

Pulmonary Medicine

Division Photo



First Row: N. Simakajornboon, R. Amin, B. Trapnell, R. Wood, C. Kercsmar, K. McDowell **Second Row:** J. Acton, W. Hardie, G. McPhail, P. Boesch, L. Young **Third Row:** A. Shamsuzzaman, R. Bokulic, H. Sawhani, D. Grossoehme, B. Chini, R. Vandyke

Division Data Summary

Research and Training Details

Number of Faculty	17
Number of Joint Appointment Faculty	7
Number of Research Fellows	1
Number of Support Personnel	66
Direct Annual Grant Support	\$1,758,555
Direct Annual Industry Support	\$308,728
Peer Reviewed Publications	38

Clinical Activities and Training

Number of Clinical Staff	2
Number of Clinical Fellows	5
Inpatient Encounters	420
Outpatient Encounters	8,441

Faculty Members

Raouf Samy Amin, MD, Professor ; *Director, Division of Pulmonary Medicine*

Research Interests: Cardiovascular morbidity of sleep apnea in children

James Acton, MD, Assistant Professor Clinical ; *Director, Cystic Fibrosis Center*

Research Interests: Areas of research interest include Cystic Fibrosis (CF), quality improvement, clinical outcomes and pulmonary function testing in infants.

R. Paul Boesch, DO, Assistant Professor Clinical ; *Director, Transitional Care Center*

Ronald Bokulic, DO, Associate Professor Clinical

Barbara Chini, MD, Associate Professor Clinical ; *Director, Pulmonary Fellowship Program*

Research Interests: Sleep Disordered Breathing, Outcomes Research, Self-Management of Chronic diseases

William Hardie, MD, Associate Professor Clinical ; *Director, Pulmonary Function Laboratory*

Research Interests: Molecular mechanism of pulmonary fibrosis, pediatric pulmonary function tests, pediatric pneumonia complications

Patricia Joseph , MD, Associate Professor

Research Interests: Cystic fibrosis infections and quality improvement

Maninder Kalra, MD, Assistant Professor Clinical

Research Interests: Genetic susceptibility for OSA in children; Sleep disordered breathing associated with neuromuscular disorders

Carolyn Kercksmar, MD, Professor ; *Director, Asthma Center*

Research Interests: Asthma, inner city asthma, clinical outcomes and clinical trials, airway inflammation

Karen McDowell, MD, Associate Professor

Research Interests: Asthma, wheezing in infants, bronchoscopy, BAL, quality improvement, clinical outcomes

Gary McPhail, MD, Assistant Professor

Research Interests: Cystic fibrosis, quality improvement, clinical outcomes, pulmonary vascular disease

Michael Seid, PhD, Professor ; *Director, Health Outcomes and Quality Care Research*

Research Interests: Health outcomes for children with chronic health conditions, interventions to overcome barriers to care and adherence, clinical behavior and effects on self-management, quality improvement research, h

Abu Shamsuzzaman, MD, Research Assistant Professor

Research Interests: Sleep and Cardiovascular Diseases

Narong Simakajornboon, MD, Associate Professor ; *Director, Sleep Disorders Center; Program Director, Sleep Medicine Fellowship*

Research Interests: Sleep-disordered breathing in children, sleep apnea, restless legs syndrome, periodic limb movement disorders

Robert Wood, PhD, MD, Professor ; *Director, Pulmonary Bronchology Program*

Research Interests: Airway abnormalities; pulmonary alveolar proteinosis

Jamie L. Wooldridge, MD, Assistant Professor

Research Interests: Cystic fibrosis, cystic fibrosis related diabetes, abnormal metabolism and growth in cystic fibrosis

Lisa Young, MD, Assistant Professor ; *Director, Pediatric Rare Lung Diseases Program*

Research Interests: Interstitial lung disease, lymphangiomyomatosis, rare lung diseases

Joint Appointment Faculty Members

Julio Aliberti, PhD, Assistant Professor

Molecular Immunology

Thomas Boat, MD, Professor

Preventive, Predictive Medicine

Kelly Byars, PsyD, Assistant Professor

Psychology

Current research focuses on improving the assessment and treatment of pediatric insomnia and pediatric obstructive sleep apnea

