

# Overflow of Tears

## (Epiphora)

### Basics

#### OVERVIEW

- Abnormal overflow of tears

#### SIGNALMENT/DESCRIPTION OF PET

##### Species

- Dogs
- Cats

##### Breed Predispositions

- Depend on cause; see “Causes”

##### Mean Age and Range

- Depend on cause; see “Causes”

#### SIGNS/OBSERVED CHANGES IN THE PET

- Overflow of tears
- Tear drainage and/or staining on face
- Other signs depend on cause

#### CAUSES

#### OVERPRODUCTION OF TEARS SECONDARY TO EYE IRRITANTS

##### Congenital (Present at Birth)

- Two rows of eyelashes present in a single eyelid (known as “distichiasis”) or abnormal eyelashes that turn inward, against the cornea (the clear part of the eye, located in the front of the eyeball; condition known as “trichiasis”)—common in young shelties; shih tzus; Lhasa apsos; cocker spaniels; miniature poodles
- Eyelid is curled inward toward the eyeball (known as “entropion”)—Chinese shar peis; chow chows; Labrador retrievers
- Absence of the eyelid (known as “eyelid agenesis”)—domestic shorthairs (cats)

##### Acquired (Develop Later in Life, After Birth)

- Corneal or conjunctival foreign bodies—usually young, large-breed, active dogs; “corneal” refers to the “cornea,” the clear outer layer of the front of the eye; “conjunctival” refers to the “conjunctiva,” the moist tissues of the eye
- Eyelid tumors—old dogs (all breeds)
- Inflammation of the eyelids (known as “blepharitis”)—infectious or immune-mediated
- Inflammation of the moist tissues of the eye (known as “conjunctivitis”)—infectious or immune-mediated
- Disorder of the cornea (the clear outer layer of the front of the eye) characterized by the presence of ulcers, with or without inflammation (condition known as “ulcerative keratitis”)
- Inflammation of the front part of the eye, including the iris (known as “anterior uveitis”); the “iris” is the colored or pigmented part of the eye



- Disease of the eye, in which the pressure within the eye is increased (known as “glaucoma”)

## **EYELID ABNORMALITIES OR POOR EYELID FUNCTION**

- Tears never reach the opening to the outflow portion of the drainage system (known as the “nasolacrimal puncta”) that normally moves tears to the nasal passages, but instead spill over the eyelid margin
- Normal eyelid movement or function does not direct tears toward the inner corner of the eye (known as the “medial canthus”) and to the opening to the outflow portion of the tear drainage system (nasolacrimal puncta)

### **Congenital (Present at Birth)**

- Too large an opening of the eyelids, causing increased exposure of the eyeball (known as “macropalpebral fissures”)—in short-nosed, flat-faced (brachycephalic) breeds
- Eyelid is turned outward, away from the eyeball (known as “ectropion”)—Great Danes; bloodhounds; spaniels
- Eyelid is curled inward, toward the eyeball (entropion)—especially of the lower lid, closest to the nose in short-nosed, flat-faced (known as “brachycephalic”) breeds of dog and of the lower lid, away from the nose in Labrador retrievers

### **Acquired (Develop Later in Life, After Birth)**

- Post-traumatic eyelid scarring
- Facial nerve paralysis

## **BLOCKAGE OF THE NASOLACRIMAL DRAINAGE SYSTEM (THE DRAINAGE SYSTEM THAT NORMALLY MOVES TEARS TO THE NASAL PASSAGES)**

### **Congenital (Present at Birth)**

- Lack of normal openings on the eyelids into the tear drainage system (known as “imperforate puncta”)—cocker spaniels, bulldogs, poodles
- Extra openings into the tear drainage system, located in abnormal positions (known as “ectopic nasolacrimal openings”)—openings along the side of the face below the corner of the eye, closest to the nose
- Lack of openings from the tear drainage system into the nose (known as “nasolacrimal atresia”)

### **Acquired (Develop Later in Life, After Birth)**

- Inflammation of the nose (known as “rhinitis”) or inflammation of the sinuses (known as “sinusitis”)—causes swelling adjacent to the tear drainage system (nasolacrimal duct)
- Trauma or fractures of bones in the face (lacrimal or maxillary bones)
- Foreign bodies—grass awns; seeds; sand; parasites
- Tumors of the third eyelid, the moist tissues of the eye (conjunctiva), eyelids, nasal cavity, maxillary bone in the face, or sinuses located around the eyes
- Inflammation of the nasolacrimal sac or duct, part of the tear drainage system (condition known as “dacryocystitis”)

## **RISK FACTORS**

- Breeds prone to congenital (present at birth) eyelid abnormalities (see “Causes”)
- Active, outdoor dogs—at risk for foreign bodies

