

Otolaryngology



Listed from left to right. Front: Charles A. Elmaraghy, Russell A. Faust. Back: D. Richard Kang, Gregory J. Wiet. Not pictured: Amit Agrawal, Timothy R. Budnik, Jacob P. Burkhart, Roberto J. Castellon, Daniel W. Chase, Edward E. Dodson, Timothy P. Drankwalter, L. Arick Forrest, Anil S. Gokhale, Aryeh Gorenstein, Iain L. Grant, Akash Gupta, Jeffrey A. Hall, Mary C. Hart, Jeffery B. Hiltbrand, Steven M. Hirsch, Clifton R. Hood, Richard T. Irene, Daniel G. Jackson, Abraham Jacob, Lawrence Koegel Jr., James D. Lowery, Michael D. Martyn, Douglas D. Massick, James A. Mechenbier, Timothy J. Nash, Blaize A. O'Brien, Robert S. Pema, David M. Powell, John M. Ryzenman, David E. Schuller, Ashish Shah, George W. Shahade, Thomas M. Shirck, Stephen P. Smith, Adam C. Spiess, Michael J. Sullivan, Evan J. Tobin, D. Bradley Welling, Darryl N. Willett, John J. Zulliger.

Staff Physicians and Faculty



D. Richard Kang, MD, FACS, FAAP,
Chief

Amit Agrawal, MD
Timothy R. Budnik, DO
Jacob P. Burkhart, DO
Roberto J. Castellon, MD
Daniel W. Chase, MD
Edward E. Dodson, MD
Timothy P. Drankwalter, DO
Charles A. Elmaraghy, MD
Russell A. Faust, MD, PhD, FAAP
L. Arick Forrest, MD
Anil S. Gokhale, MD
Aryeh Gorenstein, MD
Iain L. Grant, MD
Akash Gupta, MD
Jeffrey A. Hall, MD
Mary C. Hart, MD
Jeffery B. Hiltbrand, MD
Steven M. Hirsch, MD
Clifton R. Hood, DO
Richard T. Irene, MD
Daniel G. Jackson, MD
Abraham Jacob, MD
Lawrence Koegel Jr., MD
James D. Lowery, MD
Michael D. Martyn, MD
Douglas D. Massick, MD
James A. Mechenbier, MD

Timothy J. Nash, DO
Blaize A. O'Brien, MD
Robert S. Pema, DO
David M. Powell, MD
John M. Ryzenman, MD
David E. Schuller, MD
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George W. Shahade, DO
Thomas M. Shirck, DO
Stephen P. Smith, MD
Adam C. Spiess, MD
Michael J. Sullivan, MD
Evan J. Tobin, MD
D. Bradley Welling, MD, PhD, FACS
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Darryl N. Willett, MD
John J. Zulliger, MD

The Department of Otolaryngology provides comprehensive diagnosis and treatment for children who have ear, nose and throat diseases, hearing loss, sinusitis, airway obstruction and voice disorders. The department offers the only fellowship-trained pediatric otorhinolaryngologists in central Ohio. The department's otolaryngologists are an integral part of numerous multidisciplinary clinics at Nationwide Children's Hospital, including the Cleft Palate/Craniofacial Clinic, Feeding Disorders Clinic, Cystic Fibrosis Clinic and the Congenital Vascular Tumor Clinic. Working closely with Interventional Radiology, Nationwide Children's otolaryngologists provide cutting-edge, minimally invasive (non-surgical) treatment for congenital lymphatic malformations as well as other congenital and acquired cysts in the head and neck region. The department also offers hearing and voice clinics for pediatric patients and a state-of-the-art Cochlear Implant Program.

The Department of Otolaryngology at The Ohio State University and Nationwide Children's Hospital is actively involved in education and research with three otolaryngology residents on-service throughout the year. Medical students and pediatric residents also regularly take rotations within the pediatric division throughout the year. Practicing otolaryngologists from other countries, known as Stecker Scholars, have also visited to observe the tertiary pediatric otolaryngological care provided. The department is a national and international leader in research in virtual surgical training for otolaryngology residents and has been awarded a \$1.6 million National Institute of Health grant to further develop this technology during the next several years. There are multiple ongoing clinical research efforts involving bacteriology of otitis media and development of vaccines, bacteriology of sinusitis, airway diagnosis with high-resolution CT scanning, minimally invasive

management of lymphangiomas, congenital cysts and sialorrhea, and impact of early bilateral cochlear implants in children.

