The Hematology Oncology Fellowship Training Program at Cincinnati Children’s Hospital Medical Center accepts five new fellows each year. The first year is a full-time clinical experience where they will see a variety of diagnosis and build their continuity patients. The program is designed to give MD, DO or MD/PhD fellows a wide range of opportunities in clinical research, including Quality Improvement, epidemiology, therapeutic trials and translational research, or in one of the major basic science disciplines: protein chemistry, system biology, structural biology, molecular biology, stem cell and developmental biology, vascular biology, genetics, genomics, immunology, neuroscience, and cell biology. There are other opportunities for an additional fellowship year in specialty training: Blood & Marrow Transplant Fellowship, Clinical Immunodeficiency Fellowship, Developmental & Translational Therapeutic Fellowship, Fourth Year Academic Fellowship, Pediatric Neuro-Oncology Fellowship, and Sickle Cell Scholar Fellowship.

**Philosophy**

We strive to provide the highest quality clinical and research training in hematology/oncology, so that our fellows become the future leaders in pediatric hematology/oncology. Our goal is to train excellent clinicians and independent investigators who make substantive contributions to the field of research. The Goals and Objectives of the program are appended in Table 1.

**Clinical Training**

During their first year of clinical training, the fellows rotate through four services: hematology, oncology, bone marrow transplantation and immunodeficiency, and specialty electives, (neuro-oncology, vascular anomalies, palliative care, late effects, and specialized hematology), as well as training in transfusion medicine and laboratory medicine. During the outpatient rotation, they are exposed to specialty clinics including thrombosis, hemophilia, neuro-oncology, immune deficiency, sickle cell, hemangioma and vascular malformation and late effects. There is a high degree of “hands-on” clinical responsibility. Fellows follow oncology, hematology, and BMT patients per diagnosis list attached, Table 2, during all three years of fellowship and function as their primary caregiver. The program is similar for most fellows, but it is possible to vary the clinical experience for fellows who have special interest or want additional training in other specialties (e.g. immunodeficiency, immunology, neuro-oncology, vascular anomalies.) All fellows have one day of continuity clinic per week in which they concentrate on following their primary patients. Clinic is focused on oncology patients and general hematology.

**Research Training**

With our resources available, we expect that all fellows will receive extensive research training.

**Basic Science Research** - Fellows who seek a career in basic science research should receive training equivalent to a PhD with some postdoctoral experience in one of the major basic science disciplines: cell biology, structural biology, stem cell and developmental biology, vascular biology, genetics, systems biology, genomics, immunology, molecular biology, neuroscience or protein chemistry. The chosen research project should permit the fellow to use many of the different techniques of a particular discipline.
Clinical Research - Fellows interested in clinical research that does not require a laboratory experience are broadly trained in biostatistics, clinical trials, clinical epidemiology, ethics, experimental design, and/ or health services research.

In addition, fellows completing their clinical year may enter the University of Cincinnati’s program to obtain their Master of Science in Clinical Research which is designed to provide clinical professionals (physicians, nurses and other terminal degree clinical professionals) with the necessary preparation for a successful career development and independent investigator awards. For further information, please see the following link: http://www.eh.uc.edu/ClinicalResearch/

Translational Research - Fellows interested in translational research should generally train first in a basic laboratory field with a keen connection to a clinical project such as a clinical research trial.

Cancer and Blood Diseases Institute (CBDI) Fellowship Program

Program Leadership
Dr. Ashish Kumar is currently a Professor of Pediatrics in the Division of Bone Marrow Transplantation and Immune Deficiency at Cincinnati Children’s within the University Of Cincinnati College Of Medicine. Dr. Kumar is a physician-scientist with active clinical and laboratory interests. His laboratory is engaged in researching the biology of infant leukemia and the discoveries made in his laboratory have significantly enhanced the current understanding of leukemia. On the clinical side, he is a member of the Immune Deficiency and Histiocytosis Program and is internationally recognized as an expert in rare immune disorders, HLH and LCH. Dr. Kumar is also active in education. He has received numerous teaching awards and delivered invited lectures on various topics. He has mentored several students, postdoctoral fellows, residents and clinical fellows.

Clinical Competency Committee (CCC)
The Clinical Competency Committee (CCC) became an integral part of the ACGME’s Next Accreditation System (NAS) for evaluation of residents/fellows on July 1, 2014. These new evaluations are referred to as “Milestones” and show a progression of the fellow’s performance on a level-specific basis.

If a fellow is deemed to “need improvement”, a faculty member will schedule a time to speak with the Program Director in person so intervention can be implemented to correct deficiencies and get the fellow in question back on track.

Twice each year, these representative(s) meet as a large group of the CCC to discuss each fellow’s progress. These meetings are then documented in each fellow’s file and will be timed to occur after each SOC committee is scheduled and written reports obtained. The committee goal is to do everything possible to keep the fellow on track for their level of training.

Program Evaluation Committee
The Program Evaluation Committee (PEC) is appointed by the Program Director and has the responsibility to review components of the Hematology/Oncology Fellowship Training Program at least annually. Members consist of at least two faculty, (one of which can be the Program Director), and at least one resident. While the PEC is to “activate participate,” it is not responsible for solving all problems on its own. The PEC may work with the GMEC, the Designated Institutional Official (DIO),
department leaders, or the program director as part of its work. The goal is to try to improve the educational program every year.

**Selection Committee**
The Selection Committee reviews all applicants to the program. It is comprised of the program director, representatives from each discipline, representative from Experimental Hematology and Cancer Biology (research), current chief fellow(s), and the program coordinator. The Selection Committee is responsible for screening the interview results and ranking the candidates for recruitment.

