



# Nasal Discharge

## Basics

### OVERVIEW

- “Nasal discharge” is discharge from the nose; it may be clear, blood-tinged, or may contain mucus and/or pus; it also may be from bleeding in the nose and nasal passages (known as “epistaxis” or a “nosebleed”) or may contain food debris
- “Sneezing” is the forceful expelling of air through the mouth and nose, usually caused by irritation of the lining of the nose and nasal passages
- “Upper respiratory tract” (also known as the “upper airways”) includes the nose, nasal passages, throat (pharynx), and windpipe (trachea)
- “Lower respiratory tract” (also known as the “lower airways”) includes the bronchi, bronchioles, and alveoli (the terminal portion of the airways, in which oxygen and carbon dioxide are exchanged)

### SIGNALMENT/DESCRIPTION OF PET

#### Species

- Dogs
- Cats

#### Breed Predilections

- Hunting dogs—foreign body
- Dogs with a long head and nose (known as “dolichocephalic dogs,” such as the collie or Afghan hound)—aspergillosis, a fungal infection or cancer of the nose

#### Mean Age and Range

- Young pets—cleft palate; nasal polyp; disorder in which the normal secretion clearance mechanism is defective (known as “ciliary dyskinesia”); decreased ability to produce immunoglobulins, immune proteins or antibodies necessary for fighting disease (known as an “immunoglobulin deficiency”)
- Older pets—tumors of the nose and nasal passages; primary dental disease (tooth-root abscess)

### SIGNS/OBSERVED CHANGES IN THE PET

- Sneezing—often accompanies discharge from the nose
- Reverse sneezing—may occur, if the cause of the nasal discharge involves the nose and throat; “reverse sneezing” is a sudden attack or spasm of noisy intake of air (inspiration) to clear accumulated discharge from the back of the nasal passages into the throat, from which it is swallowed; reverse sneezing is a response to irritation at the back of the nasal passages
- Discharge may be clear, blood-tinged, or may contain mucus and/or pus; it also may be from bleeding in the nose and nasal passages (epistaxis or a nosebleed) or may contain food debris; it is important to observe both

the initial and current character of the discharge, as well as whether it started originally from one nostril (known as “unilateral discharge”) or both nostrils (known as “bilateral discharge”)

- Noisy breathing when inhaling (known as “stertor”)—noisy breathing frequently noted, especially when the pet is sleeping
- Response to previous antibiotic therapy common, due to secondary bacterial infection
- Discharge or dried discharge on the hair of the muzzle or forelimbs
- May note decreased air flow through the nose, particularly with tumors of the nose or nasal passages or fungal infection in the cat
- Dental disease
- Coexistent disease of the nose and throat (known as “nasopharyngeal disease”) or lower airway disease
- Bony involvement—with a tumor or fourth premolar tooth abscess; may be detected as swelling of the face or hard palate (roof of the mouth) or as pain secondary to fungal or bacterial infection/inflammation of the bone marrow and bone (known as “osteomyelitis”) or cancer
- Loss of pigment in the lining of the nose (known as “mucosal depigmentation”)—often observed with aspergillosis, a fungal infection, in dogs
- Enlargement of the lymph nodes under the lower jaw (known as “mandibular lymphadenomegaly”)—cancer, fungal infection, dental disease
- Polyp—may be visible on examination of the ear, or noted during examination of the mouth as pushing on the soft palate (the soft portion of the roof of the mouth, located between the hard palate and the throat)
- Inflammation of the choroid and retina (known as “chorioretinitis”)—may be seen with canine distemper virus infection or cryptococcosis, a fungal infection; the choroid is located immediately under the retina and is part of the middle-layer of the eyeball that contains the blood vessels; the retina contains the light-sensitive rods and cones and other cells that convert images into signals and send messages to the brain, to allow for vision

## CAUSES

- Discharge from one nostril (unilateral discharge)—often associated with local problems (that is, in or near the nose or nasal passages) rather than generalized (systemic) disease; may include foreign body in the nose or nasal passages; dental-related disease; fungal infections; tumors of the nose or nasal passages; facial nerve damage leading to extreme dryness of the lining of the nose and nasal passages (known as “xeromycetria”)
- Discharge from both nostrils (bilateral discharge)—infectious agents (such as feline herpes virus [cause of feline viral rhinotracheitis] or calicivirus, canine herpesvirus, canine distemper virus, secondary bacterial infection); immunoglobulin A (IgA) deficiency (immunoglobulin A [IgA] is an immune protein, found in the lining of the moist tissues of the body; it functions as a protective barrier to prevent or limit antigens [substance to which the immune system is responding and producing antibodies] and disease-causing microorganisms from entering the body through these tissues); airborne irritant; allergy; disorder in which the normal secretion clearance mechanism is defective (ciliary dyskinesia); inflammation of the nose (known as “rhinitis”)
- Discharge from one nostril (unilateral discharge) progressing to discharge from both nostrils (bilateral)—*Aspergillus* infection, a fungal infection; tumor of the nose or nasal passages
- Either discharge from one nostril (unilateral) or from both nostrils (bilateral)—nosebleed (epistaxis); foreign body; more generalized disease (that is, disease involving other body systems) causing signs of nasal discharge; parasites of the nose; inflammation of the nose (known as “rhinitis”)
- Generalized disease (that is, disease involving other body systems) causing signs of nasal discharge—long-term (chronic) pneumonia, long-term (chronic) vomiting

