

Cancer in Dogs

Cancer is a terrifying diagnosis to hear from your veterinarian. Dogs, like humans, can succumb to many types of cancer, and it is the very last thing you want to hear when you take your beloved canine companion in for a check-up. It helps to be prepared with some basic knowledge about cancer in dogs.

What is Cancer?

Cancer is the unchecked growth of abnormal cells in a certain tissue of the body. This abnormal cell growth can result in a disturbance of the tissue's ability to perform its normal functions. Some cancers are locally aggressive while others have a tendency to spread throughout the body, affecting more systems as they go.

Causes of Canine Cancer

While all causes of cancer in dogs are not known, it is widely accepted that a combination of environmental and genetic factors contribute to its development.

Most Common Types of Cancer in Dogs

There are some types of cancer that affect dogs more commonly than others. The most frequently-diagnosed cancer types in dogs include the following:

- **Lymphoma** is a very common type of cancer in dogs. It affects the lymphatic system, which delivers immune factors to all the body tissues to facilitate the ability to fight disease and infection. Lymphoma commonly affects the lymph nodes, gastrointestinal tract, spleen, and liver. It may also be found in skin forms, affect the bone marrow, or develop in the nervous system.
- **Hemangiosarcoma** is a type of cancer that affects blood vessels in dogs. The most common form affects the spleen, resulting in a large tumor or tumors that may burst and bleed suddenly. This leads to internal bleeding, collapse, and possibly death. Hemangiosarcoma may also affect the heart or other organs and the skin. Because it affects blood vessels, this type of cancer often spreads from its primary point, affecting multiple body systems.
- **Osteosarcoma** is a common type of bone cancer in dogs. Up to 85% of the time, osteosarcoma affects the bones of the legs, though it can affect any bone in the body including the jaw, skull, spinal column, and rib bones.
- **Mast cell tumors** are cancers that arise from mast cells, a type of white blood cell present in all of the body's tissues. These cells are most prominent in the skin, respiratory tract, and gastrointestinal tract, and these are the most commonly-seen sites for mast cell tumors as well. These tumors can range from fairly benign, or non-aggressive and non-spreading, to extremely malignant, aggressively attacking tissue and spreading to other body sites.
- **Transitional cell carcinoma** is the most common cancer found in the urinary tracts of dogs, including the kidneys, ureters, bladder, and urethra. The most common site for transitional cell carcinoma in dogs is the bladder. It can result in bloody urine, straining to urinate, and

complete blockage of the urinary tract if the tumor becomes large enough and is located near the bladder outlet.

- **Mammary cancer** affects the mammary, or breast, tissue in dogs. It is most common in females, especially those that have not been spayed. These tumor may be benign or aggressive.
- **Lung cancer** in dogs is most commonly due to cancer that started elsewhere in the body and metastasized or spread from there. Mammary cancer is a cancer that commonly metastasizes to the lungs in dogs.

Breeds, Sex, and Ages of Dogs Most Commonly Affected by Cancer

Certain types of cancer are more common in certain breeds, ages, or sex of dogs. Below are some examples:

- Bone cancer is more commonly seen in large breed dogs
- Mammary cancer almost exclusively affects females, especially those that have not been spayed.
- Certain types of skin cancer more commonly affect light-skinned dogs.
- Boxers and Boston terriers have a higher incidence of mast cell tumors on the skin than many other breeds.
- In general, many types of cancer affect older dogs more often than younger ones, with notable exceptions that include lymphoma (commonly seen in younger Golden retrievers and other breeds).

Signs of Cancer in Dogs

The signs that you might see at home if your dog develops cancer can vary widely depending on the type of cancer that is involved. Below are some warning signs that may indicate cancer, and you should take your dog to the veterinarian for diagnosis if you notice any of them.

- **Weight loss.** Many cancers cause weight loss in dogs, and this may include muscle wasting, which can be noticed most readily on the head, over the upper rear legs and hips, and along the spine.
- **Drooling and/or foul breath.** Cancer inside the mouth and certain types of internal cancer can cause drooling and/or bad breath in dogs.
- **Lumps or bumps.** Any lump on or under the skin or those that can be seen protruding from the abdomen when a dog lies or sits in a certain position should be checked immediately by your veterinarian.
- **Vomiting or diarrhea.** Cancer of various systems can affect gastrointestinal motility and cause vomiting and diarrhea. Some cancer produce substance that can result in nausea or vomiting.
- **Decreased appetite.** Dogs with cancer generally develop very low or absent appetites over time.

- **Collapse.** Certain types of cancer, most notably hemangiosarcoma of the spleen, can result in sudden collapse. This is an emergency situation; your dog needs to be seen by a veterinarian immediately.
- **Coughing, increased panting.** Tumors in the lungs or around the throat can result in coughing, panting, or increased respiratory rate and difficulty breathing.
- **Changes in behavior.** Dogs with cancer often become listless or withdrawn. They usually don't want to play as much and generally lay around more.
- **Pale gums.** This may be difficult to evaluate yourself unless you are familiar with how your dog's gums normally look, but pale gums may be a sign of cancer.
- **Lameness or limping.** Dogs with bone tumors and certain types of cancer that affect the lymphatic system often limp on one or multiple legs.

Many of these signs of illness can indicate medical conditions other than cancer. If you see any of these or other signs of sickness in your dog, visit your veterinarian for proper diagnosis.

