



Veterinary Wisdom[®]

For Pet Parents

Pets and Cancer - There is Hope

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Cancer. It is a word that can strike a chord of fear in each of us. Chances are that most of us will be directly or indirectly affected by cancer at some point in our lives. Our pets can also be affected by cancer and this can trigger a variety of feelings in us including fear, anger, sadness and guilt. However, a diagnosis of cancer does not have to be an immediate end for our pets. Although we often can't cure this disease there are many types of cancer that can be successfully treated and put into long remission. These treatments are becoming more widely available to pet owners, and we know that dogs and cats almost always tolerate cancer treatment better than humans.

Dogs and cats can get most of the same types of cancers that are found in humans. Cancer can grow outside of the body on the skin and inside the body on organs such as kidneys, liver, pancreas, stomach, intestines, bones, nervous system and lymph nodes. Some of these cancers can be very difficult to diagnose and some are readily apparent. There are signs you can look for with your pets that may give you a clue that cancer could exist. These signs can include vomiting, unplanned weight loss, depression, diarrhea, a bloody nose, limping, lack of appetite, too little or too much water drinking, and bleeding from the mouth just to name a few. A common sign of cancer on the outside of the body is a lump that does not go away quickly or a lump that grows in size. If you see any of these signs with your pet you should visit your veterinarian as soon as possible.

Although cancer can occur in any breed of dog or cat, certain types of cancer can be seen more commonly in certain breeds. Bone cancer is seen more commonly in large or giant breed dogs such as Great Danes, Rottweilers, Irish Wolfhounds, Golden Retrievers and Labrador Retrievers. This type of cancer can first be recognized as a limp or a hard bump on a bone. A serious skin tumor called a mast cell tumor is more likely seen on breeds of dogs such as Boxers and Boston Terriers. One of the most common cancers in pets, called lymphoma, is a cancer of the lymph nodes and lymphatic system. This type of cancer is found in all breeds of dogs and cats.

There are actions you can take to protect your pet from cancer. The single most important of these actions is to make sure your pet receives a yearly physical exam from your veterinarian. Just as with people, if cancer is detected early it is much more likely to be treated successfully! There are some preventative measures that can be taken as well. Having your female dog or cat spayed is very important in the prevention of tumors of the reproductive tract. During a spay surgery on a dog or cat, the uterus and ovaries are removed. Therefore, this surgical procedure also eliminates or dramatically reduces the chances of cancers of the ovaries, uterus and cervix.

It is a myth that it is beneficial for a dog or cat to go through one heat cycle or have one litter before being spayed. If a female puppy or kitten is spayed **before** their first heat cycle (which usually occurs around 6 months of age) they will have a 99% chance of never having mammary (breast) cancer.

Male dogs and cats also benefit from having a neuter surgery done early in life. Male dogs that are neutered as puppies have a much lower chance of prostate disease and when male dogs and cats are neutered it eliminates the chances of testicular cancer.

There are also environmental factors you can control to help reduce your pet's chances of getting cancer. Proper nutrition and exercise for your pet will help keep them generally healthy, help prevent obesity, and will help maintain good immune system function. The immune system plays a key role in stopping many cancer cells before they have a chance to begin growing.

Cats that stay strictly indoors have a much lower chance of contracting Feline Leukemia Virus and Feline Immunodeficiency Virus. These two viruses are spread through cat bite wounds and sexual contact between cats. (Dogs cannot get these viruses) Both of these viruses can be closely related to many types of cancers including cancers of the lymph nodes and lymph system.

Chemicals found in common lawn fertilizers and weed killers have been linked to increased incidence of cancers of the lymph nodes and lymph systems in dogs and cats. It is recommended that when you fertilize your lawn or apply a weed killer that you do half of your lawn at a time (Example: front lawn first then back lawn). This will allow your pet to go outside on a section of the lawn that has not been treated recently. Once the chemicals have been dispersed into the deeper parts of the lawn it is safer for the pet to walk on that grass. A common recommendation is to keep your pets off freshly fertilized or herbicide-treated lawn for at least 7 days.

There are many valuable tests that your veterinarian can perform to help determine if your pet has cancer and a physical examination is the foundation of all of these. An examination of your pet will allow your veterinarian to feel for any lumps on the skin, listen for abnormal breathing patterns or heart beats, feel the abdomen for weight loss, increased organ size or an abnormal lump on an organ such as the liver, spleen or kidneys.



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Other valuable tests may include blood tests to assess blood cells and organ function, an analysis of your pet's urine to look for unusual cells or blood, and radiographs (x-rays) which will allow your veterinarian to view the structure and size of the organs in the chest and abdomen. Radiographs are also very important if your pet has an unusual or painful bump on any bone. Bone cancer is one cancer that can sometimes be diagnosed with x-rays alone. Ultrasound can also be useful in some cases where x-rays may raise a suspicion of cancer but more information is needed.

