



Bone Marrow Transplant Program

Overview

Bone marrow transplant (also called stem cell transplant) is a procedure that infuses healthy blood-forming stem cells into patients to replace the bone marrow that does not produce enough healthy blood cells. It can be lifesaving for people with blood cancers or bone marrow failure. The Helen F. Graham Cancer Center & Research Institute's Bone Marrow Transplant Unit at ChristianaCare offers today's most advanced and sophisticated techniques for patients who need stem cell transplants. Transplants may be autologous (self-donated) or allogeneic (from a related or unrelated donor).

A multidisciplinary team of experts who are specialized in stem cell transplant will assist your employee and their family as they face this life and death situation. ChristianaCare's bone marrow transplant program is the only center in Delaware state capable to perform this sophisticated procedure.

Why Choose ChristianaCare for Bone Marrow Transplantation?

Our center is a National Cancer Institute-designated Community Comprehensive Cancer Center that is fully accredited by the National Marrow Donor Program. ChristianaCare participates in the donor-matching program and will tailor your employee's transplant to their body and disease. Membership in the National Marrow Donor Program enables searches on a national and international level to locate potential stem cell donors who may be unrelated but whose tissue is the right match. We also participate in the International Bone Marrow Transplant Registry and the Autologous Blood and Marrow Transplant Registry.

Also at ChristianaCare, you will have a full team of experts. Your employees will appreciate the convenience of receiving all of their services under one roof at the Helen F. Graham Cancer Center & Research Institute. Because our model of care is based on multidisciplinary centers, every patient benefits from a team of experts who are focused on his or her individual care. When your employee visits the Helen F. Graham Cancer Center, they will meet with their nurse navigator and a team of doctors in one visit.

Who are candidates?

Stem cell transplants can benefit people with a variety of both cancerous and noncancerous diseases, including:

- Acute leukemia
- Adrenoleukodystrophy
- Aplastic anemia
- Bone marrow failure syndromes
- Chronic leukemia
- Hemoglobinopathies
- Hodgkin's lymphoma
- Immune deficiencies
- Inborn errors of metabolism
- Multiple myeloma
- Myelodysplastic syndromes
- Neuroblastoma
- Non-Hodgkin's lymphoma
- Plasma cell disorders
- POEMS syndrome
- Primary amyloidosis

How is stem cell transplant performed?

PRETRANSPLANT EVALUATION

A series of tests and procedures will be performed to assess the patient's general health and the status of disease. The tests and procedures also ensure that patients are mentally and physically prepared for the transplant. The evaluation may take several days or more.

STEM CELL COLLECTION

If the transplant uses stem cells from peripheral blood, the patient (autologous) or donor (allogeneic) will receive daily growth factor injections to mobilize the stem cells into the blood. The stem cells will be collected through a procedure called apheresis.

If the transplant uses stem cells from bone marrow (typically allogeneic), the donor will be taken into the operating room and the bone marrow stem cells will be harvested under general anesthesia.

CONDITIONING PROCESS

Before stem cell transplant, the patient will begin a process known as conditioning with chemotherapy and possibly radiation. The purpose of conditioning is to:

- Destroy cancer cells if the patient is being treated for cancer that may spread to other parts of the body
- Suppress their immune system
- Prepare their bone marrow for the new stem cells

DURING STEM CELL TRANSPLANT

On the day of the transplant, stem cells will be infused into the patient's body through a central line. The transplant is painless and the patient will remain hospitalized for close monitoring and medical care for a few weeks. Patients will be discharged home when their blood cell counts recovered to the range that the doctors think they are safe to be managed as outpatient.

POST-TRANSPLANT FOLLOW-UP

After discharge from the hospital, patients will be closely followed as an outpatient to ensure the success of the transplant, and to prevent and treat short- and long-term side effects and complications. Ultimately, our goal is a successful transplant and to return the patient to typical activities with good quality of life.

CAR-T:

Chimeric antigen, or CAR-T cell therapy, is only offered in Delaware at the Helen F. Graham Cancer Center's Bone Marrow Transplant Program.

ChristianaCare's program is one of the few select centers in the region recognized for quality by the Foundation for the Accreditation of Cellular Therapy and certified to treat adult patients with B cell lymphomas using FDA-approved, CAR-T cell therapy. The treatment is also approved to treat leukemia in children and young adults under 25 as well.

CAR-T cell therapy is a highly personalized form of cancer medicine. To prepare for treatment, T cells will be harvested from the patient's bloodstream and sent to the lab for reprogramming.

Afterward, these engineered T cells will be infused back to patient, in a process similar to a stem cell transplant. Because the reprogrammed T cells continue to multiply in the body after treatment, CAR-T cell therapy is considered a "living drug" that could keep fighting cancer.

For patients with recurrent or refractory cancers, and where bone marrow transplantation has either failed or is not suitable, this type of cellular immunotherapy offers a potentially lifesaving and less toxic alternative treatment.

For more information about how to build a custom program for your employees, visit [ChristianaCare.org/ForBusiness](https://www.ChristianaCare.org/ForBusiness)