## **Treatment**

### **HEALTH CARE**

- Remove cause of eye irritation—remove foreign body from the moist tissues of the eye (conjunctiva) or the clear outer layer of the front of the eye (cornea); treatment of the primary eye disease (such as inflammation of the moist tissues of the eye [conjunctivitis]; disorder of the cornea characterized by the presence of ulcers, with or without inflammation [ulcerative keratitis]; and inflammation of the iris and other areas in the front part of the eye [known as “uveitis”]); freezing procedure (known as “cryosurgery”) or removal of hair by electrolysis (procedure known as “electroepilation”) to treat the condition in which two rows of eyelashes are present in a single eyelid (distichiasis) or surgical repair of abnormal eyelids
- Treat primary lesion (such as a third eyelid mass, mass in the nose or sinus, and infection) that is blocking drainage of tears—successful management may allow normal tear flow through the tear drainage system

(nasolacrimal flow) to resume

- Pets with inflammation of the nasolacrimal sac, part of the tear drainage system (dacryocystitis), may need a catheter placed in the nasolacrimal duct to hold the duct open and to prevent scar formation

## **SURGERY**

### **Lack of Normal Openings on the Eyelids into the Tear Drainage System (Imperforate Puncta)**

- Surgical opening of the opening (puncta) into the tear drainage system
- Opening (puncta) closed by scar tissue between the eyelid and the eyeball (known as “symblepharon”) caused by severe inflammation of the moist tissues of the eye (conjunctivitis), such as caused by feline herpesvirus in cats—surgically open the puncta
- Recurrent disease—may be necessary to suture Silastic® tubing in place to prevent scar formation

### **Blocked Openings of the Tear Drainage System into the Nose**

- Surgical procedure to create an opening to drain the tears into the nasal cavity

## **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

- Topical (applied directly to the eye) broad-spectrum antibiotic eye solutions—while waiting for results of diagnostic tests (such as bacterial culture and sensitivity testing; diagnostic x-rays); may consider neomycin, gramicidin, polymyxin B triple antibiotic solution, or ciprofloxacin solution
- Inflammation of the nasolacrimal sac, part of the tear drainage system (dacryocystitis)—topical antibiotics based on bacterial culture and sensitivity test results; continued for at least 21 days
- Tetracycline is an antibiotic, given by mouth—may help reduce tear staining of facial hair below the eye, for example as seen in white poodles; staining recurs when tetracycline treatment is discontinued

## **Follow-Up Care**

### **PATIENT MONITORING**

#### **Inflammation of the Nasolacrimal Sac, Part of the Tear Drainage System (Dacryocystitis)**

- Reevaluate every 7 days until the condition is resolved
- Continue treatment for at least 7 days after resolution of clinical signs to help prevent recurrence
- Problem persists more than 7–10 days with treatment or recurs soon after cessation of treatment—indicates a foreign body or persistent infection; requires further diagnostics; nasolacrimal catheter commonly required for persistent dacryocystitis; maintains flow; prevents narrowing; a collar may be place to prevent it becoming dislodged; usually left in 2-4 weeks; topical antibiotics

#### **Surgical Procedure to Create an Opening to Drain Tears into the Nasal Cavity**

- Tubing—the veterinarian will reevaluate every 7 days to ensure it remains intact; may need to re-suture if it becomes loosened or dislodged
- After tubing has been removed—reevaluation in 14 days; fluorescein dye will be placed on the eye and the flow of tears through the tear drainage system will be checked by examining the nose for appearance of the fluorescein dye (indicating that tears are flowing through the drainage system)
- X-ray contrast study of the tear drainage system—repeated 3–4 months after surgery to evaluate size of the nasal opening; repeated procedure for recurrence or with no appearance of fluorescein dye through the tear drainage system

### **POSSIBLE COMPLICATIONS**

- Recurrence—most common complication; caused by recurrence of cause of eye irritation, recurrence of inflammation of the nasolacrimal sac, part of the tear drainage system (dacryocystitis), or closure of the surgical openings created to allow tears to drain into the nasal cavity

### **EXPECTED COURSE AND PROGNOSIS**

- Depend on cause
- The pet treated for a primary lesion that had been blocking drainage of tears is susceptible to re-blockage of the tear drainage system (nasolacrimal obstruction) and recurrence is common; early detection and intervention provide a better long-term prognosis

## **Key Points**

- Abnormal overflow of tears
- Remove cause of eye irritation
- Treat primary lesion (such as a third eyelid mass, mass in the nose or sinus, and infection) that is blocking drainage of tears—successful management may allow normal tear flow through the tear drainage system (nasolacrimal flow) to resume
- Recurrence of abnormal overflow of tears is the most common complication