Diagnosis of Canine Cancer

The diagnosis of cancer in dogs may be fairly straight-forward or more complicated depending on the type of cancer that is present and the system or systems that it is affecting. Once your veterinarian has done a full physical examination and listened to the history of any signs of illness that you have observed at home, some or all of the following diagnostic tests may be performed:

- **CBC.** A CBC, or complete blood count, gives your veterinarian information about your dog's red and white blood cells and platelets, among other things. This data can be extremely useful not only in diagnosing cancer but also in staging it and developing a prognosis.
- **Blood chemistries.** These blood tests mainly evaluate the organ functions of your dog. Certain cancers affect specific body systems by being located there while others affect them secondarily. Knowing how your dog's general body function is doing will help your veterinarian develop a treatment plan and prognosis.
- **Urinalysis.** This test evaluates your dog's urine. This can help diagnose bladder cancers, cancers located in or affecting the kidneys, and also aid in the evaluation of your dog's overall health status if she has been diagnosed with another type of cancer.
- **FNA.** An FNA, or fine needle aspirate, is a test that is done by placing a needle into an abnormal area such as a tumor and drawing out cells so that they may be examined microscopically. This test is most often performed on skin tumors, but it may also be done on certain internal tumors with the aid of an ultrasound to guide the needle placement.
- **Biopsy.** A biopsy is performed by removing a larger piece of a tumor or diseased area in order to make several cross-sectional slides to evaluate microscopically. Biopsy may be performed by removing an entire tumor or a piece of a tumor if it is too large to be removed in its entirety or if it surrounds or extends into delicate structures and can't be completely removed.
- **X-rays.** X-rays, or radiographs, may be used to look for tumors inside the body or to search for the spread of cancers that have already been diagnosed.

- **Ultrasound.** This technology uses sound waves to create a picture of internal body structures. It is useful in diagnosing smaller tumors or seeing them in more detail than can be done with an x-ray.
- **MRI.** This test uses magnetic fields and radio waves to create images of internal tissues and structures. It is often used to see smaller or more detailed pictures of tumors within a dog's body.
- **CT scan.** CT scan is a type of x-ray that uses the aid of a computer to generate three dimensional and cross-sectional views of internal structures in order to look for abnormalities.

Treatment of Cancer in Dogs

The treatment for canine cancer varies depending on the following factors:

- **Type of cancer present.** Treatments have been developed for each type of canine cancer that may be present. These are the result of years of study and practice to learn the type of treatment that each cancer responds best to. Your veterinarian may refer you to a veterinary oncologist (a cancer specialist) to treat your dog's cancer
- **Stage of cancer.** During the diagnostic process, your dog's cancer will be staged. This is done by evaluating how aggressive her cancer cells are, how widely the cancer has spread, and how the cancer is acting in her body. Higher grade cancers may require more aggressive treatment options.
- **Age of dog.** Older dogs may not be able to tolerate the same treatments that younger dogs can, and your dog's age will be taken into account by your veterinarian when developing a cancer treatment plan.
- **General condition of dog.** If your dog has other health conditions such as kidney disease, heart disease, diabetes, or any other complicating issue, the treatment plan for her cancer may need to be adjusted.

Treatment recommended by your veterinarian may include one or a combination of the following:

- **Chemotherapy.** A very common type of treatment for many cancers, this involves treating with medication. Sometimes the treatment is oral and done at home. Other times, the medication must be given in a manner that requires hospitalization at the veterinary clinic, such as intravenously (IV).
- **Radiation.** This treatment involves delivering highly focused beams of some type of radiation directly to a tumor site. It may be a primary treatment, but it is often used in conjunction with or after a course of chemotherapy.
- **Surgery.** In cases where there is a defined tumor or tumors, surgery is often the place to start when treating canine cancer. In some cases, surgery is curative, and no further therapy is required. Other times, surgery must be followed up with chemotherapy and/or radiation.
- **Immunotherapy.** These treatments focus on triggering a dog's immune system to better fight the cancer.
- **Palliative care.** If an owner elects not to use any of the above treatments for a dog with cancer because of cost, poor prognosis, age, or general health condition, palliative care can be

used to manage pain, nausea, and other signs of the cancer. These treatments don't stop or slow down the cancer, but they do help the dog to be more comfortable.

What Questions Should I Ask My Veterinarian If My Dog Is Diagnosed with Cancer?

What is my dog's prognosis? The answer to this question will depend on the type and stage of the cancer, your dog's age and other health conditions, and the type of treatment that is elected.

Are there alternative therapy options that we can explore? There are many possible alternative care options for dogs with cancer. Some of these include:

- **Chiropractic care.** Manipulation of the spine by a qualified veterinary practitioner can help dogs with cancer manage pain, nausea, and other side effects of cancer.
- **Acupuncture.** This treatment, applying thin needles to specific points of the body, with or without stimulation of those points by heat, electricity, or other means, has been used for centuries in humans and animals with cancer. The effects can help decrease pain and stimulate the body's immune system to help fight the disease.
- **Herbal medication.** Herbs and herbal mixes such as *More Mushrooms Kit for Dogs* by Pet Wellbeing can help a dog with cancer by supporting organ systems, increasing immune function, and decreasing free radicals in the body that can cause further disease.
- **Homeopathy.** Homeopathic remedies may be available for certain cancers in dogs. A homeopathically-trained veterinarian should be consulted before attempting these treatments.
- **Antioxidant therapy.** Cancer cells cause free radical formation in the body, and antioxidants can neutralize these and decrease further damage. Antioxidants include Vitamins A and E and selenium. These may be given orally, but they may be more effective if given intravenously (IV).
- **Dietary therapy-** A natural, holistic preferable homemade, grain free diet high in Omega 3 fatty acids will help support your dog's body as he deals with cancer. Diets high in Omega 3 fatty acid help slow the spread and growth of cancers.

No one wants to hear a diagnosis of cancer for their beloved dog. Hopefully, knowing the signs, causes, diagnosis, and treatments will help you be prepared if it happens to your canine pal.