

2015 Research Annual Report

Hematology

RESEARCH AND TRAINING DETAILS



[Click to view members](#)

Faculty	12
Joint Appointment Faculty	2
Research Fellows	4
Support Personnel	46
Direct Annual Grant Support	\$3,820,777
Direct Annual Industry Support	\$300,362
Peer Reviewed Publications	36

CLINICAL ACTIVITIES AND TRAINING

Clinical Staff	6
Clinical Fellows	5
Other Students	3
Inpatient Encounters	1,765
Outpatient Encounters	5,465

Division Publications

1. Andersson C, Kvist PH, McElhinney K, Baylis R, Gram LK, Pelzer H, Lauritzen B, Holm TL, Hogan S, Wu D, Turpin B, Miller W, Palumbo JS. **Factor XIII Transglutaminase Supports the Resolution of Mucosal Damage in Experimental Colitis**. *PLoS One*. 2015; 10:e0128113.
2. Aygun B, Mortier NA, Kesler K, Lockhart A, Schultz WH, Cohen AR, Alvarez O, Rogers ZR, Kwiatkowski JL, Miller ST, Sylvestre P, Iyer R, Lane PA, Ware RE, Stroke With Transfusions Changing to Hydroxyurea Trial I. **Therapeutic phlebotomy is safe in children with sickle cell anaemia and can be effective treatment for transfusional iron overload**. *British Journal of Haematology*. 2015; 169:262-6.
3. Crosby LE, Quinn CT, Kalinyak KA. **A biopsychosocial model for the management of patients with sickle-cell disease transitioning to adult medical care**. *Advances in therapy*. 2015; 32:293-305.
4. Crosby LE, Shook LM, Ware RE, Brinkman WB. **Shared decision making for hydroxyurea treatment initiation in children with sickle cell anemia**. *Pediatric Blood and Cancer*. 2015; 62:184-185.
5. Dandoy CE, Kukreja KU, Gruppo RA, Patel MN, Tarango C. **Outcomes in children with deep vein thrombosis managed with percutaneous endovascular thrombolysis**. *Pediatric Radiology*. 2015; 45:719-26.
6. DeBaun MR, Gordon M, McKinstry RC, Noetzel MJ, White DA, Sarnaik SA, Meier ER, Howard TH, Majumdar S, Inusa BP, Telfer PT, Kirby-Allen M, McCavit TL, Kamdem A, Airewele G, Woods GM, Berman B, Panepinto JA, Fuh BR, Kwiatkowski JL, King AA, Fixler JM, Rhodes MM, Thompson AA, Heiny ME, Redding-Lallinger RC, Kirkham FJ, Dixon N, Gonzalez CE, Kalinyak KA, Quinn CT, Strouse JJ, Miller JP, Lehmann H, Kraut MA, Ball WS, Jr., Hirtz D, Casella JF. **Controlled trial of transfusions for silent cerebral infarcts in sickle cell anemia**. *New England Journal of Medicine*. 2014; 371:699-710.
7. Faircloth JM, Palumbo JS, Veldtman GR. **Overcoming the challenges of anticoagulation in adults with congenital heart disease**. *Heart*. 2015; 101:418-20.
8. Fernandes VM, Fargo JH, Saini S, Guerrero MF, Marcus L, Luchtman-Jones L, Adams D, Meier ER. **Kaposiform lymphangiomatosis: unifying features of a heterogeneous disorder**. *Pediatric Blood and Cancer*. 2015; 62:901-4.
9. Gelfand MJ, Sharp SE, Palumbo JS. **Selective CT for PET/CT: dose reduction in Langerhans cell histiocytosis**. *Pediatric Radiology*. 2015; 45:81-5.
10. Hankins JS, Aygun B, Nottage K, Thornburg C, Smeltzer MP, Ware RE, Wang WC. **From infancy to adolescence: fifteen years of continuous treatment with hydroxyurea in sickle cell anemia**. *Medicine (Baltimore)*. 2014; 93:e215.
11. Hassell KL, Afenyi-Annan A, Ballas SK, Buchanan GR, Eckman JR, Jordan L, Lanzkron S, Lottenberg R, Ware R. **Practice guideline for pulmonary hypertension in sickle cell: direct evidence needed before universal adoption**. *Am J Respir Crit Care Med*. 2014; 190:237-8.
12. Heeney M, M., Ware RE. **Sickle Cell Disease**. In: SH Orkin, DE Fisher, D Ginsburget al, eds. *Nathan and Oski's Hematology and Oncology of Infancy and Childhood*. Philadelphia, PA: Elsevier/Saunders; 2015:675-714.
13. Helton KJ, Adams RJ, Kesler KL, Lockhart A, Aygun B, Driscoll C, Heeney MM, Jackson SM, Krishnamurti L, Miller ST, Sarnaik SA, Schultz WH, Ware RE, Investigators SW. **Magnetic resonance imaging/angiography and transcranial Doppler velocities in sickle cell anemia: results from the SWiTCH trial**. *Blood*. 2014; 124:891-8.
14. Huang Y, Shaw MA, Mullins ES, Kirley TL, Ayres N. **Synthesis and anticoagulant activity of polyureas containing sulfated carbohydrates**. *Biomacromolecules*. 2014; 15:4455-66.

