



## CANINE MEDICAL CONDITIONS

### PREVENTATIVE CARE

Preventative care practices can help to avoid medical crises in the future. By making the long-term health of our pets a priority on an ongoing basis, we can avoid many medical problems and increase the well-being and longevity of our furry and feathered family members. The following are a list of suggestions and resources that may be useful to pet owners to both enhance overall pet health and develop good preventative care practices.

- **Spay or neuter.** By spaying and neutering our dog, we will decrease their chances of getting mammary tumors and prostate disease. We will reduce the likelihood that they will wander off and get injured or lost and also avoid unwanted pregnancies. Not only are pregnancies potentially risky, but additional puppies will add to an already significant overpopulation problem and also increase our financial burden. Charleston Animal Society offers a free or low-cost spay and neuter program, so it is well worth taking advantage of this and sparing our dog disease, injury or death.
- **Vaccinate.** By vaccinating our dog, we decrease their chance of getting serious and preventable illnesses. Many communities also offer low-cost vaccination clinics, so be sure to ask your Veterinarian about these services.
- **Feed a good quality diet.** Consult with your Veterinarian to determine the best diet for your dog. Spending a little extra money on a quality product can promote long-term good health.
- **Use preventative heartworm medications.** Heartworm can be a devastating and fatal diagnosis so ask your Veterinarian about preventative medications.
- **Get regular veterinary checkups.** Problems are easier to detect and treat when they are caught in the early stages, and regular checkups will help ensure the long-term health of our dog.
- **Regular exercise,** fresh air and sunshine is imperative to our dogs' health. Ask your Veterinarian how much exercise your particular breed needs to ensure it stays healthy and happy.
- **Maintain proper weight.** Avoiding obesity can help prevent associated conditions like joint problems, heart problems, and diabetes, so it is critical that our dog maintain a healthy weight. Ask your Veterinarian about the ideal weight for your dog.
- **Leash training.** Ensuring your dog is on a leash in non-enclosed, public areas, reduces the chances of it being injured by a car or getting lost.
- **Microchipping.** If your dog gets lost for any reason, a microchip will help animal control to identify who he belongs to and return them safely to you. ID tags are also a good way of ensuring your dogs' safe return.
- **Use appropriate flea and tick control.** Ask your Veterinarian for recommendations about these products. There are many products that can be purchased without veterinary consultation, but to avoid problems, its best to ask your Veterinarian's advice.



- **Dental Care.** Brushing your dogs teeth on a regular basis, with a toothpaste formulated for dogs, can help avoid expensive and serious dental problems later on. Never use toothpaste designed for human use, it is potentially poisonous to dogs.
- **Socialize and train your puppies early.** This will help avoid confrontations with other dogs later in life and will also help avoid behavioral problems which can be difficult to deal with in adult dogs.
- **Spend time with your dog every day.** Dog are members of the family, and spending quality time with them will help their emotional well-being and enhance their overall health.
- **Never leave your dog in the car on a hot day.** Temperatures in the car, even with the windows down, can reach fatal levels within minutes. If the outside temperature is over 68 degrees Fahrenheit, it is already unsafe to keep the dog in the car!
- **When travelling, keep your dog in a carrier** or restrained with a special dog seatbelt (not a human seatbelt). This will help prevent your dog from being injured in an accident. Even at low speeds, unrestrained passengers in the car (whether human or dog) can be seriously injured.
- **Consider insuring your dog with a dog insurance program.** There are several national dog insurance programs which will cover your dogs needs in the event of an accident or illness. These programs do not cover care at the time of treatment, which means you will need to be ready to pay for medical care when your animal is treated. In addition, these plans have restrictions on which procedures are covered by policies, so read the policy limitations carefully. These policies are not a substitute for having a savings account available to cover needed medical care.
- **Have a savings account for your dog.** This is a critical part of preventative care for your furry companion. All dogs will need medical care throughout their lifetimes, and costs for medical care are continually rising. Vets typically require payment up front before your animal can be treated, so it is important to prepare for emergencies and illnesses ahead of time.
- **Do not use any toxic pesticide, fungicide, or fertilizer** in your yard where your dog has access to them. If you must use these products, ensure you do so very carefully, and keep your dog indoors.
- **Store all potentially toxic household products** including detergents, etc. out of reach of your dog.
- Bring your car to the gas station to change the antifreeze rather than have this deadly poison anywhere around your house, yard, or garage. If you must keep this product (or any other dangerous product, like transmission fluid) around your house, make sure that you keep your dog away while it is being used and use extreme care to clean up thoroughly afterwards. Do not spill these products into the gutters or street—other dogs in the neighborhood may be exposed to these dangerous poisons and you may be liable for their injuries.
- **Be mindful of your dogs while we are cooking**—keep them away from the stove or other potential dangers in the kitchen.
- **Keep all drugs for humans away from your dog,** including aspirin, Tylenol, and all other prescription medications – these can be fatal. Ask your Veterinarian before administering any medication to your dog.

## DIABETES

Diabetes in dogs is a manageable disorder that once diagnosed can be successfully controlled and relatively easy to maintain. Many diabetic dogs can lead happy, healthy lives!



It is a complex disease caused by either a lack of the hormone insulin or an inadequate response to insulin. After a dog eats, his digestive system breaks food into various components, including glucose—which is carried into his cells by insulin, a hormone secreted by the pancreas. When a dog does not produce insulin or cannot utilize it normally, his blood sugar levels elevate. The result is hyperglycemia, which, if left untreated, can cause many complicated health problems for a dog.

Diabetes is most common in obese dogs. Female dogs also run a greater risk of developing diabetes later in life (6-9 years of age). Some breeds are also more susceptible to the disease, including Australian terriers, standard and miniature schnauzers, dachshunds, poodles, keeshonds and samoyeds. Juvenile diabetes can also be seen and is particularly prevalent in golden retrievers and keeshonds.

### **Types of Diabetes in Dogs**

Diabetes can be classified as either Type 1 (lack of insulin production) or Type II (impaired insulin production along with an inadequate response to the hormone.)

The most common form of the disease in dogs is Type 1, insulin-dependent diabetes, which occurs when the pancreas is incapable of producing or secreting adequate levels of insulin. Dogs who have Type I require insulin therapy to survive. Type II diabetes is found in cats and is a lack of normal response to insulin.

### **Preventing Diabetes**

Although a certain form of diabetes—the type found in dogs less than a year of age—is inherited, proper diet and regular exercise can be very effective in helping to prevent onset of diabetes in older dogs. Aside from other negative health effects, obesity is known to contribute to an ability to respond normally to insulin.

### **Common Causes of Diabetes**

The exact cause of diabetes is unknown. However, autoimmune disease, genetics, obesity, chronic pancreatitis, certain medications and abnormal protein deposits in the pancreas can play a major role in the development of the disease.

### **Most Common Symptoms**

The following symptoms should be investigated as they could be indicators that your dog has diabetes:

- Change in appetite
- Excessive thirst/increase in water consumption
- Weight loss
- Increased urination
- Unusually sweet-smelling or fruity breath
- Lethargy
- Dehydration
- Urinary tract infections
- Vomiting
- Cataract formation, blindness
- Chronic skin infections



If your dog is showing any of the clinical signs listed above, please see your veterinarian right away!

