

THE 2005 AKC CANINE HEALTH FOUNDATION NATIONAL PARENT CLUB
CONFERENCE – October 21-23, St. Louis, Missouri

The information shared at this year's conference was mind boggling, and trying to distill it down is a somewhat daunting and overwhelming task. We have been promised a DVD including some presentations from the conference. Once I receive this, I will try and make copies available for each of the BCCA member clubs to share with their members and for individual members. Some of the information still awaits publication, however, and sadly this included some of the most exciting presentations. My biggest take home message came on the bus riding to the airport, my mind still swimming and trying to absorb all I had learned, both in the lectures and talking to other clubs' delegates, the media and the researchers. My seat companion had represented the Keeshond Club of America. Having seen the problems besetting other breeds we could only be grateful that our own breeds of choice are still basically very healthy. However, in what we saw there was a warning. There but for much care and not a little luck could our Beardies go. It is a sobering thought.

The Canine Health Information Center has announced plans to set up a central DNA database for all-breeds. Sadly many of the research projects that the AKC-CHF selects for funding die due to lack of samples. With a central bank, the samples could already be in place before the go-ahead is given. CHIC would prefer to have blood samples as these can provide genetic material for an unlimited number of projects. Cheek swabs, however, will only give enough material for one project per swab. As with the U.C. Davis Addison's project (which is an AKC-CHF project) up-dating health information on animals once their samples have been submitted will be imperative.

Saturday morning started out focusing on genetics. Dr. Kerstin Lindblad-Toh emphasized that 86% of coding is conserved between dogs and humans with most DNA having a 1:1 ortholog. Highly conserved elements cluster around developmental genes and there are in amongst all the genetic material relatively few genes of large effect. As conditions and traits are associated with particular genes in one species, it therefore makes sense that that is the first address to check when looking for the genetic locus of that condition in another species. Following this presentation was Dr. Elaine Ostrander, who gave one of the most exciting – especially for Beardedie lovers – presentations of the conference. Working with Georgie Project set up by Portugese Water Dog breeders and owners, Dr. Ostrander's group has been looking for genetic markers for Addison's. Their research is limited to PWDs, but they have located two loci. One, on chromosome 12 increases the risk that an animal will develop Addison's 3 fold, the other on chromosome 13 reduces the risk that a particular dog will get Addison's 5 fold. The same dog could have both genes. It seems that, if this is also the case with other breeds, Addison's disease may be more complex than we imagined. Also in conjunction with the Georgie project, the lab has been looking at hip dysplasia, and they have located a locus with strong associations to the Norberg angle – a measurement used to predict whether a dog will develop hip dysplasia, and which is highly heritable. Also mentioned was a genetic test that is now available for Collie Eye Anomaly – CEA – a disease seen in most rough and smooth collies and also quite common in Border Collies. For those who felt slighted

when Dr. Ostrander did not include Beardies in her original Phy-Do research looking at the ancestral groupings of modern breeds, you'll be pleased to hear that situation has been rectified. The additional breeds (125 breeds have been sampled with at least 5 unrelated dogs per breed) have brought further refinement to the canine family tree. Beardies are in the "Mountain Group." Not surprisingly Border Collies are there too and so are Cardigan Welsh corgis. The other breeds are a little less expected – Bernese Mountain Dogs, Greater Swiss Mountain Dogs, Standard Poodles, Saint Bernards, Newfoundlands, English and American Cocker Spaniels and American Water Spaniels. After a break, Dr. Doris Taylor spoke about stem cell research and heart disease. Her discussion began with information contrary to everything I knew about canine hearts, dogs can get atherosclerosis and ischaemic heart disease – heart attacks. Primarily this happens in dogs which are hypothyroid or diabetic. In 65 dogs with confirmed disease, 16 died suddenly with no previous symptoms and 29 died unexpectedly under anesthesia. Dogs that are diabetic or suffer from heart disease have fewer circulating progenitor (stem) cell, and as the disease increases in severity these numbers continue to drop. Age, valvular disease and dilated cardiomyopathy are all associated with fewer stem cells, and those cells there are have reduced functional ability. Inflammation is the body's response to try and increase the number of stem cells. Bone marrow or muscle stem cells from affected animals can be injected into flabby areas of heart muscle that have stopped working after a heart attack. We watched the heart muscle return to normal beating functionality. Injections of bone marrow stem cells have also been shown to prevent atherosclerosis in young animals.

