

# Nasopharyngeal Polyps

## Associated Terms:

Inflammatory Polyp, Bulla Osteotomy, Ventral Bulla Osteotomy, Middle Ear Polyp, Polyp, Pharyngeal Polyp, Pharyngeal Polyp

## OVERVIEW

A nasopharyngeal polyp is a pinkish-white mass of tissue that grows from the back of the throat, Eustachian tube (the small tube that drains the middle ear into the throat) or the middle ear itself. Inflammation of the lining of one of these areas causes the tissue to become thick. Sometimes the mass will actually grow into an organized, round or oval growth that hangs down into the airway at the back of the nasal cavity. The cause of polyps is unknown; however, it is suspected that cats develop them because of reaction to infectious agents such as respiratory viruses. While polyps are most commonly seen in cats, inflammatory polyps do occur in dogs. In dogs, they typically extend into the ear canal rather than into the back of the throat (nasopharynx).

## CLINICAL SIGNS & SYMPTOMS



Figure 1. A young adult cat with a nasopharyngeal polyp struggles to breathe. Cats that are having trouble breathing may extend their necks & pant & are very anxious. It is important not to stress them.

Although nasopharyngeal polyps can occur in any age cat, they are often seen in young adult cats. **At first the cats will have no clinical signs**, unless drainage from the middle ear is blocked. When the polyp becomes large enough, cats may develop signs, such as:

- sneezing,
- nasal discharge,
- gagging,
- voice change &
- difficulty breathing (Figure 1).

If the middle ear drainage is blocked, or if the polyp grows up into the ear instead of the throat, cats & dogs will have signs of otitis externa (ear infection) with drainage from the ear, head shaking & changes in the shape of the pupils of their eyes.

## **DIAGNOSTICS**

**Nasopharyngeal polyps can be seen (Figures 2 & 3) or felt under the soft palate, the muscular layer of tissue that separates the back of the nose & mouth.**

If the polyp is large enough, it pushes the soft palate downward, interfering with swallowing. Most cats must be anesthetized before the back of the mouth can be examined thoroughly. If the polyp originates in the middle ear, your primary care veterinarian may see it in the ear canal below the ear drum (“tympanic membrane”) with an otoscope. Occasionally nasopharyngeal polyps are diagnosed by x-ray (Figure 4) or CT examination. CT scans will also help the veterinarian determine whether the polyp has extended into the middle ear.

Presurgical biopsy of a nasopharyngeal polyp is not generally performed, especially if it is causing significant airway or swallowing obstruction. Evaluation of a removed

polyp may be recommended, especially in middle aged or older pets or from the ear canal, to ensure that it just a polyp & not another malignancy.



Figure 2. A small polyp (arrow) is hidden underneath the soft palate of a cat.

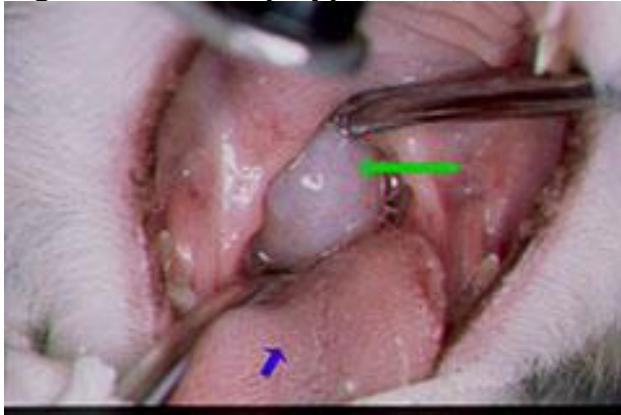


Figure 3. This cat's tongue (blue arrow) is pulled down to see the back of the throat. A large polyp (green arrow) fills the entire back of the throat, making it difficult for the cat to eat or breathe.



Figure 4. X-rays of a cat's skull. The arrow indicates the bony bulla, or middle ear, where many of these polyps originate.

## TREATMENT

Nasopharyngeal polyps can be removed by gentle steady traction (pulling) on the mass (Figures 5 & 6).



Figure 5. With the cat under anesthesia, the veterinarian grasps the polyp under the soft palate with an instrument & pulls slowly & steadily.



Figure 6. The polyp has been removed; the long stalk extended from the polyp up the Eustachian tube & into the middle ear, where the polyp originated.

