

# PROGRAM OVERVIEW

COMPASSION LEADING TO  
**SUCCESSFUL OUTCOMES**

NORTHSIDE HOSPITAL  
CANCER INSTITUTE

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BLOOD & MARROW  
TRANSPLANT PROGRAM

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IMMUNOTHERAPY PROGRAM

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LEUKEMIA PROGRAM





# NORTHSIDE HOSPITAL CANCER INSTITUTE

BLOOD & MARROW  
TRANSPLANT PROGRAM

IMMUNOTHERAPY PROGRAM

LEUKEMIA PROGRAM

## MISSION STATEMENT

The Blood and Marrow Transplant, Leukemia, and Immunotherapy Programs at Northside Hospital strive to be the Southeast's premier treatment programs for blood cancers by achieving outstanding patient outcomes and satisfaction. We are dedicated to providing patient-focused care through research, leading-edge treatments and clinical excellence. Our patients and their families are at the center of our programs, and we are committed to treating each individual with respect, dignity and compassion while providing them with the clinical and on-going support they need.

**We are here for you.**

Physicians Available 24/7

Phone: 404-255-1930 | Fax: 404-255-1939

[northside.com/BMT](http://northside.com/BMT) | [northside.com/immunotherapy](http://northside.com/immunotherapy) | [northside.com/leukemia](http://northside.com/leukemia)

The Blood & Marrow  
Transplant Group  
O F G E O R G I A

[bmtga.com](http://bmtga.com)

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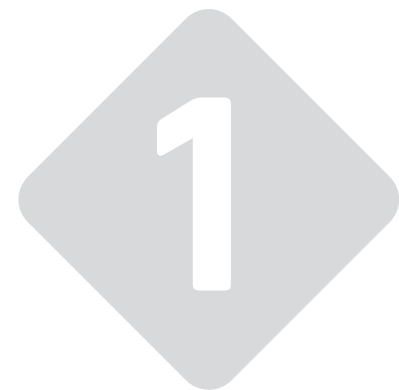


BLOOD AND MARROW TRANSPLANT  
 LEUKEMIA  
 IMMUNOTHERAPY  
 CAR T-CELL THERAPY  
 AUTOLOGOUS STEM CELL TRANSPLANT  
 HAPLOIDENTICAL STEM CELL TRANSPLANT  
 CORD BLOOD TRANSPLANTS  
 MATCHED RELATED DONOR  
 UNMATCHED RELATED DONOR  
 GRAFT-VERSUS-HOST DISEASE  
 ALLOGENEIC STEM CELL TRANSPLANT  
 EXTRACORPEAL PHOTOPHERESIS



"The BMT Program at Northside saved my life, twice, and without them, I wouldn't have my son today. They worked closely with all my specialists to provide my son and I with the best possible care and I consider the BMT team to be my second family."  
 - Katherine Welch, BMT Survivor (Acute Myeloid Leukemia)

## PROGRAM OVERVIEWS



BLOOD AND MARROW  
 TRANSPLANT PROGRAM



LEUKEMIA  
 PROGRAM



IMMUNOTHERAPY  
 PROGRAM

There are three (3) components to our program: **blood and marrow transplantation, leukemia** and **immunotherapy**. A nationally recognized team of physicians with expertise in transplantation and hematological malignancies leads our program. For every patient, we are committed to quality, excellence and compassionate care.

Our patients come first, and that commitment drives our multidisciplinary team to deliver outstanding care and results in excellent patient satisfaction. For this reason, we consistently rank above the 95<sup>th</sup> percentile for physician care, nursing care and overall hospital experience.