15. Kalfa TA. (2014) **Hemolytic Anemias**. Pathobiology of Human Disease: A Dynamic Encyclopedia of Disease Mechanisms. Elsevier, Inc.. 1532–1543.
16. King AA, Rodeghier MJ, Panepinto JA, Strouse JJ, Casella JF, Quinn CT, Dowling MM, Sarnaik SA, Thompson AA, Woods GM, Minniti CP, Redding-Lallinger RC, Kirby-Allen M, Kirkham FJ, McKinstry R, Noetzel MJ, White DA, Kwiatkowski JK, Howard TH, Kalinyak KA, Inusa B, Rhodes MM, Heiny ME, Fuh B, Fixler JM, Gordon MO, DeBaun MR. **Silent cerebral infarction, income, and grade retention among students with sickle cell anemia**. *American Journal of Hematology*. 2014; 89:E188-92.
17. Kukreja KU, Lungren MP, Patel MN, Johnson ND, Racadio JM, Dandoy C, Tarango C. **Endovascular venous thrombolysis in children younger than 24 months**. *J Vasc Interv Radiol*. 2014; 25:1158-64.
18. Lederman HM, Connolly MA, Kalpathi R, Ware RE, Wang WC, Luchtman-Jones L, Waclawiw M, Goldsmith JC, Swift A, Casella JF, Investigators BH. **Immunologic effects of hydroxyurea in sickle cell anemia**. *Pediatrics*. 2014; 134:686-95.
19. McGann PT. **Sickle cell anemia: an underappreciated and unaddressed contributor to global childhood mortality**. *J Pediatr*. 2014; 165:18-22.
20. Meier KA, Clark E, Tarango C, Chima RS, Shaughnessy E. **Venous thromboembolism in hospitalized adolescents: an approach to risk assessment and prophylaxis**. *Hospital Pediatrics*. 2015; 5:44-51.
21. Niss O, Sholl A, Bleasing JJ, Hildeman DA. **IL-10/Janus kinase/signal transducer and activator of transcription 3 signaling dysregulates Bim expression in autoimmune lymphoproliferative syndrome**. *J Allergy Clin Immunol*. 2015; 135:762-70.
22. Nottage KA, Ware RE, Winter B, Smeltzer M, Wang WC, Hankins JS, Dertinger SD, Shulkin B, Aygun B. **Predictors of splenic function preservation in children with sickle cell anemia treated with hydroxyurea**. *Eur J Haematol*. 2014; 93:377-83.
23. Parker CJ, Ware RE. **Paroxysmal Nocturnal Hemoglobinuria**. In: SH Orkin, DE Fisher, D Ginsburger et al, eds. *Nathan and Oski's Hematology and Oncology of Infancy and Childhood*. Philadelphia, PA: Elsevier/Saunders; 2015:431-454.
24. Quinn CT. **Breakthrough: new guidance for silent cerebral ischemia and infarction in sickle cell disease**. *Hematology-American Society of Hematology Education Program*. 2014; 2014:438-43.
25. Quinn CT, Dowling MM. **Anemia and ischemia: how low can you go?** *Blood*. 2015; 125:1516-7.
26. Quinn CT, Packman CH. **Hemolytic Anemias**. In: KR McCrae, DP Steensma, eds. *American Society of Hematology Self-Assessment Program*. Washington, DC: American Society of Hematology; 2014.
27. Raghu H, Cruz C, Rewerts CL, Frederick MD, Thornton S, Mullins ES, Schoenecker JG, Degen JL, Flick MJ. **Transglutaminase factor XIII promotes arthritis through mechanisms linked to inflammation and bone erosion**. *Blood*. 2015; 125:427-37.
28. Reiss UM, Schwartz J, Sakamoto KM, Puthenveetil G, Ogawa M, Bedrosian CL, Ware RE. **Efficacy and safety of eculizumab in children and adolescents with paroxysmal nocturnal hemoglobinuria**. *Pediatric Blood and Cancer*. 2014; 61:1544-50.
29. Rice HE, Englum BR, Rothman J, Leonard S, Reiter A, Thornburg C, Brindle M, Wright N, Heeney MM, Smithers C, Brown RL, Kalfa T, Langer JC, Cada M, Oldham KT, Scott JP, St Peter S, Sharma M, Davidoff AM, Nottage K, Bernabe K, Wilson DB, Dutta S, Glader B, Crary SE, Dassinger MS, Dunbar L, Islam S, Kumar M, Rescorla F, Bruch

