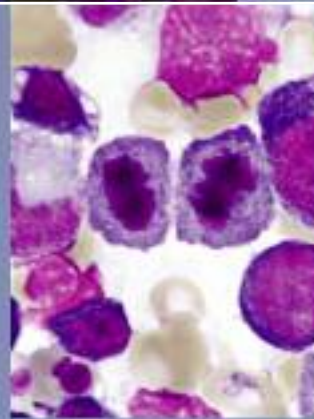


# *Northside Hospital* Blood & Marrow Transplant Program



Expertise  
Caring



**NORTHSIDE HOSPITAL**

The Blood & Marrow  
Transplant Group  
OF GEORGIA

*FOCUS ON THE PATIENTS  
COMPASSIONATE CARE  
STATE-OF-THE-ART  
DEDICATION  
EXPERTISE*

## MISSION STATEMENT

> The Blood and Marrow Transplant and Leukemia Programs at Northside Hospital are committed to excellence and strive to be the premier clinical transplant and leukemia programs in Georgia and the Southeast, providing outstanding state-of-the-art care for patients with leukemia and/or undergoing marrow and stem cell transplantation.



# OVERVIEW

The Blood and Marrow Transplant (BMT) and Leukemia Programs at Northside Hospital are recognized as the region's premier programs and ranked as one of the largest clinical transplant and leukemia programs in the Southeast United States. The program provides state-of-the-art care to patients undergoing bone marrow/stem cell transplant therapy and primary leukemia management. The newly constructed inpatient unit and outpatient center makes it the largest facility in Georgia. The BMT Program participates in trials with the National Cancer Institute's Blood and Marrow Clinical Trials Network (BMT CTN), which allows our patients access to NCI-sponsored clinical trials.

The award-winning program is led by a nationally recognized physician team who are pioneers in the field of transplantation and hematological malignancies. They are committed to excellence and providing compassionate care to patients with potentially life-threatening illnesses. Their lifelong commitment to advancements in the clinical care of patients has resulted in the program having among the lowest transplant-related complication rates within the United States.

The program's commitment to quality and excellence has received national recognition with Center of Excellence awards by major insurance companies and is the first accredited program in Georgia.

These accreditations include:

- > Foundation for the Accreditation of Cellular Therapy (FACT)
- > National Marrow Donor Program (NMDP)
- > American Association of Blood Banks (AABB)

Northside Hospital's BMT Program is designated by the National Marrow Donor Program (NMDP) as an accredited site to perform unrelated donor allogeneic bone marrow transplants. The program's commitment to quality and excellence has resulted in the honor of being the only community hospital with an award winning comprehensive adult BMT center in Georgia and one of only a handful nationally to have no significant deficiencies in the clinical program determined by the FACT accreditation process. The program's commitment to quality care is reflected in high patient and family satisfaction. The Blood and Marrow Transplant and Leukemia Programs offer:

- > Autologous stem cell transplants
- > Related and unrelated allogeneic stem cell transplants
- > Haploidentical stem cell transplants
- > Cord blood transplants
- > Primary treatment of acute leukemia
- > Access to clinical research trials

## PATIENT REFERRALS

TELEPHONE 404.255.1930; FAX 404.255.1939

A referring physician may contact the Blood and Marrow Transplant and Leukemia Programs to either discuss a potential referral with a physician, arrange a consultation or arrange for a hospital-to-hospital transfer by calling (404) 255-1930. The transplant and leukemia coordinators will facilitate the consultation process with the referring physician's office and the patient. The patient and family will be sent educational information in advance of the scheduled appointment. Following the comprehensive consultation, a treatment recommendation will be reviewed with the referring physician. Acute leukemia patients can be set up for a direct admission to the inpatient unit or a hospital-to-hospital transfer seven days a week.

