

Wyoming Early Hearing Detection and Intervention (EHDI) Program

Pediatric Audiometric Diagnostic Guidelines

All procedures refer to each ear individually; the numbers below represent the order in which the assessments are completed during testing.

Procedure

Expected information

- | | |
|---|---|
| 1) Pediatric case history | Screening information, significant medical history, family history of hearing loss, and any parental concerns. |
| 2) Otosopic evaluation | Observation of the outer ear and external ear canal as feasible. |
| 3) Tympanometry | Information regarding middle ear status; high frequency probe tone should be used in children 6 months or younger. Include acoustic reflex testing. |
| 4) Otoacoustic emissions (OAE) | Can assist in diagnosing normal or abnormal hearing sensitivity, middle ear status, or neural dysfunction. |
| 5) Auditory brainstem response (ABR) | |
| a) Click-evoked ABR at 80 dBnHL | Evaluates neural integrity and function; absolute, interpeak (I-III-V), and interaural latencies along with waveform morphology to evaluate neural integrity; reversal of signal polarity to help identify site of pathology. |
| b) Click-evoked ABR threshold search | Estimated hearing sensitivity at 2-4 kHz. |
| c) Low and high frequency (tone burst) ABRs | Estimated hearing sensitivity at both low and high frequencies; information can assist in selecting and fitting a hearing aid when one is warranted. |
| 6) Auditory steady state response (ASSR) | Provides further frequency-specific information; used to cross-check with the click-evoked and tone burst ABR results. |

If any of the above procedures indicate disorder, additional procedures that need to be completed are:

Additional procedures

Expected information

- | | |
|-----------------------------|---|
| 1) Pediatric case history | More comprehensive than may have been done initially. |
| 2) Bone-conduction ABR/ASSR | Establishes the type of hearing loss. |

When there is an indication of disorder, the follow-up procedures below need to be conducted at intervals recommended by the pediatric audiologist. The procedures below are appropriate for children who are 6-8 months of age or older and not exclusive to additional follow-up procedures and/or recommendations identified by the pediatric audiologist.

Follow-up procedures

1) Visual reinforcement audiometry (VRA)
air-conduction and bone-conduction
thresholds or pure tone thresholds

2) Tympanometry

Expected information

Hearing thresholds to confirm the physiological findings above.

Evaluate middle ear status; low frequency probe tone may be used with children older than 6 months of age.