

CME: Common cold

Sumana Bajracharya

Assistant Professor, Department of General Practice and Emergency Medicine, Patan Academy of Health Sciences

1. A 2-year-old boy was brought to the clinic with the complaint of rhinorrhea, nasal blockage and cough. The child has no fever and is stable on examination. What is the current recommendation for over the counter cold medication for this child?
 - A. Can be used safely in this child
 - B. OTC medication should never be used in child
 - C. Should not be used till child is four-year-old
 - D. There is risk and benefit of using OTC medication in this child
2. A mother brought her five-year-old child to the hospital with symptoms of common cold. After consultation, she asked if there are any measures to prevent the common cold to her other child who is two years old. What will be your advice?
 - A. Hand sanitizer
 - B. Isolation
 - C. Use N95
 - D. Use of ordinary mask
3. A 18 year male came to the hospital with complaint of rhinorrhea, sore throat and cough. Which of the following drug is effective for this patient?
 - A. Cetrizine + Codeine
 - B. Chlorphenaramine + Dextromethorphan
 - C. Fexofenadine + Bromohexine
 - D. Paracetamol + Pseudoephidrine
4. A 30-year male presented with low grade fever and sore throat, sneezing, myalgia and occasional cough. On examination, his throat is congested. He has no rhinorrhea or nasal blockade or cough. What is the treatment of choice for this patient?
 - A. Amoxycilline
 - B. Cetrizine
 - C. Ibuprofen
 - D. Steam inhalation
5. A 18 year male presented cough for last 15 days. The patient says that the symptom started with rhinorrhea which lasted for a week and then decreased. He says that the cough is more at night. There is no history of recurrent rhinorrhea in past. He has no fever, weight loss, chest pain, shortness of breath. Chest and throat examination are normal. What will be the reasonable treatment of cough for this patient?
 - A. Cetrizine
 - B. Chlorphenaramine
 - C. Codeine
 - D. Fexofenadine
6. A 19 year girl came to the clinic with complaint of rhinorrhea, nasal blockage, headache, fever, myalgia, sore thorat and cough for last 2 days. Which of the following drug combination will be appropriate for this patient?
 - A. Dextromethorphan, Pseudoephidrine, Chlorphenaramine, Paracetamol
 - B. Ipratropium nasal spray, Fexofenadine, Pseudoephidrine, Bromohexine
 - C. Oxymetazoline, Cetrizine, Paracetamol, Codeine
 - D. Oxymetazoline, Pseudoephidrine, Ibuprofen, Dexamethorphan
7. A patient presents to the clinic with persistent rhinorrhea and nasal obstruction. Which of the following medication has good evidence on symptom relieve?
 - A. Cetrizine
 - B. Intranasal oxymetazoline
 - C. Paracetamol
 - D. Pseudoephidrine
8. A two year old child came to the clinic with the complaint of common cold. Which of the following is the safe and effective treatment for this child?
 - A. Keeping warm
 - B. Menthol rub
 - C. Oxymetazoline
 - D. Steam inhalation
9. A young male present with persistent cough following common cold. Which of the following is the effective treatment for this patient?
 - A. Codiene
 - B. Intranasal Corticosteroid
 - C. Intranasal ipratropium
 - D. Intranasal oxymetazoline

10. A 5 year old child presented with complaint of rhinorrhea, sore throat, cough and mild fever. Which of the following treatment is effective for this child?

- A. Acetylcysteine + pseudoephedrine
- B. Dexamethorphan + Salbutamol
- C. Honey + ointment camphor
- D. Phenaramine + Pseudoephedrine

ANSWERS

1. Answer C

Over-the-counter cold medications should not be used in children younger than four years because of potential harms and lack of benefit. Lack of benefit in 10 RCTs in children and observational studies of adverse effects.^{1,2}

2. Answer A

Systematic review of cluster RCTs and observational studies suggest that the use of hand sanitizer or hand washing is the most effective way to prevent the common cold.^{3,4}

3. Answer D

Systematic reviews of RCTs of varying quality suggest, treatments with established effectiveness for cold symptoms in adults are limited to over-the-counter analgesics and decongestants with or without antihistamines (but not antihistamine monotherapy).⁵⁻⁹

