



## Kingsbrook Animal Hospital

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## Hypertension in Cats (iCatCare)

### Hypertension (high blood pressure) in cats [1]

Hypertension is the medical term for high blood pressure, which is a common problem in people, and also now recognised as a common condition in older cats.

Feline hypertension is commonly found as a complication of other underlying medical conditions (so-called 'secondary hypertension'), although primary hypertension (hypertension without any underlying disease) may also be seen in cats. In contrast to people, where primary hypertension (also called essential hypertension) is most common, secondary hypertension is more common in cats. The most common cause of secondary hypertension in cats is chronic kidney disease but other disease can also predispose to its development and there is a relationship between hypertension and hyperthyroidism (overactive thyroid gland) in cats too.

## Effects of hypertension

Hypertension is damaging to the body. The effects are most serious in certain vulnerable organs:



Eye showing bleeding into the anterior chamber (in front of the lens) caused by hypertension

### Eyes

Bleeding into the eyes and retinal changes such as swelling and detachment can occur, and this may result in damage to the cat's vision (and even blindness), which is often permanent. In some cases, bleeding into the front chamber of the eye can be seen without the use of special veterinary equipment (see picture).

### Brain and nervous system

Bleeding in this area of the body can cause neurological signs such as odd behaviour, a wobbly or drunken gait, seizures, dementia and coma.

## Heart

Over time, the muscle of one of the major heart chambers (the left ventricle) becomes thickened, as the heart has to work harder to pump the blood when there is high blood pressure. In very severe cases, this can lead to the development of congestive heart failure. Affected cats may show signs of breathlessness and lethargy.

## Kidneys

Over time, high blood pressure damages the kidneys and may increase the risk of kidney failure developing. In cats with existing kidney disease, the hypertension is likely to make the disease significantly worse over time.

## Clinical findings

As hypertension is often seen as an effect of other diseases, cats with hypertension may be showing signs attributable to their underlying problem. For example, in the case of hyperthyroid cats with high blood pressure, weight loss (in spite of a voracious appetite) and hyperactivity may be the major clinical signs.

In many patients, no specific clinical signs of hypertension will be seen until the condition advances to the point where there is spontaneous bleeding into the eye or retinal detachment – these cats are often taken to a vet as they develop sudden onset blindness. Early recognition of hypertension is therefore important in order to minimise the severe and often permanently damaging effects of persistently high blood pressure on the eyes and other organs.

Some cats with hypertension appear depressed, lethargic and withdrawn, and many owners notice an improvement in their cats' behaviour once hypertension has been successfully managed, even if signs of damage to other organs are not present. Severe headaches can occur in humans with hypertension, and it is likely that cats may suffer something similar.

## Diagnosis



Cat having its blood pressure measured

To detect hypertension early, and because it is more common in older cats, regular blood pressure checks are recommended in cats from 7 years of age. Initially these may be done once or twice a year, but as the cat gets older these should be done a minimum of twice a year ideally. Blood pressure assessment should be included in the routine clinical examination of all older cats.

Blood pressure should also be carefully assessed in any cat with chronic kidney disease, hyperthyroidism, heart disease, in cats with sudden-onset blindness, or in cats with other ocular or neurological signs that might suggest underlying hypertension.

Various techniques and equipment are available to measure blood pressure in cats, and many veterinary clinics now have these facilities. The equipment used is often similar to that used routinely in people, with an inflatable cuff placed around one of the legs or the tail. Measuring blood pressure only takes a few minutes, is completely pain-free and is extremely well tolerated by most cats.

A detailed eye examination is also essential since ocular disease is common in hypertensive cats. In mildly affected cats, subtle changes to the appearance of the blood vessels at the back of the eye (retina) and to the retina itself may be seen. In more severely affected cats, the changes can be dramatic and include retinal detachment and bleeding into the eye. Abnormalities are usually detected in both eyes although they may be more severe in one.

In the absence of blood pressure measurement devices, a thorough ocular (eye) examination may enable a diagnosis of hypertension to be made and can be used to monitor progress once treatment has been started. However, proper blood pressure measurements are much better both for the diagnosis and monitoring of response to therapy.

## Management of hypertensive cats

When hypertension is diagnosed, management has two broad aims:

- Firstly, to reduce the blood pressure using anti-hypertensive drugs. A number of drugs are available and those commonly used include amlodipine and benazepril.
- Secondly, to search for an underlying disease, such as kidney disease, which has caused the hypertension. In some cases (for example hyperthyroidism), treatment of the underlying disease may also resolve the high blood pressure. These investigations often involve collecting and testing blood and urine samples.

It is also important to assess what complications of hypertension are present in any patient (such as ocular disease) so that these can be appropriately monitored following therapy. There is a great degree of individual variation in response to anti-hypertensive drug therapy, and in some cats it can take some time to stabilise the blood pressure. This may involve trying several drugs, altering the dose and/or frequency of therapy, or using more than one drug simultaneously.

Response to therapy should ideally be monitored by repeat measurements of blood pressure, and also monitoring any ocular abnormalities. In patients with kidney failure, it is also important to monitor kidney function when using anti-hypertensive drugs.

## Prognosis

In cats with primary hypertension (where there is no underlying disease that has caused the high blood pressure), it is usually possible to manage the hypertension and prevent future complications such as damage to the eyes.

In cases of secondary hypertension, the long-term outlook is very dependent on the nature and severity of the disease that has caused the high blood pressure. It is important in all cases that the hypertension is monitored as accurately as possible on a regular basis in order to avoid any problems.

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