



## On OTC Cough-and-Cold Meds, Nocturnal Cough and Sleep Quality, Prescribing Trends in Acute Otitis Media, and Diagnosing Bloodstream Infection

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Each month, Dr. Nahum Kovalski reviews a handful of abstracts from, or relevant to, urgent care practices and practitioners. For the full reports, go to the source cited under each title.

### Over the Counter but No Longer Under the Radar—Pediatric Cough and Cold Medications

**Key point:** Since 1985, all six controlled studies of cough/cold preparations in children have not shown a positive effect. Over the last 7 years, poison-control centers have reported more than 750,000 calls

Citation: Sharfstein JM, North M, Serwint JR. *N Engl J Med*. 2007;357(23):2321-2324.

In recent weeks, over-the-counter cough and cold medications for children have received unprecedented attention from regulators, physicians, the media, and parents.

This scrutiny represents a long-overdue reassessment of products that were purchased by 39% of U.S. households during the past three years. It also reflects an important evolution in the standard of evidence for medications used in children.

OTC cough and cold preparations include various combinations of antihistamines, decongestants, antitussives, and expectorants. There is no standard for defining these products; two prod-

ucts marketed similarly may have different types of ingredients.

Since 1985, none of the six randomized, placebo-controlled studies of the use of cough and cold preparations in children under 12 years of age have shown any meaningful differences between the active drugs and placebo.

In 1997, the American Academy of Pediatrics noted in a policy statement on cough medications that “indications for their use in children have not been established.” In 2006, the American College of Chest Physicians found that “literature regarding over-the-counter cough medications does not support the efficacy of such products in the pediatric age group.”

Meanwhile, poison-control centers have reported more than 750,000 calls of concern related to cough and cold products since January 2000. A recent report from the Centers for Disease Control and Prevention identified more than 1,500 emergency room visits in 2004 and 2005 for children under 2 years of age who had been given cough or cold products.

Among other concerns are findings in children under 6 linking decongestants to cardiac arrhythmias and other cardiovascular events, antihistamines to hallucinations, and antitussives to depressed levels of consciousness and encephalopathy. A review by the FDA identified 123 deaths related to the use of such products in children under 6 during the past several decades. Serious adverse effects have been associated with accidental overdose, inadvertent misuse, and drug–drug or drug–host interactions in children given standard doses.



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Direct-to-consumer advertisements assert that preparations are safe and effective, and many state that ingredients are “pediatrician-recommended.” ■

### Effect of Honey, Dextromethorphan, and No Treatment on Nocturnal Cough and Sleep Quality for Coughing Children and Their Parents

**Key point:** Parents rated honey most favorably for symptomatic relief of their child’s nocturnal cough and sleep difficulty.

Citation: Paul IM, Beiler J, McMonagle A, et al. *Arch Pediatr Adolesc Med.* 2007;161(12):1140-1146.

A survey was administered to parents on two consecutive days—first on the day of presentation when no medication had been given the prior evening and then the next day when buckwheat honey, honey-flavored dextromethorphan (DM), or no treatment had been given prior to bedtime according to a partially double-blinded randomization scheme.

One hundred five children aged 2 to 18 years with upper respiratory tract infections, nocturnal symptoms, and illness duration of seven days or less were included. The intervention was a single dose of buckwheat honey, honey-flavored DM, or no treatment administered 30 minutes prior to bedtime.

Significant differences in symptom improvement were detected between treatment groups; honey scored best consistently, with the no treatment group scoring the worst.

In paired comparisons, honey was significantly superior to no treatment for cough frequency and the combined score, but DM was not better than no treatment for any outcome. Comparison of honey with DM revealed no significant differences.

In a comparison of honey, DM, and no treatment, parents rated honey most favorably for symptomatic relief of their child’s nocturnal cough and sleep difficulty due to upper respiratory tract infection. Honey may be a preferable treatment for the cough-and-sleep difficulty associated with childhood upper respiratory tract infection. ■

### National Trends in Emergency Department Antibiotic Prescribing for Children with Acute Otitis Media, 1996–2005

**Key point:** There was no change in the patterns of prescribing antibiotics for OM even in the face of newer recommendations.

Citation: Fischer T, Singer AJ, Lee C, et al. *Acad Emerg Med.* 2007;14(12):1172-1175.

Withholding antibiotics in nontoxic children with acute otitis media (AOM) is now recommended to reduce bacterial resistance rates. Using the National Hospital Ambulatory Medical Care Survey (NHAMCS), the authors describe the national trends for prescribing antibiotics in children with AOM presenting to emer-

gency departments in the United States over the past decade.

The authors hypothesized that the rates of prescribing antibiotics would decline over time.

This was a retrospective study of NHAMCS databases. A national sampling of ED visits for 1996–2005 was used to identify trends in ED prescription of antibiotics to patients with AOM. The National Drug Code Directory Drug Classes were used to identify type of antibiotic prescribed.

There were 2.6 million and 2.1 million ED visits for AOM during the first and last years of the study, respectively. Children 2 to 12 years of age accounted for about 40% of all ED visits for AOM, with another 40% in the <2 years age group and 20% in the >12 years of age group.

During the first and last year of the study, 79.2% and 91.3% of the patients with AOM were prescribed antibiotics, respectively. There was a slight increasing trend in the proportion prescribed antibiotics over time ( $p=0.02$ ). The rates of use of antibiotics for AOM were similar in all three age groups.

There was a slight increase in the percentage of children with AOM who were prescribed antibiotics in the ED between 1996 and 2005. In addition, there was no change in the patterns of prescribing antibiotics. ■

### Diagnosing Bloodstream Infection: How Many Cultures?

**Key point:** Up to four sets of blood cultures may be needed to detect bloodstream infections in adults.

Citation: Lee A, Mirrett S, Reller LB, et al. Detection of bloodstream infections in adults: How many blood cultures are needed? *J Clin Microbiol.* 2007;45:3546-3548.

Previous studies have suggested that obtaining two or three sets of blood cultures within a 24-hour period is sufficient to detect almost all bloodstream infections (BSIs) in adults. However, blood-culture systems have evolved substantially since many of these studies were performed. Now, investigators from two academic medical centers have examined the performance of two modern blood-culture systems (BACTEC 9240 and Bact/ALERT).

From January 2004 through December 2005, the investigators enrolled all patients with positive blood cultures that they judged to represent true infection (rather than contamination). They included only patients from whom three or more blood cultures were obtained during a 24-hour period.

Among 629 unimicrobial BSI episodes during the study period, 460 (73.1%) were detected with the first blood culture, 564 (89.7%) with the first two, 618 (98.3%) with the first three, and 628 (99.8%) with the first four. Among the 351 BSI episodes for which four or more blood cultures were obtained, the corresponding cumulative detection rates were 73.2%, 87.7%, 96.9%, and 99.7%, respectively. [Published in *J Watch Infect Dis*, December 5, 2007—Daniel J. Diekema, MD, MS.] ■