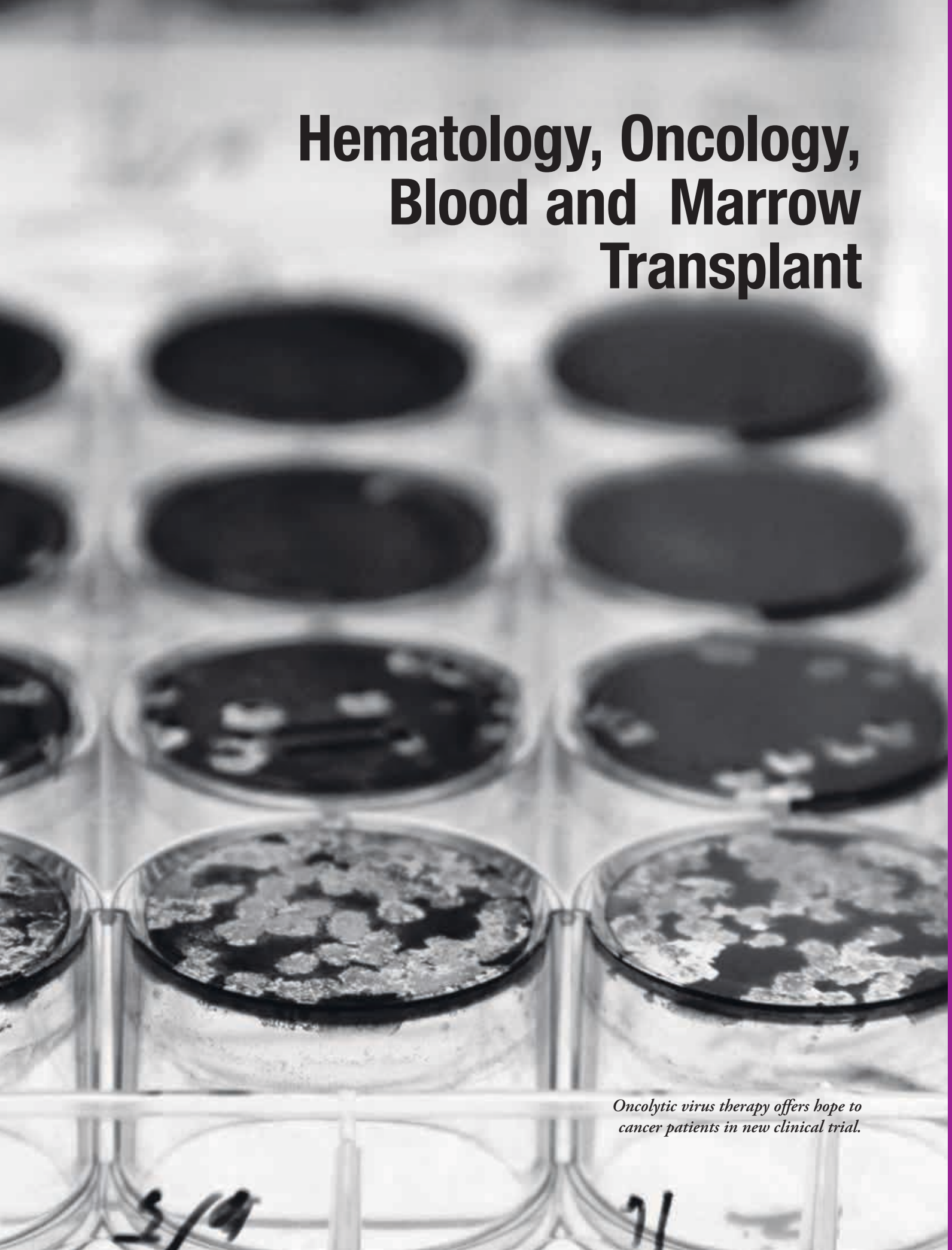
Journey to Best Outcomes for us means letting new discoveries guide patient therapy. We strive to offer the latest treatment options and newest clinical trials to our patients. In doing so, patients don't need to leave central Ohio to "leave no stone unturned."

– Timothy Cripe, MD, PhD
Division Chief, Hematology, Oncology, Blood and Marrow Transplant

Hematology, Oncology, Blood and Marrow Transplant



Oncolytic virus therapy offers hope to cancer patients in new clinical trial.

