

Fever in Dogs & Cats - Figuring Out Why Your Pet is Burning Up!

Just like you and me, animals develop fevers, and they do so for a wide variety of reasons. A prevailing belief among pet parents is dogs and cats with fevers need antibiotics. Yet, this is not true. So, this week I wanted to get back to some basics and explains what a fever is and what it tells us about a sick pet. I hope you find the information helpful. Happy reading!



Fever - What is it?

The normal body temperature for dogs and cats is generally accepted as 101.5°F $\pm 1.0^{\circ}\text{F}$. A fever is an abnormally elevated body temperature. The medical term for fever is pyrexia. Fever is not a specific disease but rather is a clinical sign the body is reacting to inflammation. Another common and potentially confusing term is hyperthermia. Fever and hyperthermia are often incorrectly used synonymously. To understand the difference between fever and hyperthermia, we need to spend a little time discussing how the body regulates body temperature.

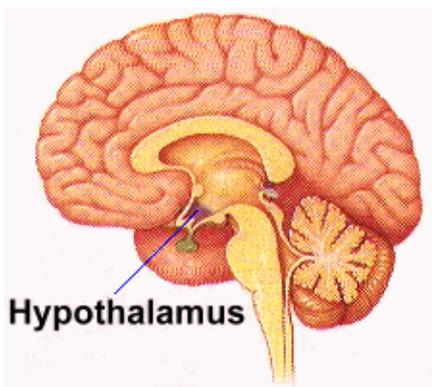


Illustration showing the location of the hypothalamus in the brain.

Just like your home, the body of a dog and cat has an internal thermostat - this is called the hypothalamus. It's a small part of the brain, and responds to both internal and external stimuli to keep the body's temperature within about a degree of 101.5°F. This process of temperature control is called thermoregulation. The hypothalamus is very sensitive and receives two signals. The first signal is from nerves that transmit information from warm and cold receptors in the skin. The second signal is the temperature of blood circulating in the small vessels surrounding the hypothalamus.

The body secretes into the blood special chemicals called cytokines in response to inflammation. A common basis for inflammation is infection (i.e.; bacterial, viral, fungal, parasitic, etc.), but other possible causes include drug reactions and immune-mediated conditions. When cytokine-laden blood reaches the hypothalamus, the cytokines induce the release of another chemical called prostaglandin E2 that triggers a series of events causing the hypothalamus to raise the body's set point temperature. In other words, the thermostat is turned up, and this, by definition, is a fever. Infectious organisms (or parts of them) circulating in blood can similarly cause the same chain of events to induce a fever.

In contrast, hyperthermia is an uncontrolled increase in body temperature without changing the body's set point temperature. The increase in body temperature exceeds the body's ability to dissipate heat. A common cause of hyperthermia in dogs and cats is heatstroke. To summarize the difference between fever and hyperthermia, the hypothalamic thermostat is not turned higher in hyperthermia, and the thermostat has been turned up in a patient with a fever.

Fever - What does it look like?

Some pets with fevers have no major clinical signs. Sometimes they are simply slightly less active than normal. Some clues a pet may have a fever include:

- Lethargy
- Reduced (or loss of) appetite
- Shivering
- Feeling warm to the touch

If you have any concerns your pet may have an elevated body temperature, please measure it to confirm your suspicion – see more below for instructions.

Fever - How is it diagnosed?

Documenting an elevated body temperature is relatively straightforward. The traditional method for measuring body temperature in dogs and cats is via the rectum using a standard mercury or digital thermometer. Many pet parents ask about alternative ways to obtain body temperature due to a desire to stay away from their pet's derriere. Measuring body temperature via the ear (called auricular or tympanic membrane temperature) has been studied, but recent studies have shown a clinically unacceptable difference between auricular and rectal temperatures. Other studies have consistently shown axillary (armpit) body temperatures were similarly inferior to rectal ones. Thus, at this time, rectal temperatures remain the gold standard for measuring body temperature in dogs and cats.

Obtaining a rectal temperature is relatively straightforward. No, it's not as bad as you think it is, but you will likely find it best to have an assistant. Using a mercury or digital thermometer, apply lubricant (e.g.: KY Jelly, Vaseline) to the tip, and gently insert the thermometer one to two inches into your pet's rectum with a twisting motion. Keep the thermometer in place for three minutes (for mercury thermometer) or until it beeps (for digital ones). Wipe the tip of the thermometer and read the temperature measurement. Please watch the video below for more information about taking a rectal temperature in pets.

Fever - How is it treated?

Effective treatment of fever depends on accurately identifying the cause of it in the first place. Does a pet have an infection? Is a dog living with an immune-mediated disease? Is a cat having an adverse reaction to a drug? Needless to say, dogs and cats with fevers should be evaluated by a veterinarian as soon as

possible. A family veterinarian will ask a lot important questions about a pet's medical history, and they will perform a complete physical examination. The doctor will recommend performing some simple, non-invasive tests on blood, urine, and feces; they may even recommend obtaining radiographs (x-rays) of a pet's chest and abdomen. When initial testing fails to readily identify the cause of a pet's fever, pet parents are encouraged to partner with a board-certified veterinary internal medicine specialist. This doctor will collaborate with them and their family veterinarian to develop a logical and cost-effective diagnostic plan for their fur baby.

The take-away message about fever in dogs and cats...

A dog or cat can develop a fever just like you and me. Figuring out the underlying cause is essential to guiding treatment. With prompt and effective treatment, affected pets often make a complete recovery.

To find a board-certified veterinary internal medicine specialist, please visit the [American College of Veterinary Internal Medicine](#).

Wishing you wet-nosed kisses,

CriticalCareDVM