Dr Matthew Breen spoke about the role of chromosomes in determining the type of cancer a dog might get, and also that examining the DNA of dogs with cancer may be helpful in determining the prognosis for that dog. This research is in its infancy, and as with so many projects samples are really needed. This theme was continued by Dr. Jaime Modiano as he talked further about using genes to understand, prevent and treat illness again with a special emphasis on cancer. The four geneticists had a panel discussion about the kinds of samples they need – blood and/or tissue, and who to contact to submit this material. If you are interested in contributing to their research please contact me, and I can put you in touch with the appropriate labs. After an update on the role of the AKC in helping animals affected by Hurricane Katrina it was time for lunch and then the afternoon session.

This kicked off – quite appropriately – with a discussion of protein metabolism in dogs by Dr. Jill Cline, who is a researcher for Nestle-Purina who sponsored the conference. She presented evidence that protein levels between 10 and 40% did not contribute to an animal developing kidney failure. Restricting the amount of protein, but providing high quality protein, may be of importance in dogs with chronic renal failure. Restricting protein in the diets of older dogs that do not have renal problems is undesirable. Actually, although she didn't come out and say it, I rather felt that the optimal diet she was describing sounded a lot like a raw diet.

Tom Sharp, AVP of Compliance for the AKC said that the Club plans to increase the use of DNA for identification purposes. It may be required for all dogs entered at a National

Specialty or performance events for example. AKC may sweeten the requirement by offering testing at a reduced rate in conjunction with specialties.

Our next speaker, Dr. Frances Smith, addressed New Advances in Assisted Reproduction, but basically none of them seemed attractive. Drugs to induce estrous in bitches seemed to have very poor success rates and were very expensive too. Take home message, poor timing is still the number 1 reason for missed pregnancy. A warning, using Regumate to maintain pregnancy in bitches with low natural levels of progesterone can cause internal masculinization of reproductive organs in bitch puppies. Freezing the ovaries in a bitch should be done within a half hour of removal; however, producing puppies from frozen eggs is unlikely to be successful. Male infertility is a big problem. Dr. Smith recommends collecting a dog as soon as he reaches sexual maturity, as insurance against later fertility problems.

Finally, Dr. Steven Hannah for Nestle Purina extolled the value of omega 3 essential fatty acids for the treatment of osteoarthritis, at a dose of 80mg/kg/day.

The next morning, Dr. Charles Garvin – a human doctor and director of the AKC – explained the plan to set up research groups for all the major health issues affecting dogs. Reduced or free testing of eligible dogs – i.e. those thought to have those diseases – may become available.

Dr. Dennis O'Brien updated us on epilepsy and neurological disease. Genetic markers for many of these diseases have already been found or are expected to be located in the near future. As none affect or have been studied in Beardies, I won't go into depth on this research, but would be happy to share what I have with those interested in other breeds. This was a very exciting area for me.

Dr. Thomas Graves gave a very amusing talk on diabetes and hypothyroidism. His basic take is that the latter is very rare. He and I disagree strongly as to what constitutes thyroid disease, and which animals will benefit from therapy. However, he feels about a third of diabetes cases are missed. He spoke of the exponential increase in diabetes in humans and dogs in the past 30 years, but failed to address the underlying nutritional factors that appear to be responsible.

