

Division Data Summary

Research and Training Details

Number of Faculty	19
Number of Joint Appointment Faculty	6
Number of Support Personnel	45
Direct Annual Grant Support	\$2,271,650
Direct Annual Industry Support	\$177,095
Peer Reviewed Publications	43

Clinical Activities and Training

Number of Clinical Staff	55
Number of Clinical Fellows	9
Number of Other Students	2
Inpatient Encounters	692
Outpatient Encounters	8464

Division Photo



Row 1: J Crisalli, R Amin, C Kerckmar, N Simakajornboon
Row 2: K McDowell, H Sawhani, P Joseph, R VanDyke, L Young
Row 3: M Ednick, W Hardie, M Seid, J Clancy, D Grossoehme

Significant Publications

Seid M, Varni JW, Gidwani P, Reyes Gelhard L, Slymen D. **Problem-solving skills training for vulnerable families of children with persistent asthma: Report of a randomized trial on health-related quality of life outcomes.** *J Pediatr Psychol.* 35(10): 1133-1143. 2010.

This clinical trial demonstrated the efficacy of problem-solving skills in improving health-related quality of life in vulnerable families of children with persistent asthma. It won the Diane J. Willis Award for outstanding article in the *Journal of Pediatric Psychology* for 2010.

Young LR, **VanDyke R**, Gulleman PM, Inoue Y, Brown KK, Schmidt LS, Linehan WM, Hajjar F, Kinder BW, Trapnell BC, Bissler JJ, Franz DN, McCormack FX. **Vascular Endothelial Growth Factor D for the Serodiagnosis of Lymphangioleiomyomatosis.** *Chest.* 138(3):674-81. 2010.

Lymphangioleiomyomatosis (LAM) is a progressive, frequently fatal lung disease, which typically requires surgical lung biopsy for diagnostic confirmation. This study demonstrates that serum VEGF-D can be used to non-invasively diagnosis LAM in the majority of cases, and establishes serum VEGF-D as one of the very few diagnostic blood tests for lung disease.

Young LR, Brody A, Acton J, Inge T, Bokulic R, Langston C, Deutsch GH. **Neuroendocrine Cell Distribution and Frequency Distinguish Neuroendocrine cell Hyperplasia of Infancy from Other Pulmonary Disorders.** *Chest.* Epub Sept 30, 2010.

Neuroendocrine cell Hyperplasia of Infancy (NEHI) is a recently described lung disorder which causes significant morbidity in young children. This manuscript provides histologic diagnostic criteria, reports novel

clinical disease features including infant pulmonary function test data, and provides insight into disease pathophysiology and mechanisms.

Accurso FJ, Rowe SM, **Clancy JP**, Boyle MP, Dunitz JM, Durie PR, et al. **Effect of VX-770 in persons with cystic fibrosis and the G551D-CFTR mutation.** *N Engl J Med.* 363(21):1991-2003. Nov 18, 2010.

Dr. Clancy played an integral role in a recent high profile publication related to restoring CFTR function (Accurso, FJ, Rowe SM, Clancy JP, et al. **Effect of VX-770 in persons with cystic fibrosis and the G551D-CFTR mutation.** *N Engl J Med.* 363(21): 1991-2003. Nov 18, 2010.). VX-770 is an oral agent designed to activate mutant CFTR and potentially help many CF-causing mutations. In this study, VX-770-treated CF patients demonstrated unprecedented improvements in CFTR activity and lung function, with improvements seen in some markers after only three days of treatment. The results have recently been confirmed in a Phase III trial of VX-770 in CF, and FDA approval may be as soon as early 2012. Dr. Clancy was a critical member of the study development team, and centrally reviewed and scored all of the patient data measuring airway CFTR activity. He continues to be active in the development of new CFTR-directed therapies.

Division Highlights

Raouf Amin, M.D.

A collaborative in research which includes the division of Pulmonary Medicine, Otolaryngology, Radiology and Aerospace Engineering was funded by the NIH (Contact PI: Raouf Amin). The research aims at understanding the mechanisms of obstructive sleep apnea in children with Down Syndrome. Simulation models will be developed to predict the outcomes of surgical intervention aiming at treating upper airway obstruction. It is anticipated that the knowledge gained will translate into novel treatment of sleep apnea.

Michael Seid, Ph.D.

