
- Stop further saliva accumulation
- Allow remaining saliva pocket to resolve
- Prevent recurrence



Surgical procedure

Step 1 — Neck incision

An incision is made below the jaw.

Step 2 — Identification of gland complex

The mandibular and sublingual glands are carefully isolated.

Step 3 — Duct ligation and gland removal

The shared duct system is tied off and both glands removed.

Step 4 — Mucocoeles management

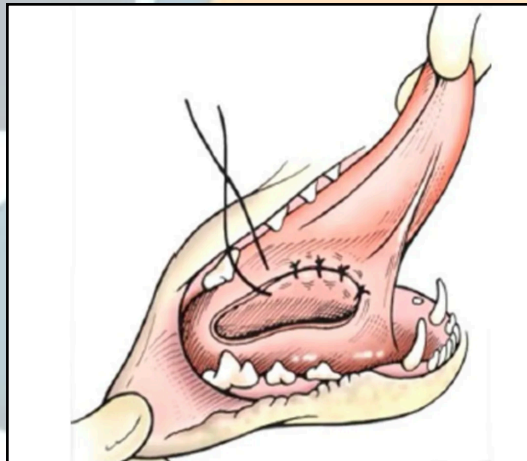
The fluid cavity is drained, flushed, sometimes partially removed. Complete removal of the pseudocapsule is usually unnecessary.

9) Treatment of ranulas

If a ranula is present under the tongue: **marsupialisation** may be added

The ranula is opened permanently into the mouth to allow drainage.

HOWEVER, marsupialisation alone has high recurrence and gland removal is still recommended.



10) Why surgery is preferred

Advantages of surgery

- Definitive treatment
- Very low recurrence rate
- Rapid improvement
- Minimal effect on saliva production
- Excellent long-term prognosis

Dogs have multiple salivary glands, so removal of one mandibular/sublingual pair does not cause dry mouth.



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11) Outcomes and prognosis

Prognosis after surgery is excellent

Most dogs:

- recover fully
- return to normal eating quickly
- never experience recurrence

Reported success rates are generally: 90–95%+

Especially when:

- both glands are removed
- surgery is performed correctly
- first attempt rather than revision surgery

12) Complications and realistic rates

Complications	Approximate rate	Notes
Recurrence	0-10%	Usually from incomplete gland removal
Seroma/swelling	5-15%	Usually temporary
Infection	<5-10%	Uncommon
Nerve irritation	Rare	Nearby nerves control tongue/lip
Bleeding	Rare	Usually mild
Ranula persistence	Occasional	May need additional marsupialisation

The most common reason for recurrence is failure to remove BOTH mandibular and sublingual glands

13) Recovery and aftercare

Most dogs recover quickly.

Typical aftercare:

- Pain medications
- E-collar
- Soft food for several days
- Restrict rough activity for 10–14 days
- Monitor incision swelling

Follow-up:

- Recheck at 10–14 days
- Most swelling resolves over 2–4 weeks
- Residual fluid may persist briefly after surgery while tissues heal.



14) Long-term expectations

Excellent quality of life is expected.

Most dogs:

- eat normally
- drool normally
- have no cosmetic issues
- do not require long-term medications

Recurrence is uncommon after complete surgery.

15) Selected Veterinary References

- ACVS — Salivary Mucocele in Dogs
- VCA Hospitals — Salivary Mucocele Overview
- Fossum TW — Small Animal Surgery
- Hedlund CS — Surgery of the salivary glands
- Spangler & Culbertson — Salivary gland disease in dogs
- Ritter & Stanley — Surgical treatment of cervical mucoceles

Bottom Line

Salivary mucoceles in dogs most commonly arise from the mandibular and sublingual salivary glands.

Aspiration alone almost always leads to recurrence.

The gold-standard treatment is mandibular–sublingual sialadenectomy (removal of both glands together)

Prognosis after surgery is excellent, with very low recurrence rates and rapid return to normal quality of life.



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