

Division Photo



Back Row: JP Willging, JH Greinwald, A deAlarcon, EM Arjmand; Middle Row: DK Brown, SR Shott, MJ Rutter; Front Row: EG Elluru, RT Cotton, CM Myer, DI Choo

Division Data Summary

Research and Training Details

Number of Faculty	11
Number of Joint Appointment Faculty	1
Number of Research Students	2
Number of Support Personnel	58
Direct Annual Grant Support	\$311,820
Peer Reviewed Publications	22

Clinical Activities and Training

Number of Clinical Fellows	6
Number of Other Students	5
Inpatient Encounters	717
Outpatient Encounters	45,586

Faculty Members

Robin T. Cotton, MD, Professor ; *Director, Department of Pediatric Otolaryngology; Director, Aerodigestive and Sleep Center*

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

David K. Brown, PhD, Assistant Professor ; *Director, Audiological Research Lab*

Daniel I. Choo, MD, Associate Professor

Ravindhra G. Elluru, MD, PhD, Assistant Professor ; *Director, Voice Clinic*

John. H. Greinwald Jr., MD, Associate Professor

Charles M. Myer III, MD, Professor ; *Director, Pediatric Otolaryngology Residency Program*

Michael J. Rutter, MD, Associate Professor

Sally R. Shott, MD, Professor

Dana M. Thompson, MD, Associate Professor

J. Paul Willging, MD, Professor ; *Director, Pediatric Otolaryngology Fellowship Program*

Joint Appointment Faculty Members

Jareen Meinzen-Derr, MPH, PhD, Assistant Professor

Biostatistics & Epidemiology

Epidemiology

Trainees

- **Alessandro deAlarcon, MD**, PGY-VII, Virginia Commonwealth University School of Medicine
- **Gresham Richter, MD**, PGY-VII, University of Colorado-Health Sciences Center
- **Chad Afman, MD**, PGY-VI, Wayne State School of Medicine
- **Matthew Bromwich, MD, FRCS(c)**, PGY-VI, Queen's University School of Medicine (Kingston, Canada)
- **J. Matthew Dickson, MD, FRCS(c)**, PGY-VI, University of British Columbia (Vancouver, Canada)
- **Christopher Wootten, MD**, PGY-VI, Baylor College of Medicine

Significant Accomplishments in FY08

Microarray Diagnostic Gene Chip

The diagnosis of hearing loss is problematic. By the time a hearing loss is suspected, a child can already have significant language delays. Current paradigms for detecting the etiology of hearing loss can be expensive and don't screen for most of the genetic causes of hearing loss. Dr. John H. Greinwald, Jr and his research lab are currently working to drastically change the face of hearing loss diagnosis. Dr. Greinwald is currently developing a microarray diagnostic gene chip that will identify the known genetic causes of hearing loss from a single blood sample. Coupled with state-wide mandatory newborn hearing screenings, this chip will allow for the detection of the etiology in infants with hearing loss. This will allow physicians and healthcare providers to develop treatments and therapies prospectively thus narrowing or eliminating the developmental gap between diagnosis and treatment that currently exists. This project is currently finishing the validation stage.

Intratympanic Delivery of Antivirals

Congenital sensorineural hearing loss is the most common neurological birth defect in the U.S. and congenital CMV is one of the most common causes of congenital SNHL. Unfortunately, the systemic administration of the most effective antiviral agents can cause a range of problems, including Hematopoietic and renal toxicity as well as possible carcinogenic and aspermatogenic effects. There is a clear clinical demand for safe and effective treatments for CMV-related hearing loss. Dr. Daniel Choo is currently working on a NIH funded project looking at safe, efficacious delivery of antiviral agents directly to the middle ear space thus avoiding the problems caused by systemic administration of these same antiviral agents.