After a break, Dr. Dennis Burkett talked about cardiac disease and Dr. Marilyn Fender about myopathies in Labradors and Irish setters. Dr. Keith Murphy addressed pancreatic acinar atrophy (PAA) in German Shepherds. This is also called exocrine pancreatic insufficiency (EPI). We see EPI in Beardies, although no-one has researched the disease, it seems to be the result of repeated attacks of acute pancreatitis, as in people rather than PAA. PAA in GSDs is an autosomal recessive disease. It has a late onset, and until a gene is found identifying carriers before they reproduce is problematic. He also discussed dermatomyositis, a degenerative disease of skin and muscle in Shelties and Collies, a marker for PRA in ACDs, Alport syndrome in English cocker spaniels and genetic problems of cholesterol metabolism in Havanese.

Dr. James Serpell reported the results of his Canine Behavior and Response Questionnaire (C-BARQ) that was distributed via regular veterinary clinics, behavior clinics and breed clubs. There were distinct differences in behavior problems by breed. Neutered male dogs of all breeds showed increased aggression (even when dogs neutered

for aggression were removed, and neutering was not found to decrease aggression in aggressive dogs); less trainable; more fearful – especially social fears; had increased body sensitivity; and increased excitability. Spayed bitches showed increased aggression to strangers. If you want to participate you can at www.upenn.edu/cbarq. They want as many breeds in the study as possible. Ultimately they hope to use the data to screen and select dogs for working roles, screen animals in shelters and behavior clinics, evaluate the efficacy of various behavioral treatments and map genes associated with particular behavior problems.

The final speaker was Dr. George Moore who spoke about updated vaccination protocols. He showed that certain breeds have a much higher incidence of allergic reactions to vaccines than others (Dachshunds most likely, Rottweilers least likely). Small dogs are, with some exceptions, two and a half times more likely to react negatively to a vaccine than large dogs, and smaller doses by volume for small dogs might reduce their risk. The risk of an allergic reaction rises by 25% for each additional vaccine added when more than one vaccine is given at a time. Dr. Moore was definitely very pro-vaccination, however. He said the recombinant Lyme vaccine was probably safer. He does advocate testing the safety of various antigens, adjuvants, stabilizers, preservatives, antibodies and excipients (culturing vaccines in eggs or other tissues, for example). In humans (I don't know where they allowed them to do this research), of 421 children who had an allergic reaction to a vaccine, only 3 reacted to a booster of the same vaccine a year later and none of them needed hospitalization. Long term effects were not explored, however. Then, suddenly, it was over, although it had gone well past its scheduled conclusion, and we had to scurry to make our flights. I'm afraid I have only been able to give the barest glimpse of the conference. We were wined, dined and entertained royally. We got to see posters made by many of the clubs on topics like fund raising, increasing awareness of health issues in the breed, and research. We got to talk. (I really like being around other veterinarians who breed dogs; we experience first hand how neither group completely embraces the other!) The biggest take home message from the conference though was that there are answers to so many of our questions that are just out of reach. We need to share DNA samples from our dogs, keep careful health information on our breed, and not be afraid. Breeding a dog with a genetic problem is not something we should be ashamed of. Sharing the information is the only way we can work to prevent genetic disease, and no-one breeds to get health problems. The first afternoon of talks was largely devoted to people discussing organizing a health committee; developing and using health surveys; working with OFA and CHIC; selecting research projects for CHF to support: and funding breed specific research. CHF will match dollar for dollar funds collected for breed specific research projects. Dr. Lark spoke about the impetus the Georgie Project has given to really getting answers to the cause of health problems in Portuguese Water Dogs. It's a relatively small breed, and yet they have gotten amazing results so far. You can read about their efforts at www.georgieproject.com One day, it would be wonderful if we could get the same kind of results for Beardies. In the meantime, I am glad that we still have a pretty healthy breed.

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Any errors in the above information are mine. I just wish I'd had Sandy Dubin along to transcribe for me, my writing was getting really hard to read!