Treating Hodgkin Lymphoma

General treatment information

If you (or your child) has been diagnosed with Hodgkin lymphoma, the cancer care team will discuss treatment options with you. It’s important to think carefully about your choices. You will want to weigh the benefits of each treatment option against the possible risks and side effects.

Treatment for Hodgkin lymphoma is based largely on the stage (extent) of the disease. But other factors, including a person’s age and general health, and the type and location of the lymphoma, might also affect treatment options.

For almost all patients with Hodgkin lymphoma, cure is the main goal. But treatment can have side effects that often don’t show up for many years. Because of this, doctors try to choose a treatment plan with the lowest risk of possible side effects.

Which treatments are used for Hodgkin lymphoma?

Depending on the type and stage of the lymphoma and other factors, treatment options for people with Hodgkin lymphoma can include:

- **Chemotherapy**
- **Radiation therapy**
- **Immunotherapy** (including monoclonal antibodies)
- **High-dose chemotherapy and stem cell transplant**

The main treatments for Hodgkin lymphoma are chemotherapy and radiation therapy. Depending on the situation, one or both of these treatments might be used.

Certain patients might be treated with immunotherapy or with a stem cell transplant, especially if other treatments haven’t worked. Except for biopsy and staging, surgery is
rarely used to treat Hodgkin lymphoma.

To learn about the most common approaches to treating these cancers and about treatment in special circumstances, see:

- **Treating Classic Hodgkin Disease by Stage**
- **Treating Nodular Lymphocyte Predominant Hodgkin Disease**
- **Treating Hodgkin Disease in Children**
- **Hodgkin Disease During Pregnancy**

**What types of doctors treat Hodgkin lymphoma?**

Based on your treatment options, you may have different types of doctors on your treatment team. These doctors may include:

- A **hematologist**: a doctor who treats disorders of the blood, including lymphomas.
- A **medical oncologist**: a doctor who treats cancer with medicines.
- A **radiation oncologist**: a doctor who treats cancer with radiation therapy.

Many other specialists might be part of your treatment team as well, including physician assistants, nurse practitioners, nurses, nutritionists, social workers, and other health professionals. See [Health Professionals Associated With Cancer Care](#) for more on this.

**Making Treatment Decisions**

It is important to discuss all of your treatment options, including their goals and possible side effects, with your doctors to help make the decision that best fits your needs. In choosing a treatment plan, consider your health and the type and stage of the Hodgkin lymphoma.

It’s also very important to ask questions if you’re not sure about something. You can find some good questions in [What Should You Ask Your Doctor About Hodgkin Lymphoma?](#)

**Getting a second opinion**

If time allows, you may also want to get a second opinion. This can give you more information and help you feel more certain about the treatment plan you choose. If you aren’t sure where to go for a second opinion, ask your doctor for help.
Thinking about taking part in a clinical trial

Clinical trials are carefully controlled research studies that are done to get a closer look at promising new treatments or procedures. Clinical trials are one way to get state-of-the-art cancer treatment. In some cases they may be the only way to get access to newer treatments. They are also the best way for doctors to learn better methods to treat cancer. Still, they are not right for everyone.

If you would like to learn more about clinical trials that might be right for you, start by asking your doctor if your clinic or hospital conducts clinical trials. See Clinical Trials to learn more.

Considering complementary and alternative methods

You may hear about alternative or complementary methods that your doctor hasn’t mentioned to treat your cancer or relieve symptoms. These methods can include vitamins, herbs, and special diets, or other methods such as acupuncture or massage, to name a few.

**Complementary methods** refer to treatments that are used *along with* your regular medical care. **Alternative treatments** are used *instead of* a doctor’s medical treatment. Although some of these methods might be helpful in relieving symptoms or helping you feel better, many have not been proven to work. Some might even be dangerous.

Be sure to talk to your cancer care team about any method you are thinking about using. They can help you learn what is known (or not known) about the method, which can help you make an informed decision. See the Complementary and Alternative Medicine section to learn more.

Help getting through cancer treatment

Your cancer care team will be your first source of information and support, but there are other resources for help when you need it. Hospital- or clinic-based support services are an important part of your care. These might include nursing or social work services, financial aid, nutritional advice, rehab, or spiritual help.

