



Ear Infections and the Development of Language

Otitis Media, inflammation of the middle ear, is one of the most common childhood diseases. Many children with Otitis Media with effusion (OME), or inflammation with persistent fluid in the middle ear space, experience some degree of conductive hearing loss.

According to investigators with the Dallas Cooperative Project on Early Hearing and Language Development, estimates from outpatient clinics and private pediatric practices indicate that between 75% and 95% of all preschool-aged children are affected by Otitis Media, with the peak of first occurrence appearing between six and 18 months of age. Studies also demonstrate that children with Recurrent Otitis Media beginning in early infancy are seen more often for diagnostic speech and language services than are those children without the disease. It is estimated that one-third of all children enrolled in speech and language therapy have histories of repeated middle ear disease. Otitis Media has an effect on speech and language development because fluctuating hearing loss during the early years of life presents children with degraded and inconsistent speech signals on which to base language learning.

Children who experience continuous shifts in auditory input may be unable to organize auditory information sufficiently, thereby compromising efficient language learning due to mis-categorization of the auditory data in the speech stream. Inconsistent auditory signals resulting from fluctuating hearing loss may make the stream of speech difficult to segment, impairing the child's ability to form linguistic categories such as word plurals and tenses, and to discriminate between similar-sounding words, i.e. "place" and "plays".

Numerous retrospective studies on the effects of OME and later development have reported general delays in speech and language development:

- Lower performance on auditory perceptual and auditory processing tests
- A higher incidence of academic problems, especially in reading and spelling
- Lower achievement in test scores; and
- A higher frequency of enrollment in special school support classes.

The relationships among OME, hearing and language may change over time, implying that - at one developmental period - OME affects hearing, which in turn influences language, and that - at another developmental period - OME alters hearing but without an effect on language. Thus, the resulting effects of OME on language may take different forms at different times, or may be present at one developmental period and then disappear as the child matures.

Because there are individual children with repeated OME experiences who do not show lags in language development, additional research is needed to identify those factors that offer protection, as well as those that increase the risk for language problems. Further longitudinal research studying large groups of children will likely contribute valuable information about the relationship between OME, hearing, and the development of speech and language.



Advice to Parents of Children with Ear Infections

- Develop an awareness of behaviors which your child exhibits when he has ear infections, e.g., pulling at ears, fussiness, etc.
- Seek medical management.
- Screen for hearing loss when your child experiences ear infections lasting longer than three months; children with histories of ear infections should be screened at age 3.
- Periodically screen for speech and language problems.
- When talking to your child, face him and talk at his eye level.
- Speak clearly to your child.
- Reduce background noise.
- Advise teachers to allow preferential seating (close to the teacher but in a position where he can see the other students).