



PHYSICAL DISABILITIES IN DOGS:

Though specific breeds of dogs are more prone to certain diseases that can trigger a physical disability, an unfortunate and unforeseen accident or trauma can also be a cause. Dogs can be born without a limb or lose a limb in an accident and be permanently disabled. Other disabilities can be temporary due to an injury, surgery or arthritis. These can be improved through therapy and medication. Old age in dogs, as in humans, can result in sight and hearing impairments as well as orthopedic problems and cognitive decline.

This badge is intended to make the handler more aware of the potential of physical disabilities and help relieve some of the difficulties encountered caring in for the dog when the unfortunate incapacity occurs.

There are many types and degrees of physical disabilities. For the purpose of this badge, they are divided into three categories:

ORTHOPEDIC/NEUROLOGICAL DISABILITIES

Hip Dysplasia
Degenerative Myelopathy
Disc Disease
Fibrocartilaginous Embolism
Spinal Cord Hemorrhage
Spinal Shock
Cognitive Dysfunction Syndrome

SIGHT IMPAIRMENTS

Cataracts
Progressive Retinal Atrophy
Collie Eye Anomaly
Glaucoma

HEARING IMPAIRMENTS

Congenital Hearing Loss
Presbycusis
Ototoxicity
Blunt trauma to the head

Other conditions that often affect orthopedic and/or neurological abilities:

- Tumor
- Discospondylitis
- Spinal Infection or inflammation
- Distemper
- Meningomyelitis
- Polymyositis
- Neuritis
- Polyneuritis
- Embolus
- Aortic embolus
- Stroke
- Cancer
- Tick paralysis
- Sports Injury

Review the introduction we have provided to each of the listed conditions – it's a big topic, so feel free to read just one category a day and pick one impairment from that category to research further.

For the Disabled Dog badge you will need to name 5 disabilities/diseases and explain how they present physically in dogs.

Once you've completed one impairment from each category you can then pick any 2 of the remaining disabilities/diseases to research further to complete the required 5.

*Bookmark your research sites so you can easily return to them and extract additional information as needed.



ORTHOPEDIC/NEUROLOGICAL DISABILITIES

Diseases of the spine and brain have many different causes and often the veterinarian must make quick decisions and take action to limit the degree of permanent disability. Causes can be hereditary, degenerative, or due to inflammatory or infectious disease, tumors, nutritional disorders, injury or trauma, poisoning or toxicity or blood vessel disease.

Information is provided below on some typical orthopedic and neurological problems that often lead to permanent disabilities. This list of conditions and diseases is not meant to be exhaustive, but rather to cover the more common diagnoses.

Hip Dysplasia

Hip dysplasia occurs when the leg bone and pelvic (hip) bone don't fit like a ball into a catcher's mitt because the cup formed by the pelvic bone is too shallow. The leg bone slides out of the pelvic socket and may dislocate.

Canine hip dysplasia is a problem for dogs and their handlers because it causes severe pain and immobility. In severe cases the dog will struggle to get up, to climb stairs, to get into a car, and to squat to urinate and defecate. Many dogs lose their good natures because of immobility and pain. The relationship you have with your dog may deteriorate because he may not feel like playing, and it can become an effort to do anything with the dog since he may need to be lifted and carried.

Depending on the degree of hip dysplasia, medical and sometimes surgical treatments are indicated. Medical therapy includes pain medications, physical therapy, cold laser treatments, glucosamine chondroitin products, and even stem cell therapy. There are several surgical procedures available such as total hip replacement. Maintaining the dog's ideal weight is one of the most important ways to reduce the clinical signs of hip dysplasia.

Many breeds are prone to this disease, typically large breeds, including Old English Sheepdog, German Shepherds, Labrador Retrievers, Golden Retrievers, Saint Bernard, Rottweiler, Bloodhounds, and Great Danes.

Degenerative Myelopathy

Degenerative myelopathy (DM) is a slowly progressive neurological condition caused by the deterioration of nerve fibers and their myelin sheath within the spinal cord. Essentially with this disease the spinal cord is slowly dying. The failure of nerve signal transmission within the mid-to-lower spinal cord results in symptoms of the hind legs such as weakness, wobbliness, dragging of the hind feet (knuckling), inability to stand and eventually paralysis. Symptoms do not usually develop until a dog is middle aged or in its senior years of life.



