Meet The Vanderbilt University Team

Linda Hood, PhD
Principal Investigator and Director of the Auditory Physiology Lab at Vanderbilt University.

Mary Edwards, AuD
Audiologist and project manager.

Lauren Roberts, AuD
Audiologist

Who We Are

The Audiology Physiology Lab at Vanderbilt University is directed by Dr. Linda Hood. Our research focuses on understanding characteristics of hearing loss in infants, children and adults with particular emphasis on linking underlying auditory physiological processes to hearing ability. Dr. Hood’s research over the past 25 years has involved physiological/objective measures with publications on auditory brainstem responses, otoacoustic emissions, auditory neuropathy, and the efferent auditory pathways.

Contact Us

8312 MCE South Tower
Nashville, TN 37232
Phone: 615-936-6920
Email: mary.edwards@vanderbilt.edu
Website: https://medschool.vanderbilt.edu/hood-lab

Please contact one of our team members Vanderbilt University if you have questions about our study.

The study of hearing in preterm infants
Early Auditory Responses

Baby EARs (Early Auditory Responses) is a research study funded by the National Institutes of Health. Audiologists in research from Vanderbilt University have partnered with Syracuse University for this study. The goal of our study is to understand how auditory responses change in preterm babies during the 1st year of life and how these responses relate to development of language, cognition, gross and fine motor skills in the 2nd year of life.

What to expect

Hearing responses will be measured from your baby 2 times in the NICU and 3 times at the Auditory Physiology Lab. Two of the visits to the lab can be coordinated with routine NICU Follow-Up Clinic visits. You will be paid $25 for each completed visit to the Auditory Physiology Lab at Vanderbilt University.

How you and your child benefit from the study

You will have access to all the information we obtain on your baby during the course of the study. We will share information with you on your baby’s hearing and language development that parents don’t typically receive!

How do we study hearing in babies?

Auditory Brainstem Response (ABR)

ABR testing has been used for decades in the NICU for newborn hearing screening. Sticker electrodes are placed on the baby’s head and behind their ears. While the baby is sleeping, soft click sounds are presented through tiny earphones and the electrodes measure how the baby’s hearing nerve is responding to sound. We look for certain “neurological markers” to give us information on how your baby hears.

Middle-Ear Test

Wideband absorbance is a measure of how easily sound gets through your baby’s middle ear. If your baby has a problem with their middle ear (fluid, ear infection, middle ear bones), wideband absorbance can help detect it. Chirp sounds are presented through an earphone and a microphone picks up and analyzes sound reflected back from the middle ear. This helps us determine how much sound is getting through to the hearing nerve.

Behavioral Hearing Test

When children are old enough, hearing is tested in a sound proof room by playing games with sounds and videos. We watch to see if your baby turns his or her head to the sounds they hear to give us information about their hearing.

Language and Development

When your baby is 1-2 years old, you will fill out a survey on how your child’s language is developing (this is done through the mail). Your baby will have a developmental test at 24 months of age in the NICU Developmental Clinic. We can tell you about how your child’s language is developing as he/she learns to talk and how he/she is doing in overall development.