Daniel Grosseohme, DMin, BCC, Research Assistant Professor

Pastoral Care

Cystic fibrosis, religious/spiritual coping, adherence

Christopher Karp, MD, PhD, Professor

Molecular Immunology

Bruce Trapnell, MD, Professor

Neonatology and Pulmonary Biology

Rhonda VanDyke, PhD, Assistant Professor

Biostatistics & Epidemiology

Current areas of interest are Mixture Models and Functional Data Analysis with focus on Bayesian statistics, primarily using Markov Chain Monte Carlo. Content-specific areas include integration of fMRI and MEG modalities;

Clinical Staff Members

- **Julie Malkin, PNP**
- **Jeanne Weiland, PNP**

Trainees

- **Hemant Sawnani, MD**, PL-7, Staff Physician, Avera Children's
- **Joseph Crisalli, MD**, PL-6, Cincinnati Children's Hospital Medical Center-Pediatrics
- **Patrick Sobande, MD**, PL-6, Harlem Hospital Center/Columbia
- **Elizabeth Bacon, MD**, PL-5, Blank Children's Hospital
- **Mathew Ednick, DO**, PL-4, Maimonides Medical Center Brooklyn

Significant Accomplishments in FY08

Asthma Center

The Asthma Center's goal is to become the premier site for the diagnosis and treatment of asthma through the innovative application of basic, translational, clinical and health care delivery research to improve outcomes. We are developing a multidisciplinary, comprehensive clinical asthma program that networks the region and spans care at the medical center and within the community. We are launching multidisciplinary clinics staffed with pulmonologists, allergists, and specialty nurses that will provide broad and complete diagnostic testing and clinical care. Our efforts are supported by a research and clinical testing and diagnostic core facility equipped with state of the art testing equipment for lung diseases, including measurement of exhaled nitric oxide, exhaled breath condensate, induced sputum, and specialized pulmonary function testing. This facility is supported by a grant from the Translational Research Initiative. We have developed a set of key outcome measures that will allow us to track effectiveness and outcomes of our programs; a unified patient registry encompassing Asthma Center, Allergy, General Pediatrics, Adolescent Medicine, Pulmonary, is also under development. The Asthma Center recruited a second clinical pulmonologist, Karen McDowell, MD who in addition to seeing asthma patients, will be the assistant director of the research and clinical testing core and is a member of the bronchoscopy service. The Asthma Center is participating in a number of diverse research projects. Dr. Kerckmar is an investigator in the NIH funded National Cooperative Inner City Asthma Study. She is also a collaborator with Dr. Michael Seid in an NIH funded project that is using cell phone technology to support a tailored problem solving asthma intervention for adolescents. Dr. Kerckmar is also a co-investigator with Dr. Gurjit Hershey on a project aimed at understanding the molecular phenotype of asthmatic children with acute exacerbations. The creation of an asthma research division within the Asthma Center will help solidify and advance our research efforts.

Sleep Disorders Center

The Sleep Disorders Center at the Cincinnati Children's Hospital Medical Center is one of the premier pediatric sleep centers in the Nation. The center provides multi-disciplinary evaluation and comprehensive management for children with sleep problems ranging from behavior to respiratory and non-respiratory sleep disorders. The clinical sleep services are offered through multiple sleep clinics including sleep apnea, sleep disorders, behavior sleep medicine and sleep neuromuscular. The staff at the center includes board certified sleep physicians, a board certified sleep psychologist, a sleep neuropsychologist, a nurse practitioner, registered polysomnographic technologists, and clinical nurses. In addition, we provide access to consultants from various disciplines including pediatric otolaryngology, neurology, craniofacial team, child psychiatry, gastroenterology and developmental pediatrics. Our 8-bed sleep laboratory is the state-of-the-art facility which is specifically designed to evaluate a variety of sleep disorders including sleep disordered breathing, periodic limb movement disorder, narcolepsy, parasomnia, etc. The sleep center is fully accredited by the American Academy of Sleep Medicine (AASM). The center houses an ACGME accredited sleep medicine fellowship training program, one of the few pediatric sleep training programs in the country. The fellowship is a two-year program and is designed to provide excellent clinical and research training and to create a strong foundation for young physicians who plan to pursue an academic career in pediatric sleep medicine. The center has been an international leader in conducting clinical research in sleep medicine.

