

A Monthly e Magazine
ISSN:2583-2212

Popular Article

May, 2025 Vol.5(5), 7041-7045

Heat Stroke in Dogs: An Emergency

Dr. S.V. Mavadiya, Dr. A.A. Vagh, Dr. Meet Pandya and Dr. Puri Makvana
College of Veterinary Science and A.H., Kamdhenu University, Junagadh, Gujarat.
[DOI:10.5281/ScienceWorld.15447561](https://doi.org/10.5281/ScienceWorld.15447561)

Heatstroke is a critical and life-threatening condition that can impact dogs during the summer, especially in hot and humid climates. It is defined as a body temperature exceeding 104°F (40°C) without fever, and recognizing it promptly is essential for saving a dog's life. The critical temperature where multiple organ failure and impending death occurs is around 107°F to 109°F (41.2°C to 42.7°C). Brachycephalic (short-nosed) breeds like Bulldogs and Pugs are more prone to heatstroke.

TYPES OF HEATSTROKE

1. **Exertional Heatstroke:** This occurs during physical activity, particularly in dogs that are not acclimated to high temperatures. Dogs need 10 to 60 days to acclimate, which significantly reduces their risk of heatstroke. Working dogs are typically monitored by knowledgeable handlers, making exertional heatstroke less common in those cases.
2. **Non-Exertional Heatstroke:** This type arises from prolonged exposure to heat when a dog is confined, such as in a parked car or in a yard lacking shade and water. This scenario is preventable and should be avoided at all costs.

SYMPTOMS

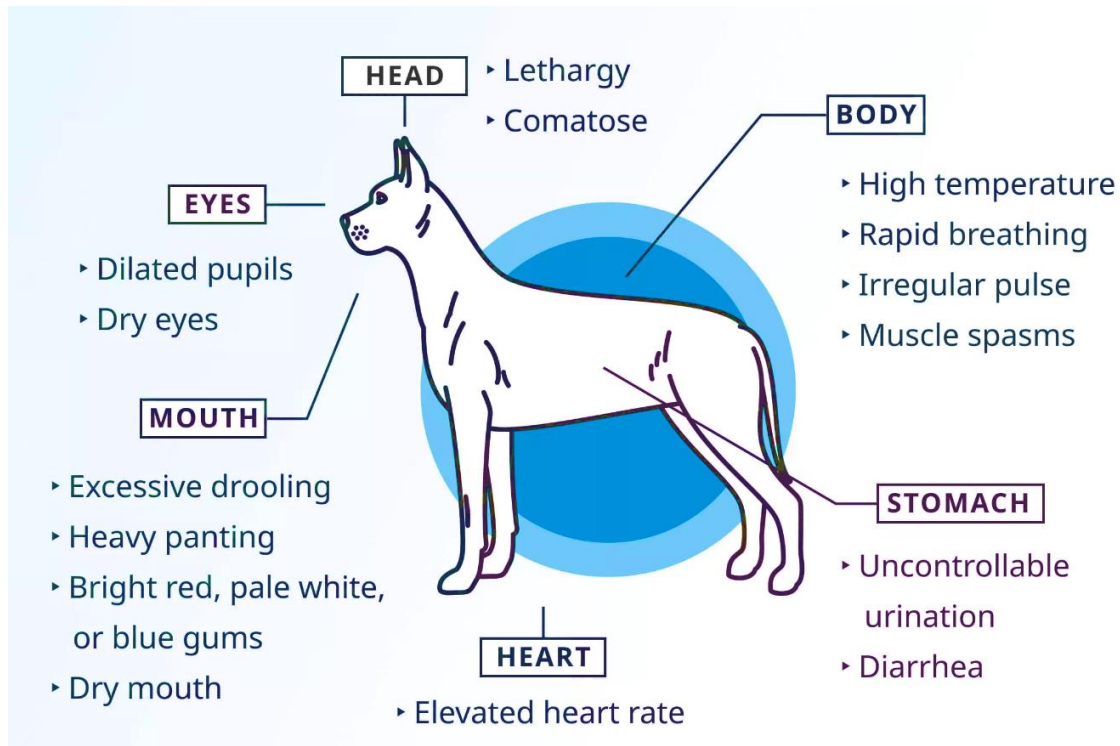
Signs of heatstroke are clear and can include collapse, rapid breathing, shock, abnormal behaviour, and gastrointestinal issues. Severe diarrhoea that may be bloody or black is a strong indicator of heat stress. While hyperthermia is often present, be aware that affected dogs can present with normal or even low temperatures due to prior cooling efforts. As the condition worsens, signs and symptoms progress that include vomiting or diarrhoea (possibly with blood), severe tachycardia, lethargy or collapse, dizziness, muscle tremors, seizures and unconsciousness etc.



DIAGNOSIS

Key diagnostics are non-negotiable and should include a urinalysis and blood tests to assess electrolytes, glucose, lactate levels, and blood coagulation status. Upon arrival at the veterinary clinic, it is imperative to monitor vital signs and neurological status continuously. Repeat assessments of heart rate, blood pressure, and lab values throughout hospitalization are essential for effective management.

Fig.1 Sign and symptoms of Heat Stroke



TREATMENT

1. **Cooling:** Immediate and aggressive active cooling is critical. Utilize fans and cool water to reduce the dog's body temperature, checking it every 5 minutes. Once it stabilizes at 103.5°F to 104°F (39.7°C–40°C), stop cooling to avoid the risk of hypothermia.
2. **Fluid Therapy:** Intravenous (IV) fluids must be administered systematically. Start with crystalloids to combat dehydration and support circulation effectively. Maintain fluid therapy to cover ongoing losses and support the dog's recovery.
3. **Remedial Therapy:** Given the risk of gastrointestinal damage, broad-spectrum antibiotics should be initiated immediately while remaining vigilant about the potential for antibiotic resistance. Act quickly and decisively when dealing with heatstroke to optimize your dog's chances of a full recovery. Time is of the essence.



- a. Antibiotics: Due to the risk of bacterial translocation from gastrointestinal (GI) damage, consider broad-spectrum antibiotics while being aware of antibiotic resistance. Continue treatment until GI symptoms resolve and the patient resumes eating.
- b. GI Tract Care: Use anti-emetics (metoclopramide, ondansetron) for nausea and administer GI protectants to prevent ulceration. Proton pump inhibitors (omeprazole, pantoprazole) and famotidine help reduce stomach acid, while sucralfate acts as a local protectant for ulcers.
- c. CNS Sustenance: In heatstroke patients, CNS abnormalities may indicate increased intracranial pressure. Mannitol can be given to reduce this pressure; if contraindicated, use hypertonic saline (7.2%-7.5%) instead. Elevate the head and avoid jugular vein compression for patients with possible cerebral oedema.
- d. Cardiac Backing: Ventricular arrhythmias are common in heatstroke due to myocardial damage. These can be treated with lidocaine other

PREVENTION STEPS

- Provide shade and water outdoors.
- Don't use ice baths (this can cool them too rapidly and cause constriction of the blood vessels lowering their cooling ability)
- Restrict exercise on warm days (dogs should be walked early in the morning or later in the evening to avoid the hottest part of the day)
- Avoid leaving dogs in closed vehicles.
- Acclimate dogs to heat gradually over two months.
- Immediate communication with a veterinarian for better health.
- Keep your dog well hydrated with easy access to water.