**History**
In 1883, the first Cincinnati Children’s Hospital opened its doors to serve the pediatric patient community. That hospital was in the form of a house with 12 beds, located at the corner of Kemper and Park in Walnut Hills. In 1923, the institution received its first accreditation as a class A children’s hospital. In 2002, Cincinnati Children’s Hospital Medical Center relocated to a state of the art clinical facility with over 400 beds. Cincinnati Children’s has a proud history of providing innovative research and offers premier teaching programs to serve infants, children and adolescents locally, nationally and internationally. Hematology and Cancer research also has great traditions at Cincinnati Children’s Hospital Medical Center and University of Cincinnati College of Medicine. During WWII, Dr. Paul Hoxworth developed methods to preserve red blood cells which were integral to better care for wounded soldiers in field hospitals. Dr. Alvin Mauer did pioneering work on chemotherapy used in pediatric leukemia during the 1960s before becoming director of St. Jude’s Children’s Research Hospitals; and Dr. Beatrice Lampkin who recently retired from Cincinnati Children’s Hospital Medical Center.

Most recently, the divisions of Hematology/Oncology and Experimental Hematology and Cancer Biology have experienced dramatic changes in patient care delivery, teaching and research. Working with program leaders in all divisions, a bold strategic plan was crafted with a goal of using basic research in blood development, genetic diseases, and cancer biology to develop highly innovative new therapies for children with serious blood disorders and cancer. These affiliated divisions have a combined, full time faculty of over 60 individuals participating in clinical care, research, and teaching. Along with the restructuring of patient care delivery, the Hematology/Oncology Fellowship Program has been re-emphasized with updated curriculum, fundamental changes in faculty mentorship criteria, new rotations during clinical training and significantly enhanced research training opportunities. The Division of Hematology/Oncology faculty members have a strong presence within the Children's Oncology Group, International Bone Marrow Transplant Registry. The New Advances in Neuroblastoma Therapy Consortium, The Federation of Clinical Immunology Societies, American Society of Pediatric Hematology Oncology and other national organizations.

**CBDI Organizational Structure**
The Cancer and Blood Diseases Institute (CBDI) at Cincinnati Children’s was established in 2009 in order to formalize existing and extensive clinical and research collaborations among its four constituent divisions: the Division of Hematology, led by Division Director Russell Ware, MD, PhD; the Division of Oncology, led by Division Director John Perentesis, MD, FAAP; the Division of Bone Marrow Transplantation and Immune Deficiency (BMTID), led by Division Director Stella Davies, MB BS, PhD; and the Division of Experimental Hematology and Cancer Biology, led by Division Director Yi Zheng, PhD. The Institute is led by a committee of the four division directors as well as; Sidney
Norton, Associate Vice President of Finance and Operations for CBDI; and Jackie Hausfeld, Assistant Vice President, Patient Services. Ashish Kumar, MD, PhD directs the Hematology/Oncology Fellowship Program, which is coordinated by Kari Lutz. Meet the Team

CBDI and CCHMC also have formal affiliations with the University of Cincinnati College of Medicine and UC Health through the Cincinnati Cancer Center, and with the Ohio State University Comprehensive Cancer Center, for which John Perentesis, MD, serves as Co-Program Leader of the Pediatric Oncology Program.

The CBDI has a wide breadth of specialty and sub-specialty expertise. For the most up to date listing, we invite you to browse our website at: https://www.cincinnatichildrens.org/service/c/cancer-blood

Research
https://www.cincinnatichildrens.org/service/c/cancer-blood/cancer/research

Research programs within the Division of Experimental Hematology and Cancer Biology include the Stem Cell Program, the Hematology and Gene Therapy Program, the Hematological Malignancy Program, the Signaling and Drug Discovery Program, the Cancer Biology and Neural Tumors Program, the Hemostasis and Thrombosis Program, and the Cancer Pathology Program. The Division also operates translational cores (directed by Punam Malik, MD) including the Translational Trials Development and Support Laboratory (TTDSL), the Cell Processing Core (CPC), the Cell Manipulations Laboratory (CML, led by Carolyn Lutzko), the Vector Production Facility (VPF, led by Johannes van der Loo, PhD), which includes the Viral Vector Core (VVC), the Normal Donor Repository (led by Carolyn Lutzko, PhD) and the Comprehensive Mouse and Cancer Core (led by Hartmut Geiger, PhD).

The current Hematology/Oncology fellows and Non-Accredited Program fellows of the 2019-2020 academic year are appended in Table 2.

NP/Hospitalist Team/Resident Teaching
The inpatient rotation is made up of four to five 2nd and 3rd year residents. Residents supervise most new diagnoses and ill patients. Patients are divided amongst the resident and NP/hospitalist who supervise all chemotherapy admission and some ill patients. When the service is busy, the residents are capped and the NP/hospitalist service will pick up the patients. Night staff includes one senior resident and one hospitalist. Some hospitalists are heme/onc trained which is beneficial for teaching and work load.

Clinical Training
Rotations
The first year of fellowship is the clinical year. The duration of rotations varies from 3-3 ½ weeks. Nearly all inpatient clinical care is delivered on A5 of Cincinnati Children’s Hospital Medical Center.

Please note: the service is structured for fellow’s education; therefore, it is not dependent on the fellow. Fellows are encouraged to maintain a leadership role but there are a number of providers employed to enable excellent patient care (NP, hospitalists – hem/onc trained/not PA’s).