If diabetes progresses without being treated, dogs can develop secondary health problems like cataracts and severe urinary tract problems. Ultimately, untreated diabetes can cause coma and death.

## Diagnosing Diabetes

In order to properly diagnose diabetes, your veterinarian will collect information about your dog's clinical signs, perform a physical examination and check blood work and a urinalysis.

## Treatment for Diabetes

Diabetes treatment is based on how severe the symptoms and lab work are and whether there are any other health issues that could complicate therapy. Each dog will respond a little bit differently to treatment, and therapy is tailored to the individual dog throughout his/her life.

- Some dogs may be seriously ill when first diagnosed and will require intensive hospital care for several days to regulate their blood sugar.
- Dogs who are more stable when first diagnosed may respond to oral medication or a high-fiber diet that helps to normalize glucose levels in the blood.
- For most dogs, insulin injections are necessary for adequate regulation of blood glucose. Once your pet's individual insulin treatment is established, typically based on weight, you'll be shown how to give him insulin injections at home.
- Spaying your dog is recommended, as female sex hormones can have an effect on blood sugar levels.
- Your veterinarian may also show you how to perform glucose tests at home.

## Treating your dog at home

- As your veterinarian will explain, it's important to always give your dog insulin at the same time every day and feed him regular meals in conjunction with his medication. This allows increased nutrients in the blood to coincide with peak insulin levels, and will lessen the chance that his sugar levels will swing either too high or too low. You can work with your veterinarian to create a feeding schedule around your pet's medication time.
- It is also important to avoid feeding your diabetic dog treats that are high in glucose.
- Regular blood glucose checks are a critical part of monitoring and treating any diabetic patient, and your veterinarian will help you set up a schedule for checking your dog's blood sugar.
- Please also consult your veterinarian about a consistent, daily exercise program and proper nutrition for your dog to help keep his weight in check.

## BLINDNESS

Many people say their blind dogs have taught them a great deal about courage, joy and love. With a little knowledge and ingenuity, you can enhance your blind dog's quality of life and have a great time together. Opening up your home to a blind dog can be a wonderful experience!



Dogs do not rely on their sense of vision to the same extent as do humans. So, although a dog's vision is superior to humans in detecting moving objects in dim lights, dogs cannot focus well on near objects, are partially color-blind, and have poor detail vision. This vision suits their original need as nocturnal hunters, but since the majority of domesticated dogs no longer hunt to survive, blindness does not interfere with their domesticated primary function as being a companion and pet.

A blind dog usually finds new ways to navigate in their environment and overcomes challenges by using their remaining abilities, living a happy and fulfilling life!

Vision loss is most common in elderly dogs of all breeds. Progressive retinal atrophy is most common in cocker spaniels, collies, Irish setters, Norwegian elkhounds, schnauzers and poodles, but can affect any breed. Collie eye anomaly usually affects collie breeds and retinal dysplasia is commonly seen in beagles and Labrador retrievers. Breeds that are predisposed to glaucoma include American cocker spaniels, basset hounds, Chow Chows and Labrador retrievers. There are many books and web sites devoted to blind dogs and their care.

### **Preventing Blindness**

As a dog owner, you should never let eye infections go untreated and any signs of diabetes should be investigated.

Cataracts should also be monitored by a veterinarian.

### **Recognizing the Symptoms**

Like dogs who can see, blind dogs have a highly developed sense of smell, so they use smell and their other senses to compensate for their lack of vision. If the loss of sight is gradual, behavior changes may be subtle and not noticeable until the dog is completely blind.

Sudden blindness can result in more dramatic behavior changes - your dog may become disoriented and hesitant when walking, and bump into things.

Here are a few signs that your dog may be gradually losing his sight:

- Misjudging heights and bumping into walls, furniture or other objects
- Confusion in new surroundings
- Reluctance to move from one spot
- Not being able to find food and water bowls
- General clumsiness and disorientation
- Easily startled
- Eye rubbing or squinting
- Cloudy, discolored, inflamed or tearing eyes and a large pupil

### **Main Causes of Blindness in Dogs**

Though blindness can be a congenital condition or part of the aging process, the following conditions can also lead to vision loss in dogs:

- Progressive retinal atrophy
- Suddenly acquired retinal degeneration syndrome
- Collie eye anomaly
- Retinal dysplasia and detachment
- Diabetes mellitus
- Stroke
- Untreated eye infections
- Glaucoma
- Dry eye syndrome
- Retinal pigment epithelial dystrophy
- Cataracts
- Uveodermatologic syndrome



## **If you even have a small suspicion your dog's eyesight might be failing, see your veterinarian right away!**

Very often, one eye will fail first and the other will compensate, which makes it difficult to tell there is any loss of vision. If you see any changes in your dog's orientation or ability to locate places and objects, go for a check-up.

### **Diagnosing Blindness**

Your veterinarian can give your dog a preliminary exam and, if necessary, recommend a veterinary ophthalmologist who will perform a complete exam, during which he'll look closely at a dog's retina and the outer parts of his eye.

### **Treatment for Blindness**

Loss of vision in dogs can be reversible, depending on the cause. Cataracts, which cause mild to total vision loss, can be removed by surgery. Veterinary ophthalmologists commonly perform cataract removals and are able to restore vision in their canine patients.

### **You and Your Dog - Adapting to Blindness**

Blind dogs, just like dogs who can see, require time, patience and energy devoted to training and socialization to help them become well-adjusted and well-mannered. As with any dog, it's important to develop a trusting relationship and build the dog's confidence through positive interactions.

Many pet owners and their families have a misunderstanding as to how well blind dogs function as pets. Many researchers have studied the effects of blindness in dogs. Their research provided evidence that with time and proper education of the pet owner, most blind dogs, and their owners adapt well to the loss of the pet's vision.

Dogs that go blind suddenly (such as those with Sudden Acquired Retinal Degeneration [SARD] or retinal detachment) require a longer period of time to adapt and adjust to loss of vision. There will be a longer period of adjustment for the dog and the owner when vision is suddenly lost. Dogs that go blind more slowly over an extended period of time (such as those that have Progressive Retinal Atrophy [PRA]) adapt more easily.

Oftentimes the owner doesn't know that the dog has lost all vision because the dog functions remarkably well in a familiar environment despite the loss of vision. The dog usually adjusts more each day with progressive loss of vision. The psychological adjustment for an owner that is unaware that their dog is progressively losing vision over time, or that their dog is blind, can be difficult. However, the quality of life is exceptional for most blind dogs once the dog has adapted to being blind.

### **Your dog at home**

If it's the first time you're bringing your new dog home, try to be sensitive to how adaptable your new family member is, and be patient as they learn about their new environment. Give extra attention and TLC, providing lots of reassurance and praise, especially for elderly pets.

You can help your dog feel secure in their surroundings by providing stable, accident-free environments:

#### **Inside the house**

- Avoid moving the furniture.
- Block off steps by using a baby gate across the doorway
- Don't leave boxes, toys or other objects in walking paths.
- Cover sharp corners and objects with soft insulation.
- Speak to your dog when you enter the room and before petting or touching them.
- Let them smell visitors' hands before they touch your pet.



