

Mastiff Health Information Sheet

In keeping with the spirit of the MCOA Code of Ethics, Mastiff breeders are encouraged to inform puppy buyers of developmental conditions that may or may not be hereditary or genetic, that are known to exist in Mastiffs, as well as methods to test and/or monitor some of these conditions.

It is hoped this Health Information Sheet will guide buyers to ask pertinent questions, encourage their review of testing certifications and enable them to make educated decisions before purchasing a Mastiff.

Preferably buyers should be asked to read this before committing to a purchase and encouraged to ask questions. It is important that the buyer understand the potential for these conditions or problems to develop in **any** Mastiff, regardless of the line, pedigree, breeder, or testing of ancestors and thus the need for testing and reporting the results of those tests to the breeder and participating in ongoing research efforts. Please keep in mind that all purebred and mixed breed dogs can have health concerns including show dogs, working dogs, family pets, and service companion animals.

EYE PROBLEMS IN THE BREED

- **Canine Multi-focal Retinopathy (CMR), also known as Retinal Dysplasia/Retinopathy** - Abnormal development of the retina present at birth and recognized to have three forms: folds, geographic, and detachment. A Mastiff with folds will currently pass CERF and the folds may disappear over time while the geographic and detached forms may cause loss of vision or blindness. There is a DNA test available through OptiGen www.optigen.com for CMR in Mastiffs.
- **Cataract** - Lens opacity that may affect one or both eyes and some forms may cause blindness.
- **Distichiasis** - Eyelashes abnormally located in the eyelid margin which may cause ocular irritation.
- **Ectropion** - Conformational eyelid defect, which may cause ocular irritation due to exposure.
- **Entropion** - Conformational defect where eyelid margins invert or roll inward, toward the eye causing eyelashes and hair to rub against the cornea which may result in ocular irritation and pain.
- **Macroblepharon** - Abnormally large eyelid opening; may lead to secondary conditions associated with corneal exposure.
- **Persistent Pupillary Membranes (PPM)** - Persistent blood vessel remnants in the anterior chamber of the eye which fail to regress normally in the neonatal period.
- **Progressive Retinal Atrophy (PRA)** - Degenerative disease of the retinal visual cells which leads to blindness. In Mastiffs the age at which PRA can be detected varies from as young as 6 months to as late as 42 months. Typically Mastiffs with PRA go blind gradually, first losing their night vision and then their day vision. Many do not go completely blind until they are 8 years old or older. There is a DNA test available through OptiGen www.optigen.com for PRA in Mastiffs.

ORTHOPEDIC, NEUROLOGICAL, STRUCTURAL, AND JOINT PROBLEMS IN THE BREED

- **Anterior Cruciate Ligament (ACL) Rupture** - The knee along with the external support (i.e., collateral leg) has two ligaments inside the joint that help prevent forward movement (i.e., cruciate). Insult/injury can cause this ligament to rupture and result in acute lameness (not want to bear weight) on the limb.
- **Degenerative Myelopathy (DM)** – This is a progressive, degenerative, late onset disease of the spinal cord seen in older dogs. The symptoms usually begin with hind end weakness, lack of coordination and shuffling or dragging of the rear feet. There is a DNA test for DM through OFA www.offa.org
- **Elbow Dysplasia** - Elbow dysplasia encompasses several different conditions, all of which are indicative of abnormally formed or fused elbow joints and all can cause lameness and pain:
 - **Fragmented Coronoid Process (FCP)** - This form of elbow dysplasia is generally the most difficult to treat if the fragments are actually loose in the joint.
 - **Osteochondritis Dissecans (OCD)** - A defect in the joint cartilage overlaying or attaching to the bone. OCD most commonly occurs in the elbows, shoulders, hocks and stifles.
 - **Ununited Anconeal Process (UAP)** - In giant breeds such as Mastiffs the Anconeal Process can close later than in smaller breeds, often as late as one year of age or older.
- **Hip Dysplasia** - Hip dysplasia is a painful condition caused by abnormally formed hips. The animal may become lame in the hind quarters due to the pain associated with the degeneration of the hips.
- **Hypertrophic Osteodystrophy (HOD)** - A developmental disorder that manifests with toes turning in or out, roached toplines, pinched rears, and in advanced stages fever, lethargy, pain in joints, inability to stand or function. This is a problem of intake in calories versus output of energy - too many calories consumed and/or unbalanced diet disrupted by supplementing.