Inpatient Medical Oncology - Six rotations (3 leukemia/lymphoma; 3 solid tumor)
On this service, the hematology/oncology fellow covers the hematology/oncology patient on a 30 bed, geographically distinct hematology/oncology ward. This service is comprised of a solid tumor team and a leukemia/lymphoma team. Each team has its own attending and fellow. He or she is responsible for running morning work rounds and evening sign-out rounds, for coordinating patient care on the ward service, and for supervising the residents. The fellow makes morning rounds daily with the attending, resident, NP, hospitalist and nurses, at which time medical problems are discussed, oncologic and medical therapy is planned, and support services (psychotherapy, social services, pain control, etc.) are organized. The fellow is responsible for all aspects of the oncologic care of the patients on the service including chemotherapy orders, monitoring for chemotherapy complications and patient procedures. The fellow is also responsible for education of residents and nursing staff and conducts sign-out rounds in the evenings.

Inpatient Hematology and Hematology Consult Service
During this rotation, the hematology/oncology fellow is responsible for the management of patients admitted to the hematology inpatient service. He or she is responsible for running morning work rounds and evening sign-out rounds, for coordinating patient care on the ward service and for supervision the residents. These are primarily work rounds with some targeted teaching. The hematology/oncology fellow is also responsible for all inpatient hematology consults as well as ED and outpatient urgent hematology consults.

Rounds are made on the CICU and ICU patients daily with the respective teams. The fellow is responsible for writing consult notes as well as the follow up progress notes on the consult patients. Time to review blood smears and bone marrows is arranged between the attending and fellow based on the day’s schedule. Sign out rounds with the attending occurs at the end of the day (around 5pm).

Bone Marrow Transplantation and Immunodeficiency
Our team has developed disease-specific transplant regimens that have improved outcomes and are now setting the international standard of care. The division is led by Stella Davies, MBBS, PhD, MRCP, internationally renowned expert in bone marrow transplantation.

The Division of Bone Marrow Transplantation and Immune Deficiency is part of the Cancer and Blood Diseases Institute, which brings together physicians and researchers who are devoted to improving the outcome for children with cancer, blood diseases and immune disorders. We are committed to improving all aspects of treatment for children with immune deficiencies and histiocytosis, and providing transplant care for children and young adults with relapsed or complex malignancies. This service has a 40 bed wing adjacent to the hematology/oncology ward.

Please refer to the following links to learn more about the comprehensive, world-class care we provide for children facing bone marrow transplant, immune deficiency disorders and histiocytosis.
http://www.cincinnatichildrens.org/service/b/bone-marrow/default/
http://www.cincinnatichildrens.org/service/b/bone-marrow/bmf-clinic/default/
http://www.cincinnatichildrens.org/service/b/bone-marrow/bmf-clinic/conditions/

In this service, the fellow will be part of a comprehensive team of nurse practitioners and hospitalists who take care of the BMT patients on the inpatient floor with 24 beds and the ICU. Our unit has tremendous experience in the unrelated transplantation and immunodeficiency disorders. Patients come from all over the world for these services. The BMT unit has 2 attendings and an NP/hospitalist
team. There is a hospitalist on call every night which decreases fellow night time works load. Call is taken from home.

Clinic Responsibilities
All fellows have one day per week in continuity clinic in which they primarily evaluate their primary patients. Clinic is divided with emphasis on oncology patients in the morning and hematology patients in the afternoon. All fellows are required to review their clinic lists in advance. Fellows also will see new patient consults in clinic.

Clinic is supervised by one leukemia/lymphoma and one solid tumor attending. Hematology is supervised by general hematologists and specialty hematologists, depending on the day. Fellows will keep a log of all clinic patients seen to evaluate teaching goals.

Pediatric Hematology/Oncology Clinics
Our Hematology and Oncology clinics are open five days per week. Fellow accrue Oncology patients, Stem Cell Transplant patients, and Hematology patients in these clinics and serve as their primary physician. The fellow provides direct, hands-on care for his/her patients that are undergoing therapy, for those who are being evaluated for complications of therapy or disease, and for patients followed off-therapy.

Night and Weekend Call
Fellows will cover night/weekend call as rotation blocks built into the schedule. First year fellows will complete several night float rotations; each will consist of two consecutive weeks. As part of each rotation, the remaining week(s) during the block will be elective or vacation time. Second and third year fellows will complete several weeks of night coverage (not consecutive). The majority of weekend call shifts will be assigned to first year fellows, with second and third years completing a couple weekend shifts per year.

Rounds and Conferences
Fellows have access to numerous conferences and rounds as well as online courses on a variety of topics. Fellows should focus their energy and are expected to attend those conferences which pertain to the specific service rotation they are currently on. The remaining conferences are open for their participation to serve both educational benefit and to support their colleagues. Weekly Tumor Boards and Hematology Grand Rounds are attended and presented regularly by the fellows. Most of the online courses are expected to be completed in the second and third years of fellowship.

Patient Rounds, Inpatient and outpatient – (Daily)
Fellow Morphology Lectures – (Weekly)
Solid Tumor Board – (Weekly)
Leukemia/Lymphoma Conference – (Weekly)
Hematology Grand Rounds – (Weekly)
Musculoskeletal Tumor Board – (Weekly)
Neuro-Onc Radiology Conference – (Weekly)
BMT/Immunodeficiency Conference – (As applicable)
BMT Patient Management Conference – (Weekly)
Onc Patient Management Conference – (Weekly)
Hematology Patient Conference – (Weekly)
Experimental Hematology Floor Research Meeting – (Weekly)
Journal Clubs, EHCB and BMT – (Weekly)
Fellow’s Crosstalk – (Monthly)
CBDI Seminar Series – (Monthly)
Translational Research Retreat – (Semi-Annual)

Fellow’s Lecture Series
Structured education pertinent to the field of Pediatric Hematology and Oncology is offered through a weekly lecture series. The series includes didactic lectures and workshops in hematologic and tumor biology, research methods, stress management, palliative care, and multiple disease and therapy specific topics. Presenters include faculty from within the Cancer and Blood Diseases Institute and senior fellows in the Pediatric Hematology and Oncology Program. Example of the scheduled lectures is provided as appended Table 5.

