

comparative imagery

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The Red Eye

Animals are frequently presented with the chief complaint of having a "red eye." Redness typically represents inflammation of the ocular tissues, which may be a normal variant or require topical therapy or emergency surgery.

Inflammation or infection can occur with diseases of the external eyelids, nictitans, conjunctiva, cornea, sclera, orbit, or intraocular structures (uvea, choroid). Inflammation is often accompanied by hyperemia of the lids or conjunctiva, blepharospasm, increased blinking, rubbing of the eye, epiphora, or excessive discharge. Additionally, clouding of ocular structures, altered intraocular pressure, and decreased vision or blindness can be seen.

Meticulous examination of the eye with a methodical diagnostic approach will aid in obtaining an accurate diagnosis and help determine treatment. Dimming room lights is imperative before performing the ocular exam. A complete ophthalmic exam uses a focal light source to examine the eyelids, conjunctiva, cornea, and anterior surface of the iris. Direct and indirect ophthalmoscopy may be performed by using a short-acting agent such as tropicamide to examine the posterior segment. In conjunction with the ocular exam, Schirmer's tear testing, fluorescein staining, and tonometry should be performed in every patient.

Cytology may be useful for conjunctival or corneal scrapings. A mini-tip culturette may be needed to obtain bacterial cultures. Blood assays (CBC, chemistry profile, tick serology, fungal serology) and blood pressure measurements may be necessary to complete the workup and should also be employed if systemic disease is suspected.

The following photographs illustrate numerous clinical presentations of "red eye." Choose from the diagnoses listed; each disease corresponds with only one picture.

- ___ ACUTE ANTERIOR UVEITIS
- ___ ACUTE GLAUCOMA
- ___ ANTERIOR LENS LUXATION
- ___ ANTERIOR UVEITIS
- ___ BLEPHARITIS
- ___ CORNEAL FOREIGN BODY
- ___ CORNEAL SEQUESTRUM
- ___ FELINE HERPESVIRUS CONJUNCTIVITIS/KERATITIS
- ___ FOLLICULAR CONJUNCTIVITIS
- ___ HYPHEMA
- ___ INDOLENT ULCER
- ___ KERATOCONJUNCTIVITIS SICCA
- ___ LENS-INDUCED UVEITIS
- ___ ORBITAL TUMOR
- ___ PROLAPSED GLAND OF NICTITANS
- ___ PROPTOSED GLOBE

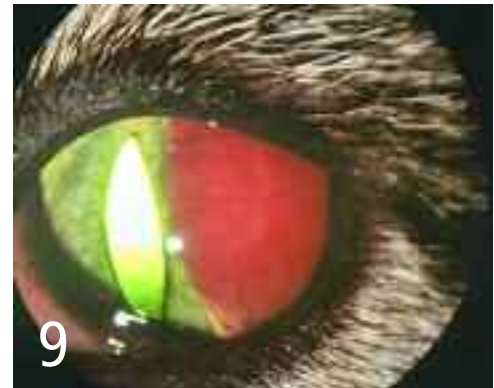
See pages 16-18 for answers.



