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Dog Tips Cat Tips

# The Silent Alarms: Uncovering the C Word in Pets

Uncover the silent alarms and early warning signs of 'The C Word' in pets. From unexpected lumps to sudden weight loss, understanding these indicators can lead to early intervention and a better prognosis.

#### Analysis by <u>Dr. Karen Shaw Becker</u>

## **STORY AT-A-GLANCE**

- Estimates are that 1 in 5 cats and 1 in 4 dogs will develop tumors during their lifetime, and almost half of dogs over age 10 will develop cancer
- Common canine cancers include osteosarcoma, a type of bone cancer; mammary tumors; skin tumors such as mast cell tumors; and lymphoma, a cancer that forms in the lymphatic system
- Common feline cancers include mammary tumors, lymphoma, and squamous cell carcinoma, a type of skin cancer
- Many cancer symptoms in pets are nonspecific and seen in many other disorders, which is why knowing what to look for and prompt veterinary attention are required
- There are steps every pet parent can take to help reduce the risk of cancer in furry family members

The American Veterinary Medical Association (AVMA) estimates that 1 in 5 cats and 1 in 4 dogs will develop tumors during their lifetime, and almost half of dogs over age 10 will develop a form of cancer.<sup>1</sup>

### **Understanding Cancer Terminology**

When discussing cancer in animal companions, it's helpful to understand the meaning of certain commonly used medical terms. "Neoplasia" describes the condition of uncontrolled, abnormal growth of cells or tissues in the body; neoplasm describes the abnormal growth itself. Neoplasms can be benign or malignant.

Benign neoplasms often grow slowly and may displace, but don't usually invade surrounding body tissues, nor do they spread to other parts of the body. Malignant neoplasms behave less predictably, grow at various rates (including very rapidly), invade surrounding tissues, and spread (metastasize) to other parts of the body.

Other related terms include tumor and mass, both of which describe the physical appearance of a neoplasm. The word cancer is often used in place of neoplasia; however, only malignant neoplasms are technically cancers.

#### **Common Types of Cancer in Pets**

Signs of cancer in dogs and cats can be subtle and widely variable, so early detection can be challenging, sometimes leaving pets without a diagnosis or medical care. One thing you can do as a concerned pet parent to help detect and prevent the spread of cancer in your furry family member is to become familiar with common pet cancers and their

symptoms, so that you know what to look for.

"Some of the most common cancers diagnosed in dogs include osteosarcoma, a type of bone cancer; mammary tumors; skin tumors such as mast cell tumors or soft tissue sarcomas; and lymphoma, a cancer that forms in the lymphatic system," says Dr. Vanna Dickerson, an assistant professor of soft tissue surgery at the Texas A&M School of Veterinary Medicine & Biomedical Sciences. "In cats, common cancers include mammary tumors, lymphoma, and squamous cell carcinoma, a type of skin cancer."<sup>2</sup>

- Osteosarcoma Osteosarcoma is an aggressive bone cancer that most commonly invades the long bones
  of large and giant breed dogs. Research suggests that early desexing increases the likelihood of developing
  bone cancer more than three-fold in certain breeds.<sup>3</sup> Even with amputation of the affected limb and
  chemotherapy, which is the current standard of treatment, the average survival rate is only about a year.
- **Mammary gland cancer** Mammary gland or breast cancer is common in both dogs and cats. It's the most common tumor found in female dogs and the third most common in cats. One of the presumed and much-touted benefits of early spaying of female pets is a decreased risk of mammary gland cancer. However, a study published in 2012 in the Journal of Small Animal Practice found that **insufficient evidence** exists that spaying at any age reduces the risk of mammary cancer.<sup>4</sup>
- Mast cell tumors The most common type of skin cancer in pets is <u>mast cell tumor</u> (MCT). MCT is much more prevalent in dogs than cats. In cats, mast cell tumors are most often seen in the skin of the head or neck, but they can occur anywhere in the body. Cats with these tumors are usually middle-age or older. Unfortunately, kitties with mast cell tumors on the inside of their bodies typically in the gastrointestinal (GI) tract or the spleen carry a much poorer prognosis than tumors occurring on the skin.