Research Training
Throughout research training, each clinical and laboratory fellow is aided by an independent Scholarly Oversight Committee that resembles a graduate school thesis committee. The research interests of the various faculty members are summarized in Table 6. The laboratory research at CCHMC can be categorized into 20 broad thematic programs.

Laboratory Based
- Stem Cells
- Hematologic Malignancies
- Coagulation
- Sickle Cell Disease
- Drug Discovery
- DNA Damage & Fanconi Anemia
- Neuro-Oncology & Neuro-Biology
- Gene Therapy
- Histiocytosis & Immune Deficiencies
- Solid Tumor Biology
- Bone Marrow Transplant
- Vascular Anomalies

Clinical Research
- Bone Marrow Failure Syndromes
- Bone Marrow Transplant
- Leukemia/Lymphoma
- Neuro-Oncology
- Rare Tumors
- Vascular Malformation
- Sickle Cell
- Cancer Survivorship
- Sarcomas
- Quality Improvement
Laboratory Research
- Adhesion, Migration, Motility
- Apoptosis
- Cancer Stem Cells
- Chemoresistance
- Chromatin
- Coagulation
- Cytoskeleton
- DNA Damage and Repair
- Erythrocyte Biology
- Fanconi Anemia
- Gene Therapy
- Hematopoiesis
- Hemophagocytosis
- Hemostasis and Thrombosis
- Immune Deficiencies
- Immunology and Innate Immunity
- Leukemia and Leukemia Stem Cells
- MicroRNAs
- Neurobiology and Neuro-Oncology
- Oncolytic Tumor Viruses
- Sickle Cell Anemia
- Solid Tumor Biology
- Stem Cell Biology
- Vascular Biology

Clinical Research
- Adherence Psychology
- Adolescent & Young Adult Oncology
- Bone Marrow Failure & Fanconi Anemia
- Bone Marrow Transplantation & Chemoprotection
- Cancer Clinical Trials and Phase I Translational Research
  - Hyundai Childhood Cancer Drug Development Scholar Program
  - Leukemia/Lymphoma
  - Liver Tumors
  - Neuroblastomas
  - Neurofibromatosis – Related Tumors & Malignancies
  - Neuro-Oncology
  - Renal Tumors
  - Retinoblastoma
  - Sarcomas
  - Vascular Tumors & Malformations
- Cancer Survivorship & Predictive Medicine
- Hyundai Cancer Survivor Scholar Program
• Chemotherapy Safety
• Down Syndrome and Leukemia
• Fanconi Anemia Basic & Translational Research
• Fertility Preservation
• Gene Therapy
• Hemangiomas & Vascular Malformations Clinical Research
• Hemophilia Clinical Research
• Histiocytic Disorders Basic & Clinical Research
• Hodgkin Lymphoma Pharmacogenetics & Genomics
• Immune Deficiencies
• Pharmacogenetics, Pharmacology and Personalized Therapy/Research
• Sickle Cell Disease
  o Acute Chest Syndrome & Pulmonary Complications of Sickle Cell Disease
  o Stroke & Neurologic Complications of Sickle Cell Disease
  o Survival, Risk Prediction, & Long-Term Outcomes of Sickle Cell Disease
• Targeted Radiopharmaceuticals Clinical Research
• Thrombosis and Hemostasis

Fellowship Training Salaries 2019-2020

<table>
<thead>
<tr>
<th>Level</th>
<th>Salary</th>
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<tbody>
<tr>
<td>PL-IV</td>
<td>$62,843</td>
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<tr>
<td>PL-V</td>
<td>$65,367</td>
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<tr>
<td>PL-VI</td>
<td>$67,910</td>
</tr>
<tr>
<td>PL-VII</td>
<td>$70,370</td>
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<td>PL-VIII</td>
<td>$73,023</td>
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<td>PL-IX</td>
<td>$78,161</td>
</tr>
<tr>
<td>PL-X</td>
<td>$80,505</td>
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</tbody>
</table>

Vacation
Fellows receive a total of 20 working days of vacation. During their clinical year, vacation is taken when on their elective/clinical rotations: a total of 3 rotations. Additionally, 5 sick days are also allotted each year.

Benefits
Fellow receive a large range of benefits, including:
• Health Insurance/several plans to choose from (with co-pay)
• Dental insurance (with co-pay)
• Night and weekend parking
• Fitness center discounts
• Group life insurance
• Long-term disability insurance
• Professional/general liability insurance
• Worker’s Compensation
• Business travel/accident insurance
• Vacation time (20 days)
• Sick time/leave (5 days)
Credit Union
Tuition Reimbursement
One-time moving allocation to qualified incoming fellows (up to $1,500.00)
Counseling via the Employee Assistance Program

In addition, our program is pleased to cover various professional expenses for fellows, including:

- SITE registration fees
- Poster printing fees
- Educational book expenses (as approved by the Program Director)
- Travel to 1 national medical conference/meeting of fellow’s choice in 2nd/3rd years

Supplemental (Purchased) Benefits

- Additional group life insurance
- Automobile and home insurance (reduced rates)
- On-site daycare
- Identity and Privacy Theft Protection
- Legal plan
- College Savings
- Adoption assistance
- Weekday parking

Alumni Leadership Position Examples
Trainees of the program have a stellar academic record and the vast majority remaining in academic Hematology/Oncology positions.

