

# Division of Pulmonary Medicine

DIVISION PROFILE	
Number of Faculty	15
Number of Joint Appointment Faculty	6
Number of Fellows	
Clinical Fellows	7
Research Fellows	1
Number of Support Personnel	23
Annual Total Grant Support (direct)	\$583,147
Annual Total Industry Contracts (direct)	\$50,735
Number of Peer Reviewed Publications	27
Patient Encounters	
Outpatient	6,041
Inpatient	1,241

## FACULTY LISTING

Raouf S. Amin, MD, Professor of Pediatrics; The Hubert and Dorothy Campbell Professor of Pediatric Pulmonology, Director, Pulmonary Medicine; Director, Sleep Disorders Center and Sleep Laboratory; Director, Transitional Care Center, Medical Director, Respiratory Care

James Acton, MD, Assistant Professor of Pediatrics, Director, Cystic Fibrosis Center

Julio Aliberti, PhD, Assistant Professor

Ronald Bokulic, DO, Associate Professor of Pediatrics

Kelly C. Byars, PsyD, Assistant Professor of Clinical Pediatrics

Barbara A. Chini, MD, Assistant Professor of Pediatrics, Director, Pulmonary Fellowship Training Program

Cori L. Daines, MD, Assistant Professor of Pediatrics

William D. Hardie, MD, Associate Professor of Pediatrics, Director, Pulmonary Function Laboratory

Patricia M. Joseph, MD, Associate Professor in Medicine and Pediatrics, Director, Adult Cystic Fibrosis Center

Maninder Kalra, MD, Assistant Professor of Pediatrics

Christopher Karp, MD, Professor of Pediatrics, The Gunnar Esiason Chair for Cystic Fibrosis Research, Director, Molecular Immunology

Bruce C. Trapnell, MD, Professor in Medicine and Pediatrics

Robert E. Wood, PhD, MD, Professor of Pediatrics, Director, Bronchology Center

Jamie L. Wooldridge, MD, Assistant Professor of Pediatrics

Lisa Young, MD, Research Instructor

## FACULTY JOINT APPOINTMENT LISTING

Julio Aliberti, PhD, Assistant Professor, Molecular Immunology

Kelly C. Byars, PsyD, Assistant Professor of Clinical Pediatrics, Pulmonary Medicine

Patricia M. Joseph, MD, Associate Professor in Medicine and Pediatrics, Pulmonary Medicine

Christopher Karp, MD, Professor of Pediatrics, Molecular Immunology

Bruce C. Trapnell, MD, Professor in Medicine and Pediatrics, Pulmonary Biology

Robert E. Wood, PhD, MD, Professor of Pediatrics, Pulmonary Medicine



*Left to Right: (1<sup>st</sup> row) R. Wood, R. Amin, P. Joseph (2<sup>nd</sup> row) L. Young, J. Acton, B. Chini, N. Simakajornboon (3<sup>rd</sup> row) R. Bokulic, J. Wooldridge, M. Kalra, C. Daines*

## OVERVIEW

### Clinical Activities

The Division of Pulmonary Medicine has the following clinical programs: (1) Aerodigestive Center, (2) Bronchology Center, (3) Cystic Fibrosis Center, (4) General Pulmonary Medicine, and (5) Sleep Disorders Center.

The Aerodigestive Center is a multidisciplinary program (pulmonary, gastroenterology, otolaryngology, and pediatric surgery) dedicated to the management of children with complex airway, pulmonary, and gastrointestinal problems. The center is rapidly expanding. It is served by Dr. Robert Wood and Dr. Cori Daines.

The Bronchology Center is a rapidly expanding program directed by Dr. Robert Wood. The center has expanded at the rate of 12 % per year.

The Cystic Fibrosis Center is directed by Dr. James Acton. The center follows approximately 200 patients.

The General Pulmonary service is headed by Dr. Ronald Bokulic who attends four satellite outpatient clinics in addition to clinics at CCHMC.

