

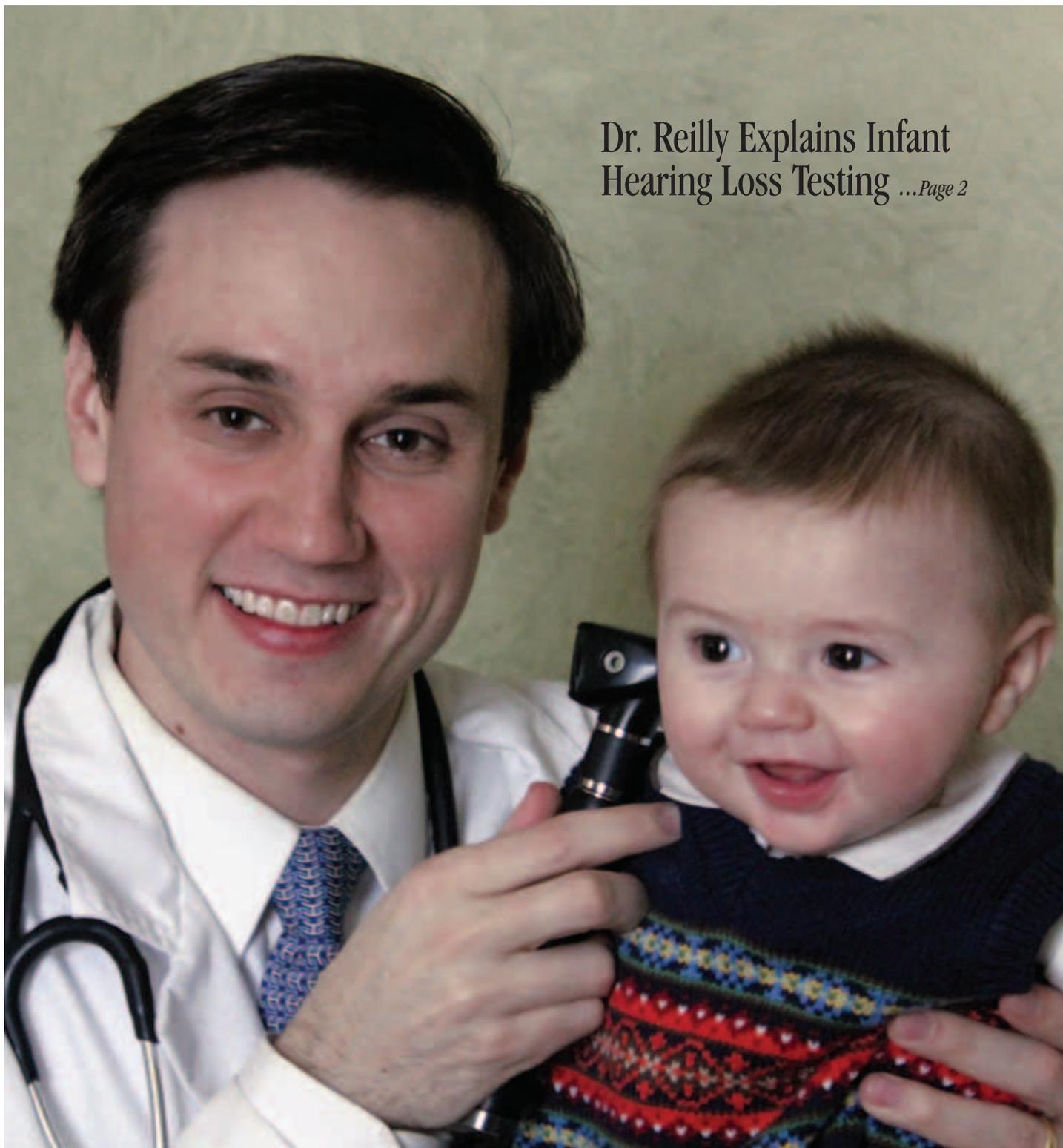
Children's
National

MEDICAL CURRENTS

A Children's National Medical Center Quarterly Publication for Physicians



Dr. Reilly Explains Infant
Hearing Loss Testing ...Page 2



Winter 2011

Dr. Brian Reilly Explains the Importance of Infant Hearing Loss Testing

Brian K. Reilly, MD, FAAP, Otolaryngologist at Children's Specialists of Virginia, LLC

Why is infant hearing loss an important topic?

Sensorineural hearing loss (SNHL) occurs in approximately one infant per 1,000 births in the United States. Early detection is critical. If hearing loss is not treated in the first year of life, this condition can greatly impair a child's speech and language development, as well as cognitive and social skills.

