LIGHTING THE WAY

BEACON for Health

The Bearded Collie Foundation for Health

The Official Newsletter of the Bearded Collie Foundation for Health

VOLUME XII
ISSUE II
Fall, 2011

In This Issue

Presidential Reflections
by Elsa Sell

President's Reflections
Elsa Sell

With the blessed arrival of cooler weather and a bit of rain, I'm more cheerful than this summer and I enjoyed putting together the newsletter. We bring you all manner of material to read in this issue. There is surely something for everybody from short notices, to humor, to SLO (yes, again), to pain management, to highlights of a recent genetics conference, to a breeder's views about the value of the OHR, and then - Patricia Trotter's last AKC Gazette article where she points out that traits contributing to a dog doing his job are virtues whereas traits that interfere with dog doing his job are faults, and the vital importance of remembering that breeds were originally bred to work, not show.

You've probably seen announcements on the Beardie lists about BeaCon's prizes that are being given to five Beardies newly entered into the OHR (numbers selected from a random numbers software program) as we approach dog # 2000. The board of directors is providing the

prizes and mailing to wherever at their own expense; directors are not eligible for prizes. Dog # 2000's owner will win a Hide e Seek print (# 3/500). There were 1872 Beardies in the OHR as of October 11, so only 128 to go. There are three more random prizes to be awarded. We hope that everyBeardie's owner and breeder will join in and help make the registry content meaningful.

OHR Updates

Notices about updating your personal or dog(s) information will be sent by email in early January to owners who have at least one living dog in the registry. Email addys on record are used. If your email addy has changed since your last update, please go fix it now. If your email addy doesn't work or you have no email addy on record, your update will come by snail mail; each of those costs .44 in the USA and .98 to Europe.

Participating and Using the OHR

Are you uncomfortable filling in forms on the internet? Do you want to search for relatives of your Beardie in the OHR? Do you want to study whether a disease has been reported in Beardies via the OHR? We have a slide presentation that will guide you in doing all these things with the OHR database. At present (Oct, 2011) the link is: http://portal.sliderocket.com/AEZLL/09_Brochure That will change in December.

Web Site Renovation.

BeaCon's web site is being revised for a cleaner look, improved navigation, a current events page, newer references where appropriate, and a site specific Google search (the latter is already in effect). Older articles and all health surveys or OHR reports will remain. The memorial section may be expanded to include all deceased OHR dogs. The updating will change some bookmarks for users; we hope the improvements will overshadow that inconvenience. Completion of the revision should be early in 2012 and will be announced on the Beardie lists.

Humor.

Having been a practicing physician and though the business office did the work of assuring correct codes for patient bedside visits or procedures, I was amused at some new codes coming down the pike (Wall Street Journal – Tues, Sept 13, 2011 – front page; reporter – Anna Wilde Mathews). The current system (generally known as ICD-10) has about 18,000 codes to describe medical services in bills sent to insurers. A new federally mandated version that has been in the works since 2009 will

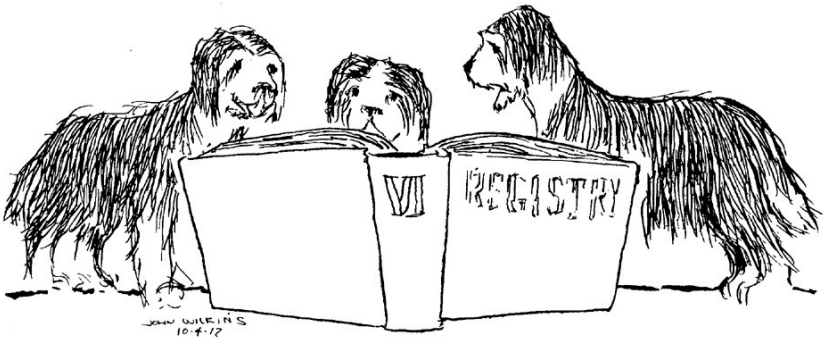
offer about 140,000 codes when it takes effect October 1, 2013. These codes will describe exactly what bone is broken for example (say in the foot – it won't be "broken foot bone", it will be "broken first metatarsus, right or left foot"), or which artery receives a stint, and way more.