Study Suggests Dual-Antibody Therapy Retards Angiogenesis in Pediatric Sarcomas

Researchers studying sarcomas—cancers that occur in bone, muscle or connective tissues—have shown some success with antibody drugs that block the type 1 insulin-like growth factor receptor, or IGF-1R, a key component to cancer cells' proliferation. However, the fraction of patients whose tumors become smaller is slight, only around 10 percent. The problem has left scientists stumped. A study in *Clinical Cancer Research* from Nationwide Children's Hospital offers clues to that mystery—and a new approach to stunt angiogenesis.

Researchers in the lab of **Peter Houghton, PhD**, director of the Center for Childhood Cancer and Blood Diseases at Nationwide Children's, were eager to understand why only certain sarcomas responded to IGF-1 receptor-targeted therapy. They found that blocking the IGF-1 receptor prevented growth factors secreted by sarcoma cells from inducing angiogenesis.

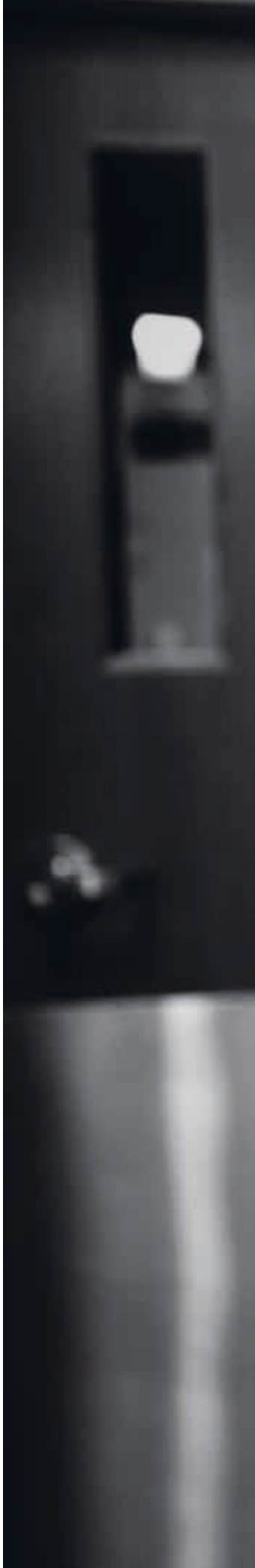
Dr. Houghton and his colleagues used an IGF-1R-binding antibody drug currently in clinical trials on a special mouse model containing childhood cancer cells. Although the drug blocked the receptor, angiogenesis continued and the tumors grew and multiplied.

