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Hear and Now

Focusing on Pediatrics

Childhood Ear Infections

Acute otitis media (ear infection) is the most common infection for which antibacterial agents are prescribed for children in the United States. Ear infections typically have a sudden onset which may present with concomitant symptoms of irritability, ear pain, hearing loss, night-waking, low-grade fever, crying, ear drainage (may present with blood, pus and/or odor) and general cold-like symptoms.

Visual observation of the ear in addition to tests which measure eardrum mobility (pneumatic otoscopy and tympanometry) and middle ear muscle reflexes (immittance) will aid in confirmation of the presence of an ear infection. An audiologic

evaluation will be needed to confirm severity of ear infection and the impact on hearing abilities. Your pediatrician and/or otolaryngologist will decide on course of treatment, if indicated. Typical treatments consist of antibiotics and/or ear drops until symptoms are resolved. In cases of chronic ear infections, pressure equalizing tubes (PE tubes) may be advised by your audiologist or otolaryngologist.

The infection is typically alleviated by antibiotics (if deemed appropriate). New research suggests that 80% of uncomplicated ear infections will resolve within 4 to 7 days without antibiotics. Middle ear fluid takes longer to resolve, taking



anywhere from a few days up to 3 months. The fluid slowly drains out through the Eustachian tube down into the nose. Increased dosage of antibiotics does not speed up this process. Duration of drainage can be further delayed by chronic nasal congestion or allergies which block the Eustachian tube and therefore prevent the ears from draining effectively. Your child's hearing may be muffled until the fluid drains out.

Written By: Dr. Melanie King Hecker, Audiologist

Children Depend on Hearing

Children's quality of life and development vitally depend on hearing. Children learn to speak because they hear others and themselves communicate. Hearing helps your child(ren) learn to read, appreciate music, and receive warnings of approaching harm. Your child will have difficulty coping with many of life's challenges and opportunities at home and in school without good hearing.

Age	Communication Behavior
5 months	Turn to source of moderate & soft sounds
6 months	Recognize familiar voices & engage in vocal play with parents
9 months	Demonstrate understanding of simple words
10 months	Babbles by stringing multiple, single-syllable speech sounds together
12 months	One or more real, recognizable spoken words emerge
18 months	Understands simple phrases, retrieves, places or manipulates familiar objects on spoken request; points to body parts on request. Spoken vocabulary of 20-50 words and short phrases
24 months	Spoken vocabulary 200-300 words; speaks in simple sentences; most speech is understandable to adults not with the toddler on a daily basis; sits and listens to read-aloud story books
3 - 5 years	Uses spoken language constantly to express wants, reflect emotions, convey information and ask questions. Understands nearly all that is said. Vocabulary grows rapidly: 1000-2000 words; produces complex and meaningful sentences. All speech sounds are clear and understandable by 5 years.



**Hearing Professionals
Doctors of Audiology**

Childhood Hearing Loss From Exposure to Secondhand Smoke

Are your children at risk?

A recent study, published in the Otolaryngology Head and Neck Surgery Journal, reported significant findings that exposure to secondhand smoke adversely affects hearing, particularly in children and adolescents. In the study, 1,500 teenagers (ages 12-19) were given hearing tests and tested for cotinine, which is produced when nicotine is metabolized in the body. Cotinine is used as a marker for exposure to tobacco smoke. None of the participants were smokers, themselves. Each participant was interviewed about his or her health status and family medical history, exposure to secondhand smoke, and self-recognition of hearing impairment.

The study found that there is a strong correlation between the levels of cotinine (secondhand smoke bi-products) and the prevalence of hearing loss. Plainly, the more secondhand smoke a child is exposed to, the more permanent low- and high-frequency hearing loss was found. Exposed adolescents were 1.83 times more likely to experience a hearing impairment. The results from the study also stated that more than 80% of adolescents with hearing loss did not realize they had a hearing impairment. Adolescents that are exposed to secondhand smoke may need to be monitored more closely for hearing loss. Hearing loss in children can greatly impact their



performance in school, academic progress and social interaction.

It is not known why tobacco smoke adversely affects hearing; however it is known that tobacco smoke constricts and eventually weakens blood vessels which may be compromising the blood flow to the inner ear.

*Written By:
Dr. Melanie King Hecker, Audiologist*

Hearing Professionals is dedicated to providing the highest quality of personalized and professional diagnostic and rehabilitative balance and hearing health care services, to maximize each individual patient's quality of life.

Newborn screenings are imperative for the early identification of hearing loss in newborns. Early identification is crucial for the appropriate audiologic intervention in order to enhance hearing acuity for improved acquisition of speech and language development. Our offices are equipped to provide a full range of assessment techniques designed to evaluate infants and children of all ages. Hearing Professionals offers many diagnostic hearing testing services including but not limited to:

Tympanometry: Tympanometry evaluates the tympanic membrane (ear drum) and middle ear by measuring pressure reflected from the eardrum. The purpose is to detect middle ear effusion, ossicular discontinuities, otosclerosis, perforated tympanic membranes, Eustachian tube dysfunction and the status of pressure equalization tubes.

Otoacoustic Emissions (OAE): An otoacoustic emission test measures an acoustic response that is produced by the inner ear (cochlea), which in essence bounces back out of the ear in response to a sound stimulus.

Visual Reinforcement Audiology (VRA): VRA testing evaluates the hearing of infants from six months to two years. Sounds of varying intensity are presented to one of two speakers as the child sits on a parent's lap. If a sound is heard by the child, then he or she turns toward the appropriate speaker and is rewarded by a visual stimulus, such as an animated toy or a flashing light.

HEARING PROFESSIONALS HAS 4 CONVENIENT LOCATIONS

For more information on Hearing Professionals and the services we offer, please visit:
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