

August 20, 2007

To: RRCUS Board of Directors
From: RRCUS Health & Genetics Chairs

We are writing this memorandum to urge the RRCUS Board of Directors to rectify a troubling problem regarding eye-screening clearances for Rhodesian Ridgebacks.

Problem: At the present time, the Canine Eye Registry Foundation (CERF) will “pass” (give a CERF number) to a Rhodesian Ridgeback diagnosed with entropion. Entropion is an eyelid anomaly in which the eyelids roll inward, causing the lid edge and lashes to rub against the cornea. CERF itself notes that entropion “frequently causes ocular pain and corneal disease” that can result in loss of vision. It is familial – that is, hereditary.

Precisely because of the eye damage this disease can cause, CERF denies CERF numbers to dogs diagnosed with entropion *in those breeds where the disease occurs in relatively significant numbers*. In breeds where only a handful of affected entropion dogs have been identified by CERF, the registry gives a “Breeder’s Option” simply because it has not seen enough cases to make a determination about the frequency of the disease in that particular breed.

This is the case with the Rhodesian Ridgeback. CERF does not have the true entropion numbers on Ridgebacks because the majorities of knowledgeable Ridgeback breeders identify the disorder early, have the defect corrected and place these dogs as pets with no intention of breeding them. As a result, they do not receive a formal CERF examination. Ironically, if these affected dogs were being used as breeding stock, they would be CERFed, and we would have the numbers needed to make the entropion disqualification automatic.

Currently, Rhodesian Ridgebacks with this disorder will be given a CERF number and a “Breeder’s Option” classification, meaning that the dog may be bred at the breeder’s discretion. This flies in the face of long-standing responsible breeding practices in the community of American Ridgeback breeders, where the majority of such dogs are removed as breeding stock. The knowledgeable Rhodesian Ridgeback community in

the U.S. has traditionally never accepted the practice of breeding affected entropion dogs, and it is not accepted practice today. Yet because of a glitch in the data collection on this disease in our breed, ophthalmologists, veterinarians and breeders are given guidance by the ACVO via CERF that breeding these dogs is acceptable.

Reality: Within the breed, we know from ample breeder testimony and our own health surveys that entropion is present -- 11 cases out of 1,763 dogs were reported in our 2001 survey at www.rrcus.org/assets/html/about/health_genetics/96health_update.htm (which significantly underreported genetic disease in the breed by as much as 10 fold, according to an analysis by late canine geneticist Dr. George Padgett). This is in line with, or greater than, the frequency of some of our other "second tier" disorders (those not endemic in the breed, like dermoids or hypothyroidism, but are still present and are challenging to breeders). For example, the same survey listed 18 cataracts, 13 seizures, 10 hemangiosarcoma, 9 degenerative myelopathy, 8 osteosarcoma, 6 congenital deafness.

Ramifications: The CERF "Breeder's Option" for entropion is telling many well-intentioned and reputable veterinarians, breeders and even ophthalmologists that it is permissible to breed entropion Ridgebacks. As a result, affected entropion dogs have been, could be and will be bred based on this endorsement.

In the long term, this "loophole" will only erode the confidence that Ridgeback breeders have in CERF evaluations. Breeders will ask – and rightly so – "Why should I get CERF's opinion if they will pass an entropion dog?" At a time when only a minority of Ridgeback breeders are testing their dogs' eyes and we are striving to make the testing more mainstream, this is something we can ill afford.

Precedents: Breed clubs have successfully requested that the ACVO change the recommendation on a particular condition from "breeder's option" to "no breeding." The Vizsla parent club did just this with entropion, finding itself in much the same position that we find ourselves in today – a documented incidence of the disease in the breed, but a correspondingly low number of cases examined by CERF. Today, entropion is a disqualification, and any Vizsla diagnosed with it is *not* issued a CERF number.

