

Renewing Health, Restoring Hope



Nicklaus  
Children's  
Hospital

Cancer & Blood Disorders Center

When a child is diagnosed with a serious illness such as cancer or a blood disorder, the world comes to a standstill for the entire family. Little things that seemed so important just days before suddenly fade to insignificance. Every ounce of the family's focus is on the child and his or her care.

At the Cancer and Blood Disorders Center at Nicklaus Children's, families confronting a child's critical illness are matched with an expert care team that shares their passion and commitment to finding a cure.

We are here to collaborate through every step of your child's care journey. Our mission: Renewing Health. Restoring Hope.



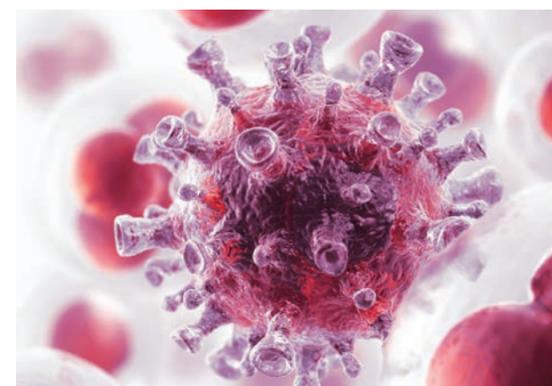


## The Region's Leader in Caring for Children with Cancer and Blood Disorders

The Cancer and Blood Disorders Center at Nicklaus Children's Hospital is the region's leading program for the care of children with cancer and hematologic disorders. It provides state-of-the-art intervention and management for more pediatric cancer patients than any other facility in South Florida, offering a level of clinical experience and patient-focused support that is unmatched in the region.

**Medical Leadership:** The nine-member private practice hematology-oncology medical team has extensive training and decades of clinical leadership, some clinicians with 10, 20 and even 30 or more years of experience. This highly specialized group collaborates to offer the latest interventions and research protocols to support the care of children in need. The hematology-oncology team oversees care throughout the continuum, including intervention, inpatient care and outpatient post-treatment monitoring.

**Comprehensive Support:** Services of the center include comprehensive diagnostics, treatment and ongoing management and monitoring for children with a full range of cancer and blood disorder diagnoses. Children with these conditions have unique physical, emotional and psychological needs. They require the highest level of medical expertise and personalized support from their physicians and staff – a level of care proudly offered at Nicklaus Children's Hospital.



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## A Multidisciplinary Team Approach to Care