Melissa (Rayburg) Jefferson, MD (2009): Assistant Professor of Pediatrics, University of Missouri-Kansas City School of Medicine at Children’s Mercy East
Christine Phillips, MD (2009): Assistant Professor of Clinical Pediatrics, Cancer and Blood Diseases Institute, Oncology Division, Children’s Hospital Medical Center
Adrienne Hammill, MD, PhD (2010): Associate Professor of Clinical Pediatrics, Cancer and Blood Diseases Institute, Hematology Division, Children’s Hospital Medical Center
Theodore Johnson, MD, PhD (2010): Cancer Immunology, Inflammation and Tolerance Program, Associate Professor - Pediatrics, Associate Professor – Graduate Studies, Associate Professor – Neuroscience and Regenerative Medicine, Augusta University Medical College of Georgia
Benjamin Mizukawa, MD (2010): Assistant Professor of Pediatrics, Cancer and Blood Diseases Institute, Oncology Division, Children’s Hospital Medical Center
Kasiani Myers, MD (2010): Assistant Professor of Clinical Pediatrics, Cancer and Blood Diseases Institute, Bone Marrow Transplantation, Children’s Hospital Medical Center
Alex George, MD, PhD (2011): Assistant Professor, Department of Pediatrics, Section of Hematology-Oncology, Baylor College of Medicine
Michael Bishop, MD (2012): Assistant Member, St. Jude Faculty, Solid Tumor Treatment Team, St. Jude Children’s Research Hospital
Sharat Chandra, MD (2012): Assistant Professor of Clinical Pediatrics, Division of Blood and Marrow Transplantation and Immune Deficiency, Cancer and Blood Diseases Institute, Cincinnati Children’s Hospital Medical Center
Maa-Ohui Quarmyne, MD (2010): Assistant Professor, Sickle Cell, Emory University School of Medicine, Atlanta, GA

Brian Turpin, DO (2012): Assistant Professor of Clinical Pediatrics, Division of Oncology, Cancer and Blood Diseases Institute, Cincinnati Children’s Hospital Medical Center

Pooja Khandelwal, MD (2013): Assistant Professor of Clinical Pediatrics, Division of Blood and Marrow Transplantation and Immune Deficiency, Cancer and Blood Diseases Institute, Cincinnati Children’s Hospital Medical Center

Omar Niss, MD (2013): Assistant Professor, Hematology Division, Cancer and Blood Diseases Institute, Cincinnati Children’s Hospital Medical Center

Dawn Pinchasik, MD (2013): Medical Director, Clinical Development at Onyx Pharmaceuticals, Inc. San Francisco, CA

Jordan Wright, MD (2013): Director of the Hemophilia Program, Comprehensive Care Center for Center for Cancer and Blood Disorders, Dayton Children’s

Shanmuganathan Chandrakasan, MD (2014): Assistant Professor: BMT, Emory University School of Medicine

Christopher Dandoy, MD (2014): Assistant Professor: Division of Bone Marrow Transplantation, Cancer and Blood Diseases Institute, Cincinnati Children’s Hospital Medical Center

Anne Hladik, MD (2014): General Pediatrician/Private Practice, South Boston, VA

Ralph Salloum, MD (2014): Assistant Professor, Division of Oncology, Cancer and Blood Diseases Institute, Cincinnati Children’s Hospital Medical Center

Nihal Bakeer, (2015): Hematologist/Oncologist at the Indiana Hemophilia and Thrombosis Center, Indianapolis, IN

Andrew Bukowski, MD (2015): Assistant Professor, Hematology/Oncology, University of Pittsburgh School of Medicine

Satheesh Chonat, MD (2015): Assistant Professor, Hematology, Aflac Cancer & Blood Disorders Center, Children’s Healthcare of Atlanta/Emory University

Samantha Michaels, MD (2015): Pediatrician, St. Joseph’s Hospital, Tampa, FL

Ahmad Rayes, MD (2015): Unknown

Beverly Schaefer, MD (2016): Assistant Professor of Oncology, Pediatric Hematology and Oncology, Roswell Park Comprehensive Cancer Center

Lynn Lee, MD (2016): Instructor, Division of Oncology, Cancer and Blood Diseases Institute, Cincinnati, Children’s Hospital Medical Center

Kiersten Ricci, MD (2016): Assistant Professor, Division of Hematology, Cancer and Blood Diseases Institute, Cincinnati Children’s Hospital Medical Center

Dana Lounder, MD (2017): General Pediatrician, Weirton, West Virginia

Seth Rotz, MD (2017): Assistant Professor, Department of Pediatrics School of Medicine, Case Comprehensive Cancer Center, Case Western Reserve University

Laura Agresta, MD (2018): Fellow in Developmental and Translational Therapeutic Fellowship, Cancer and Blood Diseases Institute, Cincinnati Children’s Hospital Medical Center

Amber D’Souza, MD (2018): Assistant Professor of Clinical Pediatrics, University of Illinois College of Medicine

LaQuita Jones, DO (2018): Instructor, Division of Oncology, Cancer and Blood Diseases Institute, Cincinnati Children’s Hospital Medical Center

Ruby Khoury, MD (2018): Academic Fellow, Cancer and Blood Diseases Institute, Cincinnati Children’s Hospital Medical Center

Allison Remiker, MD (2018): Instructor of Pediatrics, Hematology/Oncology and Stem Cell Transplantation, Northwestern University Feinberg School of Medicine
Application Process

Current Requirements
To apply for the Fellowship Program, you must supply the following:

