

# ENT and Audiology: Diagnostic Collaboration

Wake ENT Specialists (Cary) and Central Carolina ENT (Sanford) both have a complete Audiology department to thoroughly evaluate hearing loss with use of current, calibrated, and specialized diagnostic equipment. The audiometric findings of various tests and procedures by the audiologist facilitates with the diagnosis, treatment, and rehabilitation of hearing loss. If hearing loss is the primary symptom and concern, it is expected that a comprehensive hearing evaluation will be performed to determine the type, degree, and pattern of hearing loss, as well as the ability to process speech. This information enables the physician to properly diagnose hearing loss and/or underlying pathology and determine if medical or surgical intervention is an option. Simultaneously, this allows the audiologist to monitor hearing recovery, stability, or decline and assess prognosis for hearing rehabilitation such as hearing aids or other assistive devices.

Listed below are OTHER conditions or indications in which hearing tests are ordered as part of the ENT evaluation:

Vertigo/dizziness, balance/equilibrium  
Tinnitus  
Otitis media/ear infections  
Tympanic membrane perforation  
Speech/language delay  
Head injury/trauma  
Sinus/allergy  
Hyperbaric oxygen therapy, pre and post  
Ototoxic drug monitoring  
Bell's palsy/facial nerve paralysis  
Preoperative/postoperative testing for any ear surgery  
Stroke, multiple sclerosis, ALS, other neuropathies  
Industrial monitoring, STS, OSHA, acoustic trauma  
Entrance exams, DOT, military, baseline, pre-kindergarten

**SUDDEN SENSORINEURAL HEARING LOSS IS A MEDICAL EMERGENCY! REFER IMMEDIATELY.**

Treatment/response window is limited and time delay may lesson effectiveness of therapy and reduce chance of recovery.

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## Healthy Hearing: Two Ears are Better Than One

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*Many people with hearing loss wonder if they need two hearing aids. If hearing loss is present in both ears, the answer is yes. Binaural hearing serves as a huge advantage, not only for hearing, but for preserving the ear's ability to properly process sounds.*

### IMPROVED LOCALIZATION

We have two ears for a reason. Much like our eyes, our ears work together to create an accurate perception of the world around us. With two hearing ears, we hear sounds coming from left and right sides of our body, and our brain combines the information, which enables us to localize sound, hear sounds from all around us, and improves our ability to hear in noise.

### IMPROVED SPEECH CLARITY

Localization is important for good speech clarity. The ability to properly localize sounds allow us to separate sounds coming from different directions in our environments. This is especially important for noisy environments. Without localization, sounds blend together, and we lose our ability to pick out important information, such as speech. Having localization cues allows our brains to separate noise from speech, allowing us to hear in places like busy restaurants.

Binaural Redundancy is another important factor in helping us hear to the best of our ability. Binaural redundancy refers to the combining of auditory input from our two ears, which happens when sound reaching the auditory cortex (the part of the brain that processes sound). Basically, this process allows us to get two "looks" at the sound around us. If one ear misses something, the other ear might pick it up.

### PREVENTION OF AUDITORY DEPRIVATION

Auditory Deprivation refers to the brain's inability to interpret words due to lack of auditory stimulation. The longer the brain is deprived of auditory information, the more likely auditory deprivation will take place.

Late Onset Auditory Deprivation specifically refers to auditory deprivation as a result of monaural (one ear) hearing aid fittings for bilateral hearing loss. In these cases, the ear that wears the hearing aid will remain stable, while the unaided ear will decline, sometimes more rapidly than if no hearing aid is worn at all. It is as if the brain learns to ignore the unaided ear and becomes completely reliant on the aided ear, as that ear is receiving the auditory information. Binaural hearing aid fitting are the only way to prevent late onset auditory deprivation.