Clinical, Teaching and Research Interests

D. Richard Kang, MD, FACS, FAAP, was appointed Chief of the Department of Otolaryngology at Nationwide Children's Hospital in December 2003 and serves as Director of the Division of Pediatric Otolaryngology and as an Associate Professor of Clinical Otolaryngology at The Ohio State University College of Medicine. He came to Nationwide Children's Hospital from San Diego where he spent a 20-year career in Navy medicine. He completed pediatric otolaryngology fellowships at both St. Louis Children's Hospital and San Diego Children's Hospital. Dr. Kang was the chairman and program director for two otolaryngology-head and neck surgery departments at Naval Medical Centers in Oakland and San Diego. He was also the Otolaryngology Specialty Advisor to the Navy Surgeon General. He joined San Diego Children's Hospital where he was director of the Hearing Center and, while there, developed a large cochlear implant center – one of only four recognized pediatric cochlear implant centers in California. His clinical interest is in all aspects of pediatric otolaryngology and, in particular, pediatric otology.

Charles A. Elmaraghy, MD, is a member of the Department of Otolaryngology at Nationwide Children's Hospital and an active faculty member in the Department of Otolaryngology – Head and Neck Surgery and an Assistant Professor of Clinical Otolaryngology at The Ohio State University College of Medicine. He is board certified and received his fellowship training at Children's National Medical Center in Washington, D.C., in pediatric otolaryngology. His career highlights include being summa cum laude at The Ohio State University, achieving the highest USMLE Step 1 score in the nation in 1998, valedictorian at The Ohio State University College of Medicine in 2000 and achieving the highest score in the nation in 2004 on the annual otolaryngology in-service examination. His career interests include sinus surgery, airway problems, head and neck masses and general pediatric otolaryngology. His responsibilities include training residents, medical students and other health professionals. Currently, he is an integral part of the medical student otolaryngology curriculum at The Ohio State University College of Medicine for the ambulatory clerkship and is in charge of otolaryngology resident education at Nationwide Children's Hospital. He has authored national publications and is academically active at Nationwide Children's Hospital.

Russell A. Faust, MD, PhD, FAAP, is a member of the Department of Otolaryngology at Nationwide Children's Hospital, a Clinical Assistant Professor at The Ohio State University College of Medicine and an Assistant Professor of Oral Biology at The Ohio State University College of Dentistry. Clinically, Dr. Faust is applying minimally invasive techniques to head and neck surgery for children. He has pioneered methods for imaging the airway and craniofacial skeleton, surgical techniques for repairing the anterior skull base without incisions, and is one of the leaders in robotic surgery of the head and neck. Dr. Faust's laboratory is active in new applications of surgical robotics to extend minimally invasive techniques for children and his laboratory is active in research for the causes and treatment of chronic rhinosinusitis in children. Along with Dr. William Shiels of Radiology, his lab is also developing minimally invasive techniques to treat vascular abnormalities.

Evan J. Tobin, MD, is a member of the Department of Otolaryngology at Nationwide Children's Hospital and a Clinical Assistant Professor of Otolaryngology at The Ohio State University College of Medicine and is part of the teaching faculty at Nationwide Children's Hospital, Mt. Carmel Hospital, Grant Hospital and The Ohio State University College of Medicine. He graduated in 1988 with honors from Princeton University after completion of a senior thesis in the Department of Molecular Biology. He graduated from the University of Texas Southwestern Medical School in Dallas. He was inducted into the AOA Honor Medical Society in 1992. He completed his residency in otolaryngology-head and neck surgery at The Ohio State University in 1997. Dr. Tobin is a board-certified Fellow of the American Board of Otolaryngology and is a Fellow of the American Rhinologic Society. He was elected as Chairman of the Eye, Ear, Nose and Throat Department at Mount Carmel East Hospital in 2006. He lectures medical students, residents and other physicians nationwide and has co-authored several textbook chapters. Dr. Tobin's main interests are treating adult and pediatric ear, nose and throat problems, nasal and sinus disorders, and sleep disorders including snoring and sleep apnea. He has a special interest in the management of complex pediatric sinus disorders and is an attending physician in the Cystic Fibrosis Clinic at Nationwide Children's Hospital. He sees patients in Columbus at his East Broad Street office, in Newark and at Nationwide Children's Hospital's main campus. Dr. Tobin is married and has two children.

