

# Pawsitive Press

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## Pets and Cancer

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Perhaps one of the most devastating diagnoses we as pet parents can receive is the diagnosis of cancer for one of our four-legged family members. It is estimated that more than 50% of dogs over the age of 10 will develop cancer and that 1 in 4 dogs will be diagnosed with cancer in their lifetime. <sup>1</sup> Cats also suffer from cancer. There are fewer available statistics for the frequency of cancer in cats, but there are many treatment options as with our canine companions. No matter how you view it, cancer is a terrible disease, but there is some good news. Doctors and veterinarians know more about cancer in humans and animals than ever before and that information is increasing every day. Treatments have changed over time and while the word cure is not used often with cancer patients there are more treatment options, which provide improved quality of life and longer survival times than ever before. Researchers continue to work tirelessly to unlock the total mystery of cancer so that the word cure can become commonplace. This article will look at some basic information regarding cancer and answer some common questions.

### What exactly is cancer?

According to a variety of sources including Google, cancer is a malignant growth or tumor, which develops through the proliferation of abnormal cells. These cells don't follow normal rules of cell division so they can grow rapidly and grow in situations, which interfere with the normal function of organs and tissues rather than assisting those organs or tissues.

### How does cancer start?

In order for cancer to start; the DNA or genetic material, of the affected cell must be irreversibly changed twice. The development of cancer can be divided into 3 parts: **Initiation:** This is the first irreversible change to the cell's DNA, which is caused by some agent such as a toxin or injury to the cell. This event is not enough alone to induce cancer. **Promotion:** In this stage, agents (promoting agents) cause irreversible changes to cells and tissues. These changes may be to the shape of the cell or its rate of growth and the degree to which its specialized function has developed (differentiation). These

promoting agents tend to enlarge the population of cells, which have been altered and increase the likelihood that cancer will develop.

**Progression:** Progressing agents convert cells, which have been initiated to cells that demonstrate malignant qualities such as unrestrained duplication. Now we have cancer.

### What are promoting agents?<sup>1</sup>

This list is quite long, but many of the items on it are commonly known to us to be carcinogens, or cancer causing agents. They include chemical carcinogens, viruses, and various forms of radiation.

### What are the top 10 signs of cancer?<sup>1</sup>

1. Abnormal swellings that persist or keep growing. Petting your pet is the best way to find these. Any bump you find should be shown to your veterinarian!
2. Sores that do not heal. Examination of any non-healing sore is good so that we can determine why it is not healing and help.
3. Weight loss  
When pets, not on diets, are losing weight, disease should be suspected.
4. Loss of appetite.  
Most of our pets are great eaters. When this changes, please notify your baby's doctor.
5. Bleeding or discharge from

### **Cancer Cont'd**

- any body opening.
6. Bad smells.  
Any offensive odors from your pet's mouth, nose or anus should be investigated.
  7. Difficulty eating or swallowing.  
This can occur with cancers that affect the mouth and neck.
  8. Reluctance to play or exercise, loss of stamina.  
This can be an early sign that your baby doesn't feel well.
  9. Lameness that persists.  
While arthritis is common in older pets, cancers that affect the bones, nerves and muscles are also common for our seniors. Please have any lasting lameness evaluated by your pet's doctor.
  10. Difficulty breathing, urinating or defecating.  
If your pet has difficulty with any of these please have them evaluated immediately by a veterinarian.

If your pet has any of these symptoms please contact your veterinarian today!

### **How is cancer diagnosed?**

Cancer is usually diagnosed when our pets don't feel well or have a persistent swelling or lameness. Most diagnoses of cancer are made by removing cells from the questionable site either using a small needle to remove a few cells or by biopsy, which usually involves taking a larger piece if not the entire tumor. These tissues are submitted to a pathologist who makes the diagnosis.

### **What are some common types of cancer in dogs and cats?**

There are many different forms of cancer. No organ or species

is exempt from this disease.

Let's look at three of the most common treatable cancers commonly seen in our pets.

**Mammary Cancer:** One of the most common types of cancer we see in dogs is mammary cancer or breast cancer. This type of cancer can also be seen in cats. This tumor is frequently malignant, however, in dogs, surgical removal of the tumor in a timely fashion can prevent spread and recurrence. In cats, this type of cancer tends to recur after surgery and often does not respond well to chemotherapy.

**Mast Cell Tumors:** This is a very commonly found tumor. It is especially frequent in boxers. This tumor tends to be found in the skin of both dogs and cats. In cats, it tends to behave as a benign tumor. Occasionally it can affect the internal organs and requires more aggressive treatment. In dogs its effects and location can vary. Most commonly it is found in the skin, but it can affect the organs of the body as well. The tumor is often graded from grade I to grade III. Grade I tumors are usually removed and require little adjunctive therapy. Grade II and III tumors may require one of several chemotherapy options in addition to surgery. In general, these tumors are very treatable. It is very important, however, to act quickly. Smaller tumors, less than 1 cm, tend to respond better to therapy.

