

Hodgkin's Lymphoma Questions and Answers

What is Hodgkin's Lymphoma?

Hodgkin's Lymphoma, also known as Hodgkin's disease, usually develops in the lymphatic system (a part of the body's immune system). The lymphatic system carries disease-fighting white blood cells throughout the body. Lymph tissue, which makes up the lymphatic system, is located throughout the body (neck, armpits, chest, and groin). Because of this, the disease can start in almost any part of the body. It can also spread to almost any organ or tissue, including the liver, bone marrow, and spleen.

Hodgkin's Lymphoma is a very treatable type of cancer that was first described in 1832 by Dr. Thomas Hodgkin. Hodgkin's Lymphoma occurs mainly in young adults, with more cases occurring between the ages of 16 and 34 years. Older patients, especially those over age 55, may also develop Hodgkin's Lymphoma. Hodgkin's is very treatable even for patients with advanced disease. The survival rate is high.

What are the symptoms of Hodgkin's Lymphoma?

Common symptoms of Hodgkin's Lymphoma may include painless swelling of lymph nodes (often occurring in the neck or under the arm), fever, night sweats, unexplained weight loss, chills, lack of energy or fatigue, and itching. A cough and shortness of breath or chest discomfort may be early signs of Hodgkin's Lymphoma in the chest. Enlargement of the liver and spleen may also occur.

What are the different types of Hodgkin's Lymphoma?

Hodgkin's Lymphoma has been divided into subtypes according to how the lymph nodes look under the microscope. The type of tumor provides important information that may affect treatment choices.

Nodular Sclerosing Hodgkin's Lymphoma

In this type of Hodgkin's Lymphoma, the affected lymph nodes have mixed areas of normal cells, Reed-Stenberg cells, and prominent scar tissue. This is the most common type, making up 60% to 80% of all cases. It is more common in adolescents and young adults, but can occur at any age.

Lymphocyte-Rich Classical Hodgkin's Lymphoma

This type of Hodgkin's Lymphoma is a newly created subtype that was sometimes confused with some lymphocyte predominant cases. It behaves more like mixed cellularity Hodgkin's Lymphoma.

Mixed Cellularity Hodgkin's Lymphoma

In this type of Hodgkin's Lymphoma, the affected lymph nodes contain many Reed-Stenberg cells in addition to several other cell types. Mixed cellularity accounts for about 5% to 30% of all cases of Hodgkin's Lymphoma. It primarily affects older adults.

Lymphocyte Depletion Hodgkin's Lymphoma

In this type of Hodgkin's Lymphoma there are large numbers of Reed-Stenberg cells, but very few other cell types are found in the lymph nodes. It is the least common form of Hodgkin's Lymphoma and found in less than 5% of the cases. It is seen more often in elderly or in patients with AIDS.

Nodular Lymphocyte Predominance Hodgkin's Lymphoma

This type of Hodgkin's Lymphoma is not considered a Classical Hodgkin's Lymphoma. This is because it lacks some of the features that identify Hodgkin's Lymphoma and also Non-Hodgkin's Lymphoma. Most of the lymphocytes found in the lymph nodes are normal. Abnormal cells, known as "popcorn cells" are a special type of B-cell found in the nodular variety. NLPHL accounts for about 5% or 6% of the cases of Hodgkin's Lymphomas. It affects more men than women. The average age of patients is in their mid-30s. This type of Hodgkin's Lymphoma is usually diagnosed at an early stage and the prognosis is excellent.

What is cancer staging and what does it mean?

After diagnosis your doctor will order tests that will help determine the extent of your disease. This is known as "staging". Stage describes the extent to which the tumor has spread in the body. Staging is important since it helps to predict outcome or prognosis and determines the treatment approach.

Stage I (early stage): One lymph node region is involved.

Stage II (locally advanced disease): The cancer is found in two or more lymph regions on one side of the diaphragm or the cancer is found in one lymph node region plus a nearby area or organ, a situation known as "extension," or "E" disease.

Stage III (advanced disease): The disease involves lymph nodes both above and below the diaphragm or one node area and one organ on opposite sides of the diaphragm ("E" disease).

Stage IV (widespread disease): The Lymphoma is outside the lymph nodes and spleen and has spread to one or more organs such as bone, bone marrow, skin, and other organs.

In addition, the stage is broken down into A or B. "A" means asymptomatic, which is used for patients who do not complain of fever, drenching sweat, or unexplained weight loss. When patients have any of these symptoms, "B" is assigned to their stage.

What are the common tests used to evaluate Hodgkin's Lymphoma?

Patient Information Sheets about each test that is used to determine the stage of disease are found in your Lymphoma & Myeloma Center Patient Resource Notebook. Your doctor or nurse will describe your tests in more detail and will talk to you about how they are to be scheduled.

Biopsy

This is a procedure in which a piece of tissue from an area of suspected cancer is removed from the body for examination under the microscope. Hodgkin's Lymphoma is diagnosed by looking at cancer cells and determining how they are growing in the lymph nodes or other tissues. The information provided by this tissue sample is crucial to diagnosing and treating Hodgkin's Lymphoma.

X-Rays

This procedure uses radiation to take pictures of the area inside the body.

