

Hearing Loss Fact Sheet

Fast Facts about Hearing Loss

- Sensorineural hearing loss affects approximately 6 per 1000 children, with 9% resulting from acquired causes such as viral infection and head injury.(1,2,3)
- Mild hearing loss can cause a child to miss as much as 50 percent of classroom discussion.(4)
- Hearing loss can impact a child's speech, language and social development and can increase their risk of developing learning disabilities.(5)
- On average, only half of all children diagnosed with hearing loss actually have a known risk factor for hearing loss.(6)
- Children who do not receive early intervention are faced with overall lifetime costs of \$1 million in special education, lost wages and health complications.(7)

Hearing Loss and Children

At any age, hearing loss can impact a person's quality of life, but it has a particularly profound effect on cognitive development if it occurs at an early age. During a child's formative years, the brain is particularly sensitive to, and in some cases dependent on, specific sensory experiences in order to develop properly. Without appropriate exposure to the sounds of language, the auditory system fails to develop normally. This puts children with hearing impairment at serious risk for deficits in language, social interactions and academic achievement.(5)

About Sensorineural Hearing Loss

- Sensorineural hearing loss is the most common type of permanent hearing loss.(8)
- It is caused by damage to the inner ear (cochlea) or the nerve pathway from the inner ear to the brain due to factors such as medications, noise exposure, birth injury, genetic syndromes and aging.(8)
- Most of the time, sensorineural hearing loss cannot be medically or surgically corrected.(8)
- Current interventions like hearing aids or cochlear implants are designed to augment the diminished function of the injured tissue.(9)

What the Experts Are Saying...

"Currently, the only treatment options for hearing loss are hearing aids or cochlear implants. We hope that this study will open avenues to additional treatments for hearing loss in children."

- Samer Fakhri, M.D., surgeon at Children's Memorial Hermann Hospital and associate professor and program director in the Department of Otorhinolaryngology – Head & Neck Surgery – at UTHealth.

"Children only have 18 months to acquire language skills and, if a child does not hear well, they will not acquire the language skills to speak normally."

- James Baumgartner, M.D., sponsor of the study and guest research collaborator at The University of Texas Health Science Center at Houston (UTHealth) Medical School.

"This study is exciting because it might offer a non-surgical option for some children with profound loss, more importantly, this is the first treatment with the potential to restore normal hearing."

- Linda Baumgartner, MS, CCCSLT, LSLS, Cert. AVT, auditory-verbal therapist and study co-investigator.

"We share Dr. Baumgartner's passion and commitment to understand more about the potential applications of cord blood to help repair nerve tissue. It is exciting to be at the forefront of research to match children who have cord blood stored, with this team of ground-breaking doctors studying autologous stem cell therapies for hearing loss."

- Heather Brown, vice president of scientific & medical affairs at Cord Blood Registry (CBR).

"The outcomes of this study could be ground-breaking in providing another option for children who are deaf."

- Nancy Caleffe-Schenck, M.Ed., CCC-A, LSLS Cert.AVT, Director, Auditory-Verbal Services, Inc.

¹Bergstrom L, Hemenway WG, Downs MP. A high risk registry to find congenital deafness. Otolaryngol Clin North Am. 1977;4:369-399.

²Billings KR, Kenna MA. Causes of pediatric sensorineural hearing loss: yesterday and today. Arch Otolaryngol Head Neck Surg. 1999 May;125(5):517-21.

³Smith RJ, Bale JF Jr, White KR. Sensorineural hearing loss in children. Lancet. 2005;365(9462):879-890.

⁴Center for Hearing and Communication. Facts About Hearing Loss. Available at: <http://www.chcaring.org/about-hearing-loss/facts-about-hearing-loss>. Accessed February 2011.

⁵Tierney CD, Brown PJ, Serwint JR. Development of children who have hearing impairment. *Pediatr Rev*. Dec 2008;29(12):e72-73; discussion e73.

⁶MedicineNet.com. Detecting Hearing Loss in Children. Available at:

http://www.medicinenet.com/detecting_hearing_loss_in_children/article.htm. Accessed February 2011.

⁷Better Hearing Institute. FAQs. Available at: <http://www.hearingaidtaxcredit.org/faqs.cfm>. Accessed February 2011.

⁸American Speech Language Hearing Association. Sensorineural Hearing Loss. Available at:

<http://www.asha.org/public/hearing/Sensorineural-Hearing-Loss/>. Accessed February 2011.

⁹National Institute on Deafness and Communications Disorders. Cochlear Implants. Available at:

<http://www.nidcd.nih.gov/staticresources/health/hearing/FactSheetCochlearImplant.pdf>. Accessed February 2011.