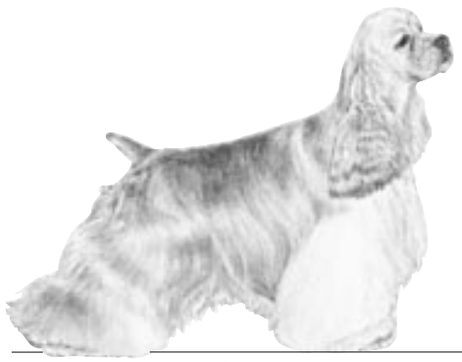

PURINA Pro Club

Cocker Spaniel Update

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Inherited Eye Defects Common in Cocker Spaniels

Most breeders are keenly aware of the Cocker Spaniel's susceptibility to inherited eye problems. Numerous eye conditions can afflict the breed, causing minor visual impairment to blindness.

Currently, intensive research is under way to identify causative genes for many canine eye conditions. Until those genes are identified and DNA tests to detect carriers are developed, judicious breeding decisions are critical to help reduce the incidence of these eye conditions.

Kerry Ketring, D.V.M., DACVO, a noted canine ophthalmologist, author and diplomate of the American College of Veterinary Ophthalmology, sees more than 8,500 patients a year at his All Animal Eye Clinic in Cincinnati. "For our canine patients in breeding programs, we strongly recommend annual exams," says Ketring. "Routine examination by a board-certified canine ophthalmologist assists in early recognition of inherited conditions and helps breeders to observe prudent breeding practices."

Until significant heritable eye conditions are eliminated, breeders need to be aware of some of the most common and/or serious Cocker Spaniel eye disorders. Here is an overview of some of these disorders.

Cataracts

The canine eye, like the human eye, has a clear lens inside it that is used for focusing. A cataract is an opacity that forms on this lens, inhibiting light from reaching the retina. Cataracts may begin as small cloudy sections of the lens that do not impair vision. Typically the opacity grows to cover the entire lens and functional vision is lost. Cataracts may develop in one or both eyes quickly over the course of several weeks or slowly over several years.

For most dogs, surgery to remove the cataract(s) becomes necessary. "As long as a dog is in good general health with no other significant eye problems, the animal is considered a good candidate for cataract surgery," says Ketring. "The success rate for cataract surgery is now greater than 90 percent. That is due, in part, to more sophisticated equipment and ever-improving surgical techniques."

The most common method of canine cataract removal is phacoemulsification, the same procedure that is used for human cataract removal. In phacoemulsification, a small incision is made through which a probe breaks up the cataract with ultrasonic vibration. After the entire lens is removed, an artificial replacement lens, called an intraocular lens, is put in place.[1]

Another reason cataract surgery is so successful is the introduction of better anti-inflammatory drugs. "Postoperatively, owners can expect aggressive drug therapy for their animals for several weeks. Non-steroidal anti-inflammatory drugs have proven quite useful at controlling the inflammation that is a consequence of cataract surgery," notes Ketring.

Progressive Retinal Atrophy

Progressive retinal atrophy, or PRA, refers to a group of eye conditions involving gradual deterioration of the retina, eventually leading to blindness. The retina is located at the back of the eye. It takes the light gathered and focused by the other eye structures, converts it into electrical nerve signals and sends it on to the optic nerve and then the brain for interpretation.

In Cockers, PRA has a variable age of onset, from as early as 18 months to as late as seven years.[2] PRA is not painful, and the outward appearance

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How You Can Help Safeguard Cocker Health

Cocker Spaniel breeders can help improve the health and welfare of the breed by participating in programs, such as the ones listed below.

Cocker DNA Bank

The American Spaniel Club Foundation (ASCF) encourages breeders and owners to submit their dogs' DNA to the University of Missouri School of Veterinary Medicine for the Cocker DNA Bank. This ready resource of stored DNA will be available for research on a variety of canine health conditions.

For the first year, the ASCF will pay each dog's $10 storage fee. Breed clubs hosting blood draw clinics can raise $2 for each dog submitted to the Cocker DNA Bank. For more information, visit *www.asc-cockerspaniel.org*.

Comprehensive Breed Health Survey

Participate in the ASCF Cocker Spaniel confidential online survey and be a part of an international database of Cocker Spaniel information invaluable to breeders and researchers alike. For more information, visit *www.asc-cockerspaniel.org*.

VetGen Research Projects

DNA samples are needed from American Cocker Spaniels with cataracts and their affected and unaffected family members, and from American Cocker Spaniels with PRA. The DNA is collected with small brush swabs provided by VetGen. All is free of charge and completely confidential. Contact Cheryl Hogue at *healthydog@vetgen.com*.

OptiGen DNA Test Project

Ten more American Cocker Spaniels with PRA are needed to verify a potential genetic test for PRA. A blood sample is requested. All is free of charge and completely confidential. Contact *genetest@optigen.com*.

Inherited Eye Defects

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of the eye is often normal. Because of PRA's gradual progression, early signs are frequently overlooked. An animal with PRA first experiences night blindness and an owner might notice the animal hesitating to walk down a dark hallway or dimly lit stairs.[3]

During the day, the affected animal's vision may appear normal. Eventually, however, daytime vision is affected, resulting in blindness. In the later stages of PRA, owners may see a dilation of the pupils or a reflection of light from the back of the eye.

Currently, intensive research is under way to identify causative genes for many canine eye diseases. Until those genes are identified and DNA tests to detect carriers are developed, judicious breeding decisions are critical to reducing the incidence of these eye conditions.

