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Anterior Uveitis Fundamentals

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Uveitis, or inflammation inside the eye, can be either an eye-related manifestation of serious illness occurring in the body or a problem confined to the eye (i.e., idiopathic/immune mediated). A cat diagnosed with uveitis could be experiencing ocular signs of a more widespread problem. Use this checklist as a guide for step-by-step management of feline uveitis.

Clinical Signs

Any of the following signs may be present to support the diagnosis of uveitis. With the exception of a miotic (i.e., small or constricted) pupil, only uveitis can cause these abnormalities:

- Aqueous flare (cloudy eye): protein leakage into the eye leads to turbidity of the normally clear intraocular fluid (Figure 1).
- Miosis (small pupil): inflammatory chemicals produced inside the eye bind to receptors of the iris and cause pupil constriction.
- Hypotony (low intraocular pressure): inflammation leads to decreased production of intraocular fluid.
- Keratic precipitates (white blood cells adhered to the deep cornea): cells leak into the eye and attach to the inner surface of the cornea (Figure 2).
- Fibrin (inflammatory debris), hypopyon (white blood cells), hyphema (red blood cells): free material or cells leak into and collect within the eye because of inflammation.

Diagnostic Steps

- Thorough history
 - Travel; vaccination status; use of preventives for fleas, ticks, and heartworms; and lifestyle (indoor vs. outdoor) are very important considerations when determining exposure risk for infectious diseases. The caregiver should also be questioned about non-ocular signs, such as changes in appetite or activity/energy level, coughing, sneezing, vomiting, or diarrhea.
- Complete physical examination
 - Evaluation for concurrent non-ocular abnormalities could help provide clues about the cause of uveitis.
- Minimum database
 - Bloodwork serves as a baseline prior to instituting treatment, in addition to broadly screening for abnormalities that could be linked to the cause of uveitis.

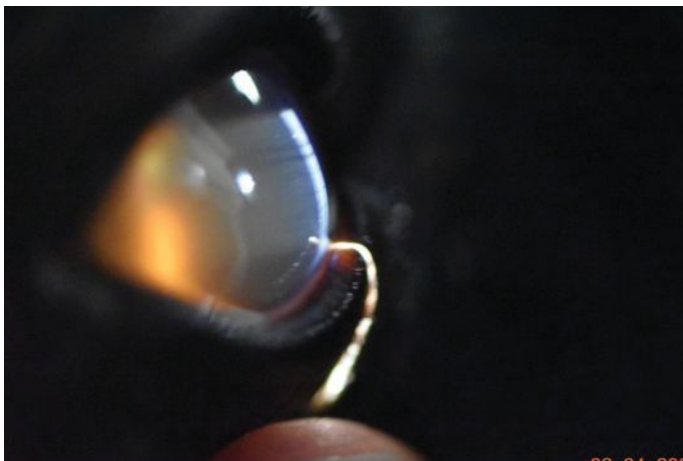


Figure 1. An example of an aqueous flare. *Image courtesy of Jessica Meekins.*

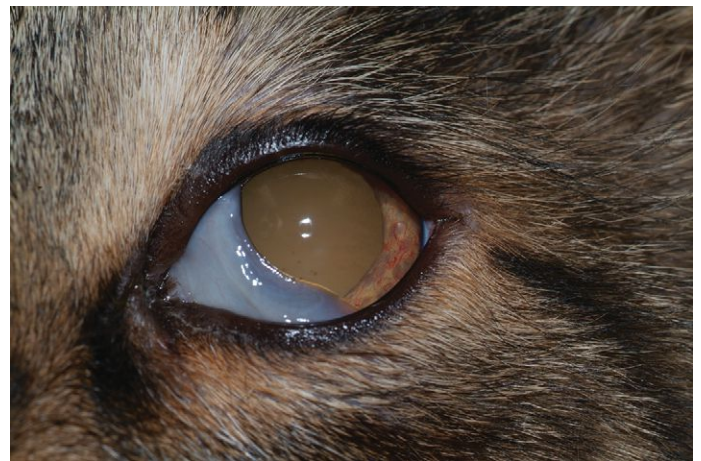
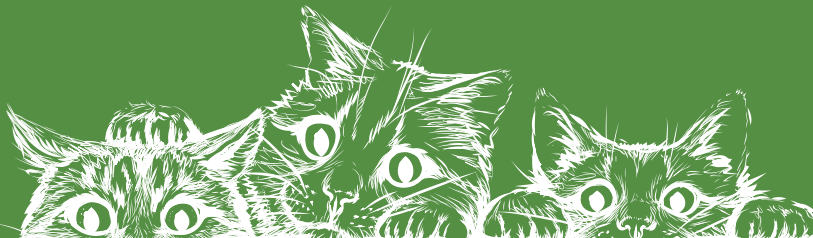