Conclusion: CERF does not have enough entropion-affected Ridgebacks in its database to conclude the condition has a significant genetic frequency in our breed to make it a disqualification for a CERF number. It likely never will, because knowledgeable Ridgeback breeders do not consider these dogs breeding prospects and so do not have them examined by CERF.

RRCUS, however, has breed-specific knowledge about the frequency of this disorder in our breed. We:

- have documented its presence in the breed.
- know it is not reported via CERF because breeders can identify it early, correct it and place the pups as pets where they never having a CERF examination done.
- know it is heritable.
- know that entropion manifests in litters where sire and dam have been clear of the condition, demonstrating that Ridgebacks can carry and pass on some of the genes for this condition without manifesting it themselves.
- know the incidence could be far more prevalent than it now if it were common practice among breeders to breed affected dogs.

We need to make the ACVO aware of the frequency and heritable nature of entropion in our breed, and make the responsible decision as stewards of the breed to remove the Breeder's Option and make entropion a reason for not passing CERF.

Recommendation: The RRCUS Health & Genetics Committee urges the BOD to set into motion the steps necessary for entropion to receive a "No Breeding" option by sending a letter, on club letterhead, to the Genetics Committee of the American College of Veterinary Ophthalmologists asking that entropion be an automatic disqualification for breeding in the Ridgeback, and that CERF numbers not be issued to Ridgebacks with entropion. We request this letter be sent immediately to arrive no later than September 15th, in time for the next meeting of this committee is in October.

For the board's convenience, a sample letter is provided.

We have appended some commentary from veterinarians and geneticists in support of our recommendation.

If you have any questions, please don't hesitate to contact either of us.

Respectfully,

Cynthia Roethel
Denise Flaim
RRCUS Health & Genetics Chairs

Appendices: (1) Lisa Miller DVM. Chair, Veterinary Review and
Advisory subcommittee of the RRCUS Health &
Genetics Committee

Recommendations

(2) Jerold S Bell, DVM, Clinical Associate Professor of
Genetics

Department of Clinical Sciences

Tufts Cummings School of Veterinary Medicine

Recommendations

(3) Dr. David Harling, DVM, DACVO, DABVP (canine and
feline) Recommendations

(4) Sample Letter to the ACVO

cc: The Ridgeback magazine, RRCUS-Members email list

**Lisa Miller, DVM, Chair, Veterinary Review and Advisory
subcommittee of the RRCUS Health & Genetics Committee
Recommendations**

The Vizsla was included on the "no" list for breeding in regards to entropion per a request by The Vizsla Club of America some years ago.

At the time, there was not a very large number of Vizslas presented for CERF examination, and of those, a very limited number of affected entropion dogs identified. CERF did not feel at the time that the numbers justified moving the breed to the “no breed” category, however they pointed out that the national breed club could establish their own regulations and this is what the Vizsla breeders in fact did. They then requested a “no breeding” ruling from CERF, which is still listed today.

I think we have to take a stand in regard to this problem, even if it does not put itself among the “serious” ranks of hip dysplasia, hypothyroidism, certain neoplasias or, in our breed, dermoid sinuses. H&G has always encouraged breeders not to breed affected dogs with any long-term or serious condition (i.e. not a “one-time” skin infection or otherwise resolvable temporary condition). I think this is important because as H&G it is our job to help guide not only the BOD for RRCUS, but also the membership of dog-owning and potentially dog-breeding individuals. We as the “scientific minds,” veterinarians and sometimes breeders of dogs ourselves have to take many things into account when making a “no breeding” recommendation obviously.

I think, to simplify this, I have tried to distill the issues regarding entropion and CERF in our breed into what we DO and DO NOT know.

