

Antibiotic treatment for ear infections in kids provides only modest benefits, study finds

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Using antibiotics to treat newly diagnosed acute ear infections among children is modestly more effective than no treatment, but comes with a risk of side effects, according to a new study designed to help advise efforts to rewrite treatment guidelines for the common illness.

Researchers found no evidence that name-brand antibiotics work any better in general than generic antibiotics and that careful examination of the eardrum by a clinician for signs of infection is critical for accurate diagnosis of acute ear infections. The study is published in the Nov. 17 edition of the [Journal of the American Medical Association](#).

"Our findings reinforce the existing knowledge that the best antibiotic treatment for common childhood ear infections may be no [antibiotic treatment](#) at all," said lead author Dr. Tumaini R. Coker, a pediatrician at Mattel Children's Hospital UCLA and a researcher at the RAND Corporation, a nonprofit research organization.

"Prescribing antibiotics early may help cure ear infections a little bit faster, but also raises the risk that children will suffer antibiotic-related side effects such as a rash or diarrhea," Coker said. "Parents and their children may value these different outcomes differently."

Researchers from the Southern California Evidence-Based Practice Center conducted the study by examining previously published research

about the diagnosis and treatment of acute ear infections among children. The review was requested by the American Academy of Pediatrics as part of its effort to update practice guidelines for treating acute ear infections among young children.

The study found that a major limitation of efforts to improve the treatment of acute ear infections is that there is no one definitive test for making the diagnosis. The use of an otoscope to look into the ear for signs of infection is a key component of any diagnosis and improving clinicians' ability to conduct this exam may help improve the accuracy of diagnosis, researchers said.

Acute ear infections are the most common childhood illness in the United States where antibiotics are routinely prescribed. A 2006 study estimated that it costs about \$350 to treat each episode of the illness, with yearly national costs totaling \$2.8 billion.

The new study reviews published data from 1999 to 2010 about the treatment of acute ear infections among children. This systematic review of the literature found that prescribing antibiotics early for acute ear infections had a modest benefit. Of 100 average-risk children with acute ear infections, about 80 would be expected to get better within about three days without antibiotics. If all were treated with antibiotics immediately at diagnosis, evidence suggests an additional 12 would improve, but three to 10 children would develop a rash and five to 10 would develop diarrhea, according to the study.

"Early prescribing of antibiotics offers a slight benefit and poses a slight risk," said the study's senior author, Dr. Glenn Takata, a pediatrician and researcher at Children's Hospital Los Angeles. "Clinicians will have to take these modest benefits and risks into consideration when deciding whether to treat with antibiotics or not."

Researchers also found no evidence that using newer, name-brand antibiotics to treat uncomplicated acute ear infections in normal-risk children offers an advantage over generic antibiotics, namely the commonly-used amoxicillin. Despite these findings, the higher-priced [antibiotics](#) are often prescribed for uncomplicated acute ear infections. Savings could be substantial if physicians used amoxicillin as the first line of defense against uncomplicated acute ear infections, according to researchers.

Provided by RAND Corporation

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