

Cancer Today in Pets

Cancer can be a scary topic to read and think about. Thankfully the advances in early recognition, diagnosis and treatment allow pets today to have a better chance of being successfully treated than they did before. Unfortunately cancer/neoplasia is as common in our pets as it is in people. The AVMA states that approximately 1 in 4 dogs will, at some stage in their life, develop neoplasia. Almost half of dogs over the age of 10 will develop cancer. Currently there is less information about the rate of cancer in cats.

What exactly is cancer versus neoplasia? Neoplasia is the uncontrolled, abnormal growth of cells or tissues in the body that can be benign or malignant. Benign neoplasms tend to grow slowly; displace, but do not tend to invade, the surrounding body tissues; and do not spread throughout the body. Malignant neoplasms, on the other hand, can be unpredictable and grow at various rates (sometimes rapidly), invade the tissues around them, and spread, or metastasize, to other parts of the body. The word "tumor" or "mass" is often used to describe the actual swelling or other physical appearance of a neoplasm. The word "cancer" is often confused with neoplasia, but only malignant neoplasms are truly cancers.

Today cancer detection often starts with a thorough physical exam by your vet and includes a series of detailed questions. Additional tests, such as x-rays, blood tests, and ultrasounds, may be necessary to confirm the suspicion of cancer. For most masses, cytology - withdrawing some cells from a mass to examine under a microscope - can sometimes quickly provide basic information about the tumor type, and can confirm a diagnosis for certain types of neoplasms. For many tumors, a biopsy – taking a tissue sample from the neoplasm to examine under a microscope – is often necessary to confirm the diagnosis and help determine if the neoplasm is benign or malignant. Additional cytology or biopsies of other tissues, such as lymph nodes, may be necessary to determine how far a malignant neoplasm (cancer) has spread. Some would be surprised to hear, but as in humans, advanced imaging such as computed tomography (CT) scan, magnetic resonance imaging (MRI), or positron emission tomography (PET) scan can also improve the understanding of the tumor's location and possible treatment options. Veterinary oncologists, specialists who have obtained additional training beyond veterinary school and certified by the American College of Veterinary Internal Medicine (ACVIM) in oncology, are available to refer to and consult with your vet. Veterinary oncology is a growing specialty today in vet medicine. Oncologists work with your vet to provide the best care for your pet with neoplasia.

Today more recent advances in veterinary medicine now allow for cancer screening and early detection. There are currently two companies PetDX and Nu.Q that offer blood tests to screen for canine cancer. A cancer blood test sounds crazy but the technology is here! They are recommended as screening tests in older dogs (>8 years) and for those considered at risk breeds. While these tests are kind of exciting, they are very new. The PetDx evaluates for genomic mutations. Nu.Q evaluates nucleosomes in the blood which can be associated with cancer. At this time these tests are limited and not able to determine the exact kind of cancer, but further diagnostics should help determine that. The accumulation of alterations in DNA or genome causes cancer.

A technology called next-generation sequencing can identify and sequence little fragments of DNA that are free-floating in the bloodstream. If a unique signature of cancer is found in those fragments, then that is indicative of malignant tumor in the body since those changes do not exist in healthy cells. The technology is similar to prenatal testing that screens for Down's syndrome and other chromosomal abnormalities. This noninvasive blood screening can look for specific abnormalities in DNA that can indicate the likely presence of cancer.

Your local veterinarian and team would be glad to visit with you if you have further questions or concerns about cancer and your pets.