- **Panosteitis (Pano or Wandering Lameness)** – A developmental problem that affects the long bones during rapid growth periods typically between 6-16 months of age. The exact cause is unknown although genetics, diet, stress, infection, and metabolic or autoimmune problems have been suspected. Lameness can occur in one limb or over time in all limbs. It often is intermittent affecting one leg then another and back again... It is self-limiting and spontaneously disappears.
- **Spondylosis** – is a degenerative disease that causes excessive bone production of osteophytes along the spinal vertebrae which can cause lameness. In advanced cases the vertebrae can fuse together. In many cases there are no clinical symptoms, but the acute expression of the disease such as lameness, severe pain and disabilities are often seen in adults and older Mastiffs.
- **Wobblers Syndrome** – Cervical Vertebral Instability (CVI) is caused by pressure and pinching of the cervical spinal cord and the nerves in the neck due to ligament problems and/or vertebrae malformation. The compression on the spinal cord in the neck may cause the Mastiff to stand and move abnormally. This is believed to be an inherited genetic disorder with environmental influence. Rapid growth and nutrition may influence the expression of the disease.

MISCELLANEOUS OTHER PROBLEMS IN THE BREED

- **Allergies** – Some Mastiffs have allergies to certain foods, pollens, etc. Allergies are due to autoimmune problems and since they often run in certain lines they are believed to be inherited.
- **Cancer** - Most forms of cancer have been diagnosed in some members of the breed. Cancer can be hereditary while others occur spontaneously or even due to environmental toxins. Although there are several forms of cancer found in Mastiffs, the most common types are: Osteosarcoma (Bone Cancer), Lymphoma, Hemangiosarcoma, Mast Cell Tumors, Squamous Cell Tumors, & Breast Cancer. Today there are advanced medical treatment options such as radiation, chemotherapy and medications to reduce the size of the tumors and offer pain management to help maintain a good quality of life.
- **Cystinuria** - An inherited metabolic disease caused by a defective kidney transporter for cystine and some other amino acids. Because cystine readily precipitates in acid urine, crystals and later calculi (stones) can form in the kidney and bladder. Cystinuria in Mastiffs primarily affects males and can result in serious illness and may be life threatening.
- **Epilepsy** – A seizure disorder which can have multiple causes. The age of onset of the inherited form is normally around 6 months to 5 years of age. Epilepsy is often difficult to treat successfully in Mastiffs and other large breeds.
- **Gastric Dilation, Torsion, Volvulus (Bloat)** - Bloat is a hideous killer of giant breed animals, and Mastiffs are no exception. Without warning, the stomach fills with air (dilation), can twist 180 degrees (torsion) on its long axis, or more than 180 degrees (volvulus) thereby cutting off blood and oxygen to vital organs. Bloat can be primary or secondary, caused by emotional or physical stress, improper nutrition or feeding habits, guzzling water, inappropriate exercise, as well as other causes that we do not understand. Every Mastiff owner needs to familiarize themselves with bloat symptoms and have a plan of action to get the animal to an emergency medical facility at the onset of the first symptom. A dog that is bloating often has approximately 3 hours to live without medical intervention.
- **Heart Disease** - The most common heart problems in Mastiffs are cardiomyopathy, aortic stenosis and mitral valve dysplasia. Early detection and treatment are essential for a good prognosis. Some mastiffs have heart murmurs that are mild and not a cause for concern. If a heart murmur is detected it is essential to have it checked to see if it is an "innocent" murmur or a serious problem.
- **Hypothyroidism** - Hypothyroidism is the result of an abnormally functioning thyroid gland resulting in a lower than normal level of thyroid hormone. This lack of thyroid hormone can have serious health consequences including coat and skin problems, intolerance to cold, weight gain or loss, infertility, sudden aggression, and immune system malfunctions. The inherited form is autoimmune thyroiditis where the body's own immune system attacks and destroys the thyroid gland or reduces its function. Autoimmune thyroiditis is diagnosed by measuring the FT4D, cTSH & TgAA. Acquired hypothyroidism can be caused by various problems such as stress for long periods of time, poor nutrition, prolonged infections, and chemical agents.
- **Reproductive Issues** – There are several reproductive problems that can affect Mastiffs and it is encouraged that you research this area if you plan to breed. Some of the most common are pyometria (uterine infection), cryptorchidism (undescended testicles), failure to conceive, and vaginal hyperplasia.
- **von Willebrand's Disease (vWD)** - An abnormal bleeding disorder due to a lack of normal clotting. An animal's life can be threatened by bleeding due to an injury, or during spaying/neutering or any other condition resulting in bleeding.