While DM is devastating and there is no cure, affected dogs do not experience pain from the nerve deterioration. The disease, however, takes a psychological toll on both the dog and handler. As the dog loses the ability to support his hindquarters, it becomes increasingly difficult for him to posture to urinate and defecate and ultimately results in loss of bladder and bowel control. Dogs with significant hind limb impairment can be greatly aided by the use of a harness or (wheelchair) cart. If allowed to progress, the animal will show front limb involvement and extensive muscle atrophy and paralysis. Eventually cranial nerve or respiratory muscle involvement necessitates euthanasia or long-term palliative care.

There is no specific test for DM so the diagnosis is based on clinical signs and breed. Often other causes of the symptoms are ruled out by tests and it is these normal test results that lead to the diagnosis of DM. Confirmation of this disease requires a biopsy of the spinal cord at time of death

There are many breeds at risk for this inheritable condition, including the German Shepherd, American Water Spaniel, Bernese Mountain Dog, Boxer, Borzoi, Cardigan Welsh and Pembroke Welsh Corgi, Chesapeake Bay Retriever, Kerry Blue Terrier, and Pug.

Disc Disease

Disc disease is a frequent cause of a dog's back legs suddenly not working. Intervertebral disc disease (IVDD) occurs when the cartilaginous disc in the backbones herniates and pushes the spinal cord. This places pressure on nerves preventing hind limb motor function.

Disc disease does not always present with the same degree of symptoms. Therefore veterinarians will assign a stage to the disease to guide the owner's understanding of the disease and to determine to best course of treatment.

- Stage I disease produces mild pain and is usually self-correcting in a few days
- Stage II disease causes moderate to severe pain in the neck or lumbar (lower back) area
- Stage III disease causes partial paralysis and results in the dog walking in staggering or uncoordinated movements
- Stage IV disease causes paralysis but the ability to feel is present
- Stage V disease causes paralysis and lack of feeling

These stages tend to overlap in some dogs, and dogs may move from one stage to another over a period of hours to days. Dogs with Stage II and III disease are usually treated with anti-inflammatory drugs, pain relievers, and exercise restriction. If the pain or lack of coordinated movements persists after four to seven days of treatment or if the neurological status declines from one day to the next, surgery may be required. The time of confinement will vary based on each patient's condition.



Dogs with Stage IV disease may have surgery, although a small percentage will recover without it. Dogs with Stage V disease should have surgery immediately. The sooner that surgery is done, the better the prognosis. Ideally, these dogs should be operated on within the first 24 hours of paralysis. The success of surgical treatment varies greatly depending on the diagnosed stage and can vary from as little as 5% to as much as 90% success. Generally, dogs with disc disease are left with some form of disability from very mild to severe to catastrophic.

Although a jump, twist or fall is frequently blamed for the disc rupture, the injury actually occurs most often due to chronic disc degeneration. Most dogs with degenerative disc disease are middle-aged, from three to seven years old. There is likely a genetic predisposition to this disease. Certain breeds, especially the Dachshund, Poodle, Pekinese, Lhasa Apso, German Shepherd Dog, Doberman, and Cocker Spaniel have a high incidence of intervertebral disc disease.

Fibrocartilaginous Embolism

Fibrocartilaginous Embolism (FCE) occurs when a small piece of cartilage enters the bloodstream and blocks the blood supply to the spine. As the vessel narrows, the disc material obstructs it, depriving a certain segment of the spinal cord its blood supply. Without proper blood supply, that segments of the spinal cord dies, resulting in paralysis. Surgery is of no help for a dog with this disease because there is no pressure on the spine. Usually, this is a one-sided problem, with one rear leg much more severely affected than the other. Recovery is possible in a small number of cases, but it is more likely that the diagnosis results in permanent disability due to damage to a portion of the spinal cord.

Diagnosis of fibrocartilaginous embolism is based on the correct clinical signs and by ruling out other causes. Unfortunately, a definitive diagnosis can only be made by performing a spinal cord biopsy after death.