What we DO know:

- 1) Entropion, as a condition, while not “widespread” in our breed, certainly exists, and has existed for some time.
- 2) We have evidence of its occurrence in enough “lines” to suspect that it IS in fact inherited (mode, however is unknown—see below).
- 3) Compared to other eye conditions that may not be diagnosed by MOST breeders on visual examination (i.e. that require an ophthalmologist diagnosis), entropion MAY be identified by breeders and/or cause secondary problems (such as corneal ulceration, excessive tearing, ocular pain, etc.) that would cause a breeder either not to consider breeding the dog in the first place, placing it as a pet, etc. OR to seek veterinary attention and have this disorder cosmetically corrected.
- 4) Based on #3, many of these dogs are never CERF examined, and therefore NOT included in their database, giving them a false impression of the “true” incidence in our breed.
- 5) Unaffected dogs have produced affected offspring. (A member of the H&G committee noted that she had three affected dogs in two litters.)

- 6) In 2006, there were a total of 2,248 Ridgebacks registered with the AKC. I would not call our gene pool small by any means.
- 7) Part of our goal as the H&G committee and as breeders should be to help establish guidelines that can be used to preserve breeding lines and genetic diversity while also reducing the risk of producing “affected” individuals. This can be done, even when genetic tests or “mode of inheritance” is not known to help reduce the carrier risk in matings.

What we DO NOT know:

- 1) The mode of inheritance in our breed, but even if we assume that it is EITHER polygenic OR unknown inheritance period, the breeding recommendation should be the SAME—i.e. veterinarians that concentrate on genetic counseling (like Dr. Bell or Dr. Patterson) recommend the same guidelines apply in these cases (and that is NOT to breed affected individuals).
- 2) How many dogs in our breed are affected by the condition and have been bred (with or without the knowledge of both sire and dam’s owners—i.e. whether or not this decision was based on CERF clearance alone.)

In regards to throwing the baby out with the bathwater, I DO think that we have enough genetic diversity in the breed to be making these sorts of recommendations. My other breed, Pharaoh hounds, had about 200 dogs registered last year—THAT is a small gene pool. We recently had a bizarre inherited eye disease pop up in the breed that causes blindness eventually. While this is certainly a more devastating condition, we had to be extremely quick to “jump on this” before it became widespread in a breed where one stud dog can effectively create a HUGE problem.

My point is that just because our gene pool is larger and just because this is not a “deadly” condition does not mean that we do not have to pay attention. We HAVE enough sound, structurally excellent and otherwise healthy dogs and bitches to breed that we should try to do what we can to prevent potential carriers of a genetic disorder from being produced.

This is just my opinion. I happen to have a gorgeous, finished 4-year-old bitch at home that was diagnosed hypothyroid on her pre-breeding screening. She will be spayed soon. In my mind, it is devastating, but is ALSO the reason we do screening.

Lisa Miller, DVM
Chair, Veterinary Review and Advisory subcommittee of the RRCUS
Health & Genetics Committee

(Appendix 1)



Tufts Cummings School of Veterinary Medicine

Department of Clinical Sciences

August 19, 2007

Denise Flaim
Health & Genetics Chair
Rhodesian Ridgeback Club of the United States

Dear Ms. Flaim:

This letter is in response to your inquiry to the heritability of entropion in the Rhodesian Ridgeback. It is shown that entropion is an inherited condition in other breeds of dogs, in cats, and in sheep. Furthermore, the inheritance of entropion appears to be complex (polygenic), so elimination of the disorder through selective breeding will take more of an effort than with a simple Mendelian mode of inheritance.

The CERF frequency of entropion in the breed was 0.01% (1 of 1,027 Rhodesian Ridgebacks examined) between 2000-2005, and 0.84% (4 of 479 examined) between 1991-1999. However, the 2001 update of the Rhodesian Ridgeback Club of the United States health survey shows 11 dogs with entropion. This is second only to cataracts in ophthalmologic

disorders and higher than the reported health survey number of dogs with the proven hereditary disorders degenerative myelopathy and deafness.

