



# ABCF MESSENGER

Official Newsletter of the American Boxer Charitable Foundation, Inc.  
Virginia Zurflied, Editor

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## HELLO - GOODBYE

It is difficult for non-profits to get good, reliable volunteers these days. But the Foundation has been very fortunate to have had wonderful editors for our newsletters over the years. Fran Davidson served for many years as our Secretary/ *ABCF Newsletter* Editor. When Fran retired we wondered how we could ever replace her.

Then we were so happy to welcome the talented artist Vicki Mellender as our new Secretary and *ABCF Messenger* Editor. Vicki had been one of our most reliable volunteers for the ABCF Auction at ABC for many years. She proved to be a fantastic newsletter editor and Secretary to the Board. Her professional artistic abilities made her even more appreciated and she was selfless with her donations, which included everything from fine art to designs for various publications and fund raisers. Vicki was the creator and keeper of the physical ABCF Memorial Wall. (See the ABCF Website to see the lovely Wall oil painting she donated as the "face" of our Wall.) Unfortunately, due to the time requirements of her tireless Boxer rescue work, Vicki had to resign and she is very much missed.

But, as in life, as one door closes, another often opens. For the Foundation, the door that opened revealed the diminutive form of Virginia Zurflied who is our new Secretary and *ABCF Messenger* Editor. Virginia is a current member of the American Boxer Club Board of Directors, the ABCF Board and has been a member of the ABC Health and Research Committee for many years. This makes her very well rounded on the health issues facing our breed and what the various Boxer entities are doing to address these needs.

So please join me in bidding farewell to our dear Vicki and in welcoming our new Secretary/Editor Virginia Zurflied!

Sharon Fosseen

## DM BOMBSHELL: *ABCF History in the Making!*

### What Happened?

On Wednesday, May 7, at a little before 7 pm, the Drawbridge ballroom was abuzz with the news that an earthshaking medical discovery was about to be revealed at one of the health seminars scheduled for that evening.

Dr Deborah S. Greco, DVM, PhD, an endocrinologist and senior research scientist at Nestle Purina Petcare, took the floor first and gave a fascinating talk on canine hypothyroidism (Did you know that the thyroid test in current use for dogs is NOT canine specific, but was in fact designed for horses?), as well as a discussion of the findings of recent research on diet and nutrition that could have have an effect on the longevity of both canines AND humans. (More on Dr Greco's presentation in the Fall '08 issue of the *Messenger*.)

The next speakers were Dr Joan Coates, a veterinary neurologist with the University of Missouri, where she has been conducting ABCF-supported research on Degenerative Myelopathy (DM); and Dr Noriko Tonomura of the Broad Institute of MIT and Harvard, where she works in the Dog Disease Gene Mapping Group under Dr Kerstin Lindblad-Toh of Canine Genome Project fame.

Dr Coates briefly reiterated the talk she gave last year, describing the symptoms and progression of DM (with which many boxer owners are sadly all too familiar) and possible treatment options (none have proven to be very effective). After that, Dr Tonomura gave a short presentation on the search for the mutated gene that was at the root of the disease.

Then Dr Coates – casually, almost anticlimactically – dropped the bombshell: she, in concert with Drs Gary Johnson, Claire Wade, Kerstin Lindblad-Toh and their colleagues at the University of Missouri and the Broad Institute had identified a DNA mutation that is a major risk factor for development of degenerative myelopathy in dogs! AND, had developed a DNA test for DM that is now available through the OFA (Orthopedic Foundation for Animals) at a cost of only \$65!

The full announcement plus other information about DM is available online at

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

#### What Does this Test Mean for Boxer Breeders?

The test clearly identifies dogs that are clear (have 2 normal copies of the gene), those that are carriers (have one normal copy of the gene and one mutated copy of the gene), and those that are at much higher risk for developing DM (have 2 mutated copies of the gene). **That means that as long as we test both the prospective sire and dam before the breeding, and make sure that at least one (1) of the breeding pair is DM Clear, we can avoid EVER producing another AFFECTED boxer!!!**

To illustrate this point, Dr Bruce Cattanach, UK geneticist and boxer breeder, explained the statistical chances of producing an affected dog in the chart below, which demonstrates what the outcome would be, on average, if dogs with different genetic makeups were bred to one another (Clear to Affected, Clear to Carrier, Carrier to Carrier, etc):

DM clear x DM clear (genetically,  $+/+ \times +/+$ ) gives **100% DM clear** ( $+/+$ ), the symbol + denoting the normal form of the gene for DM.

