



BMDCA Info Series

Health Issues In Bernese Mountain Dogs

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Introduction ► The health of a Bernese Mountain Dog is influenced by a combination of genetics and environment. All dogs possess genetic (inherited) strengths and weaknesses, and the Bernese is no exception. Over 300 genetic diseases, afflictions, or structural faults have been identified in purebred dogs. There are likely more inherited health problems that research has not yet identified. There are ways that a breeder can decrease the chances that undesirable traits are passed on to offspring. But, while genetics plays an important role in determining how healthy and physically sound a dog may be, the kind of care a dog receives throughout its lifetime also plays a significant role in the dog's ongoing health.

The Health Care Team ► A Berner's 'healthcare team' consists of the breeder, owner and veterinarian. Their collective job is to provide for the dog's healthcare needs. A breeder's contribution begins when he/she chooses a pair of dogs that will be used to produce puppies. Once a pup comes to its new home, it is then the owner's responsibility to manage the dog and foster good health and habits. A veterinarian provides professional medical care throughout a dog's lifetime. Effective communication among the 'healthcare team' is important to providing the best healthcare possible.



Diseases Affecting Bernese Mountain Dogs ►

In 2000, the BMDCA conducted a comprehensive health survey for the purpose of getting a clearer idea of which health problems were present in the breed and their prevalence. Lack of knowledge of disease incidence does not mean one can assume a population is healthy. If someone tells you that they are importing much healthier dogs from another country, ask them for the data from that country to support such a statement. These unsubstantiated claims are routinely made. A breeder who claims to have healthy, long-lived dogs should be able to support those claims through collection of health and longevity information on dogs used for breeding and their offspring. A summary and the details of the results from the BMDCA Health Survey are available through the Club's website noted below.

Lifespan ► The 2000 BMDCA Health Survey reported the average age at death is 84 months, or 7.0 years. In the population of Berners used for this study, females slightly

outlived males. (In general, do remember that the larger the breed of dog, the shorter the life span.) When inquiring about a Bernese puppy, you should ask the breeder about what diseases exist in the pedigree of the puppy you are considering. Be forewarned and prepared. No line of dogs is without disease. If a breeder tells you his/her lines are healthy and long-lived, you should ask for facts and documentation that support those statements. Many lines will have dogs with considerable longevity – well beyond ten and sometimes into the teens. Most, if not all lines will also have dogs that experienced health problems and/or died young. As an informed buyer, you need to search out which occurs predominantly. Does the breeder know? How much evidence is being considered? Breeding for health and longevity is extremely difficult and takes a great deal of knowledge, determination, data collection and some element of luck. Working with a responsible and knowledgeable breeder is your first step in becoming a conscientious owner.

Hip Dysplasia (HD) is perhaps the most widely discussed health challenge in Berners. HD results from an unstable hip socket and subsequent degenerative arthritic changes that result from this instability. HD typically cannot be detected in pups at placement age. HD can affect young puppies but most often leads to a degenerative, sometimes crippling, arthritis as an affected dog ages. Some HD affected dogs will experience no lameness. Some dogs with mild HD may be uncomfortable and other dogs with more severe HD may show no pain or gait problems. For some dogs the disease is completely debilitating and affects dogs from age 6 months to old age. Studies have shown that dogs free of hip dysplasia tend to produce fewer offspring with HD. However, dogs free of hip dysplasia can produce dogs with HD. It is important to know that HD can only be diagnosed by a qualified veterinarian's evaluation of x-rays of the hip joint. The certifying organizations review the x-rays to determine the presence or likelihood of HD. (OFA determines by arthritic changes and subluxation whether the hips are dysplastic or not, and PennHip measures joint laxity.) Conscientious breeders attempt to reduce the incidence of HD by carefully selecting dogs from families with lower incidences of this disease. Knowing the hip status of as many family members as possible helps breeders select dogs with a greater chance of producing offspring with normal hips. Many breeders require formal hip evaluation of puppies from their breeding programs.

Elbow Dysplasia (ED) is a general term that is used to describe several different abnormalities of the elbow joint. ED is another potentially crippling condition that affects some Berners. A degenerative joint disease like HD, ED causes arthritic

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changes to occur in the elbow joint. Elbow dysplasia in BMDs is most often a result of fragmented coronoid process, but the ununited anconeal process form of ED and OCD (see below) of the elbow have been seen. Elbow dysplasia can result in lameness and affect puppies as young as 5 months. Lameness from ED may subside when a dog reaches adulthood. The only way to confirm and evaluate ED is by x-ray. ED is less likely to be present in puppies born to parents who do not possess the condition. OFA certifies elbow radiographs and issues a certificate and registry number to dogs free of this disease. Knowing the elbow status of as many family members as possible helps breeders select dogs with a higher chance of producing puppies with normal elbows.