When you see your doctor (or are hospitalized) once the new coding system takes place and if you have "walked into a lamppost, an initial encounter", well then by golly, there is a code for that. And if you're so klutzy as to "walk into a lamppost, subsequent encounter", well that too can be coded. I don't know if there's a code for walking into fence post for we who are farmers. There will be codes in the event of a macaw mishap (there are 9 for this topic), codes for injuries in opera houses, art galleries, in and around a mobile home from the bathroom to the bedroom, injury occurring in a chicken coop, using a crocheting needle, having a "bizarre personal appearance", burn due to water skis on fire, playing brass instruments, and all told there are 312 animal codes. There is even a separate codes for "bitten by turtle" versus "struck by turtle". Just imagine. The one code now for suturing an artery becomes 195 codes, one for each single artery!

The rationale for the changes is "it's for accuracy of data and quality of care". It is said the codes were selected based on years of input from medical experts. Codes describing circumstances of injuries are important for public health researchers to track how people get hurt and try to prevent injuries.

I attempted to access the full upcoming code "book" on-line. I wanted to

MacLean and Company .....



"There it is, on page 213. His name is Black Beardie and he was an old sea dawg!"

find out if encounters with cattle (cows, calves, or bulls), or corral steel panels, or Bearded Collies, or sheep were in there. Was I at risk and could I expect the government to come to my rescue with prescribed preventive measures (use your imagination here)? I didn't succeed – the only site I found that offered the code book already to the public was for Mac users; I'm a PC user.

Nevertheless, let our creativity wander into the clouds. What if you were out herding with your Beardie and the sheep ran over the top of you? Is there a code for this? But wait – what if the sheep are in a vertical line, and each of the five sheep ran over your body, one after the other. Would it be code for one sheep x5? Would the code differ if the sheep were in a horizontal line, and as the group traversed your space, just one sheep stomped on you? I'll bet there would be two different codes! It might even be different codes for whether you the handler gave your dog the wrong command, dog dutifully followed up and ran the sheep over you – or dog on its own made the decision. Probably there is another code if your Beardie is brown (not black/white, fawn, blue, or a white mismark), too.

Hey, what if you have five Bearded Collies in your household and you're fixin' their dinners, and one plants his front paws into the middle of your upper back, hurting you? Would the code for planting front paws into the upper back be different from planting the paws onto your tusch? Or into the back of your knees? And what if 2/5 dogs did this simultaneously? Is it a different code or the same code x2? Or what if the two did the maneuver 5 seconds apart? Is that now two incidents to code or maybe even 4 if the impact region differed? You get my drift. One can conjure up all manner of codes which we probably wouldn't divulge to our doctor.

So, when your days aren't quite right, just imagine walking into a lamppost or your Bearded Collie running into you, first encounter, spraining your ankle, and having to explain that to your doctor so it can be coded correctly.

One Breeder's View of the OHR (anonymous)

I know it must seem stupid that it has taken me this long to enter my dogs for the open health registry. The thing is, I have been inclined to enter them before but I have been discouraged by other breeders not to, as they see it as a way to blame it on a sire or a dam or on a line of breeding. I have always been really open about problems I know I have bred and don't try to hide it as in my opinion nobody benefits from that.

An investment in knowledge pays the best interest."
Benjamin Franklin

Anyway from my last litter born this year, one puppy has gone to an owner brought me the last issue of Lighting The Way when she came to pick him up. I've been reading it through and was shocked to see the low number of Beardies entered in the open health registry. That must be only a small fraction of the world's Beardie population, and the smaller the entry the less it will accurately represent the entire population, so I thought it was high time I added my Beardies and as many as possible of the puppies I have bred. The quality and reliability of the open health registry hugely depends on the number of Beardies entered.

And I must honestly tell you I couldn't care less about people who use the registry to blame certain health problems on certain dogs, I think as a breeder you can't escape breeding dogs with problems, but you can do your very best to try and minimize chances of breeding dogs with health problems. The health registry is an excellent tool to accomplish this if breeders and owners take the trouble of entering their dogs and being honest about problems in dogs they own or have bred. Personally I don't believe there is any line of breeding completely free of health problems and I think it's naive to assume that if you haven't heard of any dogs with problems from certain lines means that there aren't dogs with problems in those lines.

Knowing enables breeders to make well informed decisions, not knowing makes it a gamble; I am not saying all will go well with well informed decisions, but I much prefer those odds compared to guessing and gambling.

MacLean and Company…

***"I found Max! He's on page 37!
See? There's his nose print!"***

Browser Conundrums

Elsa Sell

While working with new software for designing web sites, I needed to test functionality with different internet browsers. In the process I noticed that browsers handled a variety of tasks differently. Some discrepancies were frustrating so I did internet searches to better understand. I had also noticed lesser functionality after Firefox automatically updated to the newest version, 6.0. For those technically inclined, my OS (operating system) is XPPro, my Antivirus (and firewall) software is Sophos (UK), and I have 5 browsers installed (Chrome 13, Firefox 5.0, IE 8.0.6, Opera 11.51, and Safari 5.0.5).

