

# Study finds increased risk of pneumococcal disease in asthma patients

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Mayo Clinic research shows adults with asthma are at increased risk of serious pneumococcal disease caused by *Streptococcus pneumoniae*, the most common bacteria causing middle ear infections and community acquired pneumonia. It also causes blood stream infections and brain infections. According to the Centers for Disease Control, pneumococcal infection is one of the leading causes of death from a vaccine-preventable disease. The researchers recommend including asthma as an indication for pneumococcal vaccination in adults. The results of the study were recently published in the October edition of the *Journal of Allergy and Clinical Immunology*.

"We found that adults with invasive pneumococcal disease, a serious, potentially fatal disease, are seven times more likely to be asthmatics. Our study also showed that 17 percent of the burden of invasive pneumococcal disease can be attributable to asthma at a population level. This is quite a significant impact on the burden of invasive pneumococcal disease," says Young Juhn, M.D., a pediatric and adolescent medicine physician-scientist at Mayo Clinic and lead author of the study. "Invasive pneumococcal disease is a vaccine-preventable disease. The implication is that we have the ability to significantly reduce instances of this potentially fatal disease by expanding the indication for the pneumococcal vaccine to include adults with asthma."

Researchers used a population-based, retrospective case-control study of 3,941 records from the Rochester, Minn. population to see if there was a higher incidence of pneumococcal disease among people with asthma.

Adults diagnosed with asthma were almost seven times more likely to develop invasive pneumococcal diseases than adults who were not diagnosed with asthma. In children the sample size for was not large enough to draw a definitive conclusion.

"The Advisory Committee on Immunization Practices (ACIP), which is the governing body for immunization practices in the United States, voted unanimously to include asthma as a pneumococcal vaccine condition at the recent ACIP meeting in October, 2008. Adults with asthma should receive the pneumococcal vaccine," says Dr. Juhn.

Further research implications include finding out why a connection exists between instances of pneumococcal disease and asthma, determining whether the connection between asthma and this particular bacterial infection also exists with other bacterial infections, such as pertussis (whooping cough), and the connection between asthma and other non-infectious diseases, such as inflammatory bowel disease, juvenile diabetes, and rheumatoid arthritis. Dr. Juhn does not believe all asthmatic patients react the same way. He is looking for a subset of asthmatic patients who have an increased susceptibility to microbial infection.

Source: Mayo Clinic

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