

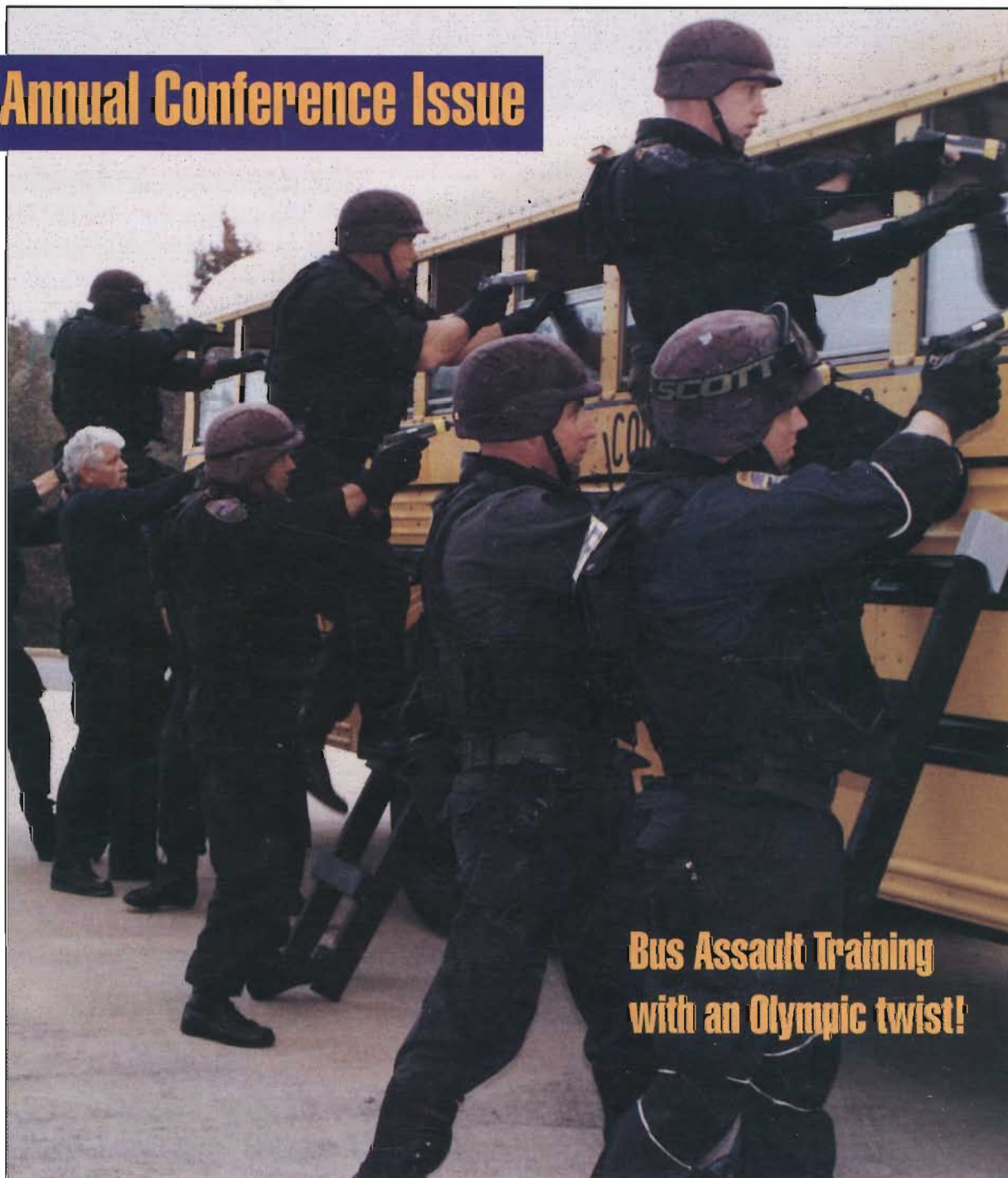
THE

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Winter 1996

TACTICAL EDGE

Annual Conference Issue



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INSIDE THE PERIMETER

LIFESAVING K-9 FIRST AID

Medical Management of K-9 Emergencies-Part Two

By Lawrence E. Heiskell, M.D., and David H. Tang, M.D., FACEP

In Part One, of this article (see *The Tactical Edge*, Fall '95), we presented basic CPR and how to manage other aspects of K-9 medical emergencies, including the **Primary Assessment** (the ABC's—Airway, Breathing, and Circulation).

