Risk Factors for Late Onset Hearing Loss: Craniofacial Anomalies

Left undetected, hearing loss in infants can negatively impact speech and language acquisition, academic achievement, and social and emotional development. If detected early, however, morbidity can be diminished and even eliminated through early intervention services. This fact sheet reviews a number of craniofacial anomalies that are associated with hearing loss.

Head Trauma

This refers to head injuries such as a skull fracture and is pertinent if an infant is diagnosed with and/or treated for head trauma. The use of vacuum suction during birth with no associated trauma or injury to the head is NOT a significant risk factor for hearing loss.

Recurrent or Persistent Otitis Media with Effusion (OME) for at least three months

Sometimes called “silent otitis media” because children often act as if they feel well, OME is the name for fluid in the middle ear in the absence of other symptoms. This fluid can contain bacteria, which if undetected for at least 3 months, can be a risk factor for hearing loss.

Cleft Palate

Babies with cleft palates are susceptible to hearing loss because of a build-up of fluid in the middle ear, which can cause infection. If treated properly, associated hearing loss can be temporary.

Abnormal Pinna

Abnormalities of the pinna can result in conductive hearing loss. Conductive hearing loss occurs when sound does not travel efficiently from the outer ear to small bones of the middle ear. In this case, the abnormal pinna interferes with sound passing from the outer ear to the inner ear.

Abnormal Ear Canal

Abnormalities of the ear canal can block sound passage to the inner ear and result in hearing loss.

Ear Tags and Pits

Ear tags and pits may be indicative of inner ear abnormalities causing possible deafness or a syndrome, such as Branchio-oto-renal (BOR) syndrome, which is associated with hearing loss.

Malformed Eyes

Malformed eyes do not impact hearing, but may be an indicator of Rubella or a syndrome or disease that is associated with hearing loss.

Choanal Atresia

Choanal atresia is a narrowing or blocking of one or both nasal cavities and occurs with a frequency of 1/5,000-8,000 births. It can be an isolated congenital abnormality or coexist with other developmental abnormalities or syndromes associated with hearing-loss, such as CHARGE syndrome.

CRANIOSYNOSTOSIS

The premature fusion of the sutures between the skull bones can lead to maldevelopment of the cranial cavity and other cranial features. This may result in middle ear and inner ear anomalies including the fixation of the stapes (small bones crucial to hearing located in the middle ear). Craniosynostosis is often associated with syndromes which involve hearing loss such as Apert's, Crouzon's, Pfeiffer's, and Saethre-Chotzen.

HEMIFACIAL MICROSOMIA

The second most common facial birth defect after clefts, hemifacial microsomia is a condition in which the lower half of one side of the face is underdeveloped. It is sometimes referred to as first and second brachio arch syndrome, oral-mandibular-auricular syndrome, lateral facial dysplasia, or otomandibular dysostosis. The degree of hearing loss depends on the structures involved.

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For more information about infant hearing loss, please visit our website:
www.doh.wa.gov/EarlyHearingLoss/Provider

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