1
8-year-old wire fox terrier



5
8-year-old boxer



9
12-year-old domestic shorthair



13
12-year-old golden retriever



5-year-old mixed-breed dog



5-year-old shih tzu



12-year-old domestic shorthair



4-year-old Labrador retriever



3-year-old Cavalier King Charles spaniel



6-year-old domestic shorthair



3-year-old Portuguese water dog



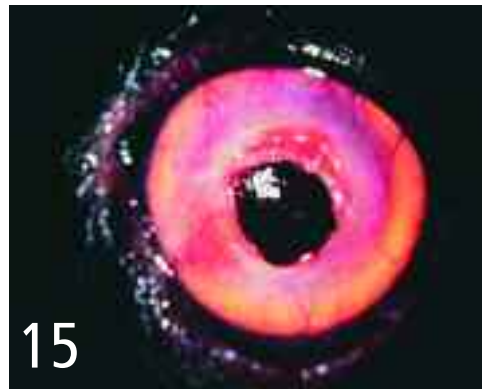
6-year-old domestic shorthair



12-year-old mixed-breed dog



7-year-old Pekingese



12-year-old Persian cat



9-year-old mixed-breed dog

continues



1
8-year-old wire fox terrier—Acute glaucoma
 This dog presented with acute ocular pain of 3 days, blepharospasm, conjunctival hyperemia, diffuse corneal edema, and reduced vision. Applanation tonometry revealed an intraocular pressure of 55 mm Hg. Emergency glaucoma therapy was indicated.



2
5-year-old mixed-breed dog—Anterior lens luxation
 A mixed-breed dog presented with acute blepharospasm of the right eye. Ophthalmic examination revealed conjunctival hyperemia, mild diffuse corneal edema, trace aqueous flare, and anterior lens luxation. Intraocular pressure was 8 mm Hg. Emergency lensectomy surgery was performed.



5
8-year-old boxer—Indolent ulcer
 This boxer presented with a painful right eye of 4 weeks' duration. Previous therapy of triple antibiotic ointment and atropine did not improve the condition. Ophthalmic examination revealed severe blepharospasm, conjunctival hyperemia, and mucoid ocular discharge. A large, fluorescein-positive superficial corneal ulcer with loose epithelial edges, deep limbal vascularization, and corneal edema was noted. A grid keratotomy was performed and a soft contact lens was placed to facilitate healing. Neomycin-polymyxin-gramicidin ophthalmic solution, atropine solution, and oral carprofen (Rimadyl; Pfizer, www.rimadyl.com) were prescribed.



6
4-year-old Labrador retriever—Corneal foreign body
 Presented with a 5-day history of acute blepharospasm, this dog underwent ophthalmic examination, which revealed severe conjunctival hyperemia, ocular discharge, superior corneal edema, and corneal ulceration with a dark brown corneal foreign body imbedded in the corneal stroma. Emergency surgery was performed to remove the foreign body. The resultant corneal ulcer healed in 2 weeks with neomycin-polymyxin B-bacitracin ophthalmic ointment and atropine solution.



9
12-year-old domestic shorthair—Anterior uveitis
 A cat that had lost 2 pounds and had a poor appetite was presented for a red, nonpainful left eye of 3 weeks. Ophthalmic examination revealed a pink anterior chamber mass associated with the temporal aspect of the iris. A systemic workup was recommended. Lymphosarcoma was diagnosed.



10
3-year-old Portuguese water dog—Follicular conjunctivitis
 The ophthalmic examination in this dog presented for red eyes and ocular discharge revealed bilateral mild conjunctival hyperemia; mucoid ocular discharge; and numerous red, raised, smooth follicles on the bulbar surface of the nictitans. A diagnosis of follicular conjunctivitis was made. The follicles were manually debrided with a platinum spatula; topical neomycin-polymyxin B and dexamethasone ointment were prescribed.

CBC = complete blood count, CT = computed tomography, FeLV = feline leukemia virus; FIP = feline infectious peritonitis; FIV = feline immunodeficiency virus



3-year-old shih tzu—Blepharitis

With a 3-month history of progressive redness of the right eye and ocular discharge, this dog was administered a Schirmer's tear test. The value was 8 mm/min. Periocular skin scraping, cutaneous fungal culture, and biopsy were performed. An autoimmune skin condition was diagnosed. The periocular lesions resolved over 8 weeks with immunosuppressive doses of oral prednisone, oral cephalixin, and aggressive dry eye therapy.



12-year-old domestic shorthair—Orbital tumor

This cat presented with a red eye of 2 months' duration. Ophthalmic examination revealed an exophthalmic right globe, vision loss, decreased retropulsion, conjunctival hyperemia, mydriasis, and hemorrhagic ocular discharge. A CT scan was performed and revealed a large retrobulbar tumor with oral and nasal cavity invasion.



