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[Side Effects of a Stem Cell Transplant \(Bone Marrow Transplant\)](#) [1]

This section has been reviewed and approved by the [Cancer.Net Editorial Board](#) [2], 02/2016

A [stem cell transplant](#) [3] is an effective treatment for some types of cancer. But it can cause side effects. Side effects are different for everyone. They depend on the type of transplant, your general health, and other factors.

Your side effects might go away with time. But some side effects can be permanent. So before a transplant, talk to your doctors about possible side effects. This includes short-term effects that last a few weeks or months. It also includes long-term effects that last years or a lifetime.

Your health care team will work with you to prevent side effects. They will also help you cope with them. This is called [palliative care](#) [4]. It is an important part of your treatment plan. So tell your health care team about any side effects you experience.

Side effects from an AUTO transplant

Before a transplant, you will receive [chemotherapy](#) [5], with or without [radiation therapy](#) [6]. So, many side effects of an AUTO stem cell transplant are similar to the side effects of these treatments. The most serious of these side effects is a higher risk of infections from low levels of white blood cells.

- **Infections.** Treatments such as chemotherapy weaken your body's infection-fighting system, called the immune system. This means that the body cannot protect itself

normally against bacteria, viruses, and other germs. The highest risk of infection is during the first few weeks after transplant. However, your immune system is never completely the same after transplant. Most patients will receive antiviral and antibacterial drugs for up to a year or more after transplant.

Most infections right after a transplant come from the bacteria, viruses, and other germs that normally live in your body. When your immune system is strong, they do not make you sick. But they can when your immune system is weak. Fortunately, most of these infections are fairly easy to treat with antibiotics.

After about 2 weeks, a part of your immune system, known as neutrophils, will recover. These cells can keep some common germs from making you sick

- **Other immediate side effects.** The following side effects develop right after high-dose chemotherapy and are strongest for the next 1 to 2 weeks.
 - Nausea and vomiting
 - Mouth Sores
 - Fatigue
 - Low levels of platelets, which can decrease how well blood can clot
 - Low levels of red blood cells, which can cause anemia
 - Diarrhea
- **Long-term side effects.** There can also be side effects from transplant that develop months or years after treatment.
 - [Infertility](#) [7], which means you cannot become pregnant, or make a woman pregnant, when you want to
 - Cataracts, a condition in which the lens of the eye gets cloudy and vision is more difficult

- Early menopause for women
- Thyroid problems
- Lung or bone damage
- Risk of developing another cancer

Side effects from an ALLO transplant

The side effects of an ALLO transplant include side effects from chemotherapy (with or without radiation therapy) in addition to side effects from receiving another person's stem cells. The most serious of these side effects includes a higher risk of infections and a risk of graft-versus-host disease (GVHD).

- **Infection.** The risk of infection from an ALLO transplant is similar to an AUTO transplant (see above). However, after an ALLO transplant you have a serious risk of infections throughout your life. When you have an ALLO transplant, doctors give you anti-rejection drugs. These drugs weaken your immune system to keep it from destroying the new cells. But a weak immune system makes you more likely to get infections. The more anti-rejection drugs you need, the higher your risk.
- **Graft-versus-host disease.** GVHD happens when the new stem cells attack your body. This causes inflammation. Doctors have medications for GVHD. You get them even if your donor was a 100% match. If you still get GVHD, doctors give you more anti-rejection medicines. Rarely, GVHD can be life threatening. There are two types of GVHD. Both can be mild to severe.
 - **Acute GVHD.** Acute GVHD usually happens in the first three months after an ALLO transplant. It often affects the skin, intestines, and liver. This can cause rashes, diarrhea, and jaundice. Jaundice is a yellow color in the skin and whites of the eyes. The treatment is medication to block T cells. T cells are white blood cells that help the immune system fight infections. Blocking them keeps your immune system from attacking your body's own cells.
 - **Chronic GVHD.** Chronic GVHD usually happens more than 3 months after an ALLO transplant. It can last a few months or a lifetime. You might not have symptoms or need treatment. Or you might need treatment for certain problems. For example, you

might have dry eyes, dry mouth, and a slightly irritated liver, which is based on blood test results. Or you might have worse problems, such as a condition called “scleroderma.” In this condition, the skin loses some ability to stretch. Other problems include pain in joints and muscles, weight loss, infections, and difficulty breathing.

Along with GVHD, however, many patients have a “graft versus cancer cell effect”. This is because the new stem cells recognize and destroy cancer cells that are still in the body. This is the main way ALLO transplants cure cancers like leukemia.

- **Other immediate side effects.** Similar to an AUTO transplant, the following side effects may develop immediately after chemotherapy. A reduced intensity transplant uses milder doses of chemotherapy. And, people who are able to have a reduced-intensity transplant may avoid some of these or experience less severe side effects.
 - Nausea and vomiting
 - Mouth Sores
 - Fatigue
 - Low levels of platelets, which can decrease how well blood can clot
 - Low levels of red blood cells, which can cause anemia
 - Diarrhea
- **Long-term side effects.** There can also be side effects from transplant that develop months or years after treatment.
 - [Infertility](#) [7], which means you cannot become pregnant, or make a woman pregnant, when you want to
 - Cataracts, a condition in which the lens of the eye gets cloudy and vision is more difficult

- Early menopause for women
- Thyroid problems
- Lung or bone damage
- Risk of developing another cancer

More Information

[Side Effects](#) [8]

[Coping With the Fear of Treatment-Related Side Effects](#) [9]

[Donating Bone Marrow](#) [10]

Additional Resources

Explore BMT: [About Transplant](#) [11]

Be the Match: [Guidelines for Long-Term Follow Up](#) [12]

Links

- [1] <http://www.cancer.net/navigating-cancer-care/how-cancer-treated/bone-marrowstem-cell-transplantation/side-effect-s-stem-cell-transplant-bone-marrow-transplant>
- [2] <http://www.cancer.net/about-us>
- [3] <http://www.cancer.net/node/24717>
- [4] <http://www.cancer.net/node/31921>
- [5] <http://www.cancer.net/node/24723>
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- [11] https://explorebmt.org/Content/Sections/About_Transplant/About_Transplant.aspx
- [12] <https://bethematch.org/For-Patients-and-Families/Life-after-transplant/Guidelines-for-long-term-care/>