## THE LEUKEMIA PROGRAM AT NORTHSIDE

The Leukemia Program at Northside Hospital provides comprehensive, state-of-the-art services for adult patients with acute and chronic leukemia. The elite physician led team is among the most experienced in the nation. Care of the acute leukemia patient can be complex and requires specialized care and support services. The Leukemia Program at Northside Hospital offers patients:



- Prompt evaluation and diagnosis
- Access to innovative clinical research trials
- Dedicated staff specialized in care of patients with leukemia
- Specialized inpatient unit designed for unique needs of leukemia patients
- Blood bank and a dedicated blood donor center to fully support specialized transfusion requirements
- Access to state-of-the-art blood and marrow transplant program
- On-site Flow Cytometry and Hematology Laboratory
- Access to on-site urgent apheresis support

The Leukemia Program at Northside Hospital conducts an interdisciplinary meeting weekly to review all new and current patient cases. This innovative meeting uses an interactive approach where clinical pathologists, leukemia physicians, health psychologist, nurses and ancillary support staff complete an in-depth review. Each patient's case is reviewed and discussed in an interdisciplinary approach to provide a comprehensive treatment plan to maximize outcomes.

One of the many benefits of being a patient in the Leukemia Program at Northside is the early access to treatment in the Blood and Marrow Transplant Program. If transplant is an option, it is imperative that patients are identified early so that the donor identification process can begin. If a patient does not have a matched sibling, early identification of a suitable unrelated matched donor is essential. Our clinical team works seamlessly to ensure patients can be offered a transplant at the earliest possible time frame to obtain the best survival outcomes. The Leukemia Program at Northside is one of only a few programs in the United States where the leukemia and bone marrow transplant program is fully integrated providing state-of-the-art care with compassion and excellence. Survival outcomes remain consistently above national averages because of this integration.

## THE BLOOD AND MARROW TRANSPLANT & LEUKEMIA PROGRAM

The Blood and Marrow Transplant and Leukemia Programs operate seven days a week, 365 days a year and provide patients with a team-based approach, which includes a health psychologist, dietitians and physical therapists. "Our program is completely patient-focused," explains Dr. Kent Holland, the BMT Program Medical Director and one of its four transplant and leukemia physicians. "One of our goals is to give the patient much more control over their daily existence. Psychologically that's very important, especially when treatment can go on for several months."

The BMT and Leukemia Programs develop innovative research protocols and collaborate with other major transplant and leukemia programs including the Johns Hopkins Program, giving patients access to some of the newest therapies available. "This collaboration means we have the opportunity to put our patients on cutting edge clinical research protocols," explains Dr. Holland. Studies with Johns Hopkins have included new drugs and biologic agents to treat leukemia. This collaboration gives patients, who would otherwise

# FOCUS ON THE PATIENTS

not have a donor, the opportunity for allogeneic transplantation using partially-matched family donors. The BMT Program also participates in the National Cancer Institute (NCI) sponsored Bone Marrow Transplant Clinical Trials Network (BMT CTN) and Cancer and Leukemia Group B (CALGB), conducting research trials as part of a collaborative group.

In addition, because of its accreditation, The Blood and Marrow Transplant Program has direct access to the National Marrow Donor Program (NMDP). Through the NMDP both national and international donor registries can be searched to locate a suitable matched unrelated donor or cord blood unit. With NMDP access and participation in clinical research trials with partially-matched related donors, the likelihood of finding a donor is very high.

The physicians recognize the family dimension when a patient is undergoing a long course of treatment for transplant - leukemia therapy. A physician is on-call 24 hours a day. While nearly all transplant and leukemia patients will spend some time in the hospital, the outpatient center allows patients more freedom and control during treatment.

“Because our primary focus is on the patients, we’re able to be much more innovative in their care, both in the hospital and in our outpatient center;” says Holland. “Although it creates additional work for the physicians and the staff, it has improved the quality of the patient’s overall experience when going through a transplant. In particular, we have been able to significantly reduce the morbidity and mortality rates of our patients through a comprehensive clinical care approach. The results include improved psychological sense of well-being and better physical activity and diet, which translate into fewer complications for the patient.”

