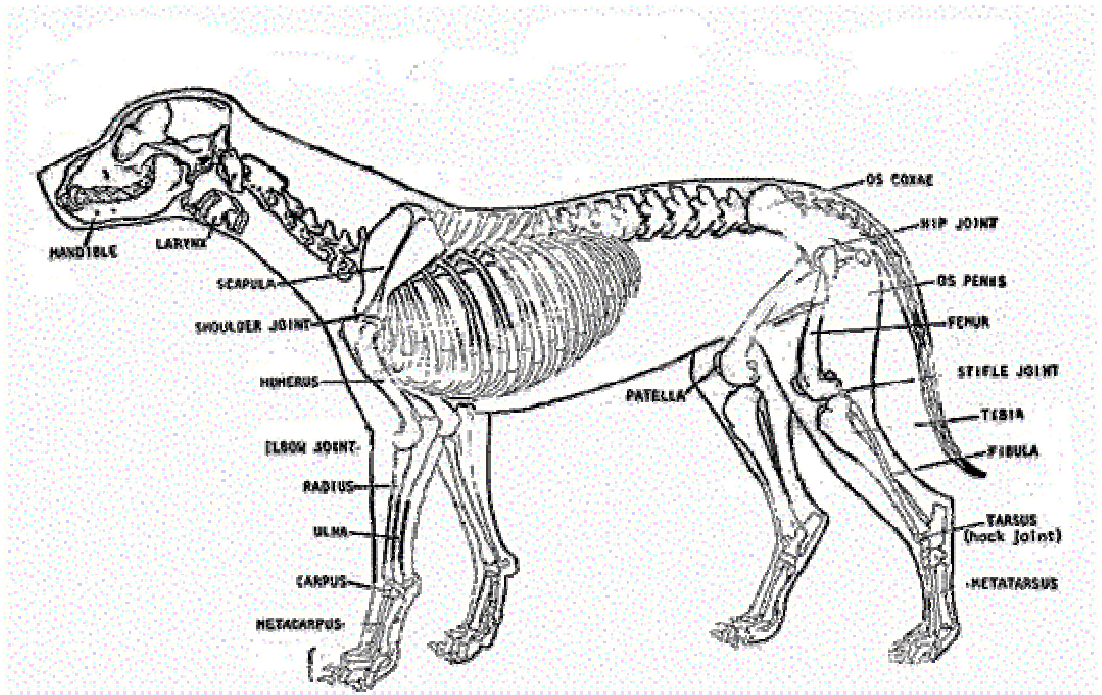


K-9 FIRST AID

**This information is only a guide for giving first aid to a dog.
It is not intended to replace veterinary care, but to
give FIRST AID until you can get professional help.**

This paper is for Search and Rescue dog handlers who are trained to, at least, the Advanced First Aid and CPR level. We would like to share ideas with you about taking responsibility for your canine partner's health. Learn how to read your dog for signs of a medical problem and how to make decisions about when to get more advanced medical help if needed.

SKELETON OF DOG



NORMAL VALUES FOR YOUR DOG

Capillary refill time	less than 1 second
Mucous membrane color	generally pink
Temperature	101 to 102 degrees F

Pulse rate at rest	young dogs 110 - 120 bpm large breed adult 60-80 bpm small breed adult 80 - 120 bpm
Respiratory rate	young 20 - 25 adult 14 - 16
Hydration	pick up skin and release, it should return within 1 second

Capillary refill time is measured by pressing on the gums over the canine tooth. Using one finger, press down firmly until the gums turn white under your finger and release. You are looking for the time it took for the color to return. Also, note the color of your dogs gums and mouth. Dogs gum color can vary from black, pink, reddish brown or any combination of colors.

Temperature is taken rectally with an adult rectal thermometer. You should hold it in place for 1 to 2 minutes. If you get a temperature of less than 100 degrees F, re-take the temperature to make sure the thermometer was in place long enough.

The pulse rate and respiration rate will vary from dog to dog, and will also vary if the dog is at rest or working. So, it is a good idea to get normal values for both.

RECOGNIZING SIGNS OF SHOCK

Shock is a condition resulting from a depressed state of many vital body functions, caused by a lack of effective circulation. It is a life threatening condition that is reversible if treated in time. Some causes of shock are; severe loss of blood, burns, trauma, snake bites, poison, lack of oxygen, or prolonged vomiting with diarrhea.