Tracheal Cartilage

Many congenital airway anomalies arise from problems with the development of the cartilage that comprises the airway. Dr. Ravi G. Elluru is currently undertaking a study whereby he is looking to characterize the molecular mechanisms that pattern the development of the cartilaginous airway. Specifically, he is looking at the role of Sox9 in the development and proliferation of cartilage that forms the tracheal rings. A large portion of the patients seen by the Otolaryngology division are those children who require surgical intervention for their airway anomalies. Dr. Elluru hopes to gain insight into the treatment of these anomalies possibly through the use of genetic engineering. Another outcome of his work in this area may be the ability to predict the outcome of certain patients with a particular type of airway anomaly based of his or her genetic markers.

Significant Publications in FY08

Richter GT, Willging JP. Suction cautery and electrosurgical risks in otolaryngology. *Int J Pediatr*

Otorhinolaryngol 2008;72(7):1013-21.

After a series of burns in the OR, the authors worked with the device manufacturer to define the problem and helped facilitate industry changes (which are coming this year) to minimize the potential for causing burns in the future.

Division Highlights

Ellis M. Arjmand, MD, PhD, MMM

2007 Certificate of Honor American Academy of Otolaryngology - Head and Neck Surgery

Ellis M. Arjmand, MD, PhD, MMM

Chair, Search Committee for Communication Sciences Research Center

Ellis M. Arjmand, MD, PhD, MMM

Chair, American Society of Pediatric Otolaryngology Committee on Health Policy and Economics

Daniel I. Choo, MD

Chosen as member Special Emphasis Study Section for the NIDCD

Ravindhra G. Elluru, MD, PhD

Awarded 3rd place for the Potsic Award at the American Society of Pediatric Otolaryngology and was awarded a 3rd place poster award at the Medical Student Summer Research Program

Charles M. Myer, III, MD

Selected by Consumer's Research Council of America as a member of the "Guide to America's Top Physicians"

J. Paul Willging, MD

Awarded the 2007 Distinguished Service Award "For Exceptional Services in the Scientific Programs, Exhibits, Continuing Education Courses and Instructional Courses of this Society" at the American Academy of Otolaryngology-Head and Neck Surgery Foundation

Division Collaboration

Collaboration with Radiology

Collaborating Faculty: Scott Holland

fMRI in Patients with Cochlear Implants

Division Publications

1. Schraff SA, Brown DK, Schleiss MR, Meinzen-Derr J, Greinwald JH, Choo DI. [The role of CMV inflammatory genes in hearing loss](#). *Otol Neurotol*. 2007; 28: 964-9.
2. Schraff SA, Schleiss MR, Brown DK, Meinzen-Derr J, Choi KY, Greinwald JH, Choo DI. [Macrophage inflammatory proteins in cytomegalovirus-related inner ear injury](#). *Otolaryngol Head Neck Surg*. 2007; 137: 612-8.
3. Choo D. [The role of the hindbrain in patterning of the otocyst](#). *Dev Biol*. 2007; 308: 257-65.
4. de Alarcon A, Choo DI. [Controversies in aural atresia repair](#). *Curr Opin Otolaryngol Head Neck Surg*. 2007; 15: 310-4.
5. Mehta D, Statham M, Choo D. [Actinomycosis of the temporal bone with labyrinthine and facial nerve involvement](#). *Laryngoscope*. 2007; 117: 1999-2001.
6. Meinzen-Derr J, Wiley S, Creighton J, Choo D. [Auditory Skills Checklist: clinical tool for monitoring functional auditory skill development in young children with cochlear implants](#). *Ann Otol Rhinol Laryngol*. 2007; 116: 812-8.
7. Patel AM, Cahill LD, Ret J, Schmithorst V, Choo D, Holland S. [Functional magnetic resonance imaging of hearing-impaired children under sedation before cochlear implantation](#). *Arch Otolaryngol Head Neck Surg*. 2007; 133: 677-83.
8. 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.