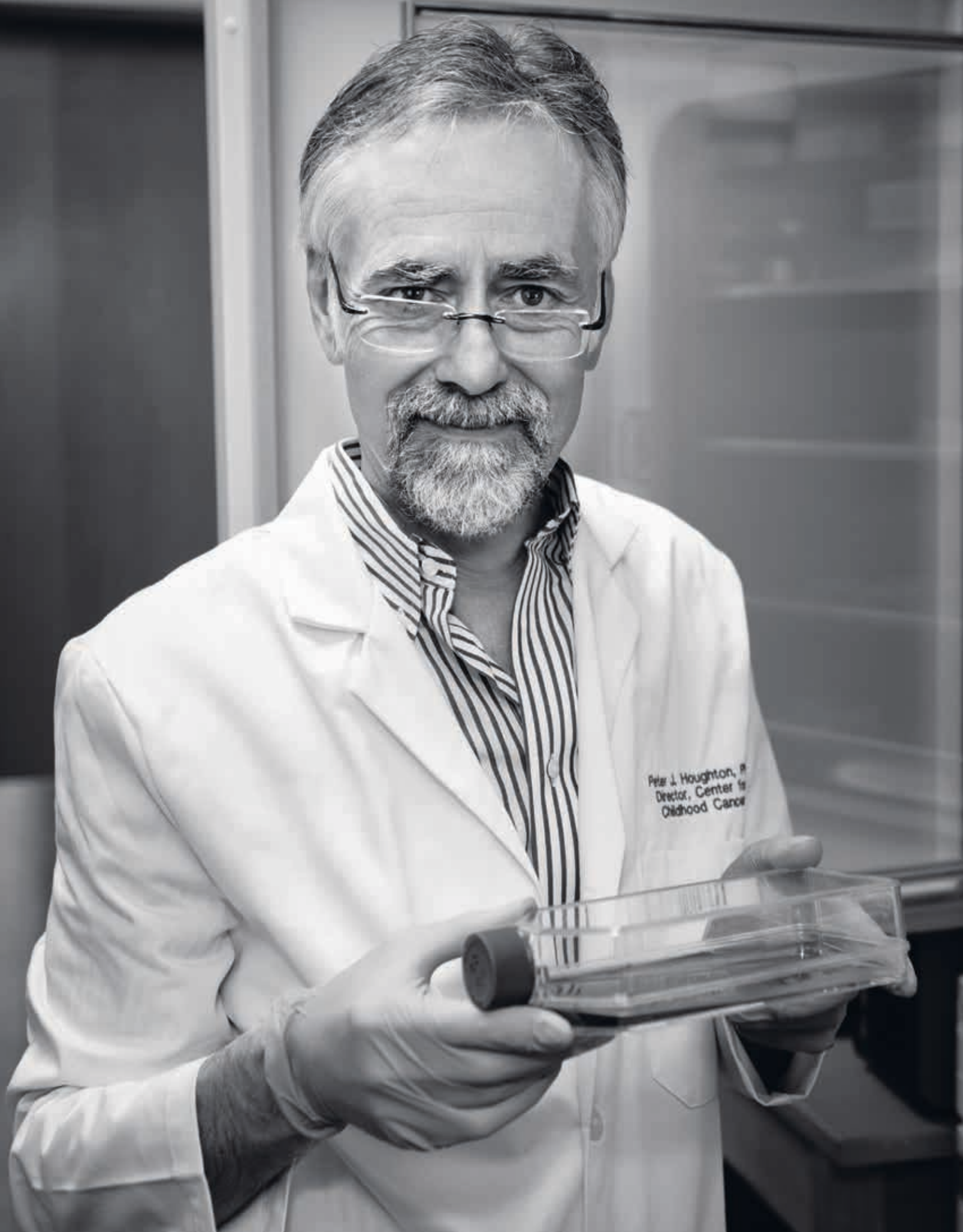
Scientists knew that the ligands could bind only with the receptor for which they were specified. In this case, IGF-1 and IGF-2 would bind only with IGF-1R. Upon closer inspection, Dr. Houghton's team found that, unable to latch onto its primary receptor, IGF-2 attached itself to the insulin receptor. Once the two were connected, the cancer thrived. Pediatric sarcomas secrete high levels of IGF-2, which is likely why the antibody drugs did a poor job of halting angiogenesis in pediatric cancer tissues.

The researchers next tried combining the receptor-binding antibody drug with a ligand-binding antibody that targets IGF-2. The dual-antibody approach worked, reducing angiogenesis by as much as 73 percent in Ewing sarcoma models and 61 percent in rhabdomyosarcoma models.

"Targeting IGF-2 is far more desirable than silencing the insulin receptor, which could lead to problems with glucose balance," says Dr. Houghton. "It's suppressing angiogenesis very well, but it's not a home run because it doesn't cause tumors to go away. There's something we're not understanding, and that would be the next part to build on."

Bid, K, London CA, Gao J, Zhong H, Hollingsworth RE, Fernandez S, Mo X, Houghton PJ. Dual Targeting of the Type 1 Insulin-like Growth Factor Receptor and its Ligands as an Effective Anti-angiogenic Strategy. *Clin Cancer Res.* 2013 Apr 2. [Epub ahead of print]




Peter J. Houghton, Ph
Director, Center for
Childhood Cancer

HEMATOLOGY/ONCOLOGY/BLOOD AND MARROW TRANSPLANT

The Division of Hematology/Oncology/Blood and Marrow Transplantation (BMT) at Nationwide Children's Hospital treats a full array of blood disorders, cancers, immune-deficiency disorders, bone marrow failure syndromes, and inherited metabolic storage diseases. Our clinical team oversees the comprehensive evaluation, multidisciplinary diagnosis, treatment, and long-term management and services of children, adolescents, and young adults with blood disorders and cancer as well as other diseases treated by cellular therapies. In addition to treatment, the division is committed to advancing both basic and clinical research in these areas to expand the understanding of childhood cancer and blood disorders, and to improve strategies for their diagnosis and treatment.

