

## **Position Paper: Universal Newborn Hearing Screening**

Approved at September 14, 2002 PC meeting

### **WHY:**

The British Columbia Association of Speech Language Pathologists and Audiologists (BCASLPA) recognizes the importance of early detection and intervention for permanent hearing loss in young children. Hearing loss in newborns occurs more frequently than other health conditions that are currently screened. Estimates of the prevalence of significant hearing loss in both ears at birth range from 1.5 – 3 per 1,000 births<sup>1</sup>.

### **CURRENT PROCEDURE:**

Although some health regions in British Columbia use a questionnaire to identify risk factors known to be associated with hearing loss, the percentage of births that are currently screened is low because the questionnaire is not used in the major birthing hospitals. In addition, risk factor screening identifies only 50% of infants with hearing loss<sup>2</sup>, whereas physiological-based universal newborn hearing screening programs identify 80 to 90% of congenital hearing loss<sup>3</sup>.

### **RATIONALE:**

In B.C., even children with suspected hearing problems are often not diagnosed prior to their second birthday. A growing body of evidence indicates the importance of early intervention in order to maximize linguistic and communicative competence and literacy development for children with hearing loss<sup>4</sup>. Evidence shows that infants with hearing loss who receive intervention before six months of age maintain language development commensurate with their cognitive abilities through the age of five years<sup>5</sup>.

### **BCASLPA RECOMMENDATIONS:**

BCASLPA endorses the early detection of, and intervention for infants with hearing loss, through an integrated, interdisciplinary universal newborn hearing screening and early intervention program, which should include a continuum of service including education, screening, identification, intervention and program evaluation.

- An audiologist should be designated as the program manager with supervisory responsibilities for the hearing screening and audiologic aspects of the newborn hearing screening program, and be involved in the design, implementation and evaluation of the program.
- The screening should utilize appropriate physiological measures now available (i.e. otoacoustic emissions and/or auditory brainstem response). Infants should be screened to allow for diagnosis and intervention to be started by the age of six months, or within six months of the onset of hearing loss.
- Infants deemed at risk for progressive or delayed-onset hearing loss, must be monitored audiologically for three years after birth.
- Follow-up evaluation should include ear-specific, frequency-specific hearing thresholds for air- and bone-conduction stimuli using auditory evoked potentials and evoked otoacoustic emissions.
- Intervention should include service provision from health care and education professionals with expertise in hearing loss and deafness in infants and young children.
- Families of children identified must be provided accurate, timely information and access to health care providers, educators and relevant support organizations.
- A comprehensive data collection infrastructure should be created to allow for program auditing and outcome measure analysis.
- A provincial committee should be formed to guide the development of coordinated, universal newborn hearing screening programs in B.C, using the above recommendations as guidelines.

**CONCLUSION:**

BCASLPA supports universal newborn hearing screening as best practice. This position paper can be used to support requests for newborn hearing screening in your region.

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<sup>1</sup> Watkin, P., Baldwin, M., & McEnergy, G. (1991) Neonatal at risk screening and the identification of deafness. *Archives of Diseases in Childhood*, 66, 1130-1135

Parving, A. (1993). Congenital hearing disability, epidemiology and identification: A comparison between two health authority districts. *International Journal of Pediatric Otolaryngology*, 27, 29-46.

White, K.R. & Behrens, T.R. (1993). The Rhode Island hearing assessment project: implications for universal newborn hearing screening. *Seminars in Hearing*, 14, 1-119.

<sup>2</sup> Mauk, G., White, K., Mortensen, L., Behrens, T.; The effectiveness of screening programs based on high-risk characteristics in early identification of hearing impairment. *Ear Hear* 1991; 12: 312-319.

<sup>3</sup> Davis, A., Bamford, J., Wilson, I., Ramakalawan, T., Forshaw, M. & Wright, S. (1997). A critical review of the role of neonatal hearing screening in the detection of congenital hearing impairment. *Health Technology Assessment*, 1 (10), 1-177.

<sup>4</sup> Karchmer, M., & Allen, T. (1999). The functional assessment of deaf and hard of hearing students. *American Annals of the Deaf*, 144, 68-77.

<sup>5</sup> Yoshinaga-Itano, C. (1995) Efficacy of early identification and intervention. *Seminars in Hearing*, 16: 115-120.

Yoshinaga-Itano, C., Sedey, A., Coulter, D.K., & Mehl, A.L. (1998). Language of early and later identified children with hearing loss. *Pediatrics*, 102, 1161-1171.