



The NLRC was organized in 1996 with the idea of creating a national club that would preserve and promote the Labrador Retriever. Everyone in the Labrador community is welcome...from pet owners to old timers.

We are a National Lab Club formed by the members, for the members, working together for the preservation, betterment and service to the Labrador Retriever.

Inside this issue...

Copper Toxicosis 1

Copper Toxicosis Testing by Vet Gen 2

Dogs Needed for Laryngeal Paralysis Research Studies 3

NLRC Membership New Memberships & Renewals for 2018 3

Dogs Needed for Cruciate Ligament Research Studies 4

Canine Health Clinic 6

NLRC Board Members & Committee Chairs 7

Copper Toxicosis in the Labrador Retriever

Recently one of our club members suffered the loss of one of her labradors to a disease that is not very well known; a disease that is often misdiagnosed when it presents itself in a canine patient.... and what is probably the most frustrating, it is a disease that is completely treatable and curable if properly diagnosed early enough.

It's called COPPER TOXICOSIS.

There is something that we can all do.

There is a simple test that can be given to determine if your Labrador Retriever is prone to copper toxicosis.

Unfortunately, though..... once the symptoms of Copper Toxicosis are actually present, it is too late for treatment.

The symptoms look very similar to cirrhosis of the liver which is why a misdiagnosis by a veterinarian commonly occurs.

Our club member, Deborah Mansfield, brought her symptomatic Labrador to her veterinarian who was fortunately familiar with copper toxicosis because he had previously seen a case of Copper Toxicosis.

Deborah Mansfield said, "As a Breeder, I believe that this test [for copper toxicosis] is just as important, if not more important since Copper Toxicosis is life threatening , than OFA, EIC etcetera."

"If I can save even one Lab from this awful disease then I've been blessed. Dogs leave PawPrints on our Hearts....I know my lab did!"

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Chronic signs of Copper Toxicosis

Lethargy
Depression
Anorexia
Weight loss
Vomiting
Diarrhea

Excessive thirst and urination

Abdominal distention due to fluid build-up in the abdomen

Copper Toxicosis (Labrador Type)

by VetGen.com

Copper Toxicosis in the Labrador Retriever is similar to the disease found in other breeds in that it manifests itself as a build up of copper in the liver of affected animals. Unlike the disease seen in Bedlington Terriers, the Labrador form is not inherited as a strictly recessive trait. The mutant genes have an additive affect, so one copy of the mutation increases copper levels, and a second copy when present increases levels even further. This affect is somewhat more extreme in females than in males. We know very little of the frequency of the disease itself. It is an uncommon diagnosis, but that may be due to the fact that it is a relatively late onset disease (middle aged or older dogs) and may have variable, difficult to diagnose, symptoms. The mutation responsible for copper toxicosis in Labradors has been identified by researchers at the University of Utrecht. Our test is based on their findings.

The primary cause of copper toxicosis in Labrador Retrievers is a mutant form of ATP7B. Dogs that inherit two normal versions of the gene (one from each parent) will have normal levels of copper in their livers. Dogs that inherit one normal copy and one mutant copy will have somewhat elevated levels of copper in their liver, while those that inherit two mutant copies will have the highest levels. Generally speaking, it is those dogs with two mutant copies that are at the highest risk for the disease, although there have been some dogs reported that only had one copy and still had dangerously high copper levels.

The second gene involved in the Labrador disease is a mutated form of ATP7A. This is a "good" mutation which helps minimize the accumulation of copper in the liver. Since this gene is located on the X chromosome, the mutation is inherited as a sex-linked recessive. Males inherit only a single copy of the gene either normal or mutant from their mother, while females inherit two copies, one on the X chromosome of each parent. Therefore, males only need to inherit one copy of the mutant gene to help with their copper levels, while females need to inherit two. This is why females are more commonly diagnosed with the disease than males.

Since the frequency of the ATP7B CT mutation is relatively high, we do not recommend breeding completely away from it, but rather avoiding pairings that might produce two-copy offspring.

Result types for the ATP7B CT mutation (copper storage disease):

0 copies of the CT mutation: Negative - zero copies of the CT ATP7B mutation

1 copy of the CT mutation: Positive (heterozygous) 1 copy of the CT ATP7B mutation

2 copies of the CT mutation: Positive (homozygous) 2 copies of the CT ATP7B mutation

Result types for the ATP7A (dampening mutation):

Males: 0 copies = Negative - 0 copies of the CT ATP7A dampener mutation

Males: 1 copy = Positive (hemizygous) 1 copy of the CT ATP7A dampener mutation

Females: 0 copies = Negative - 0 copies of the CT ATP7A dampener mutation

Females: 1 copy = Positive (heterozygous) 1 copy of the CT ATP7A dampener mutation

Females: 2 copies = Positive (homozygous) 2 copies of the CT ATP7A dampener mutation.