Spinal Cord Hemorrhage

A blood clot can damage the spinal cord. This is usually linked to trauma or problems with blood clotting. Diagnosis is generally made through histological analysis, magnetic resonance imaging, and exclusion of underlying factors. Following surgical removal of the clot, most dogs show improvements in neurological symptoms though residual deficits with remain, causing permanent disability.

Spinal Shock

This is a usually temporary loss of spinal function that is generally associated with trauma. It occurs suddenly and is somewhat like a concussion of the brain. It may leave permanent damage or full recovery may occur. If complete recovery from spinal shock is to occur it generally happens within a few hours to a few days.



Cognitive Dysfunction Syndrome

Cognitive dysfunction syndrome (CDS) is a neurobehavioral disorder affecting geriatric dogs that is characterized by an age-related decline in cognitive abilities sufficient to affect functioning, with behavior changes that are not attributable to other medical conditions.

CDS often goes undiagnosed because the handler attributes the symptoms to normal aging. CDS presents much like dementia or Alzheimer's disease in humans. Symptoms of the disease include aimless behavior, a decrease in social interaction with both humans and other animals, and an altered sleep-wake cycle.

Behavior problems with CDS can cause significant suffering for the patient and may challenge the handler's ability to care for the dog. With early diagnosis and treatment, CDS can be managed for a time while providing continued quality of life for the dog.

Other Orthopedic/Neurological conditions

- Tumor
- Discospondylitis – bacterial or viral infection in the bones of the spine (vertebrae)
- Infection or inflammation in the spine
- Distemper
- Meningomyelitis – viral or bacterial infection of the brain, resulting in miscommunication of nerves impulses
- Polymyositis - infection or inflammation in the muscles
- Neuritis – inflammation of the spinal cord
- Polyneuritis - inflammation in nerves
- Embolus - blocked blood flow to the spine
- Aortic *embolus* - blocked blood flow to the rear legs
- Stroke
- Cancer in the spine or brain
- Tick paralysis resulting from tick bites
- Sports Injury



SIGHT IMPAIRMENTS

Many dogs start to have a decrease in vision as they age, but there are some specific conditions that are not due to aging and may be helped with medical intervention. The information below describes some of the more common causes of sight impairment but is not intended to be an exhaustive list. Any suspected change in vision should be evaluated by a veterinarian who specializes in ophthalmology. Most universities with veterinary schools have ophthalmologists on staff. With intervention, most dogs with sight impairment adjust well to their environment and can navigate even unfamiliar environments with care and assistance from the handler.

Cataracts

Cataracts can appear at any time from birth and usually present by the time the dog is 6 years old. Cataracts can often lead to complete blindness. Causes of cataracts in dogs include diabetes, injury, eye inflammatory diseases (uveitis), hereditary predisposition or unknown. Additionally, cataracts may be present along with some of the conditions below.

The condition causes cloudiness on the eye lens, reducing the eye's ability to focus light and see as it hits the retina. Cataracts can occur in any dog breed at any age and can progress quickly or slowly. Some dogs have an allergic reaction to the cataract causing glaucoma and scars.

The only viable treatment option is surgery, or if the dog is not a candidate for surgery, then medications are used. Dogs treated with surgery will receive an artificial lens that will restore normal vision in 80% to 90% of cases. If left untreated, cataracts can cause blindness, inflammation inside the eye (uveitis) and glaucoma, which creates painful pressure on the eye. Cataracts are the leading cause of blindness in dogs.

Progressive Retinal Atrophy

Progressive Retinal Atrophy (PRA) always leads to blindness. The retina is the tissue that lines the inner surface of the eye; it forms and transmits images to the brain. In retinal degeneration, the cells of the retina begin to lose their function, which leads to impaired vision or blindness.

Progressive retinal atrophy (PRA) is a group of diseases that worsens over time and is seen especially in Australian Cattle Dogs, Australian Shepherds, Briards, Cocker Spaniels, Cardigan Welsh Corgis, Collies, Irish Setters, Mastiffs, Poodles, Retrievers, Samoyeds, Schnauzers, and Siberian Huskies. It may be present in any breed and defies congenital testing of the parents in some breeds as the gene that the defect attaches to is unknown in these breeds.