- S, Campbell A, Austin M, Sidonio R, Blakely ML, Splenectomy in Congenital Hemolytic Anemia C. **Clinical outcomes of splenectomy in children: report of the splenectomy in congenital hemolytic anemia registry**. *Am J Hematol*. 2015; 90:187-92.
30. Savage WJ, Buchanan GR, Yawn BP, Afenyi-Annan AN, Ballas SK, Goldsmith JC, Hassell KL, James AH, John-Sowah J, Jordan L, Lottenberg R, Murad MH, Ortiz E, Tanabe PJ, Ware RE, Lanzkron SM. **Evidence gaps in the management of sickle cell disease: A summary of needed research**. *American Journal of Hematology*. 2015; 90:273-5.
31. Sheehan VA, Crosby JR, Sabo A, Mortier NA, Howard TA, Muzny DM, Dugan-Perez S, Aygun B, Nottage KA, Boerwinkle E, Gibbs RA, Ware RE, Flanagan JM. **Whole exome sequencing identifies novel genes for fetal hemoglobin response to hydroxyurea in children with sickle cell anemia**. *PLoS One*. 2014; 9:e110740.
32. Styles L, Heiselman D, Heath LE, Moser BA, Small DS, Jakubowski JA, Zhou C, Redding-Lallinger R, Heeney MM, Quinn CT, Rana SR, Kanter J, Winters KJ. **Prasugrel in children with sickle cell disease: pharmacokinetic and pharmacodynamic data from an open-label, adaptive-design, dose-ranging study**. *J Pediatr Hematol Oncol*. 2015; 37:1-9.
33. Tarango C. (2014) **Disorders of Coagulation in the Neonate**. Pathobiology of Human Disease: A Dynamic Encyclopedia of Disease Mechanisms. Elsevier. 1586–1594.
34. Vetter CL, Buchanan GR, Quinn CT. **Burden of diagnostic radiation exposure in children with sickle cell disease**. *Pediatric Blood and Cancer*. 2014; 61:1322-4.
35. Yawn BP, Buchanan GR, Afenyi-Annan AN, Ballas SK, Hassell KL, James AH, Jordan L, Lanzkron SM, Lottenberg R, Savage WJ, Tanabe PJ, Ware RE, Murad MH, Goldsmith JC, Ortiz E, Fulwood R, Horton A, John-Sowah J. **Management of sickle cell disease: summary of the 2014 evidence-based report by expert panel members**. *JAMA*. 2014; 312:1033-48.
36. Zhang S, Konstantinidis DG, Yang JQ, Mizukawa B, Kalim K, Lang RA, Kalfa TA, Zheng Y, Guo F. **Gene targeting RhoA reveals its essential role in coordinating mitochondrial function and thymocyte development**. *J Immunol*. 2014; 193:5973-82.
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Faculty, Staff, and Trainees

Faculty Members

Russell Ware, MD, PhD, Professor

Leadership Director, Division of Hematology; Co-Executive Director, Cancer and Blood Diseases Institute

Research Interests Sickle cell disease; hemolytic anemia; immune-mediated cytopenia; PNH.

