



[cancer.org](https://www.cancer.org) | 1.800.227.2345

Treating Hodgkin Lymphoma

If you (or your child) has been diagnosed with Hodgkin lymphoma (HL), 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.

How is Hodgkin lymphoma treated?

Chemotherapy and radiation therapy are the main treatments for HL. Depending on the case, 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 HL.

- [Chemotherapy for Hodgkin Lymphoma](#)
- [Radiation Therapy for Hodgkin Lymphoma](#)
- [Immunotherapy for Hodgkin Lymphoma](#)
- [High-dose Chemotherapy and Stem Cell Transplant for Hodgkin Lymphoma](#)

Common treatment approaches

- [Treating Classic Hodgkin Lymphoma, by Stage](#)
- [Treating Nodular Lymphocyte-predominant Hodgkin Lymphoma](#)
- [Treating Hodgkin Lymphoma in Children](#)
- [Hodgkin Lymphoma Treatment During Pregnancy](#)

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.

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.



- [How is chemo given?](#)
- [Which chemo drugs are used to treat Hodgkin lymphoma?](#)
- [Possible side effects of chemo](#)
- [More information about chemotherapy](#)

Chemo is at least part of the main treatment for most people with Hodgkin lymphoma (other than some people with nodular lymphocyte-predominant Hodgkin lymphoma, or NLPHL). Sometimes it might be used along with an [immunotherapy](#) medicine, and sometimes chemo is followed by [radiation therapy](#).

How is chemo given?

Chemo is given in cycles that include a period of treatment followed by a rest period to give the body time to recover. In general, each cycle 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.

Which chemo drugs are used to treat Hodgkin lymphoma?

Chemo for classic Hodgkin lymphoma (cHL) combines several drugs because different drugs kill the cancer cells in different ways. The most common combinations used to treat cHL are often referred to by abbreviations:

ABVD

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

AVD, which is the same regimen but without the bleomycin, is often combined with [another drug such as brentuximab vedotin \(Adcetris\) or nivolumab \(Opdivo\)](#).

BEACOPP

- Bleomycin
- Etoposide (VP-16)
- Adriamycin (doxorubicin)

- Cyclophosphamide
- Oncovin (vincristine)
- Procarbazine
- Prednisone

BrECADD

- Brentuximab vedotin (see below)
- Etoposide
- Cyclophosphamide
- Adriamycin (doxorubicin)
- Dacarbazine
- Dexamethasone

Radiation therapy is sometimes given after chemo.

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

A drug that is sometimes thought of as chemo is **brentuximab vedotin (Adcetris)**. This is an antibody-drug conjugate (ADC), which is a monoclonal antibody attached to a chemo drug. For more on this drug, see [Immunotherapy for Hodgkin Lymphoma](#).

Possible side effects of chemo

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 usually go away over time after treatment ends. If serious side effects occur, chemo may have to be delayed or the doses reduced.

Be sure to tell your doctor or nurse if you do have side effects. There are often ways to help with them. For instance, drugs are often used to help prevent nausea and vomiting.

Late or long-term side effects: Some chemo drugs can have long-lasting side effects. Some of these might not occur until months or even 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 _____

1. www.cancer.org/cancer/types/hodgkin-lymphoma/after-treatment/follow-up.html
2. www.cancer.org/cancer/managing-cancer/treatment-types/chemotherapy.html
3. www.cancer.org/cancer/managing-cancer/side-effects.html

References

Radiation Therapy for Hodgkin Lymphoma

- [How is radiation therapy given?](#)
- [Possible side effects of radiation therapy](#)
- [More information about radiation therapy](#)

Radiation therapy uses high-energy rays (or particles) to destroy cancer cells. Radiation therapy is part of the treatment for most people with Hodgkin lymphoma (HL). It's especially useful when HL is only in one part of the body.

For **classic Hodgkin lymphoma**, radiation is often given after [chemotherapy](#), especially when there's 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 do.