First and foremost, if you have a firewall on the computer, it needs to allow the browser executable file (*.exe) to access the internet. Each firewall (usually comes with an antivirus program) has its own way to set the access so be sure you understand that. One step further back, is that you need to know where the *.exe file is on your computer before you can tell the firewall to allow it. If you use a windows OS and allow standard installation of software, all browser .exe are in the C:\Program File of the software name (e.g., Mozilla for Firefox, Opera) except for Chrome, which is in:

C:\DocumentsandSettings\Owner\LocalSettings\ApplicationData\Google\Chrome\Application. Amazing, isn't it?

Now for more fun. Once you have the firewall set to allow each browser to access the internet, how about clicking a link somebody sends you in an email? Take the BCCA Bagpipes newsletter for example. I wanted to read Karen Drummond's full report of the AKC CHF conference. I was using Chrome as the default browser. I clicked the link; it went nowhere. I had Firefox 6 installed and made it the default browser; I clicked the link; it went nowhere. IE and Safari and Opera worked when they were set as the default browsers, as did Firefox 5.0 (which I reinstalled after deleting 6.0).

What if you have a browser open and want to go to a site by typing in the URL rather than using a bookmark? Each browser behaves in its own way – most seem to recognize a previously visited URL and as you are typing will display what is "remembered". Without needing to finish typing the complete URL in Chrome, Safari or Opera, you can hit enter to have the complete URL display and linked to simultaneously. In contrast, with IE or Firefox, you either have to type in the complete URL address or move your mouse to click on the displayed URL in a drop down before the URL is linked to – thus, an extra step either way.

I find that Firefox sometimes will not open a web site; the error message is server not found, which is nonsense. I can open another browser and immediately find the web site. I have no clue why this occurs, but it is a reliable happening for me at least. I notice the browsers open sites at different speeds with Chrome usually the fastest though the differences aren't all that much. I have also seen Chrome quit working after Firefox did an automatic update from 5.0 to 6.0; this happened three times. Theoretically it shouldn't happen because each browser is independent of the other. This is the reason I now set Firefox 5 to not update.

Finally, if you have arrived at a web address and want to print a page, what happens in each browser? Will you get the entire page your see? It depends. IE, Firefox 5 or 6, Safari will print much or all of what you see. With IE or Firefox 5 you can adjust the page margins. With Safari I got a smaller page with all the info. Opera didn't print a page.

Each browser has its own way to be set as the default browser; likewise, each has a variety of settings that you can manually set (updating, deleting cookies after closing the browser, etc.). It is worthwhile exploring these settings and understanding what they mean. I always set mine to no updating and to delete cookies upon closing.

No doubt there are way more sophisticated techies than I among our readers. Send on your helpful hints and experiences, and we'll publish in the next issue.

"Success is not final, failure is not fatal: it is the courage to continue that counts."
Winston Churchill

A World of Pain

My husband's chiropractor sent him a newsletter the other day, and the first sentence said "You can (literally) lose your mind from chronic pain." It's hard to believe there was a time when egocentric humans believed that animals can't feel pain. When I was in vet school, it was commonly held that if you treated an animal for pain it would be more active and undo surgical repairs, dehisce sutures and delay healing. Now we know quite the opposite is true and so rapid was the turn-around that within 15 years veterinarians lost their licenses for malpractice when they spayed bitches and did not treat for postoperative pain. Chronic pain diminishes the quality of life, restricting a dog's ability to play or work. The chiropractor's article also states that pain reduces brain volume and function and increases brain cell loss 10 to 20 times that of normal aging. In our dogs poor quality of life often results in euthanasia. So how can be address pain in animals?