In dogs, mast cell tumors are most often found on the trunk, limbs, and in between the toes. Prognosis depends on the tumor location, the extent of the tumor, the grade, and the type of treatment given. Mast cell tumors of the skin are very different in dogs than cats. Surgery to remove the tumor is less invasive in cats, and the prognosis for a full recovery is much better in cats than in dogs.

Mast cell tumors with generally poor prognosis are those on the muscle, around the mouth or in internal organs, in the bloodstream or bone marrow, and ulcerated tumors. Mast cell tumors that cause GI ulceration or are large, fast-growing, or recurring also carry a much poorer prognosis.

Lymphoma — Lymphoma is an incurable cancer of the lymph system, which is part of the immune system. In cats, one in three cancer diagnoses is <u>lymphoma, most often of the GI tract</u>. Dogs also develop lymphoma. To avoid contributing to your dog's or cat's lymphoma risk, minimize exposure to environmental contaminants and chemicals, including cigarette smoke and lawn chemicals, especially those applied by

professional lawn care companies. Avoiding chemical exposure in food and water sources is also important.

Hemangiosarcoma — It's estimated that up to 2.5 million dogs in the U.S. will succumb to this aggressive cancer that affects vascular endothelial cells, most often in the spleen or heart.<sup>5</sup> Certain breeds are more predisposed than others, including Boxers, German Shepherds, Labradors, and Golden Retrievers, with Goldens having an estimated lifetime risk of 1 in 5.

#### **Cancer Signs**

Pets can develop neoplasia almost anywhere in the body, which is why the symptoms vary depending on the tissues and organs involved and the severity of the neoplasia. Make an appointment with your veterinarian if your pet displays one or more of the following 10 warning signs of cancer in pets:<sup>6</sup>

- 1. **Unusual swellings that don't go away or that grow** The best way to discover lumps, bumps, or swelling on your dog or cat is to pet him.
- 2. **Sores that won't heal** Non-healing sores can be a sign of infection or cancer and should be evaluated by your veterinarian.
- 3. Weight loss Illness could be the reason your pet is losing weight but isn't on a diet.
- 4. Loss of appetite Reluctance or refusal to eat is another sign of possible illness.
- 5. **Bleeding or discharge** <u>Bleeding</u> can occur for a number of reasons, most of which signal a problem. Unexplained vomiting and diarrhea are considered abnormal discharges, as well.
- 6. **Offensive smell** An unpleasant odor is a common sign of tumors of the anus, mouth, or nose.
- 7. **Difficulty eating or swallowing** This is a common sign of cancers of the mouth or neck (including lymph nodes).
- 8. **Reluctance to exercise or low energy level** This is often one of the first signs that a pet is not feeling well.
- 9. Persistent lameness There can be many causes of lameness, including nerve, muscle, or bone cancer.
- 10. **Difficulty breathing, urinating, or defecating** These symptoms should be evaluated by your veterinarian as soon as possible.

Many of these symptoms also occur with other disorders and diseases, but regardless, a pet showing any of these signs needs prompt veterinary attention. As with any disease, the earlier your dog or cat is diagnosed, the better the chances of a positive outcome.

### **Reducing Your Pet's Cancer Risk**

Dickerson believes building a strong relationship with a veterinarian is important to your pet's overall health, especially when it comes to cancer prevention. Regular veterinary check-ups can help catch cancer in its early stages.

"Routine visits allow many diseases to be caught earlier in the process, potentially making treatment easier and more effective," says Dickerson. "For example, masses that are caught while they are very small can often be

treated with a much smaller surgery than masses that are not found until they are very large. In other cases of cancer, routine veterinary visits mean the disease is caught before it spreads to other areas of the body.

A physical examination is one of the most important aspects of cancer diagnosis because veterinarians will be able to recognize lumps in or under the skin, enlarged lymph nodes, abnormal lung sounds, or abnormally enlarged organs within the belly. Imaging with X-rays, ultrasound, or computed tomography (CT scan) can determine whether the cancer is affecting multiple organs within the body or if there are abnormalities that might change a pet's treatment plan, such as underlying kidney or liver disease."

Steps pet parents can take to help prevent cancer in animal companions include:

1. **Keep them slim and trim** — Studies show that restricting the number of calories an animal eats prevents and/or delays the progression of tumor development across species. Fewer calories cause the cells of the body to block tumor growth, whereas too many calories can lead to obesity, and obesity is closely linked to increased cancer risk in humans.

