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Treating Cancers in Adolescents

There are very few doctors who focus specifically on teens (or young adults) with cancer, so it's not always clear which type of doctor (or treatment center) might be best. It often depends on the patient's age and the type of cancer.

- Cancers in teens that are more common in children, such as [acute lymphocytic leukemia \(ALL\)](#)¹, bone sarcomas ([osteosarcoma](#)² and [Ewing sarcoma](#)³), and [rhabdomyosarcoma](#)⁴, are often best treated by pediatric oncologists, who have more experience with these types of cancer.
- On the other hand, teens with “adult” cancers, such as [melanoma](#)⁵ or [thyroid cancer](#)⁶, might benefit from doctors who treat older adults and see these types of cancers more often.

- [Types of cancer treatments](#)
- [The cancer treatment team](#)
- [Clinical trials](#)

Older people are much more likely than younger people to get cancer, so most **oncologists** (doctors who treat cancer) see mainly older adults. Some doctors (**pediatric oncologists**) specialize in treating childhood cancers. Each type of doctor tends to work in an office or cancer center geared toward treating either older adults or children.

Doctors tend to use more intense treatments when treating children with cancer than when treating adults. Children's bodies are often better able to recover from more intense treatments (such as higher doses of chemo) than are adults' bodies. And childhood cancers often respond better to chemo. This is because they tend to be

cancers that grow quickly, and chemo works better against fast-growing cancers.

For some cancers (especially childhood cancers like ALL and bone sarcomas), the more aggressive treatments used for children have been found to improve outcomes for teens as well, but for other cancers the results are not as clear. Again, this can depend on the patient's age and the type of cancer.

Types of cancer treatments

The main types of treatment for cancers in teens are the same as those used in other age groups. The choice of treatment depends mainly on the [type](#)⁷ and [stage](#)⁸ (extent) of the cancer. Often more than one type of treatment is used.

It's important to discuss all treatment options, including their goals and possible side effects, with the doctors to help make the decision that best fits your needs.

Surgery

[Surgery](#)⁹ is a common treatment, especially for early-stage cancers. The type of surgery depends on the type, size, and location of the cancer.

Teens have some advantages when it comes to surgery in that they usually have fewer health problems than older adults, and there are fewer concerns about anesthesia than there are with younger children. (Anesthesia is the use of drugs or gases to put you into a deep sleep so you won't feel pain.) But teens' bodies are often still growing, so in some cases they can be affected more by surgery than older adults.

Radiation therapy

[Radiation therapy](#)¹⁰ is the use of high-energy rays (such as x-rays) or particles to kill cancer cells.

Teens are less likely to have major side effects from radiation than younger children because their bodies are no longer growing as quickly. But some parts of the body, such as the breasts, ovaries, or testicles, can still be very sensitive to the effects of radiation if they are still developing. Radiation can cause some late or long-term side effects years later. These are discussed in [Late and Long-term Effects of Cancer Treatment in Adolescents](#)¹¹.

Chemotherapy and targeted drugs

[Chemotherapy](#)¹² (chemo) is the use of drugs to treat cancer. Some drugs can be swallowed in pill form, while others are injected into a vein or muscle. Chemo is often used to treat cancers that have spread, but it also can be used for some earlier-stage cancers (usually along with other treatments).

Chemo drugs can cause side effects because they affect cells that are dividing quickly. Teens' bodies can usually withstand higher doses of chemo than older adults, but these higher doses can also cause more short- and [long-term side effects](#)¹³.

For some types of cancer, newer [targeted therapy drugs](#)¹⁴ can be used instead of or along with standard chemo drugs. These drugs work by attacking certain parts of cancer cells (or nearby cells) that help them grow. Targeted drugs sometimes work when standard chemo drugs don't, and they tend to have different (and often less severe) side effects.

Immunotherapy

[Immunotherapy](#)¹⁵ is treatment that helps the body's own immune system fight the cancer. Some types of immunotherapy are now an important part of treating certain cancers, such as [melanomas](#)¹⁶. Newer types of immunotherapy are also showing promise against other cancer types.

Stem cell transplant

A [stem cell transplant](#)¹⁷, also known as a **bone marrow transplant**, is a way for doctors to give very high doses of chemo (sometimes along with radiation therapy). It's an option for treating some cancers, usually if other treatments are not working.