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 HL cells. But over the years as it has become clear that chemotherapy also works very well. Today, doctors tend to use less

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 HL 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, 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 short-term 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.
- An increased risk of **heart disease** (such as heart attacks) and **lung problems** from radiation to the chest
- An increased risk of **stroke** years later after radiation to the neck

- **Slowed bone growth in children.** Depending on where the radiation is given, this could cause deformities or cause a child to not grow to their full height. Radiation to the lower part of the body in children and young adults could also affect **fertility** later in life.

Bartlett NL, Foyil KV. Chapter 105: Hodgkin lymphoma. In: Niederhuber JE, Armitage JO, Dorshow JH, Kastan MB, Tepper JE, eds.

Immunotherapy for Hodgkin Lymphoma

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 HL starts).

Brentuximab vedotin (Adcetris)

Classic Hodgkin lymphoma (cHL) cells usually have the CD30 protein on their surface. Brentuximab vedotin is an anti-CD30 antibody attached to a chemo drug. The antibody acts like a homing device, bringing the chemo drug to the lymphoma cells with CD30 on them. The drug enters the cells and kills them when they try to divide into new cells.

This drug can be used:

- As part of the first treatment in children 2 years of age or older with high risk cHL, along with [chemotherapy](#).
- As part of the first treatment for adults with stage III or IV cHL, along with chemotherapy
- In adults with cHL that has come back after other treatments, including after a [stem cell transplant](#) (or in people who can't have a transplant for some reason). It can be given alone or along with chemo.
- After a stem cell transplant for adults at high risk of the lymphoma coming back after treatment. In this situation, it is usually given by itself for a year.

Brentuximab vedotin is infused into a vein (IV), usually every 2 or 3 weeks.

Common **side effects** can include:

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

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

Rituximab (Rituxan)

Rituximab may be used to treat nodular lymphocyte-predominant Hodgkin lymphoma (NLPHL). This mAb attaches to a substance called CD20 on some types of lymphoma cells. It's often given along with chemotherapy and/or [radiation therapy](#).

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

Common **side effects** are usually mild but can include:

- Chills

can be used in people with classic Hodgkin lymphoma whose cancer has grown during treatment (called refractory cancer) or has returned after other treatments have been tried (called recurrent or relapsed cancer). Nivolumab might also be an option along with chemo as part of the first treatment for advanced (stage III or IV) classic Hodgkin lymphoma.

These drugs target PD-1, a protein on certain 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 are given as an intravenous (IV) infusion, typically every 2, 3, or 6 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.

Infusion reactions: Some people might have an infusion reaction while getting one of these drugs. This is like an allergic reaction, and can include fever, chills, flushing of the face, rash, itchy skin, feeling dizzy, wheezing, and trouble breathing. It's important to tell your doctor or nurse right away if you have any of these symptoms while getting one of these drugs.

Autoimmune reactions: These drugs work by basically removing one of the safeguards 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.

If you notice any problems, you should tell your health care team about it right away. If serious side effects do occur, treatment may need to be stopped, and you may get high doses of steroids to suppress your immune system.

More information about immunotherapy

To learn more about how drugs that work on the immune system are used to treat cancer, see [Cancer Immunotherapy](#)¹.

To learn about some of the side effects listed here and how to manage them, see [Managing Cancer-related Side Effects](#)².

Hyperlinks

1. www.cancer.org/cancer/managing-cancer/treatment-types/immunotherapy.html
2. www.cancer.org/cancer/managing-cancer/side-effects.html

References

Ansell SM, Lesokhin AM, Borrello I, et al. PD-1 blockade with nivolumab in relapsed or refractory Hodgkin's lymphoma. *N Engl J Med*. 2015;372:311-319.

Bartlett NL, Foyil KV. Chapter 105: Hodgkin lymphoma. In: Niederhuber JE, Armitage JO, Dorshow JH, Kastan MB, Tepper JE, eds. *Abeloff's Clinical Oncology*. 5th ed. Philadelphia, Pa. Elsevier: 2014.

