

Division of Pediatric Otolaryngology

DIVISION PROFILE	
Number of Faculty	11
Number of Joint Appointment Faculty	1
Number of Fellows	
Clinical Fellows	6
Research Fellows	1
Number of Graduate Students	1
Number of Other Students (full and part-time)	6
Number of Support Personnel	55
Annual Total Grant Support (direct)	\$538,796
Number of Peer Reviewed Publications	24
Patient Encounters	
Outpatient	50,842
Inpatient	948

FACULTY LISTING

Robin T. Cotton, MD, Professor, Director, Division of Pediatric Otolaryngology-Head & Neck Surgery;
Director, Aerodigestive and Sleep Center

Ellis M. Arjmand, MD, PhD, Associate Professor, Director, Ear and Hearing Center

David Brown, PhD, Assistant Professor, Director Audiological Research

Daniel I. Choo, MD, Associate Professor

Ravindhra G. Elluru, MD, PhD, Assistant Professor, Director, Pediatric Voice Program,
Task force for new material for the Academy of Otolaryngology

John H. Greinwald, Jr, MD, Associate Professor, Director, Otolaryngology Research Committee

Charles M. Myer III, MD, Professor, Otolaryngology Residency Director

Michael J. Rutter, MD, Associate Professor

Sally R. Shott, MD, Professor, SENTAC President, National Down Syndrome Congress Award

Dana M. Thompson, MD, Associate Professor

Jay Paul Willging, MD, Professor, Director, Pediatric Otolaryngology Residency Program;
Director Interdisciplinary Feeding Team, Chairman of the CCHMC Credentials Committee

FACULTY JOINT APPOINTMENT LISTING

Jareen Meizen-Derr, PhD, Assistant Professor, Epidemiology & Biostatistics

OVERVIEW

The Division of Pediatric Otolaryngology, under the direction of Dr. Robin Cotton, is dedicated to improving the lives of infants, children, and young adults by combining the latest in state of the art technology and facilities with unsurpassed knowledge of otolaryngology care. This synergistic combination results in the best possible care for their patients and leverages the division as a national and international referral center for complex otolaryngologic conditions. As a premier center for pediatric otolaryngologic care, they strive to fulfill the medical center's mission, which is to achieve the best medical and quality of life outcomes, provide the best patient and family experience and to provide the best value to their customers.

Achieving this mission requires the division to focus their efforts on three key areas. First, they must meet the educational needs of their patients, their families and the community with regard to otolaryngologic conditions and their treatments. Second, the faculty are strongly committed to training the next generation of premiere otolaryngologists. To this end the department currently has six pediatric otolaryngology fellows in training and continues to provide many international physicians the opportunity to do observational rotations each year. The division also has twelve residents from the University of Cincinnati's Department of Otolaryngology who complete their pediatric otolaryngology rotations with the division. The final step in achieving the mission is

the conduction of meaningful, medical research. Through research and development, from both the bench top and the bedside, innovative and state-of-the-art standards for treatment and care are being developed each year.

One of the goals of the research program continues to be providing residents and fellows with exposure to scientific methodologies and to provide them with an opportunity to apply these methodologies to specific scientific or clinical questions of interest. The division's research committee works with each trainee prior to their arrival to identify and plan for their research time while here. The division provides the resources, whether it be financial, space and equipment, or intellectual mentorship, to accomplish their research objectives. The division also encourages and supports the trainees with their applications for extramural research funding. The trainees gain valuable, portable grant application experience they can use when they are out in their own practices.



*Left to Right: (1st row) R. Elluru, R. Cotton, C. Myer, D. Brown
(2nd row) J. Greinwald, M. Rutter, P. Willging
(3rd row) E. Arjmand, D. Thompson, S. Shott, D. Choo*

The division also finds great value in providing an education to students and college undergraduates who have an interest in otolaryngology. This most recent year the division had seven students who spent the summer working with our research faculty on a variety of projects. This summer student program not only advances our research projects, but also goes a long way to spark the interest of these students to pursue careers in medicine and medical research.

HIGHLIGHTS

The division welcomed Dr. Dana Thompson to the faculty this past year. Dr. Thompson was a former fellow at Cincinnati Children's who came to the division from The Mayo Clinic in Rochester Minnesota. Dr. Thompson will focus on airway reconstruction, particularly in the older patient population. She will also devote a good deal of time to treating patients with voice quality issues.

Dr. Ravi Elluru continues his NIH funded work with Genetic Determinants of Respiratory Tract Cartilage. Progress from this past year includes characterization of the temporal and spatial expression of several key patterning genes in the development of the upper respiratory tract. Furthermore, he has developed transgenic animal models to manipulate these key genes and has characterized the effect on upper airway development. Some of these key genes may play an important role in developing algorithms for engineered cartilage.