DM clear x DM carrier ( $+/+ \times +/dm$ ) gives, on average, **50% DM clear** ( $+/+$ ) and **50% DM carriers** ( $+/dm$ ), the symbol dm being used to describe the form of the gene which causes the disease.

DM clear x DM affected ( $+/+ \times dm/dm$ ) gives **100% DM carriers** ( $+/dm$ ).

DM carrier x DM carrier ( $+/dm \times +/dm$ ) gives, on average, **25% DM clear** ( $+/+$ ), **50% DM carriers** ( $+/dm$ ), and **25% DM affected** ( $dm/dm$ )

As you can see, with this DNA test, we can even breed that gorgeous, typey dog or bitch who has *two* copies of the mutated gene, as long as he or she is bred to a *clear* breeding partner. In fact, Dr. Coates was VERY clear at ABC that she did not want us to stop using dogs that are dm/dm (potentially affected). She wanted us to aim for reducing the incidence of the gene in the boxer population, NOT eliminating it, within a few years. She felt that aiming for elimination would limit our gene pool too severely and cause other problems. Thus, a realistic approach when considering which dogs to select for breeding would be to consider dogs with the dm/dm (affected) or +/dm (carrier) test result to have a fault, just as a poor top-line or front would be considered faults. Dogs that test dm/dm should be considered to have a worse fault than those that test +/dm. Boxer breeders could then continue to do what conscientious breeders have always done: make their selections for breeding stock in light of all of the dog's good points and all of the dog's faults. Using this approach over many generations should substantially reduce the prevalence of DM while continuing to maintain or improve those qualities that contribute positively to the various dog breeds that are at risk for DM.

#### How Soon Can Breeders Start Using These Tests?

Immediately. And *free* DNA testing is available (this must be a blood test as it will be used for ongoing research) to dogs meeting one of the following criteria:

1) Any dog (any breed) with a presumptive diagnosis of DM made by your veterinarian or a veterinary neurologist.  
2) Any dog, healthy or not, that is 10 years of age or older from the breeds listed below ONLY:

- Boxer
- Chesapeake Bay Retriever
- French Bulldog
- Pembroke Welsh Corgi
- Rhodesian Ridgeback

3) Dogs who were collected for research prior to July 15, 2008. This includes any dog of the listed breeds (Boxer, Pembroke Welsh Corgi, Chesapeake Bay Retriever, French Bulldog, and Rhodesian Ridgeback) who donated blood to either the CHIC repository at the University of Missouri or the Broad Institute prior to the listed date. And, yes, that means that any dog that had blood donated to the Broad Institute for Suki's study, any dog that was collected at ABC a couple of years ago, or any other Boxer that had blood sent to either CHIC or the Broad Institute for any other reason will be eligible to get a free test.

If your dog meets criterion #3 fill out the online form at this URL:

<https://cvmsecure.missouri.edu/SelectSurveyNET/TakeSurvey.aspx?SurveyID=18K0m59>

Incidentally, a health committee member double-checked with OFA, and the DM test is available to countries outside of the US. The *free* test, again, requires a blood draw, so international shipping might be more difficult, but the \$65 test is a simple cheek swab and can be done by anyone, anywhere. We just ordered three of the tests, for no more than it cost to have 3 Holter tapes read by THE Holter report expert, Dr Kate Meurs! (More on Dr Meurs current research in the next issue, too.)

Details on how to order the test kits are at:

<http://www.caninegeneticdiseases.net/DM/resrchDM.htm>

### **WOW!!!**

Wow indeed. Pat yourselves on the back, ABCF members! Then dig deep in your pockets for whatever you can afford to donate this year. The American Boxer Charitable Foundation has only been in existence since 1995, but in that brief period of time, research supported by our own ABCF has made it possible for boxer breeders to take action against one of the most horrible diseases ever to afflict the boxer breed. Now let's get on with the search for an answer to BCM and cancer!

### **From the Editor:**

Many thanks to Dr Joyce Campbell, Dr Bruce Cattanach, Dr Theresa Garton, Pat Mullen and Jennifer Walker for their contributions to the article on DM.

Your questions, comments and suggestions are welcome! Just send an email to [vzboxers@aol.com](mailto:vzboxers@aol.com).  
Virginia Zurflieh