

K-9 First Aid and Health

Part One - First Aid

Topic 14



Photo by AceK9.com

Any person or agency which purchases and trains a working dog makes a serious investment in time and money. Keeping the dog healthy with good maintenance and care is extremely important. First aid for injuries is one part of this care. Also included in this chapter is information about parasites and diseases common to dogs.

Veterinary care for dogs is becoming expensive. Departments and individuals can help to control and/or stabilize these costs by buying veterinary insurance, which is similar to health insurance for people. Available pet insurance plans range from comprehensive insurance that covers routine visits, vaccinations and treatments to

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plans that would cover only unpredictable and expensive injuries or sickness. Stabilizing costs is helpful for government agencies with fixed budgets. See <http://www.petinsurancereview.com> for more information on pet insurance plans.

Medical Emergencies – Moving an Injured Dog

Any dog is likely to bite in response to pain, and if frightened, may not even know or care who is tending them. If a dog is not having difficulty breathing or vomiting, injured dogs should be muzzled to prevent injury to those carrying or treating the dog.



Muzzle Photo by Deborah Palman

Prior to moving an injured K-9, do the following:

1. Muzzle the dog (a muzzle may be improvised by putting a wrap around the dog's nose, crossing it below the dog's jaws and then tying it tightly close behind the dog's ears, see [How to make a dog muzzle - YouTube](#))
2. Splint / stabilize any broken bones
3. Use a blanket as a makeshift stretcher
4. Make sure you have control over the dog

Part of a working dog's basic training should include teaching the dog to accept being carried by their handler and others. If needed, the dog should be muzzled during this training. Train the dog to accept carrying by using positive methods, using food treats and other rewards. Start slowly, starting with touching and cradling the dog, then picking it up and putting it right back down, carrying short distances, etc. Working off a low table or other support can help to calm the dog and save wear and tear on the people's backs.

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Photo by Elizabeth LaPointe

To carry a large dog, the arms should be placed just inside the front and rear legs. Cup the arms upward and brace the dog against the person's chest.

A smaller dog can be picked up with an arm around the dog's chest and rump, or with an arm around the chest and just in front of the dog's hind legs.

Dogs can also be trained to ride on their handler's shoulders as an alternate way to carry a dog longer distances.

CPR for Dogs

Cardiopulmonary resuscitation is similar in both dogs and humans. Dogs may need CPR if they stop breathing or their heart stops beating due to a head injury, windpipe obstruction, or electric shock. The steps are similar to those for humans:

For Rescue Breathing:

1. Lay the dog on its right side
2. Check the mouth for obstructions
3. Extend the head and neck; pull tongue from back of throat.
4. Place your mouth over K-9s nose, forming a tight seal.
5. Hold the dog's mouth closed.
6. Exhale until the chest expands
7. Continue breathing at a rate of 10 to 15 breaths a minute
8. When K-9 begins to breathe on his own transport immediately to a veterinary hospital.

If the dog has an open wound that penetrates the chest cavity, breathing will not

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be effective until the wound is covered with an airtight dressing. The chest cavity must be sealed for the dog to breath.

If the dog's heart stops, the dog will have no pulse, and the dog's gums and eyelids will turn blue. CPR with chest compressions must be started immediately.

To do chest compressions:

1. Lay dog on its right side
2. Place the heel of one hand just behind the elbow joint, on the chest region.
3. Place your other hand palm-down on the other hand.
4. Press down firmly, release, pause and press down firmly again.
5. Compressions should be given 20 to 30 times a minute.

The one-person K-9 CPR rate is: 2 breaths and 15 chest compressions 4 to 6 times a minute.

The two-person K-9 CPR rate is: 1 breath and 5 compressions 4 to 6 times a minute.

Check the dog's pulse after one minute.

If the dog does not respond quickly to CPR and veterinary assistance is distant, the dog's chance of recovery is poor. The dog's vital organs are damaged after 3 to 5 minutes without oxygen. After 6 to 10 minutes of CPR, the dog's brain is damaged, and death is likely after 15 to 20 minutes of CPR with no response.

For an dog CPR instructional video, see [Pet CPR - YouTube](#).