STAFF PHYSICIANS AND FACULTY

Timothy P. Cripe, MD, PhD
Division Chief
Professor of Pediatrics

Randal S. Olshefski, MD
Section Chief
Associate Professor of Clinical Pediatrics

FULL-TIME NCH FACULTY

Anthony N. Audino, MD
Assistant Professor of Clinical Pediatrics
Jeffery J. Auletta, MD
Associate Professor of Clinical Pediatrics
Rajinder P. Bajwa, MD
Assistant Professor of Clinical Pediatrics
Robyn M. Dennis, MD
Assistant Professor of Clinical Pediatrics
Mariko D. DeWire, MD
Assistant Professor of Clinical Pediatrics
Thomas G. Gross, MD, PhD
Professor of Pediatrics
Terri L. Guinipero, MD
Assistant Professor of Clinical Pediatrics
Sarita A. Joshi, MD
Assistant Professor of Clinical Pediatrics
Bryce A. Kerlin, MD
Associate Professor of Clinical Pediatrics
Laura T. Martin, MD
Assistant Professor of Clinical Pediatrics
Sarah H. O'Brien, MD
Assistant Professor of Pediatrics
Mark A. Ranalli, MD
Associate Professor of Clinical Pediatrics
Hemalatha G. Rangarajan, MD
Assistant Professor of Clinical Pediatrics
Suzanne M. Reed, MD
Assistant Professor of Clinical Pediatrics
Melissa M. Rhodes, MD
Assistant Professor of Clinical Pediatrics
Melissa J. Rose, DO
Assistant Professor of Clinical Pediatrics
Bhuvana A. Setty, MD
Assistant Professor of Clinical Pediatrics
Sandeep Soni, MD
Associate Professor of Clinical Pediatrics
Nicholas D. Yeager, MD
Assistant Professor of Clinical Pediatrics
Tammi K. Young-Saleme, PhD
Associate Professor of Clinical Pediatrics

THE BIOPATHOLOGY CENTER

Nilsa Del Carmen Ramirez-Milan, MD
Center Director
Professor of Clinical Pathology

Julie M. Gastier-Foster, PhD
Associate Professor of Clinical Pathology

CENTER FOR CHILDHOOD CANCER AND BLOOD DISEASES

Peter Houghton, PhD
Center Director
Professor of Pediatrics

Hakan Cam, PhD
Assistant Professor of Pediatrics
Dawn S. Chandler, PhD
Assistant Professor of Pediatrics
Timothy Cripe, MD, PhD
Professor of Pediatrics
Long-Sheng Chang, PhD
Professor of Pediatrics
Robert A. Johnson, PhD
Assistant Professor of Pediatrics
Katsumi Kitagawa, PhD
Associate Professor of Pediatrics
Jiayuh Lin, PhD
Associate Professor of Pediatrics

Innovative Programs and Services
Approximately 268 new childhood cancer patients are managed at Nationwide Children's annually. Total inpatient admissions and outpatient visits exceed 13,000 annually, distinguishing the division as one of the largest in the United States. Our outpatient hematology and oncology providers offer services at locations convenient for our patients and their families at 6 regional sites.

In 2012, much advancement was made in all aspects of our mission to focus on providing the highest quality, most cost-effective, and comprehensive care to all our patients. Our highly qualified team provides state-of-the-art care in key signature areas with programmatic themes including leukemia, neuro-oncology, embryonal tumors, sarcomas, sickle cell disease, thrombosis, bleeding disorders, and marrow transplantation.

The Pediatric Blood and Marrow Transplant (BMT) Program at Nationwide Children's Hospital is a National Marrow Donor Program (NMDP) Transplant Center and is accredited by the Foundation for Accreditation of Cellular Therapy (FACT). The Pediatric BMT Program is a participating member of the Children's Oncology Group (COG), Pediatric Blood and Marrow Transplant Consortium (PBMTC), and the Blood and Marrow Transplant Clinical Trials Network (BMTCTN), and actively collaborates in cutting-edge research and investigator-initiated clinical trials with The James Cancer Hospital, the NCI-designated Comprehensive Cancer Center of The Ohio State University. The Pediatric BMT Program has expertise in and cares for pediatric, adolescent, and young adult transplant patients with malignant and nonmalignant disorders whom receive related and unrelated stem cell sources, including bone marrow, peripheral blood, and umbilical cord blood. The Pediatric BMT Program is supported by the FACT-accredited Apheresis Program at Nationwide Children's and Cell Therapy Laboratory at The James Cancer Hospital. Clinical team members include board-certified pediatric BMT physicians, advanced clinical nurse practitioners, transplant PharmD, transplant coordinators, licensed social worker, and research coordinators. Tertiary-care, board-certified consultants, including both medical and surgical subspecialists, are available at Nationwide Children's to help co-manage transplant patients.