# 1

## BLOOD AND MARROW TRANSPLANT PROGRAM

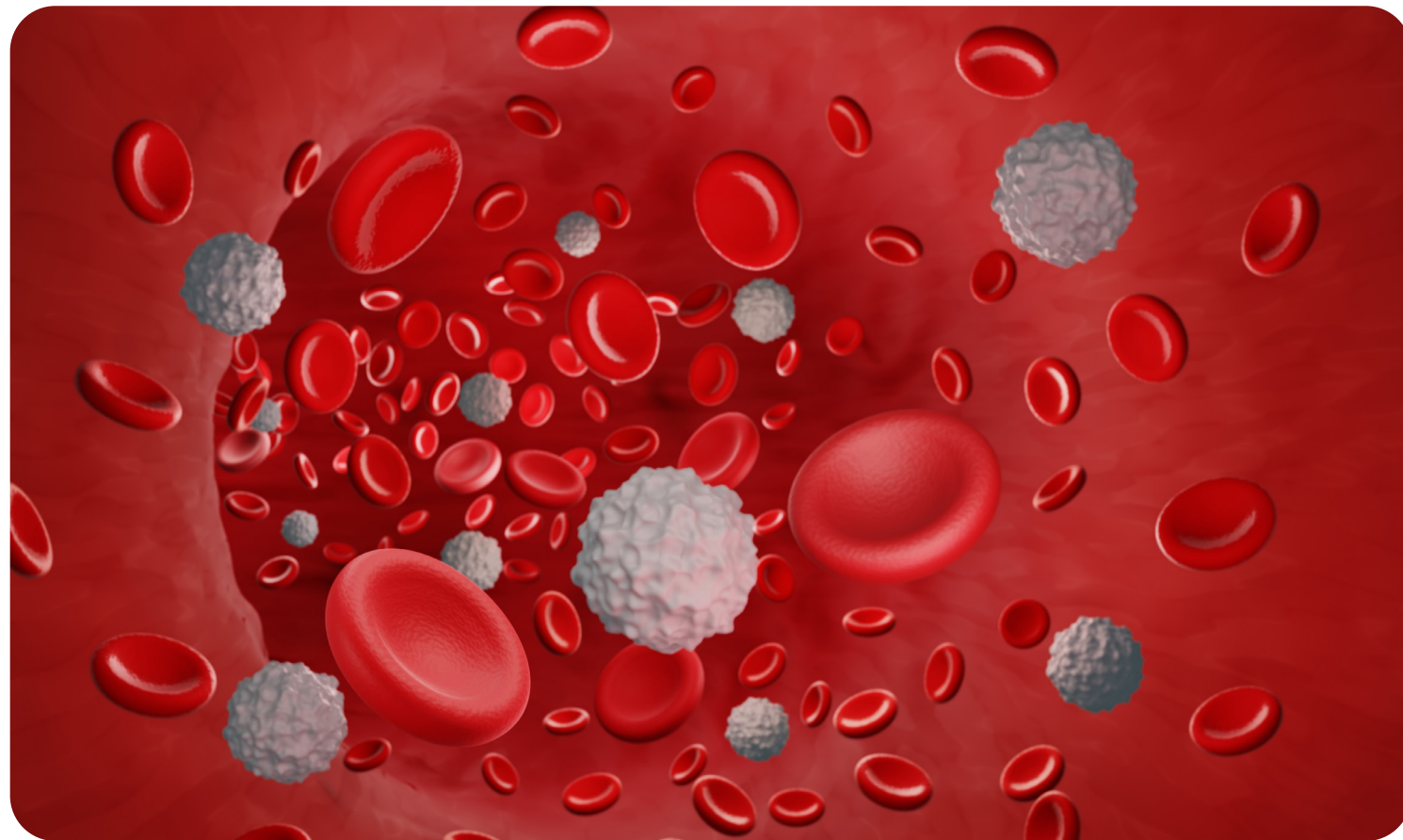
Our blood and marrow transplant program (NH-BMT) is ranked as one of the largest and premier clinical transplant programs in the country. With state-of-the-art comprehensive specialty treatment for patients undergoing blood or marrow transplant therapy, we have the distinction of having among the best survival outcomes in the United States.

### EXCEPTIONAL SURVIVAL OUTCOMES

Each year, blood and marrow transplant center survival outcomes throughout the nation are publicly reported through the Be The Match® registry. Center outcomes are reported using statistical analysis to generate a center's actual one-year survival for allogeneic transplants compared to the center's expected one year survival outcomes. NH-BMT has been ranked as an over-performing center for one-year allogeneic transplant outcomes for multiple years. As of 2022, NH-BMT is the only center in the country to maintain outcomes in the "above expected" range for the last 14 or more consecutive years.\* Each year, updated outcomes are published at: [bethematch.org/tcdirectory/search](https://bethematch.org/tcdirectory/search). Please check this site for Northside Hospital's most current outcomes report.

\*For the 14th consecutive year (2009-2022) NH-BMT achieved survival outcomes that significantly exceeded the expected range as reported in the Center for International Blood and Marrow Transplant Research Final 2022 Transplant Center Specific Survival Report, December 2022.





## 2 LEUKEMIA PROGRAM

With unrivaled access to state-of-the-art diagnostic testing, comprehensive patient-centered care, and blood and marrow transplant services, the Leukemia Program at Northside Hospital provides patients with the exceptional quality care needed to treat their blood-related malignancy.

## 3 IMMUNOTHERAPY PROGRAM

Our Immunotherapy Program physicians are experts in administering immunotherapy cancer treatments, including CAR T-cell therapy. We offer a distinctive program, including clinical expertise and innovative facilities, to meet the unique needs of patients undergoing this breakthrough treatment option.



