

First Aid for Livestock Guardian Dogs

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First aid refers to the immediate care provided to a livestock guardian dog (LGD) when it is injured or sick, until further veterinary treatment is performed. First aid care is enough for minor injuries such as scrapes. For more significant problems, first aid should be administered until a veterinarian evaluates and treats the dog. Before any medical emergency, it is essential to have a general idea of the expected behavior and movement of all the LGDs on the ranch.

Healthy Physical Exam

Proper socialization and handling as a puppy will make health exams easier. Regularly observing and handling the dog will help identify conditions that need attention. In general, the dog's nose should be moist and clean. A warm, dry nose can be the first sign that a dog has an infection or other illness that could impact health. Normal skin and coat should be shiny and smooth with soft, unbroken skin and minimal odor. The dog's eyes should be bright and clear with no squinting, abnormal tearing, or discharge. Pupils should be equal in size and reactive to light changes while centered between the eyelids. The whites should not be pink or colored (especially yellow). The dog's ears should be clean, dry, odor-free, and pain-free. Teeth should be clean with minimal tartar or staining and minimal odor. Gums should be pink, not red or inflamed, and moist to the touch. Dry gums can indicate dehydration.

Ensure that the dog is breathing normally from its chest wall. Labored breathing or wheezing is a sign of disease and should be considered an emergency. Gently palpate the stomach behind the ribs to check for abnormalities. There should be no lumps, bumps, other injuries, or discomfort from the dog. A skin turgor test can help determine whether an LGD is properly hydrated. Lift the skin over the back to form a

tent. A well-hydrated dog's skin should promptly return to its normal position. If the tent returns slowly or remains, the animal may be dehydrated and should be taken to a veterinarian immediately for treatment.

A digital thermometer is helpful to identify the LGD's temperature. The thermometer is placed in the dog's rectum for a temperature reading. A dog's average temperature is between 101 degrees F to 102.5 degrees F. Pulse and heart rate should also be checked during an exam. To find a dog's pulse, locate the femoral artery on the inside of a rear leg. Once the pulse is located, count it for 15 seconds and multiply by 4 to get the dog's pulse in 1 minute. The average pulse rate for a dog is 60 bpm to 140 bpm. Larger dogs tend to have slower heart rates.



Figure 1. Komondor LGD with a well-bandaged foot waiting in a kennel for a veterinary appointment. *AgriLife photo courtesy of Saldana, 2023.*

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Figure 2. An inexpensive digital thermometer is helpful to have in your LGD first aid kit. *AgriLife photo courtesy of Costanzo, 2025.*

First Aid Basics

The main goal of first aid is to identify the problem, prevent the injury from worsening, and keep the LGD safe. Have a first aid kit for all LGDs and be familiar with its contents. Premade, commercially available first aid kits for dogs can be purchased. However, it is often better to build a kit to suit the specific needs of the dogs on a ranch. Consider having several kits available at home and in every truck or utility terrain vehicle (UTV).

Include the kit's first aid reference guide with basic first aid instructions. This guide should also include the phone numbers of a veterinarian, nearby veterinary emergency clinics, and poison control.

Personal and Environmental Safety

Safety is paramount for both the handler and the LGD. A dog in pain may bite, especially if it is scared. When approaching the area, check the safety of the surroundings. Remove the dog from dangers like heavy automobile traffic or water at the scene.

When dealing with an injury, it is essential to wear disposable gloves. To stop the spread of infections, try to avoid touching outside contaminated surfaces with ungloved hands. Handwashing for at least 20 seconds after handling any animal, even if wearing gloves, is advised. If a sink is unavailable, use alcohol-based hand sanitizer.

First Aid Exam

First aid for dogs is a critical skill for LGD owners. The ability to administer immediate care to an injured or ill dog can significantly impact its recovery in emergencies. The following are the steps to administer first aid to a dog:

- 1. Assess the Situation:** The initial step in providing first aid to a dog involves assessing the situation. Ensure the area is safe to approach the dog and evaluate the dog's condition to determine the nature and severity of the injury or illness.
- 2. Approach Cautiously:** Approach the dog calmly and cautiously. Injured or sick dogs may be frightened and in pain, so it is essential to avoid startling them further.
- 3. Restrain the Dog:** If the dog is distressed, it is essential to restrain it to prevent further harm to itself or others. Use a muzzle if necessary. When putting it on, do so gently, not tightly, to avoid discomfort for the dog. Exercise caution, as an injured dog may bite out of fear or pain. If a muzzle is unavailable, a makeshift muzzle can be assembled using a leash, shoelace, or belt tied around the mouth. Tight-fitting muzzles can impact the dog's ability to breathe, so the use of a tight-fitting muzzle should only be for that period of time necessary to examine the dog.
- 4. Stop Bleeding:** If the dog is bleeding, immediately apply pressure to the injury using a clean bandage. If the bleeding is from a limb, elevate the injured limb, if possible, to help reduce blood flow.



