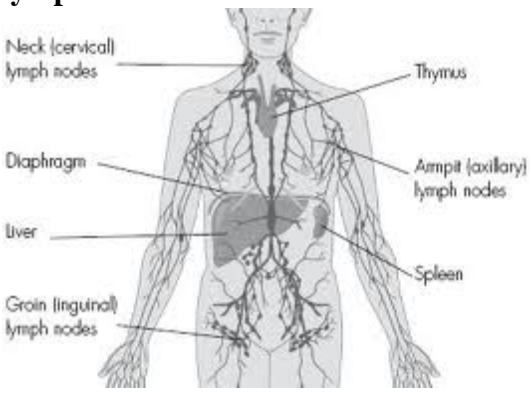
Lymphoma

FACTS ABOUT **LYMPHOMA**

The **lymphatic system** is a network of tiny vessels extending throughout the body. They are often next to the veins and arteries but are even smaller than them. Scattered along these vessels are **lymph nodes.** The lymphatic vessels carry a clear fluid called **lymph** from the extremities and organs back to the blood circulation. The job of the lymphatic system is to fight infection and disease. A tumor of the lymphatic system is called **lymphoma.** The two main types are **Hodgkin's** and **non-Hodgkin's lymphomas**



HODGKIN'S LYMPHOMA

■ Hodgkin's lymphoma (or Hodgkin's disease) most often begins in the larger, more central lymph nodes of the body- those along the largest blood vessels of the neck, central chest, abdomen along the spine, and armpit and groin areas where the vessels return from the arms and legs.

■ According to the American Cancer Society, more than 9,000 people will be diagnosed with Hodgkin's in the United States in 2012. Hodgkin's is very treatable and often curable; 80 percent of patients with Hodgkin's live longer than 10 years after diagnosis.

■ First described by Dr. Thomas Hodgkin in 1832, Hodgkin's lymphoma was incurable until radiation therapy began to cure patients fifty years ago.

■ Hodgkin's is now usually treated with chemotherapy and/or radiation therapy, either alone or together.

NON-HODGKIN'S LYMPHOMA (NHL)

■ Non-Hodgkin's Lymphoma is a general term for about 30 different types of lymphoma that differ from Hodgkin's lymphoma.

■ NHL is eight times more common than Hodgkin's lymphoma. The American Cancer Society expects that more than 70,000 people will be diagnosed with the disease in 2012.

■ Since the 1970s, the number of people with NHL has doubled.

■ All types of NHL are treatable, and many are curable.

■ NHL is usually treated with chemotherapy, biologic therapy and/or radiation therapy. In some types of NHL a stem cell transplant may be part of treatment. Depending on your cancer and overall health, you might receive only one of these treatments or several in combination.

STAGING OF **LYMPHOMA**

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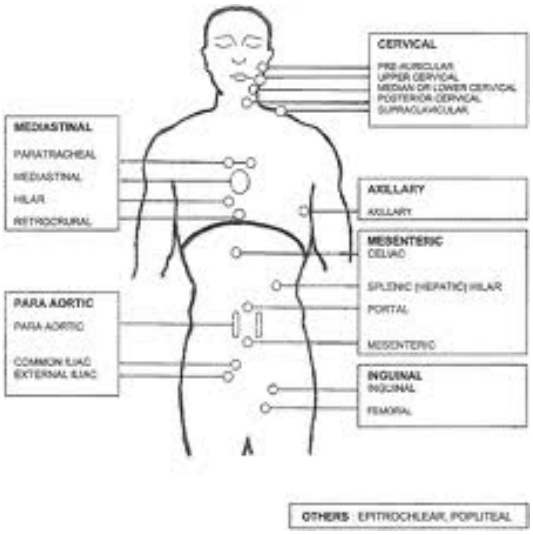

The stage of lymphoma is a term used to describe the extent of the disease.

- **Stage I:** Single lymph node or non-lymph node region is affected.

- **Stage II:** Two or more lymph nodes or non-lymph node regions are affected on the same side of the diaphragm (the muscle under the lungs).

- **Stage III:** Lymph node or non-lymph node regions above and below the diaphragm are affected.

- **Stage IV:** The cancer has spread outside the lymph nodes to organs such as the liver, bones or lungs. Stage IV can also refer to a tumor in another organ and/or tumors in distant lymph nodes.

Talk to your physician to find out exactly which stage you have. Determining the stage and exact type of lymphoma (by microscopic examination of tissue from a **biopsy)** are essential steps toward planning the best treatment to cure your disease.