Obstructed Airway

Dogs eat and play with all sorts of objects. Dog owners should monitor this play, because dogs can choke on items that are small enough to swallow. Dogs should only play with toys large enough that they cannot swallow them. Some toys, like kongs and some balls made for dogs, have holes molded into them so that the dog can breathe if they manage to swallow or catch the toys in their throat.

Things dogs may do if they are choking are:

1. Paw at their mouth
2. Drool
3. Gulp or gasp for air
4. Display labored breathing
5. Collapse

Taken from

[http://en.wikipedia.org/wiki/Kong_\(dog_toy\)](http://en.wikipedia.org/wiki/Kong_(dog_toy))

A handler should examine the dog's mouth if they suspect a problem. If the object can be removed without pushing it further down the throat, the handler should remove it. If fluid is causing the dog to choke, the dog's chest can be picked up to help the fluid to drain out, or the fluid wiped out of the mouth. If the object cannot be seen or is wedged in the throat, the Heimlich Maneuver can be performed to try to dislodge the object:

1. Place the dog with the head in a downward position and give four blows to the back of the dog with the flat of the hand.
2. Then, kneel behind the dog, putting the hands and arms around the dog's ribs, just behind and below them. Give several upward thrusts to the diaphragm.
3. If the dog is unconscious, place the dog on its right side on a flat surface and give the dog upward thrusts at the diaphragm.

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4. Check the dog's mouth to look for and remove any objects.
5. Repeat if unsuccessful.

If the efforts to dislodge the object are unsuccessful and the dog is still breathing, the dog should be rushed to the nearest veterinarian where surgery may be necessary to remove the object. If the dog stops breathing, then CPR may be necessary.

Even if the handler is able to dislodge the object, the dog should be seen by a veterinarian as soon as possible in case the dog's throat was damaged.

Punctured Chest

If the dog has a punctured chest cavity or lung, it will not be able to breathe well, or breathing will be ineffective, because the chest cavity must be sealed for the dog to exchange air. Any "sucking" wound needs to be plugged and made air tight as soon as possible. This can be done with a piece of plastic, a Vaseline smeared gauze or some other improvised air tight bandage.

Bleeding

Internal bleeding is usually caused by sudden trauma, but poisoning, disease and infection may also cause internal bleeding.

Symptoms of internal bleeding include:

1. Fainting
2. Pallor
3. Weakness
4. Weak pulse
5. Rapid and shallow breathing
6. Bleeding from the mouth, nose, ears or rectum

If internal bleeding is suspected, keep the dog calm, treat for shock and transport to a veterinarian immediately.

For external bleeding, apply direct pressure with a gauze, clean cloth, towel or whatever is handy. If pressure does not work, use a tourniquet if the wound is life threatening. Apply the tourniquet above the wound if bleeding is from an artery (bright red blood and pulsing), below the wound if from a vein (dark red blood and steady flow) and transport to a vet ASAP.

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Three quarters of a pint (12 oz.) represents a critical blood loss for the average working dog. The average German Shepherd has 3 to 4 pints of blood.

The tourniquet should be tightened just enough to stop the flow of blood, and the tourniquet loosened every 5 to 10 minutes. Tourniquets can cause the loss of a limb or permanent nerve damage if not monitored properly and left on too long.

New materials to stop bleeding that were developed for the military are now available for purchase by the public. See <http://www.celoxmedical.com/>

Shock

Shock occurs when the body suffers from a loss of blood, from severe injury or from exposure. Signs of shock include:

1. Pale gums
2. Depressed body temperature
3. Weakness
4. Labored breathing
5. Semi-consciousness or unconsciousness



Photo by Deborah Palman

A dog's circulation can be checked by depressing the flesh of the dog's gums squeezing the blood out of the tissue. Depress a pink colored area of the gums to see the change. When the pressure is let up, the color should return to the gum tissue quickly. If color does not return immediately, the dog has circulation problems.

Shock is treated by keeping the dog warm and still and transporting to a veterinarian immediately.

Gunshot and Stab Wounds

Treatment for gunshot or stab wounds is the same as for any serious injury. If a knife is still in the wound and it will be difficult to transport the dog without causing further injury, remove the knife as cleanly as possible, pulling it out the same way it went in. Otherwise:

1. Stop bleeding and cover any holes in the chest cavity with an air tight bandage.
2. Treat for shock.
3. Transport to a veterinarian immediately.