In Part Two, we begin with an outline of the **Secondary Survey** of the injured canine and proceed with other K-9 medical emergencies likely to occur during tactical operations and their treatment.

After a canine injury during tactical operations, assessment of the dog's general condition is crucial. If the assessment is inadequate, and proper supportive measures are not taken, the dog's condition may worsen or the dog may even die. In addition, improper handling of the animal may result in further injury. Identifying the signs that pinpoint a medical problem with police canines is important for tactical medical support personnel to be able to expedite emergency medical treatment and prevent further injury and disability.

The Secondary Survey

A helpful mnemonic for the physical examination of an injured dog is **A CRASH PLAN**. A tremendous amount of clinical information can be gained from the physical examination of the dog, but one needs to look at, touch, and feel the animal to gain this information.



Photo 1. To evaluate an injured canine's extremities, feel for a pulse in the front and hind legs.

A = Airway

Examine the mouth and throat. Look for signs of injury, feel the jaw and neck area, and listen with a stethoscope for any irregular breathing sounds.

C = Cardiovascular

Carefully look at, touch, and listen to the chest.

R = Respiration

Ascertain that the dog's breathing is regular and continuous.

A = Abdomen

Feel the abdomen and look for bruises and puncture wounds. Listen with the stethoscope for bowel sounds.

S = Spine

Feel the spine for irregularities or deformities.

H = Head

Examine the eyes, ears, nose, mouth, and teeth.

P = Pelvis

Examine the hindquarters of the dog for pain or deformities.

L = Limbs

Examine the front and hind legs for injury to the skin or muscles.

A = Arteries

Feel for pulses in the front and

hind legs (see Photo 1).

N = Nerves

Check to see if the dog can move all four legs including its tail.

Upon completion of a Secondary Survey the on-scene medical provider should be able to make a reasonable assessment of the injured canine, formulate a treatment plan, and proceed with emergency medical treatment.



Photo 2. Using cardboard or other suitable material, such as paint mixing sticks, attach the splint to the fractured leg with gauze or torn strips of cloth.

Fractures

Although all bones are subject to breakage, leg fractures are by far the most common broken bone in canines. Keep in mind that dogs

have a high pain tolerance. The vast majority of fractures are the result of external trauma, most commonly from motor vehicle accidents or falls from a height.

Despite of the low priority initially assigned to musculoskeletal injuries, the degree of recovery from these injuries or from complication associated with them is often a critical factor in a dog's long term prognosis for a useful life.

3 Classifications of Fractures

1. *Critical fractures.* These require immediate attention within a few hours and repair by a veterinarian in order to maintain life and normal function of the structure involved. These include skull fractures, fractures of the spine, and open fractures (a break in the skin over the broken bone).

2. *Semicritical fractures.* These injuries may result in severe problems and abnormal function if not promptly treated within 2 to 5 days. These include fractures of joint surfaces, pelvic fractures, and dislocations of the major joints such as the hip and elbow.

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3. Noncritical fractures. These fractures do not need immediate reduction (realignment), and can be managed within several days. Examples are closed fractures of the long bones of the legs.

Initial on-scene management after an examination consists of splinting the fracture to decrease pain and swelling. This prevents further soft tissue damage and self-induced trauma, and simplifies movement. If the fracture is to either the front or hind legs and below the elbow, apply a temporary support splint. Immobilization of fractures above this region is difficult and sometimes dangerous due to the leverage on the fracture from the splint. These fractures can be managed by an over-the-shoulder or over-the-hip splint.

Fracture Management

1. If the broken limb appears grossly deformed, or the dog appears to be in a great deal of pain when you attempt to apply a splint, first muzzle the dog. Next, place a large towel under the unsplinted limb for support, and transport the dog immediately to a veterinarian, and skip steps 2 & 3.

2. Otherwise, using any splint material available (rolled newspaper, stiff cardboard, sticks, etc.) apply a temporary splint. The goal here is to immobilize the limb, not reset the fracture.