There is a connection between too much glucose, increased insulin sensitivity, inflammation, and oxidative stress — all factors in obesity — and cancer. It's important to remember that fat doesn't just sit on your pet's body harmlessly. It produces **inflammation** that can promote tumor development.

2. **Feed a low-glycemic, anti-inflammatory diet** — Anything that creates or promotes inflammation in the body increases the risk for cancer. Current research suggests cancer is actually a chronic inflammatory disease, fueled by sugar (aka soluble carbohydrates). The inflammatory process creates an environment in which abnormal cells proliferate.

Cancer cells require the glucose in carbohydrates to grow and multiply, and pets don't have a carb requirement, so do the **carb equation** with your pet food, and keep starch (sugar) less than 20% of your pet's caloric intake, and ideally under 10%. Most raw food diets are naturally ketogenic (higher in fat, moderate protein and low carb), and are a wise choice to reduce glycemic stress throughout your pet's life.

Keep in mind that all dry pet food (i.e., "fast food") contains some form of potentially **carcinogenic**, highly processed starch. It may be grain-free, but it can't be starch-free because it's not possible to manufacture kibble without using some type of starch. The correlation between consuming fast foods and cancer has been established in humans,<sup>7</sup> which is why my advice is to incorporate as much fresh, unprocessed food into your entire family's diet as you can afford.

Cancer cells generally can't use dietary fats for energy, so high amounts of good quality fats are nutritionally beneficial for dogs fighting cancer, along with a reduced amount of protein and no carbs.

Another major contributor to inflammatory conditions is a diet too high in omega-6 fatty acids and too low in omega-3s. Omega-6s increase inflammation while the omega-3s do the reverse. Ultraprocessed pet food is

typically loaded with omega-6 fatty acids and deficient in omega-3s.

A healthy diet for your pet — one that is anti-inflammatory and anticancer — consists of real, whole, fresh foods, preferably raw. It should include high-quality protein, including muscle meat and organs, along with high amounts of animal fat, high levels of EPA and DHA (omega-3 fatty acids), and a few fresh cut, low glycemic veggies that contain a variety of cancer-fighting polyphenols, antioxidants and bioactive molecules that protect your pet's DNA from oxidative stress.

Immune-enhancing supplements like turmeric, **medicinal mushrooms** and super green foods can also be very beneficial, if your pet won't eat them in whole-food form or primarily consumes only ultraprocessed food.

- 3. Reduce or eliminate exposure to toxins These include chemical pesticides like flea and tick preventives, lawn chemicals (weed killers, herbicides, etc.), tobacco smoke, flame-retardants, household cleaners, and air scenting products like candles and plug-ins. Because we live in a toxic world and avoiding all chemical exposure is nearly impossible, I also suggest offering a periodic <u>detoxification protocol</u> to your pet.
- 4. **Carefully consider the timing of sterilization** Alternative ways to sterilize your dog can be done at any age (including very young puppies) because they don't disrupt important hormone balance. Traditional spaying and neutering should be delayed until dogs are skeletally mature to reduce a variety of desexing complications.
- 5. Refuse unnecessary vaccinations Vaccine protocols should be tailored to minimize risk and maximize protection, taking into account the breed, background, nutritional status, lifestyle, and overall vitality of the pet. We know vaccines can cause cancer<sup>8</sup> and we know <u>titer testing</u> is a responsible way to ensure your pet has adequate immunity in place of over-vaccinating on an annual basis.

#### **Sources and References**

<sup>1</sup> AVMA.org, Cancer in Pets

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- <sup>4</sup> Journal of Small Animal Practice, Volume 53, Issue 6, pages 314-322, June 2012
- <sup>5</sup> AKC Canine Health Foundation, Canine Hemangiosarcoma The Road From Despair to Hope, August 16, 2007 (Archived).
- <sup>6</sup> Phys.org May 15, 2014
- <sup>7</sup> <u>CNN, September 18, 2018</u>
- <sup>8</sup> <u>Vet Med (Auckl). 2017; 8: 13–20</u>

<sup>&</sup>lt;sup>2</sup> Texas A&M University, Veterinary Medicine & Biomedical Sciences, Strategies for Detecting and Preventing Pet Cancer, February 1, 2024