Figure 3. An LGD with a severe foot injury. Dogs with injuries such as this may be in extreme pain and may bite handlers trying to provide care. Muzzles are recommended until a veterinarian can see the dog. This type of injury requires immediate veterinary care. *AgriLife photo courtesy of Saldana, 2023.*

5. Check Breathing and Pulse: If the dog is unconscious, check for breathing and a pulse. Administer CPR if necessary, following proper techniques for dogs. The process is slightly different from that of humans! Only perform CPR on your LGD if they are not breathing and there is no pulse. To perform canine CPR:

- Form your palms one on top of the other on the widest part of the dog's rib cage
- Using your hands, press on the chest about 1/4 of the way down.
- Do your chest compressions firmly, not too fast, and not too slow. Perform compressions for at least 5 minutes.
- After 5 minutes, if there is no response, no heartbeat, and no breathing, you can do another cycle. Perform up to three cycles. Sadly, the chance of resuscitation after three cycles is extremely low.

6. Splint Fracture: If the dog has a suspected fracture, carefully immobilize the injured limb using a soft bandage or splint to prevent further damage if possible. A tree branch and tape can be used if a proper splint is unavailable. The idea is to immobilize the limb until a veterinarian can provide appropriate treatment. Dogs with possible back or pelvic injuries should be handled carefully to prevent further injury. Placing a stiff board or thick cardboard under the dog to support lifting and carrying it will help stabilize its body. Veterinary wrap is ideal for immobilizing the dog on a board or cardboard.

7. Transport to Veterinary Care: Once initial first aid has been administered, it is crucial to transport the dog to a veterinary clinic for further assessment and treatment. Contact the veterinarian to inform them of the situation and obtain guidance on safely transporting the dog.

It is imperative to remember that while providing first aid to a dog is essential, it is not a substitute for professional veterinary care. Immediate veterinary attention should always be sought for any severe injury or illness. Additionally, consider enrolling in a canine first aid course to gain further knowledge in providing emergency care for LGDs.

Common LGD Injuries

Minor scrapes and cuts: Clean the injury with soap and water. If the skin is broken, apply an antibiotic ointment with a cotton-tipped applicator and cover with a light bandage only if the dog tolerates it. If the skin is not damaged, a bandage is not needed. Many dogs will chew bandages off, and if that is the case, continued bandaging is pointless. Change the bandage daily or sooner if it becomes soiled or wet. When bandaging the limbs, it is essential to ensure the bandage is not too tight, as this can impair circulation to the limb below it. Always check the paws for swelling after bandaging. Once a scab forms, the area no longer needs to be covered unless the animal is biting or scratching the injury. Watch for redness, swelling, odor, or discharge that may indicate an infection and require veterinary care.

Bruises: Apply a cold compress or ice pack to the injured area for intervals of 10 minutes. Arnica gel can be purchased over the counter and is a natural product that can be applied to bruises once or twice daily.

Insect bites and bee stings: To treat a bee sting or insect bite, start by icing the affected area, then make a paste of baking soda and water, and apply it to the area. Hydrocortisone cream, available over the counter, can be used once to twice daily for swelling.



Figure 4. A short cut on the side of an LGD, likely from a fight with a feral hog. Cuts such as this need to be thoroughly flushed and cleaned to prevent infection. Sutures are also needed along with antibiotic treatment.

AgriLife photo courtesy of Costanzo, 2021.

Ticks: When a tick is located, remove it immediately using a tick remover or tweezers. It is always better to use a tick remover, as regular tweezers may split the tick and potentially spread disease. Wear gloves, if possible, as ticks can transmit diseases to dogs and humans. Thorough hand washing with soap and water is recommended after removing a tick.

Snakebites: Muzzle the LGD if necessary, as bites can be painful. Keep the dog calm, and if needed, carry it to a vehicle to seek veterinary attention immediately. Try to identify the snake with a photo or write down an accurate description before leaving the area. Precise identification is crucial for proper diagnosis and treatment. Do not cut the fang marks, suck out the venom, manipulate the bitten area, ice the area, or administer any medication without veterinary advice. Pain and anti-inflammatory medications will do nothing to reverse the venom's effects on the dog's body. Antivenom is expensive and may be necessary for snakebite treatment.

Sprains: In case of a limb injury, prevent further injury or discomfort by preventing the LGD from walking or running. If it is non-weight-bearing on a limb, seek veterinary care immediately, as this could be a fracture. If the LGD is placing some weight on the injured limb, allow it to rest for 24 hours, and then reevaluate the lameness. If the lameness persists, seek veterinary care for a diagnosis and treatment.