3. Attach the splint to the fractured leg with gauze or torn strips of cloth. Tie firmly, but not too tight or it may impair circulation (see Photo 2).

4. Transport the dog as soon as possible to a veterinarian.

Smoke Inhalation

Canines working in heavy smoke or in a burning building may be injured by thermal burns, but more commonly suffer from burns to the airway along with smoke and carbon monoxide poisoning. The smoke and excessive heat can severely damage the lining of the throat, and cause swelling of the upper portion of the windpipe. In addition, incomplete products of combustion can enter the lungs and combine with mucous to produce acids and alkalis damaging the lungs. Specific noxious fumes may also damage the lungs when rubber, plastic, or other synthetic products burn.

Evaluation & Treatment

1. Again: remember the ABCs (Airway, Breathing & Circulation) of the Primary Survey. Examine the mouth to look for evidence of burns, singed facial hairs, and the presence of carbonaceous sputum (saliva mixed with particles of soot). This indicates a significant inhalation injury.



▲ Photo 3. Treating a canine with an inhalation injury. If the dog is breathing on its own, an oxygen face mask can be held over the nose.



Photo 4. When treating hyperthermia, remove the dog from the hot environment and apply a continuous stream of water over its body for at least 30 minutes.

2. If the dog is not breathing, proceed with intubation and administer 100 percent oxygen. Begin canine CPR (described fully in Part One of this article).

3. If the dog is breathing on its own, the commonly used oxygen face mask can be held over its nose and works nicely (see Photo 3).

Heat Stroke

Canines working a call-out under stress in high temperature environments can suffer heat illness. Working in an enclosed space such as an attic or crawl space on a hot day while searching for a suspect can easily precipitate hyperthermia, high body temperature. Hyperthermia in dogs is indicated by a rectal temperature of 41 to 43° C (105 to 109° F). Dogs with heat stroke will pant excessively, have a

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rapid heart rate, and may vomit or have diarrhea. The top of the head will feel hot to the touch. Immediate treatment is aimed at lowering the dog's temperature. Without rapid cooling severe brain damage and death will occur.

Treatment

1. Remove the dog from the hot environment.
2. If available, apply a continuous stream of water from a garden hose over the dog's body for at least 30 minutes (see Photo 4).
3. Apply ice packs to the dog's head. Notify a veterinarian and take the animal there immediately.

Frostbite and Hypothermia

When a dog is exposed to freezing temperatures during a tactical operation, or for whatever reason becomes wet in a cold environment, it is susceptible to cold injury. The parts of the dog most often injured by frostbite are those sparsely covered by hair – the ears, footpads, and tip of the tail. Signs of frostbite in the early stages are pale painful skin, which in the advanced stages turns red or black.

Hypothermia (low body temperature), is considered body temperature less than 32° C (89.5° F). In dogs, if the body core temperature drops below 28° C (82° F), they lose the ability to return their body temperature to normal, but with treatment they may survive.

The extent of the injuries to body tissues varies with the actual temperature and the duration of the hypothermic condition. Signs of hypothermia include a change in the mental status of the dog, shivering, slow heart rate, depression, and coma.

Treatment of Frostbite

1. Remove the dog from the cold source. Next, restrain the dog. Frostbite is painful and the dog may not accept treatment easily.
2. Rewarm the affected areas with moist heat applications at 29.5° C (85° F) to restore circulation. Do not rub the affected areas or apply any ointment.
3. If normal skin color can be restored the dog will probably do well. However if the skin becomes black signifying dead skin, then seek veterinarian assistance as soon as possible.



▲ Photo 5. Wrapping the dog in a warm blanket will help raise the core body temperature in a canine with hypothermia.



Photo 6. To administer Syrup of Ipecac in a suspected poisoning, tilt the head backward and pull the lower lip out at the corner to form a pocket. Using a plastic syringe, place the fluid slowly into the mouth.

Treating of Hypothermia

1. Remove the dog from the low temperature environment.
2. Wrap it in warm blankets and apply hot water bottles (37° C / 100° F) against its abdomen. Be sure to wrap the bottles in a towel to avoid burns to the skin (see Photo 5).
3. Transport the dog to a veterinarian as soon as possible. Hypothermia always requires veterinarian attention as soon as initial efforts to warm the dog have been made.

