Clarification for Year 2007 JCIH Position Statement

2007 JCIH Position Statement Update

Separate hearing screening protocols are recommended for NICU and well-infant nurseries. High risk NICU infants (admitted for more than 5 days) are to have automated auditory brainstem response (ABR) included as part of their hearing screening so that neural hearing loss will not be missed.

Rationale for different protocols:

The JCIH 2007 recommendation is to identify infants with congenital permanent sensory, conductive and neural (auditory neuropathy/auditory dyssynchrony) hearing loss. ABR technology is needed to identify neural hearing loss. Consequently, the JCIH recommends ABR screening to identify neural hearing loss in the infants most at risk of a neural loss. NICU infants represent 10% of the newborn population or approximately 400,000 infants per year. Infants cared for in the NICU are at increased risk of neural hearing loss. Data from the National Perinatal Research Center (NPIC) (Quality Analytic Services)(QAS) was utilized to make the recommendation of ABR for the subgroup of NICU infants that require NICU care for >5 days. NPIC data indicated that approximately 25% of NICU infants are considered "low" risk (includes infants with diagnoses such as transient respiratory distress, observation for temperature instability, and negative sepsis workup) and are discharged by 5 days of age. High risk NICU or Level 2 infants hospitalized for > 5 days for medical reasons (not social) were then identified as the target population for ABR to rule out neural hearing loss. Since specific risk factors are often difficult for screeners to identify in the medical record, establishing a time criterion (>5 days) was felt to be easier to implement. Implementation of this recommendation for all NICU and well baby infants was not felt to be indicated based on current evidence. Therefore, a NICU baby who meets this >5 day criterion cannot be screened and passed by OAE alone.

Risk Factor Clarifications:

1. **Recommendations for audiology follow-up of infants with risk factors**. The prior recommendation for follow-up audiology assessments every 6 months for all screen fails was felt to place a great burden on audiologists and could not be accomplished in most parts of the country. In addition, there are infants with "unknown risk factors" who develop late onset hearing loss. Therefore, the responsibility for surveillance of all infants was shifted to the primary care provider, who will refer to audiologists, as needed, any patient for whom there are concerns or findings consistent with hearing loss. The document lists accepted risk factors for hearing loss, identifies risk factors which are known to be associated with late onset or progressive hearing loss, and makes recommendations for standard or more frequent follow-up by the audiologist. Therefore, for infants with a risk factor which may be considered low risk, at least one audiology

assessment by 24-30 months is the recommendation. This management would change if there is a referral from the primary care provider because of a new concern regarding hearing. In contrast, for an infant with risk factors known to be associated with late onset or progressive hearing loss, such as, CMV or family history, early and more frequent assessment is appropriate. Early and more frequent can be interpreted as every 6 months, or more, depending on the clinical findings and concerns. See following excerpt from document.

> The timing and number of hearing re-evaluations for children with risk factors should be customized and individualized depending on the relative likelihood of a subsequent delayed-onset hearing loss. Infants who pass the neonatal screening but have a risk factor should have at least 1 diagnostic audiology assessment by 24 to 30 months of age. Early and more frequent assessment may be indicated for children with cytomegalovirus (CMV) infection, syndromes associated with progressive hearing loss, neurodegenerative disorders, trauma, or culture-positive postnatal infections associated with sensorineural hearing loss; for children who have received ECMO or chemotherapy; and when there is caregiver concern or a family history of hearing loss.

Appendix 1 in JCIH 2007 lists the risk factors and identifies the risk factors associated with late onset or progressive loss with an asterisk.

2. **Recommendations regarding ototoxic medications.**

The following are listed as risk factors in Appendix 1 of the JCIH 2007 Statement:

> Neonatal intensive care of >5 days, or any of the following regardless of length of stay: ECMO,* assisted ventilation, exposure to ototoxic medications (gentamycin and tobramycin) or loop diuretics (furosemide/lasix), and hyperbilirubinemia requiring exchange transfusion.

To be consistent with the intent of simplifying the referral process to NICU >5 days and for clarification the recommendation has been reworded.

All infants with or without risk factors requiring neonatal intensive care for greater than 5 days, including any of the following: ECMO,* assisted ventilation, exposure to ototoxic medications (gentamycin and tobramycin) or loop diuretics (furosemide/lasix). In addition, regardless of length of stay: hyperbilirubinemia requiring exchange transfusion.

JCIH
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