## DISEASES TREATED

Diseases, which are treatable with bone marrow transplantation, include:

- > Leukemia
- > Non-Hodgkin’s lymphoma
- > Hodgkin’s disease
- > Multiple myeloma
- > Myelodysplastic syndrome
- > Aplastic anemia
- > Other blood and solid tumor diseases (including gynecologic tumors, germ cell and testicular cancer)



“ I can just remember my doctor saying, look, you are a person. You’re not a statistic. The whole staff, they encouraged me throughout. And they gave me hope. ”

*Laurie, leukemia patient & bone marrow transplant recipient*

## CLINICAL TREATMENT PROTOCOLS

The Blood and Marrow Transplant and Leukemia Programs at Northside Hospital participate in numerous clinical trials and pioneer hematopoietic stem cell therapy to enhance treatment options, including:

- > Clinical treatment protocols for leukemia, lymphoma, myelodysplastic syndrome and multiple myeloma
- > Expanded access to allogeneic transplants to patients without matched sibling or unrelated donors by utilizing cord blood and partially HLA matched family donors
- > Use of reduced intensity/non-myeloablative strategies to optimize treatment outcomes in certain high risk populations
- > Clinical treatment protocols for minimizing and treating acute and chronic graft versus host disease (GVHD) for patients receiving related and unrelated transplants
- > Monoclonal antibody therapies for selected diseases
- > Array of clinical trials to treat acute leukemia patients

## THE FACILITIES

### INPATIENT HOSPITAL UNIT

In 2010, the inpatient bone marrow and leukemia unit expanded to 36 beds and is the largest dedicated unit in the Southeast. It is the only transplant isolation unit in Georgia that provides strict respiratory and contact precautions to reduce the risk of developing airborne infections and nosocomially transmitted infections. The unit includes a family room and an exercise room to help promote activity, physical therapy and independence. The highly specialized and experienced nursing staff receive extensive formal training in the care of patients with leukemia and stem cell transplantation, including continuing professional education throughout the year. The facility incorporates Northside's support services, which includes a Hematopoietic Stem Cell Processing Laboratory and a Flow Cytometry Laboratory. Northside also has a newly constructed 28-bed intensive care unit.

### OUTPATIENT CLINIC

- > The largest dedicated leukemia and transplant clinic in Georgia that provides HEPA-filtered air in the patient care area to reduce the transmission of airborne infections.
- > The treatment center has a large and comfortable infusion center, private negative pressure isolation rooms, on-site pharmacy, examination rooms, procedure rooms, family waiting area and consultation conference rooms.
- > Comfortable patient lounge chairs, hospital beds for patients requiring prolonged day-care.
- > Weekend and holiday outpatient care.
- > Individual television and portable DVD's are provided at each patient station area.
- > Patient drop-off area with adjacent covered parking.

# STATE-OF-THE-ART

## BLOOD DONOR CENTER

The technologically advanced patient and donor apheresis center has experienced apheresis personnel who perform peripheral blood stem cell collections, therapeutic apheresis procedures and collection of blood components by automated methods. Inpatient procedures (PBSC collections and therapeutic apheresis procedures) are performed at Northside Hospital. The facility is FDA-registered, CLIA-licensed and has been accredited by AABB and FACT.

Transplant and Leukemia patients require numerous blood transfusions during their acute care phase. Due to national blood shortages, the program has a dedicated blood donor center supported by normal volunteer donors in the community. It is the only program in Georgia that has a dedicated free standing blood donor center.

## HEMATOPOIETIC MARROW/STEM CELL PROCESSING LABORATORY

The entire technologically advanced GMP stem cell processing laboratory, staffed by experienced medical technologists, is HEPA-filtered to reduce the transmission of airborne infections. The laboratory performs auto, allo and unrelated stem cell processing, including CD 34 selection, T-cell depletion and adoptive immunotherapy procedures. CD34+ selection is performed using state-of-the-art technology (Isolex 300i and CliniMACS systems). The facility is state licensed and accredited by AABB and FACT.