The American Cancer Society also has programs and services – including rides to treatment, lodging, and more – to help you get through treatment. Call our National Cancer Information Center at 1-800-227-2345 and speak with one of our trained specialists.
Chemotherapy for Hodgkin Lymphoma

Chemotherapy (chemo) is the use of drugs to kill cancer cells. Chemo is usually injected into a vein under the skin or taken as a pill. Chemo drugs enter the bloodstream and travel throughout the body to reach and destroy cancer cells wherever they may be.

Chemo is the main treatment for most people with Hodgkin lymphoma (other than some people with nodular lymphocyte predominant Hodgkin lymphoma, or NLPHL). Sometimes chemo is followed by radiation therapy.

Which chemo drugs are used to treat Hodgkin lymphoma?

Chemo for Hodgkin lymphoma combines several drugs because different drugs kill cancer cells in different ways. The combinations used to treat Hodgkin lymphoma are often referred to by abbreviations. The most common regimen in the United States is a 4-drug combination called ABVD, which consists of:

- Adriamycin® (doxorubicin)
- Bleomycin
- Vinblastine
- Dacarbazine (DTIC)

Other common regimens include:

BEACOPP

- Bleomycin
- Etoposide (VP-16)
- Adriamycin (doxorubicin)
- Cyclophosphamide (Cytoxan®)
- Oncovin® (vincristine)
- Procarbazine
- Prednisone

**Stanford V**

- Doxorubicin (Adriamycin)
- Mechlorethamine (nitrogen mustard)
- Vincristine
- Vinblastine
- Bleomycin
- Etoposide
- Prednisone

Radiation is given after chemo in the Stanford V regimen, and it is sometimes given after the ABVD or BEACOPP regimens as well.

Other chemo combinations can also be used for Hodgkin lymphoma. Most use some of the same drugs listed above, but they might include different combinations and be given on different schedules.

Chemo is given in cycles (a period of treatment followed by a rest period to give the body time to recover). Each cycle generally lasts for several weeks.

Most chemo treatments are given in the doctor’s office, clinic, or hospital outpatient department, but some may require a hospital stay.

**Possible side effects of chemotherapy**

Chemo drugs can cause side effects. These depend on the type and dose of drugs given and how long treatment lasts. Common short-term side effects include:

- Hair loss
- Mouth sores
- Loss of appetite
- Nausea and vomiting
- Diarrhea
- Increased chance of infection (from having too few white blood cells)
- Easy bruising or bleeding (from having too few blood platelets)
- Fatigue (from having too few red blood cells)

These side effects are usually short-lived and go away after treatment is finished. If serious side effects occur, the chemotherapy may have to be delayed or the doses reduced.
Be sure to tell your doctor or nurse if you do have side effects, as there are often ways to help with them. For example, drugs are usually given to help prevent nausea and vomiting.

**Late or long-term side effects:** Some chemo drugs can have long-lasting side effects, some of which might not occur until months or years after treatment has ended. For example:

- Doxorubicin can damage the heart, so your doctor may order tests to check your heart function before and during treatment with this drug.
- Bleomycin can damage the lungs, so some doctors order tests of lung function (called *pulmonary function tests*) before starting patients on this drug.
- Some chemo drugs can increase the risk of getting a *second type of cancer* later in life (such as leukemia), especially in patients who also get radiation therapy.
- In children and young adults, some chemo drugs can also affect body growth and fertility (ability to have children) later on.

Long-term effects are discussed in more detail in [Living As a Hodgkin Lymphoma Survivor](#).

Before starting chemo, ask your doctor to explain possible side effects and the chances of having them.

To learn more, see the [Chemotherapy](#) section of our website.

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### Radiation Therapy for Hodgkin Lymphoma

Radiation therapy uses high-energy rays (or particles) to destroy cancer cells.

**When is radiation therapy used for Hodgkin**
lymphoma?

Radiation therapy is part of the treatment for most people with Hodgkin lymphoma. It is especially useful when Hodgkin lymphoma is only in one part of the body.

For classic Hodgkin lymphoma, radiation is often given after chemotherapy, especially when there is a large or bulky tumor mass (usually in the chest). Chemotherapy or radiation alone would probably not cure the lymphoma, but both treatments together usually get rid of it.

Radiation therapy can also be used by itself to treat some cases of nodular lymphocyte predominant Hodgkin lymphoma (NHLPL).

Radiation therapy is often very good at killing Hodgkin lymphoma cells. But over the years as it has become clear that chemotherapy is also effective, doctors have used less radiation because of its possible long-lasting side effects.