Heatstroke



Photo by Deborah Palman

Heatstroke is deadly and a frequent cause of death in working K-9s. Dogs cannot cool themselves as efficiently as humans, and working dogs will overwork themselves to the point of heat stroke or heat exhaustion. Heat related problems are emergencies and must be avoided by handlers regulating the dog's work in hot weather, providing water at regular intervals and insuring the dog rests out of the sun and out of hot environments.

Heatstroke or heat exhaustion must be treated immediately. Brain damage will occur if the dog is not treated as soon as symptoms appear.

Symptoms of heatstroke include:

1. Excessive panting
2. Weakness or collapse
3. Bright red gums and mucous membranes
4. Vomiting or diarrhea
5. High body temperature (105 – 110 degrees)
6. Seizures

Treatment for heatstroke is to cool the dog by immersing the dog in cool water, placing the dog in the shade or wetting the dog down with cold or cool water. Ice can be used, but the handler must be careful not to cool the dog too much. The dog should not be cooled below a temperature of 100 degrees.

Cooling treatments should stop about 102 to 103 degrees so that the dog does not cool below 100. Transport the dog to a veterinarian as soon as possible. Water and electrolytes should be given to the dog if it will take water. Heat stroke, even if the dog appears to have recovered, can cause organ damage and blood chemistry changes.

Most dogs can recover from heat stroke within a day, but some take a week or more. The dog should be on light duty until it has fully recovered.



Picture of X-ray of dog bloat

X-ray of a dog with bloat and stomach torsion. Taken from <http://en.wikipedia.org/wiki/Bloat>

Gastric Torsion or “Bloat”

Gastric Torsion is a life threatening condition that occurs not uncommonly in working dogs, especially dogs that work at high stress occupations like police patrol work. The causes of the condition are not entirely understood, but torsion is brought on by a build- up of gas in the dog’s stomach. Once the gasses build up, the stomach becomes distended and twists. When this happens, the gas cannot escape and blood supplies to the abdominal organs are cut off, causing a host of life threatening problems.

Some possible causes or contributing factors to torsion are eating food too rapidly followed by drinking large amounts of water and exercising within an hour of eating.

Symptoms of Gastric Torsion include:

1. Panting
2. Pacing
3. Looking back at flanks or stomach
4. Enlarged abdomen
5. Increased gas noises from the abdomen
6. Burping or dry heaves
7. Anxiety followed by depression
8. Pain when abdomen is touched
9. Collapse
10. Hollow or balloon like sound when abdomen is tapped
11. Immediate vomiting of food and water
12. Tight, firm stomach
13. Pacing or standing restlessly because of pain

Gastric torsion usually affects dogs in the prime of life and has a mortality rate of about 50%. It usually affects dogs that have large and deep chests. Breeds such as the German Shepherd, Great Dane, St. Bernard, Boxer, Irish Wolfhound, Bloodhound,

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Weimaraner and Great Pyrenees are more susceptible. Males are more commonly affected than females. Sometimes an event is preceded by the dog eating a large amount of dry kibble and then drinking a large amount of water. Some dog owners will always soak dry kibble in water or broth for five minutes or more before the kibble is fed for this reason.

Dogs which have bloated once are more likely to bloat again.

The sooner a dog is taken to the vet for possible gastric torsion, the better the outcome. A dog with bloat will die within hours if not treated. The veterinary treatment for torsion can include inserting a tube down the dog's esophagus to relieve the gas buildup, and/or surgery to untwist the stomach and tack it to the body walls so it does not twist again. If the stomach has been twisted too long, parts of the intestine may have to be removed at the same time.

If the dog cannot get to a veterinarian within a reasonable amount of time, the handler can attempt to release the pressure in the stomach by puncturing a hole in the stomach wall. This is best done with a hypodermic needle. The needle should be inserted just behind the ribs next to the back muscles where tapping produces a hollow or drum like sound. The procedure only should be done if the dog will die without it being done, because it carries the risk of damaging other organs and introducing bacteria and stomach contents into the body cavity as fluids leak out of the stomach.