Poisoning

Despite training, canines are curious by nature. They like to investigate, which may lead to accidental poisonings. For example, during a tactical operation involving a clandestine drug lab, a canine may find an open can or bottle



Photo 7. If the dog has been stung by a bee and the stinger can be seen, use a credit card to scrape off the stinger. Don't pinch it out – doing so can inject additional poison into the dog.

of some chemical. Accidentally spilled, the chemical gets on the paws and, while licking the area clean, the dog ingests the chemical and becomes ill.

According to veterinarians, the most common cause of canine poisoning is rodenticide (23%), which could be present in any building or home in which a search warrant is being conducted. Other significant causes include human medicines (17%) and insecticides (12%).

With the thousands of common toxins, the spectrum of possibilities for K-9 poisoning is endless. Therefore, it is incumbent on the tactical medical team to have available local and national poison control center telephone numbers. There is a National Animal Poison Control Center at the University of Illinois at Urbana-Champaign College of Veterinary Medicine. The number is 800-548-2423, however there is a charge for the call. Human poison control centers can be useful sources of information, especially regarding out of the ordinary toxins and ingestion of human medications.

Ingestion of toxins causes a wide range of symptoms. These include mouth irritation, drooling, vomiting, diarrhea, hallucinations, seizures, coma, and death. The mainstay of treatment is to prevent further absorption of the toxin. Basic emergency treatment for poisoning is based on the substance ingested and the amount, so a call to a poison control center is paramount.

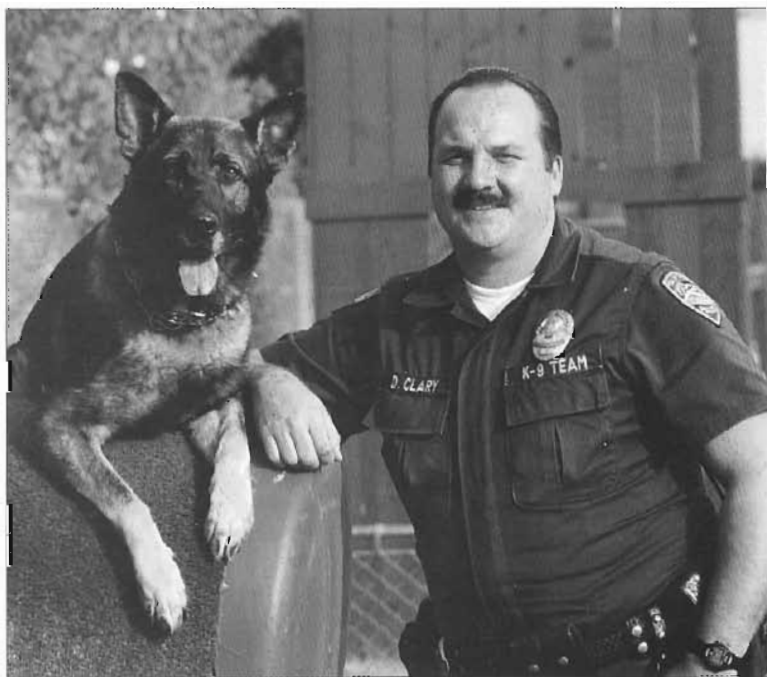
Treatment

- 1.** If the dog is unresponsive or convulsing, wrap it in a warm blanket and immediately transport to a veterinarian.
- 2.** Flush the dog's mouth with large amounts of water. Position the head downward so it does not choke.
- 3.** If poison control informs you the ingested substance is corrosive, do not induce vomiting. The dog may inhale contents into the lungs or further damage the esophagus.
- 4.** If poison control recommends inducing vomiting to empty the stomach, two options are Syrup of Ipecac (1 to 2 ml/kg of body weight) or Hydrogen Peroxide (1 to 2 ml/kg). To administer, tilt the dog's head back and pull the lower lip out at the corner to form a pouch. Using a plastic syringe (minus the needle) place the fluid slowly into the mouth (see Photo 6).
- 5.** Take the dog, the vomit, and the container of suspected poison immediately to a veterinarian.