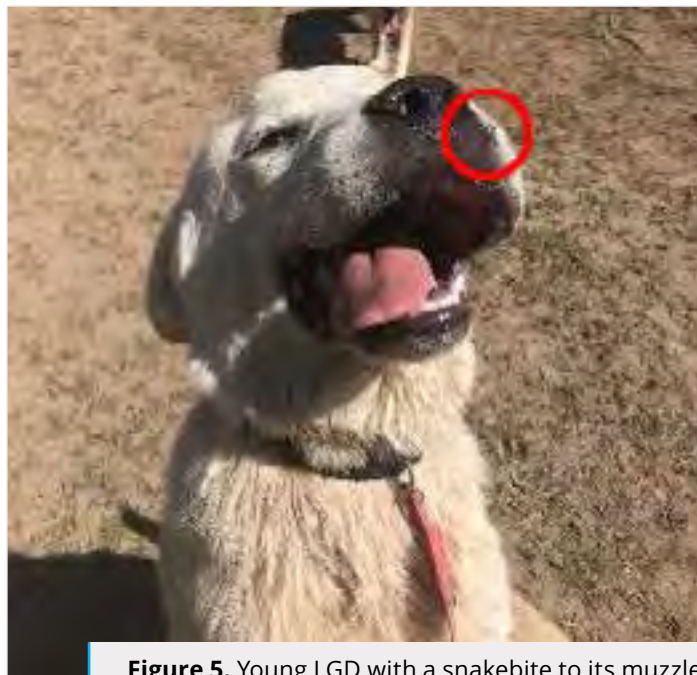


Figure 5. Young LGD with a snakebite to its muzzle (red circle). Snakebites to the face can be dangerous, as the swelling can often interfere with breathing.
AgriLife photo courtesy of Thorne, 2018.

Animal Bites: A bite wound that punctures a dog's skin should be checked by a veterinarian as soon as possible. Infection and potential internal damage are common complications from bite wounds. Addressing these injuries promptly results in better outcomes. Wounds on long-haired dogs may not be readily visible without a detailed inspection. When identified, clip hair as necessary, wash the bite wound with mild soap and water, and seek veterinary treatment to address possible deep wound infections.

Bleeding: Apply firm, gentle pressure for up to 5 minutes to the area so that the blood clots. If there is profuse bleeding, seek veterinary care as soon as possible. Apply a tourniquet or a tight-fitting bandage to control arterial bleeding if needed. Canine "quick clot" products should be included in a first aid kit.

Heat Exhaustion: The hot Texas summers can be brutal for all animals, including LGDs. Ensuring LGDs have unlimited access to water and shade is imperative. Signs of heat exhaustion can include excessive panting, a wobbling or unsteady gait, inability to stand, dilated pupils, extreme redness of the whites of the eyes, and a rectal temperature of 105 degrees F or higher. If heat stress/exhaustion is suspected, immediately get the dog into an air-conditioned space (house, vehicle, etc.), and place wet towels and/or ice packs around the head and abdomen to help reduce body temperature. The dog should be transported to a veterinarian as soon as possible, as heat exhaustion is a true emergency and often cannot be successfully treated without medical intervention.



Figure 6. Adolescent LGD with severe wounds from a dog fight. Wounds such as this require veterinary care beyond what can be done on the ranch.
AgriLife photo courtesy of Costanzo, 2020.

First Aid Kits

Creating a comprehensive first aid kit for canine companions is essential for working dog handlers. This task is not just a duty but a way to ensure their optimal health and well-being in the field. Working dogs, especially livestock guardian dogs, are often exposed to hazards and the risk of injury. Therefore, assembling a well-equipped first aid kit tailored to their needs is paramount.

Creating a first aid kit for working dogs is a proactive process that begins with a thorough, meticulous assessment of the potential risks and injuries they may encounter in the field. This includes considering the nature of their work, their environments, and the specific hazards they may face, such as cuts, abrasions, insect bites, heat-related issues, musculoskeletal injuries, and environmental exposures. By conducting this comprehensive assessment, we can ensure that the first aid kit is well-prepared for any situation.

In addressing wounds and injuries, the first aid kit should include a variety of bandages, nonstick gauze pads, and adhesive tape to provide immediate care for cuts, scrapes, and other wounds. It is crucial to include items specifically designed for animal use to ensure proper care and minimize the risk of adverse reactions. Additionally, using antiseptic wipes or sprays to clean and disinfect wounds is essential for preventing infections and promoting healing. Musculoskeletal injuries are a common concern for working dogs due to the physical demands of their tasks. As such, the first aid kit should include items such as a splint, cohesive bandages, and a cold pack to stabilize and provide initial treatment for muscle strains, sprains, or potential fractures.