## TREATMENT SERVICES

### BLOOD AND MARROW TRANSPLANT

We offer a full range of services including:

#### Autologous stem cell transplants

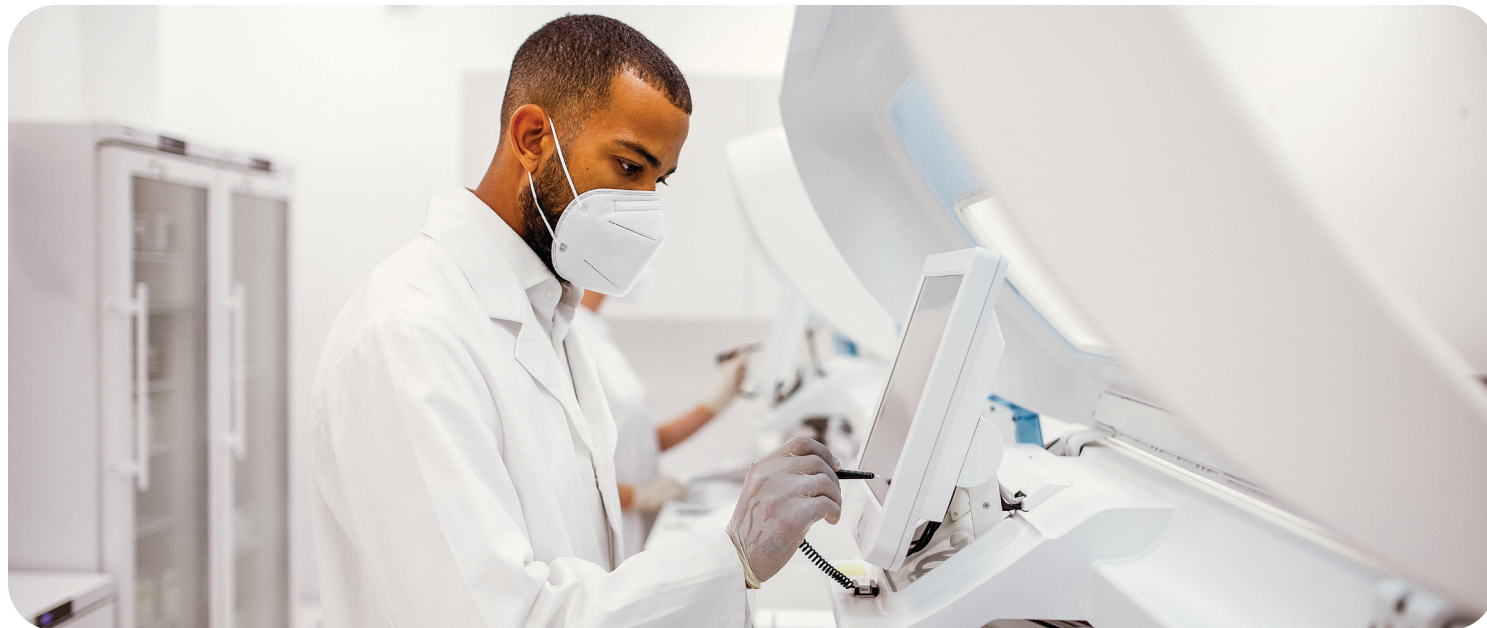
#### Allogeneic stem cell transplants

- Matched related donor
- Matched unrelated donor
- Cord blood transplant
- Haploidentical stem cell transplants
- Ablative and reduced intensity preparatory treatment regimens

#### Extracorporeal photopheresis (ECP)

- Treatment of graft-versus-host disease (GvHD)





## LEUKEMIA THERAPY

At time of diagnosis, patients are immediately assessed and a specialty trained primary leukemia physician develops a treatment plan.

Our leukemia services include:

### Diagnostic Testing

Extensive diagnostic testing identifies which patients will most likely benefit from a blood and marrow transplant.

- On-site flow cytometry laboratory and molecular lab for rapid diagnosis
- Follows ASBMT and ASH guidelines on recommended timing for transplant consultation

### Early Donor Identification

Family HLA typing initiated early in the treatment phase allows early blood and marrow donor identification.

### Clinical Research Access

Patients have access to our Clinical Research Program including novel chemotherapeutic agents, targeted molecular immunotherapies and CAR T-cell therapy.

### BMT Program Transition

For leukemia patients that require a blood or marrow transplant, we offer seamless integration into our BMT Program. Our leukemia and BMT coordinators work collaboratively with patients to ensure a smooth transition to NH-BMT.

## IMMUNOTHERAPY

Immunotherapy is a treatment method that uses a patient's own immune system to fight and kill cancer cells more effectively. The immune system keeps track of all of the substances normally found in the body. Any new substance that the immune system does not recognize raises an alarm, causing the immune system to attack it. Most of the time, it is more difficult for the immune system to recognize cancer cells as foreign, which allows them to grow and spread throughout the body. Immunotherapy treatments and drugs help the immune system to recognize and locate cancer cells and strengthen its response to help it destroy them.