How is radiation therapy given?

To treat Hodgkin lymphoma, a carefully focused beam of radiation is delivered from a machine. This is known as external beam radiation.

- Before the treatments start, the radiation team takes careful measurements to determine the correct angles for aiming the radiation beams and the dose needed. This planning session, called simulation, usually includes getting imaging tests such as CT, MRI, or PET scans.

Most often, radiation treatments are given 5 days a week for several weeks. The treatment is much like getting an x-ray, but the radiation is stronger. Each treatment lasts only a few minutes, although the setup time – getting you or your child into place – usually takes longer. The treatment is painless, but some younger children might still need to be sedated to make sure they don’t move during the treatment. Modern imaging tests can pinpoint the sites of Hodgkin lymphoma very precisely, which helps doctors aim the radiation only at the lymphoma while sparing nearby normal tissues. This can help limit side effects.

Involved site radiation therapy (ISRT)

Many doctors prefer this newer approach to radiation therapy when treating Hodgkin lymphoma. In ISRT, the radiation is aimed only at the lymph nodes that originally
contained lymphoma, as well as any nearby areas it extended into. This helps spare nearby normal tissues from getting radiation.

**Involved field radiation therapy (IFRT)**

This was the preferred form of radiation therapy for Hodgkin lymphoma until recently, but it is now largely being replaced by ISRT. In this technique, only the lymph node regions that have Hodgkin lymphoma are treated, but this includes larger treatment areas than ISRT does (which might expose some nearby organs to radiation).

**Extended field radiation**

In the past, radiation was given to the major lymph node areas that contained lymphoma, as well as the surrounding “normal” lymph node areas, just in case the lymphoma had spread, even though the doctors could not actually detect it in these areas. This is called *extended field radiation*.

- If the lymphoma was in the upper body, radiation was given to the *mantle field*, which included lymph node areas in the neck, chest, and under the arms. Sometimes this was extended to also include lymph nodes in the upper abdomen.
- *Inverted Y field* radiation therapy included the lymph nodes in the upper abdomen, the spleen, and the lymph nodes in the pelvis.
- When inverted Y field radiation was given together with mantle field radiation, the combination was called *total nodal irradiation*.

Because nearly all patients with Hodgkin lymphoma are now treated with chemotherapy, extended field radiation is seldom used any more.

**Total body irradiation**

People who are getting a stem cell transplant may get radiation to the whole body along with high-dose chemotherapy, to try to kill lymphoma cells throughout the body. For more information on this procedure, see [High-dose Chemotherapy and Stem Cell Transplant](#).

**Possible side effects of radiation therapy**

The *side effects* of radiation therapy depend on where the radiation is aimed.

Some possible temporary effects include:
Skin changes in areas getting radiation, ranging from redness to blistering and peeling
- Feeling tired
- Dry mouth
- Nausea
- Diarrhea

Radiation given to several areas, especially after chemotherapy, can lower blood cell counts and increase the risk of infections.

**Radiation therapy can also have long-lasting effects, including:**

- An increased risk of **another cancer** in the part of the body that was exposed to radiation.
- Damage to the **thyroid gland** (from radiation to the chest or neck), which can affect its ability to make thyroid hormone. This can lead to fatigue and weight gain. Treatment with thyroid hormone pills can help with this.
- An increased risk of **heart disease** (such as heart attacks) and lung problems from radiation to the chest
- An increased risk of **stroke** many years later after radiation to the neck
- **Slowed bone growth in children.** Depending on where the radiation is given, this could result in deformities or a lack of growth to full height. Radiation to the lower part of the body in children and young adults could also affect fertility later in life.

To reduce the risk of side effects, doctors carefully calculate the exact dose of radiation needed and aim the radiation beams as accurately as they can. Shields might also be placed over nearby parts of the body to protect them from the radiation. To help preserve fertility in girls and young women, the ovaries might be moved out of the way with minor surgery before radiation is given.

For more information about long-lasting side effects, see [Late and Long-term Side Effects of Hodgkin Lymphoma Treatment](#). If you or your child is getting radiation therapy, ask your doctor about the possible long-term side effects.

To learn more about radiation, see [Radiation Therapy](#).

- **References**

Immunotherapy for Hodgkin Lymphoma

Immunotherapy is the use of medicines to stimulate someone’s immune system to recognize and destroy cancer cells more effectively. Immunotherapy can be used to treat some people with Hodgkin lymphoma.