Symptoms of shock include:

- Pale color in gums / inside eyelids, capillary refill time greater than 2 seconds.
- Dry lips and gums, dehydration.
- Excessive drooling in some poison cases.
- Weak femoral pulse, rapid 150 to 200 beats per minute.
- Rapid heart rate.
- Cool Extremities.
- Hyperventilation, rapid breathing generally over 25 breaths per minute.
- Confusion, restless, anxiousness.
- General weakness.

Advanced stages of shock:

- Continued depression and weakness to the point of not being able to move or becoming unresponsive or unconscious.
- Dilated pupils.

- Capillary refill time greater than 4 seconds.
- White mucous membranes.
- Body temperature below 98 degrees F, taken rectally.

Treatment

ABC's

Insure adequate ventilation.

Control any bleeding.

Keep dog quiet and calm to prevent further injury.

Keep body temperature normal.

Get dog to veterinarian so fluid replacement and medication can be started.

An injured dog or an animal in shock may not recognize you. Your own dog may bite you out of pain or fear. It is very important to talk to the dog in very soft and reassuring tones. If the dog is having trouble breathing or panting heavily do not put a muzzle on it. If a muzzle is placed on the dog it must be monitored at all times and removed at the first sign of overheating or vomiting. Get help, if possible from someone who can help hold the dog, so you can do an examination and/or treat the dog.

WOUNDS AND BLEEDING

Abrasions

- Usually minor.
- Some bleeding.
- Always a possibility of infection.

Treatment

Carefully remove foreign objects and debris.

May have to cut or clip hair away from area.

Clean wound liberally with water and chlorhexidine or Betadine scrubs or solutions if available. If not, any soap will be beneficial. Solution does not have to be rinsed, scrub must be rinsed copiously. *(Avoid using hydrogen peroxide. It can damage tissue.)*

Major lacerations and bleeding

- Can be life threatening.
- May need to be sutured by a vet.

Treatment

- Control bleeding.
1. Additional direct pressure
 2. Elevation
 3. Pressure points

Get professional help right away. Also see the above treatment for laceration

Bandaging principles

- Protect wound from further injury or infection.
- Discourage licking.
- Restrict movement.
- Secure splint.
- Prevent weight bearing.
- Provide compression to control bleeding and edema.
- Verify circulation is maintained to toes, make sure to cushion pads.

FRACTURES AND SUSPECTED FRACTURES

Signs and Symptoms

- Obvious pain
- Loss of use of the limb
- Protruding bone
- Swelling
- Irregularity or deformity
- Limping

Treatment

Remember, shock and bleeding should be controlled first.

Treat dislocation as fracture.

Do not push bone back through skin.

Cover an open fracture with clean dressing.

Limb fracture below elbow or knee apply a Robert Jones bandage from toes to shoulder or hip.

Unfortunately, there is no agreed upon or standard for first aid for a fracture of the humerus or femur.

Transport to appropriate facilities ASAP.

Splinting principles

- Immobilization of fracture or suspected fracture. (This requires immobilization of both the joint above and the joint below the fracture.)
- Decrease pain.
- Prevent shock.
- Prevent further injury to surrounding tissue.
- Provide compression to control bleeding and edema.

EMERGENCY AND TRAUMA

SNAKE BITES

Signs/Symptoms

- Pain
- Lethargy
- Vomiting
- Diarrhea
- Salivation, thirsty
- Swelling at the area of the bite
- Shock

Treatment

Seek immediate veterinary care. While transporting, immobilize the part of the animal that has been bitten, keeping below the heart level. A constricting band may be used, with caution, to impede the spread of the venom. Keep the animal calm and confined during the transport. If you can identify the snake species, it may be helpful in treatment.

STINGS

Signs/Symptoms

- Pain
- Swelling and redness
- Pawing at face
- Snapping in the air

Treatment

If you see the stinger, get it out. Cool compression will help alleviate the sting. Give oral benedryl (diphenhydramine 2-4mg/kg orally every 8 hours). Seek medical attention if swelling persists/gets worse or if the sting is near the head/neck/throat area.

HEAT EXHAUSTION

Signs/Symptoms

- Fatigue
- Circulatory collapse
- Red mucous membrane (gums)
- Excessive panting
- Dehydration
- Shaking

Treatment

Seek shade, rest the dog, offer small amounts of water. Seek veterinary care if condition does not improve.