• Completed Application Form
  Cincinnati Children’s Hospital Medical Center accepts applications only through the Electronic Residency Application System (ERAS). For more information on the ERAS system, please visit the following: https://students-residents.aamc.org/applying-residency/apply-smart-residency/
  Please note: when in this application, visit the section called Participating Specialties and Program, then search for the Pediatric Hematology/Oncology Fellowship Program. You will be directed to search for the program name. Our program name is Cincinnati Children’s Hospital. Please make sure that you click on this link. If not, you will be redirected to a different application.
• Curriculum vita (CV)
• Medical School Transcript
• Dean’s Letter
• USMLE board scores (at least Parts 1 and 2; part 3 if completed)
• Personal Statement in the style requested on the application form
• Three (3) letters of reference from people with whom you have worked closely in clinical capacity. (One letter needs to be from your current program director, and, if possible, all applicants should supply at least one letter from a hematologist/oncologist, or from someone who has worked at Cincinnati Children’s or who is otherwise familiar with our program).
*Please note: All applications and required documentation must be completed and turned in through the ERAS system. If your application is not received by the deadline mentioned below, your application will be marked incomplete and will not be accepted for review. The ERAS system will begin accepting 2020 applications sometime in mid-July 2019. (Please consult ERAS website for exact date.)

If you need further information, please contact
Kari Lutz, Fellowship Program Coordinator
Cincinnati Children’s Hospital Medical Center
Kari.Lutz@cchmc.org
Phone: (513)-803-4738

National Residency Matching Program
Our training program participates in the National Resident Matching Program (NRMP). We cannot accept applicants who are not registered with the NRMP. The NRMP phone number and web address are (202)-862-6077 and www.nrmp.org.

Number of Fellows
We accept five fellows in our accredited training program per year. We currently have other additional fellowship opportunities: Blood & Marrow Transplant Fellowship, Clinical Immunodeficiency Fellowship, Developmental & Translational Therapeutic Fellowship, Fourth Year Academic Fellowship, Pediatric Neuro-Oncology Fellowship, and Sickle Cell Scholar Fellowship.
We begin receiving ERAS applications in July. Our deadline for applications is August 15, 2019; however, we strongly encourage you to apply before the end of July since we begin to sort applications and issue invitations at that time. We do not issue all interview invitations at the same time because some candidates decide to apply later than others and we do not want to exclude them from consideration.

We generally interview about 40 applicants, which is about 25% of those who apply. Candidates are interviewed individually. Candidates will begin by meeting with Program Director, Dr. Ashish Kumar, for breakfast. To the extent possible, all candidates then meet the members of the Selection Committee (Drs. Kumar, Davies, Grimley, Hummel, Mullins, Mulloy, Quinn, and Ware). They also meet a selection of other faculty matched to their interest and have a chance to lunch with as many of our current fellows possible and are given a tour. The interview generally last one full day.

If invited to interview, Cincinnati Children’s will arrange and pay for your round trip flight and hotel accommodations for the night prior to the interview. If you are considered within driving distance, we will reimburse you mileage at the current rate set by the IRS (from your home address and back) and provide hotel accommodations the night prior to your interview. All candidates will be invited to attend dinner the evening before with some of our current fellows.

**Approximate Timetable**

<table>
<thead>
<tr>
<th>Time Period</th>
<th>Event</th>
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<tr>
<td>Early July (check ERAS for start date)</td>
<td>Receive applications</td>
</tr>
<tr>
<td>July-August</td>
<td>NRMP applications are accessed</td>
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<tr>
<td>September - November</td>
<td>Interviews on selected days</td>
</tr>
<tr>
<td>Mid November</td>
<td>Rank order list deadline</td>
</tr>
<tr>
<td>Early-Mid December</td>
<td>Match day</td>
</tr>
</tbody>
</table>

For additional information and video of our fellowship program, please visit our website at: [https://www.cincinnatichildrens.org/education/clinical/fellowship/hem-onc](https://www.cincinnatichildrens.org/education/clinical/fellowship/hem-onc)
Overview

The goal of the Pediatric Hematology/Oncology Fellowship Training Program is to train fellows in the scientific and clinical aspects of the discipline, preparing them for a career in academic medicine. Paramount throughout training is the emphasis on excellence of clinical care for children with hematologic or malignant disorders and those requiring bone marrow transplantation. Emphasis is on the development of fellows in the physician-scientist model, for which there are numerous role models among the faculty.

During the fellowship, each fellow is expected to acquire clinical expertise and the procedural skills required for diagnosis and treatment of Hematology, Oncology and BMT patients. Of equal importance, each fellow is expected to select a research mentor, and under the guidance of that individual, to develop research skills, specifically learning the methods of careful, controlled scientific inquiry. The fellowship is designed as a three-year training program, with a clinical emphasis during the first year and a research emphasis in the latter two years. The fellowship is accredited by the Accreditation Council of Graduate Medical Education.

SECTION I — Goals and Objectives by Year Level of Training
Each of these goals and objectives corresponds directly to a section of the CCHMC Pediatric Hematology/Oncology Training Program Policies and Procedures Manual.