Gastric torsion is best prevented by feeding the dog smaller amounts of high quality food two or several times a day, especially if the dog eats quickly. Some handlers use commercially available bowls that have "posts" molded into them, so that the dog has to eat around the posts, slowing their rate of consumption. Other people will put softball sized rocks in a large food bowl to slow the dog down. Dogs should not be allowed to drink large amounts of water immediately after eating or exercising. Dry food can be pre-soaked in water before feeding so that it does not expand in the dog's stomach. Dogs also should not engage in vigorous exercise either immediately before or within an hour after eating. Adding probiotics to the dog's diet might help also. For more information on bloat, see <http://en.wikipedia.org/wiki/Bloat> .

Poisoning

Working dogs are likely to be exposed to poisons during their career. The symptoms and treatment of poisoning vary with the type of poison ingested. The safest way to treat poisoning is to contact a poison control center and seek advice for the type of poisoning involved. After initial treatment, immediately contact a veterinarian. The Maine (Northern New England) human poison control center number is **1-800-222-1222**. A web site listing poison control centers is <http://www.aapcc.org/centers/>.

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Some commercial sites like the Pet Poison Helpline exist, and will give professional advice for a fee.

Handlers should also carry some agent like hydrogen peroxide or syrup of ipecac that would allow them to induce vomiting in their K-9 for most types of poisons besides acids and alkalis. A teaspoon of table salt mixed with just enough water to make the dog swallow it can also be used. Some dogs may require more hydrogen peroxide than *others*. *A full cup's worth stored in one or more small bottles should be carried by handlers in their deployment pack if they are going to be working away from their vehicle for some time.* Agents to induce vomiting can also be useful if a dog swallows an object like a fish hook.

Rat poison is commonly found in camps and buildings and can be ingested by dogs. One common brand, D-con, looks like bright green rectangular blocks.



From Amazon.com

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Antifreeze can be found in areas where vehicles are parked or serviced. The first treatment for both of these and for the ingestion of many poisons is to induce vomiting.

Vomiting can be induced by feeding the dog 1 tablespoon of hydrogen peroxide mixed with 1 teaspoon of milk for a small dog. Two or three tablespoons or multiple doses may be needed for large dogs. If milk is not available, force feed the hydrogen peroxide using a syringe or eyedropper. If vomiting does not take place in 10 minutes, repeat the procedure twice if necessary.

The following is from <http://www.doctordog.com/dogbook/dogpoison.html> (author's note: as of early 2019, this link may be unavailable. Another link for this subject is <https://www.1800petmeds.com/education/treatment-poisoned-dog-cat-10.htm>)

"The first step in treatment is to eliminate the poison from your dog's stomach by making it vomit. The second step is to delay absorption of the poison from the dog's intestinal tract by coating it with a substance that binds it. This is followed by a laxative to speed elimination.

Note: Do not induce vomiting or give charcoal by mouth if your dog is severely depressed, comatose, unable to swallow or experiencing seizures. Before proceeding, consult Vomiting, How to Induce in this chapter.

How to Delay or Prevent Absorption

1. Mix activated charcoal (one tablet to 10-cc water). Give one teaspoonful per two pounds body weight and follow with a pint of water. Depending upon the dog's condition, this may need to be given by stomach tube. Veterinary assistance usually is required.

2. Thirty minutes later, give sodium sulphate (Glauber's salt), one teaspoonful per ten pounds body weight, or Milk of Magnesia, one teaspoonful per five pounds body weight.

Note: If these agents are not available, coat the bowel with milk, egg whites or vegetable oil and give a warm water enema.

If your dog has a poisonous substance on the skin or coat, wash it well with soap and water or give a complete bath in lukewarm (not cold) water, as described in the SKIN chapter. Even if the substance is not irritating to the skin, it should be removed. Otherwise, the dog may lick it off and swallow it. Soak gasoline and oil stains with mineral or vegetable oil. Work in well. Then wash with a mild

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detergent, such as Ivory soap.

When signs of nervous system involvement begin to show, the dog is in deep trouble. At this point, your main objective is to get your dog to a veterinarian as quickly as possible. Try to bring with you a sample of vomitus, or better yet the poison in its original container. If the dog is convulsing, unconscious or not breathing, see Shock and Artificial Respiration. (Also see NERVOUS SYSTEM: Fits).

The poisons discussed below are included because they are among the most frequently seen by veterinarians.