- Mark different rooms with different scents so that your dog can use their sense of smell to recognize where they are.
- Mark the tops and bottoms of staircases with a bit of perfume.
- Use rugs to texture rooms, allowing your dog to use their sense of touch to get their bearings.
- Carpet runners can also be used to guide your dog through safe areas.
- Carry or lead your dog up and down stairs and block access to them when you're not using them.
- Place barriers around hot tubs, pools and other dangerous and off-limits areas.
- Make sure they have their own safe place they can get to easily.
- Buy toys with sound and scent.
- Keep food and water bowls in the same place and put a rug under the water bowl. The texture change will let your dog know where the water bowl is.
- Be very vocal and be aware of your different tones.
- Don't baby or pity your dog—simply help them adjust.

### **In the back yard**

- First, help the dog to learn the layout of your yard by walking them through each space on a leash, offering treats and praise.
- To encourage them to explore, you can scatter kibble around the yard.
- The dog will search for the kibble, following the scent.
- It's a good idea to set up a "home base" containing the dog's bed, crate, and food and water bowls
- In your yard, trim bushes that have eye-height branches.
- Place a trail of sand, bark chips, mulch or landscape rocks around trees and unsafe areas. The difference in texture on the ground will warn the dog that an obstacle or something unsafe is ahead.
- Fence off any in-ground swimming pool or fish pond.

### **Outside of the home**

- Use identification: Microchip your dog and have them wear an ID tag with "blind dog" noted on it.
- Use a GPS tracker collar on your dog, especially if you're traveling.
- Always keep your dog on a leash when you're out walking. Use a harness rather than a collar for less stress to the dog's neck and eyes.
- Allow your dog to be off-leash only when you're in an enclosed area.
- Use eye protection for your dog (dog goggles) when you're outdoors, especially in places where there are low branches.
- Train your dog to be comfortable in a crate; it can be very useful in behavior management and training.

### **Communicate using sound**

- To let your blind dog know when someone is near, attach a small bell to your shoe or pant leg and to the collars of any other pets in the house.
- Speak to your dog when you enter or leave a room.
- To avoid startling your dog, speak to them when you are approaching to touch them (especially while they're sleeping).
- Leave a TV or radio playing softly near your pet's bed or favorite resting place. The sound is soothing, and may help prevent excess barking.
- Enlist help from friends, family or neighbors to help socialize your dog. Before allowing them to approach or touch your dog, make sure your dog is aware that new people are present. Blindness doesn't have to significantly affect a dog's quality of life. If you provide a safe, stimulating environment, a blind dog can continue to enjoy and remain engaged in life and the world around him or her.

### **Unfamiliar environments**

If you are leaving your dog in an unfamiliar environment for a while, such as a friend's home or a grooming shop, bring a piece of clothing with your scent on it to place near your dog and provide reassurance.

## Training

Many people think that training a blind dog is difficult, but that isn't true. Clicker training is a simple style of training that uses a clicking sound as a reward marker to tell the dog when he or she has gotten it right. Clicker training fits in nicely with a blind dog's listening skills. A positive reinforcement method such as clicker training lets your dog have fun while learning and also encourages the development of a trusting relationship with you. Before you start training, it's helpful for you to know what cues your dog already knows. Often, blind dogs are taught to respond to the cue "watch," so they can avoid things in their way, and the cues "step up" and "step down" so they can safely navigate curbs and stairs. Knowing what cues your dog knows will give you a foundation on which to build.

## Introducing your dog to other pets

Just as you would with any new pet, you'll want to introduce your blind dog slowly to other pets in the household.

You can initially separate them using a baby gate or a crate, or introduce them on harness and leash until you are sure that they are comfortable with each other. Sighted pets often know that something is different about a blind dog, and many will take on the role of a "seeing-eye friend."

When you're out in the world, keep in mind that a blind dog cannot see the body language that dogs use to communicate. So, when your dog is around other dogs, observe the body language of all the dogs to pick up on any discomfort and avoid problems.

## Play Time

Blind dogs enjoy nose work or scent games, defined as any activity in which the dog uses their nose to locate a target scent or odor. These games are not only fun for blind dogs but also help to develop their self-confidence.

Here's an example:

- Try scenting a tennis ball with vanilla or another smell that your dog finds enticing.
- Bounce the ball close enough for your dog to follow the sound or roll the ball through grass so that your dog can follow the scent.
- Toys that squeak or that "talk" or make animal sounds when touched are also lots of fun for a blind dog.

## DEAFNESS



Deafness in dogs, generally, does not significantly affect a dog's quality of life. Deaf dogs, like most dogs, are incredibly intelligent and can learn basic commands and tricks by hand signs. Although, they must be kept on a leash when out of the yard or house.

Deafness is most common in older dogs, particularly Australian shepherds and Dalmatians, and can either be a temporary partial or total loss of hearing—due to a wax build-up in the ear canals—or permanent hearing loss due to a host of causes such as severe, untreated ear infections, congenital defects, old age and injuries. One or both ears may be affected. There are

many books and web sites available with a great deal of information on caring for deaf dogs.

## Prevention

The incidence of deafness in dogs who are genetically predisposed to the disability, can be decreased through responsible breeding—that is, by removing hearing-impaired dogs from the breeding population. However, in certain breeds, such as Dalmatians, dog parents with healthy hearing can give birth to puppies prone to hearing loss. It's

also a good idea to keep your dog's ear canals clean with frequent visits to the veterinarian and to immediately investigate a possible ear infection or suspected hearing loss.

### **Most Common Causes and Affected Breeds**

- Permanent hearing loss can be caused by old age, drug toxicity, injury or untreated ear infections.
- A dog can also be born without the ability to hear, because of a genetic or anatomical problem.
- Temporary hearing loss can be caused by a wax build-up in your dog's ear canals. This is especially common in dogs with narrow ear canals, such as poodles.
- Cocker spaniels, terriers and other breeds with a lot of hair around their ears can have their ear canals blocked by hair, which collects wax and eventually forms a plug.
- A foreign object in a dog's ear canal can also impede the ability to hear.
- The highest incidence of inherited deafness is seen in the Dalmatian. Other breeds with various degrees of piebald spotting are the beagle, bull terrier, English bulldog and English setter, all of whom may have a higher incidence of deafness than the general population of dogs.
- Breeds with merle coloring who are at increased risk for deafness include the Australian shepherd, rough collie, Shetland sheepdog and harlequin Great Dane.

### **Recognizing the symptoms**

The following signs may indicate that your dog may be suffering from some form of hearing loss:

- Your dog doesn't know you're in the room until you physically touch them or they see you.
- Your dog turns the wrong way when you call them.
- They show no response to outside stimuli, such as the doorbell ringing or other dogs barking.
- Their head shakes.
- They show no response or seem confused when given familiar vocal commands.
- They bark excessively.
- They paw their ears or appear to have itchy, painful ears.
- A smelly discharge comes from their ears.



You can test your dog's hearing by stepping quietly behind them and clapping once loudly to check their response.

### **Diagnosing Deafness**

Your veterinarian can initially examine your dog's ear canal for wax accumulation, infections, inflammation, injury or foreign object. For more serious cases, one common procedure is BAER (Brainstem Auditory Evoked Response). During the procedure, small electrodes are placed under the skin of a dog's scalp to measure (visibly on a computer screen) his auditory response to outside stimuli.