Dr. Seid's research focuses on using behavioral and social science to improve care and outcomes for children with chronic health conditions. He has been Principal Investigator of numerous federally-funded grants, including grants to measure quality of care for vulnerable children (R01 HS10317), to reduce barriers to care for vulnerable children with asthma (R40 MC 001214/08044), to determine predictors of health-related quality of life for children with juvenile idiopathic arthritis (R01 subcomponent of P60 AR047784-06A2, Glass PI) and to develop and test a cell-phone based adherence intervention for adolescents with asthma (R21HL089524) and Type 1 diabetes (R21DK085483). Dr. Seid is the Research Center Director of CCHMC's AHRQ-funded Center for Education and Research in Therapeutics (CERT; U18HS016957, Lannon PI), focusing on using learning networks for comparative effectiveness and safety research. He is also Co-PI for a Transformative R01 (R01DK085719), "Open Source Science: Transforming Chronic Illness Care," which aims to design, develop, and test a new system for chronic illness care based on collaboration among patients, providers, and researchers.

Division Collaboration

Pediatric Otolaryngology/Head and Neck Surgery; Pediatric Surgery; Gastroenterology, Hepatology and Nutrition; Interdisciplinary Feeding Clinic » Richard Azizkhan, M.D.; Robin Cotton, M.D.; Alessandro de Alarcon, M.D.; Thomas Inge, M.D.; Ajay Kaul, M.D.; Charles Myer, M.D.; Philip Putnan, M.D.; Michael Rutter, M.D.; Sally Shott, M.D.; Paul Willging, M.D.

Aerodigestive and Sleep Center-Treatment of chronically ill children with complex airway, pulmonary, upper

digestive tract, sleep and feeding disorders.

Anesthesia; Cardiology; Endocrinology; Developmental and Behavioral Pediatrics; Gastroenterology, Hepatology and Nutrition; Genetic Counseling; International Health; Neurology; Nutrition Therapy; Orthopaedics; Palliative Care; Pediatric Surgery; Physical Therapy; Rehabilitative Medicine; Social Work »

Rebecca Brown, M.D.; Jim Collins, M.D.; Linda Cripe, M.D.; Thomas Inge, M.D.; Viral Jain, M.D.; Ajay Kaul, M.D.; Mary McMahon, M.D.; Mark Meyer, M.D.; Susan Rose, M.D.; Meilan Rutter, M.D.; Irena Rybalsky, M.D.; David Schonfeld, M.D.; Robert Spicer, M.D.; Jeffrey Towbin, M.D.; Martha Walker, M.S.; Norbert Weidner, M.D.; Brenda Wong, M.D.

Comprehensive Neuromuscular Center - Treatment of children with neuromuscular disorders.

Allergy and Immunology; General Pediatrics » Amal Assa'ad, M.D.; Gurjit Hershey, M.D.; Maria Britto, M.D.; Thomas DeWitt, M.D.; Keith Mandel, M.D.; Mona Mansour, M.D.; Marc Rothenberg, M.D.; Jeffrey Simmons, M.D.

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

Molecular Immunology; Pulmonary Biology » Julio Aliberti, Ph.D.; John P. Clancy, M.D.; Christopher Karp, M.D.; Bruce Trapnell, M.D.; Jeff Whitsett, M.D.

Cystic Fibrosis Research

Pulmonary Biology » Thomas Korfhagen, M.D.; Jeffrey Whitsett, M.D.

Pulmonary Fibrosis Research

Pulmonary Biology; Radiology; Orthopaedics; University of Cincinnati » Alan Brody, M.D.; Alvin Crawford, M.D.; Gail Deutsch, M.D.; Thomas Inge, M.D.; Bruce Trapnell, M.D.

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

Cardiology; Endocrinology; Neurology; Otolaryngology; Pediatric Surgery; Psychology; Radiology » Dean Beebe, Ph.D.; Alan Brody, M.D.; Robin Cotton, M.D.; Larry Dolan, M.D.; Lane Donnelly, M.D.; Chuck Dumoulin, M.D.; Robert Fleck, M.D.; Thomas Inge, M.D.; Thomas Kimball, M.D.; Timothy Knilans, M.D.; Sally Shott, M.D.; Wanaka Wasapura, M.D.; J. Paul Willging, M.D.

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

Audiology; Human Genetics; Neurosurgery; Otolaryngology; Pediatric Dentistry; Orthodontics; Plastic Surgery; Psychology; Speech Pathology » David Billmire, M.D.; Richard Campbell, M.D.; Kerry Crone, M.D.; Christopher Gordon, M.D.; William Greenhill, DMD; Ann Kummer, Ph.D.; Francesco Mangano, D.O.; Jane Middendorf, M.A.; Cynthia Prows, MSN; Gayle Riemer, M.D.; Howard Sall, M.D.; Iris Sageser, RDH; J Paul Willging, M.D.