Osteochondritis Dissecans (OCD) is a disease of the cartilage that can also lead to crippling arthritic changes. Like HD and ED, there are genetic components to this disease, although there are no scientific studies in the Berners to help determine the heritability of OCD.

Panosteitis (Pano) is a disease of the long bones in the legs and is a condition that typically affects growing dogs from 5-8 months and up to 2 years of age. Diagnosis can often be done with x-rays but mild forms may be difficult to detect. The disease can impair movement, cause intermittent or chronic lameness that may last for weeks or months, cause pain which makes the dog quite uncomfortable and may 'wander' from one leg to another. The condition will generally resolve with rest and subside completely when the affected dog reaches maturity. Pano is not related to trauma. The mode of inheritance needs further study but the condition does seem to run in families.

Progressive Retinal Atrophy (PRA) is a disease of the eyes, which causes eventual blindness. This is an inherited disease in Berners, and it is likely autosomal recessive. More affected dogs are needed to research this disease.

Cataracts of various types are verified in Bernese through examination by a veterinary ophthalmologist. Depending on the type, cataracts may or may not present problems with vision. Owners are urged to have eyes checked by a canine ophthalmologist throughout the dog's life.

Entropion and Ectropion (eyelids turned in or out) effect the eyelids, which should be tight fitting in BMDs. Either condition can result in damage to the dog's eye. Entropion is a heritable condition where the eyelid rolls inward causing irritation to the surface of the eye. Ectropion is the reverse where the eyelid rolls out serving as a 'catcher's mitt' for tiny bits of debris that can irritate pink tissues on the inside of the eyelid.

Bloat (gastric torsion and/or volvulus) is potentially life threatening and incredibly swift in onset. It is a condition that occurs when the stomach fills with gas and then may rotate. Immediate medical treatment, most likely emergency surgery, is mandatory and minutes, not hours, may save a life. Studies on this condition have revealed so many factors that precede bloating in dogs that no single cause can be named. Further studies are being conducted to better understand this disease and the ways of preventing it. Bloat has

a very high morbidity rate. And dogs that bloat once have a higher tendency to do so again.

Allergies, especially those that are food related, pose a problem for some Bernese. These are often difficult to diagnose and manage. Inflammatory bowel disease and sensitive digestive systems that may require special diets are present in some Bernese. There may be hereditary components to allergies and digestive conditions. Breeders and buyers are urged to consider incidence of allergies and digestive tract disease in families of dogs being selected for breeding/buying.

Hypothyroidism is a condition found fairly frequently in the breed. It can present itself via a variety of symptoms including hair coat changes (dryness, brittleness, brown pigmentation, sparseness) and changes in temperament. Dogs suffering from an under active thyroid can experience reproductive failure, and may put on excess weight even when fed a modest ration. A veterinarian can prescribe supplementation of thyroid hormone after a blood test is evaluated to determine whether the thyroid gland is working optimally. Heritability of these conditions is not understood entirely. This condition is usually easily treated with good results.

Von Willebrand's Disease (vWD) is a bleeding disorder that occurs in many different breeds. In Bernese, vWD is an autosomal recessive trait. Vet Gen (www.vetgen.com) has a vWD genetic test for Bernese Mountain Dogs. It is recommended that each dog's clotting factor be assessed prior to surgery.

Sub-aortic Stenosis (SAS) is a condition where dogs have a partial obstruction to the flow of blood leaving the left side of the heart, which is caused by a fibrous band, most commonly just below the aortic valve. This condition may give no outward warning to impending problems. Rather, a seemingly healthy dog may suddenly drop dead. SAS is hereditary in some breeds and may be likely to be so in Berners.

Cancer presents great challenges to breeders in genetic selection and a greater challenge for dog owners. In Bernese, at least two types of cancer are inherited. They are Mast Cell Cancer and Malignant Histiocytosis. How these cancers are inherited is not known although a polygenetic mode of inheritance is suspected. In the 2000 BMDCA Health Study, 50% of all dogs that died succumbed to some form of cancer.

Autoimmune Diseases are impacting Berners just like the other purebred breeds. One such illness is Aseptic Meningitis, which can be difficult to diagnose and potentially life threatening if not treated properly and in a timely manner. Generally dogs 3-12 months are most commonly affected and one sex is not affected more than the other. The rate of occurrence for various autoimmune disorders is not known.

Berner-Garde ► Berner-Garde is a non profit foundation dedicated to accumulating and disseminating health information in BMDs and working with researchers to determine how genetic faults can be minimized or eliminated in the breed. All BMD owners are encouraged to report health information to this open database and are welcome to utilize its vast databank. To learn more, please visit its website at www.bernergarde.org.