### **Treatment of Deafness**

Only temporary deafness can be reversed.

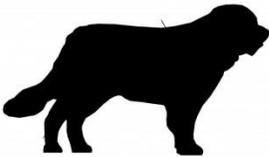
- If your dog has wax build-up in their ears, your veterinarian may have you clean their ears daily with a prescription wash.
- If the hearing loss is caused by a build-up of hair in their ears, a veterinarian can remove the hair.
- Infections that cause hearing loss should be treated with appropriate medication.

Permanent hearing loss cannot be reversed, but your pet can still have a good quality of life.

### Communicate with visual and auditory signals

- Love and empathy are the first steps. Don't get frustrated that your dog no longer responds to you the same way they used to.
- Train your dog to understand hand signals. It's a good idea to use signs that are simple and can easily see from far away.
- Keep your dog safely leashed while outside. Never let a hearing-impaired dog roam outside on their own—they won't be able to hear traffic.
- If you want to get your dog's attention inside the house, the vibration from a loud stomp may make them take notice.
- A flashlight or laser penlight can also be used to get their attention.
- Make sure your dog knows when you've come into a room and when you're leaving by tapping them gently on the back or shoulder.
- Attach a bell to your dog's collar so that you can hear them if they escape or become lost.

## EPILEPSY & SEIZURES



Epilepsy is the most common neurological disease seen in dogs, affecting up to five percent of the canine population. The diagnosis of epilepsy potentially refers to any one of a number of conditions that are characterized by the presence of chronic, recurring seizures.

These conditions may be inherited, caused by structural problems in the brain, result from metabolic problems or a toxic exposure, or stem from an unknown cause. Determination of an appropriate treatment regimen for canine epilepsy depends on an accurate diagnosis of the type and cause of seizures, only after which appropriate medical therapeutic options can be identified.

### Recognizing a seizure

Observing your beloved dog in the spasms of a seizure the first time is a harrowing experience—something you don't want to ever happen again.

At the onset of a seizure, some dogs will get a dazed look in their eye or seem a little unsteady on their feet. Dogs might also hide, seem confused or stare off into space. There are different types of seizures, some more noticeable than others.

- **Grand mal** is typically where a dog will fall on the ground and is usually unconscious.
- "**Partial or petite mal**" only involves a body part such as a leg or head twitch without being unconscious.
- **Automatisms** are seizures, involving a repetitive behavior that may look like a voluntary behavior, such as barking, chewing, or paddling the legs.
- **Sensory seizures** involve the dog perceiving a sensory stimulus that is not actually occurring, which could be reflected in a change in behavioral pattern such as "fly biting" or staring at an empty space.
- **Reflex seizures** occur consistently after a particular exposure, such as to a loud noise, a flashing light, or a more complex movement or behavior, have also been reported in dogs

## What to do when your dog is having a seizure

Most of the time, the seizure is over by the time you get to the veterinarian, but it's important to observe what is happening very carefully, as you will need to describe to the veterinarian in detail what you saw during your dog's seizure. This is very important for a correct diagnosis.

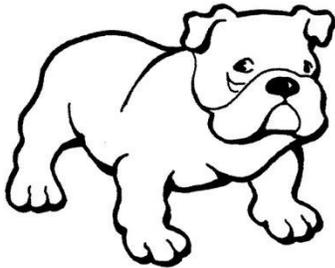
During a Seizure:

- Don't let yourself be hurt. Avoid the dog's mouth and head.
- Don't let your dog hurt himself. Move the dog away from stairs, furniture and sharp objects.
- Don't put anything in a dog's mouth. Dogs won't swallow their tongues.

After a Seizure:

- Do watch your dog to make sure he recovers. This may take minutes to hours.
- Do let him hear your voice and feel your touch. When dogs wake from a seizure, they need reassurance.
- Do remain calm and speak softly. Animals are better at sensing feelings and emotions than humans. If you're anxious, your dog will also become anxious.
- Do record when the seizure occurred, how long it lasted and what the dog looked like. This helps your veterinarian manage the problem better.

If a seizure lasts more than four or five minutes, or if there are three or more seizures within a 24-hour period, consider this an emergency. The longer a seizure goes on, the more likely it is that the dog's body temperature goes up increasing the potential for brain damage.



### Describing Seizures

When observing seizures, it is important for dog owners to keep a diary of detailed information including:

- affected body parts
- when seizures occur
- how often seizures occur, and
- how long they last

Doctors and owners should also pay close attention to how dogs behave after a seizure has passed. Although some canines will quickly return to normal, others will experience difficulties standing or moving; problems understanding visual, aural, or other stimuli; or other changes in behavior. These symptoms may last for varying amounts of time, and can affect treatment choice.

In some cases, seizures will occur as the result of exposure to a specific stimulus, such as an illness, exposure to a toxin, or problems with metabolism. Any potentially precipitating events should be brought to the attention of the treating veterinarian; as such reactive seizures are not generally treated with standard anti-epileptic drugs.

### Types of Canine Epilepsy

It is not always possible to identify the cause of canine seizures; however, canine epilepsies can generally be categorized into one of two types.

- **Primary epilepsy**, or idiopathic epilepsy, is defined as epilepsy without an identifiable structural cause and having an assumed genetic origin. Repeated seizures in 1-5 year old dogs with a normal neurologic examination, where there are no known structural abnormalities of the brain, metabolic diseases, or toxin exposures, are often assumed to be a form of primary epilepsy. The designation of idiopathic epilepsy suggests that the seizures are of unknown origin. However, the causes of such epilepsies can sometimes be determined, for example when seizures are the result of a specific genetic defect known to occur in certain breeds.

- **Structural epilepsy** is the diagnosis for seizures that occur because of observable damage to or malformations of the brain. Structural epilepsy is also referred to as secondary epilepsy, because the condition is the result of another problem rather than the primary disease.

For example, structural epilepsy may occur after an inflammatory disease of the brain, growth of an intracranial tumor, or after trauma to the head. It can also be the result of congenital malformations or a vascular event, such as a stroke. The brain changes that cause structural epilepsies can sometimes be detected using an MRI or by analysis of cerebrospinal fluid.

Testing for structural epilepsy may be indicated if a dog exhibits neurologic abnormalities between seizures or if the dog falls outside the typical age range of onset for primary epilepsy. Interictal changes are less common in dogs with primary epilepsy.

### **Causes of epilepsy**

- A large number of genetic mutations have been associated with epilepsy. In humans, the inheritance of epilepsy is generally complex, meaning that it involves interactions of one or more genes with each other as well as potentially with environmental factors, and this is likely true of epilepsy in dogs as well.
- The specific biochemical mechanisms that cause seizures to occur are not yet fully understood in either dogs or humans, although seizures are known to result from dysfunction in the brain's electrical activity. It is generally believed that epileptic seizures are caused by an imbalance between various activity centers in the brain, leading to either excessive brain activity or activity that is unusually depressed. However, in the absence of structural damage or metabolic insults, the causes of such dysfunction are not clear.

Further research into the specific causes of various forms of epilepsy is still needed; current understanding is incomplete.