Craniofacial Team

Orthopaedics » Alvin Crawford, M.D.; Viral Jain, M.D.; Eric Wall, M.D.

Spine Center

Faculty Members

Raouf Amin, MD, Professor

Director, Division of Pulmonary Medicine;

Endowed Chair, Hubert and Dorothy Campbell Professorship in Pediatric Pulmonology

Research Interests Cardiovascular morbidity of sleep apnea in children

Thomas Boat, MD, Professor

Executive Associate Dean, University of Cincinnati College of Medicine

Research Interests

R. Paul Boesch, DO, Assistant Professor

Director, Transitional Care Center

Research Interests Chronic pulmonary aspiration; mucus hypersecretion

Ronald Bokulic, DO, Associate Professor

Research Interests

Barbara Chini, MD, Associate Professor

Director, Pulmonary Fellowship Program

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

John P. Clancy, MD, Professor

Thomas Boat Endowed Chair

Director, Clinical and Translational Research

Research Interests Airway and epithelial biology, examining novel targets to treat cystic fibrosis;

Mathew Ednick, DO, Assistant Professor

Research Interests Pediatric Sleep, Sickle Cell Disease

William Hardie, MD, Professor

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

Carolyn Kerckmar, MD, Professor

Director, Asthma Center; C-Director Pulmonary Medicine

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

Karen McDowell, MD, Associate Professor

Research Interests Asthma self management, utilization of technology for chronic disease management, bronchoscopy and wheezing/asthma, health care effectiveness, outcomes.

Gary McPhail, MD, Assistant Professor

Associate Director, Fellowship Training Program

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

Hemant Sawnani, MD, Assistant Professor

Research Interests Pulmonary Management of children with Neuromuscular diseases; sleep disordered breathing in Duchenne Muscular Dystrophy; Infant Apnea; Obstructive Sleep Apnea; Outcomes in Sleep Medicine

Michael Seid, PhD, Professor

Director, Health Outcomes and Quality of 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

Abu Shamsuzzaman, MD, 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 Wooldridge, MD, Assistant Professor

Research Interests Metabolic and nutritional outcomes in patients with Cystic Fibrosis

Lisa Young, MD, Assistant Professor

Director, Pediatric Rare Lung Diseases Clinical Program

Research Interests Interstitial lung diseases, rare lung diseases, lymphangiomyomatosis

Joint Appointment Faculty Members

Julio Aliberti, PhD, Assistant Professor

Molecular Immunology

Kelly Byars, PsyD, Associate Professor

Psychology

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

Daniel Grosseohme, DMin, BCC, Assistant Professor

Pastoral Care

Research Interests Religion/spirituality, adherence, coping, cystic fibrosis

Christopher Karp, MD, Professor

Molecular Immunology

Research Interests Molecular mechanisms, underlying regulation and dysregulation of inflammatory responses in infectious, allergic, autoimmune, metabolic and genetic diseases

Bruce Trapnell, MD, Professor

Neonatology and Pulmonary Biology

Rhonda VanDyke, PhD, Assistant Professor

Biostatistics & Epidemiology

Research Interests 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; developing statistical models to assess impact of OSA; CF outcomes research

Clinical Staff Members

- Moutazz Abdulhadi, RPSGT, Respiratory Therapist
- Denetra Bamonte, RRT, RPSGT, Respiratory Therapist
- Sallie Bauer, RRT, RPSGT, Respiratory Therapist
- Diana Betancur, RRT, Respiratory Therapist
- Marsha Blount, CNP, Certified Nurse Practitioner
- Walter Blower, RRT, Respiratory Therapist
- Carla Broadus, RN, Nurse Coordinator