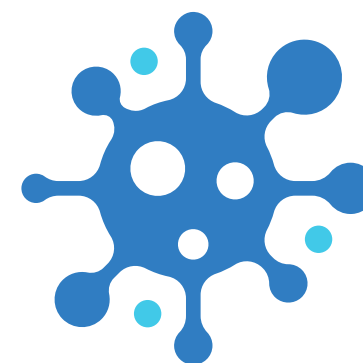
At Northside, immunotherapy is offered commercially (FDA-approved) as well as through clinical trials. Examples of types of immunotherapy include:

- Immune effector cell (IEC) therapies
- Monoclonal antibodies
- Bispecific T-cell engaging antibodies
- Checkpoint inhibitors
- Therapeutic vaccines
- Chimeric antigen receptor (CAR) T-cell

Our program is among select centers in the country offering commercially available (FDA-approved) chimeric antigen receptor (CAR) T-cell therapy, one of the most promising cell-based cancer immunotherapies available.

### Cancer Immunotherapy Treatments

#### MONOCLONAL ANTIBODIES



Antibodies can be produced that target and destroy cancer cells.

#### CANCER VACCINES



Vaccines can be given to prevent cancer.

#### NONSPECIFIC IMMUNOTHERAPIES



Cytokines - stimulate the immune system.  
 Checkpoint inhibitors - release the brakes on the immune system, i.e. PD-1/PD-L1.  
 Immunomodulating drugs - boost immune system.



# CAR T-CELL THERAPY

This highly specialized five-step process takes place over several weeks:

- 1. T-Cell Collection:** Collecting T-cells (called leukopheresis/apheresis), is a simple procedure, similar to donating blood.
- 2. Engineer-Reprogram:** T-cells are shipped to a manufacturer to produce special receptors on their surface called chimeric antigen receptors, or CARs. This enables T-cells to better recognize, kill and destroy cancer cells.
- 3. Expansion:** T-cells grow and expand until they multiply into the billions. The manufacturing process may take several weeks to complete. Then they are shipped back to Northside Hospital's hematopoietic stem cell laboratory.
- 4. Chemotherapy and Infusion:** Patients receive a brief course of chemotherapy prior to CAR T-cell infusion. Chemotherapy creates space in the immune system so that the CAR T-cells can grow, flourish and kill the cancer cells. CAR T-cell infusion occurs after the completion of chemotherapy.
- 5. Destruction of Cancer Cells:** Over the next several days, weeks and months, CAR T-cells will multiply, kill and destroy tumor cells. Patients are monitored for side effects and will remain in close proximity to the hospital for approximately 30 days after the infusion.



## CLINICAL RESEARCH

Committed to advancing the treatment of hematological malignancies through clinical research, our program conducts all phases of clinical trials and partners with the pharmaceutical industry, academic centers, prestigious research centers, such as the National Cancer Institute, as well as other collaborative groups across the country.