Strychnine - Strychnine is used as a rat, mouse and mole poison. It is available commercially as coated pellets dyed purple, red or green. Signs of poisoning are so typical that the diagnosis can be made almost at once. Onset is sudden (less than two hours). The first signs are agitation, excitability and apprehension. They are followed rather quickly by intensely painful tetanic seizures that last about sixty seconds, during which the dog throws the head back, can't breathe and turns blue. The slightest stimulation, such as tapping the dog or clapping the hands, starts a seizure. This characteristic response is used to make the diagnosis. Other signs associated with nervous system involvement are tremors, champing, drooling, uncoordinated muscle spasms, collapse and paddling of the legs....

Antifreeze (Ethylene Glycol)

Poisoning with antifreeze is not uncommon because ethylene glycol has a sweet taste that appeals to dogs and cats. In dogs, a toxic dose is one half teaspoonful per pound body weight. Signs of toxicity, which appear suddenly, are vomiting, uncoordinated gait (seems "drunk"), weakness, mental depression, coma and death in twelve to thirty-six hours. Convulsions are unusual. Dogs that recover from the acute phase may have damage to the kidneys and go on to kidney failure.

Treatment: Induce vomiting. Coat the bowel to prevent further absorption.
Intensive care in an animal hospital may prevent kidney complications...."

Glauber's salt is a laxative.

Many plants are toxic to dogs. These include:

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1. Aloe
2. Amaryllis
3. Iris
4. Azalea
5. Marijuana
6. Mistletoe
7. Daffodil
8. Easter Lilly
9. Rhododendron

Other common substances that are toxic to dogs include:

1. Chocolate
2. Onions
3. Human medicines
4. Petroleum products (Treatment: Do not induce vomiting. Administer an ounce or two of mineral oil, olive oil or vegetable oil by mouth; then follow it in thirty minutes with Glauber's salt (a laxative). Be prepared to administer artificial respiration)
5. Artificial sweeteners – xylitol, found in many sugarless gums, like Trident, is very toxic to dogs.

Note that many commonly used human medicines are toxic to dogs, or must be used in very small doses at the direction of a veterinarian. Common pain relievers like aspirin, acetaminophen and ibuprofen can kill dogs even in small doses. Only give medications on the advice of a veterinarian.

Fractures

All fractures must be treated by a veterinarian as soon as possible. Dogs can fracture toes or leg bones while when caught up in leads or other entanglements, or as a result of trauma. If a bone is fractured, usually the dog feels a great deal of pain and will immediately be lame and stay lame. Other symptoms are:

1. A compound fracture where the bone is exposed
2. Swelling
3. The dog being unable to put any weight on the affected limb
4. Bruising
5. Agitation in the dog

The dog's movement should be restricted if a fracture is suspected. The limb or affected part should be immobilized with a splint. The limb should be padded, then splinted so that the support reaches above and below the joints on either side of the fracture.

Nerve Damage

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Trauma is the most common cause of nerve damage in dogs. Most trauma is easily recognized, but nerve damage can be caused by excessive and frequent collar corrections, the dog hitting the end of a leash at high speed, or by violent hits during apprehension work. In older dogs, arthritis of the spine (spondylosis) can cause nerve damage. Symptoms of nerve damage include:

1. Partial or complete paralysis
2. Lack of coordination
3. Lameness or inability to jump
4. Loss of sensation in body parts
5. Inability to defecate or urinate
6. Weakness
7. Head tilt

Nerve damage must be diagnosed and treated by a veterinarian. Sometimes chiropractic treatments can help dogs with spinal problems.

Dogs sometimes develop “lick granulomas” where they lick and chew at themselves to the point where they damage their skin. The causes of this behavior have been attributed to boredom, allergies, etc., but they may also be caused by nerve damage that creates pain or discomfort in the limb. Working with a veterinary chiropractor may help to relieve the discomfort by relieving pressure on nerves.

Lameness

Lameness can be caused by injuries or chronic problems or disease. Causes can range from a cut or thorn in a paw to a serious problem such as hip dysplasia. Sometimes what part of the dog is causing him to be lame can be determined by the following:

1. Lower leg lameness is indicated by the dog holding a paw off the ground.
2. Upper leg or shoulder or hip or back lameness is indicated by limping with some weight bearing on the paw.

Congenital Problems that Cause Lameness

There are a number of congenital problems that cause lameness in dogs. All prospective working dogs should be screened for these problems before they are purchased and enter a training program. Most dogs can be screened for congenital defects by the time they are six to twelve months old. Dogs have other congenital problems that can be screened for by genetic testing and other means. One problem that can be screened by DNA testing is exercise induced epilepsy in Labrador Retrievers.

