

Pneumococcal Diseases

The **pneumococcus**, a type of bacteria in the Streptococcus family (*Streptococcus pneumoniae*), is responsible for several types of diseases in adults and in children. In developing countries, pneumococcus is linked to high infant and child mortality rates. Even in more industrialized nations, pneumococcal diseases are common in adults and children. These diseases can lead to severe illness and even death, despite being preventable in many cases. The April 12, 2006, issue of *JAMA* includes an article about pneumococcal diseases and the beneficial effect of pneumococcal vaccination in infants and children.

TYPES OF PNEUMOCOCCAL DISEASE

- **Meningitis** (infection of the covering membranes of the brain and spinal cord)
- **Pneumonia** (infection of the lungs)
- **Otitis media** (middle ear infection)
- **Sinusitis** (infection of the sinus cavities behind the face)
- **Bacteremia** (bacteria in the bloodstream)
- **Sepsis** (a serious bloodstream infection that can be fatal)

Meningitis can lead to permanent neurological damage or death. In adults and older children, it presents with fever, a stiff neck, fatigue, and headache. In infants, these signs may be absent, and the infant may only display fussiness, lethargy, and inability to feed. Individuals with pneumonia usually have shortness of breath, high fever, a cough, fatigue, and chest pains. Meningitis and sepsis are the most life-threatening pneumococcal diseases. Individuals with meningitis or sepsis must receive rapid diagnosis and treatment to prevent severe multiple organ failure and death.

TREATMENT

Early diagnosis of pneumococcal infection is crucial to receiving proper antibiotic treatment. Some strains of pneumococcus have developed resistance to commonly used antibiotics. Laboratory testing is needed to determine proper therapy. Supportive therapy such as oxygen, intravenous fluids, surgical drainage, or even life support in an intensive care unit may be required in severe cases of pneumococcal infection.

PREVENTION

- Young children (aged 2 months to 24 months) should receive a special type of vaccine called the pneumococcal conjugate vaccine against pneumococcus. It is specifically formulated for effectiveness in infants and younger children.
- Any person who has had a splenectomy (removal of the spleen) should have the pneumococcal vaccine.
- The polysaccharide pneumococcal vaccine should be considered for individuals older than 65 years and for those older than 2 years who have chronic diseases.
- Frequent handwashing is important for preventing the spread of pneumococcal diseases, as well as other bacterial and viral infections.

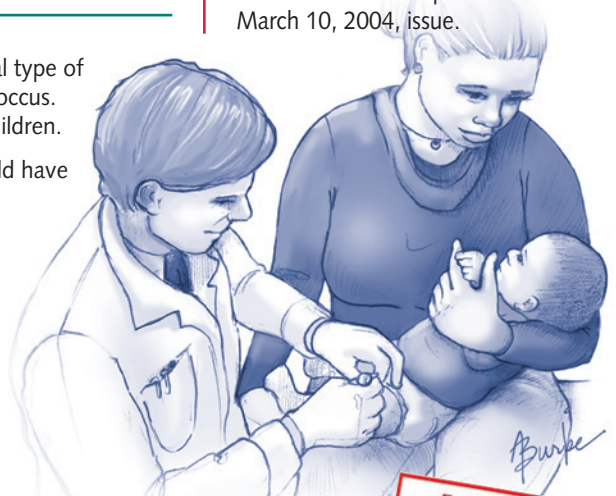
Sources: National Institute of Allergy and Infectious Diseases; Centers for Disease Control and Prevention; American Academy of Family Physicians; American Academy of Pediatrics

FOR MORE INFORMATION

- National Institute of Allergy and Infectious Diseases
www.niaid.nih.gov
- Centers for Disease Control and Prevention
www.cdc.gov
- American Academy of Pediatrics
www.aap.org

INFORM YOURSELF

To find this and previous *JAMA* Patient Pages, go to the Patient Page Index on *JAMA*'s Web site at www.jama.com. Many are available in English and Spanish. A Patient Page on meningitis in children was published in the April 28, 1999, issue; one on diagnosing and treating pneumonia was published in the February 9, 2000, issue; and one on fever in infants was published in the March 10, 2004, issue.



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