3-year-old Cavalier King Charles spaniel—Prolapsed gland of nictitans

This dog's eye was not painful, but the condition was acute. A hyperemic, round, smooth swelling was noted between the leading edge of the nictitating membrane and the cornea. Surgical replacement of the prolapsed gland was indicated.



6-year-old domestic shorthair—Acute anterior uveitis

Mild blepharospasm, conjunctival hyperemia, diffuse corneal edema, 2+ aqueous flare, miosis, iris vessel engorgement, and thickening were noted in this cat presented for red eye and squinting. Acute anterior uveitis was diagnosed. Testing for FeLV, FIV, FIP, toxoplasmosis (IgG/IgM), and *Bartonella* was performed. The underlying cause was not identified.



6-year-old domestic shorthair—Feline herpesvirus conjunctivitis/keratitis

Ophthalmic examination revealed blepharospasm, severe conjunctival hyperemia, mucoid ocular discharge, and chemosis in this cat presented with signs of an upper respiratory infection and red eyes. Diffuse corneal edema with 360° deep limbal corneal vascularization and superficial corneal ulceration were noted. Topical idoxuridine, oral L-lysine gel, and topical antibiotics were prescribed.



12-year-old mixed-breed dog—Hyphema

This dog presented with lethargy and red eyes. Ophthalmic examination revealed conjunctival hyperemia, corneal edema, bilateral hyphema, iris vessel engorgement, 3+ aqueous flare, reduced vision, and intraocular pressures of 6 mm Hg. The hyphema was secondary to immune-mediated thrombocytopenia.

continues



13

**12-year-old golden retriever—
Lens-induced uveitis**

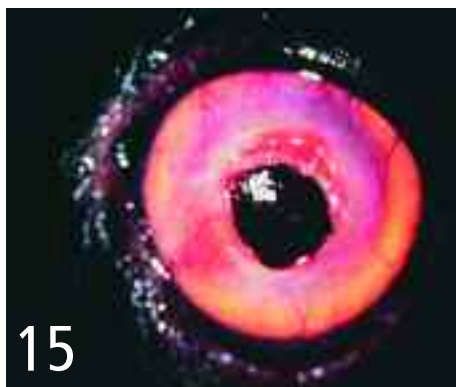
This dog, presented for red eyes, had bilateral mature cataracts for 2 years and was functionally blind. Ophthalmic examination revealed conjunctival hyperemia, limbal corneal edema, irregular pupils (dyscoria), multifocal posterior synechiae, and mature cataracts; the intraocular pressures were 11 mm Hg in each eye. Leakage of lens proteins from the cataracts caused lens-induced uveitis and the dog was at increased risk for retinal detachment and secondary glaucoma.



14

Pekingese—Proptosed globe

This dog had been bitten by another dog 2 hours prior to presentation and presented with an acutely red and swollen eye. Ophthalmic examination revealed a proptosed left globe, conjunctival hyperemia, chemosis, corneal edema, superficial corneal ulceration, miosis, and vision loss. The globe was repositioned into normal position by performing a lateral canthotomy and placement of a complete temporary tarsorrhaphy with stents.



15

**12-year-old Persian cat—
Corneal sequestrum**

This cat had a history of chronic upper respiratory infection and red eyes. Ophthalmic examination revealed moderate blepharospasm, conjunctival hyperemia, and diffuse corneal edema. An axial round, black, rough corneal opacity with irregular edges, fluorescein-positive stromal edge, and diffuse corneal vascularization was noted. A superficial keratectomy was performed and a thin conjunctival pedicle graft was placed to protect the cornea.



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Mixed-breed dog—Keratoconjunctivitis sicca

Ophthalmic examination in this dog with an acutely red eye revealed blepharospasm, conjunctival hyperemia, and a profuse mucoid ocular discharge. Schirmer's tear test levels were 8 mm/min in each eye. Aggressive dry eye therapy was instituted and the clinical signs improved in 3 weeks.

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