Rare Lung Diseases

This newly developed program provides care to children with interstitial lung diseases and fibrosis as well as rib cage abnormalities. The program is based on close collaborations with multiple divisions, namely Hematology, Pathology, Radiology, General Surgery and Orthopedic Surgery. The program is becoming nationally recognized for its clinical care

Significant Publications in FY08

Amin R, Leonard A, Somers V, Fenchel M, McConnell K, Jefferies J, Willging P, Kalra M, Daniels S (2008) Growth Velocity Predicts Recurrence of Sleep-disordered Breathing 1 Year after Adenotonsillectomy. Am J Respir Crit Care Med 177(6): 654-9.

Scientific Knowledge on the Subject: The current practice is to treat children with sleep-disordered breathing (SDB) by adenotonsillectomy without clear guidelines for postoperative follow-up to assess recurrence.

What This Study Adds to the Field: Three clinical parameters confer independent increased risk for high recurrence of SDB after adenotonsillectomy: gain velocity in BMI, obesity, and being African American. Rapid body mass index gain is an independent risk for recurrence after adenotonsillectomy. Recurrence is associated with an increase in blood pressure that is independent of body mass index.

Hardie WD, Davidson C, Ikegami M, Leikauf GD, Le Cras TD, Prestridge A, Whitsett JA, Korfhagen TR (2008). EGF receptor tyrosine kinase inhibitors diminish transforming growth factor-alpha-induced pulmonary fibrosis. Am J Physiol Lung Cell Mol Physiol 294(6):L1217-25.

This article demonstrates the "proof-of-concept" that small molecule tyrosine kinase inhibitors targeting the epidermal growth factor receptor not only effectively inhibit progression of lung fibrosis, but also reverse established fibrosis in the transforming growth factor-alpha transgenic lung fibrosis model. These results support future studies to examine the role of EGFR activation in human fibrosis, which may be amenable to EGFR-targeted therapy.

Szeffler SJ, Mitchell H, Sorkness CA, Gergen PJ, O'Connor GT, Morgan WJ, Kattan M, Pongracic JA, Teach SJ, Bloomberg GR, Eggleston PA, Gruchalla RS, Kercsmar CM, Liu AH, Wildfire JJ, Curry MD, Busse WW. Management of asthma based on exhaled nitric oxide in addition to guideline-based treatment for inner-city adolescents and young adults: A randomized controlled trial. Lancet 2008; 372: 1065-72.

This study provides important new information in several areas. First, the data demonstrate that the NHLBI guidelines for the management of asthma can be implemented. In addition, use of those guidelines to establish and adjust medical treatment for inner city adolescents with asthma results in rapid and excellent control of asthma over the course of one year. However, nearly 30% of the patients did not achieve good control. The use of a biomarker, exhaled nitric oxide, which is widely believed to be a marker of airway inflammation, in addition to the guideline level care, did not result in improved asthma outcomes (symptom days, hospitalizations, ER visits). There were fewer exacerbations requiring prednisone in the eNO group. Moreover, patients in the eNO group received higher doses of inhaled corticosteroids over the course of the study. Adherence to treatment and retention in the study were very high.

Conclusions: Implementation of guideline level care results in excellent asthma control for most, but not all inner city adolescents with asthma. Although eNO is thought to be an attractive, non-invasive biomarker for asthma, it failed to improve control when used in addition to guideline level care.

Seid, M (2008). Barriers to care and primary care for vulnerable children with asthma. Pediatrics, 122(5), 994-1002.

Primary care is important for children with asthma. We know which groups of children are likely to experience poorer primary care but not why and how this occurs. Such knowledge is necessary for reducing disparities. This study measures 'barriers to care' and shows that they predict primary care experiences, beyond sociodemographic and access variables, in a highly vulnerable sample. Because barriers are modifiable, there are important implications for intervention.