The final key to diagnosing cancer in pets is a procedure called a biopsy. This is almost always the only way that your veterinarian can tell you exactly what type of cancer your pet has and what the treatment and outcome would likely be. Before biopsy, your veterinarian may do what is called "microscopic cytology". This is an in-hospital procedure where a small number of cells is gathered from a lump or abnormal tissue using a small needle. These cells are viewed under a microscope to give your veterinarian an idea of whether or not to be concerned about the lump or tissue. Microscopic cytology is a valuable preliminary step that often leads to surgical removal and full biopsy of lump or abnormal tissue.

What is a biopsy and why is it so important? When a lump or abnormal tissue is surgically removed from a pet the most important diagnostic test that can be done is called a biopsy or histopathology. When this vital diagnostic test is performed, the full tissue sample is sent to a board certified pathologist. The tissue is stored in a special solution called formalin that will help preserve the normal structure of the cells inside of the tissue. The pathologist will carefully prepare the tissue, apply special stains and will look at several "sections" or pieces of the tissue under a high-powered microscope.

The tissue sample that is sent to the pathologist will provide three important pieces of information. The first of these is the **diagnosis**. The biopsy (histopathology) will let us know exactly what the lump or tissue is. Is it a benign tumor with a low chance of spread or regrowth? Is it a malignant tumor with a higher chance of spread or regrowth? What type of cell did the tumor grow from? These questions will be answered and, therefore, the diagnosis is the single most important piece of information that a pathologist will provide.

The second piece of information that is often received is called **grade**. If a tumor is malignant the pathologist will provide a "grade" for certain types of malignant tumors. A low grade often means that the tumor is not very aggressive and has a low chance of spreading (called metastasis) to other parts of the body or a low chance of growing again in the same place on the body. A high grade often means that the tumor is very aggressive and has a higher chance of spreading to other parts of the body or a higher chance of growing again in the same place on the body.

The third important piece of information that a biopsy will provide is **surgical margins**. The pathologist will examine the tissue at the edges to determine if "clean" surgical margins have been attained. "Clean" margins mean that the pathologist sees no cancer cells at the edge of the tissue where the surgical cut was made and that it is very likely that the whole tumor or lump was removed. With this information, your pet's doctor will be able to talk with you about what to expect in the future for your pet and if any further diagnostic tests or treatments are recommended.

Cancer can come in many forms and many types of treatments are available. Surgery, chemotherapy, nutrition, radiation, and alternative (or complementary) therapies can all play a valuable role in the treatment of cancer in pets.

Chemotherapy is a word that can be just as frightening as cancer but it is a very useful tool we can use to treat cancer in our pets. It often requires only a half day stay in the veterinary hospital, is usually given in a vein through a catheter and pets usually show mild or no side effects from their treatments. One of the most common side effects seen after a pet has chemotherapy is mild diarrhea or mild vomiting for a couple days. These side effects can often be prevented, however, by providing anti-nausea medication before the chemotherapy is given and continuing these medications for about one week after the chemotherapy treatment.

If a proactive approach is taken to prevent side effects then often pets feel great after their treatment! Pets will rarely have hair loss after chemotherapy and, in general, they tolerate chemotherapy significantly better than humans do.

There are also new and exciting nutritional therapies now available. There is a special diet available from Hill's (called "Science Diet" N/D) that was developed with help from oncologists at the Colorado State University Veterinary Teaching Hospital in Fort Collins, Colorado. When this diet is used in conjunction with other treatments it can increase the remission time of cancer and dramatically improve the quality of life for a pet with cancer. This special anti-cancer diet can enhance chemotherapy treatments, can decrease the spread of cancer cells, and can provide valuable nutrients to the patient while limiting nutrients to the cancer itself.

Complementary and alternative therapies for cancer are also becoming more widely used. Vitamins, minerals and amino acids are just some of the alternative and complementary therapies that have been proven effective through quality research and clinical trials. These treatments can increase immune system function and can help decrease the spread (metastasis) of cancer cells.

Kind, compassionate care should also be a vital part of any treatment that a pet receives, and in many cases, can be the most important element of all. Our ultimate goal in treating cancer in our pets is to give them the highest quality of life possible for as long as we can.

Cutting edge research currently taking place may eventually produce new and more effective treatments for cancer in pets and humans. There are chemicals that may be able to stop a cancerous tumor from producing a blood supply while affecting the patient very little. This treatment could potentially "starve" the cancer without causing any damage to the patient's body.

The friendships we have with our companion animals create profound and enduring bonds that should be celebrated and cherished at every opportunity. Veterinary professionals have an obligation to provide pet owners with support and understanding during this difficult time. New treatments are providing more hope than ever for our pets diagnosed with cancer.



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