### **Managing Dogs with Epilepsy**

Although there is nothing you can do to protect your dog from having a seizure, there are some things that may help:

- If your dog is diagnosed with a seizure disorder and is on medication, make sure they get their medications and don't skip dosages
- If there are circumstances that trigger a dog's seizure, avoid those situations.
- Any breed of dog can have seizures; however, some breeds are more susceptible to seizures than others. This group includes: Schnauzers, German Shepherds, Collies, Retrievers, and French Bulldogs.
- Knowledge is power. The more information you have about dogs and seizures, the better you will be at handling the unexpected real life situation of seizures in your dog.

Epilepsy in dogs is usually managed with Anti-epileptic drugs (AED) prescribed by your veterinarian. The goal of veterinary treatment is to reduce the severity and frequency of the seizures. Your veterinarian will advise you on the correct dosage. **Do not give your dog any medications without a prescription from a veterinarian.**

Anti-epileptic drugs (AED) primarily work by inhibiting certain neurotransmitters and stimulating others. Not all drugs work equally well in all animals, and their safety profiles are somewhat variable. A single, isolated seizure is not usually seen as a reason to begin treatment with AEDs.

Treatment with these drugs is usually necessary when multiple generalized seizures have occurred within a 24 hour period, a dog has had at least two seizures within a six month period, or the dog has unusual or severe signs during the postictal period.

## NEUROLOGICAL IMPAIRMENT

Most of our pets will live happy and healthy lives without ever experiencing a complex neurological problem. For those that do, though, there is good news.

Advances in veterinary neurological science and increased access to board certified veterinary neurologists, combined with improved imaging and other diagnostic techniques, offer new hope for appropriate diagnosis and treatment.

Still, as pet owner, you remain on the front lines of your pet's neurological health as the person most likely to notice critical early signs that something is amiss.



### Warning signs of Neurological Impairment

Warning signs include, but are not limited to, the following:

- **Neck and/or Back Pain.** Your pet might cry out or yelp when you touch an impacted area. More likely, you'll need to look for other pain clues, including a reluctance to turn the head, decreased willingness to jump up, climb stairs or even walk. You might notice a low tail carriage, reduced tail wagging, and difficulty posturing to defecate.
- **Balance Issues.** This includes lack of coordination, head tilt, leaning, circling, or falling to one side.
- **Abnormal eye movements.**
- **Disorientation.** Evidence includes staring into space and/or getting stuck in corners.
- **Confusion.** Your pet may appear generally confused or act as if he or she doesn't recognize you.
- **Mobility issues, particularly in the hind legs.** Watch for stumbling episodes, apparent weakness, lameness, trouble standing and (in the extreme) paralysis.
- **Phantom Scratching.** Scratching the air, often near the ear, neck or shoulder region, without making contact with the body.
- **Seizures.**
- **Pain.** Crying out, holding up limb, low head carriage, tense muscles, decreased/limited mobility, and changes in appetite are all potential signs of pain.
- **Other signs.** Difficulty swallowing or chewing, decreased facial movement, voice changes, muscle atrophy of the head, collapsing, hearing loss, behavior changes (confusion, pacing, wandering), and/or dropped jaw.

If your pet exhibits one of more of these warning signs – even episodically — or anything else that seems unusual, please contact your primary veterinarian as soon as possible for advice regarding next steps. Depending on the perceived severity of the situation and the time of day it occurs, next steps may include a regularly scheduled exam with your primary veterinarian, an evaluation by a veterinary neurologist and/or an emergency visit for immediate evaluation.

## PHYSICAL DISABILITY AND DEFORMITY

Elderly, disabled and handicapped dogs around the world are living longer, enjoying happy and healthy lives and providing inspiration and hope to many disabled children, adults and pet owners alike.

A missing limb, burn scars, etc., are not generally a significant problem for a dog or his owner. So, whether your dog was born with a physical deformity or has acquired one over time, with a little bit of ingenuity, he can live a long, healthy and fulfilling life. Thanks to advances in healthcare products for handicapped pets, what was once a potential tragedy is now only a mere inconvenience. Innovative products like rear and front harnesses, support slings, dog leg splints, and dog carts (or wheelchairs for dogs) offer the opportunity for a handicapped pet to enjoy many years of quality life.

## Recognizing the symptoms

Some dogs, as they get older, can develop difficulties in mobility and some may develop a disease known as *degenerative myelopathy*, a progressive disease of the spinal cord that causes paralysis. Whatever the cause may be, it's important to be able to recognize the signs.

Here are some of the warning signs that your pet may be developing a handicap:

- Inability to stand up without assistance
- Difficulty going up stairs, or getting into a car
- Difficulty walking or running, limping or whining
- Uncontrolled or accidental urination, urinating in bed
- Hesitancy to walk across a slippery wooden floor
- Unusual growths on any part of the pet's body
- Change in weight, eating habits, or temperament
- Weakness due to recovery from a medical procedure

**If your pet exhibits any of these signs or you think your pet has been in an accident, it's important that you take them to see a veterinarian.** Your veterinarian will be able to recognize any problems immediately, and advise you of the solutions available.

## Dogs with Missing Limbs

Dogs with missing limbs easily adapt over time, and once fully recovered will usually be running around like any other four legged furry.

## Understanding your options

- Your veterinarian will be able to offer advice and suggest some potential solutions. They may also be able to supply you with information on various online resources for support.
- Become an expert yourself in the affliction, by doing your research. It is possible that in your research, you may find information that will be invaluable to you, your veterinarian, and of course, your pet.
- The Internet provides unlimited forums, mailing lists, resources and support groups that can not only provide support, but help you with caring for handicapped pets. Becoming a member of various groups enables you to share your experiences and concerns and speak with people who have experienced your situation.
- There are a number of great products available for purchase to help your pooch to get around more efficiently.

## Disability Products

**The Rear Harness** allows you to assist your dog whilst walking, by lifting his weight off his rear end. It is more like an article of clothing with leg-holes that wraps completely around the back end of your dog while allowing freedom for urinating and defecating.

If you invest in a rear harness, keep in mind that fit is important. Your dog will need to be measured to determine the correct size.



**Front Harness** is very similar to a rear harness. It allows you to provide extra support to help your dog stand and walk. The harness can also reduce your back strain, especially when lifting and carrying heavier dogs.



**Overall Walking Support Slings** are ideal for assisting pets that cannot support their entire weight. They allow you to lift your pet with ease and protect your back from unnecessary strain. Many pet owners use a towel under the animal's belly to help him stand, or give a little extra support. Although this does give a dog the necessary support, it can be uncomfortable for you to bend over to hold the ends of the towel.



**Dog carts and wheelchairs** attract a lot of attention when they walk down the street. It's quickly becoming commonplace, though, to see a happy dog in wheels running through the park, chasing a ball or playing with other dogs. A dog wheelchair uses wheels to support the back end of a handicapped dog while the healthy front legs provide the propulsion. Dog carts are custom built based on careful measurements. Different models provide support in several ways and some research is required to choose the right cart for your animal. Carts come in rear, front, and quad support.

**Leg Splints** Injuries to the lower limbs of small animals frequently need to be splinted or braced. Leg Splints are modeled after the human splints for lower leg, ankle and foot injuries. Dog splints are positioned behind the leg and are adjustable, using Velcro straps placed over the front of the leg.