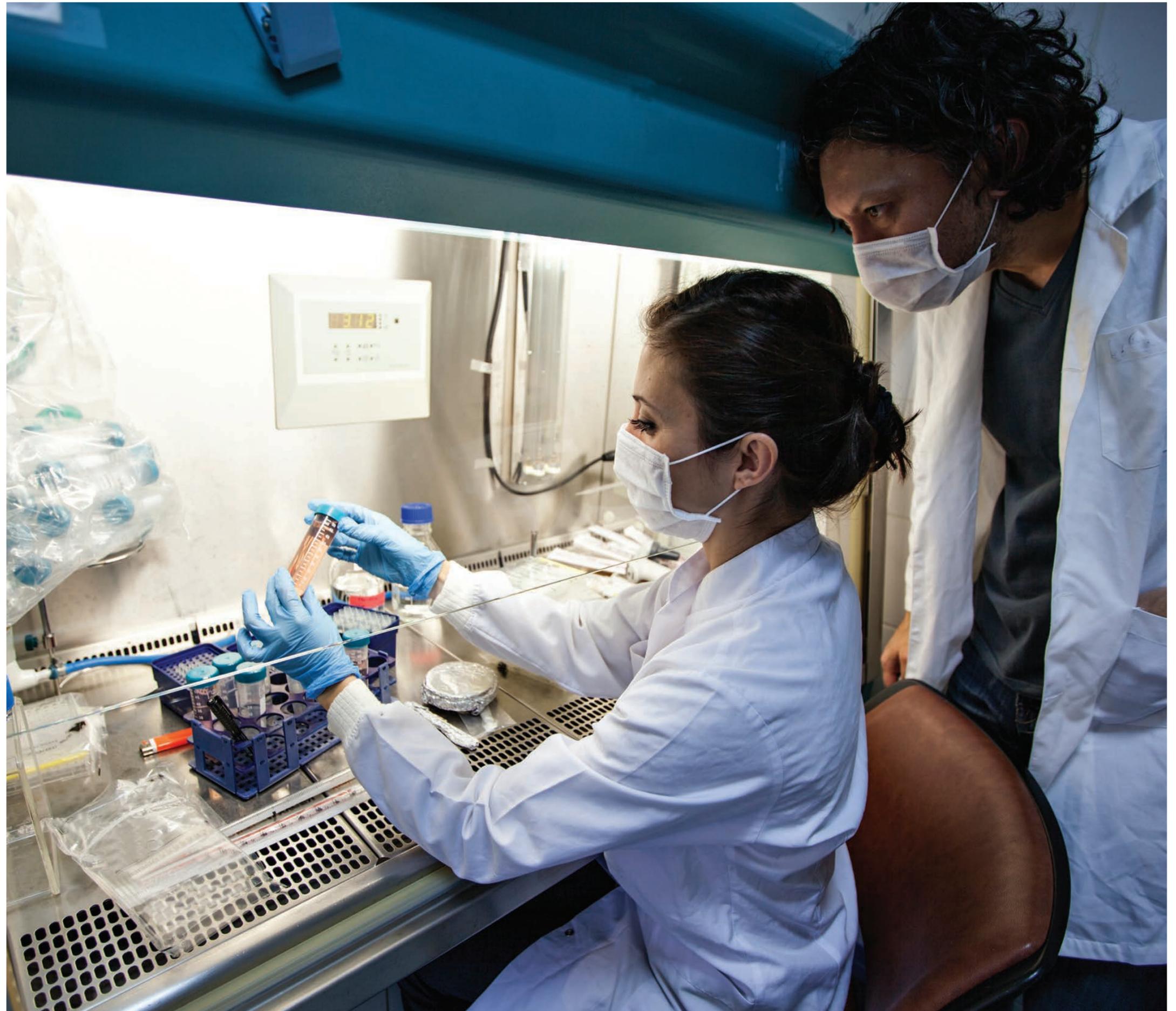
The Cancer and Blood Disorders Center is recognized for a multidisciplinary, holistic approach to care that places the child and family at the center of a highly coordinated network of specialists who work together to anticipate and meet the needs of the child and family throughout treatment and follow-up care. When families arrive at the center, they benefit from knowing that an entire team of pediatric cancer specialists is putting their needs and the needs of their child first. A nurse navigator helps guide the patient family throughout the treatment, providing a single point of contact for validating next steps and sharing questions and concerns.

The Cancer and Blood Disorders Center team includes the following pediatric specialists:

- Oncologists/hematologists
- Radiologists
- Pathologists
- Neurosurgeons
- Pediatric surgeons
- Orthopedic surgeons
- Pain management specialists
- Radiation therapy specialists
- Specially trained hematology/oncology nurses
- Clinical nurse specialists
- Nurses and nurse practitioners
- Nurse navigator
- Dietitians
- Pharmacists
- Rehabilitative specialists
- Social workers
- Child life specialists
- Psychiatry and psychology specialists
- Spiritual counselors

In addition, when your child receives care at Nicklaus Children's, *our entire* team of pediatric subspecialists is available to serve you – including gastroenterologists, ophthalmologists, orthopedists, neurologists, reconstructive surgeons, infectious disease specialists, nephrologists and more, as well as specialists to help with rehabilitation, nutrition and any other care issues that may arise.

As part of its commitment to meeting each child's needs, the center has developed specialty programs for children with bone marrow transplantation-related conditions, brain tumors, "late effects" of cancer treatments, sickle cell anemia, palliative care, histiocytosis, cancer genetics, and clotting and hypercoagulability disorders.





## The Region's Largest Provider of Clinical Research for Pediatric Cancer Treatment

**Clinical Research:** The Cancer and Blood Disorders Center at Nicklaus Children's is engaged in more than 100 clinical research studies, focused on finding new cures, treatments and diagnostic procedures for pediatric malignancies. Nicklaus Children's is the only hospital in the region to feature such a wide array of clinical trials for children's cancer care. The center offers its patients unparalleled hope, including the latest drug treatments, medical devices, biotechnology and other technological innovations in the fight against pediatric cancer.

**COG Membership:** The Cancer and Blood Disorders Center is recognized as a full member of the prestigious Children's Oncology Group (COG), a nationally funded consortium of pioneering physicians and institutions. Maintaining this standing involves not only participation in and adherence to multi-center research protocols, but also submission of accurate and timely data, which are the key measures that support cutting edge research. The center has also been awarded a grant by the National Cancer Institute to advance cancer research. In addition, members of the team share their knowledge through publication of research findings and presentations to national societies of physician scientists.

