

Heat stroke



What is heat stroke?

Because animals do not perspire and are covered in fur, they are more sensitive to heat stroke than people. Heat stroke occurs when the body temperature increases beyond 41°C (>106°F). Normal rectal temperatures are between 38.0-39.5°C.

Some animals are more sensitive than others to heat stroke

- 🐾 Animals with a lot of fur (short but dense, or long fur coat)
- 🐾 Brachycephalic dogs (short and flattened snout, like bulldogs, Boston terriers, etc)
- 🐾 Young and hyper-excited dogs
- 🐾 Older dogs, or dogs with conditions that decrease their tolerance to heat

Factors that predispose to heat stroke

- 🐾 Being outside on a warm and humid summer day
- 🐾 Prolonged and/or intense exercise, especially on a warm day
- 🐾 Being left in the car, especially (but not only) if the car is left in an area exposed to the sun and not ventilated
- 🐾 No access to water
- 🐾 Some intoxications, especially those that induce muscle tremors or seizures
- 🐾 Some conditions that decrease the pet's resistance to heat (hyperthyroidism in the cat, heart problems, laryngeal paralysis, etc)
 - 🐾 Some congenital malformations (nostril stenosis, elongated soft palate, etc)
 - 🐾 Obesity



According to General Motors, the inside of a minivan increases from 22°C to 46°C within 30min on a day when the outside temperature is 24°C.



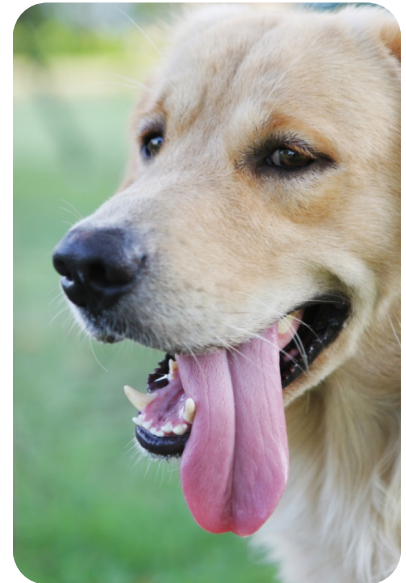
Is it an emergency?

Yes! During heat stroke, the increase in body temperature can cause serious and sometimes irreversible damage to almost all the body's organs, and can cause systemic inflammation:

- 🐾 Intestines : Bloody vomiting and diarrhea. Bacteria from the digestive system can even pass into the blood circulation and cause a generalized infection (septicemia).
- 🐾 Heart : Arrhythmias (irregular heart beat), stroke
- 🐾 Liver : Necrosis (death) of the liver
- 🐾 Brain : Neuronal damage, hemorrhage, edema/swelling of the brain
- 🐾 Kidneys : Kidney failure, eventually the pet will not be able to produce urine anymore
- 🐾 Circulatory system : Red blood cell destruction by the heat, small hemorrhages everywhere on the body (due to failure to clot)
- 🐾 Muscles : Damage to the muscle fibers

What are signs that heat stroke is occurring?

- 🐾 Excessive panting (breathing with the mouth open)
- 🐾 Hypersalivation (excessive drooling)
- 🐾 Dark, bluish, or pale gums
- 🐾 Increased heart rate
- 🐾 Extreme weakness (the animal will not walk or walks only if pushed)
- 🐾 Vomiting/diarrhea , sometimes with blood
- 🐾 Altered mental state (obtunded, lethargic, sometimes even comatose)
- 🐾 Muscle tremors/seizures, etc



What can you do at home, just before going to see a veterinarian?

If you can, take his temperature to have a baseline value. Take steps to decrease the animal's body temperature. To do that, you can apply cold, humid towels to the body, wet the paws with rubbing alcohol, put your pet in an air conditioned area and/or in front of a fan. If these steps are not sufficient, you can even immerse his body in lukewarm water. Never use cold water since, contrary to popular belief, it can actually make things worse. Do NOT put ice on the animal. Be careful to monitor its body temperature and stop the cooling efforts when the temperature is about 39-39.5°C.

Chances of survival, and treatment at the hospital

Your pet's chances of survival (prognosis) will depend how swiftly the treatment is instituted. Your pet could have no after-effects, or he could be in a critical state. Treatments can then range from a one night stay under observation at the hospital, to hospitalisation in the critical care unit (ICU) for many days with intravenous fluids, antibiotics, oxygen, blood and/or plasma transfusion, and many other medications. Unfortunately, we can not always save the most severe cases despite very aggressive and advanced treatments. Prevention is the key!

Translated to english by Dre Josianne Arbour, DMV, IPSAV