## RISK FACTORS

- Dental disease
- Foreign bodies
- Infectious disease—poorly vaccinated pet, kennel situations, exposure to other animals
- Nasal aspergillosis, a fungal infection
- Platelet or thrombocyte disorder; platelets” and “thrombocytes” are names for the normal cell fragments that originate in the bone marrow and travel in the blood as it circulates through the body; platelets act to “plug” tears in the blood vessels and to stop bleeding
- Clotting disorder due to rodenticide poisoning

- Nasal mites (type of parasite)—kennel-raised dogs
- Suppression of immune response, as by drugs (known as “immunosuppression”); long-term (chronic) steroid use; and feline leukemia virus (FeLV) or feline immunodeficiency virus (FIV) infection
- Long-term (chronic), low grade pneumonia
- Long-term (chronic) vomiting
- Long-term (chronic) inflammation of the ear (known as “otitis”), leading to facial nerve damage

## Treatment

### HEALTH CARE

- Outpatient
- Adequate hydration, nutrition, warmth, and hygiene (keeping nostrils clean)—important with long-term (chronic) sneezing and nasal discharge
- Nose drops and/or nebulization, as recommended by your pet's veterinarian; nebulization is the administration of medication in a fine spray
- Inpatient—for any surgery of the nose; topical (directly applied into the nose) treatment for aspergillosis, a fungal infection

### SURGERY

- Exploratory surgery of the nose (known as “rhinotomy”) or sinuses (known as “sinusotomy”)
- Removal of foreign body
- Removal of tumors
- Treatment of dental disease

## Medications

Medications presented in this section are intended to provide general information about possible treatment. The treatment for a particular condition may evolve as medical advances are made; therefore, the medications should not be considered as all inclusive

- Secondary bacterial infection—antibiotics; use an antibiotic with good gram-positive spectrum of activity, such as amoxicillin, amoxicillin-clavulanic acid (Clavamox), clindamycin, azithromycin (Zithromax), cephalosporins
- Attempt to dry up clear, watery nasal secretions—decongestants (ephedrine); medications applied to the nasal passages directly to shrink blood vessels (known as “topical vasoconstrictors,” such as Neosynephrine or oxymetazoline) for a limited time period, as directed by your pet's veterinarian
- Dental-associated inflammation of the nose (rhinitis)—antibiotics; dental surgery as indicated
- Foreign body in the nose—removal of foreign body, followed by antibiotics
- Parasites in the nose or nasal passages—ivermectin or milbemycin (as directed by your pet's veterinarian) to treat *Pneumonyssoides*; fenbendazole to treat *Eucoleus* (nasal nematode)
- Nonspecific inflammation of the nose and nasal passages—prednisolone or piroxicam to decrease inflammation
- Canine nasal aspergillosis, a fungal infection—nilconazole or clotrimazole directly applied into the nose (topical treatment)
- Feline cryptococcosis or sporotrichosis (fungal infections)—itraconazole or fluconazole administered by mouth
- Feline aspergillosis, a fungal infection—itraconazole, voriconazole, or posaconazole directly applied into the nose (topical treatment)
- Cancer—radiation therapy and chemotherapy
- Extreme dryness of the lining of the nose and nasal passages (xeromycteria)—administer pilocarpine eye drops into the mouth in attempt to stimulate nasal secretions, as directed by your pet's veterinarian

## Follow-Up Care

### PATIENT MONITORING

- Nasal discharge and sneezing—note changes in frequency, volume, and character
- Repeat evaluation of the nose by using a special lighted instrument called an “endoscope” (procedure is “rhinoscopy”)—indicated to ensure adequate response to treatment of fungal inflammation of the nose (rhinitis)

- Recheck chest x-rays (radiographs) or evaluate the lower airways by using a special lighted instrument (endoscope; procedure known as “bronchoscopy”)—monitor response to treatment for long-term (chronic) pneumonia

## PREVENTIONS AND AVOIDANCE

- Vaccinate pets against diseases that cause nasal discharge (such as canine distemper virus and feline calicivirus)

## POSSIBLE COMPLICATIONS

- Loss of appetite—especially in cats
- Extension of primary disease (for example, fungal infection or tumor) into the mouth, eye, or brain
- Breathing distress—with blockage or obstruction of the nose and/or nasal passages
- Involvement of the cribriform plate (bony plate located between the nasal passages and the brain) in dogs with aspergillosis, a fungal infection—central nervous system (brain) damage during treatment with antifungal medications applied into the nasal passages directly

## EXPECTED COURSE AND PROGNOSIS

- Depend on cause

## Key Points

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- Adequate hydration, nutrition, warmth, and hygiene (keeping nostrils clean)—important with long-term (chronic) sneezing and nasal discharge
- Vaccinate pets against diseases that cause nasal discharge (such as canine distemper virus and feline calicivirus)

## Notes

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