**Emerging Treatments:** Nicklaus Children's has been selected as a collection and treatment site for the much-anticipated immunotherapy drug, Kymriah. This treatment uses the patient's own immune cells and modifies them to target leukemia cells. Once modified, the immune cells are then reinfused into the patient to destroy the cancer cells.

**Personalized Medicine:** In addition, Nicklaus Children's Personalized Medicine Initiative supports medicine delivery specific to each child's unique physiologic needs.

## Cancer and Blood Disorder Comprehensive Programs

Individual cancers and blood disorders require the focus of highly experienced teams with specialized expertise. The Cancer and Blood Disorders Center at Nicklaus Children's offers a range of multispecialty programs to serve children with a full spectrum of cancer and blood disorder diagnoses. These teams offer the latest treatment modalities, always with a focus on the best long-term results and minimization of possible late side effects.

**Blood and Marrow Transplant Program:** The Blood and Marrow Transplant Program at Nicklaus Children's Hospital is South Florida's first and most experienced care provider for children requiring bone marrow, cord or peripheral blood stem cell transplantation. Bone marrow transplantation aims to cure patients with cancers of the blood, including leukemias and lymphomas, as well as sickle cell disease, thalassemia, anemias, metabolic-storage diseases and more.

The program offers a full range of transplant types, including autologous (from the patient's own stem cells), allogeneic from related and unrelated donors, cord blood and haploidentical stem cell transplants.

Established in 1991, the program is accredited by the Foundation for the Accreditation of Cellular Therapy (FACT) for all aspects of blood or marrow transplantation.

**Leukemia and Lymphoma Program:** Leukemia is the most common pediatric malignancy. The Leukemia and Lymphoma Program offers a full spectrum of care, including diagnosis, gene sequencing, targeted therapy, immunotherapy – including chimeric antigen receptor (CAR) T-cell therapy – and stem cell transplantation. Conditions treated by the program include acute lymphocytic leukemia (ALL), acute myeloid leukemia (AML) Hodgkin's lymphoma (HL), non-Hodgkin's lymphoma (NHL) and chronic myelogenous leukemia (CML).

**Immuno-Oncology Program:** Vaccine therapy, targeted therapy and immunotherapy are new modalities of treatment that spare the patients many of the undesired side effects from conventional chemotherapy. Harnessing the patient's immune system to identify and attack the tumor can destroy all residual tumor cells and decrease the risk of a recurrence.

**Sarcoma and Solid Tumor Program:** This program provides care for children with any type of solid tumors, including soft tissue sarcomas or malignant bone tumors, primarily osteosarcoma, Ewing's sarcoma and other bone malignant tumors. For bone sarcomas, the orthopedic surgical team

engages one of the region's most experienced oncological orthopedists to remove pediatric tumors and reconstruct extremities using the most advanced limb preservation techniques available. The team is one of the few in the region to utilize oncological prostheses for limb salvage that make it possible for a child's leg to grow through a series of nonsurgical adjustments. The team also coordinates rehabilitative care. When surgery is indicated for soft tissue sarcomas, the program collaborates with the Department of Pediatric Surgery, one of the most experienced surgical teams in the state, for tumor removal. Additional treatments may include interventional radiology, radiation therapy and chemotherapy under the guidance of a highly experienced collaborative team.

**Neuro-Oncology Program:** The Neuro-Oncology Program at Nicklaus Children's incorporates a multidisciplinary team, including neuro-oncology, neurosurgery, neuro-radiology, radiation oncology and other specialists who contribute to the diagnosis and treatment of all types of benign or malignant brain tumors.

The Cancer and Blood Disorders Center works closely with the Nicklaus Children's Brain Institute – consistently ranked among the top programs in the nation for pediatric neurology and neurosurgery – to provide the highest quality care for children with brain tumors. Following appropriate surgical intervention, treatment with chemotherapy or radiation therapy may be required. Proton beam radiation is available for brain tumor patients who require radiotherapy. Stem cell transplantation is used in young infants to avoid the use of radiation when possible. The latest clinical trials and innovative treatments are provided.

The Brain Tumor Clinic is comprised of a multidisciplinary team that meets regularly to evaluate brain tumors and address psycho-social and cognitive issues as well as medical needs. Complimentary and integrative therapies are incorporated in the treatment.