Stings and Insect Bites

Crawl spaces, attics, and other areas in homes and buildings often contain spiders, bees, wasps, and ants. Canines are frequently used during tactical operations to clear these areas. Dogs assigned to tactical teams in desert areas are at risk for scorpion stings. If the dog is stung many times, an allergic reaction to the venom deposited by the insect is the most serious problem and the dog could go into

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Officer Dan Clary and "Key" of the Palm Springs Police Department K-9 Unit. Photos courtesy of the authors.

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shock. The bites of spiders, especially black widows and the brown recluse spider, are toxic to dogs. The signs are sharp pain at the site of the bite, and the dog may also develop fever, chills, and difficulty breathing.

Treatment

1. Apply an ice pack to the area to reduce swelling and ease pain.
2. If the dog has been stung by a bee and the stinger is visible, use a knife or credit card to scrape it off. Do not attempt to pinch it off as this can inject more venom into the

dog (see Photo 7).

3. Administer an antihistamine such as Benadryl 50 mg by mouth, to prevent or stop an allergic reaction until veterinary help is obtained.

First-Aid Kit For K-9 Emergencies

In the tactical environment all things are possible, including injury to K-9s assigned to the team. We believe it prudent to prepare a first-aid kit especially for canines. This kit should then be stored if possible in the equipment van, or kept with the teams' call-out medical equipment. Although no list ever seems complete when it comes to emergency medical equipment, these items should get you started with the basics, and pull your canine helpmate through the majority of most conceivable medical emergencies it encounters in the course of performing its duty.

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| <input type="checkbox"/> Plastic syringes | <input type="checkbox"/> Syrup of Ipecac | <input type="checkbox"/> Adhesive tape |
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| <input type="checkbox"/> Sterile gauze pads | <input type="checkbox"/> Wooden paint sticks for making splints | |
| <input type="checkbox"/> Bacitracin ointment | <input type="checkbox"/> 3% Hydrogen Peroxide | |
| <input type="checkbox"/> Betadine Solution | <input type="checkbox"/> Benadryl 50 mg tablets | |
| <input type="checkbox"/> Nylon rope for restraining | <input type="checkbox"/> 2" strips of clean cloth (2-4 in length) | |

Snakebite

Pit vipers are the major group of poison snakes in the United States. This group includes copperheads, rattlesnakes, and the cottonmouth water moccasin. A smaller group includes the rare, but nonetheless deadly, coral snake. The bite of a coral snake can cause severe neurological reactions leading to death and coma. The severity of the reaction to a poisonous snakebite basically depends on the amount of venom injected during the bite, size of the dog, and the closeness of the bite to the heart.

Canines tracking a suspect in mountainous or desert terrain are susceptible to rattlesnake bites. If the dog is bitten by a snake, attempt to kill or capture the snake so positive identification

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can be made. If the canine is bitten by a nonpoisonous snake, then no real danger or threat to the dog exists, except for infection from the bite. This can best be treated by cleansing the wound with 3% hydrogen peroxide.

The symptoms that a dog exhibits after a snake bite essentially makes the

diagnosis of a snake bite. As in humans, treatment is based on the severity of the symptoms. If the dog receives a large amount of venom it may go into shock. Getting the animals quickly to a veterinarian can be life saving.

Treatment

1. Muzzle the dog. Snake bites are painful and the dog probably will not easily accept treatment.

2. Wrap the dog in a blanket, watch for signs of shock, and treat if present.

3. Notify a veterinarian and transport the dog there immediately. The dog may need the administration of antivenin. ■

Further Reading:

Carlson, D.G., Giffin, J.M., *Dog Owners' Home Veterinary Handbook*. New York, New York, Macmillan Publishing Company, 1992.

Fenner, W.R., *Quick Reference to Veterinary Medicine*, 2nd Edition. Philadelphia, J.B. Lippincott Company, 1991.

Kirk, R.W., Bistner, S.J., and Ford, R.B., *Handbook of Veterinary Procedures & Emergency Treatment*. 5th Edition, Philadelphia, W.B. Saunders Company, 1990.

Murtaugh, R.J., Kaplan, P.M., *Veterinary Emergency and Critical Care Medicine*. St. Louis, Mosby Year Book, 1992.

Plunkett, S.J., *Emergency Procedure for the Small Animal Veterinarian*. Philadelphia, W.B. Saunders Company, 1993.

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