LR Young, Y Inoue, and FX McCormack. "Diagnostic Potential of Serum VEGF-D for Lymphangioliomyomatosis." (2008) New England Journal of Medicine, 358:199-200.

Lymphangioliomyomatosis (LAM) is a progressive cystic lung disease of women. The diagnosis of sporadic LAM (S-LAM) can be made on clinical and radiographic grounds if an angiomyolipoma (AML) or chylous effusion is present. However, for the majority of women with S-LAM without AMLs or chylous disease, lung biopsy is required to distinguish LAM from other clinically overlapping disorders. Vascular endothelial growth factor-D (VEGF-D) is a lymphangiogenic growth factor. In this study, we report that serum VEGF-D levels are elevated in women with LAM,

but not in patients with lymphangiomatosis, pulmonary Langerhans cell histiocytosis, and emphysema. Furthermore VEGF-D levels were much higher in women with the tuberous sclerosis complex (TSC) and LAM than in women with TSC and normal high-resolution CT scans. Therefore, serum VEGF-D may be a clinically useful diagnostic test that can distinguish LAM from other cystic and chylous lung diseases, potentially decreasing the need for lung biopsy.

Division Highlights

Raouf Amin, MD

Research on mechanisms of cardiovascular morbidity secondary to obstructive sleep apnea in children and the neurocognitive outcome of the disease is funded by the National Institutes of Health. This research which is conducted in collaboration with Otolaryngology examines the efficacy of adenotonsillectomy in children with sleep apnea. This is the first randomized controlled trial that is conducted in this patient population.

Michael Seid, PhD

Research on Pulmonary Outcomes which is funded by the National Institutes of Health examines the modifiable factors which influence the outcomes of Cystic Fibrosis and asthma.

William Hardie, MD

Research on Pulmonary Fibrosis examines specific pathways leading to pulmonary fibrosis. This research is funded by the National Institutes of Health. A strong translational research to reverse pulmonary fibrosis is in progress.

Lisa Young, MD

Research on a mouse Model of Interstitial Lung Disease examines mechanisms of Pulmonary inflammation is funded by the National Institutes of Health

Bruce Trapnell, MD

The Cystic Fibrosis Clinical Research Program succeeded in becoming the best performing center in the country in conducting clinical trials in CF.

Jamie Wooldridge, MD

Developed a new investigator initiated research focus on CF metabolism. Collaboration between Pulmonary Medicine, Endocrinology and Molecular Immunology set the stage for the initiation of several projects which are now funded through the Cystic Fibrosis Foundation

Division Collaboration

Collaboration with Pediatric Otolaryngology/Head and Neck Surgery; Pediatric Surgery; Gastroenterology, Hepatology and Nutrition; Interdisciplinary Feeding Clinic

Collaborating Faculty: Robin Cotton, MD; Richard Azizkhan, MD; Alessandro de Alarcon, MD; Victor Garcia, MD; Thomas Inge, MD; Ajay Kaul, MD; Charles Myer III, MD; Philip Putnam, MD; Michael Rutter, MD; Sally Shott, MD; Paul J. Willging, MD

Aerodigestive and Sleep Center - Treatment of chronically ill children with complex airway, pulmonary, upper digestive tract, sleep, and feeding disorders.

Collaboration with Anesthesia; Cardiology; Endocrinology; Gastroenterology; Genetic Counseling; Neurology; Nutrition Therapy; Orthopaedics; Palliative Care; Pediatric Surgery; Physical Therapy; Rehabilitative Medicine

Collaborating Faculty: Norbert Weidner, MD; D. Woodrow Benson, MD, PhD; Linda Cripe, MD; Robert Spicer, MD; Susan Rose, MD; Meilan Rutter, MD; Ajay Kaul, MD; Martha Walker, MS; Brenda Wong, MD; Madeline Chadehumbe, MD; Twee Do, MD; A. Atiq Durrani, MD; Mark Meyer, MD; Thomas Inge, MD; Mary McMahon, MD