**Hemophilia Treatment Program:** This program offers comprehensive care for patients with hemophilia, von Willebrand disease and rare bleeding disorders in accordance with National Hemophilia Foundation guidelines. Services include consultations with a multispecialty team, including a hematologist, orthopedic surgeon, psychologist, social worker and dentist to manage care needs. In addition, the program coordinates services with social work, physical therapy and imaging teams as needed. Educational programs to empower patients and families in the care and management of the child are incorporated into the program.

**Sickle Cell/Hemoglobinopathies Comprehensive Care Program:** This program has been providing care for children from birth to age 21 with blood disorders since 1989. More than 250 patients with sickle cell disease and other hemoglobinopathies are cared for on a regular basis.



Children with sickle cell disorder are monitored closely and receive comprehensive management, integrating all specialties required to support care, including cardiology, pulmonology, nephrology, ophthalmology, endocrinology, gastroenterology, orthopedics, neurology, behavioral medicine, pain management and psychiatric care.

Preventive measures offered through the program include immunizations, prophylactic antibiotics and vitamins. Transcranial doppler studies are routinely performed to assess patients at risk of stroke so that interventions can be initiated when indicated.

Services of the center include genetic counseling, patient and family education, hypertransfusion/exchange transfusion management and hydroxyurea treatment. Consultations with the blood and marrow transplant team are begun early in the care plan to ensure that a dialogue is maintained and transplants are initiated when indicated.

**Survive and Thrive Program:** More than 80 percent of children diagnosed with cancer are cured, joining the ranks of long-term childhood cancer survivors. Most long-term childhood cancer survivors experience chronic conditions related to the treatment they received. Potential late side effects may include heart and lung complications, secondary cancer, hormone disorders, learning disabilities, vision/hearing problems and infertility. Survive and Thrive is designed to help pediatric cancer survivors optimize their health and quality of life.

## A Supportive Environment of Care

Children who are hospitalized during the course of their care receive treatment in Nicklaus Children's Hospital's 40-bed dedicated Hematology/Oncology Unit located in the Advanced Pediatric Care Pavilion, a state-of-the art facility offering a family-friendly care environment and the latest technology. The unit includes seven blood and marrow transplant beds.

The unit features 300-square-foot private care rooms with ample space for parents and family members, including a fold-out double bed for parent overnight stays. The unit also offers a family lounge space and a play room for patients.

Other highlights include pet therapy and child life specialists who spend time with each child daily to ensure his or her emotional and recreational needs are met.

## Nicklaus Children's Hospital Cancer and Blood Disorders Center Services

The Cancer and Blood Disorders Center brings together renowned services from throughout Nicklaus Children's Hospital to collaborate in the care of children with complex medical needs.

### Cancer Surgical Services

The Cancer and Blood Disorders Center team incorporates the region's leading surgeons, including pediatric general surgeons, orthopedic surgeons and neurosurgeons who practice at Nicklaus Children's Hospital.

**Pediatric Surgery:** Private practice board-certified surgeons from the hospital's Department of Pediatric Surgery are the region's most experienced in surgical methods for managing solid tumors in the abdomen, chest, head, neck and extremities, including diagnostic and excisional biopsies. The team uses the newest minimally invasive technologies as well as robotic surgery to minimize surgical-associated pain and recovery.

**Orthopedic Surgery:** For tumors involving the musculoskeletal system, the hospital's Department of Orthopedic Surgery offers full evaluation and treatment. The department is the region's most experienced in the removal of tumors of the musculoskeletal system, including limb salvaging and reconstruction. When growth plates are affected, the team uses special rods to enable a child's leg to grow through a series of nonsurgical adjustments. The department also coordinates rehabilitative care.

**Neurosurgery:** The Nicklaus Children's Division of Neurosurgery supports the diagnosis and treatment of disorders of the nervous system, including tumors of the brain and spinal cord. The division's neurosurgeons are nationally recognized leaders in the field and are the only physicians in the region to be certified by the American Board of Pediatric Neurological Surgery. The team utilizes the latest neurosurgical technology, including intraoperative MRI, and neuro-navigational systems to support optimal surgical results.

### Pharmacology Services

The Cancer and Blood Disorders Center team includes dedicated clinical pharmacists from the hospital's inpatient pharmacy department. The pharmacist accompanies the Cancer and Blood Disorders Center team on daily inpatient rounds and provides counseling to families regarding medication use and administration before they go home.

The pharmacist is just a phone call away for patients once they are home, offering ongoing support as needed.

### Pathology and Lab Services

The Department of Pathology and Laboratory Services at Nicklaus Children's is a state-of-the-art facility that serves as the leading provider of pathology and lab services for children in the region. The team offers a comprehensive list of cytogenetic (study of chromosomes and related diseases caused by abnormalities) studies, including routine chromosome analysis of peripheral blood and other tissue.

