

Have your dogs been CERF'ed?

By – Bob Franklin

What is “CERF”? The Canine Eye Registration Foundation (CERF) is a registry office associated with the American College of Veterinary Ophthalmologists headquartered at Purdue University. It’s primary function is to serve as a collection and data bank and to maintain a registry of animals that have had their eyes examined and reported by a veterinary ophthalmologist. CERF also publishes a book “Ocular Disorders Presumed to be Inherited in Purebred Dogs”. This is a comprehensive book on canine genetic eye conditions which also includes a discussion of how inherited conditions are identified and a detailed glossary with definitions of clinical terms for various canine eye issues.

Many breeders advertise that their breeding stock are “CERF tested annually”. What exactly does this mean? CERF testing involves examination of the dog’s eyes by an American College of Veterinary Ophthalmologists board certified veterinarian and completion of a CERF form. The CERF form documents the condition of the eyes at the time of exam. The contents of the CERF form and documentation of exam results will be discussed in more detail below.

The CERF form is a three copy document. The copies are distributed as follows: one is filed with the veterinary ophthalmologist whom performed the exam, one is sent to the Veterinary Medical Database at Purdue University for research purposes and the final copy is issued to the owner. The owner then has the option to send this copy to CERF as an application for a CERF certification number. The cost to apply for CERF certification is US\$10.00 per dog for the initial registration and US\$7.50 for each subsequent certification for the same dog. Each dog that is registered with CERF must have either a microchip identification number or tattoo that positively identifies the individual and microchip number or tattoo identification must be included on the CERF form. Unless a dog is determined to be “NORMAL” in both eyes by the examining Vet.Op., it will not be issued a current certification number by CERF. The certification number is valid for only one year from the date examination. This is not a life long certification and must be renewed yearly by updating the exam & submitting the fee

At the owner’s discretion, the results of the test can be kept confidential or they can be posted on-line at the CERF website www.vmdb.org. It would be ideal for breeders who advertise dogs that are “CERF tested annually” have their dogs registered with CERF on an annual basis each time they are examined. Puppy buyers or owners of potential breeding partners can then be referred to the CERF website to confirm normal status of an individual(s) therefore enabling the most informed decision to be made.

There are many documented genetic problems that can occur in the eyes of a dog. A thorough ophthalmic examination involves skill of the veterinary ophthalmologist (Vet. Op.), papillary dilation via medicated solution applied directly to the eye and use of specialized equipment. The examination is performed in a quiet and darkened room and only takes a few minutes. Not only is the basic data about the individual dog (owner, birth date, exam date, breed, registration number, etc.) listed but ophthalmic

abnormalities are documented and the degree to which the eye is affected is noted. With subsequent exams, abnormalities can be monitored and progression (or not) of the problem can be assessed. If an abnormality is detected, the presence should be confirmed by seeking a second opinion from a different veterinary ophthalmologist prior to removing this individual from the breeding program. If an abnormality is identified, then the dog should be rechecked on a 6 month basis. Some of these defects are detectable early in a dog's life, but others do not appear until the dog is several years old and still more are likely with onset of old age. Therefore, as was mentioned earlier, CERF examination must be performed at least yearly as the status of an individual's eyes can change from year to year.

A sample CERF form is shown below: The left one third of this form is devoted to general information that identifies that particular dog. It has been completed to depict a specific dog. The right two thirds of the form are a listing of the ten broad categories of eye defects with related specific defects listed below each category and the final, heavy black indication is labeled "NORMAL" which must be marked for BOTH EYES before the dog can be certified as CERF NORMAL. Note that each defect has little circles out to each side for both the left and the right eyes. In some cases, there are several circles for each eye if there can be different portions of the eye affected by some defects. If the Vet.Op. discovers the existence of a specific defect, the circles by that defect's description are colored by the examining Vet.Op.. The circles for any defects that ARE NOT present are left blank. The purpose of this article is not to define all of the individual defects but rather to describe the general categories (see below) and mention a few specific defects most often found in Jack Russell Terriers.

Globe: Microphthalmos indicates that the eyeball is abnormally small.

Eyelids: The moveable folds of skin and muscle above and below the eye that serve to protect the eye from external objects, are a source of some of the tear film, help with removal or distribution of tears over the eyeball and exclude light from the eye when closed. Most eyelid defects relate to abnormalities in the formation of the eyelids or ability of the eyelids to function properly.

Third Eyelid: A triangular shaped structure consisting of a T-shaped cartilage (to provide form and support) and a tear gland (to produce tears) covered on each side by a vascular membrane which protects the sclera (white opaque tissue which forms the outer layer of the eyeball), the cornea (see below) and the inner surfaces of the upper and lower eyelids. Malformations can occur within this complex arrangement.

Cornea: The transparent structure forming the front of the eye and is the only portion of the eyeball not covered by the sclera. Various malformations and/or injuries/infections can occur on the cornea.

Uvea: Pigmented, vascular and muscular layer of the eye primarily comprising of the iris. Various abnormalities can exist with the most common defect being persistent

pupillary membranes where portions of the membrane that forms over the pupil during gestation fails to totally regress completely when the puppy's eyes open at around two weeks of age. Or cysts can occur or a portion of the iris can be missing.