4. Answer C

Antibiotics are ineffective for treatment of the common cold in adults and children and should not be prescribed.^{10,11} There is a consistent findings of no benefit and increased adverse effects in systematic reviews of 11 RCTs. Cochrane review of 6 trials showed no benefit of using heated humidified air for treatment of URIs.¹² Evidence for use of antihistamine as monotherapy is limited. Nonsteroidal anti-inflammatory drugs: Cochrane review of 9 moderate-quality RCTs found no effect on total symptom score or cough, but improved sneezing and ear, muscle, and joint pain.⁸

5. Answer B

This is upper airway cough syndrome previously known as postnasal drip syndrome. It includes all upper airway abnormalities causing cough like allergic and non-allergic and vasomotor rhinitis, acute nasopharyngitis and sinusitis. First generation antihistamine is preferred as it has anticholinergic action. Codeine and other antitussives have not been proven effective for B cough in adults.^{5,13,14} Systematic reviews and a clinical practice guideline from the American College of Chest Physicians.

6. Answer A

Cochrane review of 10 trials without meta-analysis suggest that antitussive are no more effective than placebo for cough.⁵ Evidence supporting the use of dextromethorphan for acute cough due to common cold is limited and generally poor in quality, however, there small percentage of benefit is found for reduction in cough events.

Cochrane review suggest that antihistamine and decongestant are helpful for common cold.¹⁵ Acetaminophen was found to improve in nasal obstruction and rhinorrhea but not in other symptoms.⁶

7. Answer C

Acetaminophen: Cochrane review without data pooling of 4 low- to moderate- quality trials with outcome assessment at 3 to 6 hours found improvement in nasal obstruction and rhinorrhea but not in other symptoms.⁶ Intranasal oxymetazoline: Cochrane review of 15 trials found no improvement in nasal congestion with single use, but small improvement vs. placebo after multiple doses.¹⁶

8. Answer B

Systematic reviews of RCTs of varying quality showed safe and effective treatments for cold symptoms in children include nasal saline irrigation, menthol rub, and honey (for children 12 months and older).¹⁷⁻²⁰

9. Answer C

One small, randomized, double-blind crossover trial (N = 14) found significant reduction in persistent cough with intranasal ipratropium.²¹ RCT of 82 adults found codeine no more effective than placebo for cough.²² Intranasal corticosteroids: Cochrane review of 3 RCTs showed intranasal corticosteroid no more effective than placebo for reducing symptom duration or severity.²³

10. Answer C

Cochrane review of 6 low- to moderate-quality trials (N = 497) found small reduction in cough at day 7 vs. placebo with acetylcysteine however there was no improvement of other symptoms.²⁴ Cochrane reviews and 1 RCT found significant reduction in symptoms with honey.^{5,25,26} RCT showed that ointment containing camphor, menthol, and eucalyptus oils reduced cough, congestion, and sleep difficulty compared with petrolatum ointment or no treatment.²⁶ Antihistamine plus decongestant No more effective than placebo for cough. Antitussive plus bronchodilator Cochrane review of