Monoclonal antibodies

Antibodies are proteins made by your immune system to help fight infections. Man-made versions, called monoclonal antibodies (mAbs), can be designed to attack a specific target, such as a substance on the surface of lymphocytes (the cells in which Hodgkin lymphoma starts).

Some mAbs are now being used to treat Hodgkin lymphoma.

Brentuximab vedotin (Adcetris): This drug is an anti-CD30 antibody attached to a chemotherapy drug. Hodgkin lymphoma cells usually have the CD30 molecule on their
surface. The antibody acts like a homing signal, bringing the chemo drug to the lymphoma cells, where it enters the cells and makes them die when they try to divide into new cells.

This drug has been shown to help many people whose Hodgkin disease has come back after other treatments, including a stem cell transplant, as well as people who can’t have a stem cell transplant. It is also being studied to see if it can be given with chemotherapy and if can be helpful earlier in the course of the disease.

Brentuximab is infused into a vein (IV), usually every 3 weeks. Common side effects include:

- Nerve damage (neuropathy)
- Low blood cell counts
- Fatigue
- Fever
- Nausea and vomiting
- Infections
- Diarrhea
- Cough

Rarely, serious side effects occur during infusions, such as trouble breathing and low blood pressure

**Rituximab (Rituxan):** This antibody attaches to a substance called CD20 found on some types of lymphoma cells, which seems to kill the lymphoma cell. Rituximab may be used to treat nodular lymphocyte predominant Hodgkin disease (NLPHD), often with chemotherapy and/or radiation therapy.

Rituximab is given as an IV infusion in the doctor’s office or clinic. When it is used by itself, it is usually given once a week for 4 weeks, which may then be repeated several months later. When it is combined with chemotherapy, it is most often given on the first day of each chemo cycle.

Common side effects are usually mild but can include:

- Chills
- Fever
- Nausea
- Rashes
- Fatigue
• Headaches

Rarely, more severe side effects occur during infusions, such as trouble breathing and low blood pressure. Even if these symptoms occur during the first infusion, it is very unusual for them to recur with later doses. Rituximab can cause prior hepatitis B infections to become active again, which sometimes leads to severe liver problems or even death. Your doctor will probably check your blood for signs of hepatitis before starting this drug. This drug can also increase the risk of certain infections for several months after the drug is stopped.

**Immune checkpoint inhibitors**

An important part of the immune system is its ability to keep itself from attacking normal cells in the body. To do this, it uses “checkpoints” – molecules on immune cells that need to be turned on (or off) to start an immune response. Cancer cells sometimes use these checkpoints to avoid being attacked by the immune system. But newer drugs that target these checkpoints hold a lot of promise as cancer treatments.

**Nivolumab (Opdivo)** and **pembrolizumab (Keytruda)** target PD-1, a protein on immune system cells called *T cells* that normally helps keep these cells from attacking other cells in the body. By blocking PD-1, these drugs boost the immune response against cancer cells. This can shrink some tumors or slow their growth.

These drugs can be used in people with classic Hodgkin lymphoma whose cancer has grown or returned after other treatments have been tried.

These drugs given as an intravenous (IV) infusion, typically every 2 or 3 weeks.

**Possible side effects**

Side effects of these drugs can include:

- Fatigue
- Fever
- Cough
- Nausea
- Itching
- Skin rash
- Loss of appetite
- Joint pain
- Constipation
Diarrhea

Other, more serious side effects occur less often. These drugs work by basically removing the brakes on the body’s immune system. Sometimes the immune system starts attacking other parts of the body, which can cause serious or even life-threatening problems in the lungs, intestines, liver, hormone-making glands, kidneys, or other organs.

It’s very important to report any new side effects to your health care team promptly. If serious side effects do occur, treatment may need to be stopped and you may get high doses of corticosteroids to suppress your immune system.

References


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High-dose Chemotherapy and Stem Cell Transplant for Hodgkin Lymphoma

Stem cell transplants (SCTs) are sometimes used for hard-to-treat Hodgkin lymphoma, such as disease that doesn’t go away completely after chemotherapy (chemo) and/or radiation or if it comes back after treatment.

The doses of chemo drugs given to patients normally are limited by the side effects these drugs cause. Higher doses can’t be used, even if they might kill more cancer cells, because they would severely damage the bone marrow, where new blood cells are made.

