There are several medical issues that may be found in the Alaskan Malamute. These can be serious problems that every malamute owner and prospective buyer should be aware of. The medical conditions listed in this overview can vary greatly in severity or may not affect your dog at all. This is not a complete listing... only the more common or most serious ailments.

A more detailed explanation of these problems, general canine health, and disease information is found in most veterinary or canine medical guides, or from your local veterinarian. Please consult your veterinarian if you suspect any of these ailments, or any other health problems, are affecting your dog.

Specific medical conditions and disorders found in this overview are briefly discussed below....

The medical conditions and disorders found in this health overview are:

- Bloat
- Cataracts
- Coat Funk (Coat Patterning/Loss)
- Coat Funk (Coat Odor)
- Day Blindness
- Dwarfism
- Elbow Dysplasia
- Epilepsy
- Hip Dysplasia
- Hypothyroidism
- Polyneuropathy
- Progressive Retinal Atrophy
- Wobbler's Syndrome
- Zinc Responsive Dermatitis

#### Bloat (Gastric Dilation and Gastric Torsion):

A condition where there is a build up of air or stomach contents that cannot be passed through the intestines or expelled by "burping"/ vomiting. Acute dilation is LIFE THREATENING, requiring immediate medical attention and may lead to torsion (twisting) of the stomach. Gastric torsion may cause a painful death in a matter of minutes! Rapid diagnosis and treatment by a veterinarian is essential to save the life of your dog. Dogs that have "bloated" and survived are at high risk for a recurrence of this condition.

The exact cause of bloat is unknown. It does seem to occur mostly within a few hours of eating or drinking, especially if the dog has been exercised shortly after the meal or is a rapid "gulping" eater. Other causes of bloat are (but not limited to) overeating, intestinal blockage by foreign materials, traumatic injury, or physical stress (whelping, vomiting, etc). Bloat is not genetic. However, a tendency toward the condition may be inheritable, as well as specific intestinal defects.

Main indications of bloat include abdominal distention (tight/"bloated" stomach), restlessness, excessive salivation (drooling) or panting, constipation (full blockage), diarrhea (partial blockage), and/or retching without actually vomiting. Any combination of symptoms may be evident.

#### Cataracts

Condition where the lens of the eye becomes clouded or opaque, impairing the vision. The degree of vision loss depends upon the size and location of the cataract within the eye. Cataracts may also cause a lens protein to leak into the eye, resulting in an immune reaction and inflammation of the eye. Surgical replacement of the affected lens is the only method to restore vision.

Cataracts can be a result of normal aging, disease, or trauma to the eye. They can also be congenital (before birth) in origin and suspected to be hereditary. Congenital cataracts usually do not lead to total blindness, as they do not change greatly in size as the eye grows. They do, however, present a great handicap to a growing pup and may worsen in severity within the following generations.

## Coat Funk (Coat Patterning/Loss)

Coat disorder characterized by the breaking and eventual loss of the guard coat. The guard hair does not grow back and will eventually give the affected dog's body a "woolly lamb" appearance. Males are usually affected, but cases of affected females or loss of only the undercoat have been reported. The suspected causes of coat funk are genetics, a thyroid or sexual hormone imbalance, or some combination.

Coat funk appears to be a problem with the hair follicle cycle where the normal cycle of shedding & regrowth halts. The remaining hair becomes brittle with age, the coat hair breaks off and the lost or damaged hair is not replaced. Lab tests such as thyroid level and skin scrapings will appear normal.

Symptoms of coat funk first appear around 2-3 years of age, but may not attract much concern by owners until the severity increases. Initial signs of the disorder are coat "wear" or breakage around the collar, tail, and hair stress points such as the haunches and buttocks. Eventually this pattern of broken coat will spread to the rest of the body.

Neutering/spaying the affected dog may cause the hair follicles to act normally for 1-2 cycles before halting again. In very mild cases, it is possible that the affected dog may not show renewed signs of coat funk until middle or late age. Hormone therapy or dietary change may help control the symptoms, but is not usually considered curative treatment.

Affected dogs appear normal in all other respects, and can lead full and happy lives. However, care must be given to protect them from the elements... cold or wet weather, excessive exposure to sun or wind, etc.

#### Coat Funk (Coat Odor)

Common or slang name for a coat that has a strong chronic odor. Characterized by a "sour" smell which returns within a few days of bathing. Little is known about the cause of this condition, but it may be linked in some instances to a borderline thyroid problem. Other causes may be allergies or immune deficiencies involving the skin. Dietary change, vitamin therapy, or medications may help.

Occasional (non-chronic) strong coat odor or "funk" can be caused by a fungal or bacterial growth in the undercoat. In most instances, the undercoat became wet from bathing, swimming, etc and was either improperly or incompletely dried. Rebathing and complete drying usually fixes the problem, but medications or special shampoos may be needed if the skin has become affected.