TESTING AND RESEARCH INFORMATION: ORGANIZATIONS, CONTACTS, AND REGISTRIES

Canine Health Information Center (CHIC) DNA Repository - Please donate DNA (blood or semen)

Phone: (800) 442-0418 E-mail: chic@offa.org Website: <http://www.caninehealthinfo.org/>

Behavior Disorders, Cancer, Epilepsy & Wobblers –

Dr. Mark Neff - Van Andel Research Institute, Contact Alison Ruhe, Phone: 602-343-8693

dogdna@vai.org – <http://www.vai.org/Research/Labs/NeurogeneticsCanineBehavior/kitrequest.aspx>

Cancer

Broad Institute of Harvard and MIT, Dog Genome Project

Fax: (617) 324-2722, e-mail: dog-info@broad.mit.edu website: <http://www.dogDNA.org>

Printable Brochure: http://www.broadinstitute.org/mammals/dog/vet_samples.html

Cardiac

Orthopedic Foundation for Animals (OFA), 2300 E. Nifong Blvd, Columbia, MO. 65201-3806

Phone: (573) 442-0418 Fax: (573) 875-5073 e-mail: ofa@offa.org

Cardiac: <http://www.offa.org/cardiacinfo.html> application: <http://www.offa.org/cardappbw.pdf>

Cystinuria Testing and DNA Research, University of Pennsylvania School of Veterinary Medicine

Dr. Giger – Cystinuria Nitroprusside Urine Testing, Metabolic Lab 215-898-3375

<http://www.mastiff.org/images/Mastiff%20Cystinuria%20Urine%20Test%20Form%2012-4-09.pdf>

Dr. Paula Henthorn – Cystinuria DNA Research, Section of Medical Genetics 245-898-8894

<http://www.mastiff.org/images/2Cystinuria%20Research%20Consent%20Form%2010-20-2010.pdf>

Degenerative Myelopathy Testing and Research

University of Missouri-Columbia, College of Veterinary Medicine

Contact: Liz Hansen, Phone: (573) 884-3712 Fax: (573) 884-5414 e-mail: hansenl@missouri.edu

DM DNA Test Information: <http://www.caninegeneticdiseases.net/DM/ancmntDM.htm>

DM Research Information: <http://www.caninegeneticdiseases.net/DM/ancmntDM.htm>

Epilepsy DNA Research

Canine Genetic Analysis Project (CGAP), Anita Oberbauer, PhD., Professor and Vice Chair

University of California, Davis Department of Animal Science

Phone: (530) 752-4997 Fax: (530) 752-0175 e-mail: amoberbauer@ucdavis.edu

<http://cgap.ucdavis.edu/>

Canine Epilepsy Network, Liz Hansen, Coordinator of Veterinary Information

Dr. Gary Johnson's Lab - Department of Veterinary Pathology

College of Veterinary Medicine, University of Missouri

209 A Connaway Hall, University of Missouri, Columbia, MO 65211

Phone: (573) 884-3712 Fax: (573) 884-5414 e-mail: hansenl@missouri.edu

<http://www.canine-epilepsy.net/>

Dr. Mark Neff - Van Andel Research Institute, Contact Alison Ruhe, Phone: 602-343-8693

dogdna@vai.org – <http://www.vai.org/Research/Labs/NeurogeneticsCanineBehavior/kitrequest.aspx>

Eyes

Canine Eye Registration Foundation (CERF)

Phone: (217) 693-4800 e-mail: CERF@vmdb.org

<http://www.vmdb.org/cerf.html>

OptiGen – DNA Tests

Progressive Retinal Atrophy (PRA) & Canine Multi-focal Retinopathy (CMR)

Cornell Business & Technology Park 767 Warren Road, Suite 300 Ithaca, New York 14850

Phone: (607) 257-0301 Fax: (607) 257-0353 e-mail: genetest@optigen.com

www.optigen.com online application: http://www.optigen.com/opt11_form.taf

Hip and Elbow Dysplasia

Orthopedic Foundation for Animals (OFA), 2300 E. Nifong Blvd, Columbia, MO. 65201-3806