9. Dasgupta R, Adams D, Elluru R, Wentzel MS, Azizkhan RG. [Noninterventional treatment of selected head and neck lymphatic malformations](#). *J Pediatr Surg*. 2008; 43: 869-73.
10. Chen J, Yang L, Yang A, Zhu Y, Zhao J, Sun D, Tao Z, Tang X, Wang J, Wang X, Tsushima A, Lan J, Li W, Wu F, Yuan Q, Ji J, Feng J, Wu C, Liao Z, Li Z, Greinwald JH, Lu J, Guan MX. [Maternally inherited aminoglycoside-induced and nonsyndromic hearing loss is associated with the 12S rRNA C1494T mutation in three Han Chinese pedigrees](#). *Gene*. 2007; 401: 4-11.
11. Putcha GV, Bejjani BA, Bleoo S, Booker JK, Carey JC, Carson N, Das S, Dempsey MA, Gastier-Foster JM, Greinwald JH, Jr., Hoffmann ML, Jeng LJ, Kenna MA, Khababa I, Lilley M, Mao R, Muralidharan K, Otani IM, Rehm HL, Schaefer F, Seltzer WK, Spector EB, Springer MA, Weck KE, Wenstrup RJ, Withrow S, Wu BL, Zariwala MA, Schrijver I. [A multicenter study of the frequency and distribution of GJB2 and GJB6 mutations in a large North American cohort](#). *Genet Med*. 2007; 9: 413-26.
12. Buchinsky FJ, Donfack J, Derkay CS, Choi SS, Conley SF, Myer CM, 3rd, McClay JE, Campisi P, Wiatrak BJ, Sobol SE, Schweinfurth JM, Tsuji DH, Hu FZ, Rockette HE, Ehrlich GD, Post JC. [Age of child, more than HPV type, is associated with clinical course in recurrent respiratory papillomatosis](#). *PLoS ONE*. 2008; 3: e2263.
13. Johnson RF, Rutter M, Cotton R, Vijayasekeran S, White D. [Cricotracheal resection in children 2 years of age and younger](#). *Ann Otol Rhinol Laryngol*. 2008; 117: 110-2.
14. Lee KH, Rutter MJ. [Role of balloon dilation in the management of adult idiopathic subglottic stenosis](#). *Ann Otol Rhinol Laryngol*. 2008; 117: 81-4.
15. Manning PB, Rutter MJ, Border WL. [Slide tracheoplasty in infants and children: risk factors for prolonged postoperative ventilatory support](#). *Ann Thorac Surg*. 2008; 85: 1187-91; discussion 1191-2.
16. Richter GT, Rutter MJ, deAlarcon A, Orvidas LJ, Thompson DM. [Late-onset laryngomalacia: a variant of disease](#). *Arch Otolaryngol Head Neck Surg*. 2008; 134: 75-80.
17. Richter GT, Ryckman F, Brown RL, Rutter MJ. [Endoscopic management of recurrent tracheoesophageal fistula](#). *J Pediatr Surg*. 2008; 43: 238-45.
18. 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.
19. Grisel JJ, Richter GT, Casper KA, Thompson DM. [Acquired tracheoesophageal fistula following disc-battery ingestion: can we watch and wait?](#). *Int J Pediatr Otorhinolaryngol*. 2008; 72: 699-706.
20. Thompson DM, Orvidas LJ. [Otorhinolaryngologic manifestations of eosinophilic esophagitis](#). *Gastrointest Endosc Clin N Am*. 2008; 18: 91-8; ix.
21. 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.
22. Miller CK, Willging JP. [The implications of upper-airway obstruction on successful infant feeding](#). *Semin Speech Lang*. 2007; 28: 190-203.

Grants, Contracts, and Industry Agreements

Grant and Contract Awards

Annual Direct / Project Period Direct

Choo, D

A Preclinical Trial of Intratympanic Antivirals for CMV

National Institutes of Health

R01 DC 008651

01/01/07 - 12/31/11

\$196,070 / \$1,230,455

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

Current Year Direct

\$311,820

Total \$311,820