**Pet boots** have a wide range of uses including protection from road chemicals, preventing abrasions, mud control, and relief from hot pavement. Pet Boots are suitable for handicapped pets to keep them from sliding on hardwood floors, protecting wounds, and adding support for the foot.

**Pet Diapers.** It's not unusual for older or injured dogs to become incontinent. This causes a number of problems for both the dog and caretaker. Often an incontinent dog is no longer allowed in bed and is kept confined when left alone so as not to soil floors and furniture. A Pet Diaper solves this problem. Pet Diapers are available in washable and disposable form.

## MEDICATIONS

When your pet has a medical condition, your veterinarian might prescribe one or more medications intended to manage, treat or cure the problem. Although there are some veterinary-specific drugs, many of the drugs used in veterinary medicine are the same as those used on people.

**Never give your dog medication that has not been prescribed by a veterinarian.** For example, did you know that one regular-strength ibuprofen tablet can cause stomach ulcers in a ten-pound dog?

### Commonly used medications

The list below contains the most commonly used types of medications in dogs, but is by no means a complete list of all of the types of medications used in veterinary medicine.

- **Antibiotics:** these are drugs that kill microbes, such as bacteria and yeast, and are used to treat infections. They don't kill viruses, but they are sometimes prescribed to treat secondary bacterial infections that can occur when an animal is ill from a viral infection. Examples in dogs and cats include penicillin, trimethoprim-sulfa, cephalixin and enrofloxacin.
- **Non-steroidal anti-inflammatories:** these common drugs reduce swelling, inflammation, pain and lameness. Examples include carprofen, deracoxib, firocoxib, and meloxicam.
- **Opioid pain relievers:** these medications are generally derived from morphine and can be potent pain relievers. Examples include oxycodone, hydromorphone, butorphanol, meperidine and fentanyl. Most of these drugs are controlled substances because of their addictive potential.
- **Steroids:** steroids have many different uses. They can be potent anti-inflammatories and are frequently used to reduce allergic and anaphylactic reactions. They are also used at high doses to suppress the immune system. Examples include prednisone, prednisolone and dexamethasone.
- **Antiparasitics:** these products are intended to prevent, repel or kill internal or external parasites such as intestinal worms, intestinal protozoans (Giardia, etc.), heartworms, fleas and ticks.
- **Behavior-modifying drugs and sedatives:** these drugs are used to quiet anxious pets or help in reducing anxiety associated with various behavioral issues in pets, prepare pets for anesthesia, and to reduce pet movement during delicate procedures. Examples include diazepam, xylazine, acepromazine and midazolam.
- **Hormones and other medications used to treat specific conditions:** Examples include insulin used for diabetes treatment, methimazole or levothyroxine for abnormal thyroid hormone levels, and heart medications such as atenolol, digoxin, and pimobendan.
- **Chemotherapeutics:** these drugs are used to treat tumors and cancer. Examples include cisplatin, vincristine, doxorubicin and cyclophosphamide.



### Drug Combinations

Drugs act in very different ways, and sometimes these different mechanisms can result in one drug interfering with another drug in some way. Combining drugs can be incredibly harmful, resulting in organ damage, toxicity or ineffective treatment.

**Always tell your veterinarian the medications, including any over-the-counter medications and supplements (including vitamins and any holistic or homeopathic products), that you are giving your pet.**

Write down how often, how much, and how you give them and share this list with your veterinarian.

### Side effects and adverse reactions

In general, medication choices involve weighing the advantages of the medication (stopping infection, reducing pain, etc.) against the potential risks, and taking measures to reduce side effects as much as possible. These preventive measures vary with the medication but can include keeping the drug dose and frequency as low as possible (but still effective); giving the drug for the shortest time needed; and giving the medication on a full or empty stomach.

Weighing the advantages and risks is an important process your veterinarian does, in part because the very mechanisms that make drugs effective for treating conditions can also cause unwanted effects. This is why it's so important to read any information your veterinarian gives you about the product, and to call your veterinarian if you suspect adverse events from any drug your dog is taking.

### Long-term medications

Some medications need to be given for prolonged periods of time or perhaps for the rest of your pet's life. To monitor your pet's health, make sure that the drug is still working as it should be, and reduce the risk of toxicity or other

harmful effects, your pet may need to be tested periodically. This may include blood tests, urine tests, or other tests as determined by your veterinarian, and these tests may be required before your veterinarian will provide a refill or refill prescription. This is particularly important with drugs like insulin and thyroid medications, where over- or under-dosing can be life-threatening.

A more common example is heartworm medication – your pet should be regularly checked for heartworm infection because giving the preventive to a heartworm-positive pet will not treat the infection and could cause a harmful adverse reaction. Also, local, state and federal laws may require regular rechecks before refills are authorized.

### **Keeping your pet safe**

- Let your veterinarian know if your pet has had adverse reactions to any medications beforehand.
- Ask questions so you understand why this medication is being recommended for your pet and what alternatives there are, if any, to this medication.
  - When and how should this drug be used?
  - What is the purpose of this medication?
  - What should I do if I miss a dose?
- Ask your veterinarian what you should look for as signs of problems, adverse reactions to the medication, or a worsening of your pet's condition.
  - If you observe any of these signs, contact your veterinarian immediately. Do not discontinue your pet's medication unless you are instructed to do so by a veterinarian.
- If you get your pet's prescription filled at a pharmacy, do not let the pharmacy change the prescription in any way including changing the dose or the drug that was prescribed, without first consulting the veterinarian who prescribed it. Drug dosages in humans can be vastly different from what's appropriate for a dog or cat. Likewise, there can be large differences between dog and cat prescription needs.
- Keep medication bottles out of reach of your pets and children.
- Do not give your pet any medications, including over-the-counter (OTC) products, without consulting your veterinarian.
  - Some drugs will interact with other drugs, including OTC medications and supplements, so your veterinarian needs to know EVERYTHING you're giving your pet.
- Always follow the label directions. If you have any questions about the medication, ask your veterinarian.
- Keep the medicines in the containers in which you received them, and store them at the temperature indicated by your veterinarian. Don't transfer the contents to another bottle or vial.
- Because pets' medication can be similar or the same as your medications, store them separately to eliminate the error of taking your pet's medication or giving your pet your medication.
- If your pet is on more than one medication, be very careful to give each medication as prescribed and according to label directions. The dose for the same pet can be very different among drugs, and you don't want to give your pet too much or too little of its medication because you mixed up the labels.
- Never use one pet's medication for another pet unless you are instructed to do so by your veterinarian. Never use your dog's medication in your cat, because drugs that may be safe in dogs may not be safe in cats.
- Contact your veterinarian if you miss a dose or if you give too much (overdose) of the drug. If an overdose occurs during a time when your veterinarian's office is closed, contact an emergency service or the ASPCA Animal Poison Control Center at (888) 426-4435 (a fee may apply).
- Always finish your pet's medication unless you are instructed otherwise by your veterinarian.
- Some medications, such as many steroids, should be tapered in dose and not stopped "cold turkey." Follow the label and your veterinarian's directions.
- When you no longer need the medication, properly dispose of expired and unused drugs.
- Even if you think your pet has become ill with the same problem you've previously treated with a medication, don't decide on your own to give your pet the same medicine or leftover medicine because it can be harmful and can delay an accurate diagnosis of your pet's current problem. Talk to your veterinarian first.