D. Bradley Welling, MD, PhD, FACS, is a member of the Department of Otolaryngology at Nationwide Children's Hospital and a Professor and Chair of the

Department of Otolaryngology – Head and Neck Surgery at The Ohio State University College of Medicine. His research interests include the genetics and treatment of vestibular schwannomas and the molecular characteristics of the Neurofibromatosis Type 2 gene. He received a K08 to study and identify mutations with the NF2 gene and an R01 award from the National Institute of Health Deafness and Communication Disorders to further characterize the phenotypic determinants in vestibular schwannomas. He is a co-investigator with Dr. Gregory Wiet on the development and validation of the virtual temporal bone dissector model also funded by the NIH/DCD. Dr. Welling was the co-principal investigator on a study of post-transcriptional regulation of the neurofibromatosis gene with Long-Sheng Chang, PhD. He has received numerous honors including the Edmund Prince Fowler Award for his Triologic Thesis “Clinical Manifestations of Mutations in the Neurofibromatosis Type 2 Gene in Vestibular Schwannomas (Acoustic Neuromas)” and the Nicholas Torok Award in Vestibular Science for “cDNA Microarray Analysis of Vestibular Schwannomas” by the American Neurotology Society. Dr. Welling was named a Daiichi Clinical Scholar in Clinical Research and Evidence Based Medicine and received the American Academy of Otolaryngology – Head and Neck Surgery’s Honor Award. He was awarded the Department Teaching Award in 2005 and was honored to be inducted in 2006 to the Collegium Oto-Rhino-Laryngologicum Amicitiae Sacrum, which is an international honorary society for researchers. He is the President Elect of the American Neurotology Society and is Vice President of the Board of Directors of the Otology & Neurotology Journal. He has served as a Senior Examiner for the American Board of Otolaryngology and is the secretary-treasurer of the Middle Section of the Triologic Society. Dr. Welling has authored 65 peer-reviewed articles and 17 book chapters. He is the invited keynote speaker for the 5th International Convention on Vestibular Schwannomas and Other CPA tumors in Barcelona, Spain, and was honored last September as the guest of honor for the Japan Otologic Society. Clinically, Dr. Welling is interested in all aspects of ear and hearing disease in children and adults. As a preceptor, Dr. Welling works with medical students who are interested in clinical and basic research in otology and neurotology.

Gregory J. Wiet, MD, FACS, FAAP, is the former Chief of the Department of Pediatric Otolaryngology at Nationwide Children’s Hospital and an Associate Professor of Otolaryngology and Biomedical Informatics at The Ohio State University College of

Medicine. Dr. Wiet’s clinical interests include care for the patient with cleft lip and palate and pediatric voice disorders as well as general pediatric otolaryngology. Dr. Wiet’s NIH/DCD-funded research focuses on the application of high-performance computing to the field of otolaryngology – head and neck surgery. Specifically, his interest centers on the development of a simulation environment for teaching specific surgical techniques in otolaryngology. He was awarded a National Institute of Health R-21 preliminary grant to develop a surgical simulator for temporal bone surgery and recently was awarded a \$1.6 million RO-1 grant from the NIH to continue developing the system during the next five years.

Research Funding (Over \$50,000)

D. Bradley Welling, MD, PhD, FACS

Phenotypic Determinants of Vestibular Schwannomas, National Institutes of Health, Deafness and Communications Disorders

Post-Transcriptional Regulation of the Neurofibromatosis Gene, DB United States Army Research and Material Command

Gregory J. Wiet, MD, FACS, FAAP

Validation/Dissemination Virtual Temporal Bone Dissection, National Institute on Deafness and Other Communication Disorders

Publications

Agrawal A, Moon J, Davis RK, Dakr WA, Giri SP, Valentino J, LeBlanc M, Truelson JM, Yoo GH, Ensley JF, **Schuller DE**, Southwest Oncology Group. Transoral carbon dioxide laser supraglottic laryngectomy and irradiation in stage I, II, and III squamous cell carcinoma of the supraglottic larynx: report of Southwest Oncology Group Phase 2 Trial S9709. *Archives of Otolaryngology – Head and Neck Surgery* 133(10): 1044-50, October 2007.