## THE PHYSICIANS

Our elite multidisciplinary team of highly skilled transplant physicians is internationally recognized in the field of bone marrow/stem cell transplantation therapy. Our physicians, each with more than a decade of transplant experience, have been trained at and on the faculty of centers such as National Institute of Health, Johns Hopkins, Memorial Sloan-Kettering Cancer Center, University of California, San Diego, the Hammersmith Hospital in London and Emory University School of Medicine. The BMT Program at Northside has a team with some of the most experienced physicians in the United States. Patients are treated and seen by only attending physicians. There are no medical students or residents participating in the program.

Physicians of the BMT program were the first in Georgia to perform matched unrelated donor transplants, cord blood transplants, haploidentical alternative donor transplants, procedures using donor cells as cellular immunotherapy and purify autologous stem cells for transplantation therapy. These physicians are leaders in their field and continue to publish original research in areas such as prevention of graft-versus-host disease, treatment of infectious disease complications, processing stem cells, new treatments for leukemia and supportive care therapies.

## THE TEAM

Core members of the Blood and Marrow Transplant Program have been working together as a transplant team since 1994. The transplant team consists of more than 168 experienced professionals dedicated to the total care of patients. Patients are seen by a multidisciplinary transplant team, including a transplant physician, on a daily basis.



Responsibilities of team members include:

#### PHYSICIANS

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Provide overall leadership to the program; develop patient treatment plans; manage the clinical care of patients in the hospital and in the outpatient setting; develop innovative clinical treatment protocols and evaluate and assess patients on a daily basis. A transplant physician is available on call 24 hours a day, seven days a week.

#### TRANSPLANT AND LEUKEMIA COORDINATORS

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Coordinate new patient referrals; educate patients and their families regarding the transplant process and/or leukemia treatment; facilitate national and international unrelated donor searches; assist patients in obtaining insurance coverage approval; schedule patient assessments and evaluations; maintain contact with the referring physician's office; and arrange local accommodations and long term follow-up with patients after transplantation.

#### NURSE PRACTITIONERS/PHYSICIAN ASSISTANTS

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Work directly with the physicians in providing patient care and assessments on the inpatient Bone Marrow Unit and in the Outpatient Clinic. They participate in new patient consultations; take histories, perform physical exams and diagnostic procedures; provide patient and family teaching; ensure required testing is performed as per protocols; and monitor patient outcomes to ensure timely intervention.

#### NURSE MANAGER, INPATIENT BMT/LEUKEMIA UNIT

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Supervises day-to-day operations of the BMT Unit and coordinates multidisciplinary team conferences with the inpatient team.

#### NURSES, INPATIENT AND OUTPATIENT

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Provide specialty nursing care to BMT and leukemia patients. Nurses receive extensive training and demonstrate competency as defined by FACT and Oncology Nursing Society (ONS) standards. Nurses are certified in chemotherapy administration by the ONS.

#### CLINICAL BMT-PharmD'S

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Oversee the safe and appropriate utilization, dosing and preparation of chemotherapy, immunosuppressive drugs, investigational agents and other medications. Clinical BMT PharmD's participate in inpatient and outpatient rounds daily with the physicians.

#### HEALTH PSYCHOLOGIST

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Monitors patient's cognitive and emotional status; offers patient and family in-depth emotional support; and assesses and teaches coping skills and relaxation/stress management techniques.





## CRITICAL CARE SPECIALISTS

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Physicians specializing in intensive care, pulmonary medicine, cardiology, gastroenterology and other specialties collaborate with the transplant team to provide patient care.

## REGISTERED DIETITIAN

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Assess the patients' nutritional status; and educate patients on neutropenic diets, including meals, supplements and snacks to meet caloric and protein needs in the hospital and at home.

## DATA COORDINATORS/IT ANALYSTS

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The data coordinators and IT analysts work collaboratively to maintain a comprehensive database of all patients consulted at our center. The data coordinators are responsible for collecting detailed information on all patients transplanted. This data is reported to the CIBMTR (Center for International Blood and Marrow Transplant Research) and the NMDP (National Marrow Donor Program). The Data IT Analysts provide key support to maintain and upgrade our program database to maximize efficiency in patient care.