In his second year with the division, Dr. Ellis Arjmand continues to build his practice as well as his involvement in the administrative aspects of medicine. Dr. Arjmand was a member of the Liberty Township

Steering Committee and the IT Steering Committee this past year. Specifically, he played a key role in the design of the perioperative space at the newly announced Liberty Township facility. As part of the IT steering committee, Dr. Arjmand helped review vendor offerings and ultimately helped select EPIC as the Medical Center's electronic medical record vendor. Dr. Arjmand, along with Gayle Reimer of Audiology and Scott Holland of the Imaging Research Center, are currently planning the creation of a cross-departmental Communication Disorders Center with well defined clinical and research missions.

Dr. David Brown finished his first year with the division having established a network of collaborators from both CCHMC as well as the University of Cincinnati. He worked tirelessly to institute a platform in his research program that promotes and fosters education. He has taken on graduate students in his lab and also teaches a course at UC. He, along with the aid of Edie Eads, successfully designed and built the first dedicated research audio booth in the division's history. The booth is nearly equipped and they will begin seeing research patients in fall 2006.

Dr. Daniel Choo's lab began funded work as part of the Infectious Disease NIAID CMV Vaccine Contract looking at the potential efficacy and benefits of intratympanic cidofovir in the treatment of CMV-related hearing loss. Dr. Choo's RO1 grant submission looking at pre-clinical trials of intratympanic antivirals in the treatment of CMV-related hearing loss, received very favorable scores and he anticipates starting this project in December 2006.

Dr. John Greinwald, Jr. continues his work with The Hearing and Deafness Center's molecular genetics program. This past year, further progress was made to better understand the causes and best treatment options for children with hearing loss. They are currently rolling out an expanded genetic testing panel to better diagnose inner ear-related hearing loss. Secondly, they have developed novel techniques to study the affect of CMV immunization in a guinea pig model, which is being supported by the NIH. Thirdly, the Temporal Bone Study Group has determined the best way to measure CT scans of the temporal bone in children with hearing loss and provided a paradigm for radiologists to follow all over the country.

Dr. J. Paul Willging continues to lead the Process Improvement initiatives for the division. Additionally, he continues his leadership role as the pediatric otolaryngology residency director. Dr. Willging, along with the other members of the Feeding Team, has planned the second annual Pediatric Dysphagia course hosted by the Medical Center. This event will happen early in fiscal year 2007 but has been a major project for this current year. The course currently has approximately 150 participants registered and looks to be a significant gathering of experts in the field and serves as tangible proof of Cincinnati Children's position of leadership in the field of pediatric swallowing disorders.

Dr. Shott and Dr. Myer continue to provide the highest level of general pediatric otolaryngology care. Dr. Shott is committed to improving the care of Down syndrome patients and continues her research in this area with aid from Human Genetics. She was also president of SENTAC (Society for Ear, Nose, and Throat Advances in Children) this past year. Dr. Myer is actively involved in ongoing clinical trials research and works closely with drug and equipment vendors to supply the division with the latest innovative products. Dr. Myer continues his work as director of the otolaryngology residency program. In this role, he seeks to improve the working relationships among residents and staff as well as provide the best possible training experience for the trainees.

TRAINING

Trina Uwiera, MD	PGY-VI	College of Medicine University of Saskatchewan
Deepak Mehta, MD	PGY-VI	J.J.M. Medical School-Davangere, India
Scott Schraff, MD	PGY-VI	Eastern Virginia Medical School
Tiffany Raynor, MD	PGY-VI	University of Texas Medical School at Galveston
Romaine Johnson, MD	PGY-VII	MCP Hahnemann
Shyan Vijayasekaran, FRACS	PGY-VIII	University of Western Australia

GRANTS, CONTRACTS AND INDUSTRY AGREEMENTS

Grant and Contract Awards	Annual Direct/Project Period	Direct
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Elluru, R Genetic Determinants of Respiratory Tract Cartilage National Institutes of Health K08 HD 045703	01/01/04 – 12/31/08	\$115,750/\$578,750
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Greinwald, J Identification and Characterization of the DFNB17 Gene National Institutes of Health K08 DC 005424	05/15/02 – 04/30/07	\$178,767/\$886,817
Biomedical Research and Technology Transfer CMC - Subproject Ohio Department of Development	12/15/03 – 06/15/07	\$207,916
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Johnson, R Mitochondrial Mutation Screening in at Risk Neonates American Academy of Otolaryngology	07/01/05 – 06/30/06	\$27,273
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Schraff, S Immunomodulatory Genes in CMV-Related Auditory Pathology American Academy of Otolaryngology	01/01/06 – 12/31/06	\$9,090
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	Current Year Direct	\$538,796
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Industry Contracts		
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	Current Year Direct Receipts	\$0
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	TOTAL	\$538,796
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PUBLICATIONS