I'll know it when I see it: Veterinary medicine has long struggled with various scales and parameters to measure and monitor pain. One good rule of thumb is that if a human would find something painful a dog will too. Still, we know that humans have a wide range of pain thresholds that can vary by as much as five fold between individuals. Humans and animals may not perceive pain when they are otherwise occupied – during battle or an intense sporting activity when the adrenaline is flowing - but afterward the pain will be no less intense. At the other end of the spectrum are the drama queens that cry out in anticipation of potentially painful events. Do dogs see pain as a sign of weakness and try to avoid it in a dog eat dog world? Certainly dogs are often pretty stoic, especially when it comes to chronic pain. Keeping a diary, or mental notes on your dog's activity level, heat seeking behaviors, restlessness – trying to get comfortable, ability to sleep comfortably, avoidance of stairs and other activities can all be helpful in determining pain level. Sometimes it will be seen as a furrowed brow, a troubled look – the pained expression. Chronic pain is often dismissed as normal aging, it can have a gradual onset and we remain unaware of the suffering the dog experiences. A thorough veterinary exam, gait analysis and X-rays for the bony changes of arthritis can help us gain perspective on what we are dealing with. Sometimes we can try a pain-killer and see if there is a change in the dog's attitude and activity. Neurological pain can often go unnoticed. There is good evidence that dogs can get headaches and certain activities can precipitate them. As in humans the body can experience pain memory. One form of this is phantom limb pain where the animal experiences pain even though the body part has been

removed. In dogs this may also cause obsessive licking and chewing at areas of the body, especially paws, long after the injury has resolved. After surgery, dogs with good pain control sleep, rest and recover far faster than those that are in pain. Giving pain relief before and during surgery will provide better pain control after surgery and allow us to keep the dog comfortable with lower doses of pain killers. Acute injury however, may require very high doses of pain-killers by comparison.

Pharmaceuticals: For acute pain and surgical pain drugs will often be our best choice for rapid onset pain relief. These drugs fall into two basic categories NSAIDs (non-steroidal anti-inflammatory drugs) and narcotics. NSAIDs have a rather bad rap among dog owners, and while they can cause serious side-effects and even death in some individuals, it must be remembered that they help huge numbers of dogs safely. The patients receiving them also tend to be old and/or debilitated. Of the older OTC NSAIDs only aspirin should be considered for use in dogs. The biggest downside of aspirin is that it can cause gastric ulcers quite easily. Buffered aspirin may reduce the risk somewhat. Also be aware that herbal medicines containing white willow bark will potentiate the risk of using aspirin as it contains aspirin like substances. Less frequently aspirin can cause liver and kidney problems which are more often associated with the newer Cox-2 inhibitors. These drugs have fewer deleterious effects on the gastrointestinal tract, but when they do cause problems they tend to be more severe. Unfortunately, it is impossible to determine which dogs will experience problems. Rimadyl (carprofen) is the drug most commonly associated with causing liver damage, and liver enzymes should be monitored in dogs receiving Rimadyl chronically. In practice this doesn't usually happen, as the drugs biggest asset over the other drugs in the class is that it is cheaper. For arthritis, Deramaxx (deracoxib) is probably the most effective. Some individuals seem to be at higher risk for gastric bleeding on this drug. The other Cox-2 inhibitor commonly used is Metacam (meloxicam). The veterinary drug is prescribed as a honey flavored liquid. The generic human form of the drug is very cheap; the biggest downside is the average beardie needs about 1/3rd of an unscored, small pill. Corticosteroids are anti-inflammatory but do not provide pain relief. They also cause the break-down of cartilage. They may be injected into severely damaged arthritic joints in which little to no cartilage remains in order to provide some quality of life for a severely disabled animal.

Narcotics can provide effective pain control. Addiction in the dog is not a concern, but may be a consideration when it comes to sending these drugs, most of which are controlled substances, home. For this reason they are more likely to be administered in the veterinary hospital. Another downside is short duration of action for many drugs in this class,

meaning that frequent dosing is needed. Some drugs are produced in combination with NSAIDs – Vicodin (hydrocodone/acetaminophen), codeine/aspirin combinations. Dogs will sometimes be sent home after surgery with fentanyl patches. The narcotic is absorbed through hairless skin providing a constant pain relief. Most dogs will leave these alone, but care must be taken handling the patches and to prevent the dog ingesting them. Obviously small children or other pets swallowing one would also be at risk. Tramadol is an opiate agonist, but not a narcotic. It is not a controlled substance, but there is still the potential for human abuse. It can be an effective treatment for pain alone or in combination with other drugs. Gabapentin is an anti-seizure drug that is effective against extreme pain, such as that of cancer patients or in neurological conditions. Amitriptyline is a tricyclic antidepressant, but it may produce some of its effect by ameliorating pain and has been used for this purpose. It may explain why some dogs with acral lick syndrome (chronic licking of the paws) respond well to this medication if the cause is actually pain memory rather than an anxiety disorder.

