

Dehydration

By Dr. Karen Becker

Hi, I'm Dr. Becker. Many people mistakenly think that dehydration and thirst are more or less the same thing. While it's true that feeling thirsty is one way our bodies tell us to remain hydrated or to drink, dehydration is actually a potentially life-threatening medical condition that doesn't always have thirst as a symptom. The medical condition for dehydration, which is low circulating blood volume, provides a better clue as to just how serious the condition can be.

Dehydration reduces the volume of both blood and intracellular fluids flowing throughout the body, which in turn reduces oxygen delivery to tissues and organs, as well as the removal of waste products. Dehydration also throws off the balance of electrolytes, such as calcium, magnesium, sodium and potassium, which can interfere with the normal function of the body's organs and systems. If a dehydrated pet isn't quickly rehydrated, death can happen actually very quickly.

Dehydration occurs when the body loses more fluid than it takes in. This can happen from a lack of food and liquids. It can also happen as a result of increased fluid loss through urination, diarrhea or blood loss. For a pet who is ill, both circumstances usually apply. An animal who is vomiting, has diarrhea or is dealing with, for example, pneumonia, or who has experienced blood loss will usually feel terrible enough that they don't want to eat or drink. This inability to eat or drink enough fluids to replace what has been lost is what gets animals into hot water pretty quickly.

Common Causes of Dehydration

Dehydration can be caused by a number of disorders and diseases. Any condition that inflames or irritates any region of the gastrointestinal (GI) tract, from the mouth to the rectum, can cause fluid loss and dehydration. Examples include excessive drooling, panting, GI ulcers, a bacterial, viral or fungal infection, GI parasites or an obstruction in the GI tract. Obviously, vomiting and diarrhea that can be caused by a number of different issues are the primary causes of dehydration in dogs and cats.

Other causes for fluid loss include kidney disease; burns or a large injury to the skin; ingestion of a toxin, such as ethylene glycol, which is found in antifreeze; endocrine system diseases, such as diabetes mellitus or insipidus; Addison's disease and heat stroke can also cause dehydration. By far, the most common trigger for dehydration in domestic dogs and cats is fluid loss from the urinary and/or GI tract.

Sadly, two other very common and entirely preventable causes of dehydration in dogs are also being left out of this equation, which are dogs being left out in hot weather without enough water. Or if the temperature gets hot enough, it doesn't matter even if there is water. The dog

is losing more fluids that he or she can replace. And sadly enough, there are water dishes that freeze over and animals don't have enough access to water to keep their systems hydrated.

Symptoms of Dehydration

The symptoms of dehydration are the result of an imbalance of the body's electrolytes and can impact virtually every organ system in your dog's or cat's body, including the GI tract, the central nervous system, muscles, kidneys, the respiratory tract, blood pressure and heart function.

Signs to watch for include skin "tenting," meaning that when you gently lift a bit of skin at the back of your pet's neck, it stays tented or stuck together. When you pinch your dog's neck skin or kitty's neck skin, it should drop right back down into place. In a hydrated pet, the skin snaps back right away. But as dehydration progresses, you can see skin that will take a second or two longer to drop back. In severe cases, the skin can stand up and doesn't resume its normal skin turgor. Dry or tacky mucous membrane – so when you pull a lip back, the gum should be glossy and shiny. If you have a dry mouth, that's an indication that your dog or cat could be dehydrated.

Other symptoms could be loose or wrinkly skin, if you can see it. Obviously, vomiting and diarrhea, a lack of appetite, rapid weight loss, lethargy, weakness, depression, panting, excessive drooling, an elevated heart rate, weak pulses, sunken eyes and, ultimately, collapse are also all symptoms of dehydration.

Significant dehydration, in and of itself, can be pretty easy for a veterinarian to spot. Even if it isn't immediately obvious when the veterinarian examines the animal, because the condition goes hand-in-hand with so many other conditions or ailments that we see and we diagnose on bloodwork, mild dehydration may not be visible to anyone, but we can pick it up on bloodwork.

