

Treatments for Symptoms of the Common Cold

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Clinical Question

Which interventions are effective for treating symptoms of the common cold?

Evidence-Based Answer

There is no single treatment that produces significant improvements in symptoms of the common cold. Intranasal ipratropium (Atrovent) can be given to reduce rhinorrhea. (Strength of Recommendation [SOR]: A, based on a systematic review of randomized controlled trials [RCTs].) Oral zinc can be given therapeutically to shorten cold duration and severity, and can be taken prophylactically to reduce the risk of colds. (SOR: A, based on a systematic review of RCTs.) Vitamin C should not be used therapeutically. (SOR: A, based on a systematic review of RCTs.) Nonsteroidal anti-inflammatory drugs should not be used for acute cold symptoms. (SOR: A, based on a systematic review of RCTs.)

Pelargonium sidoides, *Echinacea purpurea*, and intranasal saline may be used for symptoms of the common cold. (SOR: C, based on a systematic review of inconsistent RCTs.) Antihistamines and antibiotics should not be used (SOR: A, based on systematic reviews of RCTs), nor should intranasal zinc (SOR: C, based on a case series). Over-the-counter preparations should not be used in children younger than six years because they are more likely to produce harm than benefit. (SOR: C, based on expert consensus.)

Evidence Summary

No therapy treats the underlying viral infections associated with the common cold. Some therapies may improve symptoms or

reduce the incidence or duration of colds (*Table 1*).¹⁻³

LIKELY EFFECTIVE

Intranasal administration of ipratropium decreases rhinorrhea symptoms, but has no effect on nasal congestion.¹ Therapeutic use of oral zinc reduces the duration and severity of colds when taken within 24 hours of symptom onset.³ Prophylactic use of oral zinc reduces the incidence of cold, school and work absences, and antibiotic prescriptions. Adverse effects, such as bad taste and nausea, are common. High-dose vitamin C does not prevent colds, but when used prophylactically it reduces the duration of colds by 8% and reduces cold symptoms, especially in children.² Nonsteroidal anti-inflammatory drugs reduce pain associated with the common cold, but do not shorten cold duration or overall respiratory symptom scores.⁴

POSSIBLY EFFECTIVE

A liquid preparation of the herb *P. sidoides* may slightly reduce the duration of sputum production and cough in adults and children with acute bronchitis.⁵ Therapeutic use of *E. purpurea* may improve cold symptoms in adults, but the evidence is inconsistent.⁶ Intranasal saline may produce limited symptomatic benefit in adults, but children may not be able to tolerate it.⁷

UNKNOWN EFFECTIVENESS

There is inadequate evidence to evaluate the effectiveness of garlic, honey, conjugated linolenic acid, hot liquids, humidified air, sea buckthorn berries, ginseng, Chinese herbal medicines, homeopathy, acupuncture, and enhanced physician empathy.

Table 1. Effective Treatments for Symptoms of the Common Cold

Treatment	Study	Outcomes	Comments
Anticholinergics (ipratropium [Atrovent])	Cochrane systematic review (n = 2,144 children and adults 12 to 70 years of age) ¹	Ipratropium improved rhinorrhea but not nasal congestion	Adverse effects included nasal dryness, blood-tinged mucus, and epistaxis
Vitamin C (prophylaxis; at least 0.2 g per day)	Cochrane systematic review (n = 11,306 adults and children with 9,649 cold episodes, with subgroup analysis of 598 elite athletes) ²	Did not prevent colds; shortened cold duration by 8% (95% CI, 3% to 12%) in adults and by 14% (95% CI, 7% to 21%) in children ($P < .00001$); reduced symptom severity scores and days of work/school missed; prevented colds in elite athletes (relative risk = 0.48; 95% CI, 0.35 to 0.64)	Dosages of at least 1 g per day produced greater benefits
Zinc	Cochrane systematic review (n = 1,387 adults and children 1 to 65 years of age for treatment and 394 for prophylaxis) ³	Treatment: reduced duration of cold by 1 day (95% CI, -1.72 to -0.34; $P = .003$) and decreased the proportion of participants who were symptomatic after 7 days of treatment (odds ratio = 0.45; 95% CI, 0.20 to 1.00; $P = .05$), but did not affect cold severity Prophylaxis: reduced incidence of colds (incidence rate ratio = 0.64; 95% CI, 0.47 to 0.88; $P = .006$), decreased school absence ($P = .0003$) and antibiotic prescriptions ($P < .00001$)	Adverse effects include bad taste and nausea; intranasal administration associated with anosmia

CI = confidence interval.

