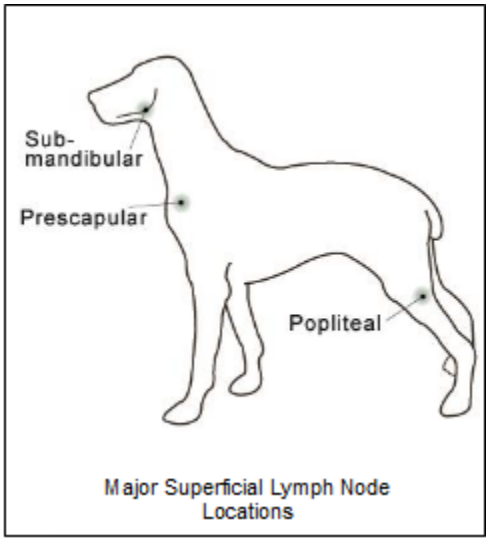
**CANINE AND FELINE LYMPHOSARCOMA**

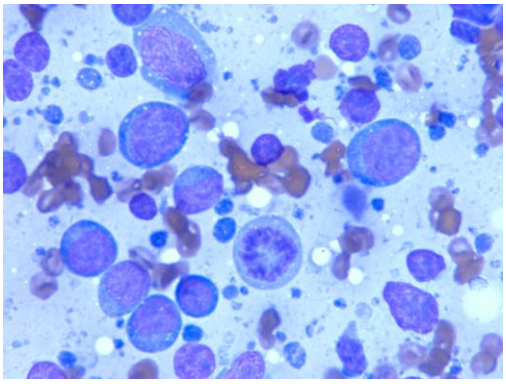
**Lymphosarcoma** is also known as **lymphoma** or **non-Hodgkin's lymphoma.** It is one of the most common cancers treated in our practice. Many different species of animals can develop lymphoma, including dogs and cats. The disease can take on many forms. The most common form of lymphoma in dogs is that which starts in the lymph nodes. Usually the first place this is noticed is under the jaw. Other forms of lymphoma can start in the chest, abdomen, bone marrow, or skin. In cats, the most common form occurs in the abdomen, while the form that occurs in the peripheral lymph nodes is relatively uncommon. Many cats are concurrently positive for retroviruses (e.g. FeLV and FIV). However, a cat need not be FeLV or FIV positive to have this disease.



Major Superficial Lymph Node Locations

**How is the disease definitively diagnosed?**

The means by which the disease is diagnosed depends on what form is present. For example, in patients with generalized lymph node enlargement, a simple test called a "fine needle aspirate" can often give us a reasonable idea of what's going on. Definitive diagnosis is based on a tissue biopsy or can be based on a test called a "polymerase chain reaction" or PCR.



Fine needle aspirate of a lymph node from a dog with lymphoma.

**How is Lymphoma Treated?**

Chemotherapy is the mainstay of treatment. Chemotherapy means literally “chemical” treatment and refers to drug therapy. Anti-cancer drugs can be administered intravenously, subcutaneously, or even orally, depending on the drug chosen. Intravenous (IV) drugs are administered directly into a vein through a catheter. Special care must be taken when using anticancer drugs. These drugs can cause problems for your pet if administered inappropriately and can also cause problems for the “administrator” if not handled and disposed of properly.

**Will My Pet Get Ill With Treatment?**

Fortunately, animals tolerate cancer treatments far better than people. The incidence of side effects tends to be less than 5%. This is for several reasons, the most important of which is the dosage levels used. In people, dosages are much higher and therefore people suffer the side effects to a greater degree. In animals our primary concern has to be quality of life, therefore we choose the maximum dosage possible to treat the cancer while not causing significant side effects.

**Will My Pet Lose Hair?**

In general, no. Certain breeds are at risk for hair loss (e.g. Poodles, Old English Sheepdogs), but the majority of breeds of dogs and cats do not experience hair loss with chemotherapy.

**Will My Pet Be Cured If I Treat?**

While lymphosarcoma is a very treatable disease, it is not a curable disease. Our goal with treatment is to put the cancer into remission. Remission means ridding the body of visible disease. We know, however, that every last cancer cell will not be killed, and eventually the disease will come back. If we are successful at obtaining a remission, your pet’s quality of life should be back to normal. It is important to understand that eventually the disease becomes resistant to treatments.

In cats with thymic lymphoma (a form arising from the chest, an ultrasound guided biopsy is usually necessary to make the diagnosis. Because lymphoma can spread to almost any tissue in the body, a thorough work-up needs to be done to determine the ***stage*** of disease. This lets us know how advanced the lymphoma had become and ultimately helps us decide what treatment would be most beneficial.

***We advise you to schedule the treatment protocol appointments in advance as our schedule fills quickly. It’s in your pet’s best interest to stay on protocol for the highest chance of a successful remission.***

**Tests Recommended for Staging:**

- Complete blood count (CBC), serum chemistry panel, urinalysis
- Chest and abdominal radiographs

Radiograph of the abdomen showing an enlarged sublumbar lymph node.

- Bone marrow analysis, especially if peripheral blood counts are abnormal
- Lymph node biopsy with immunohistochemistry to differentiate between T and B cell lymphomas
- Abdominal ultrasound

It is not always necessary to do all of these tests; however, these help give us an indication of the stage of your pet's cancer and his/her general health and ability to undergo treatment.

**What Does Stage of Disease Mean?**

We designate a patient's stage from Stage I to Stage V. Stage I disease means that the cancer is confined to only one lymph node. Stage I is rarely diagnosed in pets. Stage II refers to cancer in more than one lymph node, but in only one region of the body. Stage III refers to cancer in nodes throughout the body. Stage IV refers to disease in the nodes and spleen or liver. Stage V refers to all of the above plus cancer in the bone marrow, blood, or other sites not listed above. There is also a subclassification of ***A*** vs. ***B***. ***A*** means that the patient is not ill with the disease, while ***B*** indicates clinical symptoms are present such as vomiting, diarrhea, fluid in the lungs, etc. Stage IIIA is usually the earliest we detect the disease in dogs. Even later stages of lymphosarcoma are very treatable.

**How Long Do Remissions Last?**

It does depend on the type of lymphosarcoma present; but in general, greater than 90% of dogs and greater than 75% of cats will achieve a complete remission. There are patients that are resistant to treatment from the beginning, but fortunately this is uncommon. The length of remission depends to some degree on the chemotherapy protocol chosen. This will be discussed in detail during your initial consultation. The average length of survival is 8-14 months. You need to keep in mind that this is an average. Therefore much longer survivals are possible as well as much shorter survivals. When patients come out of remission, additional treatment courses can be successful.

**What Are Costs Involved With Treatment?**

The treatment of cancer can be costly as we are using human anti-cancer drugs. There are no veterinary formulations of these drugs to help reduce cost. In addition to the cost of the drugs themselves, there are costs involved in monitoring blood counts, catheters, technical time, and disposal of paraphernalia used to administer these agents. In addition, special monitoring such as X-rays or ultrasound may be needed to evaluate response to treatment. Fees will be thoroughly discussed at the time of the initial consultation. Treatment protocols, lasting several months, can vary in cost, but usually start at $1,500 for cats and smaller dogs and can reach $6,000 in larger dogs. Charges for individual appointments can vary from $50 to $700 depending on the scheduled treatment.