Bristol-Myers Squibb Company. OPDIVO highlights of prescribing information. 3/2018. Accessed at https://packageinserts.bms.com/pi/pi_opdivo.pdf on March 20, 2018.

Chiu J, Ernst DM, Keating A. Acquired Natural Killer Cell Dysfunction in the Tumor Microenvironment of Classic Hodgkin Lymphoma. *Front Immunol*. 2018;9:267.

Dada R. Program death inhibitors in classical Hodgkin's lymphoma: a comprehensive review. *Ann Hematol*. 2018;97(4):555-561.

Genentech, Inc. RITUXAN highlights of prescribing information. 4/2016. Accessed at www.gene.com/download/pdf/rituxan_prescribing.pdf on March 20, 2018.

Merck & Co., Inc. KEYTRUDA highlights of prescribing information. 11/2017. Accessed at http://www.merck.com/product/usa/pi_circulars/k/keytruda/keytruda_pi.pdf on March 20, 2018.

National Comprehensive Cancer Network. NCCN Clinical Practice Guidelines in Oncology (NCCN Guidelines): Hodgkin Lymphoma. Version 4.2024. Accessed at www.nccn.org on October 30, 2024.

Seattle Genetics, Inc. ADCETRIS highlights of prescribing information. 11/2017. Accessed at <https://adcetris.com/themes/adcetris/assets/docs/PrescribingInformation.pdf> on March 20, 2018.

Shanbhag S, Ambinder RF. Hodgkin lymphoma: A review and update on recent progress. *CA Cancer J Clin.* 2018;68(2):116-132.

US Food & Drug Administration. FDA News Release: FDA expands approval of Adcetris for first-line treatment of Stage III or IV classical Hodgkin lymphoma in combination with chemotherapy. Accessed at www.fda.gov/NewsEvents/Newsroom/PressAnnouncements/ucm601935.htm?utm_campaign=03202018_PR_Expanded%20use%20hodgkin%20lymphoma%20drug&utm_medium=email&utm_source=Eloqua on March 20, 2018.

Yahalom J, LaCasce AS. Initial treatment of advanced (stage III-IV) classic Hodgkin lymphoma. UpToDate. 2024. Accessed at <https://www.uptodate.com/contents/initial-treatment-of-advanced-stage-iii-iv-classic-hodgkin-lymphoma> on October 30, 2024.

Younes A, Bartlett NL, Leonard JP, et al. Brentuximab vedotin (SGN-35) for relapsed CD30-positive lymphomas. *N Engl J Med.* 2010;363:1812-1821.

Younes A, Carbone A, Johnson P, Dabaja B, Ansell S, Kuruvilla J. Chapter 102: Hodgkin's lymphoma. In: DeVita VT, Lawrence TS, Rosenberg SA, eds. *DeVita, Hellman, and Rosenberg's Cancer: Principles and Practice of Oncology*. 10th ed. Philadelphia, Pa: Lippincott Williams & Wilkins; 2015.

LastTj 2 2100 0 0 1 72tvl Kurs.

High-dose Chemotherapy and Stem Cell

Transplant for Hodgkin Lymphoma

- [Types of transplants](#)
- [More information about stem cell transplant](#)

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 lymphoma that comes back after treatment.

The doses of chemo drugs given to patients normally are limited by the [side effects](#)¹ 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, the patient receives a transplant of blood-forming stem cells to rebuild the bone marrow.

The blood-forming stem cells used for a transplant can come either from the blood or from the bone marrow. Today, most transplants are done with cells that are taken out of the blood and are called **peripheral stem cell transplants**.

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 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 most 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, but the source could 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. Usually, in treating Hodgkin lymphoma, an allogeneic transplant is 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

Last Revised: May 1, 2018

Treating Classic Hodgkin Lymphoma, by Stage

This section sums up the treatment options for classic Hodgkin lymphoma (cHL) in adults, based on the stage of cancer. Treatment of Hodgkin lymphoma in children is slightly different from the treatment for adults. Some of these differences 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.