Information from references 1 through 3.

INEFFECTIVE

Antihistamines alone,⁸ prophylactic use of *Echinacea* preparations,⁶ and antibiotics⁹ are ineffective for treating symptoms of the common cold. When started after symptom onset, vitamin C is also ineffective.²

HARMS OUTWEIGH BENEFITS

Over-the-counter cough and cold medications for children younger than six years are ineffective and are associated with overdose and toxicity. Intranasal zinc can cause permanent anosmia.

Recommendations from Others

The American College of Chest Physicians recommends treating common cold symptoms with a first-generation antihistamine/decongestant preparation and naproxen.¹⁰ The U.S. Food and Drug Administration recommends that over-the-counter cough and cold medications should not be used in children younger than two years because of potentially life-threatening adverse effects.¹¹ The American Academy of Pediatrics makes a similar recommendation, and says that studies show that these medications have little benefit in children younger than six years.¹²

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REFERENCES

- AlBalawi ZH, Othman SS, Alfaleh K. Intranasal ipratropium bromide for the common cold. *Cochrane Database Syst Rev.* 2013;(6):CD008231.
- Hemilä H, Chalker E. Vitamin C for preventing and treating the common cold. *Cochrane Database Syst Rev.* 2013;(1):CD000980.
- Singh M, Das RR. Zinc for the common cold. *Cochrane Database Syst Rev.* 2013;(6):CD001364.
- Kim SY, Chang YJ, Cho HM, Hwang YW, Moon YS. Non-steroidal anti-inflammatory drugs for the common cold. *Cochrane Database Syst Rev.* 2013;(6):CD006362.
- Timmer A, Günther J, Rücker G, Motschall E, Antes G, Kern WV. *Pelargonium sidoides* extract for acute respiratory tract infections. *Cochrane Database Syst Rev.* 2008;(3):CD006323.
- Linde K, Barrett B, Wölkart K, Bauer R, Melchart D. Echinacea for preventing and treating the common cold. *Cochrane Database Syst Rev.* 2006;(1):CD000530.
- Kassel JC, King D, Spurling GK. Saline nasal irrigation for acute upper respiratory tract infections. *Cochrane Database Syst Rev.* 2010;(3):CD006821.
- Sutter AI, Lemiengre M, Campbell H, Mackinnon HF. Antihistamines for the common cold. *Cochrane Database Syst Rev.* 2003;(3):CD001267.
- Kenealy T, Arroll B. Antibiotics for the common cold and acute purulent rhinitis. *Cochrane Database Syst Rev.* 2013;(6):CD000247.
- Pratter MR. Cough and the common cold: ACCP evidence-based clinical practice guidelines. *Chest.* 2006;129(1 suppl):72S-74S.
- U.S. Food and Drug Administration. Public health advisory: FDA recommends that over-the-counter (OTC) cough and cold products not be used for infants and children under 2 years of age. <http://www.fda.gov/drugs/drugsafety/postmarketdrugsafetyinformationforpatientsandproviders/drugsafetyinformationforhealthcareprofessionals/publichealthadvisories/ucm051137.htm>. Accessed October 12, 2013.
- American Academy of Pediatrics. Withdrawal of cold medicines: addressing parent concerns. <http://www.aap.org/en-us/professional-resources/practice-support/Pages/Withdrawal-of-Cold-Medicines-Addressing-Parent-Concerns.aspx>. Accessed October 12, 2013. ■