Neuromuscular Care Initiative - Treatment of children with neuromuscular disorders

Collaboration with Allergy and Immunology; General Pediatrics

Collaborating Faculty: Amal Assa'ad, MD; Gurjit Hershey, MD; Maria Britto, MD; Thomas DeWitt, MD; Mona Mansour, MD; Jeffrey Simmons, MD

Asthma Center - Treatment of children and adolescents with asthma; development of an asthma repository

Collaboration with Pulmonary Biology; Radiology; Pulmonary Medicine, University of Cincinnati; Orthopedics

Collaborating Faculty: Alan Brody, MD; Alvin Crawford, MD; Gail Deutsch, MD; A. Atiq Durrani, MD; Thomas Inge, MD; Bruce Trapnell, MD

Diagnosis and management of children with rare lung diseases, including interstitial lung disease, surfactant mutations, lung development disorders, lymphatic disorders, and chronic lung disease associated with immunodeficiency/immune dysfunction, rheumatologic disorders, and other systemic disorders.

Collaboration with Cardiology; Neurology; Radiology; Otolaryngology

Collaborating Faculty: Robin Cotton, MD; Lane Donnelly, MD; Thomas Kimball, MD; Timothy Knilans, MD; Sally Shott, MD; J. Paul Willging, MD

Sleep Research: Cardiovascular morbidity secondary to obstructive sleep apnea in children and the neurocognitive outcome of the disease

Collaboration with Pulmonary Biology

Collaborating Faculty: Thomas Korfhagen, MD; Jeffrey Whitsett, MD

Pulmonary Fibrosis Research

Collaboration with Molecular Immunology; Pulmonary Biology

Collaborating Faculty: Julio Aliberti, PhD; Christopher Karp, MD, PhD; Bruce Trapnell, MD; Jeff Whitsett, MD

Cystic Fibrosis Research

Mentions in Consumer Media

- [Chronic Snoring Remains After Surgery for Obese and African-American Children](#) Medical News Today , Web Site

Division Publications

1. Gibson RL, Emerson J, Mayer-Hamblett N, Burns JL, McNamara S, Accurso FJ, Konstan MW, Chatfield BA, Retsch-Bogart G, Waltz DA, Acton J, Zeitlin P, Hiatt P, Moss R, Williams J, Ramsey BW. [Duration of treatment effect after tobramycin solution for inhalation in young children with cystic fibrosis](#) . *Pediatr Pulmonol*. 2007; 42: 610-23.
2. Amin R. "Inflammatory association with childhood obstructive sleep apnea syndrome ." In: CL Marcus, J Carroll, D Donnelly, G Loughlin, eds. *Sleep and breathing in children : developmental changes in breathing during sleep (Lung biology in health and disease; v.224)*. New York: Informa Healthcare; 2008: 489-501.
3. Amin R, Anthony L, Somers V, Fenchel M, McConnell K, Jefferies J, Willging P, Kalra M, Daniels S. [Growth velocity predicts recurrence of sleep-disordered breathing 1 year after adenotonsillectomy](#) . *Am J Respir Crit Care Med*. 2008; 177: 654-9.
4. Amin R, Somers VK, McConnell K, Willging P, Myer C, Sherman M, McPhail G, Morgenthal A, Fenchel M, Bean J, Kimball T, Daniels S. [Activity-adjusted 24-hour ambulatory blood pressure and cardiac remodeling in children with sleep disordered breathing](#) . *Hypertension*. 2008; 51: 84-91.
5. Romero-Corral A, Somers VK, Pellikka PA, Olson EJ, Bailey KR, Korinek J, Orban M, Sierra-Johnson J, Kato M, Amin RS, Lopez-Jimenez F. [Decreased right and left ventricular myocardial performance in obstructive sleep apnea](#) . *Chest*. 2007; 132: 1863-70.
6. Boat T, Acton JF. "Cystic fibrosis." In: R Kliegman, R Behrman, H Jenson, B Stanton, eds. *Nelson textbook of pediatrics*. Philadelphia: Saunders/Elsevier; 2007: 1803-1817.
7. Boat TF. [The future of pediatric research](#) . *J Pediatr*. 2007; 151: S21-7.
8. Boat TF, Chao SM, O'Neill PH. [From waste to value in health care](#) . *JAMA*. 2008; 299: 568-71.
9. Sandler I, Boat TF. [Implications of parental bereavement and other family adversities for preventive and health promotion pediatric services](#) . *Arch Pediatr Adolesc Med*. 2008; 162: 487-8.
10. Boesch RP, Acton JD. [Outcomes of fundoplication in children with cystic fibrosis](#) . *J Pediatr Surg*. 2007; 42: 1341-4.
11. Byars KC, Amin R. "Fatigue and sleep disorders." In: GB Slap, ed. *Adolescent medicine: the requisites in pediatrics*. Philadelphia: Elsevier; 2008: 110-116.
12. Cotton S, Grossoehme DH, Tsevat J. "Religion/spirituality and health in adolescents." In: TG Plante, CE Thoresen, eds. *Spirit, science and health: how the spiritual mind fuels physical wellness*. Westport, CT: Greenwood; 2007: 143-156.
13. Grossoehme DH. [Development of a spiritual screening tool for children and adolescents](#) . *J Pastoral Care Counsel*. 2008; 62: 71-85.