- Ginger Browning, RRT, BS, Airway Clearance Specialist
- Johnny Bryant, RRT, RPSGT, Respiratory Therapist
- Monica Chapman, RN, Nurse Coordinator
- Jessica Co, CNP, Certified Nurse Practitioner
- Amanda Coffey, RRT, RPSGT, Respiratory Therapist
- Amy Cole, RRT, RPSGT, Lead Technologist
- Joseph Crisalli, MD, Staff Physician
- Shannon Deidesheimer, RN, Nurse Coordinator
- Geri Dinkins, RN, Nurse Coordinator
- Melodie Dixon, RRT, RPSGT, Respiratory Therapist
- Amanda Dressman, CNP, Certified Nurse Practitioner
- Julie Feldstein, RRT, CPFT, Respiratory Therapist
- Karla Foster, MS, Exercise Physiologist
- Matthew Fritsch, , PSG Technician Asst.
- Connie Guyor, RRT, RPSGT, Respiratory Therapist
- Robin Hamilton, RN, Clinical Manager
- Brenda Harkelroad, RN, Nurse Coordinator
- Joann Harmeyer, RRT, RPSGT, Respiratory Therapist
- Moira Hecker, RN, Nurse Coordinator
- Marion Johnson, RRT, Respiratory Therapist
- Robin Johnson, RRT, Respiratory Therapist
- Sharon Kadon, RN, Nurse Coordinator
- Michelle Kleinhenz, RRT, Respiratory Therapist
- Beth Koch, RRT, RPFT, Clinical Supervisor Pulmonary Function Lab
- Margaret Landers, RRT, RPSGT, Respiratory Therapist
- Denise Leonard, RN, Nurse Coordinator
- Luchini Jean, RN, Nurse Coordinator
- Julie Malkin, CNP, Certified Nurse Practitioner
- Janice MacBrair, CNP, Certified Nurse Practitioner
- Susan McCarthy, RRT, RPSGT, Respiratory Therapist
- Keith McConnell, , Senior Biomedical Engineer
- Kathy McGee, CNP, Certified Nurse Practitioner
- Rachel McGill, RD, LD, Dietician
- Meeks Connie, RN, Nurse Coordinator
- Karen Montag-Leifling, MSW, LISW, Social Worker
- Steven Moore, RN, Clinical Coordinator
- Asia Munlin, RRT, CPFT, Respiratory Therapist
- Laura Ogilby, RRT, Respiratory Therapist
- John Pack, RRT, Respiratory Therapist
- Melissa Rice, CNP, Certified Nurse Practitioner
- Valerie Sackenheim, RN, Nurse Coordinator
- Jackie Taylor, RD, LD, Dietician
- Debbie Webster, BA, RRT, RPSGT, Clinical Manager
- Tonya Weddle, RRT, Respiratory Therapist
- Jeanne Weiland, CNP, Certified Nurse Practitioner

- Allison Whisenhunt, MSW, LISW-S, Social Worker
- Kathy Witschger, RRT, Respiratory Therapist
- Brenda Young, RRT, Respiratory Therapist

Trainees

- Dan Benscoter, DO, PL-5, Geisinger Medical Center
- Lisa Burns, MD, UC, St Louis University
- Neepa Gurbani, DO, PL-5, University of Nevada School of Medicine
- Kavitha Kotha, MD, PL-5, Children's Hospital Medical Center Akron
- Nick Patel, DO, PL-7, Long Island Jewish Health Systems
- Joseph Piccione, MD, PL-5, Albany Medical College
- Cherie Torres-Silva, MD, PL-8, University of Texas Health Science Center-Houston
- Chee Tan, MD, PL-5, Winthrop University Hospital
- Daniela Zgherea, MD, PL-4, Maimonides Infants and Children's Hospital

Significant Accomplishments

Pulmonary Outcomes and Quality of Care Research

An active program of pulmonary outcomes research unites clinical and research faculty as well as clinical staff in advancing the science of improving outcomes for children with pulmonary disease. Research is supported by divisional funding, Cincinnati Children's Place Outcomes Research Awards and the National Institutes of Health. Members of the Pulmonary Outcomes Research Lab presented at national and international meetings this year and have published peer-reviewed articles. Highlights from this research group include: demonstrating the effectiveness of a common cystic fibrosis treatment using the national CF Foundation database; determining the relationship between physician behaviors and patient adherence using video recordings; understanding how parents cope with the diagnosis of their child and the role that spirituality and religion play in family adherence to the medical regimen; documenting the impact of scoliosis surgery on lung function; and testing interventions using text messaging to improve adherence for adolescents with asthma. This research aims to increase the division's capability for improvement and develop knowledge and interventions to improve outcomes.

