Cataracts

Cataracts are lens opacities that can take on a variety of appearances and can scatter light or obstruct vision entirely if complete. Inherited cataracts are considered to be the most common type of cataracts in dogs. Cataracts can also form secondary to metabolic abnormalities such as diabetes mellitus, secondary to anterior uveitis or retinal changes, and/or secondary to trauma. Inherited cataracts are considered to be much less common in cats.

The lens, situated directly behind the pupil, plays an important role in allowing light to focus on the retina for vision. The lens may be difficult to view in its entirety in a normal eye with a bright light source, as a constricted pupil may cover or obscure a large portion of the lens. Therefore, visualization of some cataracts may require dilation of the pupil so the lens can be viewed completely. Generally, cataracts are classified based on age of onset, physical appearance of the cataract, and degree of cataract maturation or stage of cataract formation.

Cataracts can take many forms ranging from pinpoint to hypermature. They may affect only one eye; if they affect both eyes, the stage of cataract in each eye may not necessarily be symmetrical. Incipient, or pinpoint, cataracts are seen in many pets and in their early stages do not seem to affect vision nor do they significantly obscure evaluation of the retina during an ophthalmologic exam. They can be so fine that they go undetected in their early stages unless a slit lamp biomicroscope is used for evaluation. Immature cataracts vary from focal cataracts that generally occupy more than 10% of the lens to nearly complete cataracts and may be classified into early, mid, or late stages. Immature cataracts may be focal and localized to one portion of the lens, or can be more diffuse and affect the entire lens. In general, if a tapetal reflex or reflection can be obtained, the cataract is considered to be immature unless the cataract is a resorbing, late-stage hypermature cataract, which would typically be coupled with a longstanding history of cataract formation or a rapidly progressive cataract in a very young patient.

Mature cataracts are completely opacified lenses and no tapetal reflection can be obtained. These may occur suddenly, as seen in very young or diabetic patients, and can further be classified as intumescent if the lens capsule is swollen and the anterior chamber is shallow. A mature cataract may also have been gradually progressing, finally reaching maturity. Hypermature cataracts have surpassed the mature stage and the lens capsule in these cataracts actually begins to shrivel and wrinkle; additionally, the lens protein may take on a scintillating or refractile property which can be viewed with a transilluminator or slit lamp biomicroscope. The lens protein in hypermature cataracts may begin to liquefy over time and the cataract may continue to shrivel, opening some windows where a tapetal reflection can be visualized.
Cataract progression can be difficult to predict and cataracts may progress very slowly or very rapidly. If cataracts are suspected, early evaluation is essential in order to educate clients and to discuss options prior to the cataract progressing beyond a stage where surgery is an option. In addition, anti-inflammatory therapy may be indicated to address any lens-induced uveitis or inflammation due to the presence of the cataract. One common line of thought is that evaluation should be delayed until the cataract has progressed. While this may not be problematic in some cases, such as incipient or pinpoint cataracts, it is possible to delay evaluation too long and the opportunity to intervene surgically with the best opportunity for success can be missed. Therefore, early evaluation is ideal to keep the options open whether surgical or medical management are ultimately elected.

Once cataracts are identified, management options can be discussed with clients. These options include long-term medical management to control lens-induced uveitis or surgical intervention when necessary. To date, there are no medical treatments available to remove cataracts or prevent their progression. It is ideal to periodically evaluate patients even if cataract surgery is declined to ensure that the eyes are free from lingering lens-induced uveitis, which can contribute to secondary glaucoma. If surgery is considered an option, the patient will be evaluated regularly until surgery is indicated. With frequent reevaluations, it will be possible to intervene during an ideal stage of cataract formation.

Typically, intervention may be performed in mid-stage immature cataracts to mature cataracts. Unfortunately, once a cataract has progressed to become hypermature, the risks associated with surgery are increased when compared to those with late immature or mature cataracts. Once surgery is indicated, a battery of presurgical tests is recommended. These tests include preoperative laboratory evaluation, gonioscopy to evaluate the iridocorneal angle and determine if there are increased risks for glaucoma postoperatively, electroretinogram to ensure that the retina is electrically functional and rule out conditions such as progressive retinal atrophy, and ocular ultrasound to rule out retinal detachments and other changes posterior to the lens. The results of these tests are discussed in depth with the client, particularly if there are abnormalities which may alter success rates or that could affect the overall safety of surgery for a particular patient. Communication with the referring veterinarian is essential to gain insight into particular risks or issues with regard to a patient's health prior to surgical intervention. The primary risks associated with cataract surgery (other than anesthesia) include glaucoma, postoperative uveitis, and retinal detachment. Without intervention, however, glaucoma secondary to long-standing cataracts and uncontrolled lens-induced uveitis or retinal detachment secondary to a hypermature cataract may also ensue.