Year One Goals

- Master fundamentals of inpatient and outpatient clinical management of infants and children with hematologic disorders, cancer, and immunodeficiency (Policies and Procedure Manual Section B-Curriculum Specifications)
- Master fundamentals of clinical management of children undergoing autologous or allogeneic bone marrow and stem cell transplantation (Policies and Procedure Manual Section B-Curriculum Specifications)
- Develop proficiency with standard procedures used in hematology/oncology practice (see Policies and Procedure Manual Section D-Procedure Competencies and Fellow Procedure List by year of training)
- Establish an area for the pursuit of clinical or basic research (Policies and Procedure Manual Section E- Research and Scholarly Activity)
- Develop mentorship relationship with faculty member for research and general hematology/oncology clinical training (Policies and Procedure Manual Section F- Mentorship Policy)
- Experience in preparing clinical presentations, division of cases and case reports
- Participate in Subspecialty In-Training Examination, and review of performance with general hematology/oncology mentor
Year Two Goals
- Develop proficiency in clinical outpatient management and inpatient/outpatient procedures
- Further develop proficiency with standard procedures used in hematology/oncology practice (see Policies and Procedure Manual Section D-Procedure Competencies and Fellow Procedure List by year of training)
- Develop in-depth understanding of pathophysiology of blood and cancer disorders
- Develop proficiency with biostatistics, literature evaluation, and lecture presentation
- Pursue basic or clinical research project, potential abstract presentation at intramural or national meeting
- Development of an understanding of the investigative approach and the laboratory skills necessary to conduct independent research under the guidance of a research mentor
- Development of in-depth scientific knowledge in hematology/oncology/BMT
- Development of independence in clinical abilities
- Development of an in-depth understanding of the diseases and disorders treated by our subspecialty and a rational approach to treatment
- Participate in Subspecialty In-Training Examination, and review of performance with general hematology/oncology mentor

Year Three Goals
- Mastery of an understanding of the investigative approach and the laboratory skills necessary to conduct independent research under the guidance of a research mentor
- In-depth scientific knowledge in hematology/oncology/BMT
- Independence in the clinical practice of pediatric hematology/oncology.
- An in-depth understanding of the diseases and disorders treated by our subspecialty and a rational approach to treatment
- Develop directly supervised “junior attending” role in the inpatient hematology/oncology/BMT elective service, and outpatient clinic rotations
- Further develop proficiency with standard procedures used in hematology/oncology practice (see Policies and Procedure Manual Section D-Procedure Competencies and Fellow Procedure List by year of training)
- Complete basic and clinical research project, potentially develop draft manuscript for submission, potential abstract presentation at intramural or national meeting; potential application for extramural funding; process supervised by faculty mentors
- Identification of job and career options, consider extended research training for selected fellows; discussions with research and general hematology/oncology mentors
- Participate in Subspecialty In-Training Examination, and review of performance with general hematology/oncology mentor

SECTION II — Fellow’s Clinical Responsibilities and Lines of Supervision

1. For all fellows: daily outpatient Hematology/Oncology/BMT/Immunology rounds with the attending management plan for his/her patients, and to participate in the educational didactic discussions of the other patients. The fellow is directly supervised by a subspecialty attending for all clinical encounters.
2. For fellows on an inpatient rotation: daily inpatient Hematology, Oncology or BMT Service rounds with the attending faculty, mid-level providers, and residents begin at 08:45am. The fellow should be prepared to oversee, discuss, and expand upon the management plan outlined by the residents, and to participate in the educational didactic discussions of the other patients. The fellow is directly supervised by a subspecialty attending for all clinical encounters.

3. All admissions are discussed with the responsible attending faculty member. The fellow will notify the attending regarding admissions. Specific management discussions and attending supervision of the fellow will be commensurate with the experience of the fellow. During the night, the attending faculty member is notified regarding all major changes in patient status.

4. A procedure note and procedure log (electronic version) has to be completed for each procedure. Outline of fellow procedures and supervision includes:

**1st Year Fellows**
- Procedures that may be performed independently: Accessing and using central IVADs, administration of intramuscular asparaginase injections
- Procedures that usually require direct attending supervision: Diagnostic lumbar puncture, bone marrow aspiration, posterior iliac crest; bone marrow biopsy, posterior iliac crest; lumbar puncture with instillation of intrathecal chemotherapy
- Procedures that require prior verbal approval from the attending before they can be performed independently: None

**2nd Year Fellows**
- Procedures that may be performed independently: Accessing and using central IVADs, administration of intramuscular asparaginase injections
- Procedures that usually require direct attending supervision: Diagnostic lumbar puncture, bone marrow aspiration, posterior iliac crest; bone marrow biopsy, posterior iliac crest; lumbar puncture with instillation of intrathecal chemotherapy
- Procedures that require prior verbal approval from the attending before they can be performed independently: None

**3rd Year Fellows**
- Procedures that may be performed independently: Accessing and using central IVADs, administration of intramuscular asparaginase injections
- Procedures that usually require direct attending supervision: Diagnostic lumbar puncture, bone marrow aspiration, posterior iliac crest; bone marrow biopsy, posterior iliac crest; lumbar puncture with instillation of intrathecal chemotherapy
- Procedures that require prior verbal approval from the attending before they can be performed independently: None

5. Fellows supervise the pediatric residents regarding clinical management issues.
6. Fellows interact with consulting services to help coordinate clinical care of inpatients and outpatients.

**Pediatric Cancer Programs**
Cincinnati Children’s offers a wide variety of services, programs and centers for children and young adults with various forms of cancer, including:

- **Adolescent and Young Adult Cancer Center**
The Adolescent and Young Adult Cancer Center is a unique inpatient and outpatient center, including peer support and educational services.

- **Advanced Cancer Therapies Center**
Our Advanced Cancer Therapies Center features highly trained oncologists subspecializing in specific childhood cancers to treat patients with high risk and relapsed disease using the most advanced therapies available.

- **Brain Tumor Center**
At the Brain Tumor Center, children receive comprehensive, coordinated care from a highly experienced multidisciplinary team.

- **Cancer Survivorship Center**
The Cincinnati Children’s Cancer Survivor Center provides specialized medical care and psychosocial support to childhood cancer survivors through adulthood.