Cystic Fibrosis Clinical and Translational Research

John "JP" Clancy, MD, joined the Pediatric Pulmonary Division in January 2011. He served as the division chief of pediatric pulmonology at the University of Alabama at Birmingham prior to joining the Cincinnati Children's faculty, and upon his arrival he has been appointed the Thomas Boat endowed chair and director of CF clinical and translational research. He oversees the CFF-Therapeutic Development Network Translational Research Center at Cincinnati Children's, and his laboratory and clinical research program focuses on airway and epithelial biology, examining novel targets to treat cystic fibrosis. His area of expertise includes developing agents to restore function to disease-causing mutations in the cystic fibrosis transmembrane conductance regulator (CFTR), which is the root cause of CF. He also focuses on developing preclinical model systems and patient biomarkers to bridge these findings from the lab to the bedside. Clancy has played international leadership roles in drug development, study design and execution and data analysis for new cystic fibrosis therapeutics, and recently served as the international lead investigator of two phase 2 studies of new CF treatments. His translational research laboratory brings basic research laboratory personnel and clinical research coordinators together, and provides an environment for

the training of students, medical professionals and research scientists in translational research.

Division Publications

1. Accurso FJ, Rowe SM, Clancy JP, Boyle MP, Dunitz JM, Durie PR, Sagel SD, Hornick DB, Konstan MW, Donaldson SH, Moss RB, Pilewski JM, Rubenstein RC, Uluer AZ, Aitken ML, Freedman SD, Rose LM, Mayer-Hamblett N, Dong Q, Zha J, Stone AJ, Olson ER, Ordonez CL, Campbell PW, Ashlock MA, Ramsey BW. **Effect of VX-770 in persons with cystic fibrosis and the G551D-CFTR mutation.** *N Engl J Med.* 2010; 363:1991-2003.
2. Baugh RF, Archer SM, Mitchell RB, Rosenfeld RM, Amin R, Burns JJ, Darrow DH, Giordano T, Litman RS, Li KK, Mannix ME, Schwartz RH, Setzen G, Wald ER, Wall E, Sandberg G, Patel MM. **Clinical practice guideline: tonsillectomy in children.** *Otolaryngol Head Neck Surg.* 2011; 144:S1-30.
3. Beebe DW, Byars KC. **Adolescents with obstructive sleep apnea adhere poorly to positive airway pressure (PAP), but PAP users show improved attention and school performance.** *PLoS One.* 2011; 6:e16924.
4. Beebe DW, Ris MD, Kramer ME, Long E, Amin R. **The association between sleep disordered breathing, academic grades, and cognitive and behavioral functioning among overweight subjects during middle to late childhood.** *Sleep.* 2010; 33:1447-56.
5. Beebe DW, Rose D, Amin R. **Attention, learning, and arousal of experimentally sleep-restricted adolescents in a simulated classroom.** *J Adolesc Health.* 2010; 47:523-5.
6. Bhattacharjee R, Kheirandish-Gozal L, Spruyt K, Mitchell RB, Promchiarak J, Simakajornboon N, Kaditis AG, Splaingard D, Splaingard M, Brooks LJ, Marcus CL, Sin S, Arens R, Verhulst SL, Gozal D. **Adenotonsillectomy outcomes in treatment of obstructive sleep apnea in children: a multicenter retrospective study.** *Am J Respir Crit Care Med.* 2010; 182:676-83.
7. Birnkrant DJ, Bushby KM, Amin RS, Bach JR, Benditt JO, Eagle M, Finder JD, Kalra MS, Kissel JT, Koumbourlis AC, Kravitz RM. **The respiratory management of patients with duchenne muscular dystrophy: a DMD care considerations working group specialty article.** *Pediatr Pulmonol.* 2010; 45:739-48.
8. Byars K. **Scheduled Awakenings: A Behavioral Protocol for Treating Sleepwalking and Sleep Terrors in Children.** *Behavioral treatments for sleep disorders : a comprehensive primer of behavioral sleep medicine interventions.* Amsterdam ; Boston: Academic; 2011: 325 – 332. .
9. Byars K, Apiwattanasawee P, Leejakpai A, Tangchityongsiva S, Simakajornboom N. **Behavioral sleep disturbances in children clinically referred for evaluation of obstructive sleep apnea.** *Sleep Med.* 2011; 12:163-9.
10. Clancy J, Hoover W. **Restoration of CFTR Function with Small-Molecule Modulators, in Cystic Fibrosis.** *Informa Healthcare.* New York: Informa Healthcare; 2010.
11. Grosseohme DH, Jacobson CJ, Cotton S, Ragsdale JR, VanDyke R, Seid M. **Written prayers and religious coping in a paediatric hospital setting.** *Mental Health, Religion & Culture.* 2011; 14:423-432.
12. Grosseohme DH, Ragsdale J, Cotton S, Wooldridge JL, Grimes L, Seid M. **Parents' religious coping styles in the first year after their child's cystic fibrosis diagnosis.** *J Health Care Chaplain.* 2010; 16:109-22.
13. Grosseohme DH, Ragsdale J, Wooldridge JL, Cotton S, Seid M. **We can handle this: parents' use of religion in the first year following their child's diagnosis with cystic fibrosis.** *J Health Care Chaplain.* 2010; 16:95-108.
14. Grosseohme DH, VanDyke R, Jacobson CJ, Cotton S, Ragsdale JR, Seid M. **Written prayers in a pediatric hospital: Linguistic analysis.** *Psychology of Religion and Spirituality.* 2010; 2:227-233.