Cataract surgery is exciting for many patients when vision has been significantly compromised. Artificial lenses are available, and may be rigid or foldable. It is our goal to place artificial lenses in all patients if possible to return them to as close to normal vision as possible and to aid in preventing opacification of the lens capsule over time. Lens capsule opacification is similar to fibrosis or scarring of the lens capsule, but in nearly all cases, does not impair vision. Opacification of the lens capsule does not obstruct visualization of the retina on ophthalmoscopic exam, while cataracts do. Cataract surgery is an outpatient procedure, and surgery may be performed on one eye or both eyes under the same anesthetic episode. Patients are followed closely immediately after surgery and less frequently as the postoperative uveitis subsides and the intraocular pressures return to normal. Typically, patients are evaluated 4-6 times over the 8-10 weeks following surgery with the first recheck the day after surgery. An e-collar is employed for 2-4 weeks after surgery to prevent self-trauma and disruption of sutures placed postoperatively.
Entropion

Primary entropion is a conformational defect resulting in the rolling in of one or both eyelids allowing for contact between the lid skin and the adjacent conjunctiva or cornea. The inheritance of entropion is not yet known definitively but it is likely that it is influenced by several genes that work together in the development of the cranial skin and lids, the orbital contents and the bony conformation of the skull.

Mild medial entropion is commonly seen in the toy breeds and is often associated with epiphoria. Severe entropion of the entire lower lid occurs in the Chow, Shar Pei, Bouvier des Flandres, and Rottweiler. In the retrievers, entropion tends to be in the lateral one third of the lid. In giant breeds entropion tends to be associated with a longer than normal lid margin and is found in the lateral half of the lower lid. Upper lid entropion is less common but can be seen in the Chow and Shar Pei breeds.

Secondary entropion can be secondary to trauma, aging, or ocular pain. Traumatic lid margin injuries can heal inappropriately causing the development of entropion. In geriatric dogs both lower and upper lid entropion can occur secondary to loss of retrobulbar fat and periocular muscle mass. Secondary or spastic entropion is also seen in cases of severe ocular pain such as corneal ulceration or intraocular inflammation.

All cases of entropion can be addressed with temporary or permanent surgical correction. Spastic entropion and entropion in dogs of less than one year of age are normally treated with temporary tacking or staple blepharoplasty procedures. In spastic entropion, breaking the cycle of pain allows for healing of the primary lesion and resolution of the entropion. Temporary tacking in the immature dog entropion allows for maturation of the facial structure while protecting the corneas from irritation. Some puppies will “grow out of the condition” while others will eventually require permanent correction. Geriatric dogs can require permanent surgical correction to correct the entropion of aging.

Dr. Randall Scagliotti will be honored June 12, 2008 with the Alumni Achievement Award from the University of California, Davis School of Veterinary Medicine.

One or more alumni are honored each year for outstanding personal and professional contributions to veterinary science or one of its branches, veterinary practice in any of its forms, or to mankind and the advancement of human welfare. The Alumni Achievement Award is the highest honor bestowed by the school.

Congratulations Dr. Scagliotti.

Dr. Douglas Esson has been selected to join CORL.

Dr. Esson was selected to join the comparative ophthalmology research laboratories (CORL) a collaborative team of internationally recognized vision scientists providing world-class vision research support for industry. The CORL team brings together the scientific resources of veterinary and physician ophthalmologists and pathologists as well as basic scientists encompassing molecular biology, cell biology, pharmacology, chemical engineering, material science, physiological optics, electrophysiology, ocular toxicology, and clinical ophthalmology. CORL has additionally developed a unique synergistic relationship with Covance Laboratories, Inc. and supports the development of new ocular compounds.

Congratulations Dr. Esson.
MEMO TO MANAGERS
Go The Extra Mile!

You’ve all heard the phrase “going the extra mile”. What does it really mean? Is it going above and beyond the call of duty… standing out from the crowd… being better than the rest… working harder… doing more??? Many would say all of the above describes going the extra mile. The extra mile doesn’t have to cost extra, but it sure can create good experiences for the person on the giving end and the receiving end.

Going the extra mile can be expressed by the kindness in your face, in your eyes, in your smile, and in your greeting. The person you are expressing to may not always reciprocate, but the giver who goes the extra mile is rewarded in other ways and it costs nothing.

Sometimes it begins with having a positive mental attitude. Begin with living the Golden Rule of treating others as you would like to be treated. Here are some basic (but sometimes forgotten) steps to follow:

- Practice empathy (put yourself in others’ shoes)
- Practice compassion (feel what others are going through)
- Try and imagine how others want to be treated
- Be friendly—who doesn’t want to feel needed or wanted
- Be helpful—don’t be blind to the needs and troubles of others

The bottom line is **just do a little extra in all that you do**. Provide quicker service, answer the phone on the first ring, know your job, respond quickly to voice mail and e-mails, and work with others in the practice to help clients and patients. Impress your clients and patients - “wow them with service”. Show up 10 minutes early and work 10 minutes late - do more than what you are paid for.

Success is through a positive mental attitude, and it’s never crowded along the extra mile.

Karen Webster, MBA
Chief Operations Officer
Eye Care for Animals