Bennett KL, Hackanson B, Smith LT, Morrison CD, Lang JC, **Schuller DE**, Weber F, Eng C, Plass C. Tumor suppressor activity of CCAAT/enhancer binding protein alpha is epigenetically down regulated in head and neck squamous cell carcinoma. *Cancer Research* 67(10): 4657-64, May 15, 2007.

Butler NN, **Wiet GJ**. Reliability of the Welling scale (WS1) for rating temporal bone dissection performance. *Laryngoscope* 117(10): 1803-8, October 2007.

Elmaraghy CA, Tanna N, **Wiet GJ**, **Kang DR**. Endoscopic management of blunt pediatric laryngeal trauma. *Annals of Otology, Rhinology, & Laryngology* 116(3): 192-4, March 2007.

Faust RA, Kang AJ, Lorincz A, Younes A, Dawe E, Klein MD. Robotic endoscopic surgery in a porcine model of the infant neck. *Journal of Robotic Surgery* 1: 75-83, 2007.

Fleming AJ Jr, Smith SP Jr, Paul CM, Hall NC, Daly BT, **Agrawal A**, **Schuller DE**. Impact of [18F]-2-fluorodeoxyglucose-positron emission tomography/computer tomography on previously untreated head and neck cancer patients. *Laryngoscope* 117(7): 1173-9, July 2007.

Hockstein NG, Gourin CG, **Faust RA**, Terris DJ. A history of robots: From science fiction to surgical robotics. *Journal of Robotic Surgery* 1: 113-118, 2007.

Husein OF, Jacob A, Massick DD, **Welling DB**. Recurrence of isolated multiple myeloma in the skull base: a case report and review of the literature. (Review) *Ear Nose Throat Journal* 86(9): 555-60, September 2007.

Jacob A, Robinson LL Jr, Bortman JS, Yu L, Dodson EE, **Welling DB**. Nerve of Origin, Tumor Size, Hearing Preservation, and Facial Nerve Outcomes in 359 Vestibular Schwannoma Resections at a Tertiary Care Academic Center. *Laryngoscope*, October 4, 2007.

Jacob A, Bortman JS, Robinson Jr. LL, Yu L, Dodson EE, **Welling DB**. Does packing the Eustachian tube impact cerebrospinal fluid rhinorrhea rates in translabyrinthine vestibular schwannomas resections? *Otology and Neurotology* 28(7): 934-8, October 2007.

Jacob A, Brightman RP, **Welling DB**. Bilateral cerebellopontine angle metastatic melanoma: a case report. *Ear Nose Throat Journal* 86(7): 388-90, July 2007.

Joshi AS, Tanna N, **Elmaraghy CA**, Obokhare I, Ponsky TA, Pena MT, Slack MC. Nonsurgical treatment of tracheoinnominate fistula in the pediatric population. *Archives of Otolaryngology Head Neck Surgery* 133(3): 294-6, March 2007.

Laeq S, **Faust RA**. Modeling the cholesteatoma microenvironment: Co-culture of HaCat keratinocytes with WS1 fibroblasts induces MMP-2 activation, invasive phenotype, and proteolysis of the extracellular matrix. *Laryngoscope* 117: 313-318, 2007.

Neff BA, Wiet RM, Lasak JM, Cohen NL, Pillsbury HC, Ramsden RT, **Welling DB**. Cochlear implantation in the neurofibromatosis type 2 patient: long-term follow-up. *Laryngoscope* 117(6): 1069-72, June 2007.

Otto BA, Jacob A, Klein MJ, **Welling DB**. Chondromyxoid fibroma of the temporal bone: case report and review of the literature. *Annals of Otolaryngology & Laryngology* 116(12): 922-7, December 2007.

Richardson MA, **Faust RA**. Otorrinolaringologica y De Patologia Cervico-Facial (SP) in Respiratory Papillomatosis, Farma-CUSI, 2007.

Robots in Surgery: History, Present and Future Applications, (**Faust RA**, ed.) Nova Science Publishing, 2007.