HEAT STROKE

Signs/Symptoms

- Excessive panting
- Rectal temperature above 105-106 degrees F
- Disorientation
- Weakness
- Rapid pulse/breathing
- Brick red mucous membranes

Treatment

Get the dog into shade, into a creek if available. Use same precautions as with human, don't use ice water bath. Slowly cool down the body temperature, immerse in a cool water bath. Ice can be placed, with caution, under armpits, head, neck, and groin area, being sure to wrap in cloth first. Monitor temperature, avoiding cooling too much. Transport to veterinary hospital.

BLOAT

Bloat is the common terminology for Gastric Dilatation/Torsion. This is most common in larger - deep chested dogs. Gastric dilatation is the enlargement of the stomach beyond its normal dimensions. Gastric dilatation volvulus is when the stomach actually rotates on itself. *This is a life threatening situation.*

Signs/Symptoms

- Dry retching/unproductive vomit
- Restlessness
- Anxiousness
- Distended abdomen (hardened)
- Drooling excessively
- Depression
- Shock

Treatment

Take to the veterinary hospital immediately.
To monitor the bloat you can take a measuring tape (webbing or leash could work) and measure the distance around the dog, just caudal (past) the last rib. Monitor and make sure it is not enlarging, mark it with a pen to keep accurate.

Prevention

Feed your dog his/her ration of food in, at least, two feedings a day (am/pm). Avoid giving lots of water at once, offer water more frequently. Avoid exercise approximately 1-2 hours before and after feeding.

POISON

Signs/Symptoms

- Breathing difficulty
- Unusual actions
- Digestive upset
- Irregular heart, rapid, or weak
- Shivering
- Convulsions
- Salivation

There are many different types of poisoning, each will affect your dog differently. Many do not produce immediate symptoms. Find out what your local poison control number is and call them. Keep 1-800-548-2423 with you. Do not make the dog vomit if it is a caustic poison or you do not know what kind of poison the dog has consumed. Consult poison control or a veterinarian for further instructions.

Types of poisons and a brief reaction description are:

- **Anti Coagulant Rodenticides**
Warfarin

These rodenticides will cause the dog's blood to stop clotting in hours or a day. This does not show immediate signs like other poisons. Make your dog vomit, further veterinary care is necessary for survival. *Seek immediate veterinary care bringing the box of poison with you.*

- **Other Rodenticides**
ANTU
Thallium
Pindone
Strychnine
Sodium Floro-acetate (1080)
Zinc Phosphide

May cause fatal pulmonary edema, seizures, liver or kidney destruction, or severe hemorrhagic gastroenteritis. If the dog is conscious, induce vomiting, give Toxiban, collect the product label, and transport to the veterinarian.

- **Pesticides**

Arsenic
Chlorinated Hydrocarbons
Organophosphates
Carbonates
Rotenone
Metaldehyde

The signs are more immediate for most of these. General profuse salivation, stomach pain and cramps, labored breathing, bluish mucous membranes, seizures/convulsions, rigidity, extended legs and many other signs.
IMMEDIATELY SEEK VETERINARY CARE.

- **Glycol's**

Antifreeze

Signs may not be readily apparent. The dog may actually appear a bit "drunken". The fatal effect of ethylene glycol occurs hours later and is irreversible at that point. Immediately rinse the dog's mouth, feet and any other points of contact. Induce vomiting if conscious and give Toxiban. ***Transport immediately to veterinarian.***

- **Miscellaneous poisons**

Acid
Alkalies
Garbage
Toxic plants
Chocolate
Acid - Clean off what you can see, do not induce vomiting, transport to vet.
Alkalies - Clean off what you can see, do not induce vomiting, transport to vet.
Garbage - Remove what you can, induce vomiting, give activated charcoal....***do not give lomotil.***
Toxic plants - Take a sample of the suspected plant to a local veterinarian.
Chocolate - If more than 1 oz/kg of baking chocolate is consumed,

or 2 oz/kg of semi-sweet chocolate, or 4 oz/kg of Milk chocolate, induce vomiting, give activated charcoal and transport to vet. (note, the fat content of some milk chocolate products can cause life threatening pancreatitis).

