

Feline Hypertension

**What is hypertension?**

Hypertension is the medical term for high blood pressure.

**Which cats are likely to get hypertension?**

Hypertension in humans is related to several factors, including a stressful lifestyle. Although not all causes of feline hypertension have been identified, stress does not appear to play a role in the development of this disorder in cats. Kidney, thyroid and heart disease are also known to cause feline hypertension.

**What are the clinical signs?**

Visual abnormalities are the most common clinical findings with feline hypertension. These abnormalities can include dilated pupils that do not constrict with light, blood within the chamber of the eye and blindness. Blindness often develops because hypertension in the eye causes the retina to detach. In some cases, hypertension may be related to a heart murmur or signs of kidney problems, such as increased water intake or urination.

**What causes hypertension?**

Kidney failure and hyperthyroidism have been identified as the two most common predisposing factors for development of feline hypertension. Certain heart diseases can also cause hypertension.

* **Kidney disease**: It appears that several different mechanisms may lead to development of hypertension in cats with kidney disease. One theory suggests that as a cat ages, the kidneys undergo normal changes that include a slow accumulation of scar tissue. With time, this scar tissue causes the kidneys to shrink in size, making it harder for the blood to filter through the organs. Because the kidneys normally receive 20 percent of the body's blood with every heartbeat, blood backs up into the arteries and leads to an increase in pressure. One study found that about 60 percent of cats in old-age kidney failure have hypertension. Even elderly cats in the early stages of kidney disease can experience hypertension.
* **Hyperthyroidism**: The thyroid gland is located in the neck and plays a very important role in regulating the body's rate of metabolism. Hyperthyroidism is a disorder characterized by the overproduction of thyroid hormones and a subsequent increase in the metabolic rate. This is a fairly common disease of older cats. Although this condition causes the gland to enlarge, it is usually a benign change; less than two percent of hyperthyroid cases involve a malignant change in the gland. Many organs are affected by this disease, including the heart. Hyperthyroidism stimulates the heart to pump faster and more forcefully, and eventually, the heart enlarges to meet these increased demands for blood flow. The increased pumping pressure leads to a greater output of blood and high blood pressure. About 25 percent of cats with hyperthyroidism have high blood pressure, though most do not have blood pressures high enough to cause blindness.

**How is hypertension diagnosed?**

Hypertension is often suspected in any older cat suffering from kidney disease or hyperthyroidism. Onset of sudden, unexplained blindness should raise a strong suspicion for hypertension. The presence of a heart murmur or kidney problems may also signal the presence of a hypertensive state. High blood pressure in cats can be detected with a device that measures blood flow in the arteries.  This is similar to the blood pressure test performed on humans, but requires specialized equipment for animals.

**How is it treated?**

Although several drugs are very effective in treating human hypertension, none are approved for use in cats. Research efforts have determined that some of these medications are effective for feline use, but studies are still being conducted in an effort to determine which are the safest and most reliable.

**What is the prognosis?**

In order to lower a cat's blood pressure, the underlying disease that caused the hypertension to develop must be cured or controlled. Long-term success depends on whether or not this is possible. If the cat has kidney, heart or thyroid disease, it is important to treat that condition aggressively.

Hyperthyroidism is curable, but heart problems like hypertrophic cardiomyopathy and old-age kidney failure are not. However, even those diseases can be managed successfully in many cats.

If the cat has blindness due to detached retinas, a medical emergency exists. The blood pressure must be lowered quickly for preservation of vision. If the retinas remain detached for more than a day or two, the prognosis is poor for a return of normal vision. Therefore, the key to a successful outcome is early diagnosis and administration of proper medication.