The Sleep Disorders Center provides specialized care to a variety of patients with sleep-related diagnoses such as breathing disorders during sleep, chronic respiratory failure, neuromuscular disorders, and behavioral sleep disorders.

The inpatient services include the Transitional Care Center, dedicated to the management of technology-dependent children. A second service provides care to children with cystic fibrosis and provides consultation for a variety of general pulmonary disorders.

### Research Activities

Several funded clinical research programs exist within the Division of Pulmonary Medicine.

Dr. Raouf Amin examines the mechanisms of cardiovascular morbidity associated with sleep disorders. The research is funded by four NIH grants.

Dr. Maninder Kalra examines the mechanisms of upper airway obstruction during sleep in obese children. This research is extramurally and intramurally funded. It is multidisciplinary research that involves the Imaging Research Center, Obesity Center, and Sleep Center.

Dr. William Hardie leads basic science research and examines mechanisms of pulmonary fibrosis.

Dr. Cori Daines co-directs the pediatric section of the Cystic Fibrosis Therapeutic Development Network at CCHMC with Dr. Bruce Trapnell. These multi-center studies receive funding from the Cystic Fibrosis Foundation.

Dr. Jamie Wooldridge participates in multi-center studies through the Therapeutic Development Network.

Dr. James Acton participates in multi-center studies through the Therapeutic Development Network and directs the Cystic Fibrosis Foundation Funded CARE Center Grant.

### Teaching Activities

The Division of Pulmonary Medicine has two fellowships. ACGME accredited fellowship training programs are in pediatric pulmonology and sleep medicine. The division has 8 fellows in training. Dr. Raouf Amin holds a mid-career investigator award in patient oriented research (K24). Dr. Patrick Sobande is funded by the Cystic Fibrosis Foundation. Dr. Jonathan Puchalski holds a K32 award.

## HIGHLIGHTS

### Clinical Activities

The Division of Pulmonary Medicine at Cincinnati Children's Hospital Medical Center has very diverse clinical programs, many of which are based on integration with other divisions and disciplines. During the last year the clinical programs within the division have experienced a significant increase in the number of referrals and consultations.

The Bronchology Center, under the leadership of Dr. Robert Wood, and the Sleep Disorder Center have become the largest pediatric programs of their kind in the world. The Bronchology Center receives approximately 1100 requests for consultation and airway evaluations per year. The Sleep Disorder Center received 1000 new referrals and 3000 follow-up visits during the last year. The Sleep Laboratory performed over 1600 polysomnograms. In addition, the Division of Pulmonary Medicine has been a very active participant in the neuromuscular program at CCHMC.

The Cystic Fibrosis Center continues to demonstrate improvement in outcomes with the continuing effort in the Pursuing Perfection project.

The satellite outreach program evaluated 1600 pulmonary-related patients during the last year.

### Research Activities

Dr. Amin carries four NIH grants. Two of the grants are R01, one K24 and one U01 awards. Dr. Maninder Kalra received the Pfizer Young Investigator Award in Sleep Medicine and the Dean's Scholar Award.

### Teaching Activities:

The Division of Pulmonary Medicine at Cincinnati Children's Hospital Medical Center received ACGME accreditation of its sleep fellowship to become the first pediatric institution to receive this approval. The pulmonary trainees successfully compete for the clinical sub-fellowship program and T32 award. Dr. Patrick Sobande a second year pulmonary fellow successfully competed for the Cystic Fibrosis training grant during 2006.