1. Simons JP, Mandell DL, Arjmand EM. Computed tomography and magnetic resonance imaging in pediatric unilateral and asymmetric sensorineural hearing loss. Arch Otolaryngol Head Neck Surg 2006;132(2):186-92.
1. Preciado DA, Lawson L, Madden C, Myer D, Ngo C, Bradshaw JK, Choo DI, Greinwald JH, Jr. Improved diagnostic effectiveness with a sequential diagnostic paradigm in idiopathic pediatric sensorineural hearing loss. Otol Neurotol 2005;26(4):610-5.
2. White DR, Choo DI, Stroup G, Schleiss MR. The effect of cidofovir on cytomegalovirus-induced hearing loss in a Guinea pig model. Arch Otolaryngol Head Neck Surg 2006;132(6):608-15.
3. Zhu Y, Qian Y, Tang X, Wang J, Yang L, Liao Z, Li R, Ji J, Li Z, Chen J, Choo DI, Lu J, Guan MX. Aminoglycoside-induced and non-syndromic hearing loss is associated with the G7444A mutation in the mitochondrial COI/tRNASer(UCN) genes in two Chinese families. Biochem Biophys Res Commun 2006;342(3):843-50.
4. Bravo M, White D, Miles L, Cotton R. Adenomatoid odontogenic tumor mimicking a dentigerous cyst. Int J Pediatr Otorhinolaryngol 2005;69(12):1685-8.
5. Olutoye OO, Shulman RJ, Cotton RT. Mitomycin C in the management of pediatric caustic esophageal strictures: a case report. J Pediatr Surg 2006;41(5):e1-3.
6. White DR, Cotton RT, Bean JA, Rutter MJ. Pediatric cricotracheal resection: surgical outcomes and risk factor analysis. Arch Otolaryngol Head Neck Surg 2005;131(10):896-9.

7. Elluru RG. Treatment options for severe upper airway obstruction in Pierre-Robin sequence. *J Pediatr* 2005;147(1):7-9.
8. Elluru RG, Azizkhan RG. Cervicofacial vascular anomalies. II. Vascular malformations. *Semin Pediatr Surg* 2006;15(2):133-9.
9. 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.
10. Zur KB, Wood RE, Elluru RG. Pediatric postcricoid vascular malformation: a diagnostic and treatment challenge. *Int J Pediatr Otorhinolaryngol* 2005;69(12):1697-701.
11. Yuan H, Qian Y, Xu Y, Cao J, Bai L, Shen W, Ji F, Zhang X, Kang D, Mo JQ, Greinwald JH, Han D, Zhai S, Young WY, Guan MX. Cosegregation of the G7444A mutation in the mitochondrial COI/tRNA(Ser(UCN)) genes with the 12S rRNA A1555G mutation in a Chinese family with aminoglycoside-induced and nonsyndromic hearing loss. *Am J Med Genet A* 2005;138(2):133-40.
12. Burkart CM, Myer CM, Cotton RT, Rutter MJ. Management of incidental thyroglossal duct cysts during laryngotracheal reconstruction. *Int J Pediatr Otorhinolaryngol* 2006;70(5):875-8.
13. Boston M, Rutter M, Myer CM, 3rd, Cotton RT. Airway reconstruction in children with recurrent respiratory papillomatosis. *Int J Pediatr Otorhinolaryngol* 2006;70(6):1097-101.
14. Bravo MN, Kaul A, Rutter MJ, Elluru RG. Down syndrome and complete tracheal rings. *J Pediatr* 2006;148(3):392-5.
15. Rutter MJ. Evaluation and management of upper airway disorders in children. *Semin Pediatr Surg* 2006;15(2):116-23.
16. Vijayasekaran S, White DR, Hartley BE, Rutter MJ, Elluru RG, Cotton RT. Open excision of subglottic hemangiomas to avoid tracheostomy. *Arch Otolaryngol Head Neck Surg* 2006;132(2):159-63.
17. 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.
18. 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.
19. Lee JH, Ellison JW, Schears GJ, Thompson DM. Subglottic stenosis in short-statured children: a case for further investigation of airway symptoms in patients with skeletal dysplasias. *Int J Pediatr Otorhinolaryngol* 2006;70(1):147-53.
20. Thompson DM, Arora AS, Romero Y, Dauer EH. Eosinophilic esophagitis: its role in aerodigestive tract disorders. *Otolaryngol Clin North Am* 2006;39(1):205-21.
21. Boston M, Ruwe E, Duggins A, Willging JP. Internet use by parents of children undergoing outpatient otolaryngology procedures. *Arch Otolaryngol Head Neck Surg* 2005;131(8):719-22.
22. Burkart CM, Brinkman JA, Willging JP, Elluru RG. Lingual cyst lined by squamous epithelium. *Int J Pediatr Otorhinolaryngol* 2005;69(12):1649-53.
23. White DR, Preciado DA, Stamper B, Willging JP, Myer CM, 3rd, Cotton RT, Rutter MJ. Airway reconstruction in pediatric burn patients. *Otolaryngol Head Neck Surg* 2005;133(3):362-5.
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