

The Dog Days of summer. Those long hot days and clear starry nights, the vacations, the swimming parties, the picnics, that last hurrah before the weather makes its annual change toward the cooler, shorter days of autumn. For us in the Northern Hemisphere the Dog Days of summer are usually around the month of August when the summer heat can be at its peak. The phrase “dog days of summer” actually comes from the fact that this is the time of year when Sirius-The Dog Star-shines brightly in the evening sky. Unfortunately, to veterinarians it also signals a time when dogs are at great risk of developing a dangerous condition called Hyperthermia; 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 metabolic processes and muscle activity 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, these being 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 and depend on evaporative cooling via their mouth and nasal passages through panting. Despite these various cooling options, dogs can develop dangerously high body temperatures 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 even lethal.

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 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 heat dissipation. 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 a temperature of 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 seem 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 non-reversible 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 a diagnostic challenge with the patient's history usually including recent enclosure in 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, many dogs don't survive severe hyperthermia. Prevention, as usual, is the preferred approach to this problem. 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, if you do you run the risk of a very costly vet bill, (these cases can be quite cost intensive due to the critical condition of most patients) not to mention risking your dog's life. 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 and vigilance 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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