

# Patient Guide

## Pediatric Hearing Disorders



EAR, NOSE & THROAT  
ASSOCIATES, P.C.

Pediatric

## Introduction

Hearing loss is one of the most frequently occurring birth defects in the United States. Approximately 3 of every 1000 newborns will have bilateral permanent hearing loss. Undetected hearing loss can significantly impact speech, language, and cognitive development. The American Academy of Pediatrics has endorsed the implementation of universal newborn hearing screening programs since 1999.

The State of Indiana mandates universal hearing screening for all newborns. As of July 2000, all hospitals were required to conduct hearing screenings of newborns prior to discharge. The audiologists at Ear, Nose, and Throat Associates, P.C. actively participate in followup evaluations for those infants who are referred from the hospital screenings.

## Evaluation Process

Several tests are available to assess the hearing of newborns and young children. The Auditory Brainstem Response Test (ABR) and Auditory Steady State Response Test (ASSR) are tests which evaluate the function of the nerve pathway from the ear to the brain. Both are done while the child is sleeping. Both tests are painless and can be done on patients of any age. The Otoacoustic Emissions Test (OAE) determines if the receptor cells in the inner ear are functioning. This test takes a few minutes, is painless, and can be done on patients of any age. Visual Reinforcement Audiometry (VRA) is a behavioral test where sounds are

delivered through speakers while the child or baby sits on the parent's lap. Responses to these sounds are judged by a head-turning response from the child. VRA can



be done starting at age 6 months. Impedance Testing evaluates the integrity of the eardrum and middle ear system. This test takes a few minutes and can be done on patients of any age. Based on the results from these tests, the type and degree of hearing loss, if any, can be determined.

## Types of Hearing Loss

Three types of hearing loss are possible:

1) Sensorineural, 2) Conductive, and 3) Mixed.

Sensorineural hearing loss is caused by damage to the cochlea (inner ear) or auditory nerve. The damage is usually permanent and cannot be treated medically. Depending on the degree of hearing loss, an audiologist may recommend hearing aids, a cochlear implant, an FM system, and/or other devices. Conductive hearing loss is caused by a problem with the outer and/or middle ear. Most cases can be treated medically or surgically. Mixed hearing loss is a combination of a conductive and sensorineural hearing loss. Auditory Neuropathy or Auditory Dys-synchrony is another type of hearing disorder in which there is a disruption of the neural transmission of the auditory system.

# Hearing Developmental Milestones

Children should progress through the developmental milestones below if hearing is normal.

**Birth to three weeks** – Infants are becoming accustomed to surroundings; may sleep through loud sounds yet still have normal hearing.

**Birth to three months** – Startles or jumps to loud sounds; stirs, wakes, or cries with loud sounds; quiets to parent's voice.

**Three to six months** – Turns eyes to interesting sounds; seems to "listen"; awakes easily to sounds.

**Six to ten months** – Turns head to sounds; understands common words (no, bye-bye, mommy, daddy); begins to imitate speech sounds, responds to own name.

**Ten to fifteen months** – Knows names of common toys and people; imitates simple words and sounds, likes music and rhymes; identifies sound from another room.

**Fifteen to twenty-four months** – Points to two or more body parts; uses 20+ words; follows simple directions; likes being read to; has approximately 250 words at 2 years.

If you think your child is not meeting the above milestones, contact us to schedule a hearing evaluation. Hearing can be measured in any child. The age of a newborn or child DOES NOT preclude the evaluation or treatment process.

## Intervention Process

Should hearing loss be diagnosed, intervention can begin immediately. If intervention includes hearing aids, our audiologists are experienced in selecting and fitting hearing aids for children.

When selecting a hearing aid, style and circuitry options will be discussed. Behind-the-ear instruments are usually the most appropriate style for infants and young children as they have acoustic, fitting, and safety flexibility. Hearing aid options are dependent on the type and degree of hearing loss, as well as financial issues.

Other intervention such as speech and language therapy may be recommended to optimize speech, language, cognitive and social development.