Phone: (573) 442-0418 Fax: (573) 875-5073 e-mail: ofa@offa.org

Hips: http://www.offa.org/hd_info.html Elbows: http://www.offa.org/ed_types.html
Application: <http://www.offa.org/pdf/hdappbw.pdf>

PennHIP - University of Pennsylvania's Hip Improvement Program
Website: <http://cal.vet.upenn.edu/projects/pennhip/index.htm>
Phone: (215) 573-3176 e-mail: pennhipinfo@pennhip.org

Hip Dysplasia and Osteoarthritis Research – Dr. Rory Todhunter, Cornell University
Identifying and verifying genetic markers of canine hip dysplasia. Phone: (607) 253-3041,
E-Mail: rjt2@cornell.edu Website: <http://www.vet.cornell.edu/Faculty/Todhunter/research.htm>
Research Information: <https://www.vet.cornell.edu/research/awards/08September/Todhunter.htm>

Patellas

Orthopedic Foundation for Animals (OFA), 2300 E. Nifong Blvd, Columbia, MO. 65201-3806
Phone: (573) 442-0418 Fax: (573) 875-5073 e-mail: ofa@offa.org
http://www.offa.org/pl_overview.html OFA Patella Application: <http://www.offa.org/pdf/plappbw.pdf>

Thyroid

It should be noted that the use of soloxine and other medications used to treat hypothyroidism makes the results of thyroid testing invalid. For a thyroid test to be valid the mastiff being tested must **NOT** have had soloxine or other thyroid medications for at least 3 months prior to testing. Please ship the **SERUM** sample **CHILLED** with frozen cold packs in an insulated container via overnight delivery to the OFA approved Lab with the OFA Thyroid Registry Application Form! Do NOT send the sample to OFA!

Recommended Lab for Thyroid Testing – MSU Diagnostic Center for Population and Animal Health, Michigan State University – Please request the **OFA Thyroid Registry Test** Phone (517) 353-0621
OFA Thyroid Registry Information: http://www.offa.org/thy_info.html
OFA Thyroid Registry Application: <http://www.offa.org/pdf/thyappbw.pdf>

von Willebrand's Disease – von Willebrand Factor Assays (vWF)

AHDC, Cornell University College of Veterinary Medicine, Upper Tower Road, Ithaca, NY 14853
Phone: 1-607-275-0622 Fax: 1-607-275-0720 <http://diaglab.vet.cornell.edu/coag/>
For Von Willebrand factor assay tests: please ship the **PLASMA** sample **CHILLED** with frozen cold packs in an insulated container via overnight delivery! Also verify receipt of package in good condition!

Wobblers & Multiple Other Disorders – Dr. Mark Neff - Van Andel Research Institute

Contact: Alison Ruhe, Phone: 602-343-8693 or email dogdna@vai.org
<http://www.vai.org/Research/Labs/NeurogeneticsCanineBehavior/kitrequest.aspx>

Mastiff Club of America Health Information Contacts:

Health Committee

Anna May (951) 704-6022 mastiff@iinet.com
Jan McNamee mastiffs10@yahoo.com
<http://mastiff.org/MASTIFFHEALTH.htm>

Health Sub-Committees

Cancer - Tricia Dalman Phone 816-453-0700 E-Mail Chamois06082000@yahoo.com
<http://mastiff.org/CANCER.htm>

Cystinuria - Anna May Phone (951) 704-6022 E-Mail mastiff@iinet.com - <http://mastiff.org/CYSTINURIA.htm>

DNA - Mary DeLisa Phone (720) 529-1954 E-Mail DevineMastiffs@gmail.com - <http://mastiff.org/DNA.htm>

Hip & Elbow Dysplasia - Anna May Phone (951) 704-6022 E-Mail mastiff@iinet.com
<http://mastiff.org/HIPSANDELBOWS.htm>

Progressive Retinal Atrophy (PRA) - Carla Sanchez Phone (951) 696-4169 E-Mail Carlachez@aol.com
<http://mastiff.org/PROGRESSIVERETINALATROPHY.htm>

Seizure Disorders - Epilepsy

Doreen Dysert (503) 348-9347 ddysert@hughes.net
<http://mastiff.org/SEIZUREDISEORDERSINMASTIFFS.htm>