- [Stages IA and IIA, favorable](#)
- [Stages I and II, unfavorable](#)
- [Stages III and IV](#)
- [Resistant or refractory Hodgkin lymphoma](#)
- [Recurrent or relapsed Hodgkin lymphoma](#)

Treatment options for cHL depend on many factors, including:

- The [type](#)¹ of HL
- The [stage](#)² (extent) of the HL
- Whether or not the disease is bulky (large)
- Whether the disease is causing [B symptoms](#)³
- Results of blood tests and other lab tests
- A person's age
- A person's overall health
- Personal preferences

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

Most experts agree that treatment in a [clinical trial](#)⁴ should be considered for HL that is resistant to treatment or comes back (relapses) after treatment.

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's not [bulky](#)⁵
- HL is in less than 3 different lymph node areas
- It doesn't cause any of the B symptoms
- The ESR (erythrocyte sedimentation rate) is not elevated

Treatment for many patients is [chemotherapy](#) (usually 2 to 4 cycles of the ABVD regimen), followed by [radiation](#) to the initial site of the disease (involved site radiation therapy, or ISRT). Another option is chemotherapy alone (usually for 3 to 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, chemo using different drugs or high-dose chemo (and possibly radiation) followed by a [stem cell transplant](#) may be recommended. Treatment with an [immunotherapy](#) drug such as brentuximab vedotin (Adcetris), nivolumab (Opdivo), or pembrolizumab (Keytruda) might be another option.

Stages I and II, unfavorable

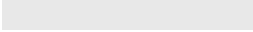
This group includes HL that is only on one side of the diaphragm (above or below), but has 1 or more of these risk factors:

- It's bulky (the tumor is large)
- HL is in 3 or more different areas of lymph nodes
- There's cancer outside the lymph nodes (called extranodal involvement)
- It's causing B symptoms
- The ESR (erythrocyte sedimentation rate) is high

Treatment is generally more intense than that for favorable disease. It typically starts with [chemotherapy](#) (usually with the ABVD regimen for 4 to 6 cycles or other regimens

such as 3 cycles of Stanford V).

PET/CT scans are often done after several cycles of chemo to see if (and how much) more treatment is needed. This is often followed by more, and maybe different, chemo.



Resistant or refractory Hodgkin lymphoma

Treatment for HL should remove all traces of the lymphoma. After treatment, 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 is 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 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 an [immunotherapy](#) drug, such as brentuximab vedotin (Adcetris), nivolumab (Opdivo), or pembrolizumab (Keytruda).

Recurrent or relapsed Hodgkin lymphoma

If HL comes back (recurs) 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, radiation to the lymph nodes can be done, 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 can't 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 many years, using the same or different chemo drugs (possibly along with radiation) might still cure it. On the other hand, HL that 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 an [immunotherapy](#) drug, such as brentuximab vedotin (Adcetris), nivolumab (Opdivo), or pembrolizumab (Keytruda).

Hyperlinks

1. www.cancer.org/cancer/types/hodgkin-lymphoma/about/what-is-hodgkin-disease.html
2. www.cancer.org/cancer/types/hodgkin-lymphoma/detection-diagnosis-staging/staging.html
3. www.cancer.org/cancer/types/hodgkin-lymphoma/detection-diagnosis-staging/signs-and-symptoms.html
4. www.cancer.org/cancer/managing-cancer/making-treatment-decisions/clinical-trials.html
5. www.cancer.org/cancer/types/hodgkin-lymphoma/detection-diagnosis-staging/staging.html

References

Ansell SM. Hodgkin Lymphoma: Diagnosis and Treatment. *Mayo Clin Proc.* 2015;90(11):1574-1583.

Bartlett NL, Foyil KV. Chapter 105: Hodgkin lymphoma. In: Niederhuber JE, Armitage JO, Dorshow JH, Kastan MB, Tepper JE, eds. *Abeloff's Clinical Oncology*. 5th ed. Philadelphia, Pa. Elsevier: 2014.