RCTs showed no more effective than placebo for cough.⁶

REFERENCES

1. U.S. Food and Drug Administration. Use caution when giving cough and cold products to kids. Accessed November 21, 2018. <https://www.fda.gov/Drugs/ResourcesForYou/SpecialFeatures/ucm263948.htm>
2. Smith SM, Schroeder K, Fahey T. Over-the-counter (OTC) medications for acute cough in children and adults in community settings. *Cochrane Database Syst Rev*. 2014;(11):CD001831.
3. Jefferson T, Del Mar CB, Dooley L, et al. Physical interventions to interrupt or reduce the spread of respiratory viruses. *Cochrane Database Syst Rev*. 2011;(7):CD006207.
4. Hübner NO, Hübner C, Wodny M, et al. Effectiveness of alcohol-based hand disinfectants in a public administration: impact on health and work performance related to acute respiratory symptoms and diarrhoea. *BMC Infect Dis*. 2010;10:250.
5. Li S, Yue J, Dong BR, et al. Acetaminophen (paracetamol) for the common cold in adults. *Cochrane Database Syst Rev*. 2013;(7):CD008800.
6. Deckx L, De Sutter AI, Guo L, et al. Nasal decongestants in monotherapy for the common cold. *Cochrane Database Syst Rev*. 2016;(10):CD009612.
7. Kim SY, Chang YJ, Cho HM, et al. Non-steroidal anti-inflammatory drugs for the common cold. *Cochrane Database Syst Rev*. 2015;(9):CD006362.
8. Little P, Moore M, Kelly J, et al.; PIPS Investigators. Ibuprofen, paracetamol, and steam for patients with respiratory tract infections in primary care: pragmatic randomised factorial trial. *BMJ*. 2013;347:f6041.
9. Spurling GK, Del Mar CB, Dooley L, et al. Delayed antibiotic prescriptions for respiratory infections. *Cochrane Database Syst Rev*. 2017;(9):CD004417.
10. Kenealy T, Arroll B. Antibiotics for the common cold and acute purulent rhinitis. *Cochrane Database Syst Rev*. 2013;(6):CD000247.
11. Barrett BP, Brown RL, Locken K, et al. Treatment of the common cold with unrefined echinacea. A randomized, double-blind, placebo-controlled trial. *Ann Intern Med*. 2002;137(12):939-946.
12. Freestone C, Eccles R. Assessment of the antitussive efficacy of codeine in cough associated with common cold. *J Pharm Pharmacol*. 1997; 49(10):1045-1049.
13. Malesker MA, Callahan-Lyon P, Ireland B, et al.; CHEST Expert Cough Panel. Pharmacologic and nonpharmacologic treatment for acute cough associated with the common cold. *Chest*. 2017;152(5):1021-1037.
14. Slapak I, Skoupá J, Strnad P, et al. Efficacy of isotonic nasal wash (sea-water) in the treatment and prevention of rhinitis in children. *Arch Otolaryngol Head Neck Surg*. 2008;134(1):67-74.
15. Deckx L, De Sutter AI, Guo L, et al. Nasal decongestants in monotherapy for the common cold. *Cochrane Database Syst Rev*. 2016;(10):CD009612.
16. King D, Mitchell B, Williams CP, et al. Saline nasal irrigation for acute upper respiratory tract infections. *Cochrane Database Syst Rev*. 2015;(4):CD006821.
17. Oduwole O, Udoh EE, Oyo-Ita A, et al. Honey for acute cough in children. *Cochrane Database Syst Rev*. 2018;(4):CD007094.
18. Slapak I, Skoupá J, Strnad P, et al. Efficacy of isotonic nasal wash (sea-water) in the treatment and prevention of rhinitis in children. *Arch Otolaryngol Head Neck Surg*. 2008;134(1):67-74.
19. Kenia P, Houghton T, Beardsmore C. Does inhaling menthol affect nasal patency or cough? *Pediatr Pulmonol*. 2008;43(6):532-537.
20. Holmes PW, Barter CE, Pierce RJ. Chronic persistent cough: use of ipratropium bromide in undiagnosed cases following upper respiratory tract infection. *Respir Med*. 1992;86(5):425-429.
21. Hemilä H, Chalker E. The effectiveness of high dose zinc acetate lozenges on various common cold symptoms: a meta-analysis. *BMC Fam Pract*. 2015;16:24.
22. Freestone C, Eccles R. Assessment of the antitussive efficacy of codeine in cough associated with common cold. *J Pharm Pharmacol*. 1997; 49(10):1045-1049.
23. Hayward G, Thompson MJ, Perera R, et al. Corticosteroids for the common cold. *Cochrane Database Syst Rev*. 2015;(10):CD008116.
24. Chalumeau M, Duijvestijn YC. Acetylcysteine and carbocysteine for acute upper and lower respiratory tract infections in paediatric patients without chronic bronchopulmonary disease. *Cochrane Database Syst Rev*. 2013;(5):CD003124.
25. Paul IM, Beiler J, McMonagle A, et al. Effect of honey, dextromethorphan, and no treatment on nocturnal cough and sleep quality for coughing children and their parents. *Arch Pediatr Adolesc Med*. 2007; 161(12):1140-1146.
26. Paul IM, Beiler JS, King TS, et al. Vapor rub, petrolatum, and no treatment for children with nocturnal cough and cold symptoms. *Pediatrics*. 2010;126(6):1092-1099.