Testing is available at www.vetgen.com Article reprinted with permission, VetGen.com

Recruiting Dogs for Genetic Studies

We need your help! We are recruiting dogs for two different genetic studies!

We are a team at the University of Wisconsin-Madison School of Veterinary medicine working to understand the genetic basis of two diseases that commonly affect Labrador Retrievers: laryngeal paralysis and cruciate ligament rupture.

We are looking for dogs who qualify to participate in these studies!

Genetic Study #1: Understanding Laryngeal Paralysis in the Labrador Retriever

Laryngeal Paralysis is a devastating and life-limiting disease that is common in the Labrador Retriever population. For the past two years, we have been working on a genetic study focused on identifying where mutations are located in the dog genome that result in laryngeal paralysis in Labradors. We have come a long way since starting, although the exact structure of the mutation still needs to be determined through DNA sequencing. A lot more work is needed, but we are continuing to work hard to find (continued next page)

Please feel
free to forward
our
newsletter to
interested
family and
friends

NLRC Membership -- Open Enrollment

Membership in the National Labrador Retriever Club, Inc. is open to all Labrador enthusiasts; however, to join you must be in good standing with the American Kennel Club, Inc. and should consider the guidelines set forth in the [NLRC Code of Ethics](#) when engaged in any activities involving the breeding, exhibiting and selling of Labrador Retrievers.

Two types of annual individual memberships are offered:

Full (voting member)	\$30
Associate (non-voting)	\$20

Click the below links for NLRC Membership forms:

[NLRC Membership Application Form \(that can be printed and mailed in with your membership fee\)](#)

Or to both apply and pay online

[NLRC Membership Application](#)

Are you listed in our [NLRC Breeders Directory](#)?

NLRC Members with full

membership rights can apply to participate on the NLRC website Breeder Directory by completing the applicable section on the PDF membership application and submitting a \$10 fee.

Any questions? Contact our Interim Membership Chair:
Sandra Underhill
Sandy@LabsToLove.com

We Support Studies and Grants that benefit the Labrador Retriever

Visit the [National Labrador Retriever Club](#)

New Members Welcomed

Apply Online Today

Recruiting Dogs for Genetic Studies

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an answer to this disease.

For these studies, we need to include Labrador that have laryngeal paralysis, and also Labradors who do not have laryngeal paralysis. Perhaps this is not surprising, but one of the biggest challenges we are facing is finding appropriate unaffected Labradors for our study!! This is where we are asking for your help.

Do you have a pure-bred Labrador Retriever who is over 13 years old without evidence of laryngeal paralysis? If so, please get in touch with us!! Clinical signs of laryngeal paralysis include:

- 1) Loud breathing, which is particularly evident when the dogs are excited or exercising
- 2) A change in bark, such that dogs develop a hoarse or croaky bark
- 3) Hind-limb weakness, including toe scuffing, difficulty jumping and having hind-limbs that look stiff when walking or trotting.

Why do we need dogs over 13 years old? When undertaking genetics studies, we need to be sure that our control dogs do not have a gene that will cause them to develop laryngeal paralysis in old age. It's for this reason we don't include young dogs as controls; they may have a genetic mutation that will cause them to develop the disease when they are older, but we just don't know it yet!

Why only purebred Labradors? The answer to this question has to do with the genomic structure of purebred dogs versus mixed-breed dogs. The type of genetic study we are undertaking is much easier and requires significantly fewer dogs if we only include purebred animals. In time, we plan to apply what we learn from this purebred study to mixed-breed dogs, but we aren't there yet!

Please note: we are also recruiting Labradors who developed laryngeal paralysis after they turned 9 years old, so please let us know if you have a dog that has been diagnosed.

Genetic Study #2: Bad Knees Cruciate Ligament Rupture (ACL Rupture)

The cruciate ligaments are stabilizing structures found within the knee joints of dogs and people. Tearing of these ligaments is painful and results in arthritis. In dogs, surgery for this injury is expensive, and does not involve replacing the ligament. These procedures focus on helping stabilize the knee joint and minimize further joint damage. About 5-7% of Labradors experience cruciate rupture in their lifetime.

We are studying the genetic contribution to cruciate rupture in Labrador Retrievers and are looking for purebred Labradors who have been diagnosed with cruciate rupture to participate in this work.

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Recruiting Dogs for Genetic Studies

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Do you have a purebred Labrador who has had ACL rupture? If so, did your veterinarian take x-rays or radiographs of your dog's knee? If the answer to these questions is, "yes" ... we would very much appreciate having your dog participate in this study.