A stem cell transplant lets doctors give higher doses of chemo (sometimes along with radiation therapy). This is because after getting high-dose chemo treatment, the patient receives a transplant of blood-forming stem cells to restore the bone marrow.

The blood-forming stem cells used for a transplant can come either from the blood or from the bone marrow.

Types of transplants

There are 2 main types of stem cell transplants. They use different sources of blood-forming stem cells.

- In an autologous stem cell transplant, a patient’s own blood stem cells are collected from bone marrow or blood several times in the weeks before treatment. The cells are frozen and stored while the person gets treatment (high-dose chemo and/or radiation) and then are given back into the patient’s blood by an IV. This is the more common type of transplant for Hodgkin lymphoma.
- In an allogeneic stem cell transplant, the blood stem cells come from someone else. Usually this is a brother or sister, although the source may be an unrelated donor or umbilical cord blood. The donor’s tissue type (also known as the HLA type) needs to match the patient’s tissue type as closely as possible to help prevent major problems with the transplant. In treating Hodgkin lymphoma, an allogeneic transplant is generally used only if an autologous transplant has already been tried without success.

A stem cell transplant is a complex treatment that can cause life-threatening side effects. If the doctors think a person might benefit from a transplant, it should be done at
a cancer center where the staff has experience with the procedure and with managing
the recovery phase.

For more on stem cell transplants, see Stem Cell Transplant for Cancer.

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**Treating Classic Hodgkin Lymphoma, by Stage**

This section sums up the treatment options for Hodgkin lymphoma (HL) in adults, based
on the stage of cancer. Treatment of the disease in children is slightly different from the
treatment used for adults. Some of the differences in treating adults and children are
discussed in Treating Hodgkin Lymphoma in Children. For teens with HL who are fully
grown, the treatment is usually the same as that for an adult.

Treatment options depend on many factors, including:

- The **type** of Hodgkin disease
- The **stage** (extent) of the Hodgkin disease
- Whether or not the disease is bulky (large)
- Whether the disease is causing certain **symptoms** (known as B symptoms)
- Results of blood and other lab tests
- A person’s age
- A person’s general health

Based on these factors, a person’s treatment might be a little different from the general outline below.

**Stages IA and IIA, favorable**

This group includes HL that is only on one side of the diaphragm (above or below) and that doesn’t have any unfavorable factors. For example:

- It is not bulky
- It is not in several different lymph node areas
- It doesn’t cause any of the **B symptoms**
- It doesn’t cause an elevated erythrocyte sedimentation rate (ESR)

Treatment for most patients is chemotherapy (usually 2 to 4 cycles of the ABVD regimen or 8 weeks of the Stanford V regimen), followed by radiation to the initial site of the disease. Another option is chemotherapy alone (usually for 4 or 6 cycles) in selected patients.

Doctors often order a PET/CT scan after a few courses of chemo to see how well the treatment is working and to determine how much more treatment (if any) is needed.

If a person can’t have chemotherapy because of other health issues, radiation therapy alone may be an option.

For those who don’t respond to treatment, chemotherapy using different drugs or high-dose chemotherapy (and possibly radiation) followed by a **stem cell transplant** may be recommended. Treatment with the **monoclonal antibody** brentuximab vedotin (Adcetris) may be another option. If this isn’t helpful, the **immunotherapy** drug nivolumab (Opdivo) might be useful.
Stages I and II, unfavorable

This group includes HD that is only on one side of the diaphragm (above or below), but that is bulky, is in several different areas, is causing any of the B symptoms, and/or is causing an elevated erythrocyte sedimentation rate (ESR).

Treatment is generally more intense than that for favorable disease. It typically starts with chemotherapy (usually ABVD for 4 to 6 cycles or other regimens such as Stanford V for 12 weeks).

PET/CT scans are often done after several cycles of chemo to determine how much more treatment you need. This is often followed by more chemo. Radiation therapy is typically given to the sites of the tumor at this point, especially if it was bulky.

For those who don’t respond to treatment, chemotherapy using different drugs or high-dose chemotherapy (and possibly radiation) followed by a stem cell transplant may be recommended. Treatment with the monoclonal antibody brentuximab vedotin may be another option. If this isn’t helpful, the immunotherapy drug nivolumab (Opdivo) might be useful.

Stages III and IV

This includes HL that is both above and below the diaphragm and/or has spread widely through one or more organs outside the lymph system.