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A knowledgeable and reputable breeder can help with information on common congenital problems.

Large breed dogs that are under eighteen months old can be trained, but they should not be subjected to large amounts of physical stress, like repeated jumping or hard impacts because their bones are still growing and hard physical stress can injure the growth plates. Caution is needed when training agility with young, growing dogs.



X-ray of dysplastic dog hips from [http://en.wikipedia.org/wiki/Hip_dysplasia_\(canine\)](http://en.wikipedia.org/wiki/Hip_dysplasia_(canine))



X-ray of normal dog hips from [http://en.wikipedia.org/wiki/Hip_dysplasia_\(canine\)](http://en.wikipedia.org/wiki/Hip_dysplasia_(canine))

Hip Dysplasia is primarily inherited and can be detected by a knowledgeable veterinarian or by submitting X-rays to the OFA or Orthopedic Foundation for Animals (see <http://www.offa.org/> for more information) for evaluation. A dog with hip dysplasia has hips with shallow sockets or poorly formed ball joints such that the dog develops arthritis with increasing age.



X-ray of elbow dysplasia from http://en.wikipedia.org/wiki/Elbow_dysplasia

Elbow Dysplasia is primarily inherited and can be detected by a knowledgeable veterinarian or by submitting X-rays to the OFA. Elbow dysplasia is a term that refers to a number of problems with the elbow, but the results are the same as hip dysplasia, in that the elbow develops arthritis and the dog goes lame. While surgery can be used to correct some elbow problems, dogs that undergo surgery usually develop arthritis later in life, shortening their working life.

Panosteitis or “Pano” is not uncommon in large breeds. It usually affects large dogs that are growing quickly. It is sometimes called “growing pains.” Affected dogs have various degrees of lameness and may be lame on one or more legs at a time, often with the lameness seeming to travel from one leg to another. The lameness can last various lengths of time, but disappears by the time the dog is fully grown at two years. It is not permanent but a nuisance because it often appears as dogs are entering training and slows the training process down because the dog should not be worked when it is in pain. For more information on “Pano,” use this website link - <http://bit.ly/KxiRgq> Dogs with pano are usually put on a less nutritious diet so that they don't grow as fast. For example, if they are eating puppy food, they should be put on an adult maintenance diet to slow their nutrient uptake. Another “natural” but unproven remedy is to give the dog vitamin C, gradually increasing the dose until the dog's stools become soft, then backing off the amount.

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Congenital spine problems should be screened for because they can cause lameness later in a dog's working life. A knowledgeable veterinarian should know what to look for.

Other Lameness

Spinal injuries often manifest as lameness or weakness in a limb. Common working dog injuries are neck and shoulder pulls, and "wrist" or pastern injuries in dogs with loose ligaments. If a dog is showing mild lameness that does not improve in a day or so, the dog should be taken to a veterinarian. Severe lameness should always be checked immediately. Some problems are serious and others just require rest to heal. If the handler knows the mechanism of injury and it involved a great deal of force, the dog definitely should be seen by a veterinarian to check for fractures and severe injuries.

Allergic Reactions

Dogs suffer with allergies like people do, but they are more likely to express an allergy by having skin problems than by sneezing and runny noses and eyes. While dogs can have runny eyes in response to something in the air, they are more likely to show the following skin problems when allergic to something:

1. Red, irritated skin
2. Itching, scratching
3. Chewing or licking areas
4. Excessive shedding and hair loss
5. "Hot spots" or areas where the skin erupts into a painful, red and moist area where the hair is eventually lost
6. Hives or bumpy eruptions

Causes of allergies can be insect bites, fleas and mites, food, pollen, shampoos, chemicals, etc. Treatment involves trying to determine the cause of the problem and then treating the problem. Fleas and mites can be treated with flea products or topical applications like Revolution (https://www.zoetisus.com/products/pages/revolution_pet/revolutionpet.aspx). A food based allergy can be difficult to diagnose, but handlers can experiment with different types of food to see what works best for their dog. Dogs with pollen or chemical sensitivities often benefit from regular baths or rinsing off after a day in the field, and regular cleaning of their bedding and the environment. Dogs do respond to some allergy medications, but allergy medications should only be given under the guidance of a veterinarian. An exception might be the administration of Benadryl in an emergency situation because Benadryl is relatively safe.

