

Stem Cell or Bone Marrow Transplant

A stem cell transplant is an important part of treatment for some cancers, especially certain types of leukemia, lymphoma, and multiple myeloma.

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What is a stem cell transplant?

A stem cell transplant puts healthy blood stem cells back into your body after your bone marrow has been destroyed by disease, chemotherapy (chemo), or radiation. Depending on where the stem cells come from, it might also be called a:

- Bone marrow transplant (BMT)
- Peripheral blood stem cell transplant (PBSCT)
- Umbilical cord blood (UCB) transplant

All of these procedures can also be called hematopoietic stem cell transplants (HSCT).

reset complete

[Types of Stem Cell Transplant](#) →

[What Are Stem Cells and Where Do They Come From?](#) →

How does a stem cell transplant work to treat cancer?

Some cancers start in the bone marrow. Other cancers can start in another part of the body and spread to the bone marrow.

When cancer is in your bone marrow, the cancer attacks it. This causes the bone marrow to make too many unhealthy cells. The unhealthy cells crowd out healthy ones, so they no longer work like they should.

For these cancers to stop growing, they need the bone marrow cells to work properly and start making new, healthy cells.

Stem cell transplants replace bone marrow cells that have been destroyed by cancer or by the [chemo](#) and/or [radiation](#) used to treat the cancer.

The goal of a stem cell transplant is to wipe out the cancer cells along with the damaged or unhealthy bone marrow cells and give a person new, healthy stem cells to "start over."

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Deciding to have a stem cell transplant

Although a stem cell transplant can help and possibly cure some people, the decision to have a transplant isn't easy. Like everything in your medical care, you are the one who makes the final decision about having a stem cell transplant.

Stem cell transplants have been used to cure thousands of people with cancers that did not otherwise have a promising cure. Still, there are possible [risks and problems](#). Some of these can be life threatening. The expected risks and benefits must be weighed carefully.

Weighing the risks and benefits

Your cancer care team will compare the risks of your cancer itself to the risks of the transplant. They may also talk to you about other treatment options or [clinical trials](#).

The stage of your cancer, the time from diagnosis to transplant, the donor type, and your age and overall health are all part of weighing the pros and cons before making this decision.

Be sure to express all your concerns and get answers you fully understand. Make sure the team knows what's important to you. Transplant is a complex process. Find out as much as you can and plan ahead before making your choice.

Graft-versus-host disease (GVHD)

GVHD is a common risk in allogeneic (allo) transplants.

In this type of transplant, the stem cells come from another person (a donor). The donor cells that you get can be a threat to your cells, body tissues, and organs. This attack can cause damage that ranges from mild to severe.

See [Stem Cell Transplant Side Effects](#) to learn more about this.

Understanding success rates

It's important to know the success rate of the planned transplant based on your:

- Diagnosis
- Stage in treatment
- Any other conditions that might affect you and your transplant

In general, transplants are more likely to be successful if they're done in the early stages of disease (or in remission) and when your overall health is good. Ask about these factors and how they affect the expected outcomes of your transplant or other treatment.

Getting a second opinion

Many people get a [second opinion](#) before deciding to have a stem cell transplant. You may want to talk to your cancer care team about this, too. Also contact your health insurance company to ask if they will pay for a second opinion.

[Getting a Stem Cell Transplant](#)



Learn what it's like to get a stem cell transplant, from preparation to recovery. Also includes information on the role of a caregiver.

[Finding a Stem Cell Donor](#)



If possible, it's important that you and your stem cell donor are a close tissue match. Learn what this means and the process for finding a donor.

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Learn about donating your stem cells for another person or for your own transplant.
Also includes information on cord blood donation.

For caregivers

Being the main caregiver for someone going through stem cell transplant is an important job that lasts for months. You will get training and support from the transplant team, but you will be responsible for much of your loved one's daily care after they leave the hospital.

- If the transplant is outpatient, you will need to be with your loved one all day, every day.
- Expect to attend appointments for up to the first 100 days.

This can be overwhelming and put you at risk for anxiety and depression. It's important to talk about your feelings and ask for help.

To learn more about the role of a caregiver and how to find support, see [Cancer Caregiver Resources](#).

Post-stem cell transplant (rehabilitation)

The process of stem cell transplant doesn't end when you go home. You'll feel tired, and some people have physical or mental health problems in the post-transplant period. Recovery takes months or years.

During post-transplant rehabilitation, you will:

- **See your transplant team often.** At first, these visits will be daily (or every other day). You'll move to less frequent visits if things go well.
- **Take extra care to avoid infections.** It can take 6 to 12 months, or longer, for your immune system to work well again.
- **Get new vaccinations.** Stem cell transplant wipes out all the vaccinations you got as a child. Post-transplant, you'll get these vaccinations again.

Learn more about post-transplant rehabilitation in [Getting a Stem Cell Transplant](#).

Written by [References](#)

Developed by the [American Cancer Society medical and editorial content team](#) with medical review and contribution by the American Society of Clinical Oncology (ASCO).

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