National Cancer Institute. Adult Hodgkin Lymphoma Treatment (PDQ®)—Health Professional Version. March 1, 2018. Accessed at www.cancer.gov/types/lymphoma/hp/adult-hodgkin-treatment-pdq on March 21, 2018.

National Comprehensive Cancer Network. NCCN Clinical Practice Guidelines in Oncology (NCCN Guidelines): Hodgkin Lymphoma. Version 4.2024. Accessed at www.nccn.org on October 30, 2024.

Shanbhag S, Ambinder RF. Hodgkin lymphoma: A review and update on recent



Chemotherapy drugs used for NLPHL

Chemo for NLPHL is not always the same as that used for cHL, though it also combines several drugs because different drugs kill cancer cells in different ways. The combinations used to treat NLPHL are often referred to by abbreviations. Here are the most common combos used in the US. Rituximab can be added to any of them.

ABVD (also used for cHL)

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

CHOP

- Cyclophosphamide (Cytosan[®])
- Doxorubicin
- Vincristine (Oncovin[®])
- Prednisone

CVP

- Cyclophosphamide
- Vinblastine
- Prednisone

See [Chemotherapy for Hodgkin Lymphoma](#) to learn more. For more general information, see [Chemotherapy](#)⁴.

Hyperlinks

1. www.cancer.org/cancer/types/hodgkin-lymphoma/detection-diagnosis-staging/signs-and-symptoms.html
2. www.cancer.org/cancer/types/hodgkin-lymphoma/detection-diagnosis-staging/staging.html

3. www.cancer.org/cancer/types/hodgkin-lymphoma/detection-diagnosis-staging/signs-and-symptoms.html
4. www.cancer.org/cancer/managing-cancer/treatment-types/chemotherapy.html

References

Bartlett NL, Foyil KV. Chapter 105: Hodgkin lymphoma. In: Niederhuber JE, Armitage JO, Dorshow JH, Kastan MB, Tepper JE, eds. *Abeloff's Clinical Oncology*. 5th ed. Philadelphia, Pa. Elsevier: 2014.

National Comprehensive Cancer Network, Clinical Practice Guidelines in Oncology (NCCN Guidelines®), Hodgkin Lymphoma, Version 1.2018 -- December 20, 2017. Accessed at www.nccn.org/professionals/physician_gls/pdf/hodgkins.pdf on March 19, 2018.

Shanbhag S, Ambinder RF. Hodgkin lymphoma: A review and update on recent progress. *CA Cancer J Clin*. 2018;68(2):116-132.

Younes A, Carbone A, Johnson P, Dabaja B, Ansell S, Kuruvilla J. Chapter 102: Hodgkin's lymphoma. In: DeVita VT, Lawrence TS, Rosenberg SA, eds. *DeVita, Hellman, and Rosenberg's Cancer: Principles and Practice of Oncology*. 10th ed. Philadelphia, Pa: Lippincott Williams & Wilkins; 2015.

Last Revised: March 29, 2017

Treating Hodgkin Lymphoma in Children

Treatment of Hodgkin lymphoma (HL) in children is slightly different from the treatment

and other factors.

- [Treating classic Hodgkin lymphoma \(cHL\) in children](#)
- [Treating nodular lymphocyte-predominant Hodgkin lymphoma in children](#)

If a 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 keep children from reaching their normal size.

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. Because some of these side effects could be long-term or [might not occur until years later](#)¹, children who survive cancer need careful attention for the rest of their lives.

Treating classic Hodgkin lymphoma (cHL) in children

For children with classic Hodgkin lymphoma (cHL), [chemotherapy](#) (chemo) is typically the main treatment. Low doses of [radiation](#) might be part of the treatment as well, although doctors try to avoid giving it to children when possible.

The chemo regimens used for children often include combinations of more drugs than are used in adults, especially for lymphomas that have unfavorable features or are more advanced. In some situations, [another type of drug such as brentuximab vedotin \(Adcetris\) or nivolumab \(Opdivo\)](#) might be included as part of the regimen as well.