Unfortunately, the base of the mass cannot be removed by traction in many patients, & the mass will regrow. Therefore, removal of the base of the mass through a ventral bulla osteotomy (opening up the bony middle ear) is often performed to ensure there is no recurrence. Your veterinarian may refer you & your cat to a veterinary surgeon for this procedure. Dogs & cats with involvement of the ear canal may be treated with total ear canal ablation procedure (see Otitis Externa).

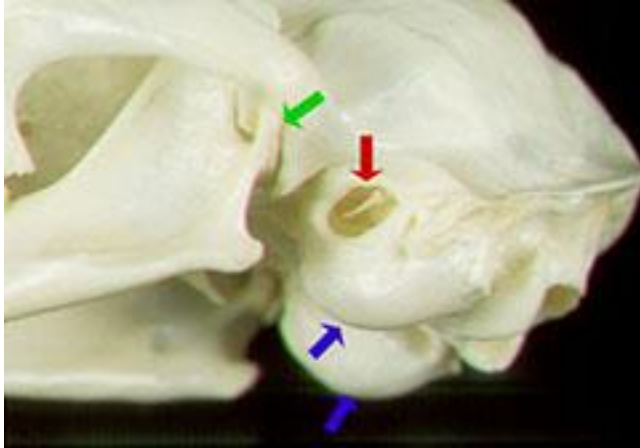


Figure 7. Cat's skull (nose is to the left). The blue arrows point to the bullae- the bony sacs that form the middle ears on the underside surface at the base of the skull. The red arrow points to the site where the ear canal connects to the skull. The ear drum would cover this opening. The green arrow points to the temporomandibular joint- the joint between the lower & upper jaws.

## AFTERCARE & OUTCOME

**Most cats recover rapidly from the surgery & need no special care.**

Postoperative complications are common with ventral bulla osteotomy, but are usually temporary:

- Horner's syndrome (see figure 8)
- Head tilt
- Balance problems
- Recurrence of the polyp (rare after ventral bulla osteotomy)



Figure 8. Horner's syndrome in a cat after ventral bulla osteotomy on the left side. The cat's left third eyelid has come up to block a portion of the eye, & the left pupil is small. The eye is also pulled back in the socket.

Several critical structures are found along the outside of, or within, the bony sac ("bulla") that forms the middle ear (Figures 7 & 8).

The temporomandibular joint (TMJ), which is the hinge of the lower jaw, & the muscles of the base of the tongue, located near the bulla, can become swollen after the surgery, so cats may be reluctant to eat or swallow. The nerve to each side of the tongue also runs along the bulla. Within the bulla, some of the nerves to the eye cross along the inner wall. These nerves are often damaged when the polyp is pulled by traction or when a ventral bulla osteotomy is performed.

About 80% of cats develop Horner's syndrome after the procedure because of nerve damage (Figure 8). In these cats, the third eyelid is elevated, covering the bottom half

of the eye, & the pupils are different sizes. Horner's syndrome is usually temporary & does not affect the cat's behavior or function.

Since the opening to the inner ear is also found in the bulla, about 40% of cats will show some balance problems, particularly a head tilt, & they may be wobbly & have rapid uncontrolled movements of their eyes. This condition is also usually temporary, but can affect the cat's well-being while it lasts. The lining of the bulla, which is the source of the polyp, must be removed to prevent the polyp from re-growing. Therefore, the veterinary surgeon has to find a balance between too much cleaning, which can result in the above complications, & not enough, which can result in recurrence of the original signs.

Home care:

Patients who have had a ventral bulla osteotomy will be given pain medication at home after surgery. Antibiotic therapy after surgery may be recommended if concurrent infection is suspected.

Anti-inflammatory therapy is given in some patients topically (in the ear canal) or systemically with inflammatory polyps, especially if ventral bulla osteotomy is not pursued.

An Elizabethan collar (aka "the cone" or e-collar) may be recommended to protect the incision from scratching.

Soft food or syringe feeding may be needed for those with TMJ issues. Feeding tubes are rarely needed. *If your cat is not eating at home after surgery, contact your surgeon or primary care veterinarian immediately for advice.*

**Recurrence** is common after simple extraction of the polyp. Recurrence of the polyp is uncommon after ventral bulla osteotomy. Prognosis for recovery is excellent after ventral bulla osteotomy, even in cats that develop Horner's syndrome or balance problems after surgery, since these signs usually resolve within a month.

If you have any questions, please feel free to ask your veterinarian &/or veterinary surgeon.

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