Samlowski WE, Moon J, Kuebler JP, Nichols CR, Gandara DR, Ozer H, Williamson SK, Atkins JN, **Schuller DE**, Ensley JF. Evaluation of the combination of docetaxel/ carboplatin in patients with metastatic or recurrent squamous cell carcinoma of the head and neck (SCCHN): a Southwest Oncology Group Phase II study. *Cancer Investigator* 25(3): 182-8, April/May 2007.

Schuller DE, Ozer E, **Agrawal A**, Grecula JC, Rhoades CA, Young DC. Multimodal intensification regimens for advanced, respectable, previously untreated squamous cell cancer of the oral cavity, oropharynx, or hypopharynx: a 12-year experience. *Archives of Otolaryngology – Head & Neck Surgery* 133(4): 320-6, April 2007.

Short RF, Shiels II WE, Sferra TJ, Nicol KK, Schofield M, **Wiet GJ**. Site-specific induction of lymphatic malformations in a rat model for image-guided therapy. *Pediatric Radiology* 37(6): 530-4, June 2007 (Epub, March 31, 2007).

Welling DB. Long-term follow-up of hearing loss in biotinidase deficiency. *Journal of Child Neurology* 22(8): 1055, August 2007.

Welling DB, Packer MD, Chang LS. Molecular studies of vestibular schwannomas: a review. *Current Opinion in Otolaryngology & Head and Neck Surgery* (review) 15(5): 341-6, October 2007.

Presentations and Teaching Activities

Charles A. Elmaraghy, MD

Nasal CPAP Complications in the NICU, Co-Presenter, Poster Presentation, AAO-HNSF Annual Meeting, Washington, D.C., September 2007

D. Richard Kang, MD, FACS, FAAP

Minimally Invasive Repair of Frontal Sinus Fracture, Poster Presentation, AAO-HNSF Annual Meeting, Washington, D.C., September 2007

Neonatal Nasogastric Tube Placement into Middle Ear, Poster Presentation, AAO-HNSF Annual Meeting, Washington, D.C., September 2007

Percutaneous Treatment of Lymphatic Malformations, AAO-HNSF Annual Meeting, Washington, D.C., September 2007

What Is the Best Diagnostic Test to Prognosticate the Clinical Course of Tracheomalacia in Infants and Children?, Poster Presentation, AAO-HNSF Annual Meeting, Washington, D.C., September 2007

Painless Gradenigo-like Syndrome in a 5-year-old Caused by Congenital Cholesteatoma of the Mastoid, Poster Presentation, AAP Meeting, San Francisco, California, October 2007

D. Bradley Welling, MD, PhD, FACS

Dissecting the Molecular Pathology of Vestibular Schwannomas, Barcelona, Spain, June 2007

Treatment Paradigms for NF2, Invited Panel Moderator, 5th International Convention on Vestibular Schwannomas and Other CPA Tumors, Barcelona, Spain, June 2007

Gregory J. Wiet, MD, FACS, FAAP

Third World Outreach: David R. Kelly, MD, Lecture on Medical Economics, Invited Speaker, 15th Annual Department of Otolaryngology Alumni Symposium, The Ohio State University College of Medicine, Columbus, Ohio, 2007

Temporal Bone Dissection Simulator Project, AAO-HNSF Annual Meeting, September 18, 2007

Innovation in ORL Education: Will dummies make us smarter?, Invited Speaker/ Panelist, AAO-HNSF Annual Meeting, September 19, 2007

Awards and Honors

D. Richard Kang, MD, FACS, FAAP

Listed, Best Doctors in America

Mary C. Hart, MD

Listed, Best Doctors in America

Michael J. Sullivan, MD

Listed, Best Doctors in America

D. Bradley Welling, MD, PhD, FACS

Listed, Best Doctors in America

Fast Facts

Inpatient Discharges: 441

Observation Discharges: 1,231

Total Discharges: 1,672

Average Length of Stay*: 1.8

Average Daily Census: 2.1

Patient Days*: 784

Total Surgical Cases: 4,623

includes NCH Main OR and NCH Surgery Center

Inpatient Consults: 554

ENT Clinic Visits: 7,205

Dublin ENT Clinic Visits: 2,495

Total ENT Clinic Visits: 9,700