## CLINICAL RESEARCH STAFF

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Clinical research nurses and associates work collaboratively with the BMT and Leukemia team under the direction of a physician and in conjunction with the Central Research Office at Northside Hospital. The program works with other major transplant and leukemia centers, clinical trials networks and biotechnology companies to provide patients with access to promising investigational therapies. The staff is accountable for maintaining compliance with regulatory agencies that oversee the practice of clinical research.

## MARROW/STEM CELL PROCESSING LABORATORY STAFF

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Laboratory specialists perform processing and storage of human marrow/stem cells.

## BLOOD DONOR CENTER

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Specialty apheresis nurses perform peripheral blood stem cell collections and therapeutic apheresis procedures. In addition, collection of platelets and red blood cells is performed by experienced staff to support transfusion needs of BMT and leukemia patients.

## FINANCIAL COORDINATORS

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Financial coordinators are available through both the physician office and Northside Hospital. Patients will meet with both the Northside Hospital and physician financial coordinators at the beginning of the transplant/leukemia process to assist with financial and insurance-related planning. Financial coordinators are available throughout the entire transplant process.

## QUALITY IMPROVEMENT/ASSURANCE PROGRAM STAFF

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This staff implements a comprehensive QI program that encompasses the clinical transplant program (inpatient and outpatient) and the hematopoietic stem cell collection and processing facilities.

## ACCREDITATIONS

### JOINT COMMISSION ON ACCREDITATION OF HEALTHCARE ORGANIZATIONS (JCAHO)

A private, not-for-profit organization, JCAHO is the nation's principal standard setter and evaluator of a variety of healthcare organizations. JCAHO is dedicated to improving the safety and quality of care provided to the public. Through a data-driven, standards-based process, organizations design and continuously improve the delivery and quality of healthcare services to their community. Achieving and sustaining Joint Commission accreditation communicates to the public that the organization is committed to the highest quality of care and services and that customer satisfaction is their priority.

### THE FOUNDATION FOR THE ACCREDITATION OF CELLULAR THERAPY (FACT)

The Blood and Marrow Transplant Program at Northside Hospital was the first program in Georgia to complete inspection and obtain full accreditation by FACT. It is the only full service program in Georgia and one of only a few nationally to have received no clinical deficiencies on consecutive accreditation inspections.

FACT is a not-for-profit organization developed by physicians and scientists who are members of the International Society of Hematotherapy and Graft Engineering (ISHAGE) and the American Society of Blood and Marrow Transplantation (ASBMT) to assess and accredit facilities competent in the field of hematopoietic cell therapy. Facilities seeking accreditation do so voluntarily to demonstrate that they have met the minimum strict FACT standards of quality medical and laboratory practice.

These standards apply to all aspects of hematopoietic cell therapy, including clinical patient care, progenitor cell collection services and/or cell processing laboratory and transplantation. FACT applicants must complete a comprehensive self-assessment survey and undergo a thorough on-site inspection by experts trained and experienced in the portion of the program to which they are assigned. FACT promotes the highest standards of patient care and safety and preserves and fosters each institution's ability to perform research to advance the field of hematopoietic cell therapy.



# DEDICATION

### THE NATIONAL MARROW DONOR PROGRAM (NMDP)

The Blood and Marrow Transplant Program at Northside Hospital is an accredited member of the National Marrow Donor Program as both a transplant center and as a donor collection center.