15. Hardie WD, Hagood JS, Dave V, Perl AK, Whitsett JA, Korfhagen TR, Glasser S. **Signaling pathways in the epithelial origins of pulmonary fibrosis**. *Cell Cycle*. 2010; 9:2769-76.
16. Hug MJ, Derichs N, Bronsveld I, Clancy JP. **Measurement of ion transport function in rectal biopsies**. *Methods Mol Biol*. 2011; 741:87-107.
17. Ksiazek J, Prager JD, Sun GH, Wood RE, Arjmand EM. **Inhaled cidofovir as an adjuvant therapy for recurrent respiratory papillomatosis**. *Otolaryngol Head Neck Surg*. 2011; 144:639-41.
18. Kurundkar AR, Killingsworth CR, McIlwain RB, Timpa JG, Hartman YE, He D, Karnatak RK, Neel ML, Clancy JP, Anantharamaiah GM, Maheshwari A. **Extracorporeal membrane oxygenation causes loss of intestinal epithelial barrier in the newborn piglet**. *Pediatr Res*. 2010; 68:128-33.
19. Lanfranchi PA, Ackerman MJ, Kara T, Shamsuzzaman AS, Wolk R, Jurak P, Amin R, Somers VK. **Gene-specific paradoxical QT responses during rapid eye movement sleep in women with congenital long QT syndrome**. *Heart Rhythm*. 2010; 7:1067-74.
20. Le Cras TD, Acciani TH, Mushaben EM, Kramer EL, Pastura PA, Hardie WD, Korfhagen TR, Sivaprasad U, Ericksen M, Gibson AM, Holtzman MJ, Whitsett JA, Hershey GK. **Epithelial EGF receptor signaling mediates airway hyperreactivity and remodeling in a mouse model of chronic asthma**. *Am J Physiol Lung Cell Mol Physiol*. 2011; 300:L414-21.
21. Madala SK, Maxfield MD, Davidson CR, Schmidt SM, Garry D, Ikegami M, Hardie WD, Glasser SW. **Rapamycin Regulates Bleomycin-Induced Lung Damage in SP-C-Deficient Mice**. *Pulm Med*. 2011; 2011:653524.
22. McCormack FX, Inoue Y, Moss J, Singer LG, Strange C, Nakata K, Barker AF, Chapman JT, Brantly ML, Stocks JM, Brown KK, Lynch JP, 3rd, Goldberg HJ, Young LR, Kinder BW, Downey GP, Sullivan EJ, Colby TV, McKay RT, Cohen MM, Korbee L, Taveira-DaSilva AM, Lee HS, Krischer JP, Trapnell BC. **Efficacy and safety of sirolimus in lymphangioleiomyomatosis**. *N Engl J Med*. 2011; 364:1595-606.
23. McDowell KM, Craven DI. **Pulmonary complications of Down syndrome during childhood**. *J Pediatr*. 2011; 158:319-25.
24. McPhail GL, Ednick MD, Fenchel MC, VanDyke R, Chima A, Amin RS, Seid M. **Improving follow-up in hospitalised children**. *Qual Saf Health Care*. 2010; 19:e35.
25. McPhail GL, Weiland J, Acton JD, Ednick M, Chima A, VanDyke R, Fenchel MC, Amin RS, Seid M. **Improving evidence-based care in cystic fibrosis through quality improvement**. *Arch Pediatr Adolesc Med*. 2010; 164:957-60.
26. Moskowitz SM, Emerson JC, McNamara S, Shell RD, Orenstein DM, Rosenbluth D, Katz MF, Ahrens R, Hornick D, Joseph PM, Gibson RL, Aitken ML, Benton WW, Burns JL. **Randomized trial of biofilm testing to select antibiotics for cystic fibrosis airway infection**. *Pediatr Pulmonol*. 2011; 46:184-92.
27. Muething SE, Conway PH, Kloppenborg E, Lesko A, Schoettker PJ, Seid M, Kotagal U. **Identifying causes of adverse events detected by an automated trigger tool through in-depth analysis**. *Qual Saf Health Care*. 2010; 19:435-9.
28. Patel N, Simakajornboon N, Casey KR. **Bed crumbs and sleepiness**. *J Clin Sleep Med*. 2011; 7:217-8.
29. Pyle LC, Fulton JC, Sloane PA, Backer K, Mazur M, Prasain J, Barnes S, Clancy JP, Rowe SM. **Activation of the cystic fibrosis transmembrane conductance regulator by the flavonoid quercetin: potential use as a biomarker of DeltaF508 cystic fibrosis transmembrane conductance regulator rescue**. *Am J Respir Cell Mol Biol*. 2010; 43:607-16.
30. Rowe SM, Clancy JP, Wilschanski M. **Nasal potential difference measurements to assess CFTR ion channel activity**. *Methods Mol Biol*. 2011; 741:69-86.
31. Rowe SM, Pyle LC, Jurkevante A, Varga K, Collawn J, Sloane PA, Woodworth B, Mazur M, Fulton J, Fan L, Li Y, Fortenberry J, Sorscher EJ, Clancy JP. **DeltaF508 CFTR processing correction and activity in polarized airway and non-airway cell monolayers**. *Pulm Pharmacol Ther*. 2010; 23:268-78.