Diagnostic Tests for Dehydration

The bigger challenge for veterinarians is not to identify that the patient is dehydrated. The bigger challenge is to identify why. Diagnostic tests will include a complete blood count and serum biochemistry profile, packed cell volume, or PCV, and total plasma protein (TPP) tests. A urinalysis and a fecal test will also check for parasites.

The results of these tests will tell your veterinarian a great deal about your pet's overall health and organ function, and can point to the existence of dehydration. An increased packed cell volume and total protein levels, plus an abnormal result for the urine specific gravity, really are the definitive ways that can point to moderate to severe dehydration.

Depending on the result of these initial diagnostic tests, additional tests may be required to identify the root cause of why your pet is dehydrated in the first place. These can include x-rays, ultrasound imaging, urine or fecal cultures, tests for toxin ingestion, tests to assess the function

of the adrenal glands and/or a barium study to identify if there's anything happening within the GI tract.

Very young pets and geriatric pets who lose their appetites or have a couple of episodes of vomiting and diarrhea can actually dehydrate themselves very quickly, and should be seen by the veterinarian right away. If you have a big dog that vomits once or twice, it's not that big of a deal. But if you have a feeble or weak animal, a small animal or a geriatric animal that maybe isn't keeping up with water intake to begin with, losing a ton of fluids through an episode of vomiting or diarrhea can actually be enough for not only a cause of concern, but also for a veterinary visit.

Treatment and Recommendations for Dehydration

The goals for treating dehydration in a pet are to, of course, replace the fluids that have been lost, correct any electrolyte abnormalities and identify and resolve the underlying causes of why the dehydration is there.

A moderately to severely dehydrated pet will need to be hospitalized and given intravenous (IV) fluids and an electrolyte solution slowly over 24 to 48 hours, depending on the level of dehydration. The fluid replacement rate is calculated based on the severity of the dehydration, the animal's size, the animal's weight and the overall health condition of the pet.

Typically these patients will also receive heart rate and blood pressure monitoring and other types of monitoring as well, including urine output and body weight management, or weighing. Correcting dehydration is really as simple as administering fluids back into the body to replace what has been lost. However, the challenge to veterinarians is to learn why your pet became dehydrated in the first place.

Dogs, and especially cats, are designed to get much of the water that their bodies need from the food that they ingest. Making sure that you're feeding a species-appropriate balanced diet that is naturally moisture-dense is a really good idea. This does not include kibble, which has a very low moisture content. The average kibble has about 11 percent moisture. A dog's and cat's evolutionary diet is about 70 percent moisture.

By nature, if your dog or cat isn't consuming that extra water needed for hydration, dogs and cats can live at a constant low-grade level of dehydration. Dry food is obviously especially problematic for cats, because they don't tend to drink as much as dogs drink. They end up being mildly dehydrated a lot of the time.

Leaving multiple bowls of clean filtered water down in a glass or stainless steel bowl around the house is a great way to encourage pets to drink. You can also use a fountain. Replacing water several times a day is a good idea. I have some kitty patients that will only drink from a fountain or from a sink that has a water drip going. Accommodating that in the form of a water fountain or putting a bowl under the sink and put a drop at a time is allowing a kitty to remain hydrated

at their own desire and encourages them to drink when maybe they wouldn't want to drink out of a bowl of still water.

If your pet doesn't seem to be drinking enough from his bowl, there are some tips and tricks you can try. Using bone broth is a really great idea. You can add bone broth to the food to encourage the dog or cat to just ingest more water through the food, or you can use the juice drained off from a can of sardines. That can also oftentimes prompt more water intake.

I've actually also had really great success adding an all-natural electrolyte tablet, which is called Bioplasma, to a pet's water bowl. That does a nice job of helping to maintain hydration at home.

If your pet is throwing up or has diarrhea that doesn't resolve in a day or so, obviously it's a great idea to call your vet. This is absolutely crucial in the case of very young pets, as well as very old geriatric pets. Obviously, it's very important for dogs or cats that are chronically ill.

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