We provide numerous specialty and multidisciplinary clinics to serve our patients in the most comprehensive and family-centered manner. Our division has developed a variety of innovative and unique sub-specialty programs for our patients. Some of these specialty clinics include

- Adolescent and Young Adult Oncology Program
- Bone Marrow Transplant Clinic
- Comprehensive Sickle Cell Clinic
- Bone Marrow Failure and Cytopenia Clinic
- Hemophilia Treatment Clinic
- Leukemia & Lymphoma Clinic
- Young Women's Hematology Clinic
- Neuro-Oncology (Brain Tumor) Clinic
- Sarcoma Clinic
- Surgical Oncology Clinic
- Cancer Survivorship Clinic

At Nationwide Children's, we know that clinical care does not end with the cancer treatment. Every aspect of recovery is important for a successful return to a normal life. It is in this spirit that the pediatric experts in oncology and sports medicine have teamed up to develop "Play Strong." This program supports survivors to be physically active, keep up with friends, and return to sports. "Play Strong" is a fun and exciting class designed for cancer survivors to improve motor skills and transition into physical activity safely.

Quality, Safety, Service
Randall Olshefski, MD, serves as section chief for the division and leads our efforts in quality and safety initiatives. Dr. Olshefski works closely with Samantha Howorka, RN, BSN, CPHON, who serves as the division's clinical leader for quality improvement, and with Randy Frost, our service line coordinator for quality improvement. In 2013, the division launched the "Cure Me Cancer" index. The "Cure Me" project tracks 13 separate quality and patient safety indices that span the care journey of the pediatric cancer patient. Excellence in individual care is achieved when every item on the index is met for a given patient undergoing cancer therapy. Program excellence is achieved as key drivers of the project are put into place to assure that each of the quality metrics is met for the entire cohort of cancer patients treated at Nationwide Children's Hospital.

Joining us this year was Jeffery Auletta, MD, the director of the Host Defense Program at Nationwide Children's Hospital, a multidisciplinary, clinical, and translational research collaborative between the divisions of hematology/oncology/BMT and infectious diseases. The program aims to define the immune response to infection in order to decrease infection-related morbidity and mortality in immunocompromised patient populations such as bone marrow transplant recipients. The program focuses on defining posttransplant immune recovery and the roles of the intestinal and respiratory microbiome during immune recovery, and ways to augment immune recovery through novel treatments such as cell therapies. The Host Defense Program collaborates with scientific and clinical researchers within The Research Institute, The James Comprehensive Cancer Center, and The Ohio State University. Dr. Auletta is an associate professor of pediatrics at The OSU College of Medicine and committee member at The OSU Center for Regenerative Medicine and Cell-Based Therapies. He also serves as co-chair for the Infection and Immune Reconstitution Working Committee of the Center for International Blood and Marrow Transplant Research (CIBMTR) and vice chair of the Supportive Care Group of the Pediatric Blood and Marrow Transplant Consortium (PBMTC).

Tammi Young-Saleme, PhD, is the director of psychosocial services and program development for the division. Services include psychology, social work, child life, pastoral care, therapeutic recreation, massage therapy, music therapy, art therapy, and events coordination, which are centrally directed by Dr. Young-Saleme to achieve optimally integrated patient and family care. Supportive interventions include social and educational events for AYA patients, bravery beads, camp, a mother/daughter spa day, a father/son basketball event with The Ohio State University's men's basketball team, a survivorship celebration event, and a unique, innovative Sibling Support Program that has received national recognition for its excellence. The STAR (School Transitions and Re-entry) Program integrates the child and family with their school community. The dedicated education specialists collaborate with schools and parents to secure educational services. The goal of the program is to keep all cancer patients on grade-level throughout their treatment.

Education
Nicholas Yeager, MD, directs our ACGME fellowship-training program offering a well-rounded experience in hematology, oncology, and stem cell transplant. The Hitchcock-Wilson Fellowship in Pediatric Hematology, Oncology and BMT was established in 1995. A major educational resource for trainees is the Center for Childhood Cancer and Blood Diseases as well as the National Cancer Institute designated Comprehensive Cancer Center located at the Arthur G. James Cancer Hospital and Richard J. Solove Research Institute at The Ohio State University. All our fellows actively participate in quality improvement initiatives, high-quality research projects, and are all expected to present at national peer-review meetings. The division now trains three new fellows annually, and trains numerous residents and medical students during their student clerkships. In addition, Nationwide Children's dedicated pediatric oncology psychologists train one or two psychology fellows a year in pediatric oncology, as well as work with an APA-accredited predoctoral internship program that trains future psychologists with a yearlong focus on pediatric oncology.

