

# HYPERTENSION

Hypertension, or high blood pressure, usually occurs in dogs and cats secondary to other diseases. The most common diseases to cause high blood pressure in cats are chronic renal failure (kidney disease), hyperthyroidism and anemia. In dogs, chronic renal failure, Cushing's disease and certain forms of cancer cause hypertension. It can also occur as a side effect of medication.

Hypertension is a serious problem in pets. The first symptom seen in cats is often sudden blindness from retinal detachment - the high blood pressure literally blows out the back of the eye. If the retinal detachment is caught early, with prompt and aggressive drug treatment the retina will sometimes reattach itself at least partially, and some vision will be restored. Many cats, however, will be permanently blind as a result. Owners will sometimes notice the cat's pupils are fixed and fully dilated, or only respond very slowly and sluggishly to light. This is an emergency situation which should be treated as soon as possible.

Another common problem with untreated high blood pressure is bleeding into the brain (stroke). Cats and dogs may suddenly show signs of disorientation, circling around and around in one spot, or otherwise acting strange. As with people, a stroke can cause a sudden inability to walk or to use one side of the body. An affected pet may have a droop to one side of the face or drop food from his or her mouth, unable to chew it.

Ideally, high blood pressure should be diagnosed and treated before the pet becomes blind or suffers brain damage. If your pet has been diagnosed with chronic renal failure, Cushing's disease, hyperthyroidism or anemia, a blood pressure check will be recommended. We monitor blood pressures of all senior age cats and all dogs taking phenylpropanolamine as well.

Some pets with high blood pressure will have heart murmurs or abnormal heart rhythms. If your veterinarian picks up a heart murmur or arrhythmia in a cat, especially an older cat prone to kidney or thyroid disease, a blood pressure check will be recommended. We may also pick up on high blood pressure when we draw a blood sample - if the blood gushes into the syringe without our having to pull back on the plunger, the pet's blood pressure is probably very high.

About 65% of cats and dogs with chronic renal failure have some degree of hypertension. This is a serious problem because hypertension in turn worsens the kidney disease. It becomes a vicious cycle in which the high blood pressure worsens the kidney disease, which increases the blood pressure even more, which then worsens the kidney disease, etc. Any pet diagnosed with chronic renal disease should have a blood pressure check on a regular basis.

In cats with hyperthyroidism the hypertension is usually temporary. Once the thyroid disease is controlled with medication or radiation treatment, the blood pressure goes back down.

Treatment for high blood pressure in this disease is usually only needed for a few weeks to

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months. Treatment is still important, however, to prevent blindness and brain damage.

Although blood pressure is important to monitor, it can also be difficult to do accurately, especially in cats. Most cats are stressed and nervous at the veterinary clinic, and some are downright hostile. Many dogs are nervous when they are at the clinic as well. Blood pressure readings will probably be higher than they would be if measured when the pet was at home in its own environment. If a cat is aggressive or terrified, readings may not be possible at all.

We try to make the experience as stress free as possible. The blood pressure should be measured before the rest of the physical exam is done, in a quiet room with the owner present to stroke and reassure the dog or cat. If frightened by a dog or other stress factor on its way in, the patient should be given 5 minutes or more to settle down before blood pressure readings are taken. The measurement itself is painless, just as it is in humans, but the pet may be frightened by the procedure. The pet is usually held on its side, and a blood pressure cuff is wrapped around the leg or the tail. A small area of hair is clipped from the leg, just above the foot. The clippers and the Doppler instrument we use both make noises which are frightening to some pets. The feeling of the cuff on the leg also makes some animals nervous, as does being held down on their side.

It takes time, patience, repeated measurements, and sometimes two to three veterinary staff members to obtain an accurate blood pressure reading. For this reason, it is not as inexpensive as it would be in a person. We include a blood pressure check in the cost of our senior exams for cats, because hypertension and chronic renal failure are so common in felines.

Normal systolic blood pressure is below 160. (We do not measure the diastolic reading in pets. The diastolic is the second of the two numbers measured in people.) Stress can increase blood pressure to as high as 210. Any blood pressure over 200 is considered abnormal. A reading between 160 and 200 is a gray area - the pet should be monitored but the pressure may be perfectly normal at home in its own environment. If the underlying cause of the high blood pressure is chronic renal failure we will aim for a blood pressure under 140, so even 160 or 180 would be too high for these pets.

The goal of treatment is to decrease the blood pressure gradually to avoid a sudden decrease in blood flow to the kidneys, which will make kidney disease worse. In pets with chronic renal failure and high blood pressure, the pressure should be rechecked 3 days after starting on blood pressure medication, then every 3-7 days, depending on how good the first reading was. Once two good readings on two successive visits are obtained, the pet is considered stable on the medication. The blood pressure is then rechecked along with kidney blood testing about every three to six months. Drug treatment will be necessary for the rest of the pet's life.

Rechecks will be needed once hypertension is diagnosed, so that we can adjust the medication dosage of the blood pressure medication. As with humans, different pets respond better to different medications and we may need to try more than one or change the dosage over the first few weeks of treatment. Once the treatment is established we usually will recheck the blood pressure every 3-6 months. For pets with chronic renal failure but a normal first blood pressure check, rechecks are also recommended every 3 months. Hypertension may show up later in the course of the disease, as kidney function gradually worsens with time.

In cats recently diagnosed with hyperthyroidism, the blood pressure is usually 220 to 240 or so. We will prescribe a two to three week course of blood pressure medication

for the cat while the thyroid level is coming down in response to treatment. Once the thyroid level is back in the normal range, the medication can usually be stopped.

Cats that have already suffered blindness or visual impairment from hypertension usually get around well in their own home with some modifications to the environment. Your cat may not be able to find its way to the basement litter pan any more but blind cats rarely stop using the box as long as it is accessible to them. Be sure the food and water bowls are also accessible without climbing or jumping. Dabbing some perfume or cologne on table legs and doorways once a week at first will help your pet to smell where it's going and makes navigation easier.

If your pet is diagnosed and being treated for high blood pressure, we will call or send you a reminder in the mail when he or she is due for recheck blood pressure measurements. In the mean time, be sure to call us right away if you have trouble administering your pet's medication or you notice any change. We are always glad to help!