Figure 7. LGD with a puncture wound. The wound was clipped, and silver spray antiseptic was applied to the area.
AgriLife photo courtesy of Sustaita, 2025.

Environmental hazards also pose significant risks to working dogs. Extreme weather conditions, insect bites, and exposure to hazardous substances are all potential concerns. Therefore, the first aid kit should include items such as a thermal blanket to address hypothermia or shock, a tick remover tool for prompt tick removal, and saline solution for flushing eyes in the event of exposure to irritants. In addition to addressing immediate injuries, the first aid kit should accommodate any specific medications or treatments recommended by a veterinarian for the working dog's health conditions. This may include allergy medications, pain relief medications, or other medicines for chronic conditions.

Regular maintenance and inspection of the first aid kit are not just tasks but crucial commitments that demonstrate dedication to the health and well-being of the working dogs on the ranch. Ensuring that all items are up to date, sterile, and in good condition is a testament to a commitment to caring for dogs. Furthermore, providing comprehensive training for handlers on how to use the items in the first aid kit is not just a requirement but also a way to demonstrate dedication to ensuring the kits provide prompt and effective care for working dogs.

A significant tool bag or heavy-duty plastic tote will keep all the items in one location, making it easy to carry them into the field. A good-quality cordless clipper with various guards and clipper oil is also essential. The items listed below are helpful for a first aid kit for LGDs:

- Emergency phone numbers (regular veterinarian, emergency veterinary clinic, poison control, etc.) on a laminated sheet
- Laminated pictures of poisonous snakes in your area
- "Write in the rain" small spiral tablet and pen
- 3-inch or 4-inch gauze rolls or cast padding for soft splints
- 4-inch x 4-inch non-adhering cotton pads
- 2-inch waterproof tape rolls
- 3-inch vet wrap rolls
- Cotton balls or pads
- Foil emergency blanket
- Activated charcoal
- General antibiotic ointment with fly repellent (i.e., Tri-Care Ointment from Farnam)
- Swat fly ointment



Figure 8. Common canvas tool bag from a home improvement store works well to keep all of the first aid supplies in one place. *AgriLife photo courtesy of Costanzo, 2024.*

- Antiseptic wipes
- Terramycin Ophthalmic Ointment (eye infections) or triple antibiotic ophthalmic ointment
- Hydrogen peroxide (used to induce vomiting only when authorized by your veterinarian)
- Vetericyn VF Plus Spray
- NFZ Puffer/Ointment
- Orajel (to help remove porcupine quills)
- Hemostat forceps (straight and curved)
- Ear miticide
- Sterile saline solution 500 ml
- Rehydrate electrolyte tablet
- Bottles of water (for you, the dog, and washing minor wounds)
- Rectal thermometer (dog's normal temperature should be 100 degrees F to 103 degrees F)
- Petroleum jelly (to lubricate the thermometer)
- Scissors (with blunt ends)
- Small pliers (to remove quills)
- Syringe 60 ml (to flush any wounds with saline solution)
- Syringe 20 ml with 14 g x 1 needle (to evacuate excess fluids in an abscess)
- Syringes 3ml with 22 g x 3/4 needle (for vaccinations)
- Tweezers (superior quality with a fine chisel point)
- Magnifying glass
- Small LED flashlight
- Instant ice packs
- Disposable gloves (non-latex)

- Muzzle (adjustable size in case they bite)
- Bite-resistant gauntlets
- Chain leash 4 feet to 6 feet (so they do not chew through it)
- Extra collar ~20-inch size (depending on your LGDs)
- Heavy-duty shedding comb/brush
- Slicker brush (self-cleaning)
- Soft brush for face and ears
- Grooming scissors kit
- Heavy-duty canine nail clippers
- Dog treats/Canned wet food
- Cordless clippers with a car charger
- Fly repellent in a spray bottle
- Flea and tick medication
- Travel bowls
- QuikClot for dogs

Conclusion

Knowing a dog's normal behavior and health is the first step in caring for injuries that will occur. Next, consider taking a course on canine first aid to be prepared to use everything in a kit during an emergency. Last, a thorough, tailored first aid kit for LGDs, in a tote or bag, must be created for every vehicle on the ranch. Canine first aid involves a detailed understanding of the risks and potential injuries these animals may encounter. We can ensure that LGDs receive the best possible care in the field by including a comprehensive range of essential items such as wound care supplies, musculoskeletal injury treatments, and measures to address environmental hazards. Regular maintenance and training are vital to ensuring the health and well-being of these invaluable animals.

Acknowledgments

We want to thank Dr. Robert Rose, DVM, Executive Director of the Comparative Medicine Program, and Dr. Jennifer Fridley, DVM, Director of the TAMU Veterinary Medical Park, College Station, TX, for their assistance with this factsheet.