All hospitals in the District of Columbia, Maryland, and Virginia performing newborn deliveries must conduct hearing screening in all infants prior to discharge. If an infant does not pass the audiologic test called the Universal Newborn Hearing Screening (UNHS), then it is imperative that he/she follows up promptly with an otolaryngologist (ENT) and an audiologist.

How is hearing loss determined?

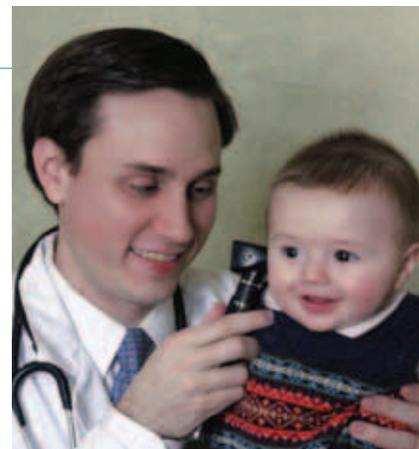
Hearing loss can range from very mild to profound. Currently, screening occurs at all DC, Virginia, and Maryland hospitals, using otoacoustic emissions (OAEs) and/or automated auditory brainstem response (AABR) measures. For those infants who do not pass the UNHS, a pediatric trained ENT physician will perform an otoscopic visualization of the infant's ears to see if the eardrum appears normal or if there is fluid that is present and could be a contributing factor.

Why does hearing loss matter?

As Helen Keller once said: "Blindness separates people from things. Deafness separates people from people." Delays in the diagnosis of hearing loss will lead to a failure to restore hearing and limit a child during critical periods of language acquisition. Amplification of sound through use of hearing aids or performance of cochlear implantation early in a child's life can lead to significant educational rewards, reduced learning difficulties, and ultimately, a better life through enhanced gainful employment.

Research by the National Center for Hearing Assessment and Management (NCHAM) has shown that early detection and treatment for hearing loss for a single child saves \$400,000 in special education costs by the time that child graduates from high school.

In some cases, hearing loss is secondary to fluid in the middle ear cavity. This accumulation of fluid from upper respiratory infections may reabsorb after close clinical observation. Children with persistent fluid after a period of observation for 3 months can benefit from drainage of the fluid and insertion of tympanostomy tubes. Hearing loss that is not caused by middle ear fluid will benefit from hearing aids or require cochlear implantation.



What are some common myths regarding hearing loss?

It can be very difficult to correctly detect hearing loss. For example, babies are good at using visual cues, and may react to a parent's clapping hands not because of the noise but by detecting a breeze from the motion of the clapping. Another major misconception is that parents can recognize if their child cannot hear by 6 months of age. In fact, if early testing is not performed on a newborn, diagnosis can be delayed until 2 to 3 years of age, and with this delay there also may be permanent delay in speech and language acquisition.

What are major risk factors for hearing loss that should prompt an appointment to an ENT physician?

- Failed or abnormal hearing test
- Recurrent ear infections (otitis media)
- Concern for hearing loss in a parent or caregiver
- Neonatal Intensive Care Unit stay longer than 5 days
- Prolonged assisted ventilation as a pre-mature neonate
- Bacterial meningitis
- Perinatal antibiotics or other ototoxic medications
- Perinatal vascular support (ECMO)
- Craniofacial anomalies
- Family history of hearing loss (parental or sibling)
- Cytomegalovirus: *in utero* infection

Continued page 3

How does a physician decide if a child is a candidate for cochlear implantation?

All significantly hearing impaired infants should undergo a trial with hearing aids to assess potential benefits of amplification. Regular hearing tests and assessments are performed and parent observations are carefully reviewed and discussed with a group of specialists. There is a committee of audiologists and ENTs that meets regularly to discuss candidacy for cochlear implantation for those infants who fail to significantly benefit from hearing aids.

The committee reviews the complete compilation of tests for hearing loss work-up performed by the ENT. A hearing aid trial must be initiated to see if the child receives any benefit. Cochlear implant surgery can permit children as young as 12 months of age to develop speech and language.

What does a hearing loss evaluation typically entail?

A thorough history and physical examination are performed. Otoscopy is performed by the pediatric ENT who inspects the external ear, ear canal, tympanic membrane (ear drums), and skull, particularly the mastoid region.

Blood tests are obtained to rule out any treatable infectious causes, in particular cytomegalovirus (CMV). Special genetic consulting is ordered. Ophthalmology examinations are very important. Specialized imaging of the skull base temporal bone, using both MRI scan and CT Temporal Bone are obtained to evaluate the inner ear anatomy, with focused attention to the cochlea, the auditory (Cranial VIII), and the facial (Cranial VII) nerves.

How can Children’s National Medical Center help?