If the Rhodesian Ridgeback Club of the United States petitions CERF to change the recommendation from breeder's option to do not breed, it would not prevent breeders from breeding dogs with entropion. However, it would indicate the heritable nature of the disorder, and at least provide guidance that this is an undesirable conformational disorder for breeding.

We are at a point in dog breeding where there are more tests available to breeders, and more dogs that will fail at least one or more genetic examinations. While this does not preclude otherwise quality dogs from being used for breeding, it also does not mean we should make the tests easier to pass, or ignore the heritable nature of disorders.

Sincerely,

Jerold S Bell DVM
Clinical Associate Professor of Genetics
Department of Clinical Sciences
Tufts Cummings School of Veterinary Medicine
860-749-8348, fax 860-749-4760

Appendix (2)

**Dr. David Harling, DVM, DACVO, DABVP (canine and feline)
Recommendations**

This is a reply to your letter of 8/10/07 regarding Entropion.

I am in an area where I see only a few RR's for a CERF exam and I cannot recall making the diagnosis of entropion. In fact, almost all the RRs that I have examined were normal.

CERF is structured to identify and prevent heritable ocular defects. Apparently there are insufficient data or numbers of the RR breed to identify entropion as inherited. If you have information that would lead to identification of entropion as a heritable defect, a letter asking for change of advice from "Breeder Option" to "No" is in order. The matter will be presented to the genetics committee of the ACVO for their review. They will meet in October of this year.

Not all Diplomates will agree on this condition, and I suspect that the severity of the entropion is a factor. For example, entropion in a English Bulldog is clearly related to eyelid disease and also contributing factors including skull and soft tissue issues, tear flow, positioning of and support of the eyelids and lack of proper blink reflexes. These in turn may cause attending entropion, corneal disease and discomfort. If it is common in the breed and established as genetic the advice is "No." A dog with an entropion caused by inherited factors could be considered as inherited. A very mild entropion such as seen in some Brachycephalic breeds (short nosed dogs) would likely be "breeder option."

It should be noted that the Diplomate does not pass or fail an animal, they report the diagnostic finding and the computer at CERF, with the guidance of the Genetics Committee, make the decision.

I would encourage you to submit a request for review of the matter since there are not many RRs that get examined. And as you have noted, the animals examined may not be representative of the breed.

I hope this is useful to you.

David E. Harling, DVM
DACVO
DABVP (canine and feline)

Appendix (3)

SAMPLE LETTER

Rhodesian Ridgeback Club of the United States

American College of Veterinary Ophthalmologists
P.O. Box 1311
Meridan, ID 83680

Attn: Andras M. Komaromy, Chair, ACVO Genetics Committee

Dear Dr. Komaromy:

The Rhodesian Ridgeback Club of the United States respectfully requests that the Genetics Committee of the American College of Veterinary Ophthalmologists make breeding advice for Ridgebacks diagnosed with entropion "No."

While the Canine Eye Registry Foundation does not record a "critical mass" of Ridgebacks affected with this eyelid disorder, RRCUS has breed-specific knowledge about the frequency of this disorder in our breed.

Through our health surveys and ample breeder testimony, we ...

- Have documented its presence in the breed.
- Know it is not reported because breeders can identify it early on and remove it from the gene pool without formal testing.
- Know entropion is heritable.
- Know that entropion manifests in litters where sire and dam have been clear of the condition, which shows that Ridgebacks can carry at least some of the genes for this condition without manifesting it themselves.
- Know the incidence could be far more prevalent than it is now if it were common practice to breed affected dogs.

In light of this information, Rhodesian Ridgebacks affected with entropion should not be bred. We would appreciate your committee's review of this matter at your earliest convenience – ideally, at your meeting this October.

If you should have any questions regarding this matter, please do not hesitate to contact me at xxx

Cordially,

Chris Demery
RRCUS President

cc: Andras M. Komaromy, P.O. Box 635, Alloway, NJ 08001

Appendix (4)