Computerized Axial Tomography (CT Scan)

A CT Scan takes x-rays from different angles around the body. The pictures that are obtained are then combined using a computer to give a detailed image. The most common CT scans ordered are of the neck, chest, abdomen, and/or pelvis.

Positron Emission Tomography (PET) Scan

P.E.T. is a technology that combines the fields of medicine, computer science, chemistry, physics, and physiology to study the function of organs such as the heart, brain, and bone. It is different from conventional imaging methods such as x-rays, CTs, ultrasounds, or MRIs, because P.E.T. images provide information about how tissue functions. The other imaging methods show what the tissues look like.

Magnetic Resonance Imaging (MRI)

An MRI is similar to a CT scan but uses magnets and radio frequency waves instead of x-rays. A MRI can provide important information about tissues and organs that is not available from other imaging techniques. It is less used in Hodgkin's Lymphoma than are CT scans, but it can be useful in evaluation of the bones and brain.

Blood Tests

These are performed to determine if different types of blood cells are normal in numbers and appearance when viewed under the microscope and if blood chemistry is normal. Other standard tests include liver and kidney function tests, B₂ microglobulin and LPH tests and other chemical tests.

Bone Marrow Aspiration and Biopsy

Bone marrow, the spongy material found inside the bones, contains immature cells called stem cells. The stem cells develop into three types of cells: red blood cells, which deliver oxygen and

take away the waste product, carbon dioxide; white blood cells, which protect the body from infection; and platelets, which help blood to clot. Bone marrow is obtained by numbing the skin, tissue and surface of the bone with a local anesthetic. A thin needle is then inserted into the hip or another large bone and a small sample is collected.

Echocardiogram

This diagnostic test is ordered to evaluate the size and function of the heart.

MUGA Scan (Multiple Gated Acquisition Scan)

This scan is an extremely useful test for assessing the function of the heart. The MUGA scan produces a moving image of the beating heart, and from this image several important features can be determined about the health of the cardiac ventricles - the heart's major pumping chambers.

Pulmonary Function Test

This test will determine how well the lungs function. It is an important test since some drugs used to treat Hodgkin's Lymphoma may affect the lungs.

What are the different treatments for Hodgkin's Lymphoma?

The treatment depends on the disease stage. The treatment may consist of chemotherapy, radiation therapy, bone marrow and stem cell transplantation or a combination of these four types of treatments.

Chemotherapy

Chemotherapy is the use of medications to treat cancer. There are many different types of drugs available to treat Lymphomas. Doctors may prescribe a single drug but more often combinations of many drugs are used. Chemotherapy drugs have varying ways to kill cancer cells and different side effects. Giving several drugs at once may increase their effectiveness but also may increase the number of side effects.

Radiation Therapy

Radiation is a special kind of energy carried by waves or a stream of energy particles. It may be delivered by a radiation machine or from radioactive substances injected through the bloodstream. External beam radiation equipment is used to aim the radiation at tumors or areas of the body where there is Lymphoma. It kills the cells in the area where the radiation beam was aimed.

Bone Marrow and Stem Cell Transplantation

Autologous or allogeneic bone marrow transplantation (BMT) and peripheral blood stem cell transplantation (PBSCT) are procedures that restore the supply of normal stem cells that are destroyed by high-dose chemotherapy and/or radiation therapy. In autologous transplantation, the bone marrow or blood stem cells are collected from the patient. In allogeneic transplantation, the

bone marrow or blood stem cells are collected from a matched donor of a related or unrelated (non-family) individual.

In bone marrow transplantation, stem cells are taken from inside the donor or patient's hip bone. In peripheral blood stem cell transplantation, the cells are collected from the blood using a procedure called apheresis, similar to donating blood. Before the transplant procedure, patients receive large doses of anti-cancer drugs, alone or in combination with radiation, in order to destroy as many cancer cells. They then receive the bone marrow or stem cell transplant. Bone marrow collection for transplants is very seldom done. Instead, peripheral stem cell collection is used most often to collect stem cells.

What are the common drug regimens or protocols used to treat Hodgkin's Lymphoma?

Your doctor or nurse will talk to you about your specific treatment protocol and provide you with Patient Information Sheets describing each drug and a treatment calendar to put in your Lymphoma & Myeloma New Patient Education Manual.

Common drug regimens include:

ABVD: Doxorubicin, Bleomycin, Vinblastine, Dacarbazine

BEACOPP: Bleomycin, Etoposide, Doxorubicin, Cyclophosphamide, Vincristin, Procarbazine, Prednisone, G-CSF

Once treated, can Hodgkin's Lymphoma come back?

Although many patients with Hodgkin's Lymphoma are treated and go into remission, there is a chance that the disease may return later (**relapse**). When a patient has a relapse, another biopsy is often done. Additional chemotherapy or radiation therapy may be needed in order to control the cancer.

Sometimes, if the cancer is low grade Hodgkin's Lymphoma, it may return (**recur**), as a higher grade of Lymphoma. This is called **transformation**. In this case, the treatment may be different from what was given before. Because there is always a chance that cancer may recur, it is very important to see a doctor regularly for follow up exams. If the cancer returns, and it is found early, the chances of controlling it are better. Your doctor will tell you more about the chances of relapse and will explain your need for follow up visits.