14. Grosseohme DH, Cotton S, Leonard A. [Spiritual and religious experiences of adolescent psychiatric inpatients versus healthy peers](#). *J Pastoral Care Counsel*. 2007; 61: 197-204.
15. VandeCreek L, Grosseohme DH, Ragsdale JR, McHenry CL, Thurston C. **Attention to spiritual/religious concerns in pediatric practice. What clinical situations? What educational preparation?**. *Chaplaincy Today*. 2007; 23: 3-9.
16. Deshmukh HS, Shaver C, Case LM, Dietsch M, Wesselkamper SC, Hardie WD, Korfhagen TR, Corradi M, Nadel JA, Borchers MT, Leikauf GD. [Acrolein-activated matrix metalloproteinase 9 contributes to persistent mucin production](#). *Am J Respir Cell Mol Biol*. 2008; 38: 446-54.
17. Hardie WD, Davidson C, Ikegami M, Leikauf GD, Le Cras TD, Prestridge A, Whitsett JA, Korfhagen TR. [EGF receptor tyrosine kinase inhibitors diminish transforming growth factor-alpha-induced pulmonary fibrosis](#). *Am J Physiol Lung Cell Mol Physiol*. 2008; 294: L1217-25.
18. Hardie WD, Korfhagen TR, Sartor MA, Prestridge A, Medvedovic M, Le Cras TD, Ikegami M, Wesselkamper SC, Davidson C, Dietsch M, Nichols W, Whitsett JA, Leikauf GD. [Genomic profile of matrix and vasculature remodeling in TGF-alpha induced pulmonary fibrosis](#). *Am J Respir Cell Mol Biol*. 2007; 37: 309-21.
19. Kramer EL, Deutsch GH, Sartor MA, Hardie WD, Ikegami M, Korfhagen TR, Le Cras TD. [Perinatal increases in TGF- \$\alpha\$ disrupt the saccular phase of lung morphogenesis and cause remodeling: microarray analysis](#). *Am J Physiol Lung Cell Mol Physiol*. 2007; 293: L314-27.
20. Fricke BL, Abbott MB, Donnelly LF, Dardzinski BJ, Poe SA, Kalra M, Amin RS, Cotton RT. [Upper airway volume segmentation analysis using cine MRI findings in children with tracheostomy tubes](#). *Korean J Radiol*. 2007; 8: 506-11.
21. Guimaraes CV, Kalra M, Donnelly LF, Shott SR, Fitz K, Singla S, Amin RS. [The frequency of lingual tonsil enlargement in obese children](#). *AJR Am J Roentgenol*. 2008; 190: 973-5.
22. Kalra M, Pal P, Kaushal R, Amin RS, Dolan LM, Fitz K, Kumar S, Sheng X, Guha S, Mallik J, Deka R, Chakraborty R. [Association of ApoE genetic variants with obstructive sleep apnea in children](#). *Sleep Med*. 2008; 9: 260-5.
23. Kercksmar CM. [Meeting the challenges of asthma: conference summary](#). *Respir Care*. 2008; 53: 787-95.
24. McPhail GL, Hardie WD. [Cavitary lung lesions in a 2-year-old child](#). *Respiration*. 2008; 76: 117-8.
25. Krugman SD, Racine A, Dabrow S, Sanguino S, Meyer W, Seid M, Serwint JR. [Measuring primary care of children in pediatric resident continuity practices: a Continuity Research Network study](#). *Pediatrics*. 2007; 120: e262-71.