New Developments in Research
In 2012, we have focused on enhancing the infrastructure we have in place to enable investigator-initiated clinical trials – not just participating in trials, but starting trials locally and exporting our research to other sites.

Investigators from the Center for Childhood Cancer and Blood Disorders located in The Research Institute at Nationwide Children's collaborate closely with clinicians within the division on clinical/translational research initiatives. Some of these initiatives include examining factors impacting parents' understanding of their child's cancer prognosis and targeted therapies to help in the fight against cancer while reducing side effects.

Virotherapies are one example of these targeted therapies. This concept is based on the idea of infecting a cell with a virus and having that virus kill the cell. We have been able to cure mice of cancer with these virotherapies and we would like to have that happen in people as well. We are very excited about the future of virotherapies in pediatric cancer treatments. We think they will be another viable weapon in the fight against cancer and play a very important role in improving children's lives.

Following several years of study, investigators have found more evidence that the use of virotherapy to treat solid tumors can be enhanced by modulating the body's natural immune response. A new study, led by Timothy Cripe, MD, PhD, division chief of hematology/oncology/BMT at Nationwide Children's and professor of pediatrics at The Ohio State University College of Medicine, is shedding light on how virotherapy combined with inhibition of innate cellular response are more effective against solid tumors. Future work will incorporate such laboratory findings into the next generation of clinical trials to test combination therapies.

Starting in 2013, we will begin to use a $6.3 million grant to further our study of pediatric sarcomas, a rare form of cancer that affects bone or soft tissue and accounts for 11 percent of all childhood cancers. The project, funded by the National Institutes of Health and the National Cancer Institute, will be led by Peter Houghton, PhD, director of the Center for Childhood Cancer and Blood Disorders in The Research Institute, with the ultimate goal being the development of novel therapeutic approaches for advanced childhood sarcoma. The project aims to characterize the interrelationship of these pathways and identify combinatorial inhibitory approaches most likely to yield biologic activity in the clinical setting. Experts in sarcoma biology, cellular signaling pathways, and drug development will collaborate on the grant, bringing together researchers from Nationwide Children's and The Ohio State University.

Clinical Research Operations

At any given time there are a large number of clinical trials taking place at Nationwide Children's that offer state-of-the-art therapies and test new treatment options for our patients. The Clinical Research office within the Division of Hematology/Oncology/BMT is now under the medical direction of Sarah O'Brien, MD, and under the administrative direction of Michele Vaughan, BS, CCRP. The division is expanding in the area of experimental therapeutics, offering patients more access to phase I and phase II studies, including both industry-sponsored and investigator-initiated trials. Approximately 74% of eligible oncology patients are enrolled in clinical trials at Nationwide Children's, making the division one of the leading cancer centers for clinical trial enrollment by the Children's Oncology Group, an NCI-funded clinical trial consortium led by Mark Ranalli, MD, the site principal investigator.

National Biobanking Leadership

A comprehensive cancer biobanking effort has existed at Nationwide Children's since the late 1980s. The Biopathology Center (BPC) is a CAP-accredited biorepository with the primary objective of long-term acquisition and storage of a large number of biospecimens and related data for the purpose of supporting cutting-edge research. Currently, the BPC houses several NCI-sponsored cancer biobanks, including the Children's Oncology Group (COG) biobank, the largest pediatric specimen bank in the nation. Led by Nilsa Ramirez, MD, the BPC receives more than $15 million annually from the National Institutes of Health to support several biobanking, procurement, processing, and distribution efforts. Nationwide Children's Hospital also houses the CAP/CLIA certified Acute Lymphoblastic Leukemia, Neuroblastoma, and Wilms Tumor reference laboratories, providing centralized testing for risk based treatment assignment of patients enrolled on COG trials.

The longstanding biobanking resulted in our designation as the Biospecimen Core Resource (BCR) for The Cancer Genome Atlas (TCGA) project. The BCR, led by Julie Gastier-Foster, PhD, FACMG, processes and acquires tumor and normal tissue samples and their accompanying clinical information from contributing medical and research centers, ensures they meet quality standards, and distributes the extracted DNA and RNA to researchers throughout the TCGA network. TCGA, a coordinated effort supported by the NCI and the National Human Genome Research Institute, is working to accelerate the comprehensive understanding of the genetics of cancer using innovative genome analysis technologies.