Doctors generally treat these stages with chemotherapy using more intense regimens than what is used for earlier stages. Although ABVD (for at least 6 cycles) can be used, some doctors favor more intense treatment with the Stanford V regimen for 12 weeks, or even the BEACOPP regimen if there are several unfavorable prognostic factors.

PET/CT scans might be used during or after chemo to assess how much more treatment you need. Depending on the results of the scans, more chemo may be given. Radiation therapy may be given after chemo, especially if there were any large tumor areas.

For those whose HL doesn’t respond to treatment, chemo using different drugs or high-dose chemotherapy (and possibly radiation) followed by a stem cell transplant may be recommended. Treatment with the monoclonal antibody brentuximab vedotin may be another option. If this isn’t helpful, an immunotherapy drug such as nivolumab (Opdivo) or pembrolizumab (Keytruda) might be useful.
Resistant Hodgkin disease

Treatment for HL should remove all traces of the lymphoma. Once initial treatment is complete, the doctor will do tests such as PET/CT scans to look for any signs of HL. If HL is still there, most experts think that more of the same treatment is unlikely to cure it.

Sometimes, radiation therapy to an area of disease that remains after chemotherapy might be curative. Using a different combination of chemo drugs may be another option. If radiation alone was the initial treatment, using chemo (with or without more radiation) might also be curative.

If HL is still there after a combination of these treatments, most doctors would recommend high-dose chemo (and possibly radiation) followed by an autologous stem cell transplant, if it can be done. If cancer still remains after this, an allogeneic stem cell transplant may be an option.

Another option, either instead of or after a stem cell transplant, may be treatment with the monoclonal antibody brentuximab vedotin (Adcetris). If this isn’t helpful, the immunotherapy drug nivolumab (Opdivo) might be useful.

Recurrent or relapsed Hodgkin disease

If HL comes back after treatment, further treatment depends on where the lymphoma comes back, on how long it has been since the initial treatment, and on what the initial treatment was.

If the initial treatment was radiation therapy alone, chemotherapy is usually given for recurrent disease.

If chemotherapy without radiation therapy was used first, and the cancer comes back only in the lymph nodes, the patient could receive radiation therapy to the lymph nodes with or without more chemo. Chemo with different drugs may be another option.

Radiation usually cannot be repeated in the same area. If, for example, HL in the chest was treated with radiation and it comes back in the chest, it usually cannot be treated with more radiation to the chest. This holds true no matter how long ago the radiation was first given.

If the lymphoma returns after several years, then using the same or different chemo drugs (possibly along with radiation) might still cure it. On the other hand, patients
whose HL recurs soon after treatment may need more intensive treatment. For example, if the HL has returned within a few months of the original treatment, high-dose chemo (and possibly radiation) followed by an autologous stem cell transplant may be recommended.

If the HL still remains after an autologous transplant, an allogeneic stem cell transplant may be an option. Another option, either instead of or after a stem cell transplant, may be treatment with the monoclonal antibody brentuximab vedotin (Adcetris). If this isn’t helpful, the immunotherapy drug such as nivolumab (Opdivo) or pembrolizumab (Keytruda) might be useful.

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• References


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Treating Nodular Lymphocytic Predominant Hodgkin Lymphoma (NLPHL)

Because this rare type of Hodgkin lymphoma (HL) tends to grow more slowly than classic HL, it is sometimes treated slightly differently.

In people with early stage NLPHL without any B symptoms, radiation therapy alone is often all that is needed. An option for some people might be to have the lymphoma watched closely at first, and then start treatment only when symptoms appear.

If early-stage NLPHL is bulky (large) or is causing B symptoms, the main treatment is usually chemotherapy followed by radiation therapy. Many doctors use the ABVD chemo regimen, although some doctors prefer others. The monoclonal antibody rituximab (Rituxan) might be given along with the chemotherapy.

If the lymphoma is more advanced (stage III or IV), chemotherapy, with or without radiation therapy and/or the monoclonal antibody rituximab (Rituxan), is likely to be recommended. Many doctors use the ABVD chemo regimen, although some doctors prefer others. Some patients without B symptoms might be given rituximab alone.

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References

Treating Hodgkin Lymphoma in Children

Treatment of Hodgkin lymphoma in children is slightly different from the treatment for adults. Children’s bodies tend to tolerate chemotherapy better in the short term than adults do. But some side effects are more likely to occur in children. And because some of these side effects could be long-term, children who survive their cancer need careful attention for the rest of their lives.