Ralph Gruppo, MD, Professor

Leadership Director, Comprehensive Hemophilia and Thrombosis Center

Research Interests Coagulation; hemophilia; thrombosis.

Karen Kalinyak, MD, Professor

Leadership Director of Outcomes and Quality Improvement

Research Interests Hematology; bone marrow failure; sickle cell anemia; hemoglobinopathies.

Theodosia Kalfa, MD, PhD, Associate Professor

Research Interests Study of erythropoiesis, red blood cell structural membrane biology, and of reactive oxygen species in sickle cell disease.

Lori Luchtman-Jones, MD, Professor

Leadership Director of Thrombosis Research

Research Interests Pediatric hematology; thrombosis; hemostasis; stroke.

Patrick McGann, MD, MS, Assistant Professor

Research Interests Global hematology; hydroxyurea for sickle cell anemia.

Eric Mullins, MD, Assistant Professor

Leadership Research Director, Hemophilia Treatment Center

Research Interests Interactions between hemostatic factors and the immune system in inflammatory disease; hemophilia.

Omar Niss, MD, Instructor

Research Interests Pediatric hematology; sickle cell disease; hemoglobinopathies; immune mediated cytopenias.

Joseph Palumbo, MD, Associate Professor

Leadership Director, Comprehensive Thrombophilia Center

Research Interests Dissecting the mechanisms coupling the hemostatic and innate immune systems to cancer progression.

Charles Quinn, MD, MS, Associate Professor

Leadership Director, Erythrocyte Diagnostic Laboratory; Medical Director, Pediatric Sickle Cell Program

Research Interests Sickle cell disease: causes and treatment of stroke in sickle cell disease; pathophysiologic role of hemoglobin desaturation; acute sickle cell pain; survival and long-term follow-up of children with sickle cell disease.

Lisa Shook, MA, MCHES, Instructor

Leadership Administrative Director of the Comprehensive Sickle Cell Center

Research Interests Sickle cell disease and trait; newborn screening; transition; chronic disease self-management; health education; quality improvement outcomes.

Cristina Tarango, MD, Assistant Professor

Leadership Clinical Director, Hematology Division; Medical Director, Hemophilia Treatment Center

Research Interests Thrombosis and hemostasis; medical education.

Joint Appointment Faculty Members

Punam Malik, MD, Professor (Experimental Hematology and Cancer Biology)

Ahna Pai, PhD, Associate Professor (Behavioral Medicine and Clinical Psychology)

Clinical Staff Members

- **Viia Anderson, MSN, CNP-PC**
- **Susan Hoelle, RN, CNP**
- **Margaret Kaiser, MSN, CPNP**
- **Stephanie Lenahan, PA-C**
- **Darice Morgan, MSN, CPNP, FNP, BC**, APRN Program Lead for Hematology
- **Kathy Schibler, MSN, CPNP**

Trainees

- **Nihal Bakeer, MD**, PL-VI, Cincinnati Children's Hospital Medical Center
- **Satheesh Chonat, MD**, PL-VI, Michigan State University-Sparrow Hospital
- **Melissa Mark, MD**, PL-IV, Eastern Virginia Medical School
- **Kiersten Ricci, MD**, PL-V, Cincinnati Children's Hospital Medical Center
- **Beverly Schaefer, MD**, PL-V, Thomas Jefferson University

Grants, Contracts, and Industry Agreements

Grant and Contract Awards

Annual Direct

Adams, G

Thrombin Promotes Prostate Cancer Progression

The Ohio State University Research Foundation

7/1/2013-6/30/2015

\$41,634

Gruppo, R

Hemophilia and Thrombosis Center

Cascade Hemophilia Consortium (Hemophilia Foundation of Michigan)

6/1/2003-5/31/2016

\$114,597

ATHN Data Quality Counts Award

American Thrombosis & Hemostasis Network

7/1/2014-6/30/2016

\$5,150

Zimmerman Program for the Molecular and Clinical Biology of VWD

National Institutes of Health (Medical College of Wisconsin)

