

# Cochrane for Clinicians

*Putting Evidence into Practice*

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This series is coordinated by Corey D. Fogleman, MD, Assistant Medical Editor.

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**CME** This clinical content conforms to AAFP criteria for continuing medical education (CME). See CME Quiz Questions on page 18.

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## Honey for Acute Cough in Children

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### Clinical Question

Is honey an effective treatment for acute cough in children?

### Evidence-Based Answer

For patients one to 18 years of age, providing honey for cough symptoms can reduce the frequency and severity of cough, as well as improve sleep for patients and parents, when compared with placebo or no treatment. Honey is no better than dextromethorphan for symptom control. (Strength of Recommendation: A, based on consistent, good-quality patient-oriented evidence.)

### Practice Pointers

Acute cough in children is a common reason for primary care visits. It is a source of anxiety for patients and parents, and may impact quality of life during the course of illness. From 1999 to 2006, approximately one child in 10 took an over-the-counter (OTC) cold medication in any given week.<sup>1</sup> However, there is a lack of evidence demonstrating the effectiveness of OTC or prescription medications for cough in patients younger than four years. These treatments often include dextromethorphan and diphenhydramine, which have potential adverse effects such as respiratory depression, hallucinations, dry mouth, and tachycardia. The authors of this review set out to determine whether honey is a safe and effective treatment for acute cough in children.

This Cochrane review included three small, randomized controlled trials with 568 children one to 18 years of age. Studies compared the mean difference (MD) of caregiver symptom scores for acute cough

before and after treatment with honey, diphenhydramine, dextromethorphan, placebo, or no treatment on a scale from 0 to 6 (with lower scores signifying better symptoms). Cough frequency was reduced with honey vs. no treatment (MD = -1.05; 95% confidence interval [CI], -1.48 to -0.62; n = 154) and placebo (MD = -1.85; 95% CI, -3.36 to -0.33; n = 300). There was no difference when honey was compared with dextromethorphan for cough frequency, although honey was slightly better than diphenhydramine (MD = -0.57; 95% CI, -0.9 to -0.24; n = 80). Overall, honey was no better than any of the other interventions for bothersome cough, although one study indicated that it may be better than placebo (MD = -2.08; 95% CI, -3.97 to -0.19; n = 300). The groups were not stratified by age, making it difficult to establish effectiveness among different ages of children. Cough duration was not included in the analysis because the studies examined only one night of symptoms for participants.

Use of honey was associated with some adverse effects, such as nervousness, insomnia, and hyperactivity, although these occurrences were not statistically significant. Because of a lack of immunity against *Clostridium botulinum*, infants younger than one year should not be given honey.

In 2006, the American College of Chest Physicians recommended that children, especially those younger than two years, should not receive OTC cough medication because there were no clear benefits and definite potential harms.<sup>2</sup> This was later supported by the U.S. Food and Drug Administration and the American Academy of Pediatrics, both of whom recommended raising the minimum safe age for cough medications to four years.<sup>3,4</sup> The findings in this study support honey as an alternative to the standard cough medications.

SOURCE: Oduwale O, Meremikwu MM, Oyo-Ita A, Udoh EE. Honey for acute cough in children. *Cochrane Database Syst Rev*. 2014;(12):CD007094.

The practice recommendations in this activity are available at <http://summaries.cochrane.org/CD007094>.

The opinions or assertions contained herein are the private views of the authors and are not to be construed as official or as reflecting the views of the Department of Defense.

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## Intermittent Inhaled Corticosteroid Therapy for Mild Persistent Asthma in Children and Adults

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### Clinical Question

Is the use of intermittent inhaled corticosteroid therapy safe and effective for mild persistent asthma in children and adults?

### Evidence-Based Answer

Intermittent inhaled corticosteroid therapy reduces the risk of asthma exacerbations in children and adults with mild persistent asthma. Intermittent use appears to be safe in these patients. (Strength of Recommendation: B, based on limited-quality evidence from randomized controlled trials.)

### Practice Pointers

Asthma accounts for 14.2 million office visits to U.S. physicians (1.4% of all encounters) each year and is responsible for significant respiratory-associated morbidity and mortality.<sup>1</sup> Symptoms such as wheezing, cough, and dyspnea can vary in timing and intensity.

Clinical management includes quantifying asthma severity and providing patient education, environmental control, and stepwise treatment with medications, if required.<sup>2</sup> Daily inhaled corticosteroid therapy for children and adults is recognized as standard treatment for persistent asthma.<sup>2</sup> However, for patients with mild persistent asthma symptoms, optimal inhaled corticosteroid use has not been determined. This Cochrane review studied whether intermittent inhaled corticosteroids initiated at the time of an exacerbation could safely manage mild persistent asthma in children and adults without the need for oral corticosteroids.

The Cochrane review included six double-blind, placebo-controlled, randomized trials enrolling 490 preschool-aged children up to five years of age, 145 school-aged children, and 240 adults. In all trials, intermittent inhaled corticosteroid therapy was compared with placebo, and rescue inhalers and oral corticosteroids were the only coin-terventions allowed during exacerbations. The protocols for how to use intermittent inhaled corticosteroid therapy varied, but usually involved taking inhaled corticosteroids with a bronchodilator as needed to relieve symptoms. Preschool-aged children with suspected asthma symptoms were analyzed separately from adults and children with confirmed asthma. Primary outcomes included asthma exacerbations requiring oral corticosteroids and serious adverse effects.

In an analysis of two randomized controlled trials, the risk of asthma exacerbation requiring use of oral corticosteroids was lower among school-aged children (odds ratio [OR] = 0.57; 95% confidence interval [CI], 0.29 to 1.12) and adults (OR = 0.10; 95% CI, 0.01 to 1.95) with mild persistent asthma symptoms who were randomized to intermittent inhaled corticosteroid therapy vs. placebo. When the data from these two trials were combined, the odds of experiencing an asthma exacerbation requiring use of oral corticosteroids for persons using intermittent inhaled corticosteroid therapy was one-half that of those given placebo (OR = 0.50; 95% CI, 0.26 to 0.94). The corresponding number needed to treat was 11 (95% CI, 7 to 100). A separate analysis

that included four randomized trials of intermittent inhaled corticosteroid therapy in preschool-aged children with wheezing found results consistent with those seen in adults and school-aged children (OR = 0.48; 95% CI, 0.31 to 0.73), with a number needed to treat of 7 (95% CI, 5 to 14). No difference in the odds of serious adverse effects in children and adults was noted (OR = 1.00; 95% CI, 0.14 to 7.25).

The 2007 National Asthma Education and Prevention Program's stepwise approach for managing asthma does not include guidelines for use of intermittent inhaled corticosteroid therapy.<sup>2</sup> This is the second Cochrane review published since 2007 to demonstrate that intermittent inhaled corticosteroid therapy is safe and effective for children and adults with mild persistent asthma.<sup>3</sup> However, the small number of studies limits confidence in the evidence. Further randomized trials in clinical practice settings are needed before guidelines can routinely recommend

intermittent inhaled corticosteroid therapy for mild persistent asthma.

SOURCE: Chong J, Haran C, Chauhan BF, Asher I. Intermittent inhaled corticosteroid therapy versus placebo for persistent asthma in children and adults. *Cochrane Database Syst Rev.* 2015;(7):CD011032.

The practice recommendations in this activity are available at <http://summaries.cochrane.org/CD011032>.

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