32. Ruff JP, Islam Z, Clancy JP, Ross KA, Nojiri H, Matsuda YH, Dabkowska HA, Dabkowski AD, Gaulin BD. **Magnetoelastics of a spin liquid: X-ray diffraction studies of Tb₂Ti₂O₇ in pulsed magnetic fields.** *Phys Rev Lett.* 2010; 105:077203.
33. Sakagami T, Beck D, Uchida K, Suzuki T, Carey BC, Nakata K, Keller G, Wood RE, Wert SE, Ikegami M, Whitsett JA, Luisetti M, Davies S, Krischer JP, Brody A, Ryckman F, Trapnell BC. **Patient-derived granulocyte/macrophage colony-stimulating factor autoantibodies reproduce pulmonary alveolar proteinosis in nonhuman primates.** *Am J Respir Crit Care Med.* 2010; 182:49-61.
34. Sawnani H, Murugappan S, Gutmark E, Donnelly LF, Amin R, Mylavarapu G, Mihaescu M, Khosla S, Kalra M. **Influence of gender on pharyngeal airway length in obese adolescents.** *Ann Otol Rhinol Laryngol.* 2010; 119:842-7.
35. Seid M, Varni JW, Gidwani P, Gelhard LR, Slymen DJ. **Problem-solving skills training for vulnerable families of children with persistent asthma: report of a randomized trial on health-related quality of life outcomes.** *J Pediatr Psychol.* 2010; 35:1133-43.
36. Simakajornboon N, Sawnani H. (2010) **Pediatric Sleep Disorders.** Rudolph's pediatrics. New York, McGraw Hill Medical.
37. Solomon GM, Konstan MW, Wilschanski M, Billings J, Sermet-Gaudelus I, Accurso F, Vermeulen F, Levin E, Hathorne H, Reeves G, Sabbatini G, Hill A, Mayer-Hamblett N, Ashlock M, Clancy JP, Rowe SM. **An international randomized multicenter comparison of nasal potential difference techniques.** *Chest.* 2010; 138:919-28.
38. Stevens GD, Seid M, Pickering TA, Tsai KY. **National disparities in the quality of a medical home for children.** *Matern Child Health J.* 2010; 14:580-9.
39. Sung V, Beebe DW, Vandyke R, Fenchel MC, Crimmins NA, Kirk S, Hiscock H, Amin R, Wake M. **Does sleep duration predict metabolic risk in obese adolescents attending tertiary services? A cross-sectional study.** *Sleep.* 2011; 34:891-8.
40. Suzuki T, Sakagami T, Young LR, Carey BC, Wood RE, Luisetti M, Wert SE, Rubin BK, Kevill K, Chalk C, Whitsett JA, Stevens C, Noguee LM, Campo I, Trapnell BC. **Hereditary pulmonary alveolar proteinosis: pathogenesis, presentation, diagnosis, and therapy.** *Am J Respir Crit Care Med.* 2010; 182:1292-304.
41. Young LR, Brody AS, Inge TH, Acton JD, Bokulic RE, Langston C, Deutsch GH. **Neuroendocrine cell distribution and frequency distinguish neuroendocrine cell hyperplasia of infancy from other pulmonary disorders.** *Chest.* 2011; 139:1060-71.
42. Young LR, Trapnell B. **Pulmonary Alveolar Proteinosis.** *Rudolph's Pediatrics.* New York: McGraw- Hill Professional; 2011.
43. Young LR, Vandyke R, Gulleman PM, Inoue Y, Brown KK, Schmidt LS, Linehan WM, Hajjar F, Kinder BW, Trapnell BC, Bissler JJ, Franz DN, McCormack FX. **Serum vascular endothelial growth factor-D prospectively distinguishes lymphangiomyomatosis from other diseases.** *Chest.* 2010; 138:674-81.