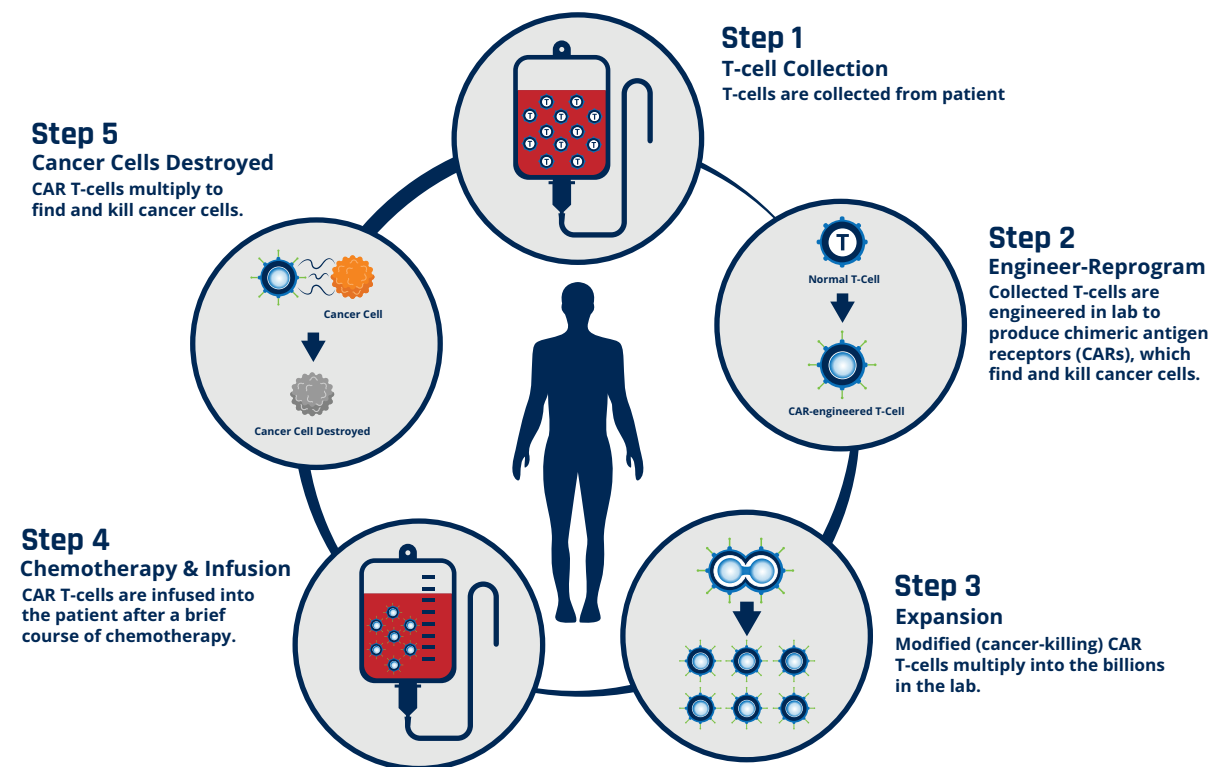
Our clinical research team works collaboratively with the Central Research Office at Northside Hospital to maintain compliance with regulatory agencies that oversee the practice of clinical research. Additionally, they work directly with other national transplant centers and clinical trial networks in order to bring promising investigational therapies to our patients.

We have been designated as a Core Center for the Blood and Marrow Clinical Trials Network (BMT CTN, [bmtctn.net](http://bmtctn.net)) which allows patients at Northside Hospital access to the leading national clinical trials in bone marrow transplantation. Some of the individualized treatment approaches that are being investigated for hematological malignancies include novel agents, targeted therapies and immunotherapy.

We are steadfast in ensuring that our patients have access to clinical trials and reporting outcomes of the research to make substantial forward progress in treating and supporting patients with hematological malignancies.

For a current listing of available clinical trials, please visit: [bmtga.com/research](http://bmtga.com/research)

### How Does CAR T-Cell Therapy Work?







## **NORTHSIDE HOSPITAL CANCER INSTITUTE**

As a nationally recognized leader in cancer diagnosis, treatment and research, the Northside Hospital Cancer Institute (NHCI) is committed to providing compassionate, personalized patient care through a multidisciplinary team approach. Using evidence-based medicine and the latest technology available, NHCI's large network of physicians, nurses, researchers, and support staff throughout Georgia offers patients access to the latest research and treatments available, in a location close to home.

As a statewide leader of the National Cancer Institute Oncology Research Program (NCORP), NHCI's community physicians and their patients have access to groundbreaking clinical trials. Providers are able to collaborate with the National Cancer Institute Clinical Trials Network (NCTN) Lead Academic Participating Sites on the development of research studies that impact patients in their communities.



**BUILT TO BEAT CANCER**



## **DEDICATION TO QUALITY**

Quality is the foundation for excellent clinical practice. Our dedicated quality improvement and assurance staff continuously participates in extensive quality assurance and performance improvement activities. Our national accreditations ensure clinical quality and adherence to best practices.

### **OUR CREDENTIALS INCLUDE:**

**The Foundation for the Accreditation of Cellular Therapy (FACT):** Accredited since 2000. FACT is a voluntary accreditation that is based upon compliance with the most comprehensive BMT standards in patient care and laboratory practices.

**Center of Excellence (COE):** NH-BMT and Immunotherapy CAR T-cell programs have COE designation for all major managed care companies, attesting to the program's quality and clinical outcomes.

**National Marrow Donor Program (NMDP):** Designated as a transplant center and collection center for volunteer hematopoietic cell donors.

**Blood and Marrow Clinical Trials Network (BMT CTN):** Patients have access to participate in hematopoietic stem cell transplant clinical trials.

**Myelodysplastic Syndromes (MDS) Foundation Center of Excellence (COE):** Recognized as a COE in the diagnosis and treatment of myelodysplastic syndromes by the MDS Foundation.

**American Association of Blood Banks:** The global leader in standards development, accreditation and implementation of quality systems in transfusion medicine and cellular therapies.