Figure 2. An example of keratic precipitates, rubeosis iridis, and iridal nodules. *Image courtesy of Jessica Meekins.*



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- Infectious disease screening
 - FIV/FeLV: for any kitten or young cat, any newly acquired cat, or a cat of any age if they live with other cats or come into close contact with unfamiliar cats (even if they tested negative at a previous point in their life).
 - Fungal antigen: for cats of any age. Depending on the geographic region, fungal agents may be endemic (e.g., histoplasmosis is the most commonly diagnosed fungal cause of uveitis in the Midwestern United States).
 - Feline infectious peritonitis: testing is warranted if there is an increased index of suspicion (see *2022 AAFP/EveryCat Feline Infectious Peritonitis Diagnostic Guidelines*, available at catvets.com/fip).

Topical Treatment

Symptomatic therapy goals include decreasing inflammation, alleviating pain, and preventing complications of uveitis.

- Topical anti-inflammatory drops
 - Prednisolone acetate 1% (steroid)
 - Diclofenac 0.1% or ketorolac 0.5% (non-steroidal anti-inflammatory drugs)
 - Frequency is based on the severity of inflammation—generally q12h to q6h, tapering as inflammation improves/resolves
- Atropine
 - Provides pain relief by paralyzing the ciliary body muscles, preventing spasms
 - Pupil dilation prevents the development of scar tissue inside the eye, which may increase the risk of glaucoma
 - Used to effect, often q24h to q12h, tapering as inflammation improves/resolves

Considerations and Practical Tips

- Topical steroid use increases the risk of reactivating latent

feline herpesvirus-1 infection, which may lead to ocular surface disease (e.g., conjunctivitis, corneal ulcers). If a cat has a prior history of viral surface ocular disease, consider using topical NSAIDs instead of steroids.

- The main differential diagnosis for uveitis is Horner's syndrome, in which the sympathetic innervation to the eye is disrupted. This causes a small pupil and other signs that can be misinterpreted as ocular pain (e.g., elevated third eyelid, droopy [pseudo-squinty] eyelids).
- Even cats who do not have direct access to the outdoors can be at risk for infectious causes of uveitis, specifically fungal disease. It is speculated that caregivers track fungal spores into the home on their shoes, or that disease may originate from fungus living in potting soil of houseplants.
- Drops penetrate the eye to address anterior uveitis. If there is a component of posterior uveitis, systemic (oral or injectable) medications are necessary.
- Atropine has a bitter taste if it contacts the oral cavity, and some cats may have an extreme hypersalivation reaction. This may be avoided by use of an ointment rather than solution formulation. However, certain cats remain very sensitive no matter the type of vehicle used; atropine should be avoided in these cats.
- Many cases of feline uveitis are ultimately considered idiopathic, which is really an immune-mediated cause. However, this diagnosis can only be made after screening an affected cat for some of the potential specific causes of uveitis.
- Unilateral uveitis in an older adult cat is typically idiopathic, while bilateral uveitis in a young cat often has a specific cause such as an infectious disease. However, there can be significant overlap in clinical presentation, including laterality (i.e., idiopathic uveitis presenting in both eyes, infectious uveitis presenting in one eye).