Causes of PRA include abnormal retinal structure at birth, abnormal development of the retina with age, adverse reactions to a specific drug, cancer, infections of the retina or infections that spread from other parts of the body, long-term glaucoma, trauma, and acquired retinal degeneration syndrome.



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There is no cure for PRA though it may be able to be slowed in progression when diagnosed early with oral supplements and/or eye drops. As cataracts and glaucoma are common along with PRA in advanced disease progression, treatments for those conditions may be added to the dog's regimen, though cataract surgery is not an option as sight cannot be restored.

Collie Eye Anomaly

Collie Eye Anomaly (CEA) is one of the biggest inherited disease concerns for a number of herding breeds. The clinical signs of this disease can range from very mild to severe. In mild cases, dogs may show signs of eye disease on ophthalmologic exam but will have clinically normal vision. Severely affected dogs can have retinal detachments, malformation of the eye, and blindness.

CEA is a congenital, inherited bilateral eye disease primarily affecting Australian Shepherds, Border Collies, Collies, Nova Scotia Duck Tolling Retrievers and Shetland Sheepdogs. There is no treatment for CEA.

Glaucoma

Glaucoma is abnormally high pressure in the eye. Inside the normal eye there is constant production and drainage of a watery fluid called aqueous humor. When there is a problem with the drainage of the fluid, the pressure within the eye can increase. High pressure causes damage to the optic nerve, which, in turn, causes vision loss. Causes of glaucoma can be primary or secondary. The disease appears to occur spontaneously, often without any warning.

The primary goals of the treatment of glaucoma are to treat or correct any underlying causes, to decrease the pressure within the eye, and to save vision if possible. Treatment of glaucoma in dogs may be medical or surgical. When glaucoma does not respond to medications or surgery and the pressure within the eye remains elevated, when the animal is persistently painful, or when the eye is blind and glaucoma therapy is too expensive to continue, then surgical removal of the eye may be considered.



HEARING IMPAIRMENT

As with sight impairment, many dogs will gradually lose their hearing as they age. However, any perceived change in hearing should be evaluated by a veterinarian as there may be another underlying cause. Dogs with hearing impairment can live relatively normal lives when proper training is present.

Congenital Hearing Loss

Congenital hearing loss is related to degenerative changes within the hearing part of the inner ear, also known as the cochlea. In the cochlea, sound waves are converted into nerve impulses that are subsequently transmitted to the brain and sensed as sounds.

Congenital hearing loss is permanent and often hereditary. It's most commonly associated with certain coat colors—specifically white or merle (a sort of multi-colored splotchy or swirling coat). The abnormality is present at birth. Unfortunately, some puppies are labeled as dumb since they cannot be trained using verbal commands, and some of these puppies are surrendered before the congenital hearing loss is diagnosed.

Presbycusis

Presbycusis is the most common form of acquired hearing loss in dogs. It affects the receptors in the cochlea and their ability to transmit sound to the brain, but it is specific to older dogs and generally comes from the degenerative effects of a lifetime of accumulated noise. Presbycusis is irreversible.

Ototoxicity

Deafness in dogs can also be associated with drugs that have a deleterious effect on the cochlea. This effect is referred to as ototoxicity. It occurs with drugs that are used to treat infections or inflammation in the ear. After the drug has worn off, the dog may return to normal hearing, but ototoxicity can also lead to permanent deafness. This is one reason why it's critically important not to put anything in your dog's ears without a thorough examination by a qualified veterinarian.

Blunt Trauma to the Head

While rare, blunt trauma to the head, whether there are fractures present or not, may result in blood getting into the dog's inner ear, which can lead to deafness. The trauma may also lead to direct damage to the inner ear. This deafness may be either temporary or permanent.