A number of the audiologists at Ear, Nose, and Throat Associates, P.C. are providers for Indiana's Early Intervention Program called First Steps. Families of children under the age of three who have a diagnosed condition which may lead to developmental delay, or those who are at risk for developmental delay, are eligible for this program.

## A Team Approach

A team approach is utilized in the Pediatric Hearing Program, placing importance on the best interests of the child and family. The otolaryngologists and audiologists within our office are fully prepared in the diagnosis and rehabilitation of pediatric hearing disorders. Collaboration with other disciplines is based on the communication, educational, and cultural needs of the patient and family.

**Deepkaran Reddy, M.D.** is a board-certified pediatric otolaryngologist. Dr. Reddy has extensive academic and clinical experience in the evaluation and treatment of children with hearing disorders. Dr. Reddy completed his training in Otolaryngology-Head & Neck Surgery at Indiana University Medical Center and completed a fellowship in Pediatric Otolaryngology at Johns Hopkins University Medical Center. He then was a faculty member in the Pediatric Otolaryngology division at the University of Michigan. He joined Ear, Nose, & Throat Associates in April 2003.

## Our Physicians

William M. Culp, MD

John E. Westfall, MD

Thomas W. Dumas, MD

David W. Stein, MD

John H. Fallon, MD

Mohan K. Rao, MD

Cynthia L. Wellman, MD

Douglas A. Nuckols, MD

Thomas W. Herendeen, MD

Stephen J. Schreck, MD

Deepkaran K. Reddy, MD

Amy L. Lai, MD

Adam R. Kaiser, MD

Brian D. Herr, MD

## Nurse Practitioners:

Valerie Stucky, RN, FNP, MSN

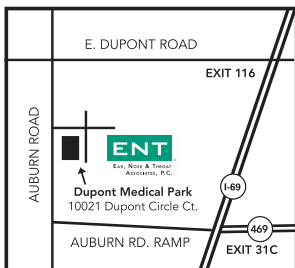
Julie Hall, RN, FNP, MSN

## Our Office Locations

With a variety of office and clinic locations throughout the region, we are here to meet your needs.

## Dupont Office

(CT Scanner location)  
10021 Dupont Circle Ct.  
Fort Wayne, IN 46825



## Lutheran Medical Park

7926 W. Jefferson Blvd.  
Fort Wayne, IN 46804

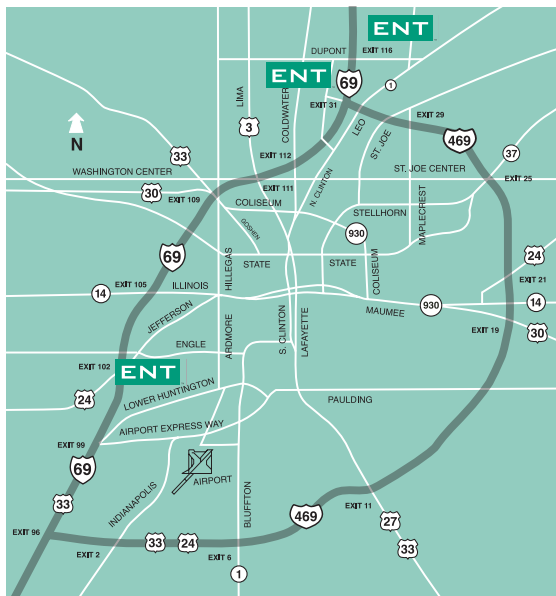
## Parkview North Campus

11141 Parkview Plaza Dr.  
Building 3, Suite 210  
Fort Wayne, IN 46845

## ENT Surgery Center

7900 W. Jefferson, Bldg. 1, Suite 102  
Fort Wayne, IN 46804

[www.entfortwayne.com](http://www.entfortwayne.com)



# Ear Nose & Throat Associates, PC

Ear, Nose and Throat Associates, P.C., is a medical practice of board-certified physicians and surgeons specializing in otolaryngology medical care and surgery. Whether we are treating children or adults, our approach is one of care and concern for the patient. Our staff of licensed clinicians and experienced office professionals are committed to you and your health.



Practicing Excellence.  
Setting the Standard.™

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