Division Details

Division Data Summary

Research and Training Details
Number of Faculty 15
Number of Research Fellows 3
Number of Support Personnel 11
Direct Annual Grant Support $4,880,993
Direct Annual Industry Support $831,340
Peer Reviewed Publications 62

Clinical Activities and Training
Number of Clinical Staff 6
Number of Clinical Fellows 5
Number of Other Students 9
Inpatient Encounters 520
Outpatient Encounters 3,888

Significant Accomplishments

The Division of Rheumatology Maintains International Stature
Rheumatology has had a successful fiscal year with a number of important accomplishments and publications, including: Collaborating with Seattle Children’s, Edward Giannini, MSc, DrPH, has shown that aggressive treatment early in the disease course leads to better therapeutic responses and outcomes in juvenile idiopathic arthritis. Michael Henrickson, MD, MPH, published a comprehensive evaluation of the pediatric rheumatology workforce. An institution-wide initiative led by Michael Barnes, PhD, created a biobank for tissues and DNA that is expected to have 750,000 samples before the end of the year; the samples will be useful to research. The continuing efforts of Susan Thompson, PhD, and colleagues led to discovery of a gene important for juvenile idiopathic arthritis.

Work with Micro-RNA’s Leads to Important Findings
Nan Shen, MD, has revealed many of the details of how small RNA’s, called micro-RNA’s, control the production of particular inflammatory mediators known as cytokines. Shen’s research has important clinical implications for treating autoimmune diseases such as systemic lupus erythematosus, allergy and asthma.

Center for Autoimmune Genomic Etiology Joins eMERGE Consortium
As a result of the work of John Harley, MD, Cincinnati Children’s is now an NIH-funded member of the eMERGE (electronic MEDical Records and GENomics) Network. This network is a consortium of biorepositories linked to
electronic medical records data for conducting genomic studies. We are helping lead the national initiative to use genetic data with electronic medical records to deepen our understanding of childhood diseases and usher in the coming era of personalized medicine.

Significant Publications


IL-17 is an important cytokine in many inflammatory disorders. This study reveals an important role for microRNA 236 in the control of IL-17 expression.


The paradigm of treatment whereby children with juvenile idiopathic arthritis are started on a relatively non-aggressive therapeutic regimen has been overturned by this work. This study showed that a high proportion of children treated very aggressively early in their disease course can be brought into a state of inactive disease after only 6 months of therapy initiation.

Henrickson M. Three-Part Series: Policy Challenges for the Pediatric Rheumatology Workforce


This three-part analysis of current challenges to pediatric rheumatologists regarding barriers to access to care for children with rheumatic disease and to achieving optimal clinical outcomes addresses 1) education and economics, 2) health care system delivery and workforce supply, and 3) the international situation. Dr. Henrickson presents possible solutions to each identified challenge. Per an accompanying editorial (Lindsley CB: Policy challenges for the pediatric rheumatology workforce. Pediatr Rheumatol Online J 2012 10:5), Dr. Henrickson “has initiated an important conversation that has the potential to impact the future of our discipline... Dr. Henrickson has carefully analyzed workforce issues both in the US and internationally and made suggestions that should be seriously considered by the pediatric rheumatology community and implemented where feasible.”


We show that the gene variants at IRF5 influences the differences between patients.


This work represents, to our knowledge, the largest genome-wide association study of JIA cases to date and focuses on the 2 most common subtypes, oligoarticular and RF-negative polyarticular JIA. We report novel JIA-associated loci and supporting eQTL results that extend the JIA associations beyond those previously reported (PTPN2, PTPN22, IL2RA, ADAD1-IL2-IL21, ANGPT1, COG6, C12orf30, and STAT4). The strongest replicated evidence for association with JIA was found at the chromosome 3q13 region, which includes CD80, a co-stimulatory molecule necessary for T cell activation. A novel association was also found near at 10q21 and includes JMJD1C, a gene that encodes a hormone-dependent transcription factor that functions by removing methyl marks on histones. It is noteworthy that a gene expression signature (defined by 50 expression probe sets) for JIA patients with chronically active arthritis also included JMJD1C. The overlap of genetic and gene expression findings cannot be explained by chance and suggests a functional relationship to disease pathogenesis.

### Division Publications


4. Carle AC, Dewitt EM, Seid M. Measures of health status and quality of life in juvenile rheumatoid arthritis: Pediatric Quality of Life Inventory (PedsQL) Rheumatology Module 3.0, Juvenile Arthritis Quality of Life Questionnaire (JAAQ), Paediatric Rheumatology Quality of Life Scale (PRQL), and Childhood Arthritis Health Profile (CAHP). *Arthritis Care Res (Hoboken).* 2011; 63 Suppl 11:S438-45.


51. Ting TV, Kudalkar D, Nelson S, Cortina S, Pendl J, Budhani S, Neville J, Taylor J, Huggins J, Drotar D, Brunner HI. Usefulness of cellular text messaging for improving adherence among adolescents and


Faculty, Staff, and Trainees

**Faculty Members**

**John Harley, MD, PhD,** Professor

**Leadership** Division Director

**Hermine Brunner, MD, MSc,** Professor

**Edward H. Giannini, MSc, DrPH,** Professor

**David N. Glass, MD,** Professor

**Alexei A. Grom, MD,** Associate Professor

**Michael Henrickson, MD, MPH,** Associate Professor

**Leadership** Clinical Director

**Jennifer Huggins, MD,** Associate Professor

**Leadership** Fellowship Director
Kenneth Kaufman, PhD, Professor
Daniel Joe Lovell, MD, MPH, Professor
Leadership Joseph E. Levinson Endowed Chair in Pediatric Rheumatology

Esi Morgan DeWitt, MD, MSCE, Assistant Professor
Nan Shen, MD, Associate Professor
Susan Thompson, PhD, Professor
Leadership Associate Director

Sherry Thornton, PhD, Assistant Professor
Tracy Ting, MD, Assistant Professor
Matthew Weirauch, PhD, Assistant Professor

Clinical Staff Members
• Janalee Taylor, MSN, RN, CNP

Trainees
• Moussa El-Hallak, MD, PL-5, Memorial University Medical Center
• Pai-Yue Lu, MD, PGY-, Cincinnati Children’s Hospital Medical Center
• David Moser, DO, PL-6, United States Army, Pediatrics
• Keith Sikora, MD, PL-6, Johns Hopkins Hospital
• Patricia Vega-Fernandez, MD, PL-5, University of Texas Health Science Center at San Antonio, Texas

Grants, Contracts, and Industry Agreements

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**Current Year Direct** | **$4,880,993**

**Industry Contracts**

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**Current Year Direct Receipts** | **$831,340**

**Total** | **$5,712,333**