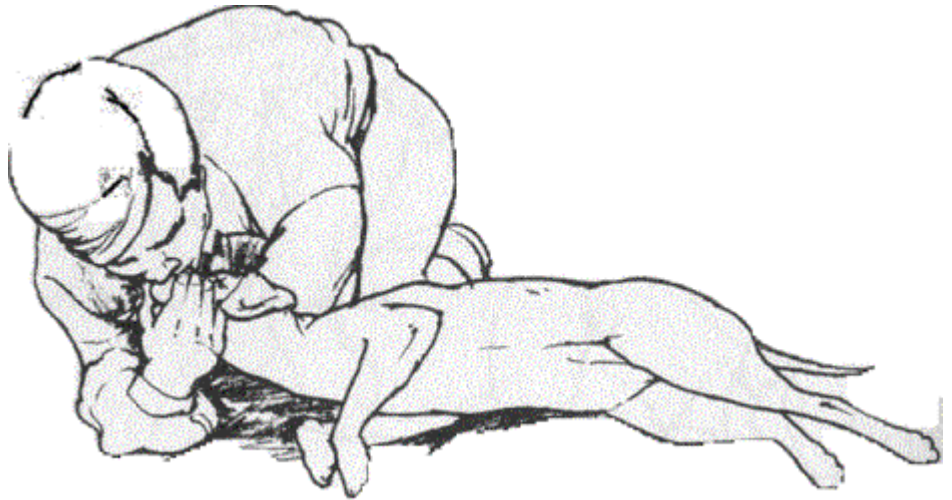
CPR AND RESCUE BREATHING

Airways

The first priority is to establish an unobstructed airway. Open airways by extending head and neck. Check and remove any foreign materials from the mouth and pull the tongue forward.

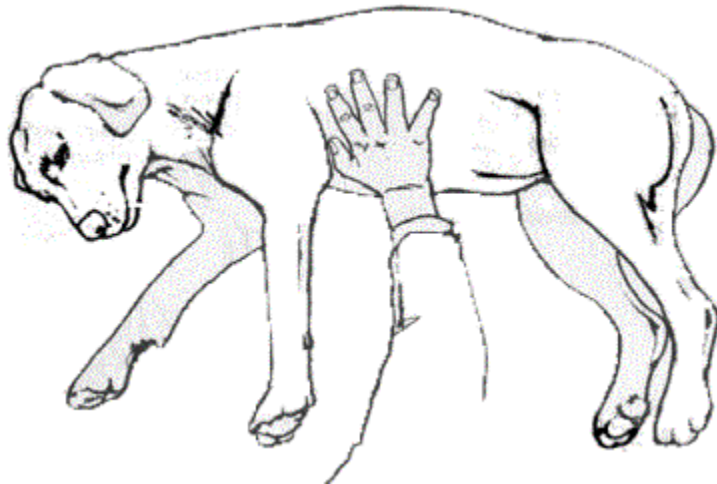
Breathing

Look and listen for signs of breathing. If none, place your hands around the muzzle to prevent air from escaping and breathe forcefully into the nostrils. The chest should expand and fall if you are getting air into the lungs. Do not be too forceful with small animals. Rescue breathing should be given at a rate of 8 to 10 breaths per minute (or one breath every 6 seconds).



Cardiopulmonary resuscitation (CPR)

If there is no pulse, place the dog on a hard surface with its right side down. Use the heel of your hand to compress the chest on the lower side immediately behind the elbow. The compression should be firm and not a sudden blow. It helps to have 2 people; the first gives the cardiac massage, the second does the breathing. CPR should be given at a rate of 80 to 120 compressions per minute with two ventilations being given every 15 compressions of the chest.



Drugs & Electrical Manipulation

Drugs and electrical manipulation can only be done by a veterinarian. For the best chance to save your dog, get to a veterinarian as quickly as possible! Even if you revive your dog by doing rescue breathing or CPR, take your dog to a vet for a complete exam.

FIELD FIRST AID KIT

This is a list of equipment and supplies that you will want to carry in your field first aid kit. The * indicates things that you will need to obtain from a veterinarian. It's a good idea to talk to your veterinarian and let him know the kind of work you do with your dog. Remember you want to keep your field pack as small and light as possible. Carry only the things that you will need for an emergency. Your car or flight pack is a good place to carry bulky first aid supplies like extra tape, bandages, and roll cotton.