## Day Blindness (Hemeralopia)

A retinal disorder causing an inability to see objects or determine distances during exposure to daylight. An affected dog may have partial or normal vision under low light conditions such as night/evening, dusk/dawn, when indoors, or during overcast days. The severity of the disorder varies in each dog affected.

Day blindness is genetically inherited through a recessive trait. It does not worsen over time and may be detected in puppies less than two months old. There is no known effective treatment at this time. Affected dogs should be monitored and their activities restricted during daylight hours.

## Dwarfism (Chondrodysplasia)

A recessive genetic condition involving the development of the growth plates in the legs, resulting in stunted or deformed growth. It is most noticeable in the forelegs that can become short, squat, and bow inward under the body. An effected dwarf may be barely able to walk or seem almost normal, depending on the severity of the condition.

The Alaskan Malamute Club of America has undertaken a study and a test-breeding program to eliminate dwarfism. Percentile ratings were given to dogs on the basis of their genetic background. Ratings lower than 6.25% were considered safe to breed, while a higher percentage rate required the dog be test-bred to be proven clear of the condition. The percentile ratings are no longer given and a dog is now considered "clear" or not clear of the condition. Dwarfism is now rarely seen outside the test breeding program.

#### Elbow Dysplasia (Anconeal Dysplasia)

This condition involves the improper development of the small bones in the elbow, which do not grow together, as they should. This results in lameness, poor extension of the elbow, pain and swelling. The cause of this abnormality is not known. Surgery may alleviate the condition as long as arthritis has not developed in the elbow.

### **Epilepsy**

A disorder of the brain caused by abnormal electrical bursts and characterized by seizures. Common symptoms may include muscle trembling or rigidity, disorientation, vocal outbursts, anxiety/hysteria, excessive salivation/drooling, involuntary loss of bladder/bowel control, or unconsciousness.

The cause may be hereditary, trauma to the head or nervous system, or chemical imbalance. Seizures may occur only once or twice, or there may be several attacks at varying intervals anywhere from several minutes to many months. Recurrent attacks at decreasing time intervals may also be of increased seizure duration or severity.

### Hip Dysplasia

A hereditary disease resulting in the improper development of the hip joint. The socket of the joint will be deformed or too shallow, allowing the rounded end of the thighbone to separate from the socket. In most cases the rounded end or "ball" of the thighbone will be abnormally flattened and the "neck" of the bone may show signs of thickening. This condition can also be caused by improper hip ligaments or muscle control. Weak control during movement allows the joint to separate, while excessive control may pull the "ball" out of the hip socket.

Most breeds are at risk and especially the larger dogs. This is probably due to the greater weight of the body and the associated greater stress to the joints. Most dogs with hip dysplasia are born with normal appearing hips, but the condition will usually manifest itself within the first two years. The more severe the hip joint abnormality... generally the sooner it will become apparent.

Hip dysplasia may vary from mildly abnormal development to complete hip dislocation. The severity of the condition may also be influenced by too rapid growth, overfeeding (over nutrition), or excessive exercise. It is usually painful and interferes with proper movement and activity levels, also depending upon the severity.

Diagnosis is made by X-raying the hip joint. After two years of age, pure breed dogs can obtain a hip certification through the OFA (Orthopedic Foundation for Animals), which rates hip joints from "severely dysplastic" to "excellent". It is highly recommended that puppy buyers do NOT buy from litters where both parent dogs are not certified to be clear of hip dysplasia, or from breeders who will not furnish a copy of the certification upon request.

Treatment depends upon the severity of hip deformity. Mild cases may require the dog to be on a life-long prescription of pain medication. Reconstructive surgery of the muscle or ligaments may help some dogs. Surgery to reconstruct or replace the hip joint may be required in more severe cases or as the hip joint wears with age. In severely dysplastic cases the dog may require euthanasia.

### Hypothyroidism

Disorder caused by the deficiency of a thyroid hormone that is marked by a low metabolic rate. It is the most common hormone disorders in all dogs and Malamutes are one of the breeds that appear to be at increased risk. Usually caused by the destruction of the thyroid gland from an immune process, atrophy or cancer. Although it is not known to be inherited, the general genetic makeup of the dog or breed may be partially responsible for the development of an inflammation of the thyroid gland, which is an immune mediated condition.

Some signs of hypothyroidism include mental dullness, avoidance/intolerance to exercise, general lethargy, weight gain without increased food intake, slow or poor coordination, or seizures. Other symptoms include reproductive, coat (dry, dull, loss, slow re-growth) and skin problems (dry/scaly).

Symptoms may be gradual and subtle, and usually appear between two and six years of age. Treatment consists of hormone replacement therapy, which must continue throughout the dog's life, and recovery to a normal lifestyle is excellent.