Without a stem cell transplant, the chemo drug doses are limited because it could severely damage the bone marrow, where new blood cells are made. This could lead to life-threatening infections, bleeding, and other problems because of low blood cell counts.

When a stem cell transplant is done, blood-forming stem cells are first collected from the blood of either the patient or from a matched stem cell donor, using a special machine. The stem cells are kept frozen while the patient gets very high doses of chemo (and sometimes radiation) to kill the cancer cells. Afterwards, the stem cells are infused into a vein much like a blood transfusion. They settle in the bone marrow and start making new blood cells over the next few weeks.

A stem cell transplant is a complex treatment that can cause serious, sometimes even

life-threatening side effects. It often requires a lengthy hospital stay and can cost a lot. It's important to understand the possible benefits, risks, and costs of this procedure if it's an option.

The cancer treatment team

Teens with cancer might have different types of doctors on their treatment team, depending on the type and stage of the cancer and their treatment options. These doctors can include:

- **Cancer surgeons (sometimes called surgical oncologists):** doctors who use surgery to treat cancer. Surgeons often specialize in treating a certain part of the body or a body system (such as the bones and muscles, the reproductive system, or the digestive system).
- **Medical oncologists:** doctors who use chemotherapy, targeted drugs, and other medicines to treat adults with cancer
- **Pediatric oncologists:** doctors who use medicines to treat children and teens with cancer
- **Radiation oncologists:** doctors who use radiation to treat cancer
- **Nurse practitioners (NPs) and physician assistants (PAs):** nurses and other health professionals who are specially trained and licensed to practice medicine alongside doctors

Many other health professionals might be part of the cancer team as well, including:

- Nurses
- Rehabilitation and physical therapists
- Nutritionists
- Pharmacists
- Social workers
- Other health professionals

These specialists can provide help and guidance with many issues facing teens and their families, such as treatment effects on fertility, education or employment needs, health insurance concerns, and financial issues.

Clinical trials

Clinical trials are carefully controlled research studies that are done with patients who volunteer for them. They are used to learn more about promising new treatments or procedures.

Clinical trials are one way to get state-of-the-art cancer treatment. Sometimes they may be the only way to get some newer treatments. They are also the best way for doctors to learn better ways to treat cancer. Still, they might not be right for everyone.

[Children's cancer centers](#)¹⁸ often conduct many clinical trials at any one time, and most children treated at these centers take part in a clinical trial as part of their treatment. This is one of the reasons why there has been great progress in treating many childhood cancers in recent decades.

Overall, teens are less likely than younger children to take part in clinical trials. There are many reasons for this, including the many different cancer types and treatment settings, lack of knowledge about clinical trials (from both doctors and patients), patient/family reluctance to enter clinical trials, and financial issues. Unfortunately, many experts believe this low enrollment in clinical trials is one of the main reasons for the lack of progress in treating cancers in teens.

If you would like to learn more about clinical trials that might be right for you (or your child), start by asking your doctor if your clinic or hospital conducts clinical trials. See [Clinical Trials](#)¹⁹ to learn more.

Hyperlinks

1. www.cancer.org/cancer/types/leukemia-in-children.html
2. www.cancer.org/cancer/types/osteosarcoma.html
3. www.cancer.org/cancer/types/ewing-tumor.html
4. www.cancer.org/cancer/types/rhabdomyosarcoma.html
5. www.cancer.org/cancer/types/melanoma-skin-cancer.html
6. www.cancer.org/cancer/types/thyroid-cancer.html
7. www.cancer.org/cancer/types/cancer-in-adolescents/what-are-cancers-in-adolescents.html
8. www.cancer.org/cancer/diagnosis-staging/staging.html
9. www.cancer.org/cancer/managing-cancer/treatment-types/surgery.html
10. www.cancer.org/cancer/managing-cancer/treatment-types/radiation.html
11. www.cancer.org/cancer/types/cancer-in-adolescents/late-effects.html

12. www.cancer.org/cancer/managing-cancer/treatment-types/chemotherapy.html
13. www.cancer.org/cancer/types/cancer-in-adolescents/late-effects.html
14. www.cancer.org/cancer/managing-cancer/treatment-types/targeted-therapy.html
15. www.cancer.org/cancer/managing-cancer/treatment-types/immunotherapy.html

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