

# Blood and Bone Marrow Transplantation

The Blood and Bone Marrow Transplantation program at Miami Cancer Institute at Baptist Health South Florida provides advanced treatment options to patients with blood cancers like leukemia, multiple myeloma, non-Hodgkin lymphoma and Hodgkin disease, or Hodgkin lymphoma.

Bone marrow is the tissue inside your bones that produces red and white blood cells and platelets. If you experience a blood disorder, a bone marrow transplant, also known as a stem cell transplant, can be used to replace your damaged blood cells with healthy, blood-forming stem cells. The treatment was originally called a bone marrow transplant but is now commonly referred to as a stem cell transplant to more accurately represent the collection process, which typically includes stem cells collected from your blood, as well as occasionally from the bone marrow.

## Why should I choose Miami Cancer Institute?

Our expertise is unmatched in the region. We are the only facility in Florida that offers T-cell depleted (CD34+-selected) allogeneic stem cell transplants for patients with hematologic malignancies to reduce side effects, such as graft-versus-host disease, of these transplants. Additionally, our outpatient autologous transplant program, which uses stem cells from the patient's own bone marrow, reduces the amount of time you'll spend in the hospital during treatment, which minimizes the disruption to your life while you get the care you need.

Miami Cancer Institute is the state's only member of the Memorial Sloan Kettering Cancer Alliance, a unique partnership that fosters collaboration and expands access to enhanced treatments, advanced clinical care and a wide range of clinical research trials.

## What conditions are treated with blood and marrow stem cell transplantation?

Stem cell transplants can be an effective form of treatment for blood cancers and some genetic conditions. The procedure is used to replace diseased or damaged stem cells, often after chemotherapy or radiation, with healthy cells. The new stem cells can form a new immune system to help attack your cancer cells head-on.

Stem cell transplants provide treatment for:

- Leukemia – a cancer that affects the blood-forming cells found in bone marrow.
- Hodgkin lymphoma – cancer that affects that your lymphatic system.
- Non-Hodgkin lymphoma – cancer that damages your white blood cells and attacks your immune system.
- Multiple myeloma – cancer that affects the white blood cells that produce antibodies.
- Myelodysplastic syndrome – cancer that prevents the production of healthy blood cells.



**Miami Cancer Institute**

**BAPTIST HEALTH SOUTH FLORIDA**

# Blood and Bone Marrow Transplantation

- Myeloproliferative diseases – slow-growing cancer that causes a high number of abnormal blood cells.
- Sickle cell anemia – a mutation that produces crescent-shaped red blood cells that clog small blood vessels and die early, which causes a constant shortage.

## What type of blood and marrow stem cell transplantation are available?

There are two main types of stem cell transplants: autologous and allogeneic. Miami Cancer Institute offers both forms of stem cell transplants.

### Autologous transplants

An autologous transplant uses your own stem cells to treat your blood disorder. We offer both inpatient and outpatient services for using this approach to treat certain disorders like multiple myeloma, non-Hodgkin disease and Hodgkin disease.

During the procedure, stem cells are collected from your blood for several days and frozen for storage. The process is similar to giving blood. A high dose of chemotherapy is administered to kill your cancer cells, which also eliminates any blood-producing cells that are present in your bone marrow. The stem cells that were collected earlier are then thawed and reinfused into your body, where they make new red and white blood cells and platelets.

Outpatient care lets you remain at home or in an alternate location of your choice during certain portions of your treatment. The Hilton Miami-Dadeland hotel offers convenient on-campus accommodations. To participate in an outpatient setting, you must live or stay within 40 minutes of Miami Cancer Institute and return for different components of care for several weeks after your transplant. The outpatient option trims days off your hospital stay and lets you remain in a non-clinical environment that doesn't put additional stress on your recovering immune system.

### Allogeneic transplants

With allogeneic transplants, the new stem cells come from a donor. A donor can be a family member or someone not related to you, as long as their genetic makeup is similar to yours. The procedure starts with chemotherapy, radiation, or both, prior to your transplant. This kills cancer cells and prevents your immune system from rejecting the new stem cells when they're transplanted. In a process that resembles a blood transfusion, the donor cells are then infused into your bloodstream through which they find the bone marrow, where they begin the process of creating new, healthy cells.

Allogeneic transplants are inpatient procedures. You should expect to stay in the hospital for two to four weeks after your transplant. During this period, special care is taken to protect you from infection. Visitors and healthcare providers wear protective masks, gowns and gloves. Flowers, plants and fresh fruits are prohibited to prevent the spread of germs and bacteria.

# Blood and Bone Marrow Transplantation

At Miami Cancer Institute, we assess patients to determine if they are candidates for allogeneic transplants. This type of transplant involves the administration of donor stem cells that are purified in the laboratory and depleted of donor T-lymphocytes to minimize the risk of graft-versus-host effect in which donor T-lymphocytes attack their host's healthy tissues.

This type of stem cell transplant, clinically known as CD34+-selected allogeneic transplant, offers several benefits, including:

- Faster recovery
- Better quality of life post-transplant
- No need for immune suppression drugs
- Reduced risk of graft-versus-host disease

To learn more, visit <https://cancer.baptisthealth.net/miami-cancer-institute/cancer-care/treatments-and-services/blood-and-marrow-transplantation#>