## MEET OUR PHYSICIANS

### **H. KENT HOLLAND, MD**

BMT PROGRAM DIRECTOR

- Fellowship: Hematology-Oncology/Bone Marrow Transplantation, Johns Hopkins School of Medicine
- Board Certified: Hematology & Oncology

### **ASAD BASHEY, MD, PHD**

BMT PHYSICIAN

- Fellowship: Bone Marrow Transplant/Leukemia, Hammersmith Hospital, London, England
- Board Certified: Hematology & Oncology

### **LAWRENCE MORRIS, MD**

BMT PHYSICIAN

- Fellowship: Hematology-Oncology/Bone Marrow Transplantation, Johns Hopkins School of Medicine
- Board Certified: Oncology

### **MELHEM SOLH, MD**

BMT PHYSICIAN

- Fellowship: Hematology-Oncology/Bone Marrow Transplantation, University of Minnesota Medical Center
- Board Certified: Hematology & Oncology

### **SCOTT SOLOMON, MD**

BMT PHYSICIAN

- Fellowship: Hematology-Oncology/Bone Marrow Transplantation, University of San Francisco and NHLB/NIH
- Board Certified: Hematology & Oncology

### **LIZA BACHIER, MD**

BMT PHYSICIAN

- Fellowship: Hematology-Oncology/Weill Cornell Medical and Blood and Marrow Transplantation, Memorial Sloan Kettering Cancer Center
- Board Certified: Hematology & Oncology

For complete physician bios visit: [bmtga.com/bios.htm](http://bmtga.com/bios.htm)

## YOUR CLINICAL TEAM

Core members of our multidisciplinary team have been working together since 1993. Our program's team consists of over 200 dedicated professionals who provide a wide range of clinical, educational, emotional and psychological support. Our programs' dedicated, experienced professionals are led by internationally recognized physicians in the field of blood and marrow transplant, immunotherapy and leukemia. Excellent clinical care is the driving force to develop programs that result in extraordinary outcomes.

**Physicians:** Providing overall leadership to the program, our physicians will evaluate and assess you on a daily basis. Our program is unique in that our BMT/Immunotherapy/Leukemia physicians are available and on call **24/7** to speak to you after hours, if needed.

**Advanced Practice Providers:** Work directly with our physicians to provide care for you on the inpatient unit, as well as in the outpatient setting.

**Clinical Pharmacists:** Specially trained in overseeing the safe and appropriate utilization, dosing and preparation of chemotherapy, immunosuppressive drugs, investigational agents and other medications.

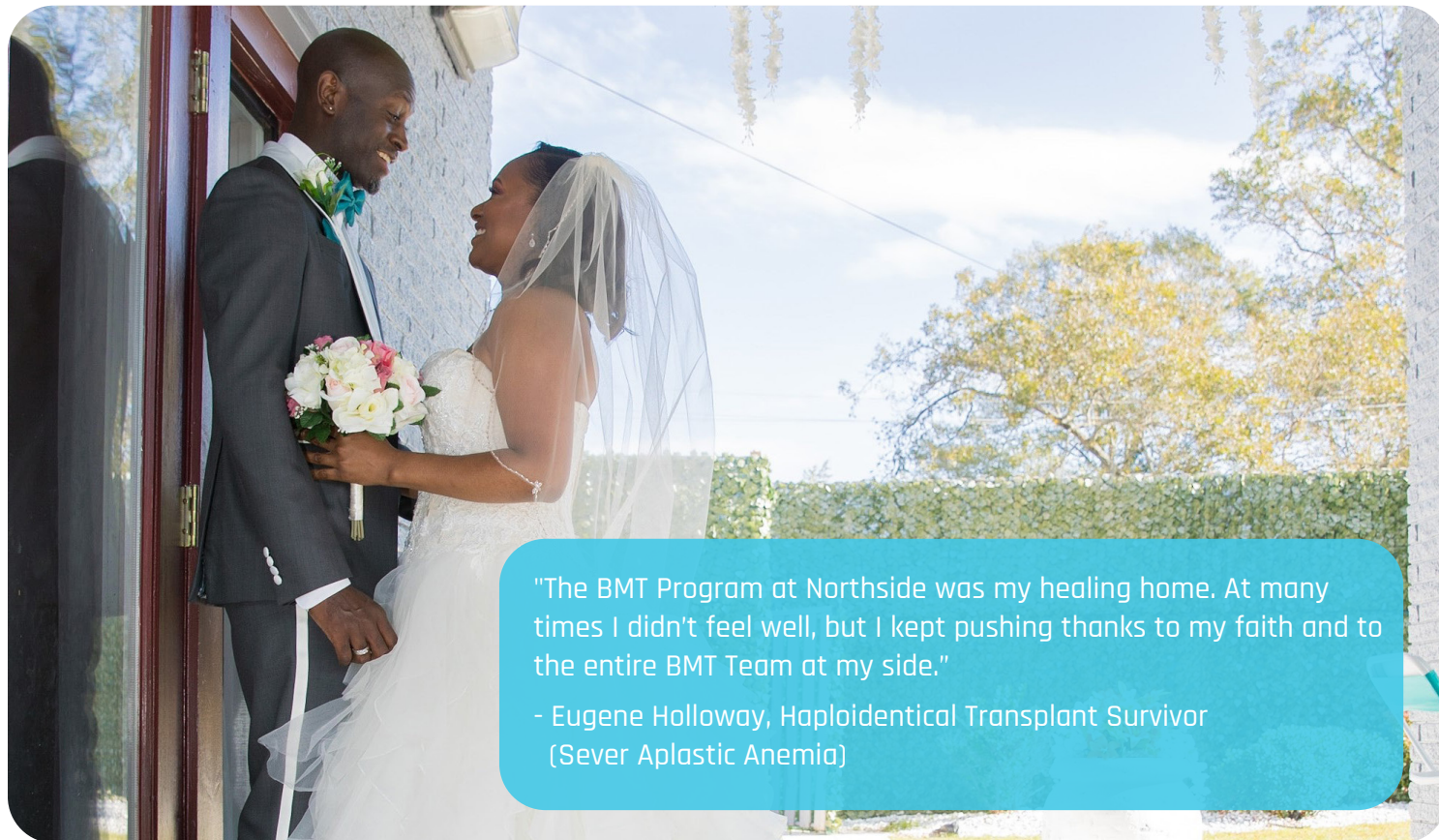
**Clinical Care Coordinators:** Registered nurses that help guide you through the transplant, leukemia, and/or immunotherapy processes. This includes educating you and your family regarding your diagnosis and plan of care, the pre and post-transplant/immunotherapy process, facilitating unrelated donor searches, assisting with insurance coverage and scheduling treatments, assessments and evaluations. Clinical care coordinators also arrange local lodging, maintain contact with your referring physician and are responsible for long-term follow-up after your treatment.

