Lymphoma (also known as lymphosarcoma and Non-Hodgkins disease) is a cancer of the lymphatic tissue. Lymphatic tissue is a filtration network of vessels and lymph nodes that returns fluids from the body to the bloodstream. A genetic predisposition is suspected, but the exact cause of lymphoma is unknown. Some breeds appear to be at a higher risk for developing lymphoma.

**Diagnosis**

Lymphoma is most commonly found in the lymph nodes, liver and spleen of dogs, although any body system can be affected. The most common sign of lymphoma is a painless enlargement of the lymph nodes. Other dogs will have signs of illness from the effects of cancer cells invading normal body tissues. Samples of affected lymph node, bone marrow, or other tissues must be examined under a microscope to diagnose lymphoma. During treatment, blood tests help us monitor for side effects from therapy. Blood tests cannot diagnose lymphoma unless the cancer cells are actually present in the blood stream (leukemia).

**Treatment – Chemotherapy**

Lymphoma is not curable, but therapy can reduce the severity of clinical signs and add quality time to your dog’s life. Chemotherapy is the most effective form of therapy for lymphoma. You may be familiar with the side effects of chemotherapy in people. Fortunately, dogs tend to experience few if any of the severe side effects seen in people. For instance, dogs do not lose hair from chemotherapy, unless they are terriers, poodles, or English sheepdogs.

Chemotherapy is the use of medications to interrupt the growth of cancer cells. The medications which are effective in stopping the growth of lymphoma cells will also interrupt the normal replacement of cells which line the digestive tract and the white blood cells which form in the bone marrow to help our bodies fight infection. When chemotherapy drugs damage these normal cells, symptoms can range from a mild, temporary decrease in appetite to loose stools, vomiting, and fever.

Again, many dogs have no symptoms; other improve with simple drug store remedies including Pepcid AC®, Pepto Bismol® and, most importantly, changing to a bland diet. Stronger prescription medications and antibiotics are sometimes needed, but only about 1 in 10 patients require a return visit to the hospital because of side effects. Our philosophy is that cancer patients should feel better, not worse, from their therapy!

When dogs with lymphoma are treated with chemotherapy, the results are usually dramatic. For most patients, the lymphoma generally disappears into remission (dormancy) within one or two weeks of
treatment. A microscopic amount of the cancer remains, but the patient has no signs and enjoys a normal quality of life. Many dogs seem to feel better than before the cancer was diagnosed! Eventually the remaining cancer cells begin to divide and symptoms reappear, but most dogs return into remission with acceleration of their treatment. Unfortunately, the cancer cells eventually develop resistance, the ability to escape damage from the chemotherapy drugs. When lymphoma becomes resistant to chemotherapy, or when patients do not receive treatment for the disease, the cancer overwhelms the rest of the body. Signs include severe lethargy, poor appetite, difficulty breathing, and eventual death.

Most chemotherapy medications must be given as intravenous (IV) injections. Other medications are available as tablets and can be given at home. Although many medications can control lymphoma for short periods of time, chemotherapy is most effective against lymphoma when combinations of different drugs are used. Different drug combinations, or protocols, are available and range in cost, effectiveness, frequency of visits and side effects. As oncologists, we will help you decide which protocol is the best start for your dog.

The longest success is generally seen with a combination of six different medications. Each drug has its individual method of damaging the cancer cells, which results in the longest period of remission and thus longest life expectancy. The drugs are used in rotation in order to limit side effects. Induction is the more intense 6 to 7 week period when treatments are given weekly and we closely monitor the patient’s response to therapy. After the disease is under control, maintenance treatments continue to keep the disease in remission for as long as possible.

**Prognosis**

With chemotherapy, most dogs will reach a complete remission and enjoy happy, healthy lives of one or longer – often much longer! The effectiveness of treatment depends on how advanced the disease is and whether your pet has other health problems. We are still learning about the factors that result in a wide range of life expectancy. As individuals, each of our patients will have a slightly different response and outcome. Our goal is to maintain the best quality of life possible!