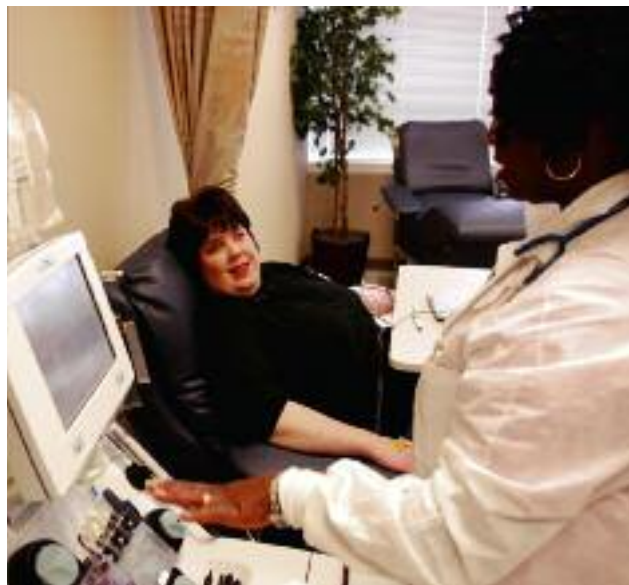
NMDP is a nationwide registry with international relationships that facilitates unrelated marrow transplant for patients with life-threatening blood diseases. More than 11 million donors are on the registry. The transplant coordinators at Northside Hospital communicate directly with the NMDP to identify potential donors and to coordinate the transplantation of collected donor marrow or stem cells. As an accredited NMDP transplant center and marrow collection center, Northside Hospital successfully meets the comprehensive criteria established by the NMDP for the transplant and collection physical facility, the transplant and collection team, administration, operating procedures and support services.

### AMERICAN ASSOCIATION OF BLOOD BANKS (AABB)

The Hematopoietic Stem Cell Processing Laboratory at Northside Hospital is accredited by the AABB. The facility was the first in Georgia to be inspected by both the AABB and by FACT. The Hemapheresis Program of the blood donor center is also accredited by the AABB.

### CLIA AND FOOD AND DRUG ADMINISTRATION (FDA)

The blood donor center is registered by the FDA and licensed by CLIA, setting strict criteria for quality control of human blood products.



## PATIENT SUPPORT

### SURVIVORSHIP

In 2008, the Blood and Marrow Transplant Program at Northside Hospital held its first Survivors Reunion, themed Believing in the Miracle of Transplant. More than 500 guests attended this celebration, which included more than 150 patients, some of whom were 10 years post transplant. This commemorative event truly was embraced by both staff and patients. At this event, the Network of Hope for transplant patients was launched. The Network of Hope connects current patients with survivors of similar background (diagnosis, age, type of transplant) to have an opportunity to learn about the transplant experience from a patient's perspective.



### LODGING OPTIONS

Knowing that local lodging can be a significant stress for patients and caregivers, the BMT and Leukemia Programs at Northside Hospital offer patients and their caregivers several lodging options. Local discounted hotel suites are available as well as complimentary lodging from the American Cancer Society-Hope Lodge. Several fully furnished corporate apartments donated and managed by a local church group, the Stovall Foundation, are also available. Coordinators assist patients in finding the best lodging option, guiding each patient and their family through the process to meet their needs.



“ My doctor said, ‘You really need a leukemia specialist and the best in the country is right here at Northside.’  
I don’t think I would have survived anywhere else. ”

*Howie, leukemia patient & bone marrow transplant recipient*

## NORTHSIDE HOSPITAL CANCER INSTITUTE

The Northside Hospital Cancer Institute is approved as a comprehensive community hospital Cancer Program by the American College of Surgeons Commission on Cancer.

Northside Hospital has one of the largest community cancer institutes in the Southeast, with more than 4,400 cancer cases annually. Along with the Blood and Marrow Transplant and Leukemia Program, specialty services include a Prostate Care Treatment Program, as well as, a comprehensive Women's Oncology Service. More men are treated for prostate cancer and more women are diagnosed/treated for breast and gynecologic cancers at Northside Hospital than any hospital in Georgia.

Northside Hospital is one of eight Atlanta area hospitals that make up the Atlanta Regional CCOP (Community Clinical Oncology Program). This program is funded by the National Cancer Institute (NCI) to make oncology clinical trials available to the community. Through the CCOP industry sponsored and university based trials, Northside Hospital has access to more than 70 clinical trials.

Dedicated to community outreach, Northside Hospital orchestrates, sponsors and participates in numerous events, including: health fairs; skin cancer, prostate cancer and mobile breast cancer screenings; cancer survivor celebrations; fundraising walks and community health education programs. As an NCI Community Cancer Centers Program (NCCCP), Northside provides patients the latest in national research with state-of-the-art care and a patient-centered approach.



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