### Radiology Diagnostic and Follow-up Services

The Department of Radiology at Nicklaus Children's offers a level of experience that makes it a regional leader in pediatric oncological diagnosis and follow-up evaluation. The department offers a full range of imaging services, featuring state-of-the-art equipment, including multidetector computed tomography (CT), magnetic resonance imaging (MRI), nuclear medicine, single photon emission computerized tomography (SPECT), positron emission tomography (PET) and PET CT, ultrasound and general diagnostic radiology. For children who must undergo repeated imaging over time, the focus is on minimizing radiation exposure to support the child's well-being.

### Radiation and Proton Therapy Services

Radiotherapy is an integral part of a multidisciplinary cancer treatment program. Radiation therapy can be prescribed as a sole treatment. It can also be combined with surgery or chemotherapy to enhance treatment. Also available is proton therapy, a form of radiation therapy for cancer that offers highly targeted treatment with a reduced risk of side effects. As part of a collaboration between Nicklaus Children's Hospital and Baptist Health South Florida, radiation and proton therapy services are offered by the Miami Cancer Institute on the main campus of Baptist Hospital in Kendall.

### The Pediatric Comfort Care Team

The Pediatric Comfort Care Team at Nicklaus Children's is specialized in providing comfort and support for children with serious illnesses and their families. The team's goal is to enhance quality of life by providing the child relief from symptoms of serious illness, and reducing stress for the entire family. The Pediatric Comfort Care Team has expertise in pediatric palliative care and palliative medicine. Palliative care is comfort care to relieve symptoms of disease and side effects of treatments. In short, it helps the child and family gain strength to move forward with daily life.

### Social Services

Due to the enormous impact a cancer diagnosis has in the life of a patient and his or her family, a team of social workers is an integral part of the Cancer and Blood Disorders Center team. Social workers participate in weekly multidisciplinary meetings to review the care plan for each hospitalized child. They work individually with patients, parents, siblings and extended family members to assist all in adjusting to treatment and hospitalization. The team refers the family for assistance related to housing, transportation, financial assistance and more.

### Psychiatric and Psychological Services

Child and adolescent psychiatric consultation is part of a comprehensive evaluation for many hematology/oncology patients. Chronic pediatric illness of almost any kind with recurrent hospitalization is a psychological risk factor for children. The divisions of psychiatry and behavioral medicine at Nicklaus Children's offer individual therapy for the patient, family therapy and facilitate patient and family support groups.

### Hospital School Program

The Hospital School Program provides guidance and advocacy to all patients through collaboration with school districts, tutoring programs and curriculum providers to help children achieve academic success during and after treatment. Hospital School Program coordinators facilitate education during hospitalization and treatment, and work to coordinate the patient's return to the classroom.

### Annual Summer Camp and Celebrations

The annual summer camp, sponsored by United Order True Sisters, Miami #43 is a dream come true for children with cancer and their families. Participants enjoy typical summer activities while under the care of their Nicklaus Children's doctors and nurses who serve as camp counselors. The week-long sleep-away camp is free and open to patients of the Cancer and Blood Disorders Center. Activities include exciting field trips, including a two-day visit to Disney World, pool parties, bowling, movies and more. In addition, the center hosts other annual celebrations for children with blood disorders and cancer.





**Blood and Marrow Transplant Program:**

[nicklauschildrens.org/BMT](https://nicklauschildrens.org/BMT)

**Hemophilia Treatment Program:**

[nicklauschildrens.org/Hemophilia](https://nicklauschildrens.org/Hemophilia)

**Leukemia and Lymphoma Program:**

[nicklauschildrens.org/Leukemia](https://nicklauschildrens.org/Leukemia)

**Neuro-Oncology Program:**

[nicklauschildrens.org/Neurooncology](https://nicklauschildrens.org/Neurooncology)

**Sarcoma and Solid Tumor Program:**

[nicklauschildrens.org/Sarcoma](https://nicklauschildrens.org/Sarcoma)

**Sickle Cell/Hemaglobinopathies**

**Comprehensive Care Program:**

[nicklauschildrens.org/SickleCell](https://nicklauschildrens.org/SickleCell)

**Survive and Thrive Program:**

[nicklauschildrens.org/SurviveandThrive](https://nicklauschildrens.org/SurviveandThrive) or

[nicklauschildrens.org/Survivorship](https://nicklauschildrens.org/Survivorship)



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