The Division of Otolaryngology has doctors and audiologists who hold specialty clinics to test infants and children suspected of hearing loss. An appointment can be made at specialized offices located at sites within Washington, DC, by calling (202)-476-2159 or Northern Virginia by calling (571)-766-3100. Brian K. Reilly, MD, specializes in hearing loss clinics, performs cochlear implantation, and sits on the Cochlear Implant Committee. Appointments need to be scheduled at the telephone numbers listed above. He may be reached at breilly@cnmc.org.

There’s a ROC Near You!

In each issue of Medical Currents, we will update you on expansions and services at our outpatient centers. This issue, we are highlighting the Spring Valley Regional Outpatient Center.

If we could bring world-class care to your practice, we would. Instead, we have done the next best thing by providing the same quality of care as the hospital, only closer to your practice.

Spring Valley Regional Outpatient Center

4900 Massachusetts Ave., NW, Suite 320
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 202-895-3860 (p) 202-895-3870 (f)

Other Regional Outpatient Centers

- Children’s National Specialists of Virginia, LLC
**An affiliated private practice*
- Children’s Center for Cancer and Blood Disorders of Northern Virginia
- Northern Virginia Regional Outpatient Center and Neurosurgery Office
- Annapolis Regional Outpatient Center
- Upper Marlboro Regional Outpatient Center
- Montgomery County Regional Outpatient Center, Ambulatory Surgery Center, Neuropsychology
- Laurel Regional Outpatient Center
- Frederick Regional Outpatient Center

Specialty services offered at the Spring Valley ROC include:	
Adolescent Medicine	Darlene Atkins, PhD Lawrence D’Angelo, MD Tomas Silber, MD
Dermatology	Roselyn Epps, MD
Endocrinology & Diabetes	Fran Cogen, MD Radha Nandagopal, MD
Gastroenterology	John Snyder, MD Benny Kerzner, MD
General Surgery	Kurt Newman, MD, Alfred Chahine, MD Evan Nadler, MD
I.D.E.A.L. Clinic (<i>Improving Diet, Exercise and Activity for Life</i>)	Michelle Mietus-Synder, MD Nazrat Mirza, MD. Susma Vaidya, MD
<i>*This is a new clinic for obese pediatric patients. For more information call 202-895-3860.*</i>	
Nutrition	Erin Davis, RD
Plastic & Reconstructive Surgery	Michael Boyajian, MD
Psychiatry	Adair Parr, MD

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PEOPLE IN THE NEWS



David Wessel, MD, senior vice president of Hospital-Based Specialties at Children's National Medical Center, won the best abstract for Outstanding Research Award in Pediatric Cardiology by the American Heart Association's Council on Cardiovascular Disease in the Young. Dr. Wessel was the principal investigator and chaired the steering committee for a global trial, Clopidogrel in Neonates/Infants With Systemic To Pulmonary Artery Shunt Palliation (CLARINET). The aim of the study was to see whether the drug Plavix, which has been shown to be efficacious in preventing critical thrombosis in adult coronary disease, could prevent shunt thrombosis in infants.



Judith Owens, MD, MPH, is the new director of Sleep Medicine at Children's National. She is an internationally recognized authority on children and sleep. She chairs the pediatric section of the American Academy of Sleep Medicine, and her research interests include the neurobehavioral and health consequences of sleep problems in children, pharmacologic treatment of pediatric sleep disorders, and cultural and psychosocial issues that impact sleep. Dr. Owens is co-author of *Take Charge of Your Child's Sleep: The All-in-One Resource for Solving Sleep Problems in Kids and Teens* for parents and *A Clinical Guide to Pediatric Sleep* for healthcare professionals. She also is a founding member of the Board of Directors of the Society of Behavioral Sleep Medicine.

CHILDREN'S NEWS NOTES

Children's National Medical Center Specialists Named "Top Doctors" by Northern Virginia Magazine

Fifty doctors from Children's National Medical Center have been named as the region's "Top Doctors" in the February 2011 issue of *Northern Virginia Magazine*. This year, Children's National expanded its offering of services in Northern Virginia through its affiliation with Children's National Specialists of Virginia, LLC, a private, physician office-based practice in Fairfax, Virginia.

"We are very proud of the continued success of our physicians in Northern Virginia and throughout the metropolitan area. Children's National is the largest pediatric specialty presence in the region and their ranking in this survey is evidence that our specialists are highly regarded by their peers," said Edwin K. Zechman, President and CEO, Children's National Medical Center. "I am pleased to congratulate our Northern Virginia 'Top Docs.'"

To see Children's National doctors who made the list, visit: www.ChildrensNational.org/NovaTopDocs