Since the 1960s, most children and teens with cancer have been treated at special centers designed for them. Being treated in these centers offers the advantage of having a team of specialists who are experienced with the differences between adult and childhood cancers, as well as the unique needs of children with cancer and their families. This team usually includes pediatric oncologists, surgeons, radiation oncologists, pathologists, pediatric oncology nurses, and nurse practitioners.

Childhood cancer centers also have psychologists, social workers, child life specialists, nutritionists, rehabilitation and physical therapists, and educators who can support and educate the entire family.
Most children with cancer in the United States are treated at a center that is a member of the Children’s Oncology Group (COG). All of these centers are associated with a university or children’s hospital. As we have learned more about treating childhood cancer, it has become even more important that treatment be given by experts in this area.

In these centers, doctors treating children with Hodgkin lymphoma often use treatment plans that are part of clinical trials. The purpose of these studies is to find the most effective treatment that causes the fewest side effects.

Any time a child or teen is diagnosed with cancer, it affects every family member and nearly every aspect of the family’s life. You can read more about coping with these changes in Children Diagnosed With Cancer: Dealing With Diagnosis.

**Differences from treatment in adults**

As in adults, the main goal in treating Hodgkin lymphoma in children is to cure the lymphoma without causing long-term problems. Doctors adjust the treatment based on the child’s age, the extent of the lymphoma, how well the lymphoma is responding to treatment, and other factors.

If the child is past puberty and muscles and bones are fully developed, treatment is usually the same as that given to adults. But if the child has not reached his or her full body size, chemotherapy (chemo) will likely be favored over radiation therapy. This is because radiation can affect bone and muscle growth and prevent children from reaching their normal size.

When treating children with HL, doctors often combine chemo with low doses of radiation. The chemo often includes combinations of many drugs rather than just the usual adult ABVD regimen, especially for cancers that have unfavorable features or are more advanced. This approach has had excellent success rates, even for children with more advanced disease.

**Stages IA and IIA, favorable:** Treatment generally starts with chemo alone, used at the lowest dose that is likely to result in a cure. If the lymphoma doesn’t go away completely, radiation therapy or more chemo might be added.

If radiation therapy is used, the dose and area treated are kept as small as possible. If radiation is used on the lower part of the body in girls and young women, the ovaries should be protected to help preserve fertility.
Stages I and II, unfavorable: Treatment is likely to consist of more intense chemo combined with radiation therapy, although the dose and field of radiation are still kept as small as possible.

Stages III and IV: Treatment includes more intense chemo, either alone or combined with low-dose radiation therapy to areas with bulky disease (areas that contain a lot of lymphoma).

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- References


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Treating Hodgkin Lymphoma in Pregnancy

If a woman is pregnant and diagnosed with Hodgkin lymphoma, treatment options depend on several factors. The woman and her doctors must take into account the extent of the lymphoma, how quickly it is growing, how far along the pregnancy is, and the woman's own personal preferences.

If the Hodgkin lymphoma requires treatment during the pregnancy, it is usually delayed until after the first trimester, if possible, because the risks to the baby are lower after this. Treatment usually consists of chemotherapy using either one or a few drugs, based on the circumstances.

If the lymphoma is diagnosed during the second half of the pregnancy and is not causing problems, a woman can often wait until the baby is born (sometimes by inducing labor a few weeks early) before starting treatment. This is the approach that is safest for the baby.

Radiation therapy is not often given during pregnancy because of concerns about the possible long-term effects on the unborn baby. But a few studies suggest that as long as very careful precautions are taken to aim the radiation precisely, limit the doses, and shield the baby, pregnant women with Hodgkin lymphoma in lymph nodes in the neck, underarm area, or inside the chest can have this treatment with little or no apparent risk to the baby. If radiation is given, it should be delayed until at least the second trimester, if possible.

The need to avoid radiation also limits which imaging tests can be used to help determine the stage (extent) of the lymphoma or to see if treatment is working. CT scans, PET scans, and x-rays all use radiation, so they are avoided if at all possible. MRI scans and ultrasound can often be used instead.

The treatment information given here is not official policy of the American Cancer Society and is not intended as medical advice to replace the expertise and judgment of your cancer care team. It is intended to help you and your family make informed decisions, together with your doctor. Your doctor may have reasons for suggesting a treatment plan different from these general treatment options. Don't hesitate to ask him or her questions about your treatment options.
References


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