SNIPPETS

Simple and Informative
Parent to Parent
Education Tools

Microtia/Atresia

- During the first 20 weeks of fetal development, all the structures of the ear form. Sometimes the development of the ear structure is interrupted or does not complete. This can lead to microtia and/or atresia. Some risk factors for microtia/atresia are drug/alcohol use during the first trimester, use of Accutane, maternal diabetes and poor maternal diet (low in folic acids).
- Microtia/atresia can also occur with other genetic conditions or syndromes. Microtia is when the external ear is small and not formed properly. Atresia is the lack of a fully developed ear canal, eardrum, middle ear space, and ear bones. Aural atresia is often accompanied by microtia.
- There are four grades of microtia severity:
  - Grade 1 - The child may have an external ear that appears small but
    mostly normal, but the ear canal may be narrowed or missing.
  - Grade 2 - The bottom third of the child's ear, including the earlobe, may appear to be normally developed, but the top two-thirds are small and malformed. The ear canal may be narrow or missing.
  - Grade 3 - This is the most common type of microtia observed in infants and children. The child may have underdeveloped, small parts of an external ear present, including the beginnings of a lobe and a small amount of cartilage at the top. With grade 3 microtia, there is usually no ear canal (atresia).
  - Grade 4 - The most severe form of microtia, also known as anotia. The child has anotia if there is no ear or ear canal present, either unilaterally or bilaterally.
- Treatment options may include surgical reconstruction, though this may not typically happen until the child is older when cartilage is more abundant and more easily grafted.
- The fitting of a hearing aid or a bone conduction hearing technology may be recommended. Hearing aids can only be used if the ear canal is present and open.
  - Bone conduction hearing technology can be used for any grade microtia and atresia.
  - Bone conduction hearing technology creates sound vibrations, which are transmitted across the skull bones to the bony inner ear allowing the child to hear.
  - For infants, toddlers and young children the bone conduction device is worn on a headband. When the child is older (approximately 5 years or older) a metal abutment can be surgically implanted into the skull so the device can snap on and be worn without a headband.
  - Fitting hearing aids or bone conduction hearing technology and enrolling in early intervention will help prevent speech and language delays and help ensure positive social, emotional and educational outcomes

Ear Community | Microtia, Atresia, and hearing loss information and support (earcommunity.org)

Supporting Success For Children With Hearing Loss | Atresia, Microtia: Permanent Conductive Hearing Loss (successforkidswithhearingloss.com)

Hands & Voices: Making Surgical Decisions (handsandvoices.org)

TEAM KENTUCKY
CABINET FOR HEALTH AND FAMILY SERVICES

PROJECT INSPIRED BY THE ILLINOIS DEPARTMENT OF PUBLIC HEALTH, THESE SNIPPETS WERE CREATED BY THE KENTUCKY EARLY HEARING DETECTION AND INTERVENTION (EHDI) PROGRAM, SPONSORED IN PART BY THE HEALTH RESOURCES AND SERVICES ADMINISTRATION EHDI GRANT.
INFORMATION EXPRESSED HERE IS THE SOLE RESPONSIBILITY OF THE AUTHORS AND DOES NOT NECESSARILY REFLECT THE VIEWS OF THE FUNDING SOURCE.