- tweezer
- hemostat / forceps
- scissors / emergency shears
- thermometer
- safety pins
- 3" x 3" gauze sponges
- Ace elastic bandage
- triangular bandage
- Band-Aids
- 2" roll gauze / Conform stretch bandage
- Sam splint
- 1" adhesive tape
- exam gloves
- non-adhering dressing / Telfa / Release
- 2" roll Medi-Rip / Vetwrap
- Betadine solution
- Sting ease

Aspirin
K-Y jelly
Benadryl (2-4mg/kg)

- * Antibiotics (Ampicillin / Tetracycline)
- * Topical ointments (Panalog / Tritop / Neomycin / Neosporin)
- * Ophthalmic Ointment without steroid (Mycitracin / Terramycin)
- * Steroid (Prednisolone)
- * Anti-diarrhea medication
- * Emetic, to cause the dog to vomit (Apomorphine)

The items in parentheses are only a suggestion. Your Veterinarian may have you use other drugs or products.

EMERGENCY PRE-PLAN FOR WORKING SEARCH DOGS

Meet With Your Veterinarian

Talk to your veterinarian to see if he/she would be available to assist in an emergency after hours or on weekends. It's important to let them know the type of work you do with your dog. In the event of an emergency it might be hours or even a day before you can get your dog to professional help.

Discuss with your veterinarian how they would like you to handle emergencies such as: hyperthermia, allergic reactions, snake bites, lacerations, fractures, diarrhea/vomiting and poisoning before you get your dog to them or the closest vet. Go over the first aid kit and medication ideas. Are they willing to provide you with some basic drugs and instructions on how to use them in an emergency? The list of medications is only a suggestion, each veterinarian will have medications they prefer to use. Don't make a First Aid kit with things you don't know how to use or what they are for.

If your dog has been injured or treated for an emergency in the field it is important to call your vet and update him upon your return. Your vet may recommend a follow up exam and further treatments or just appreciate being updated.

Field First Aid Kit

This kit will always be taken with you when you go out in the field. A field first aid kit is a small to minimum sized kit and only contains things to treat emergencies in the field. The medications and supplies don't last forever. Make sure all medications have expiration dates on them. Keep tape in a plastic bag to avoid its drying out. The most important thing to remember is that when you use up supplies in your first aid kit ***you replace them ASAP.***

Car First Aid Kit

Make a larger kit to keep in your car that contains more supplies like dressings, bulky bandaging supplies, splints, stethoscope, sterile water etc.

Medical Records and Vaccination Certificates

Ask your veterinarian for a copy of your dogs records and certificates for vaccinations. They are very important to have if your dog is being treated for any condition or has any medical problems. You should carry a copy of your dogs current vaccinations.

K-9 EXAM PRACTICE

Because normal values vary from dog to dog, this will be a reference of what is normal for your dog. Please print and complete and put in your First Aid Kit for reference.

GLOSSARY OF COMMON ABBREVIATIONS AND TERMS USED IN VETERINARY MEDICINE

BP	blood pressure	BID	twice daily
CRT	capillary refill time	DX	diagnosis
EOD	every other day	FX	fracture
HBC	hit by car	IM	intramuscular
IV	intravenous	LRS	lactated ringers solution
NSF	no significant findings	PCV	packed cell volume
PRN	as necessary	QD	once daily
QOD	every other day	RBC	red blood cell
RX	prescription	SID	temperature, pulse, respiration
TX	treatment	WBC	white blood cell

Alopecia - hair loss

Ataxia - lack of coordination

Capillary - tiny blood vessels connecting arteries with veins

Distal - away from the center

Dorsal - back, posterior

Dyspnea - difficult or labored breathing

Edema - large amounts of fluid in subcutaneous tissues

Emesis - vomit

Gastroenteritis - inflammation of the stomach and intestine

Hematoma - a blood filled swelling

Hydration - to combine with water

Hyperventilation - rapid or deep breathing that over oxygenates the blood causing dizziness

Jaundice - yellowing of the skin
Lateral - side away from the center
Luxation - dislocation
Otic - relating to the ear
Pancreat - pertaining to the pancreas
Pneumo - pertaining to the lungs
Polydipsia - excess thirst
Polyuria - passage of greater than normal amounts of urine
Proximal - nearer or towards center
Renal - relating to the kidneys
Thoracic - Pertaining to the chest cavity
Ventilation - circulate air to oxygenate blood
Ventral - sternum or belly side
Zoonosis - disease of animals that can be transmitted to humans