Several **herbs** can reduce inflammation and may be as effective as some of the milder NSAIDs, these would include willowbark, bromelain, boswellia, devils' claw, ginger and curcumin/turmeric. Like the NSAIDs they mostly act on prostaglandin levels and care should be used if the dog is also receiving an NSAID. These herbs are often found in combination preparations for treating arthritis. Other frequently used ingredients include glucosamine, chondroitin, cetyl myristoleate, shark cartilage, green lipped muscle, etc. These are generally safe. Glucosamine may induce insulin resistance so should not be used in diabetic dogs without consulting your veterinarian. In my experience you may need to experiment with various products to find one that works well for your particular dog. Chinese herbal remedies for pain may be very useful, but beyond the scope of this article.

Thinking outside the box: Other treatments can also provide considerable pain relief and whether you worry about side-effects, don't like drugs or they aren't effective for your Beardie it is worth exploring alternatives especially when your dog has a chronic condition. Acupuncture has long proven its worth in the control of acute, chronic and phantom pain. Chiropractic adjustment can be used too. Both modalities may work in conjunction with other pain treatments or alone to provide relief. Laser treatment, cold and infrared, is increasingly common as a treatment for pain. It may take several appointments before you see significant improvement, while in other cases relief can be immediate. Don't overlook the obvious either. Dogs with arthritis and other chronic conditions may receive huge benefits from simply shedding some of the extra weight that puts a strain on defective joints. Massage can be a

wonderful bonding experience for you and your dog, and the movements can help unknot and rearrange painful muscles and joints. Ice packs can be very helpful for acute injuries while heat is soothing for chronic pain. Orthopedic beds can be helpful too, provided your dog is willing to try them. Make sure they're not so deep and cushy the dog has problems getting himself out.

We owe it to our dogs to keep their lives as free of pain as we possibly can.
Linda Aronson, DVM

Looking Forward

A longtime GAZETTE contributor offers advice to breeders in her final column.
By Patricia Trotter

Long before I was privileged to write the Better Breeding column for the akc gazette, I appreciated the magazine and the column for efforts to serve the concerns of dedicated breeders of purebred dogs. Over the decades, various experts shared their thoughts about preserving the purity of their breed as they offered words of wisdom to guide countless fanciers in our ongoing efforts to breed better dogs. Because this will be my last column on breeding in the gazette, I want to summarize some of my soundest advice on the subject.

Paramount to protecting the future of purebred dogs is guarding the purity of the breed while emphasizing one's selection skills in pursuit of perfection. New-age thinking lauds "crossbreed" dogs such as Labradoodles in defiance of the centuries of development that went into the creating and perfecting of purebreds. Even the concept of protecting the purebred dog is persona non grata in some circles. "Animal-rights" people think as long as there is any dog available for adoption breeders should have few rights to breed purebreds. This is tantamount to saying as long as there is a child in need of adoption, potential parents should not give birth to a biological child.

Preserving the purity of the breed means studying the history and original job description of each breed in order to understand the traits that made the breed itself and not something else. Traits that contribute to the dog doing his job are virtues; traits that interfere with the dog doing his job are faults. Always keep in mind that, with few exceptions, breeds were originally bred to work—not to show. Breeds that have morphed into soft, open-coated specimens that are enhanced by blow dryers and other modern cosmetology would simply be compromised if called upon to work in severe and changing weather conditions. If you breed Arctic dogs,

this is a heads up for you to prize the correct harsh coat.

Troubling Trends

Perhaps one of the biggest losses to traditional purity of breed type is seen in the Afghan ring, where the primitive-patterned Afghan is almost an endangered species. Breeders tell me they are no longer treasured as in the past because most judges do not reward them. Consider how much better it would be for the breed if the parent club educated, publicized, and emphasized retaining patterned animals in the gene pool to the breeding and judging community. Parent-club members uniting for the common cause is in the best interest of protecting the purity of the breed.

Another subject troubling world-class dog experts in a number of breeds is the worship of the cat foot, which is desired in only a few breeds. When a breed standard calls for either an oval foot or hare foot (where the two center toes are longer than the two outer toes), it's a clear message that a cat foot is not correct. Yet both exhibitors and judges often reward the smallest, roundest cat foot in breeds that should not have it, because the cat foot is considered pretty and showy. Parent clubs must alert judges to these situations that actually restrict proper-working functionality.

This means collectively appreciating all those traits that contribute to breed type—the original type or form that the breed evolved into to best allow a given breed to perform its job. In the case of the aforementioned Afghan Hound, the breed's squareness is a unique trait for a sighthound. It enables the dog to make sharp and repeated turns in pursuit of his quick-turning prey. Though we know there will always be animals with uncommon heart that outperform their physique, it is accepted that those dogs best structured to perform a particular job will find it easiest to perform that job, and are therefore the most valuable to a breeding program.