## TRAINING

Patrick Sobande, MD

Ameet Daftary, MD

Jeffrey Loeb, MD

Gary McPhail, MD

Paul Boesch, DO

Mohannad Manna, MD

PL-4 Columbia University

PL-5 Michigan State University

PL-5 University of Florida

PL-5 University of Texas Southwestern

PL-6 Mount Sinai School of Medicine

PL-6 Seton Hall University

Argiros S Dinopoulos, MD, PhD

PL-8 University of Cincinnati/Cincinnati Children's  
Hospital Medical Center

Jonathan Puchalski, MD

PL-8 Ohio State University

## 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

07/01/94 – 06/30/06

\$92,610/\$767,963

Antimicrobial Resistance in Cystic Fibrosis

Cystic Fibrosis Foundation (Children's Hospital Regional Medical Center subcontract)

05/01/06 – 06/30/07

\$2,750

Amin, R

Mechanisms Mediating C/V Disease in Children with OSA

National Institutes of Health

R01 HL 070907

04/01/03 – 03/31/08

\$244,125/\$1,250,000

Pediatric Sleep Research Training Program

National Institutes of Health

K24 HL 078989

08/01/05 – 05/31/10

\$136,662/\$685,113

Kalra, M

Regional Adiposity and Pharyngeal Wall Motion in Obese Adolescents

Pfizer, Inc.

07/01/05 – 06/30/07

\$65,000/\$130,000

Sobande, P

First Year Cystic Fibrosis Clinical Fellowship Grant

Cystic Fibrosis Foundation

07/01/05 – 06/30/07

\$42,000/\$85,750

Current Year Direct

\$583,147

### Industry Contracts

Daines, C

Inspire Pharmaceuticals, Inc.

\$42,735

Wooldridge, J

Eurand

\$2,964

Genentech, Inc.

\$5,036

Current Year Direct Receipts

\$50,735

**TOTAL**

**\$633,882**

## PUBLICATIONS

1. Acton JD, Kotagal U. Improvements in healthcare: how can we change the outcome? J Pediatr 2005;147(3):279-81.
2. Daftary A, Acton J, Heubi J, Amin R. Fecal elastase-1: utility in pancreatic function in cystic fibrosis. J Cyst Fibros 2006;5(2):71-6.