What we ask from you:

If your dog is determined to qualify for one or both of these studies, we will send you a package that includes:

- 1) A short questionnaire that relates to the study in which your dog(s) are able to participate
- 2) A form granting us permission to use your dog's DNA
- 3) Saliva collection swabs with instructions
- 4) A return pre-paid envelope to send everything back to us.

We also may ask for permission to contact your veterinarian for additional information if necessary

Including x-rays or radiographs taken if your dog is participating in the cruciate ligament study.

Additionally, if you have pedigree information, such as an AKC registration number or breeding history, we ask you to send that along as well. WE are able to ship to addresses within the USA and Canada.

Please note that the information regarding the identity of dogs and owners enrolled in this work remains confidential and will not be released to the public at any time.

Have more questions?

Feel free to contact us: genetics@vetmed.wisc.edu or call 608-265-5828

We also welcome you to check us out on Facebook: <http://www.Facebook.com/SVMgenetics>

We appreciate all the help the Labrador community provides.

Thank you!

From all of us at the

Comparative Genetics Research Laboratory

University of Wisconsin-Madison

Susannah Sample, DVM, MS, PhD

Diplomate, American College of Veterinary Surgeons

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Melita Grunow Family Professor of Companion Animal Health

CHIC - Canine Health Information Center numbers

New changes in OFA-CHIC health testing requirements for Labrador Retrievers are posted at the OFA website.

The OFA (Orthopedic Foundation for Animals), working with the breed's parent club, the Labrador Club, Inc., now recommends the following health screening tests for all breeding Labrador Retrievers.

Labradors meeting the basic listed health screening requirements will be issued a Canine Health Information Center (CHIC) number. CHIC certification numbers will be issued even if results of all health tests are not normal....the only requisite is that all health screening results be in the public domain so that responsible breeders can make an informed decision when breeding.

Hip Dysplasia (OFA Evaluation)

Elbow Dysplasia (OFA Evaluation)

Eye Examination by a ACVO Ophthalmologist with results registered with the OFA or CERF

Exercise Induced Collapse (DNA tested from an approved lab)

D Locus (Dilute) (DNA tested from an approved lab)

Centronuclear Myopathy (Optional, DNA tested from an approved lab)

Cardiac Evaluation (Optional, advanced cardiac exam, with an Echo recommended for males)

prcd-PRA (DNA tested from a licensed lab, ie: Optigen or PawPrints, registered with the OFA)

Dog must be permanently identifiable via microchip or tattoo

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For a full list of approved laboratories, please visit the OFA webpage.

article submitted by Jen Kvam



Canine Health Clinic
Sunday March 11th 2018
10 AM to 4 PM

Heart Echo's or Auscultation's & Eye Exams

OFA Cardiac Testing

(Auscultation & Echocardiogram w/Doppler)
Dr. Megan King, DVM, Diplomate, ACVM (Cardiology)

OFA CERF Eye Exams

Dr. Nancy Bromberg, VMD, MS, DACVO

Micro-chipping Also Available

Belquest Kennels

18745 Penn Shop Road Mt. Airy, MD 21771
301-831-7507 or 410-795-8395

Book Now [email: Belquestkennel@aol.com](mailto:Belquestkennel@aol.com)

OFA Cardiac Testing

Heart Auscultation \$45.00 Heart Echocardiogram (with Doppler) \$250.00

Limited number of appointments on Echo's— Paid in Advance, on first come basis Exams will be performed for OFA clearance. Clinic fees do NOT include OFA registration. Owners will be provided a copy of their results and can register their dog by mailing the form to OFA with the registry fee.

OFA Eye Exam - \$45.00

The CERF-OFA eye exam is a general eye exam that screens for genetic and non-genetic abnormalities in dogs. \$45.00 fee does NOT include OFA Registration. Owners will be provided a copy of their EYE results and can register their dog by mailing the form to CERF and or OFA with the registry fee. Plan to arrive 30 minutes PRIOR to your EYE appointment time since dog's pupils need to be dilated prior to seeing the vet.

Bring copy of your Dog's AKC papers to fill out paper work!

Microchips - \$25.00

Belquest Kennel & Cattery
Phone 301-831-7507 or 410-795-8395



National Labrador Retriever Club, Inc.

Board of Directors Contact Information

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The National Labrador Retriever Club, Inc. exists for the protection and betterment of the breed, to encourage education of the general public who may want to add a Labrador to their family and to meet a social responsibility to its members, the general public, and the Labrador world in particular. To this end, we adopted a [Code of Ethics](#) to serve as a guide.

Our Newsletter, The Labrador Connection, is published by the club periodically when sufficient material is received. The Labrador Connection's newest electronic issue is emailed to members when it is published and all issues may be viewed online at any time.

Visit our website online at www.NationalLabradorRetrieverClub.com