Thus our selection skills must be based on keeping sound and competent animals in our gene pools that exhibit the correct form (type), allowing the correct function for the breed. Modern breeders have more tools than ever before in assessing soundness and anatomical correctness in the selection process. Yet breeders can be seduced by seeking dogs who are winners, even though they do not represent the essence of the breed. Conscientious breeders must reject generic dogs as breeding stock, for they are unable to keep the breed on course.

Avoiding Generic Dogs

Imperative for our future is the recognition that not all breeds move the same, show the same, or have the same character. Reach and drive on one breed might be incorrect on another, just as a stilted gait is incorrect on

most. Keeping the lumbering gait of the Neapolitan Mastiff is just as important as rewarding the trotting expertise of the Rottweiler, for they have very different job descriptions.

When breeders and judges start selecting for a generic dog, the essence of the breed is compromised. The very nuances that create a specific form to perform a designated job are the elements of the purebred. Protecting the purebred is a must for us all.

Thus breeders must perfect their selection skills for the canine as a species and as a member of a particular breed. They must respect that Mother Nature was the original breeder unable to tolerate weakness in the family. When a favorite dog does not belong in the breeding program, breeders must enjoy that one as a pet instead of talking themselves into breeding it in spite of his weaknesses. Breeders must always keep in mind that the key to success lies with selection skills. In acquiring your first bitch to breed, deciding which sire to use with her, evaluating the resulting litter, and picking those (if any) to carry on in future generations, selection skills will determine the success of the breeding program. Master breeders are those with exceptional ability in utilizing selection skills.

Difficult times such as these require us all to make informed decisions. Learning what is important in assessing your breeding stock is your personal responsibility. Because our sport is influenced by subjectivity, it is all the more important that the breeder remain objective and able to make tough calls. Such calls require that you do your homework. I wish breeders the best of breeding luck in the future as we say a fond farewell to our favorite magazine. Please keep in mind the words of a true dog woman, breeder, and judge, Dr. Edna K. Martin: "Our job as breeders is preservation, not innovation."

Patricia Trotter is approved to judge more than 80 breeds. She is a regular contributor to the gazette.

This article first appeared in the August 2011 AKC GAZETTE and is reprinted with permission.

5th Tufts Canine & Feline Breeding & Genetics Conference
Linda Aronson, DVM

This conference is held every other year, and for the first time this year it moved to downtown Boston. While this meant I had to get up pretty early

"The quality of a person's life is in direct proportion to their commitment to excellence, regardless of their chosen field of endeavor."
Vince Lombardi

it did have the advantage of attracting some of the top researchers in the field. The two day conference was divided into four sessions, each one ending with a panel discussion. The first session was entitled gene searching and genetic testing, but included presentations on PRA and identifying genetic markers for autoimmune diseases in the dog. The afternoon presentations were on cancer. Saturday started with breeds and behavior and ended with breeding and genetic counseling. Posters on other research were also presented and there was a lot of lively discussion during the sumptuous meals and frequent breaks where you could discuss particular concerns with the presenters and other top folks in the field.

The take home message from the Friday morning sessions was that most diseases are a lot more complex than we have thought. Those nice, tidy Punnett squares are very misleading and few diseases fit into that format. Lorna Kennedy estimated that there are probably at least 30-40 genes involved in most autoimmune diseases. Some can increase while others decrease risk of the dog developing the disease. Some will affect the severity of the disease. Some are related to several autoimmune diseases, others to just one. We also know that environmental triggers – most of which have not been identified - are needed for the dog to express the disease. Layered on top of this are the concepts of penetrance - the proportion of individuals carrying a particular variation of a gene (allele or genotype) that also express an associated trait (phenotype) - and expressivity - variations in a phenotype among individuals carrying a particular genotype.

Finally there is epigenetics - heritable changes in gene expression or cellular phenotype caused by mechanisms other than changes in the underlying DNA sequence. Examples of such changes might be DNA methylation or histone deacetylation, both of which serve to suppress gene expression without altering the sequence of the silenced genes. (Is your head spinning yet?) The bottom line as Kerstin Lindbad-Toh pointed out is that research is not going to give us simple genetic tests for most of the diseases that plague our dogs and us too. This is hugely frustrating for breeders, but exciting for researchers. Finding major markers can still be really helpful, in so far as you can avoid breeding individuals with the same negative mutations, but we will always need to employ good breeding practices, and study the phenotype structurally, temperamentally/behaviorally and medically of the dogs we plan to breed. Cathryn Mellersh's presentation was on Progressive Retinal Atrophy - a condition we don't currently see in Beardies. She did make a very good point though. There are several clinically similar forms of this condition often within the same breed. Just because we have a genetic marker for one form of a disease in a particular breed it doesn't mean that we should rely solely on that marker. The eye exam can detect genetically different

forms of the disease as well as other eye diseases.

