



# News Release

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## **UVA Researchers Discover a Caveat in Expert Recommendations for Treatment of Ear Infections**

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CHARLOTTESVILLE -Ask any parent about ear infections and one will likely hear stories of late night crying fits, high fevers and calls to the doctor. Inevitably, their stories end with a trip to the pharmacist for an antibiotic cure. However, most children with Acute Otitis Media (AOM) will get better without using antibiotics, even when their symptoms match expert medical criteria. This was the finding of three pediatric researchers, two of whom are with the University of Virginia School of Medicine and UVA Children's Hospital. Their results will be presented at the Pediatric Academic Societies' 2009 annual meeting in Baltimore, Maryland, which will be held May 2- 5.

Dr. Carlos Armengol, pediatrician at Pediatric Associates of Charlottesville, Dr. J. Owen Hendley, pediatric researcher at the UVA Children's Hospital and Dr. Birgit Winther, physician researcher in the Department of Otolaryngology at UVA Health System, conducted the study. They set out to learn how frequently children with upper respiratory infections show symptoms of AOM as described by the American Academy of Pediatrics (AAP). The group published guidelines for recognizing and treating AOM in children in 2004. A diagnosis of AOM typically leads to an antibiotic treatment.

"We feel strongly that children will often have changes that meet the criteria of an ear infection during the course of a cold when in fact their ears are not infected with any bacteria," says Armengol. This is particularly common at the beginning of an illness and improves without any treatment outside of comfort measures."

Thirty-one children between 6 months of age and 3 years old were seen before the onset of a cold or upper respiratory symptoms and six to ten times during the course of a cold. During their visits a study nurse verified parents' recordings of their children's symptoms and performed tympanometry, a procedure done to measure pressure on the tympanic membrane. The researchers administered pneumatic otoscopy and photography of the tympanic membrane.

The tympanic membrane separates the external ear from the middle ear and transmits sound. If this membrane bulges, it is a strong confirmation of fluid in the middle ear or Middle Ear Effusion (MEE). When a child has a cold, the middle ear can produce fluid, just like the nose does. MEE may or may not signal AOM. Fluid can

sometimes stay in the ear for months without becoming infected and often resolves on its own. The presence of MEE is required but not sufficient in the AAP's guideline for diagnosing AOM.

The researchers found that AAP criteria for AOM were met at least once for 35 percent of 31 colds studied over time. Criteria were met at 14 percent of the 200 study visits. Antibiotic treatment was given by the primary care physician during four colds; two treatment courses began during the first week of the cold and two during the second week. Seven of the 12 children with MEE before the onset of a cold met AAP criteria for AOM at 26 percent of 81 study visits. In contrast, four of 19 children who had normal ears at baseline met AAP criteria at 6 percent of 119 study visits. Ten of the 11 children with AOM first met criteria during the first six days of illness. For nine out of the 10, the clinical picture improved. Only three of the 11 met criteria in the second week of their cold.

The findings suggest that children who meet the AAP criteria for AOM—even those with MEE—usually do not need antibiotics for their infections to clear up.

“This is of importance for two reasons. First, it means that physicians in practice need to be more judicious when prescribing antibiotics for ear infections. Second, researchers need to use different, more stringent criteria for establishing the diagnosis of an ear infection when performing studies on children,” Hendley added.

This research will be presented on Monday, May 4 at 11am Eastern Standard Time. For interviews, Dr. Carlos Armengol can be reached at 434-962-4797.

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