Center for Childhood Cancer and Blood Diseases

Researchers in the Center for Childhood Cancer and Blood Diseases at Nationwide Children's Hospital work to understand the fundamental biology of pediatric cancers, which will lead to improved therapies. Areas of focus throughout the center include the biology and therapy of rhabdomyosarcoma and other childhood tumors, chemotherapy for childhood solid tumors,

regulation of alternative pre-mRNA splicing, regulation and function of tumor suppressor genes, and oncolytic viral therapy in pediatric brain tumors.

The major area of focus is childhood sarcomas and other solid tumors. Specific projects focus on oncolytic viro therapy, regulation of alternative pre-mRNA splicing, regulation of tumor suppressor genes, aberrant signal transduction, cellular metabolic checkpoints, and development of novel therapeutics. Notable accomplishments this year have been publications of impressive preclinical data as well as a new NIH-supported program project grant, "Studies of Childhood Sarcoma," that integrates researchers in the center and investigators at OSU; a new RO1 grant focused on exploiting cancer "driver" genes; and closer collaborations with the Clinical Division of Hematology/Oncology/BMT and with the Musculoskeletal Oncology Program at OSU to enhance translational research.

Within the center, there are eight core labs:

- The Cam lab, focused on the role of p53 family members in childhood tumors.
- The Chandler lab, focused on the regulation of pre-mRNA splicing and its disruption leading to pediatric cancer.
- The Chang lab, focused on the function of the NF2 gene and the development of novel therapies for NF2-associated schwannoma and meningioma.
- The Cripe lab, focused on viral therapies to treat solid tumors.
- The Houghton lab, focused on understanding the basic biology of childhood solid tumors, largely sarcoma.
- The Johnson lab, focused on developing and studying mouse models of brain tumors, predominantly ependymoma.
- The K. Kitagawa lab, focused on errors in cell division resulting in aneuploidy and cell cycle checkpoints.
- The Lin lab, focused on STAT3 signaling pathway in pediatric cancer.

Pediatric Preclinical Testing Program

The Center for Childhood Cancer and Blood Disorders is home to the Pediatric Preclinical Testing Program (PPTP), a multicenter initiative supported by the National Cancer Institute to systematically evaluate new agents against a large panel of molecularly characterized childhood solid tumor and leukemia models. The primary goal is to identify new agents that have the potential for being clinically effective.

RESEARCH FUNDING (OVER $50,000) AWARDED

July 2012 – June 2013

Chandler, Dawn
Insulin Receptor Splicing in Response to Hypoxia And Drug Resistance
OSU Comprehensive Cancer Center
$50,000

Splicing Modulation for RMS Therapy
CancerFree Kids
$50,000

Chang, Long-Sheng
Novel Treatments for NF2-Associated Schwannomas and Meningiomas
The Ohio State University Office of Sponsored Programs
Children's Tumor Foundation
$82,500

Cripe, Timothy
Preclinical Studies of Tropomyosin Isoform Inhibitors
The Kids Cancer Project
$206,000

Gastier-Foster, Julie
Biospecimen Core Resource for The Cancer Genome Atlas Project
SAIC-FREDERICK, Inc.
National Institutes of Health (NIH)
$19,000,000

Burkitt Lymphoma Project
SAIC-FREDERICK, Inc.
National Institutes of Health (NIH)
$549,071

HTMCP Clinical Data Collection Support and Database
SAIC-FREDERICK, Inc.
National Institutes of Health (NIH)
$399,149

TARGET BPC (SAIC)
SAIC-FREDERICK, Inc.
National Cancer Institute (NCI)
$217,217

Pharmacogenomics of Racial Disparities in Childhood Leukemia Outcomes
St. Jude Children's Research Hospital
National Institutes of Health (NIH)
$85,117

Pharmacogenomics of Anticancer Agents Research in Children
St. Jude Children's Research Hospital
National Institutes of Health (NIH)
$84,868

SWOG CD138
The Hope Foundation
$73,130

SWOG S0703
University of Michigan
Southwest Oncology Group-Clinical Trials Initiative
$57,385

The Identification of Different Sub-Types of Medulloblastoma
CureSearch for Children's Cancer
$56,719

CureSearch Support of COG Biopathology Center Initiatives
CureSearch for Children's Cancer
$50,000

Neuroblastoma ALK Testing Project
Childrens Hospital of Philadelphia
Children's Oncology Group
$50,000

Houghton, Peter
Pediatric Preclinical Testing Program
National Institutes of Health (NIH)
National Cancer Institute (NCI)
$2,700,000