Not all genes will have equal influence on whether a dog will develop an autoimmune disease. It must also be remembered for each gene that affects whether a dog develops a particular disease there is a "normal" variant that neither affects the risk or the severity. The common feature of all autoimmune diseases is that the body loses the ability to distinguish self from non-self and starts to attack its own cells. The Major Histocompatibility Complex (MHC) is a group of genes that are central to the way an animal distinguishes self from non-self. At least some of the genes influencing resistance or susceptibility to autoimmune disease should be found in these genes. In dogs the MHC genes are known as DLA (Dog Leukocte Antigen), just in case this isn't complicated enough for you. Genes lying close together on a chromosome are inherited in sets called haplotypes, every dog inherits one haplotype from each parent. Clear association has been shown for most canine autoimmune diseases with DLA, including diabetes, IMHA, Addison's disease, SLE, SLO, and polyarthritis. It has also been demonstrated that for the same disease different breeds can have different DLA associations.

Dr. Kennedy addressed the suggestion that if a DLA allele or haplotype has been associated with a specific disease in a breed then this information should be used in mate selection to reduce the frequency of the haplotype. She's strongly opposed to this at this time, because she feels the haplotype of low frequency may have been bred against because it is associated with a more serious disease the incidence of which is currently low in that breed. She presented a study of haplotype frequency in 292 Dobermans, the most common haplotype (71.2%) is associated with chronic inflammatory hepatitis, but the second (13.9%) is associated with thyroiditis, the third (5.3%) with diabetes and the fourth (4.1%) with IMHA. Other haplotypes were too rare to associate with particular

diseases. Changing the DLA profile of other breeds is also likely to just change the frequency of each autoimmune disease. A study in humans has shown that babies are slightly more likely to suffer spontaneous abortion if they inherit the same haplotype (homozygosity) from both parents. Abortion and resorption are higher in purebred dogs which tend to have greater homozygosity. Homozygosity also increases the risk of developing the particular disease with which they are associated. MHC studies in wild populations of various species have shown that heterozygosity confers a survival advantage.

Reducing DLA homozygosity could prove similarly advantageous in breeding dogs. The suggestion then is to identify several potential sires for a bitch based on the usual criteria. If the bitch is homozygous for a particular haplotype avoid a sire homozygous for the same haplotype. If all the sires have the same DLA then it doesn't matter which one you chose. If the bitch is heterozygous she can similarly be bred to any sire. It is far more important though not to breed a dog and bitch with the same disease or with close relatives with the same disease. Homozygosity in DLA may mean the dog is slightly less able to meet immune challenges, but because so many factors are involved should not be excluded from a limited gene pool. Any program that excludes worthy individuals from a breeding program must be very strongly weighed due to the fairly limited gene pool enjoyed by each breed. The only way to really increase MHC diversity would be to outcross with other breeds. We are beginning to identify some of the gene variants associated with the various autoimmune diseases. The more of these genes we identify the more accurately we can estimate the risk associated with a particular combination of inherited genes. However, even a dog at high risk will not develop the disease unless it encounters an environmental trigger.

I wish I had the space to share the rest of this conference with you. I will leave you with the summary of the morning session: genetic tests will not determine who gets bred, just who they will get bred to.

SLO (Symmetrical Lupoid Onychodystrophy).

Elsa Sell

Background. We have been gathering clinical history on SLO Beardies for 3 years with surveys completed on 84 Beardies, 17 of whom had a biopsy to help establish the diagnosis. There is health status information on an additional 36 dogs offered by breeders. Effort has been made to contact breeders and to obtain health information on affected dogs' littermates and immediate family members; we thank those breeders who have been cooperative.

Dr. Anita Oberbauer's lab at UCDavis has DNA samples on 267 Beardies, primarily from the work with Addison's disease. There are only 6 DNA samples from SLO dogs with biopsy proven disease. There are 12 DNA samples on SLO dogs whose diagnosis is based on clinical response to treatment but no biopsy. Dr. Oberbauer's lab has followed up as many of the entire group as possible to obtain current health and diagnostic information.

