

## Blood Pressure in our Pets

High blood pressure is an extremely important concern in human medicine. A high stress lifestyle, smoking, and high salt diet all contribute to this potentially dangerous condition and virtually everyone knows how serious it can be. But what about our pets? They don't smoke or worry about the mortgage and they don't deposit cholesterol in their blood vessels. They do, however, get high blood pressure, and here is what you probably should know.

The retina of the eye is especially at risk, with either sudden or gradual blindness often being the first sign of high blood pressure. The kidney also is a target as it relies on tiny vessels to filter toxins from the bloodstream. Kidney disease is an important cause of high blood pressure and also progresses far more rapidly in the presence of high blood pressure.

High blood pressure also increases the risk of embolism: tiny blood clots that form when blood flow is abnormal. These clots can lodge in an assortment of locations including the brain. There are numerous diseases in pets that are associated with high blood pressure, among them kidney failure, diabetes and Cushing's disease; and most commonly overactive thyroid disease in cats. In humans, high blood pressure is frequently considered "primary," meaning there is no underlying disease causing it. In animals, primary hypertension is unusual; there is almost always another disease causing it and if routine screening does not identify the problem, more tests may be in order.

Blood pressure measurement is performed similarly to the way it is in humans. An inflatable cuff is fitted snugly around the pet's foot or foreleg. The cuff is inflated so as to occlude blood flow through the superficial artery. In a person, as the cuff is slowly deflated, a stethoscope is used to listen for the point when the blood pressure is adequate to pump through the partially occluded vessel. In animals, the stethoscope is just not sensitive enough and an ultrasonic probe must be taped or held over the artery.

Using ultrasound, the sound of the systolic pressure is converted into an audible signal. It is not possible to measure diastolic pressure in a pet without actually placing a catheter inside an artery so we make do with just a systolic measurement. In pets, this measurement should not exceed 160. Some pets (obviously) are nervous at the vet and this factor must be taken into account when reading blood pressure. To account for the "White Coat Effect," at least five measurements are taken so that the pet becomes accustomed to the process and understands that no pain is involved.

Kind Regards,  
Scott and Chris