

American Academy of Pediatrics and American Academy of Family Physicians

Question and Answers on Acute Otitis Media

What are the new guidelines?

The new guidelines define acute otitis media (AOM), or middle ear infections, and outline appropriate diagnosis and treatment standards – including pain management – based on a child’s age and other factors.

Why were these new guidelines developed?

Acute otitis media (AOM) is the most common bacterial illness in children and the one most commonly treated with antibiotics. There has been a significant increase in, and concern about antibacterial resistance of the organisms that cause AOM. These factors suggested the need for a detailed evaluation of AOM and its management.

While the number of office visits for otitis media with effusion – middle ear fluid – (OME) have decreased over the past decade from 25 million in 1990 to just 16 million in 2000, the number of antibiotic prescriptions to treat AOM has remained constant. At the same time, concerns about the rising rate of antibiotic – or antibacterial – use and resistance have emerged.

What do the new guidelines recommend?

1. Accurately diagnose AOM and differentiate it from OME, which requires different management.
2. Relieve pain, especially in the first 24 hours, with ibuprofen or acetaminophen.
3. Minimize antibiotic side effects by giving parents of select children the option of fighting the infection on their own for 48-72 hours, then starting antibiotics if they do not improve.
4. Prescribe initial antibiotics for children who are likely to benefit the most from treatment.
5. Encourage families to prevent AOM by reducing risk factors. For babies and infants these include breastfeeding for at least six months, avoiding “bottle propping,” and eliminating exposure to passive tobacco smoke.
6. If antibiotic treatment is agreed upon, the clinician should prescribe amoxicillin for most children.

Do the guidelines apply to all children?

No. The guidelines apply only to an otherwise healthy child without underlying conditions that may alter the natural course of AOM. These conditions include, but are not limited to, anatomic abnormalities such as cleft palate, genetic conditions such as Down syndrome, immune system disorders, and cochlear implants. Also excluded are children with a clinical recurrence of AOM within 30 days or AOM with underlying chronic OME.

What is acute otitis media?

A diagnosis of acute otitis media requires:

- Recent, usually abrupt, onset of illness.

- The presence of middle ear fluid, or effusion.
- Signs or symptoms of middle ear inflammation.

Over 5 million AOM cases occur annually in US children, resulting in more than 10 million annual antibiotic prescriptions and about 30 million annual visits to doctor's offices. Fifty percent of antibiotics for preschoolers in the US are prescribed for ear infections. Using an observation option could reduce antibiotic prescriptions annually by up to 3 million and would significantly reduce the prevalence of resistant bacteria.

What are the harmful effects of antibiotics?

Each course of antibiotic given to a child can make future infections more difficult to treat. The result is an increase in the use of a larger range of – and generally more expensive – antibiotics. In addition, the benefit of antibiotics for AOM is small on average, and must be balanced against potential harm of therapy. About 15 percent of children who take antibiotics suffer from diarrhea or vomiting and up to 5 percent have allergic reactions, which can be serious or life threatening. The average preschooler carries around 1 to 2 pounds of bacteria – about 5 percent of his or her body weight. These bacteria have 3.5 billion years of experience in resisting and surviving environmental challenges. Resistant bacteria in a child can be passed to siblings, other family members, neighbors, and peers in group-care or school settings.

When should antibiotics be prescribed?

- For children age 6 months and younger – for certain or suspected AOM.
- Children age 6 months to 2 years – for certain AOM or suspected AOM with severe symptoms; observation is an option for suspected or uncertain AOM if non-severe.
- Children age 2 to 12 years – antibiotic treatment for certain AOM with severe symptoms; observation is an option for suspected or non-severe AOM.

The guideline provides an option to observe select children and only start antibiotic treatment if symptoms have not improved in 48-72 hours. Approximately 80 percent of children with AOM get better without antibiotics. And children whose ear infections are not treated immediately with antibiotics are not likely to develop a serious illness.

What if a child with a middle ear infection is in great pain and discomfort?

The mainstay of pain management for AOM is medications such as acetaminophen and ibuprofen, not antibiotics. Most children with AOM have significant ear pain, which may manifest in young children as ear rubbing, sleep disruption, or temper tantrums. Analgesics are most important in the first 24 hours after diagnosis, especially before the child's bedtime. Fortunately, by 24 hours about 60 percent of children feel better, rising to 80-90 percent within a few days. Antibiotics **do not** relieve pain in the first 24 hours, and have only a small effect after that.

Is my child at risk for developing other infections if she is not treated with antibiotics?

Published trials of observation, placebo, or non-antibiotic AOM therapy have shown no increased rate of complications, provided that children are followed carefully and receive antibiotics if symptoms persist or worsen. These studies vary in the age of children studied and the severity of illness, factors taken into consideration in determining which children are suitable for the observation option.

