

The “Dog Days of Summer” refers to the time of year when Sirius-The Dog Star shines brightly in the evening sky. In our area these days of late summer are also when we get some of our warmest weather. Unfortunately, to veterinarians it also signals a time when dogs are at great risk of developing a dangerous condition called Hyperthermia; more commonly known as Heatstroke.

Heatstroke develops when the production and/or accumulation of heat in the dog’s body overcomes the ability to dissipate it. Normal ongoing metabolic processes and muscle activity alone produce a fair amount of body heat. Add to this the heat the body can accumulate from its surroundings (direct sun exposure and warm air temperatures) and core body temperatures can quickly raise to dangerous levels. The dog, like other mammals, has several ways to dissipate heat from their bodies, such as direct radiation, conduction (laying on cool concrete), convection (sitting in the path of a cool breeze), and surface evaporation of moisture.

Unlike people who cool by evaporating sweat over a large portion of their body, dogs achieve evaporative cooling largely via panting. The respiratory tract, and to a small degree the footpads, are the only sites where dogs can evaporate moisture for cooling. Dogs do not have the ability to sweat like we do, so Hyperthermia is a real issue during these hot summer days.

The normal rectal temperature for dogs ranges between 100 to 102.5 degrees Fahrenheit. Temperatures above 106 degrees Fahrenheit can be dangerous and sometimes fatal.

A point of clarification is in order here. A patient with Hyperthermia does not have the same condition as a patient with a “fever”. While the end result-increased body temperature-can be similar, they are two distinctly different processes. Increased body temperature as a result of fever is a natural, potentially beneficial, condition that results from a change in the body’s natural thermostat setting or temperature “set point”. In a febrile patient the “normal” temperature set point is raised, thus directing a higher than normal body temperature in response to various things such as infection, cancer, inflammation, or other immune or chemical messengers. The Hyperthermic or Heatstroke patient on the other hand has an increased body temperature because heat production and/or accumulation in the body have exceeded the dog’s ability to dissipate that heat. In a patient with Hyperthermia the body is desperately trying to cool down; we sweat, dogs pant. But in a febrile patient the body is trying to “warm up”; that’s why we shiver or feel chilled when we have a fever. Natural fever for dogs rarely exceeds 106 degrees Fahrenheit and therefore is usually not dangerous in the way Hyperthermia can be, where temperatures of 108 or greater are possible.

Some types of dogs are more prone to dangerous Hyperthermia than others. Large active dogs are presented more often for over-heating than smaller sedentary dogs. Short nosed dogs (less nasal cavity surface area for cooling) and longhaired dogs can also be at increased risk for Heatstroke. While some dogs have increased risk, any type of dog can develop hyperthermia when exposed to high ambient temperatures.

Prolonged Hyperthermia can potentially cause irreversible damage to major organ systems of the body such as the liver, kidneys, and nervous system. This damage can all happen very fast, so Hyperthermia constitutes a true emergency that needs immediate intervention-sometimes even before the patient gets to the vet (see below).

Signs of serious Hyperthermia in dogs usually include excess panting, drooling, weakness, mental delirium, seizures and eventually death. Hyperthermia is not usually a diagnostic challenge. The history usually includes a recent enclosure in a car, confinement to a hot sunny location, or excessive exercise on a hot day. If you suspect your dog is over-heating, one person should call your veterinary hospital and let them know you're on your way, while another person should immediately hose down the animal with cool water to begin the cool down process. While reducing the core body temperature is the cornerstone to therapy for these patients, many other factors need to be addressed to increase chances for survival. Always have your pet checked out by your veterinarian if you suspect Heatstroke.

Sadly, even if overheated dogs make it to the vet, some don't survive. Always, and especially on hot days, be sure your dog has access to plenty of fresh cool water as well as shaded, well-ventilated areas. Don't even think of exercising your dog in the middle of a hot day. Reserve outdoor activities for the cooler mornings and evenings. And finally, regardless of the weather, never leave your dog in a closed-up car, even for a few minutes.

With appropriate caution the Dog Days of Summer can be a time for enjoyable, safe warm weather activities for the whole family, human or otherwise.

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