(HT Note 1. Hypothyroidism has been linked to some cases of polyneuropathic conditions. Hypothyroidism associated with polyneuropathies can be difficult to detect due to the lack of normal outward symptoms. Thyroid levels in a simple T4 blood screen may appear relatively normal to borderline and testing T4 levels after use of a thyroid stimulant may be needed for proper diagnosis.)

(HT Note 2. Severe hypothyroidism in very young dogs can result in "cretinism". Cretinism is characterized by dull-wittedness, lethargy, short thick bodies with large heads, enlarged thyroid gland, and slow physical development.)

### Polyneuropathy

Inflammation of sensory and motor nerve fibers resulting in nerve degeneration (damage) and progressive muscle weakness. Characterized by gradual onset and slow progression of symptoms. The earliest indications may be a change in voice, difficulty in swallowing, or regurgitation of food. Further signs are uncoordinated movement, palsy (trembling muscles), loss of balance and eventual paralysis of the legs.

It is suspected, but not known, to be hereditary in Malamutes. In these cases only males are affected and the dog's maternal grand sire (father of the dog's mother) may also have been affected. Hypothyroidism, another suspected hereditary condition in Malamutes, may be an underlying culprit in some cases (see HT note 1).

Other known or suspected causes include physical trauma, dysfunctional immune system, drug or chemical toxicity/poisoning (organophosphates, trichlorethylene, etc), heavy metal toxicity (lead, copper, zinc, etc), metabolic diseases (hypothyroidism, diabetes, etc), and cancer.

Treatment is dependent upon the underlying cause of the condition. Recovery will depend upon the degree of nerve damage involved. The specific cause in many dogs may not be identifiable and no effective therapy is available. In cases suspected to be hereditary, most dogs will eventually recover on their own. However, these dogs will not fully recover to their pre-polyneuropathic condition and will require some form of invalid care in the meantime.

## Progressive Retinal Atrophy: General (PRA) & Central (CPRA)

A hereditary degeneration of the retina that causes impaired vision and slow/incomplete light reaction by the pupil. (Note: The retina is the deepest of the three main layers that are the inner "wall" at the back of the eye.) Normally the condition appears between the ages of four and eight years old.

PRA is the more common type of retinal atrophy and affects the photoreceptor area of the retina. CPRA is similar to PRA, but affects the retinal layer beneath the photoreceptive area. Symptoms may be subtle at first, including a reluctance to go outside at night, staying near lighted areas or the dog's owner, difficulty in tracking a moving object, reluctance to climb stairs, or misjudging indoor jumps.

Initial onset is characterized by night blindness (poor vision in dim lighting) and normal vision in the daylight. Progression of the disorder eventually leads to loss of day vision and later total blindness. In the final stages the pupil does not react to strong light and is widely dilated. Cataracts are not uncommon. There is no known effective treatment.

#### Wobbler's Syndrome (Cervical Spondylopathy)

A hereditary condition that is a failure of proper support to the vertebrae area and affects the spinal cord in the hip area. Found mostly in large breeds or sometimes in long-backed breeds. This is a fatal condition that usually progresses slowly, but in some cases can cripple an affected dog in less than a day. Onset of the condition is normally between three and twelve months of age. The exact cause is not known, but displacement (shifting or dislocation) of vertebrae due to a long neck, overfeeding or excessive nutrition, and too rapid growth is suspected in influencing the condition.

Characterized by a progressive lack of coordination in the hindquarters from very weak and unsupportive leg muscles, as well as a palsy-like shaking of the head. As the condition continues, the front quarters become affected and the rear will eventually become completely unsupportive (quadroplegic). The condition is frequently extremely painful.

Diagnosis is by X-ray. Treatment consists of surgery to alleviate displacement/deformity of the vertebrae. Acute cases respond best to surgery, slowly progressive cases respond the least.

## Zinc Responsive Dermatitis:

A scaling skin disease caused by the inability to absorb sufficient zinc amounts from the intestine. This is due either to a genetic defect (sled dog breeds in particular) or to a nutritional imbalance. Some dog food ingredients and food supplements are known to decrease zinc absorption. Among these are calcium, iron, tin, copper and phytates (plant sugar). Calcium is the most commonly used supplement and should not be given to growing puppies for this reason.

Indications of this condition include scaly/crusty skin, itchiness, dull or brittle coat, or hair loss. This may be most noticeable on the face, hocks and elbows. Over supplementing growing puppies or young dogs (especially with calcium) may cause poor appetite, stunted growth, or deformed bones.

Diagnosis is by skin biopsy of the affected area. Treatment is by the use of zinc supplements, either until the condition is alleviated (nutritionally caused) or for the life of the dog (genetic). Zinc supplements are not recommended for dogs not affected by this condition.

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