3. Beebe DW, Lewin D, Zeller M, McCabe M, Macleod K, Daniels SR, Amin R. Sleep in Overweight Adolescents: Shorter Sleep, Poorer Sleep Quality, Sleepiness, and Sleep-Disordered Breathing. *J Pediatr Psychol* 2006;1-11.
4. Hasan RA, Zureikat GY, Nolan BM, LaChance JL, Campe JL, Amin R. The relationship between asthma and overweight in urban minority children. *J Natl Med Assoc* 2006;98(2):138-42.
5. Shott SR, Amin R, Chini B, Heubi C, Hotze S, Akers R. Obstructive sleep apnea: Should all children with Down syndrome be tested? *Arch Otolaryngol Head Neck Surg* 2006;132(4):432-6.
6. Amin RS. Chronic respiratory failure. In: Chernick V, Kendig EL, editors. *Kendig's disorders of the respiratory tract in children*; 7th ed. Philadelphia: Saunders/Elsevier; 2006. p. 243-258.
7. White DR, Giambra BK, Hopkin RJ, Daines CL, Rutter MJ. Aspiration in children with CHARGE syndrome. *Int J Pediatr Otorhinolaryngol* 2005;69(9):1205-9.
8. Powers SW, Jones JS, Ferguson KS, Piazza-Waggoner C, Daines C, Acton JD. Randomized clinical trial of behavioral and nutrition treatment to improve energy intake and growth in toddlers and preschoolers with cystic fibrosis. *Pediatrics* 2005;116(6):1442-50.
9. Robertson MB, Choe KA, Joseph PM. Review of the abdominal manifestations of cystic fibrosis in the adult patient. *Radiographics* 2006;26(3):679-90.
10. Statham MM, Elluru RG, Buncher R, Kalra M. Adenotonsillectomy for obstructive sleep apnea syndrome in young children: prevalence of pulmonary complications. *Arch Otolaryngol Head Neck Surg* 2006;132(5):476-80.
11. Kalra M, Lemasters G, Bernstein D, Wilson K, Levin L, Cohen A, Amin R. Atopy as a risk factor for habitual snoring at age 1 year. *Chest* 2006;129(4):942-6.
12. Fricke BL, Donnelly LF, Shott SR, Kalra M, Poe SA, Chini BA, Amin RS. Comparison of lingual tonsil size as depicted on MR imaging between children with obstructive sleep apnea despite previous tonsillectomy and adenoidectomy and normal controls. *Pediatr Radiol* 2006;36(6):518-523.
13. Atabani SF, Thio CL, Divanovic S, Trompette A, Belkaid Y, Thomas DL, Karp CL. Association of CTLA4 polymorphism with regulatory T cell frequency. *Eur J Immunol* 2005;35(7):2157-62.
14. Karp CL, Flick LM, Yang R, Uddin J, Petasis NA. Cystic fibrosis and lipoxins. *Prostaglandins Leukot Essent Fatty Acids* 2005;73(3-4):263-70.
15. Tripathi P, Madan R, Chougnet C, Divanovic S, Ma X, Wahl LM, Gajewski T, Karp CL, Hildeman DA. An adenoviral vector for probing promoter activity in primary immune cells. *J Immunol Methods* 2006;311(1-2):19-30.
16. Abe S, Trapnell BC. Colony stimulating factors. In: Laurent GJ, Shapiro SD, editors. *Encyclopedia of respiratory medicine*. Amsterdam ; Boston: Academic Press; 2006. p. 540-545.
17. Bachurski C, Trapnell BC. Transcription factors: PU.1. In: Laurent GJ, Shapiro SD, editors. *Encyclopedia of respiratory medicine*. Amsterdam ; Boston: Academic Press; 2006. p. 274-277.
18. Berclaz PY, Trapnell BC. Rare childhood lung disorders: alpha-1 antitrypsin deficiency, pulmonary alveolar proteinosis and pulmonary alveolar microlithiasis. In: *Kendig's disorders of the respiratory tract in children*. Philadelphia: Saunders/Elsevier; 2006. p. 747-761.
19. Panos R, Trapnell BC. Other rare lung diseases: disorders of surfactant homeostasis. In: Silverman EK, editor. *Respiratory genetics*. London, New York: Hodder Arnold ; distributed in the U.S. by Oxford University Press; 2005. p. 461-478.
20. Whitsett JA, Wert SE, Trapnell BC. Disorders of pulmonary surfactant homeostasis. In: Runge MS, Patterson C, editors. *Principles of molecular medicine*; 2nd ed. Totowa, NJ: Humana Press; 2006. p. 277-285.
21. Walz NC, Beebe D, Byars K. Sleep in individuals with Angelman syndrome: parent perceptions of patterns and problems. *Am J Ment Retard* 2005;110(4):243-52.
22. Wood R, Daines C. Bronchoscopy and bronchoalveolar lavage in pediatric patients. In: Chernick V, Kendig EL, editors. *Kendig's disorders of the respiratory tract in children*; 7th ed. Philadelphia: Saunders/Elsevier; 2006. p. 94-109.

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24. Almoosa KF, Ryu JH, Mendez J, Huggins JT, Young LR, Sullivan EJ, Maurer J, McCormack FX, Sahn SA. Management of pneumothorax in lymphangioliomyomatosis: effects on recurrence and lung transplantation complications. *Chest* 2006;129(5):1274-81.
25. Young LR, Almoosa KF, Pollock-Barziv S, Coutinho M, McCormack FX, Sahn SA. Patient perspectives on management of pneumothorax in lymphangioliomyomatosis. *Chest* 2006;129(5):1267-73.
26. Young LR, Borchers MT, Allen HL, Gibbons RS, McCormack FX. Lung-restricted macrophage activation in the pearl mouse model of Hermansky-Pudlak syndrome. *J Immunol* 2006;176(7):4361-8.
27. Young LR, McCormack FX. Other rare lung diseases: Hermansky-Pudlak Syndrome. In: Silverman EK, editor. *Respiratory genetics*. London, New York: Hodder Arnold ; distributed in the U.S. by Oxford University Press; 2005. p. 491-498.

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