Lens: Biconvex refractive structure within the eye suspended between the iris and the retina that focuses sharp images on the retina for acute vision. This complex portion of the eye can have many defects on all surfaces that can cause impaired vision. One common lens problem is cataracts (partial or complete opacity of the lens and/or its capsule which if severe enough and affecting both eyes can cause blindness). Cataracts usually are considered to be congenital unless specific injury or other causative reasons are known to have occurred. Another severe and devastating problem that can occur with the lens is lens luxation which is a term describing either partial or complete displacement of the lens from the normal anatomic site behind the pupil and usually results in severe sight impairment or blindness. In most cases this condition is quite painful and may require removal of the eyeball. Expensive surgery is possible if the lens has only partially luxated with moderate success and even some sight retention. Early detection is crucial to prevent total blindness when lens luxation occurs.

Vitrous: A transparent gel-like solution located between the lens and the retina. Probably the most common vitreous problem is degeneration, which is liquefaction of the vitreous gel that may predispose to retinal detachment. Another theory is that lens luxation may be partially caused by thin vitreous solution - so early detection is vital.

Fundus: The posterior portion of the interior of the eye as viewed with an ophthalmoscope. These defects deal with various retinal problems, dysplasia (abnormal development), degenerative conditions and even detachment – all of which can result in eventual blindness. Also, the optic nerve and disk are examined for problems.

Other: There are two “other” categories – one for unique conditions not already examined that are suspected to be genetic and the other reserved for conditions believed to be non-inherited (ie: scar tissue).

Normal: This is the important indicator as to whether both of the dog's eyes are believed to be normal. If any defects are found to exist, then the dog's eyes are not normal – one exception might be scar tissue resulting from an injury causing a partial cataract.

Comments: There is space provided for the Vet.Op. to comment on or draw pictures of any defects he/she believes require further explanation. Also some of the specific defects provide spaces for the Vet.Op. to further describe or pinpoint location of specific defects ie: location of cataracts.

Since a number of the problems that can occur with a dog's eyes can develop later in life and are often progressive once started, it is vital that every dog's eyes be CERFed on a regular basis. Twice annually is recommended especially if a problem has been detected, but every responsible dog owner should have their pet's eyes CERFed at least once a year. It is even more important that any dogs that will be bred be tested regularly. Even

dogs that are no longer being bred, but have produced puppies in the past should continue to be tested because many eye problems are not recognizable until later in life. If a parent is discovered to have a genetic eye problem, then owners of its offspring can be notified and alerted that their pets could have the same problem in the future. Many JRT trials offer CERF testing and the JRTCA National Trial always offers CERF testing. Local veterinarians will provide lists of local Canine Ophthalmologists on request.

Much of the information in this article was extracted from the American College of Veterinary Ophthalmologists notebook called "Ocular Disorders - Presumed to be inherited in purebred dogs". Another significant source was the Havanese website which is wonderfully educational about canine eyes (principal authors - Kirk N. Gelatt, VMD and Joanne "Doc" Baldwin, DVM). <http://www.havanese.org/index.htm> under "Havanese Health" and go the sections on "HEART" in this website. Another excellent reference was "Eye Conditions in the Bedlington Terrier" by Cynthia S. Cook, DVM, PhD <http://www.lme.mnsu.edu/ded/bed/dogeye.html> .

This article is submitted by Bob Franklin, Farmcliff JRTs, Glastonbury, CT

Owner

Bob Franklin

Address (Street & No., City, Zip Code)

32 Montano Road, Glastonbury, CT 06033

Animal Registered Name

Sassy of Farmdiffe

Breed/Variety

Jack Russell Terrier

Coat color/type

tan/white/smooth

Tattoo Chip #

FC19/NDR



Examining Vet's Name

I hereby declare that the animal submitted for exam is the animal described above. Furthermore, I declare I am the owner or agent of the owner of this animal.

Signature

RIGHT MARK

SEX

BIRTH DATE

EXAM DATE

REGISTRATION NO. grid with numbers 1-48396

SEX (Male/Female), BIRTH DATE (Jan 17, 2012), EXAM DATE (Jan 17, 2012)

FOR CERF USE ONLY

BREED, COLOR, and other CERF-related data grid

RIGHT EYE GLOBE, LEFT EYE GLOBE, EYELIDS (upper/lower)

CORNEA diagrams (A, P, T, N) and associated clinical conditions like dystrophy, exposure keratopathy, etc.

IRIS SHEETS, IRIS TO CORNEA, IRIS TO LENS, IRIS TO IRIS

CATARACT diagrams (T, N) and associated clinical conditions like anterior cortex, posterior cortex, etc.

LENS diagrams (A, P) and associated clinical conditions like vitreous, degeneration, etc.

RIGHT EYE FUNDUS, LEFT EYE FUNDUS (retinal atrophy, retinal dysplasia, etc.)

OTHER (reserved for conditions which are suspected as inherited. Describe in comments.)

NORMAL, Signature, Date, and other administrative fields

COMMENTS: O.P. Punctate Cataract not hereditary believed to be from injury.

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Research Copy