EARLY WARNING SIGNS THAT CAN LEAD TO AN ORTHOPEDIC/NEUROLOGICAL DISABILITY

- Not able to move all four legs.
- Not able to move the rear legs.
- Walking with the front feet while dragging the rear legs
- Nails do not need to be trimmed (due to dragging).
- Possible pain in the neck, spine or legs.
- Not able to urinate.
- Not able to control urination, dribbling urine.
- Not able to control defecation.
- Constipation.
- Seizures.
- Unwillingness to jump.
- Crying out in pain.
- Anxious behavior.
- Muscle spasms.
- Hunched back or neck with tense muscles.
- Reduced appetite.
- Reduced activity level.
- Poor reflexes.
- Excessive drooling.
- Moving slowly.



EARLY WARNING SIGNS THAT CAN LEAD TO A SIGHT IMPAIRMENT

- Clumsiness and bumping into things.
- The dog may appear to be disoriented.
- The dog is often unable to find its sleeping place, toys, food or water.
- The dog appears to be lazy and inattentive.
- Dog begins to sleep more than usual.
- It gets easy to startle the dog.
- Little interest is shown in any playful activity.
- Change in eye appearance.
- Eye rubbing.
- Discolored iris.
- Teary eyes.
- Misjudging heights when trying to jump.
- Signs of pain.
- Reluctance to walk around in the dark.
- Reluctance to go downstairs.
- Dog is uncharacteristically fighting with other dogs.
- Starts walking close to you, walls, and other dogs in household.
- Swelling around the eye.
- Blinking more often.



EARLY WARNING SIGNS THAT CAN LEAD TO A HEARING IMPAIRMENT

- Not coming when called.
- Sudden disobedience.
- Increased startle reflex.
- Excessive barking.
- Apathy
- Increased Sleep
- Unresponsive to everyday sounds.
- Unresponsive to trigger sounds like a doorbell.
- Doesn't respond to verbal cues.
- Painful ears.
- Head shaking.
- Strong odor or discharge from ears.
- Sleeps through loud noises, must touch to awake.
- Snapping when touched from behind.
- Anxiousness.
- Timidity.

From the above lists, name 2 early warning signs for each of the disabilities/diseases you researched last week

For the Disabled Dog badge you will need to name 5 early warning signs which might indicate a physical disability



ACTIONS BY THE HANDLER AND SPECIAL EQUIPMENT THAT CAN LESSEN THE PHYSICAL AND/OR MENTAL WEAKNESS OF A PHYSICALLY DISABLED DOG

- Skin care and proper grooming including bathing the dog as recommended by a vet.
- The use of medications and creams as prescribed by a vet.
- Shave hair to avoid urine burn.
- Foam bed cushioning or a bed sore donut to avoid bed sores
- Moving the position of the dog often to avoid bed sores.
- Baby wipes for quick clean-up of dog when a full bath is not convenient.
- Handler has rubber gloves handy for sudden clean-up.
- Rear Lift Harness.
- Towels or blanket to lift the dog in an emergency.
- Dog Wheels or Walking Wheels.
- Waterproof pads.
- Diapers.
- Dog boots or socks to protect paws.
- Keep water bowl close to dog.
- If necessary, separate from other dogs as disability may be seen as a sign of weakness.
- Baby gates or pens to contain dog or for safety concerns to keep other pets away.
- Favorite toys close.
- Staying close to dog, don't leave it alone.
- Going outdoors for drives or short walks if possible.
- Move dog outdoors for fresh air and scents. Be sure to monitor dog often.
- Maintain a healthy weight.
- Maintain a healthy diet as recommended by vet.
- Adapt dog games like a scent game, puzzle, or throw a ball/toy close to the dog.
- Allow the dog it's private space – crate rest.
- Teaching non-verbal cues to hearing impaired dog.
- Teaching verbal cues to sight impaired dog.
- Teaching new cues to keep dog mentally stimulated.
- Swimming (Use life vest for dog).
- Stay active in Dog Scouts and bring to Dog Scout outings when possible.
- Be vigilant.
- Stay off the cell phone and give your dog quality time.

What actions and/or special equipment might be taken/used to help a dog with the diseases/disabilities you have researched?

For the Disabled Dog badge you will name and describe the use of at least 5 types of medical aids/adaptive equipment used to improve or maintain quality of life for the disabled dog



Rehabilitation exercises and actions that can reduce the physical disability.

