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## NEWS

Immediate Release  
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NEW RISK FACTORS FOR MIDDLE-EAR INFECTIONS IDENTIFIED

Boston, Mass.--New risk factors have been identified for middle-ear infections--the most common reason children three years of age and under are taken to their doctors--that will help clinicians identify children who may benefit from more aggressive treatment during the first year of life.

A large, prospective study of nearly 3,000 Boston-area children, conducted by researchers at Boston City Hospital (BCH) and Boston University School of Medicine (BUSM), found that children at greatest risk for middle-ear infections had a sibling history of recurrent ear infections, were male, were not breast fed, and experienced their first episodes before the age of six months. Results of the study are published in the July issue of the Journal of Infectious Diseases.

While acute otitis media (AOM)--fluid in the middle ear accompanied by other symptoms, such as fever, pain or diarrhea--responds to antibiotic treatment, middle ear effusion--fluid in the middle ear--often remains for weeks or months after the infection is gone.

"Fluid remaining in the middle ear is of increasing concern to physicians," says Jerome O. Klein, M.D., professor of pediatrics at BUSM and head of the Division of Pediatric Infectious Disease at BCH. "This fluid reduces sound on average by about 25 decibels, an impairment equivalent to hearing as if wearing ear plugs." Since middle ear infections most often occur during the first year of life when children are developing at a rapid rate, repeated episodes may cause short- or long-term impairment of speech, language and cognitive abilities.

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Researchers began the study in 1975 and followed the children from birth until 1984 or until each child reached the age of seven. They found that during the first year of life, the majority of the children had at least one episode of middle-ear infection; and that one in six had more than three episodes. They also discovered that: a history of recurrent infection in a sibling raised the risk in a child more than two fold; the earlier a child suffered his or her first episode the more likely he or she was to suffer repeated episodes; the peak incidence occurred between the ages of six and 12 months, and a second peak occurred between the ages of four and five; and breast feeding, even for a short period of time, was a protective measure.

The researchers conclude that interventions for middle-ear infections should be considered early in infancy for children with multiple risk factors to prevent or minimize the potential impairment. Antibiotic prophylaxis should be considered in children with recurrent ear infections during the first year of life. While antibiotics are effective in preventing further infections, they do not eliminate fluid in the middle ear. Therefore, ventilating tubes, which are effective in ridding the middle ear of fluid, should be considered in the first year of life in children who have fluid in the middle ear for prolonged periods of time. The researchers also say that if vaccines of the future are to be most effective, they should be administered during the first six months of life.

Klein and other researchers conducted a separate study, which has been presented in abstract form, into the speech, language and cognitive abilities of seven-year-old children who experienced recurrent episodes of AOM during infancy. These children tested lower in all three areas, indicating that recurrent middle-ear infections may cause long-term problems and strengthening the case for more aggressive prevention and treatment.