

Those of you who know me, know that one of my major avocations is long distance running. On one morning run recently I noticed that it was much warmer than usual and I found myself thinking about how I stay cool on runs during these warm summer months. I'm a veterinarian, so naturally I began pondering how dogs manage to deal with this warm weather. After all, they can't remove their "coat" when it's hot, and though they do perspire, it's only on the foot pads. My thought process next drifted to the image of an overheated dog being rushed into the hospital by distressed, panicked owners. This, sadly, is a site I have seen many times over the years. I couldn't help but wonder how many days of this kind of hot weather it will take before my visual imaging becomes a reality once again at our hospital.

Heatstroke or hyperthermia is a dangerous affliction associated with high mortality (death rate). There are relative few studies of this problem specifically in dogs, so most of what we know about it and how to manage it stems from human medicine.

A dog's normal internal temperature is higher than that of a human. Some are surprised to learn that the "normal" rectal temperature in dogs ranges from 100 to 102.5 degrees Fahrenheit. In fact my wife says you can always tell a veterinarian-he/she's the one who's not at all worried when their kid's temperature is 101. Seriously though, core temperatures of only 105.8 F can cause damage to the dog's central nervous system, and temperatures of 109 F and higher can cause severe organ failure with subsequent high mortality.

Dogs overheat when their bodies make or acquire more heat than they can dissipate. A dog has only limited means for dissipating heat. Evaporation is the most important means of cooling for dogs. Unlike humans, who perspire on the skin surface for evaporative cooling, dogs don't sweat except on their foot pads, and this "pad sweating" contributes very little to the cooling effort. Evaporative cooling in dogs occurs in the nose and mouth where in most cases there is extensive surface area and moisture evaporates as air is passed over the moist surfaces with panting. I say in most cases because dogs with very short noses (Bulldogs, Pugs, Boxers, etc.) don't have the large surface area and thus the cooling ability that other dogs do. These and similar breeds are much more vulnerable to overheating. Other risk factors for heatstroke in dogs include obesity, long hair coat, underlying heart or respiratory disease, and advanced age.

We've all heard the warnings to not leave your dog in a car on a hot day. Good advice for sure. But possibly a more common mistake is exercising a dog at midday or anytime it's hot out. Vallejo's new dog park is great, but avoid taking your dog during the heat of the day. Dogs can also overheat if they don't have access to shade or adequate ventilation. This really isn't complicated. If it's too hot for you, a human with remarkable cooling ability, it surely is too hot for a dog that is feeling the same ambient heat as you are but, in most all cases, is also wearing a fur coat.

Dogs affected by heatstroke may exhibit a vast array of symptoms, including excessive panting, weakness, bleeding tendencies, collapse, seizures and coma. These dogs need help fast. Spraying them with cool water from a garden hose and placing them

in front of a fan can be a good start. Ultimately these cases are true emergencies and need veterinary care immediately. If the pet's core temperature can be safely lowered and other supportive care administered in a timely way, it may be possible to prevent the major organ failure that is all too common with these cases.

I'm lucky. When I exercise I can keep from overheating by running in the early morning and wearing high tech clothing that enhances evaporative cooling. During hot weather your dog depends on you to make wise decisions about his well-being and safety. Don't let him down.

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