- **Hereditary Cancer Program**
Our Hereditary Cancer Program provides cancer risk-assessment services for children and adults. Our experienced team can evaluate your family history and choose appropriate genetic testing options to determine your child’s risk for familial and hereditary cancers.

- **Hemangioma and Vascular Malformations**
The Hemangioma and Vascular Malformation Program at Cincinnati Children's is one of the largest multidisciplinary centers in the country for vascular anomalies. We follow over 5,000 patients and see about 600 new patients each year.

- **Kidney Tumors**
Specialists from the Kidney Tumor Program take a team approach to benefit patients by fostering early detection, an accurate diagnosis and appropriate, coordinated treatment.

- **Leukemia and Lymphoma**
We are one of the nation’s largest and most technically advanced referral centers for patients with leukemia and lymphoma and related disorders.

- **Liver Tumors**
Our physicians and researchers are at the forefront of providing innovative surgical and medical therapies.

- **Neuroblastoma**
Our Neuroblastoma Advanced Therapies Center offers patients and families the full spectrum of medical, surgical and diagnostic care.

**Neurofibromatosis**
Our Neurofibromatosis Program is led by geneticists who work closely with oncologists and other specialists at Cincinnati Children’s to provide expert diagnosis and treatment.

**Proton Therapy Center**
Our Proton Therapy Center will provide a new kind of focused radiation treatment that minimizes damage to areas surrounding tumors.

**Retinoblastoma**
Our Retinoblastoma Program is a national leader in providing sophisticated, multidisciplinary care.

**Sarcoma Program**
Our Sarcoma Program provides comprehensive, multidisciplinary care for children and young adults with tumors of the bone, soft tissue and spine. Read more.

**Blood-Related Centers and Programs**
Cincinnati Children’s offers a wide variety of services for children and young adults with blood diseases, including:

**Sickle Cell and Hemoglobin**
We are a national leader in caring for children with sickle cell disease, thalassemia and other hemoglobin disorders. We have pioneered a variety of treatments that have become the international standard of care.

**Fanconi Anemia**
We are one of the world’s largest Fanconi Anemia comprehensive care centers, and the first of its kind in the nation. Our specialists treat a significant percentage of all patients in the world with this rare disease.

**Hemophilia**
Our clinic offers multidisciplinary care for children and young adults with mild to severe forms of hemophilia. We offer leading-edge treatments, extensive education and home care services to encourage independence and improve quality of life.

**Thrombosis**
We are one of the few centers in the nation that specializes in pediatric care for clotting disorders. Our team of hematologists, interventional radiologists, nurses, social workers and school intervention specialists work together to ensure that patients receive the best care.

**Other Bleeding Disorders**
Cincinnati Children’s also provides extensive diagnostic and therapeutic services for patients with other complex bleeding disorders, and for those with less severe bleeding disorders and platelet disorders, such as von Willebrand disease. Our hematologists and other health professionals work
together to ensure that patients receive comprehensive care and enjoy the highest quality of life possible.

Young women in particular benefit from the Young Women with Bleeding Disorders Clinic at Cincinnati Children's. The clinic is designed for patients who are experiencing menorrhagia, or excessive menstrual bleeding. Most of these patients have von Willebrand disease or a mild bleeding disorder.

**Bone Marrow Transplantation**

The Bone Marrow Transplantation Program within the Division of Bone Marrow Transplantation and Immune Deficiency at Cincinnati Children's is an international leader. We specialize in using transplant therapies to treat cancer, rare genetic conditions such as immune deficiency disorders, and bone marrow failure syndromes such as Fanconi Anemia.

Our multidisciplinary team has performed more than 1,300 transplants in the program's 20-year history; currently more than 100 children each year. In 2009, our experts performed 108 transplants, making us one of the largest programs in the United States.

The director of the Division of Bone Marrow Transplantation and Immune Deficiency is Stella M. Davies, MBBS, PhD, MRCP. Davies and her colleagues have developed disease-specific transplant regimens that have improved outcomes and are now the international standard of care. The team of internationally recognized specialists manages every stage of treatment.

**Immune Deficiencies and Histiocytosis**

The Immune Deficiency and Histiocytosis Program within the Division of Bone Marrow Transplantation and Immune Deficiency offers a unique combination of expert medical care, state-of-the-art testing capabilities and extensive research for children with immune deficiencies. Our team takes a comprehensive approach, working together to ensure that patients receive the most effective treatment and follow-up care.

As part of our program, we provide initial diagnoses, second opinions, immunologic testing and genetic profiles as well as expert medical care.

**Faculty**

The Cancer and Blood Diseases Institute is home to many world-renown faculty. Please click on link below for a comprehensive list of the faculty, their area of expertise, and their research.

[https://www.cincinnatichildrens.org/service/c/cancer-blood/team](https://www.cincinnatichildrens.org/service/c/cancer-blood/team)
### 2019 – 2020 Hematology/Oncology Fellows

#### 1st Year Fellows
- Taylor Fitch
- Azada Ibrahimova
- Nawal Merjaneh
- Shireen Mreish
- Kate Somers

#### 2nd Year Fellows
- Kristine Karkoska
- Margot Lazow
- Tony Sabulski
- Alina Sadaf
- Kevin Todd

#### 3rd Year Fellows
- Myesa Emberesh
- Brenton Francisco
- Melissa Perrino
- Kristina Prus
- Jeremy Rubinstein
- Luke Smart
2019 – 2020 CBDI Subspecialty Fellows

Laura Agresta
Precision Medicine

Allison Bartlett
Neuro-Oncology

Danielle Arnold
Immunodeficiency

YunZu Michele Wang
BMT