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's likely to result in a cure. PET scans may be used to see if the treatment is working and/or if there's any lymphoma left in the body. If the HL doesn't go away completely, radiation therapy or more chemo might be needed.

Studies have suggested that HL in children can be cured without using radiation. This avoids the long-term problems it can cause. But, **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](#)⁴.

Stages I and II, unfavorable

Treatment is likely to consist of a more intense chemo regimen, which might include brentuximab vedotin in some cases. Radiation therapy will likely be given as well, but the dose and field of radiation will be kept as small as possible.

Stages III and IV

Treatment for these more advanced lymphomas typically begins with more intense chemo, which might include another type of drug such as [brentuximab vedotin or nivolumab](#). Radiation therapy might be given to areas with bulky disease (areas that contain a lot of lymphoma).

Relapsed or refractory cHL

If the lymphoma comes back or is no longer responding to treatment, different types of chemo regimens might be tried. Other options might include a [stem cell transplant](#) or treatment with an [immunotherapy](#) drug (sometimes along with chemo).

Treating nodular lymphocyte-predominant Hodgkin lymphoma in children

Nodular lymphocyte-predominant Hodgkin lymphoma (NLPHL) is very rare in children. There's no single best treatment, and treatments used are often much like those used to treat cHL and/or those used to [treat adult NLPHL](#).

There is one exception: In the early stages of NLPHL in children, surgery to remove the affected lymph node may be the only treatment needed. After surgery, these children are watched closely for signs of lymphoma. Chemo can be used if it comes back.

Hyperlinks

1. www.cancer.org/cancer/survivorship/children-with-cancer/late-effects-of-cancer-treatment.html
2. www.cancer.org/cancer/managing-cancer/making-treatment-decisions/clinical-trials.html
3. www.cancer.org/cancer/survivorship/children-with-cancer/after-diagnosis.html
4. www.cancer.org/cancer/managing-cancer/side-effects/fertility-and-sexual-side-effects/preserving-fertility-in-children-and-teens-with-cancer.html

References

Bartlett NL, Foyil KV. Chapter 105: Hodgkin lymphoma. In: Niederhuber JE, Armitage JO, Dorshow JH, Kastan MB, Tepper JE, eds. *Abeloff's Clinical Oncology*. 5th ed. Philadelphia, Pa. Elsevier: 2014.

Burnelli R, Rinieri S, Rondelli R, et al. Long-term results of the AIEOP MH'96 childhood Hodgkin's lymphoma trial and focus on significance of response to chemotherapy and its implication in low risk patients to avoid radiotherapy. *Leuk Lymphoma*. 2018:1-10.

Children's Oncology Group. Hodgkin Disease: In Treatment. July 2011. Accessed at www.childrensoncologygroup.org/index.php/in-treatment-with-hodgkin-disease on March 21, 2018.

Hodgkin Lymphoma Treatment During Pregnancy

[staging/staging.html](#)

References

Avilés A, Nambo MJ, Neri N. Treatment of Early Stages Hodgkin Lymphoma During Pregnancy. *Mediterr J Hematol Infect Dis*. 2018;10(1):e2018006.

Bartlett NL, Foyil KV. Chapter 105: Hodgkin lymphoma. In: Niederhuber JE, Armitage JO, Dorshow JH, Kastan MB, Tepper JE, eds. *Abeloff's Clinical Oncology*. 5th ed. Philadelphia, Pa. Elsevier: 2014.

National Cancer Institute. Adult Hodgkin Lymphoma Treatment (PDQ®)—Health Professional Version. March 1, 2018. Accessed at www.cancer.gov/types/lymphoma/hp/adult-hodgkin-treatment-pdq on March 21, 2018.

Pinnix CC, Osborne EM, Chihara D, et al. Maternal and Fetal Outcomes After Therapy for Hodgkin or Non-Hodgkin Lymphoma Diagnosed During Pregnancy.

[us/policies/content-usage.html](#)).

cancer.org | 1.800.227.2345