- Cold Laser Therapy
- Water Therapy
- Medication as prescribed by a vet.
- Massage
- Acupuncture
- Chiropractor
- Start slowly as recommended by a professional.
- Continue daily.
- Lots of PRAISE. Your dog is still trying to please you though it cannot maintain a normal behavior.
- Dog Sit to Stand several times in a row to strengthen hind legs.
- Hold front paws and raise your dog to alternating standing and sitting positions.
- Step-ups on a platform.
- Dog spins on both sides to strengthen legs.
- Dancing
- Wobble board for balance.
- Walking over poles or a ladder placed on the ground.
- Swimming (Use life vest for dog).
- Maintain a healthy weight.
- Proper grooming - keep area clean, eyes, ears, limbs.
- Teaching non-verbal cues to hearing impaired dog.
- Teaching verbal cues to sight impaired dog.
- Teaching new cues to keep dog mentally stimulated.
- Decision whether X-ray, CT scan or MRI diagnosis is necessary. Diagnosis can be costly. Many dog physical therapists say that diagnosis is not a cure to a permanent or degenerative disability. This is a personal decision.

Know that every condition and ability to perform is different for every dog. DO NOT compare one dog's ability to complete an exercise to another dog. Too much stimulation can be just as dangerous as too little stimulation, if not more. Consult a pet professional for more information and help with your individual dog.

What rehabilitation exercises might be beneficial for a dog suffering the diseases/disabilities you have researched?

For the Disabled Dog badge choose 3 rehabilitation methods that cannot be demonstrated with your dog and describe how they are carried out



“Quality of Life” care activities that help keep the dog engaged

Many “Quality of Life” care activities are mentioned previously in this study guide. Here is a reminder of some of those activities:

- Keep water bowl close to dog.
- Favorite toys close.
- Staying close to dog, don’t leave it alone.
- Going outdoors for drives or short walks if possible.
- Move dog outdoors for fresh air and scents. Be sure to monitor dog often.
- Maintain a healthy weight.
- Maintain a healthy diet as recommended by vet.
- Adapt dog games like a scent game, puzzle, or throw a ball/toy close to the dog.
- Allow the dog it’s private space – crate rest.
- Swimming (Use life vest for dog).
- Stay active in Dog Scouts and bring to Dog Scout outings when possible.
- Start slowly as recommended by a professional.
- Continue daily.
- Teaching new cues to keep dog mentally stimulated.
- Lots of PRAISE. Your dog is still trying to please you though it cannot maintain a normal behavior.
- Stay off the cell phone and give your dog quality time.

What quality of life care activities do you think would benefit a dog suffering from the diseases/disabilities you’ve researched. Can you think of others not listed above?

For the Disabled Dog badge you will describe and explain 5 quality of life care activities that help to keep the disabled dog engaged



End of Life Decisions

Caring for a disabled dog can be rewarding though challenging. There will come a time when the inevitable decision must be acknowledged. Each person will make the decision for end of life based on your circumstances and needs. What is important to you? There are no judgements in Dog Scouts when making this difficult decision.

Here are some compassionate and loving thoughts that may help and comfort you in making this decision. Know that you are not alone during this time of sadness. Reach out to your family, friends, Dog Scout members, a professional or even a clergy to help you make this decision and heal.

A vet recommended to one of our DSA members that when you are staying home from work to care for your dog, when there is no cure for your dog's condition, then it is time to seriously make this decision.

- Find a support group.
- Spiritual guidance, clergy, psychic, animal communicator.
- Listen to your dog.
- Ask your dog.
- Tell your dog you will be fine when it is gone.
- Financial concerns play a major factor. Do not allow your financial situation to make you guilty.
- Everyone is different and entitled to their own thoughts about a dog.
- Stress in caring for the dog.
- Stress and pain visible in dog's behavior.

Final thoughts on disposing of body. Again, this is a very personal decision, no judgements, based on what your philosophy is.

- Let the vet dispose of body.
- Cremation and urn.
- Cremation and dispose of ashes in special place.
- Pet cemetery.
- Taxidermy.
- Burial in special place (check local ordinances).

For the Disabled Dog badge describe your personal criteria in making important and difficult end of life decisions.