TREATMENT OPTIONS FOR LYMPHOMA

Treatment options depend on the type of lymphoma, its stage and your overall health. Treatment may include chemotherapy or radiation therapy, either alone or in combination. It may help to talk to several specialists before deciding on the best course of treatment for you, your disease and your lifestyle.

A **radiation oncologist** is a doctor who specializes in destroying diseased cells with high-energy X-rays or other types of radiation.

A **medical oncologist** is a doctor who is an expert at prescribing special drugs (chemotherapy or **biologic therapy)** to treat disease. Some medical oncologists are also **hematologists,** meaning they have experience treating blood disorders.

UNDERSTANDING **RADIATION THERAPY**

Radiation therapy, also called radiotherapy, is the careful use of radiation to kill diseased cells safely and effectively while avoiding nearby healthy tissue.

- Radiation oncologists use radiation therapy to cure disease, to control disease growth or to relieve symptoms.

- Radiation therapy works within diseased cells by damaging their ability to grow. When these cells are destroyed by the radiation, the body naturally eliminates them.

- Healthy tissues can also be affected by radiation, but they are usually able to

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repair themselves in a way that Cancer cells cannot.

EXTERNAL BEAM

RADIATION THERAPY

External beam radiation therapy is a series of outpatient treatments to deliver radiation to the diseased cells accurately. Radiation therapy has been proven to be very successful at treating and curing lymphoma.

■ Radiation oncologists deliver external beam radiation therapy to the lymphoma from a machine called a **linear accelerator.**

■ Each treatment is painless and is similar to getting an X-ray. Treatments last less than 30 minutes each, every day but Saturday and Sunday, for several weeks.

■ **Involved field radiation** is when your doctor delivers radiation only to the parts of your body known to have disease. It is often combined with chemotherapy. Radiation above the diaphragm to the neck, chest and/or underarms is called **mantle field radiation.** Treatment below the diaphragm to the abdomen, spleen and/or pelvis is called **inverted-Y field radiation.**

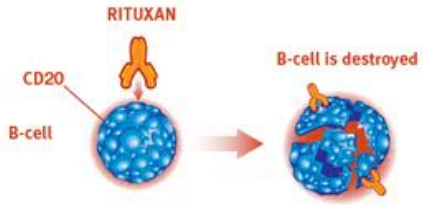
■ Your radiation oncologist may deliver radiation to all the lymph nodes in the body to destroy cells that may have spread to other lymph nodes. This is called **total nodal irradiation.**

■ Your radiation oncologist may also deliver radiation to the entire body. This is called **total body irradiation.** It is often done before chemotherapy and a stem cell or bone marrow transplant to eliminate any remaining diseased cells.

Radiation therapy may be used alone or in combination with chemotherapy or biologic therapy. You will work with your radiation oncologist to agree on a treatment plan that is best for you.

BIOLOGIC

THERAPY



Also called immunotherapy, biologic therapy works with your immune system to fight disease. Biologic therapy is like chemotherapy. The difference is that chemotherapy attacks the diseased cells directly, and biologic therapy helps your immune system fight the disease.

■ **Monoclonal antibodies** work by targeting certain molecules in the body and attaching themselves to those molecules. This causes some cells to die and makes others more likely to be destroyed by radiation and chemotherapy.

■ **Radiolabeled antibodies** are monoclonal antibodies with radioactive particles attached. These antibodies are designed to attach themselves directly to the diseased cells and damage them with

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small amounts of radiation without injuring nearby healthy tissue.

POSSIBLE

SIDE EFFECTS

The side effects you might experience will depend on the part of the body being treated, the dose of radiation given and whether you also receive chemotherapy. Before treat- ment begins, ask your doctor about possible side effects and how best to manage them.

- You may experience mild skin irritation like a sunburn, sore throat, upset stomach, loose bowel movements and/or fatigue. Most side effects will go away after treatment ends.

- Radiation to your head or mouth may cause mouth dryness that can lead to tooth decay. Fluoride treatments may help, so your radiation oncologist will ask you to see your dentist before treatment begins.

- Radiation can cause inflammation in the treated area. For example, treatment to the chest may cause difficulty with swallowing, a cough or feeling short of breath.

- You might lose your hair in the areas treated. Your hair will grow back, but it might not have the same texture or thickness.

- Tell your doctor or nurse if you experience any discomfort or side effects. They may be able to prescribe medication or change your diet to help.

These side effects are temporary and should go away after treatment ends. Because cure rates have improved significantly, there are potential late effects from radiation that vary based upon the area treated and dose you receive. Ask your doctor to discuss any possible longer-term side effects with you before treatment begins.