26. Lotstein D, Seid M, Ricci K, Leuschner K, Margolis P, Lurie N. [Using quality improvement methods to improve public health emergency preparedness: PREPARE for Pandemic Influenza](#). *Health Aff (Millwood)*. 2008; 27: w328-39.
27. Mattke S, Seid M, Ma S. [Evidence for the effect of disease management: is \\$1 billion a year a good investment?](#). *Am J Manag Care*. 2007; 13: 670-6.
28. Seid M, Lotstein D, Williams VL, Nelson C, Leuschner KJ, Diamant A, Stern S, Wasserman J, Lurie N. [Quality improvement in public health emergency preparedness](#). *Annu Rev Public Health*. 2007; 28: 19-31.
29. Singh P, Hoffmann M, Wolk R, Shamsuzzaman AS, Somers VK. [Leptin induces C-reactive protein expression in vascular endothelial cells](#). *Arterioscler Thromb Vasc Biol*. 2007; 27: e302-7.
30. Naqvi SK, Sotelo C, Murry L, Simakajornboon N. [Sleep architecture in children and adolescents with cystic fibrosis and the association with severity of lung disease](#). *Sleep Breath*. 2008; 12: 77-83.
31. Sobande PO, Acton JD, Amin RS, Weiland J. [Obliterative bronchiolitis in a 13-year-old pre-transplant cystic fibrosis patient](#). *J Cyst Fibros*. 2008; 7: 92-4.
32. Sobande PO, Kercksmar CM. [Inhaled corticosteroids in asthma management](#). *Respir Care*. 2008; 53: 625-33; discussion 633-4.
33. Elder DA, Wooldridge JL, Dolan LM, D'Alessio DA. [Glucose tolerance, insulin secretion, and insulin sensitivity in children and adolescents with cystic fibrosis and no prior history of diabetes](#). *J Pediatr*. 2007; 151: 653-8.
34. Bissler JJ, McCormack FX, Young LR, Elwing JM, Chuck G, Leonard JM, Schmithorst VJ, Laor T, Brody AS, Bean J, Salisbury S, Franz DN. [Sirolimus for angiomyolipoma in tuberous sclerosis complex or lymphangioleiomyomatosis](#). *N Engl J Med*. 2008; 358: 140-51.
35. Deutsch GH, Young LR, Deterding RR, Fan LL, Dell SD, Bean JA, Brody AS, Nogee LM, Trapnell BC, Langston C, Albright EA, Askin FB, Baker P, Chou PM, Cool CM, Coventry SC, Cutz E, Davis MM, Dishop MK, Galambos C, Patterson K, Travis WD, Wert SE, White FV. [Diffuse lung disease in young children: application of a novel classification scheme](#). *Am J Respir Crit Care Med*. 2007; 176: 1120-8.
36. Thomas H, Risma KA, Graham TB, Brody AS, Deutsch GH, Young LR, Joseph PM. [A kindred of children with interstitial lung disease](#). *Chest*. 2007; 132: 221-30.
37. Young LR, Inoue Y, McCormack FX. [Diagnostic potential of serum VEGF-D for lymphangioleiomyomatosis](#). *N Engl J Med*. 2008; 358: 199-200.