## GIVING YOUR DOG A PILL

Some dogs will eat anything and everything—including their medications. However, most dogs are reluctant to gobble down pills and capsules, especially if they're large or require chewing or smell bad to them. Some dogs are wary of anything unusual and will refuse all types of medications.



Here are a few tricks that can make pilling your dog easier for you and for him:

- Whenever possible, purchase chewable medications from your vet. They're flavored, so they taste just like treats.
- Try mixing your dog's medication into his meal. If they eat their food enthusiastically, they might not even notice the pill is in there. If you feed your dog kibble, add a small amount of canned food or a soft treat, like a cube of cheese, and push the pill inside. Alternatively, you can simply stick your dog's pill inside a soft treat or wrap it up in a soft cheese food slice and offer it to them.
- First prepare five or six treats. Use something really tasty, like soft dog treats, canned food, chunks of hot dog or cheese. You can also try using special hollow treats, such as Greenies® Pill Pockets®, which are made to hold pills. If your dog tends to chew treats rather than swallow them whole, make them small. Give them a few unmedicated treats first, one right after the other, and then give the one with the pill inside. So your dog doesn't have time to notice that you've just sneakily fed them a pill, immediately pop one more normal treat into their mouth.
- Dogs who enjoy catching treats tossed to them will often catch and swallow a pill if you act as though you're tossing a treat. Grab a handful of small treats and toss them to your dog, one right after the other. Somewhere in the midst of the treats, toss the pill or toss a soft treat with the pill hidden inside. With any luck, your dog will catch and swallow it before they even notice it was different!

**If all else fails.** It's best to use the tricks above to avoid causing your dog unnecessary stress. However, if those procedures fail, you'll need to open your dog's mouth and insert the pill directly. Before you start, get a tasty treat and keep it within reach.

- Hold the pill in the fingers of one hand. Place that hand on your dog's lower jaw and the other hand on their upper jaw. Lift their head up toward the ceiling.
- Open your dog's mouth and twist your hand around so you can insert the pill. Place the pill to the side of your dog's tongue as far back as you can reach, and then quickly withdraw your hand as you close your dog's jaws. (The action is similar to feeding a baby bird small wads of moistened bread.)
- Continue to hold your dog's jaws closed with one hand while keeping their nose pointed up at the ceiling, and gently stroke their throat downward with the other to encourage them to swallow.
- As soon as you think your dog has swallowed the pill, offer them the tasty treat so that they take it and swallow again when they take the treat.



Right after pilling your dog, keep an eye on them for a minute or two. Some dogs learn to hold the pill in their mouth and then spit it out when you're not paying attention.

### Managing resistance to pilling

If your dog requires daily medication for a period of time, they could become resistant to pilling. They might run and hide from you when it's pill time, or they might get savvy about not swallowing his pills. To avoid problems, you can teach your dog in advance that whenever you open their mouth and put something in, it's almost always a tasty treat.

- Cut up some soft, tasty treats, such as pieces of hot dog or cheese, or use small chunks of ground beef or chicken. Then follow the steps above, just as you would if giving your dog a pill for real, but use these treats instead of a pill. Repeat the exercise 10 to 20 times in a row.
- Practice two or three times a day for several days to prepare your dog for taking medication. Eventually, your dog will look forward to your putting things into their mouth, and they'll be less likely to object when you occasionally insert a pill instead of a treat.

In order for this technique to work, you must continue to practice it after you start giving your dog real pills. Overall, the ratio of good experiences to bad experiences for your dog must be high. So for every real pill you give them, they should receive a minimum of 20 “treat pills”—although not all at one time! You can achieve this ratio just by continuing to do 5 to 10 repetitions of the exercise two or three times a day until your dog has finished their entire course of medication.

## ALLERGIES

Just like people, dogs can show allergic symptoms when their immune systems begin to recognize certain everyday substances—or allergens—as dangerous. Even though these allergens are common in most environments and harmless to most animals, a dog with allergies will have an extreme reaction to them.

Allergens can be problematic when inhaled, ingested or contact a dog's skin. As their body tries to rid itself of these substances, a variety of skin, digestive and respiratory symptoms may appear.

Any dog can develop allergies at any time during their life, but allergic reactions seem to be especially common in terriers, setters, retrievers, and flat-faced breeds such as pugs, bulldogs and Boston terriers.

### Common Dog Allergens

A few common allergens include:

- Tree, grass and weed pollens
- Mold spores
- Dust and house dust mites
- Dander
- Feathers
- Cigarette smoke
- Food ingredients (e.g. beef, chicken, pork, corn, wheat or soy)
- Prescription drugs
- Fleas and flea-control products (The bite of a single flea can trigger intense itchiness for two to three weeks!)
- Perfumes
- Cleaning products
- Fabrics
- Insecticidal shampoo
- Rubber and plastic materials

### General Allergy Symptoms in Dogs

- |                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                  |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <li>• Itchy, red, moist or scabbed skin</li> <li>• Increased scratching</li> <li>• Itchy, runny eyes</li> <li>• Itchy back or base of tail (most commonly flea allergy)</li> <li>• Itchy ears and ear infections</li> <li>• Sneezing</li> </ul> | <ul style="list-style-type: none"> <li>• Vomiting</li> <li>• Diarrhea</li> <li>• Snoring caused by an inflamed throat</li> <li>• Paw chewing/swollen paws</li> <li>• Constant licking</li> </ul> |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|



Allergic dogs may also suffer from secondary bacterial or yeast skin infections, which may cause hair loss, scabs or crusts on the skin.

### **Food Allergy Symptoms in Dogs**

Food allergies are often harder to identify. It often takes some detective work to find out what substance is causing the allergic reaction

Dogs with a food allergy will commonly have:

- itchy skin,
- breathing difficulties or
- gastrointestinal problems like diarrhea and vomiting,

An elimination diet will most probably be used to determine what food they are allergic to. If your dog is specifically allergic to chicken, for example, you should avoid feeding them any products containing chicken protein or fat.

### **Diagnosing Allergies**

If your dog's itchy, red or irritated skin persists beyond initial treatment by a veterinarian, allergy testing, most often performed by a veterinary dermatologist, is likely warranted. The diagnostic test of choice is an intradermal skin test similar to the one performed on humans.

The only way to diagnose a food allergy is to feed your dog a prescription or hydrolyzed protein diet exclusively for 12 weeks. The importance of not feeding your dog anything but the diet cannot be emphasized enough—that means no treats, table food or flavored medication. This diet will be free of potential allergy-causing ingredients and will ideally have ingredients your dog has never been exposed to. They'll remain on the diet until their symptoms go away, at which time you'll begin to reintroduce old foods to see which ones might be causing the allergic reaction.

If you suspect your dog may have allergies, visit your veterinarian. After taking a complete history and conducting a physical examination, they may be able to determine the source of your dog's allergic reaction.

If not, your veterinarian will most probably recommend skin or blood tests, or a special elimination diet, to find out what's causing the allergic reaction.

