



## Middle Ear Fluid and Its Effects on Early Learning



Parents are skilled in figuring out many of their young child's health needs. A common condition that is sometimes hard to notice is middle ear fluid. When a child has an ear infection or middle ear fluid he may experience a temporary decrease in hearing that can cause educational difficulties. If a caregiver, teacher, hearing screener or other service provider reports possible changes in hearing, parents can recognize how this can impact learning and take action. By responding to middle ear fluid needs parents can help their child stay healthy, listen easily and learn well.

### Understanding the Middle Ear

The ear consists of three parts – the outer ear, the middle ear and the inner ear. The outer ear is the structure on the outside of the head and the ear canal. The inner ear consists of the organs of balance and hearing. The middle ear is an air-filled space behind the eardrum. The Eustachian tube connects the middle ear to the back of the throat, allowing air to enter the middle ear space. This tube can close when a child has a cold, allergies or upper respiratory illnesses and the middle ear then fills with fluid.

### Recognizing Middle Ear Conditions

An ear infection (otitis media) can cause pain, a red ear drum, fever and possibly pus in the middle ear. This is the most common reason a child sees the pediatrician. Middle ear fluid (otitis media with effusion or OME) is fluid without the symptoms of inflammation. Both conditions are temporary. An infection might clear within a few days or with medical follow-up. Middle ear fluid might take 4 to 6 weeks to clear. If fluid remains after an infection is cleared, there is the possibility of re-infection.

### Realizing the Impact on Learning

Temporary hearing loss resulting from middle ear fluid is called a “conductive loss.” Until the fluid is cleared, hearing levels can drop significantly and create a risk for listening and learning. A conductive loss can also impact a child's language and behavior. From birth to three years old hearing health problems are especially significant because they may delay language and speech development.

Not all children with middle ear fluid develop a temporary hearing loss if the fluid is minimal and thinner in consistency. When fluid does become infected and not cleared with medication, a child can be at risk for permanent hearing loss. Frequent illnesses, colds or allergies may put children at risk for attention and communication difficulties even after the hearing has returned to previous levels.

If a child who already has a permanent hearing loss develops middle ear fluid, hearing levels can be further decreased making listening and learning more difficult. When caring for a child who uses listening devices, health care providers often want to take action quickly to eliminate temporary additional hearing loss caused by fluid.

### Noticing Listening Changes

When sounds are muffled and softened due to middle ear fluid, a child may not hear clearly. A fluctuating hearing loss from fluid can cause educational problems and behavioral difficulties as the child struggles to hear. Parents and teachers can watch for these behaviors that might indicate middle ear fluid:

- Talking louder
- Poor listening or communication
- Responding inconsistently to directions
- Being inattentive
- Withdrawing from social interactions

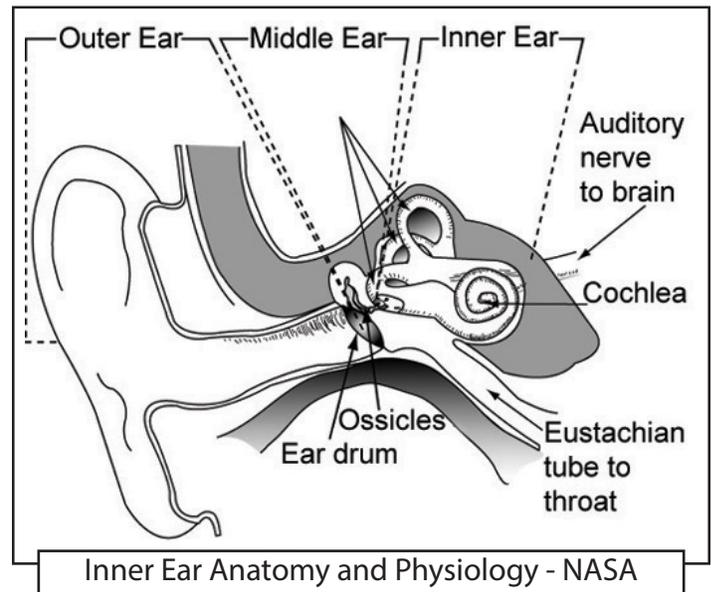
### Checking for Fluid:

A child's hearing can be screened by trained staff at a health care office, day care or preschool. Screening shows if hearing levels have dropped and a child needs further testing. When a child is referred for medical follow-up, parents can explain that the visit will include looking in his ear. The health provider uses an otoscope (similar to a small flashlight) to check for fluid. Sometimes medication is prescribed and a follow-up appointment is scheduled. If middle ear fluid continues a child might be referred to an ear, nose and throat (ENT) specialist. At that office they will use tympanometry (a small hand held tool with a tiny tip) to check the movement of the eardrum and response to sound. A hearing test is done to identify the child's current hearing levels. After these visits the parents, educators and health care providers watch to see if the child has any further fluid. More hearing screenings or appointments might be needed to check that a child's middle ear remains clear.

### Taking Action

Working together, parents, physicians, teachers and service providers can provide every opportunity to manage a child's middle ear fluid so he can use hearing well to learn. Parents can:

- Talk to teachers about strategies to help the child hear better when he has fluid. These could include sitting in the center for circle time or checking to be sure he understands directions.
- Watch at home for behaviors that indicate middle ear fluid: pulling on his ears, asking



“what?” misunderstanding often or wanting the TV louder.

- Communicate with health care providers about ongoing ear problems, how they were treated and what helped. Schedule follow-up appointments and hearing screenings or tests.

By understanding the middle ear, noticing listening changes, realizing the impact of fluid on learning and taking action parents can help their child stay an involved, healthy and attentive learner.