



Always consult with a veterinarian that you feel comfortable with before diagnosing or treating any disease on your own. This information is for reference only.

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Hypothermia

Issue Description

Hypothermia occurs when the core body temperature falls below the normal range (99 to 100 degrees Fahrenheit). This occurs when heat loss exceeds heat production.

Causes

Loss of body heat occurs through four primary mechanisms:

- Conduction is an exchange of heat between two objects of different temperatures, such as from the warm dog to the cold rock upon which he is sitting.
- Convection is the loss of heat due to the movement of air from around the body. An example of Convection is when wind carries away warmed air from around the dog and replaces it with colder air which the dog then needs to warm back up.
- Radiation is known as the transfer of heat by an infrared process between two objects of different temperatures.
- Evaporation of water from the skin, mucous membranes, and through the respiratory passages is also a significant source of heat loss.

Symptoms

Hypothermia can be divided into 3 categories:

- Mild: Above 36 C or 96 F. Shivering is increased. Lethargy and increased muscle tone are noted.
- Moderate: 32-34 C or 90-94 F. Typified by stupor, incoordination, loss of shivering reflex, and unconsciousness.
- Severe: 28-26 C or 82-86 F. Collapse, agonal breathing, and fixed, dilated pupils.

Treatment

Field treatment of hypothermia focuses on prevention of further heat loss. Passive rewarming includes insulating from cold surfaces, gently drying the dog; wrapping in blankets, towels or "space blanket"; and body to body contact. It is not necessary the handler to remove all of his own clothing, but curl around the dog so that there is as much body contact as possible depending on the size of the dog. Covering both with a sleeping bag, or jacket will help prevent further heat loss. Watch carefully for painful rewarming reactions as the dog may strike out and injure the handler or itself. Active external rewarming is applied only to the thorax (the core) of the dog. Methods used include: a circulating warm water blanket wrapping only the thorax; a warm water bath, taking care to leave the extremities and head out; heat packs and hot water bottles placed around the dog to create a warm tent of air; and heat lamps and floor heaters. The treatment needs to take place in a controlled environment where the temperature of the water and the dog can be closely monitored. Precautions include: monitoring the hot water bottles to insure that the heat does not flux back from the dog to the bottles; avoiding direct contact with skin to prevent possibility of burns; and placing a thermometer between the lamps and the dog. Internal rewarming is generally reserved for severely hypothermic animals and includes: warmed IV fluids and inspired air; peritoneal dialysis; and flushing stomach or rectum with warm isotonic fluids. This is only done in a hospital setting under the care of a veterinarian.

Prevention

For handlers who frequent working their dogs in cold weather conditions, these additions to their first aid kits should be considered:

1. Absorbent towels for drying dog;
2. Space blanket or other heat reflective blanket;
3. Thick sport weight or wool socks (kid's size to fit paws) 2 pair;
4. Cold weather dog jacket if appropriate for dog;
5. Vaseline based ointment.

Prevention of frostbite and hypothermia is possible by observing your dog frequently and providing the necessary support before trouble arrives. If your dog does not have an adequate coat, provide it with an artificial coat. Have a pad to insulate the dog from the cold ground when it must be in one place. Make sure that when you take a break and warm up, you get out the pad and give food and water. Check the temperature of the ears, scrotum and face, watching for signs of frostbite. As the "thinking" 1/2 of the team, it is the handler's responsibility to monitor the canine partner.

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