Please note, many dogs diagnosed with a food allergy will require home-cooked meals—but this must be done in conjunction with your veterinarian, as it requires careful foodbalancing.

### **It's not an allergy, it's Bronchitis**

If your dog is coughing persistently, chances are they may have Bronchitis. Bronchitis is characterized by a persistent cough due to inflammation of the airway and excessive mucus production. Chronic exposure to inhaled irritants (including cigarette smoke) may be a cause of bronchitis in dogs.

**Please remember, your pets should not be exposed to cigarette smoke.**

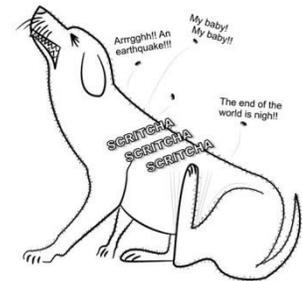
If your dog is coughing persistently, it's imperative that you contact your veterinarian. If left untreated, it could lead to more serious lung and chest disorders.

### **Treating Allergies**

The best way to treat allergies is to remove the offending allergens from the environment.

- **Prevention** is the best treatment for allergies caused by fleas. Start a flea control program for all of your pets before the season starts. Remember, outdoor pets can carry fleas inside to indoor pets. See your veterinarian for advice about the best flea control products for your dog and the environment.
- **Keep your dog's living environment, clean.** If dust is the problem, clean your pet's bedding once a week and vacuum at least twice weekly—this includes rugs, curtains and any other materials that gather dust.

- **Weekly baths** may help relieve itching and remove environmental allergens and pollens from your dog's skin. Discuss with your veterinarian what prescription shampoos are best, as frequent bathing with the wrong product can dry out skin.
- **Special diet.** If you suspect your dog has a food allergy, they'll need to be put on an exclusive prescription or hydrolyzed protein diet. Once the allergy is determined, your veterinarian will recommend specific foods or a home-cooked diet.
- **Veterinarian prescribed medication.** Since certain substances cannot be removed from the environment, your veterinarian may recommend medications to control the allergic reaction:
  - In the case of airborne allergens, your dog may benefit from allergy injections. These will help your pet develop resistance to the offending agent, instead of just masking the itch.
  - Antihistamines such as Benadryl can be used, but may only benefit a small percentage of dogs with allergies. Ask your veterinarian first.
  - Fatty acid supplements might help relieve your dog's itchy skin. There are also shampoos that may help prevent skin infection, which occurs commonly in dogs with allergies. Sprays containing oatmeal, aloe and other natural products are also available.
  - An immune modulating drug may also be helpful.
  - There are several flea-prevention products that can be applied monthly to your dog's skin.
  - If the problem is severe, you may have to resort to cortisone to control the allergy. However these drugs are strong and should be used with caution and only under the guidance of your veterinarian.



We are but fleas on the shaggy dog joke of the universe

## SKIN CONDITIONS

Your dog's skin is an indication of their overall health. When a skin problem occurs, your dog may respond with excessive scratching, chewing and/or licking. A wide range of causes—including external parasites, infections, allergies, metabolic problems and stress, or a combination of these—may be affecting your dog's skin.

What Are Some Symptoms of Skin Problems in Dogs?

- Scratching, licking or chewing at skin
- Scabs
- Redness or inflammation
- Hot spots (one particular area where itching is intense)
- Round, scaly patches on the face and paws
- Dry, flaky or otherwise irritated skin
- Hair loss, bald patches
- Rashes
- Lesions
- Drainage of blood or pus
- Swellings, lumps or skin discoloration
- Rubbing face against furniture or carpeting

## What Might Cause My Dog to Have Skin Problems?

One of the following may be causing an abnormality with your dog's skin and should be investigated:

- **Fleas:** Bites and droppings from these pesky insects can irritate your dog's skin, and some pets can have an allergic response to the saliva following a bite. Some dogs may also be sensitive to flea-treatment products; certain flea collars, for example, may cause redness and irritation around the neck.
- **Ringworm:** This highly contagious fungal infection can result in inflammation, scaly patches and hair loss. You'll want to treat it immediately to avoid other pets and people in the household from becoming infected.
- Parasites, such as ear mites and lice
- **Seasonal allergies:** Your dog's scratching may be due to her sensitivity to allergens from common substances like pollen, weeds, dust, mites, trees, mold or grasses.
- **Food allergies:** Many dogs develop allergies to common ingredients in dog foods, such as beef, chicken, wheat, corn or soy. Even fillers and colorings can be seen as foreign by your dog's immune system and lead to itching and rashes.
- **Skin infections:** Dogs can develop irritating bacterial or yeast infections when the skin is damaged due to the presence of another skin disorder.
- **Sarcoptic mange:** This skin disease caused by infection from the *Sarcoptes scabiei* mite results in extreme itching and skin inflammation similar to an allergic response.
- **Grooming products:** Certain shampoos and grooming products can irritate your dog's skin. Be sure to only use grooming products that are meant for use on dogs.
- **Stress or boredom:** A dog may lick their skin (especially their legs) excessively for many reasons. Some lick when not given adequate opportunity for activity or mental stimulation.
- **Metabolic or hormonal problems:** Several common hormonal problems can cause change in skin color, coat consistency, thickness and distribution.
- **Seasonal changes:** Many dogs, like people, get dry, flaky skin in the winter.



## When is it Time to See a Vet?

There are many causes of skin abnormalities in dogs, and identifying the underlying cause is not always simple. Therefore, you should visit your vet for an exam as soon as you notice any abnormality in your pet's skin or hair, or if your pet begins to excessively scratch, lick and/or bite areas on their fur.

## How Are Skin Problems Diagnosed?

After obtaining a history and performing a thorough physical exam, your vet may perform diagnostic tests in order to find the cause of your dog's symptoms. These include:

- Skin biopsy
- Testing for ringworm
- Microscopic examination of the hair and skin for presence of parasites or infection
- Allergy testing, which may include a diet change
- Blood tests to assess your dog's overall health

### **Which Dogs Are Prone to Skin Problems?**

Because of the wide ranges of causes, dogs of all ages and breeds are susceptible to issues involving skin. Dogs who are young, elderly, immunocompromised or living in crowded, stressful environments may be more susceptible to skin problems than others.

### **How Can Skin Problems Be Prevented?**

- Use natural, hypoallergenic soaps and shampoos recommended for use in dogs.
- Brush your dog regularly to prevent matting of hair.
- Feed your dog a healthy, balanced diet without fillers or artificial ingredients.
- Implement a parasite-prevention or flea-treatment program as recommended by your veterinarian.
- Regularly clean and vacuum your home (and remember to always throw away the bag).
- Provide calm living conditions for your dog.
- Your vet may prescribe certain shampoos or oral supplements to prevent skin problems.



### **How Can Skin Problems Be Treated?**

Ask your vet about the following treatments:

- Topical products including shampoos, dips or spot-on products to prevent and treat parasites
- A balanced diet to help maintain healthy skin and coat
- A dietary supplement containing essential fatty acids
- Antibiotic, antifungal or anti-itching medications
- Corticosteroids and antihistamines may be prescribed to control itching.
- Hypoallergenic diet for food allergies
- Injections to decrease dog's reaction to allergens