**Lymphoma:** This is one of the most common cancers we see in both dogs and cats. It can be generalized which means all the lymph nodes in the body can be affected or it can focus on the gastrointestinal system. There are different types of lymphoma based on cell size and type. The different types have differing degrees of

have differing degrees of aggressiveness. Generally, lymphoma, as with people, usually has a very good response to chemotherapy and many patients treated with chemo have excellent survival times. The chemotherapy adverse effects continue to decrease as protocols improve and most of the adverse effects we see now can be handled with medical therapy, acupuncture, herbs and diet. There are many tumors and cancers seen in our veterinary patients. This is just a short review of some of the most common. For more information please visit:

<http://www.csuanimalcancercenter.org/tumors-by-name> or <http://www.vcchope.com/resource-center/cancer-in-dogs>.

### **What happens after cancer is diagnosed?**

Many of the cancers people and pets develop are now treatable. In some cases, the treatment can dramatically extend the life and the quality your pet lives.

These treatments can involve visiting a veterinarian who has extensive training in cancer treatments, an oncologist. Whenever cancer is diagnosed a consultation with an oncologist is recommended to make sure that our pet parents have been informed of all options and what might be achieved with different treatment tools. Some of the most common treatment tools offered by oncologists include surgery to remove the tumors or affected tissues, chemotherapy to help treat cancers where surgery and or radiation cannot effectively eliminate all of the cancer and radiation to kill tumors cells.<sup>1</sup> While these tools sound scary, in many cancers, such as lymphoma and mast cell tumors, the outcomes can

### **Cancer Cont'd**

be amazing with good life quality during the treatments. At the Animal Hospital of Dunedin we offer an integrative approach to all diseases and this includes cancer. Many of our doctors have extensive training using acupuncture, herbs, diet and nutritional supplements to expand the treatment options and improve survival outcomes and quality of life for our patients.

#### **What is the best way to prevent cancer in my pet?**

Cancer is the end result of a long process of imbalance in the body. Following some common sense guidelines can be very helpful for our pets.

First, daily moderate exercise is important. Dogs should walk for at least 20-30 minutes each day on a leash with their owners. Encouraging cats to play with toys and spend time enriching their lives interacting with their caretakers is important.

Second, a healthy diet is essential. Not only in picking the right food or foods, but in keeping quantities appropriate as well. Obesity is one predisposing factor for disease that we, as pet parents, can control. Additionally, the regular administration of supplements such as antioxidants and omega 3 fatty acids can be beneficial.

Third, regular examination is key. In some cases, no matter how we strive to prevent it, our pets will develop cancer. Detecting the disease early and outlining treatment options can dramatically affect outcomes.

#### **What does the future hold?**

Each day researchers compile more and more information on the mechanisms of cancer. From this data,

more and more treatment options become available and more and more opportunities for prevention are explored. With new information, veterinarians are able to modulate the immune system and enrich the body's ability to kill cancer cells. We are able to improve the body's function to prevent cancer by preventing changes to the genetic material and changes to the machinery that translates this information into the cell's components. The battle against cancer will continue as long as there are people and pets, but every day progress is made in the fight.

#### **Summary**

This article presents some basic information about cancer. The treatment choices made will vary from person to person based on your personal beliefs, finances and experiences. In many cases, despite all of our efforts, our pets will succumb to this terrible disease. The ultimate goal of our therapies should be to provide the best quality of life possible for as long as possible. With that in mind, as a veterinarian, my greatest hope for my patients and clients is to come to the end of this journey with no regrets about choices we have made along the way. Information is the key to obtaining that goal. Our goal at the Animal Hospital of Dunedin is to help. If you have any questions or concerns about cancer or your pet's health; please do not hesitate to contact us and speak to one of our doctors.

### **Benefits of Acupuncture and Cancer Treatment**

- ✓ Helps battle fatigue
- ✓ Stimulates appetite
- ✓ Increases immune response
- ✓ Helps control gastrointestinal signs associated with chemotherapy
- ✓ Helps control pain
- ✓ Aids in achieving remission
- ✓ Improves quality of life
- ✓ Improves mobility
- ✓ Improves emotional outlook



<sup>1</sup> Burns, Katie. "Taking on cancer: Treatment increases, improves for companion animals." JAVMA News. December 30, 2013. Web. April 17, 2015.

<sup>1</sup> Alberts B, Johnson A, Lewis J, et al. Molecular Biology of the Cell. 4th edition. New York: Garland Science; 2002. The Preventable Causes of Cancer. Available from: <http://www.ncbi.nlm.nih.gov/books/NBK26897/>

<sup>1</sup> Flint Animal Cancer Center, Colorado State University. "Advancing Cancer Treatment." Top 10 Warning Signs of Cancer. Web. April 17, 2015.

<sup>1</sup> Flint Animal Cancer Center, Colorado State University. "Advancing Cancer Treatment." Treatment Options. Web. April 17, 2015.

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\*Patient must have been seen with in the last 12 months\* Expires 5/31/15 NL



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\*\*This coupon can not be applied to prescription medications other than heartworm/flea control\*\* Expires 5/31/15 NL