38. Young LR, Pasula R, Gulleman PM, Deutsch GH, McCormack FX. [Susceptibility of Hermansky-Pudlak mice to bleomycin-induced type II cell apoptosis and fibrosis](#). *Am J Respir Cell Mol Biol*. 2007; 37: 67-74.

Grants, Contracts, and Industry Agreements

Grant and Contract Awards

Annual Direct / Project Period Direct

Acton, J

Cystic Fibrosis Center Program Accreditation And Funding

Cystic Fibrosis Foundation

C090-06

07/01/94 - 06/30/08

\$111,255 / \$983,243

Amin, R

Pediatric Sleep Research Training Program

National Institutes of Health

K24 HL 078989

08/01/05 - 05/31/10

\$137,563 / \$685,113

Vascular Functions In Children With Sleep Disorders

National Institutes of Health

R01 HL 080670

08/15/06 - 06/30/11

\$380,074 / \$2,000,673

Randomized Control Study of Adenotonsillectomy for Childhood Sleep Apnea

National Institutes of Health (Case Western University)

U01 HL 083075

09/15/06 - 07/31/11

\$225,913 / \$955,951

Bacon, E

Cystic Fibrosis Foundation Clinical Fellowship Training Grant

Cystic Fibrosis Foundation

07/01/07 - 06/30/09

\$56,250 / \$115,218

Hardie, W

Growth Factor Protection in Acute Lung Injury

National Institutes of Health (University of Pittsburgh)

R01 HL 077763

12/15/05 - 11/30/09

\$39,571 / \$256,536

Functional Genomics of Chemical Induced Acute Lung Injury

National Institutes of Health (University of Pittsburgh)

U01 ES 015675

09/29/06 - 05/31/11

\$26,932 / \$175,000

Epidermal Growth Factor Receptor Activation in Pulmonary Fibrosis

National Institutes of Health

R01 HL 086598

04/01/07 - 03/31/12

\$250,000 / \$1,250,000

Kalra, M

Training Program in Environmental Toxicology

National Institutes of Health (University of Cincinnati)

T32 ES 010957

07/01/06 - 06/30/08

\$51,036 / \$102,072

Quantifying the Upper Airway Flow Characteristics in Obstructive Sleep Apnea

University of Cincinnati Research Council

01/01/08 - 12/31/08

\$25,000 / \$25,000

Seid, M

CCHA/CCS NICU Collaborative

California Children's Hospital Association

01/01/07 - 12/31/08

\$6,120 / \$14,120

Shamsuzzaman, A

Mechanisms Linking Congenital Long QT Syndrome to Sleep

American Heart Association - National

0730129N

07/01/07 - 12/31/10

\$59,091 / \$196,364

Trapnell, B

Therapeutics Development Center Network

Cystic Fibrosis Foundation Therapeutics, Inc.

TRAPNE03Y5

11/01/04 - 10/31/08

\$100,000 / \$1,048,469

Wood, R**2007 Pediatric Flexible Bronchoscopy Course**

Olympus America, Inc

08/17/07 - 08/16/08

\$50,000 / \$50,000

Young, L**Alveolar Cell Dysfunction and Pulmonary Fibrosis**

American Thoracic Society

01/01/07 - 12/31/08

\$50,000 / \$100,000

Utility of VEGF-D Levels as a Biomarker in Lymphagioleiomyomatosis

The LAM Foundation

01/01/08 - 12/31/08

\$25,000 / \$25,000

Alveolar Cell Dysfunction and Pulmonary Fibrosis

Parker B Francis Fellowship Program

07/01/07 - 06/30/10

\$46,000 / \$144,000

Alveolar Cell Dysfunction and Pulmonary Fibrosis

National Institutes of Health

K08 HL 082757

04/01/07 - 03/31/12

\$118,750 / \$592,381

Current Year Direct**\$1,758,555****Industry Contracts****Acton, J**

Chiron Corporation

\$ 8,800

PPD Development

\$ 24,669

Amin, R

Corus Pharma Inc.

\$ 83,228

Inspire Pharmaceuticals, Inc.

\$ 123,409

Solvay Pharmaceuticals

\$ 61,190

Wooldridge, J

Boehringer Ingelheim Pharmaceuticals

\$ 3,681

PPD Development

\$ 3,751

Current Year Direct Receipts**\$308,728****Total \$2,067,283**