**Graft-versus-Host Disease (GvHD) Nurse:** Educates allogeneic transplant patients about recognizing signs and symptoms of this possible complication to the transplant procedure. Provides ongoing specialized assessments for GvHD.

**Physician Specialists:** Physicians specializing in intensive care, pulmonary medicine, cardiology, infectious disease, gastroenterology and other specialties collaborate with our team to provide you with the most comprehensive care possible. Specialists are trained in assisting in the management of the unique needs of our transplant, immunotherapy and leukemia patients.

**Specialty Trained Nurses:** Provide specialty nursing care to our patients. Nurses receive extensive training and demonstrate competency as defined by FACT and Oncology Nursing Society (ONS) standards and are certified in chemotherapy administration.





"The BMT Program at Northside was my healing home. At many times I didn't feel well, but I kept pushing thanks to my faith and to the entire BMT Team at my side."  
- Eugene Holloway, Haploidentical Transplant Survivor (Sever Aplastic Anemia)

## CONTINUITY OF CARE

We provide support before, during and after your treatment. Our support services staff regularly collaborates so the team meets your unique needs and delivers high quality continuity of care.

**Health Psychologist:** Offers you and your family in-depth emotional support by building upon your current coping skills and teaching you relaxation/stress management techniques.

**Social Worker:** Will support you and your caregiver throughout your treatment by collaborating with clinicians to identify and overcome treatment barriers and support any psychosocial needs you may have.

**Registered Dietitian:** Assesses your nutritional status and provides education on neutropenic diets, including meals, supplements and snacks to meet your caloric and protein needs both in the hospital and at home.

**Rehabilitation Therapists:** Available to help address cancer-related symptoms that may be causing pain, fatigue, balance issues or may limit your ability to perform routine activities.

**Palliative Care:** Available to help improve your quality of life. Palliative care can also help you and your family deal with complex decisions and cope with the side effects of medical treatments.

**Financial Coordinators:** Available through both BMTGA and the Northside Hospital Oncology Business Office to meet with you at the beginning of your treatment to assist with financial, insurance-related planning and lodging if applicable. They are available to you throughout your entire treatment.

**Hematopathology and Flow Cytometry:** Pathologists, specifically trained in hematology, support the patients in the program through expert review and rapid reporting. The Flow Cytometry Laboratory provides excellence in diagnostics and restaging, utilizing leading-edge technology in the field of molecular testing.

## PATIENT-FOCUSED CARE AND SUPPORT

Since care for our patients does not end with treatment, we provide a full range of support and survivorship resources that can aid in your recovery and improve your quality of life. We are committed to helping improve your experience and outcome by offering a variety of programs and services to guide you and your caregivers through your diagnosis and treatment, to your survivorship.