There is no treatment to cure or slow the progression of PRA. Keeping the dog in familiar surroundings often helps the animal to compensate for his blindness. "Fortunately, dogs adapt well to loss of sight," explains Ketring. "Usually it's a greater challenge for the owners. For them, I recommend a book by Caroline Levin called 'Living with Blind Dogs.'"

Currently, a DNA test for the most widespread form of PRA, progressive rod-cone degeneration (prcd), is available for English Cocker Spaniels. A DNA test for the American Cocker Spaniel is in the final stages of development. (See "How You Can Help Safeguard Cocker Health" on page 1.)

Dry Eye Syndrome

Deterioration of the cornea and the conjunctiva due to a lack of tear production is often seen in Cocker Spaniels and commonly called dry eye syndrome or keratoconjunctivitis sicca (KCS). Signs of dry eye syndrome include: redness, thick yellow discharge, rubbing of eyes, cloudy eyes, corneal ulcers and general lethargy. A veterinarian measuring a cocker's tear production with a Schirmer test strip makes the diagnosis.[4]

"Dry eye syndrome must be treated or the animal will suffer from painful and chronic eye infections," notes Ketring. "Severe scarring of the cornea can occur, often leading to blindness." If the cause of an animal's dry eye can be identified, treatment should be aimed at eliminating it. Usually, the specific cause goes undetermined and therapy is aimed at stimulating tear production.

In mild cases of canine dry eye, artificial tear solutions (used for humans and available at most drug stores) may be sufficient treatment. For more severe cases, the topical drug cyclosporine has shown to be approximately 75 percent effective in stimulating new tears in the dog.[4] In either case, you should consult your veterinarian.

Glaucoma

Like human eyes, canine eyes maintain proper intraocular pressure (IOP) by draining fluid that is continually produced. Cocker Spaniels often inherit a problem with the drainage channel that disperses the flow of fluid from the eye. Glaucoma occurs when fluid builds up within the eyeball and the pressure inside the eye increases, Ketring says.

If the pressure remains elevated for more than a few hours, permanent damage or blindness can result. On average, dogs that develop glaucoma are 5 to 8 years old.[5] Symptoms that can appear suddenly are: redness of the eyeball, cloudiness of the cornea giving the eye a bluish appearance, semi-dilated pupil, squinting, excessive tears, hanging the head down, and loss of vision, says Ketring.

Immediate treatment by a veterinarian is critical to save the eye, however, only a small percentage of affected dogs regain vision. Because glaucoma cannot be cured, treatment is aimed at managing the condition. Oral and topical drug therapy is often used to control the intraocular pressure and reduce the severe pain associated with glaucoma.

If drug therapy fails, surgical options are available. One procedure uses a laser to destroy the part of the eye that produces fluid, thereby reducing pressure. Another technique involves inserting a tube into the eye that shunts the fluid under the conjunctiva deep into the eye socket. Multiple surgeries may be required over several years to preserve vision.[6]

"Although there are exceptions, it's very unusual to maintain vision in an eye once glaucoma has been diagnosed," explains Ketring. "At that point, preventing a pressure rise in the healthy eye is very important." Despite preventative treatment of the healthy eye, glaucoma in the second eye occurs on average within 30 months, he says.

Cherry Eye

Dogs have a third eyelid that contains a tear gland in the corner of each eye; this gland produces about one-third of the dog's tears. Under normal circumstances, the gland is not visible; however, in young cockers, the gland sometimes moves out of its normal position and a pinkish swelling develops. This condition is commonly called cherry eye, Ketring says.

Although not painful, cherry eye should be treated soon after it develops to avoid further inflammation or damage to the tear gland. Previously, treatment involved surgical removal of the gland, however, the reduced tear production predisposed those animals to dry eye syndrome. Current treatment involves surgically "tucking" the gland back into another spot near its original position where it begins to function normally again.[7]

Reducing Eye Conditions

Because of the prevalence of eye conditions among cockers, the American College of Veterinary Opthalmologists (ACVO) recommends annual screening of Cocker Spaniels in breeding programs by a board-certified diplomate of the ACVO. To find a board-certified veterinarian, visit *www.acvo.com*.

Upon examination, the animal's eye health is documented for the Canine Eye Registration Foundation (CERF). If a heritable eye condition is detected, breeding advice is offered. If the animal is confirmed free of inherited eye condition, the dog is listed on CERF's national registry of dogs certified free of heritable eye disease for one year.

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The American Spaniel Club also maintains a Health Registry listing dogs that are certified free as unaffected with cataracts or progressive retinal atrophy. Breeders may use both of these highly regarded databases when making breeding decisions.

Through careful screening and selection of Cocker Spaniels for breeding via health registries such as CERF's and ASC's, incidence of heritable eye disease can be greatly reduced among one of the world's most popular breeds.

[1] Cataracts. *www.animaleyecare.net/diseases/cataract.*

[2] Progressive Retinal Atrophy. *www.thecockerspanielclub.co.uk/health.*

[3] Smith M, Frisby H. "Progressive Retinal Atrophy/Degeneration." *www.peteducation.com.*

[4] Dry Eye Syndrome. *www.acvo.com/public/dry_eye.htm.*

[5] Iby J, Ketring K. Guidelines for Breeding and Purchasing Cocker Spaniels. *www.asc-cockerspaniel.org.*

[6] Smith J, Whittaker C. Glaucoma. *www.balgownievet.com.*

[7] Cherry Eye. *www.acvo.com/public/cherry.*