Consultation. Dr. Jerry Bell was asked to review family pedigrees created from many of the 110 Beardies. His advice is below:
After reviewing the pedigree material on the SLO Bearded Collies, the BeaCon materials, and background material on SLO in other breeds, it is obvious that SLO does not have a simple Mendelian mode of inheritance. What is known about SLO is that it is one of several established auto-immune/immune-mediated diseases, and has molecular genetic links to DLA haplotypes.

Based on the familial/pedigree data you have collected, a molecular genetic investigation should be fruitful. Dr. Oberbauer would be the best researcher to work on this disorder. The folks at UC-Davis have already been working on Addison's disease in the breed; which is also an auto-immune/immune-mediated disease. For these complexly inherited disorders, there is likely both DLA plus other non-DLA liability genes at work in their occurrence.

In breeds with multiple auto-immune/immune-mediated diseases, there may be some common genetic influences for the different diseases. UC-Davis has been at the forefront of several of these research efforts in the Nova Scotia Duck Tolling Retriever, Akita, Weimaraner, and others.
In order to proceed with further studies in SLO in the Bearded Collie, you will need confirmed pathological diagnoses and stored DNA samples. The background Addison's samples at UC-Davis will be helpful to the effort. I spoke with Dr. Oberbauer, and she is willing to work on SLO in your breed. Dr. Oberbauer has reviewed some of the family pedigrees, the completeness of family health information for 55 affected dogs, and the number of DNA samples available on SLO dogs (see first paragraph). She suggests doing a statistical

Two MacLean & Company bookmarks are available from the editor. Each is 8" long and 2" wide and is laminated. Each has 7 MacLean and Co. cartoons on it. They are available from the editor for $3.00 each plus $.64 in postage for each order up to 4 bookmarks. The samples above are resized smaller to allow them to fit into available space. All funds will go to BeaCon for their ongoing projects. Please send all orders to:

Fitz
%Kwik Kopy Business Center
7712 Main Street
Houma, LA 70360
Make all checks payabole to BeaCon

The BeaCon Board of Directors

Elsa Sell - beaconbb@bellsouth.net
Elizabeth Coolidge-Stolz, MD editormom@comcast.net
Cindy Alspaugh stonebaybeardies@yahoo.com
CJ del Valle - mhari@mhari.cnc.net
Linda Aronson - dvm@petshrink.com
Denise Barley - Barley@btinternet.com
Karen Drummond - beardiemom@worldnet.att.net
Judy Howard - beardiebunch@gmail.com
Jana Jezkova glenalbyn@gmail.com

Please contact the Board if you have any ideas, questions, problems or wish to participate in any of BeaCon's ongoing projects.

Visit BeaCon on the web at:www.beaconforhealth.org

Special thanks go out to our Past Directors:

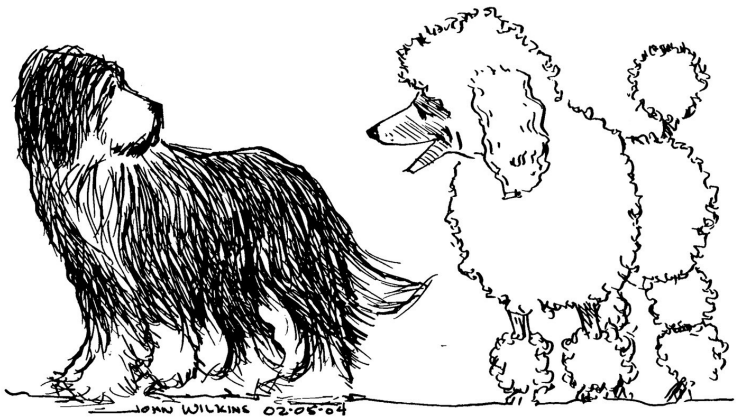
Scott Cook
Kathy Coxwell
Melinda Cummings
Sharon Dunsmore
Gordon Fitzgerald
Kathy Kovacic
Richard Masley
Rosanna Masley
Kathy Pavlich
Cheryl Poliak
Gail Romine
Mia Sedgewick
Jo Tucker
Debra Thomas
Chris Walkowicz

Donations

Contributions to BeaCon and the open health registry should be mailed to:
Judy Howard
2141 Moonstone Dr., Concord, NC 28025

First time Donors
For up to $15-$99 you receive a logo pin
For $100-$750 you receive a sterling silver angel pin
For $750 and up you receive a 14K gold angel pin
The pins can be viewed on the BeaCon Web Site.
Http://www.beaconforhealth.org/

MacLean and Company…



"They did my nails too. They're violet. What colors are yours?"

Editor
Lighting the Way
The Bearded Collie Foundation for Health
142 Glenhill Drive
Houma, LA 70363