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Burns

Treatment for burns on dogs is the same as for people. That would be to apply cold water to the burn to cool the skin, cover the burn with a clean dressing, treat for shock and transport to a veterinarian. The possibility for infection is great with burns.

Wounds

Once bleeding is stopped, wounds require treatment. Minor wounds that just cut the skin and are less than an inch long should be cleaned with water and a bacterial soap. If the wound is deeper than $\frac{1}{4}$ to $\frac{1}{2}$ inch, or longer than an inch, the dog should be seen by a veterinarian. Even if the wound is small but is on the face, ear or tail, the wound may have to be stitched in those areas to heal correctly. Puncture wounds require treatment with antibiotics, and larger wounds should be stitched. Wounds should be stitched within 4 to 6 hours after they occur.

Wounds that are not large enough to be stitched may still require follow up care. Long hair around the wound should be clipped to avoid infection. A gauze bandage covered with vet wrap should be used for 24 to 48 hours. Apply a bacterial ointment to the gauze that is placed on the wound, then wrap the wound with more gauze and vet wrap to protect and hold on the gauze. Check the bandage when it is applied and on a regular basis afterwards to be sure it is not too tight and does not cut off circulation. The bandage should be changed every 12 to 24 hours, or if it gets wet.

If a dog's toenails become too long, they can split or be torn during work, or they may just be torn by some accident. Silver nitrate or "Kwik Stop", from KV Supply (www.kvsupply.com) or <http://bit.ly/ukP6iY> can be used to staunch the bleeding. If the toenails have been cut too short during grooming and they start to bleed, "Kwick Stop" can also be used, or a small amount of flour pressed into the end of the nail.



Toe Nail Clippers Photo by Deborah Palman

Torn nails are very painful for the dog. If the nail or a piece of the nail is just dangling off the toe, its removal will make the dog more comfortable and help the toe to heal. If the handler cannot do it himself, a veterinarian should be able to remove it. Muzzling the dog during the procedure is recommended.

Torn or Cut Foot Pads

A cut or torn foot pad is a common injury in working dogs. Pads may be cut by glass or other sharp objects. If a dog is run regularly on hard surfaces, its pads will toughen up and be less prone to injury. If a dog has not been exercised by running, restrict the dog's running on hard surfaces to one or two miles at first and build up distances over two weeks. Suddenly running the dog on pavement for several miles will wear off or blister the dog's toe pads if the dog's pads have not been built up. A similar situation can be created by doing extensive apprehension work on pavement when the dog is not used to working on hard surfaces. Some commercial products exist that can be used to toughen pads up (Pad Tough at www.kvsupply.com) and others (Musher's Secret at www.kvsupply.com) can be used to protect them from snow and ice.

Any time a dog starts limping or licks or chews a foot, the handler should examine the affected foot. The problem may be resolved simply by pulling out an imbedded thorn. Check the foot pads for excessive wear or cuts, and check between the toes for cuts and foreign objects.

Any serious cuts to the foot should be examined by a veterinarian. They are likely to prescribe antibiotics to prevent infection, but foot pads are rarely sutured because the sutures won't hold, and often dogs will chew them out. Sometimes the wound can be stapled. Otherwise the handler will have to rest the dog and monitor and clean the injury until it is healed.



First Aid Kit

Working dog handlers should carry a basic K-9 first aid kit. These items can be supplemented with commercial items or more advanced items as the handler's knowledge and budget permits.

1. 3" gauze, 2 to 3 rolls
2. Gauze squares
3. Vet wrap, 2 to 3 rolls
4. Adhesive tape
5. Bandage Scissors
6. Hydrogen Peroxide (for disinfection and to induce vomiting)
7. Antibiotic Ointment
8. Syrup of Ipecac (to induce vomiting)
9. Rectal Thermometer
10. Lubricating Jelly for thermometer
11. Tweezers
12. Saline Solution (for washing wounds and eyes)
13. Alcohol and or alcohol wipes
14. Eyedropper or syringe
15. Kaopectate/Pepto-Bismol
16. Benadryl (for allergic reactions)
17. Nail Trimmers
18. Muzzle
19. Blanket