P01 HL081588

2/1/2013-1/31/2017

\$1,200

Hemophilia Prevention Network

Centers for Disease Control and Prevention (Hemophilia Foundation of Michigan)

10/1/1997-9/29/2015

\$20,900

Hemophilia Comprehensive Care

Maternal & Child Health Bureau (Hemophilia Foundation of Michigan)

10/1/1997-5/31/2015

\$22,000

Kalfa, T

Rho GTPases in Terminal Erythroid Maturation

National Institutes of Health

R01 HL116352 9/26/2012-6/30/2016 \$245,000

Cincinnati Center of Excellence in Hemoglobinopathies Research - Research Project 1

National Institutes of Health

U01 HL117709 8/15/2013-5/31/2018 \$130,506

Cincinnati Center of Excellence in Hemoglobinopathies Research - Summer Students

National Institutes of Health

8/15/2013-5/31/2018 \$41,810

Kalinyak, K

The Mid-South Clinical Data Research Network

Patient-Centered Outcome Research Institute (Vanderbilt University)

7/1/2014-6/30/2016 \$7,143

Mullins, E

Mechanisms Linking Hemostatic Factors to Neuroinflammatory Disease

National Institutes of Health

K08 HL105672 8/22/2011-7/31/2016 \$121,375

Quinn, C

A Controlled Clinical Trial of Regadenoson in Sickle Cell Anemia

National Institutes of Health (Dana Farber Cancer Institute)

P50 HL110790 7/15/2012-6/30/2017 \$64,000

Cincinnati Center of Excellence in Hemoglobinopathies Research - Research Project 3

National Institutes of Health

U01 HL117709 8/15/2013-5/31/2018 \$133,476

Cincinnati Center of Excellence in Hemoglobinopathies Research - Translational Research Skills Development

National Institutes of Health

U01 HL117709 8/15/2013-5/31/2018 \$221,382

Shook, L

Sickle Cell Treatment Demonstration Program

Health Resources & Services Administration (University of Cincinnati)

9/1/2011-8/31/2014

\$2,248

Sickle Treatment and Outcomes Research in the Midwest - Treatment Demonstration Project

Health Resources & Services Administration

9/1/2014-8/31/2017

\$766,452

Cincinnati Sickle Cell Project

Ohio Department of Health

7/01/1998-6/30/2016

\$123,469

Ware, R**Accurate and Inexpensive Point-of-Care Diagnosis of Sickle Cell Anemia**

Doris Duke Charitable Foundation (Rice University)

9/1/2013-8/31/2016

\$45,306

TCD with Transfusions Changing to Hydroxyurea

National Institutes of Health

R01 HL095647

8/1/2013-7/31/2015

\$1,596,553

Endothelialized Microfluidics for Sickle Cell Disease Research & Drug Discovery

National Institutes of Health (Emory University)

R01 HL121264

1/1/2014-12/31/2018

\$11,778

Baby Hug Follow-up Study II Core Laboratory

National Institutes of Health (Clinical Trials & Surveys Cort)

HHSN2682012000023C

7/01/2013-12/31/16

\$104,798

Current Year Direct**\$3,820,777****Industry Contracts****Gruppo, R**

Baxter Healthcare Corporate

\$42,424

Alexion Pharmaceuticals, Inc

\$3,147

Bayer HealthCare Pharmaceuticals, Inc

\$9,888

Biogen Idec MA Inc.

\$7,585

Novo Nordisk Pharmaceuticals	\$22,220
Pfizer, Inc	\$1,450
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Kalfa, T	
Baxter Healthcare Corporate	\$314
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Mullins, E	
Grifols, Inc	\$8,142
Baxter Healthcare Corporate	\$75,934
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Palumbo, J	
Bayer HealthCare Pharmaceuticals, Inc	\$6,700
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Quinn, C	
Amgen, Inc.	\$9,586
Eli Lilly and Company	\$11,432
Adventrx Pharmaceuticals, Inc	\$1,540
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Ware, R	
Bristol-Myers Squibb	\$100,000
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	Current Year Direct Receipts
	\$300,362
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	Total
	\$4,121,139
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