Pediatric Preclinical Testing Program
National Institutes of Health (NIH)
National Cancer Institute (NCI)
$606,057

Evaluation of the p53/MDM2 Inhibitor RG7388 in Combination With Daily Fractioned Radiation Therapy
Industry Sponsor
$192,855

Proposed Studies to Evaluate Study Drug, Against Pediatric Sarcoma Xenografts
University of Michigan
Southwest Oncology Group- Clinical Trials Initiative
$56,565

Kitagawa, Katsumi
Kinetochore Function and Cell Cycle Progression
National Institutes of Health (NIH)
National Institute of General Medical Sciences (NIGMS)
$275,213

O'Brien, Sarah
Safety and Effectiveness of Hormonal Contraception in Women With Diabetes
American Diabetes Association
$90,000

Ramirez, Nilsa
COG U24
National Institutes of Health (NIH)
National Cancer Institute (NCI)
$2,450,648

COG U10 (Parent)
Children's Hospital of Philadelphia
National Institutes of Health (NIH)
$2,010,256

COG U24
National Institutes of Health (NIH)
National Cancer Institute (NCI)
$1,974,222

Support for Human Specimen Banking in NCI-Sponsored Clinical Trials-(CGB)
National Institutes of Health (NIH)
National Cancer Institute (NCI)
$1,488,625

(U24 ongoing/gap) Tumor Banking for the Southwest Oncology Group
University of Michigan
Southwest Oncology Group-Clinical Trials Initiative
$850,957

GOG-Specimen Banking
Gynecologic Oncology Group
National Institutes of Health (NIH)
$596,536

Tumor Banking for the Southwest Oncology Group (SWOG)
Southwest Oncology Group-Clinical Trials Initiative
National Institutes of Health (NIH)
$560,653

CGB Informatics Initiative in Support for Human Specimen Banking in NCI-Sponsored Clinical Trials-(CGB)—COG
National Institutes of Health (NIH)
National Cancer Institute (NCI)
$499,863

Pediatric CHTN:New Scope/Technology Aids Cancer Research
National Institutes of Health (NIH)
National Cancer Institute (NCI)
$381,251

GOG-Specimen Banking
Gynecologic Oncology Group
National Institutes of Health (NIH)
$268,441

(SWOG S0702) A Prospective Observational Multicenter Cohort Study to Assess the Incidence of Osteonecrosis of the Jaw (ONJ) in Cancer Patients With Bone Metastases Starting Study Drug
University of Michigan
Southwest Oncology Group-Clinical Trials Initiative
$200,026

The GOG Tissue Bank Expansion of Scope and Technology
Gynecologic Oncology Group
National Institutes of Health (NIH)
$140,240

CGB Informatics Initiative to Support the NRG Consortium (NSABP/RTPG/GOG)-HUMAN SPECIMEN BANK
Gynecologic Oncology Group
National Institutes of Health (NIH)
$125,000

GOG U10-Research Associate Support
Gynecologic Oncology Group
National Institutes of Health (NIH)
$50,000

Ranalli, Mark
COG Non-Industry Sponsored Studies
Children's Hospital of Philadelphia
Children's Oncology Group
$179,496

PUBLICATIONS

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FAST FACTS

July 2012 – June 2013

Total Discharges: 1,675
- Inpatient Discharges: 1,542
- Observation and Outpatient in a Bed Discharges: 133

Total Patient Days*: 8,578
- Average Length of Stay*: 5.6
- Average Daily Census*: 23.5

Total Surgical Procedures: 738

Blood and Marrow Transplants: 39

Total Clinic Visits: 8,426
- Inpatient Consults: 399
- Apheresis Visits: 379
- Day Hospital Infusion Visits: 1,651
- Bone Marrow Transplant Ambulatory Visits: 661
- BMT Long Term Follow-Up Clinic Visits: 75
- Dublin *Close To Home*SM Center Hematology Clinic Visits: 100
- East Broad *Close To Home*SM Center Sickle Cell Clinic Visits: 76
- Mansfield *Close To Home*SM Center Hematology-Oncology Clinic Visits: 24
- Hematology-Oncology Clinic Visits: 8,098
- Surgical Oncology Clinic Visits: 49
- OSU Sarcoma Clinic Visits**: 3
- Dayton PAA Clinic Visits**: 1

Day Hospital Clinic Visits: 1,651

Bone Marrow Transplants: 39

** Excludes Observation and Outpatient in a Bed Cases*
*** Clinics Opened Q2 2013*