Grants, Contracts, and Industry Agreements

Grant and Contract Awards

Annual Direct / Project Period Direct

AMIN, R		
Cystic Fibrosis Center Program Accreditation And Funding		
Cystic Fibrosis Foundation		
	07/01/94-06/30/12	\$190,860
Vascular Functions in Children with Sleep Disorder Breathing		
National Institutes of Health		
R01 HL 080670	08/15/06-06/30/11	\$398,379

Therapeutics Development Center Network		
Cystic Fibrosis Fdn Therapeutics, Inc	01/01/09-12/31/11	\$160,000
Pediatric Sleep Research Program		
National Institutes of Health		
K24 HL 078989	03/01/11-02/29/16	\$139,466
Randomized Control Study of Adenotonsillectomy for Childhood Sleep Apnea		
National Institutes of Health(Case Western University)		
U01 HL 083075	07/01/10-06/30/11	\$134,546
Randomized Control Study of Adenotonsillectomy for Childhood Sleep Apneafor Childho		
National Institutes of Health(Brigham & Women's Hospital)		
U01 HL 083075	07/01/10-06/30/11	\$4,158
GROSSOEHME, D		
Parental Adherence to CF Homecare: Research Chaplaincy Career Commitment		
National Institutes of Health		
K23 HD 062642	08/13/10-05/31/15	\$91,042
HARDIE, W		
Inspiratory Muscle Strength Training in Patients with Upper Airway Obstruction		
National Institutes of Health(Miami University)		
R03 DC 009057	07/01/09-06/30/12	\$22,643
Epidermal Growth Factor Receptor Activation in Pulm Fibrosis		
National Institutes of Health		
R01 HL 086598	04/01/07-03/31/12	\$250,000
Molecular Interventions for Pulmonary Fibrosis		
National Institutes of Health		
P50 HL 107159	05/01/11-04/30/13	\$307,563
KOTHA, K		
Cystic Fibrosis Clinical Fellowship grant		
Cystic Fibrosis Foundation		
	07/01/10-06/30/12	\$48,000
MCDOWELL, K		
Infant Study of Inhaled Saline 001		
Cystic Fibrosis Fdn Therapeutics, Inc(University of North Carolina at Chapel Hill)		
	07/01/10-06/30/11	\$28,398
Infant Study of Inhaled Saline 002		
Cystic Fibrosis Fdn Therapeutics, Inc(University of North Carolina at Chapel Hill)		
	07/01/10-06/30/11	\$56,846
SEID, M		
Cell Phone Adherence Trial for Underserved T1DM Youth		
National Institutes of Health(Univ of North Carolina at Chapel Hill)		
R21 DK 085483	03/15/10-02/28/12	\$42,473
Multidisciplinary Clinical Research Center (Project 4)		
National Institutes of Health		
P60 AR 047784	08/18/08-07/31/13	\$142,696
YOUNG, L		
Alveolar Cell Dysfunction and Pulmonary Fibrosis		
National Institutes of Health		
K08 HL 082757	04/01/07-03/31/12	\$118,750
Mobilizing Healthcare Against Obesity		
National Initiative for Child Healthcare Quality		
	07/01/10-06/30/11	\$86,292

Biomarkers of Immunologic Function and Preterm Respiratory Outcomes (Project)

National Institutes of Health

U01 HL 101800

05/01/10-04/30/15

\$49,538

Current Year Direct \$2,271,650

Industry Contracts

AMIN

Eurand S.p.A	\$27,637
GlaxoSmithKline	\$43,149
Vertex Pharmaceutical	\$17,110

KERCSMAR

Omnicare Clinical Research, Inc.	\$20,130
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WOOLDRIDGE

Vertex Pharmaceutical	\$34,527
Inspire Pharmaceuticals, Inc.	\$34,542

Current Year Direct Receipts \$177,095

Total \$2,448,745