### **Lodging Options:**

For patients that require local lodging, your care team will work with you to identify appropriate lodging options.

Your team will work with you to identify appropriate lodging before the start of your treatment process. Your coordinator will assist in making your lodging arrangements that meet your personal and financial needs. Some options may include local extended stay hotels or apartments.

**Network of Hope (NoH):** When patients are facing cancer, they need a special kind of support that can only come from someone who knows what they are going through, someone who has been through it themselves. Network of Hope connects patients with specially trained survivor volunteers, who have faced cancer and embraced life afterward. The program helps foster an open environment so patients and their families feel supported and not alone. For information, please speak to your clinical coordinator or visit [northside.com/networkofhope](http://northside.com/networkofhope).

**The Blood & Marrow Transplant Information Network:** An organization dedicated to providing stem cell transplant patients, survivors, and their loved ones emotional support and access to quality information about stem cell, bone marrow and cord blood transplants. For more information visit [bmtinfont.org](http://bmtinfont.org).

**Be The Match®:** Supports patients with blood disorders through managing a registry of potential lifesaving donors. Supports clinical research and provides patient education and support through the transplant process. For more information, please visit [bethematch.org](http://bethematch.org).

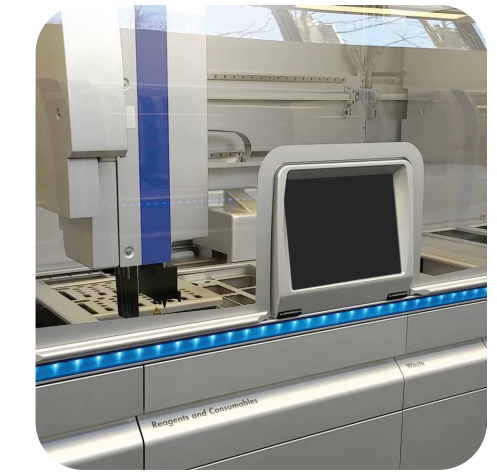




**Leukemia & Lymphoma Society®:** The world's largest voluntary health agency dedicated to curing blood cancers and improving the quality of life of patients and their families. Provides free information and support services. For more information, please visit [lls.org](https://lls.org).

**'Believing in the Miracle of Transplant' Survivor Reunion:** A celebration of our NH-BMT patients and their caregivers. This event honors the strength of all the patients, their families and friends who have been through the journey of transplant through a celebratory dinner and guest speakers at an amazing venue.

**NHCI Cancer Survivor Celebrations:** These are free events held annually to celebrate our cancer survivors, honor caregivers and remember lost loved ones. Past events have included Braves games, theater productions, survivor receptions and more.



## FACILITIES

Our state-of-the-art facilities were designed to ensure we provide you with the best care possible while also keeping you comfortable while undergoing treatment. We are continuously expanding our program resources to meet the needs of our patients, while remaining focused on delivering individualized quality care.

### Inpatient Unit

The inpatient BMT/Immunotherapy/Leukemia unit expanded its bed count and became one of the largest dedicated units in the Southeast. It was the first transplant isolation unit in Georgia that provides strict respiratory and contact precautions to reduce the risk of developing airborne infections and hospital-acquired transmitted infections.

- Restricted access HEPA-filtered unit
- Dedicated family room and exercise room
- Enhanced infection prevention practices
- Specialty-trained clinical and support staff
- Specialized therapy gym

### Outpatient Clinic

- Open 7 days a week
- HEPA-filtered infusion clinic
- Family waiting area
- Privacy rooms
- Procedure rooms and appropriate protective rooms (isolation)
- On-site pharmacy, parking and laboratory services



### Blood Donor Center and Collection Facility

Specialty apheresis nurses perform peripheral blood stem cell collections, CAR T-cell lymphocyte collection, extracorporeal photopheresis, and therapeutic apheresis procedures. In addition, collection of platelets and red blood cells are performed to support the transfusion needs of BMT and leukemia patients.

- FDA licensed & AABB accredited blood, platelet and donor stem cell collection facility
- Experienced apheresis staff performs blood stem cell collections, therapeutic apheresis and collection of blood components
- Only program in Georgia with a dedicated freestanding blood center to support the acute needs of transplant, leukemia and immunotherapy patients



### Stem Cell Processing Laboratory

- Highly specialized and trained staff with decades of combined experience
- 8000 square foot HEPA-filtered processing facility
- 24/7 days a week environmental monitoring system
- On-site processing and storage of cellular therapy products
- Laboratory specialists perform processing and storage of marrow/stem cells

## NOTES

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**NORTHSIDE  
HOSPITAL**  

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[builttobeatcancer.com](http://builttobeatcancer.com)