

Online Quiz

Test Your Knowledge:

Ten Questions about the Common Cold

This quiz is related to the Best Practice article in the June issue of *PLoS Medicine* (DOI: 10.1371/journal.pmed.0020168).

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Question 1. How is a common cold infection usually spread?

- Through droplets in the air
- Through hand-to-hand contact, with subsequent passage to the nostrils or eyes

Question 2. Roughly what proportion of general practice consultations are taken up by upper respiratory tract infections, nasal congestion, throat complaints, and cough?

- About 3%
- About 10%
- About 30%

Question 3. Which of the following best reflects the evidence on the value of taking vitamin C in doses of 200 mg daily or more to prevent the common cold?

- There is no good evidence at all to suggest that this intervention has any prophylactic benefit in any group that has been studied
- There is good evidence that this intervention reduces common cold incidence in young, healthy children but not in older adults with underlying illnesses
- There is good evidence that this intervention reduces common cold incidence in marathon runners, skiers, and soldiers exposed to significant cold and/or physical stress

Question 4. Which of the following best reflects the evidence on the value of taking vitamin C in doses of 200 mg daily or more for treating the common cold?

- There is consistent evidence that vitamin C treatment shortens the duration of colds
- Although most trials showed no benefit from this intervention, one trial showed that a single dose of 8 g taken on the day of symptom onset could shorten cold duration
- There is consistent evidence that vitamin C treatment definitely does not shorten the duration of colds

Question 5. Which of the following best reflects the evidence on the value of antihistamines for treating the common cold?

- They have no proven beneficial effects on any symptoms of the common cold
- Antihistamines are proven to reduce the duration of cold symptoms
- There is some evidence that some antihistamines can reduce runny nose and sneezing after two days compared with placebo, but the clinical benefits in trials were small

Question 6. Which of the following best reflects the evidence on steam inhalation for treating the common cold?

- There is insufficient evidence to assess whether steam inhalation works, and its effectiveness remains unknown
- There is good evidence from trials that the potential risks (such as infections spread by humidifier units) outweigh the benefits
- There is good evidence from trials that the benefits of steam inhalation on cold symptoms outweigh the potential risks

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Question 7. Which of the following best reflects the evidence on the value of decongestants for treating the common cold?

- The evidence suggests that they reduce the number of symptom days by one day
- The evidence suggests that they reduce nasal congestion over 3–10 hours after a single dose, but there is insufficient evidence for benefits over the longer term
- There is no evidence at all that decongestants are helpful for treating common cold symptoms

Question 8. Which of the following best reflects the evidence on the value of echinacea for treating the common cold?

- RCTs have consistently shown that echinacea reduces cold symptoms and the duration of illness
- Systematic reviews have shown that echinacea has no effect on cold symptoms or the duration of illness
- Neither of the above

Question 9. Which of the following best reflects the evidence on the value of zinc lozenges for treating the common cold?

- Evidence from different systematic reviews is conflicting, so the effectiveness remains unknown
- Systematic reviews have consistently found that zinc lozenges reduce the duration of symptoms
- Systematic reviews have consistently found that zinc lozenges have no benefit in treating the common cold

Question 10. Which of the following best reflects the evidence on the value of antibiotics for treating the common cold?

- Systematic reviews have consistently found that antibiotics shorten the course of the illness, though they are associated with adverse effects
- Systematic reviews have consistently found that antibiotics lead to symptom improvement, although they do not shorten the course of the illness
- There is some evidence to show that antibiotics can increase the chances of recovery at five days in those with nasopharyngeal culture-positive *Haemophilus influenzae*, *Moraxella catarrhalis*, or *Streptococcus pneumoniae*

Answer 1. Through hand-to-hand contact, with subsequent passage to the nostrils or eyes

Transmission of common cold infection is mostly through hand-to-hand contact, with subsequent passage to the nostrils or eyes rather than, as often believed, through droplets in the air [1].

References

1. Lauber B (1996) The common cold. *J Gen Intern Med* 11: 229–236.

Answer 2. About 10%

Upper respiratory tract infections, nasal congestion, throat complaints, and cough are responsible for about 10% of general practice consultations [1].

References

1. Arrol B (2004 May) Common cold. Clinical Evidence. London: BMJ Publishing Group. Available: <http://www.clinicalevidence.com/ceweb/conditionpdf/1510.pdf>. Accessed 1 June 2005.

Answer 3. There is good evidence that this intervention reduces common cold incidence in marathon runners, skiers, and soldiers exposed to significant cold and/or physical stress

A recently updated Cochrane systematic review of randomized controlled trials (RCTs) looked at the value of vitamin C as a prophylaxis against the common cold [1,2]. Incidence was not altered in the subgroup of 23 community studies where prophylactic doses as high as 2 g daily were used, but a subgroup of six studies showed that marathon runners, skiers, and soldiers exposed to significant cold and/or physical stress experienced, on average, a 50% reduction in common cold incidence.

References

1. Douglas RM, Hemilä H, D'Souza R, Chalker EB, Treacy B (2004) Vitamin C for preventing and treating the common cold. *Cochrane Database Syst Rev* 2004: CD000980.
2. Douglas RM, Hemilä H (2005) Vitamin C for preventing and treating the common cold. *PLoS Med* 2: e168. DOI: 10.1371/journal.pmed.0020168

Answer 4. Although most trials showed no benefit from this intervention, one trial showed that a single dose of 8 g taken on the day of symptom onset could shorten cold duration

A recently updated Cochrane systematic review of RCTs looked at the value of vitamin C as a treatment for the common cold [1,2]. For the seven trials that evaluated the therapeutic impact of vitamin C used at the onset of symptoms (all in adults), benefits were not observed for duration of episodes, although one of the large trials recorded a statistically significant reduction in the duration of colds among participants administered a single vitamin C dose of 8 g on the day of symptom onset [3].

References

1. Douglas RM, Hemilä H, D'Souza R, Chalker EB, Treacy B (2004) Vitamin C for preventing and treating the common cold. *Cochrane Database Syst Rev* 2004: CD000980.
2. Douglas RM, Hemilä H (2005) Vitamin C for preventing and treating the common cold. *PLoS Med* 2: e168. DOI: 10.1371/journal.pmed.0020168
3. Anderson TW, Suranyi G, Beaton GH (1974) The effect on winter illness of large doses of vitamin C. *Can Med Assoc J* 111: 31–36.

Answer 5. There is some evidence that some antihistamines can reduce runny nose and sneezing after two days compared with placebo, but the clinical benefits in trials were small

There have been two systematic reviews of the effect of antihistamines on common cold symptoms. The first review included nine RCTs, involving a total of 1,757 adults (seven RCTs in adults with naturally acquired colds and two RCTs in adults with experimentally induced colds) [1]. It found that chlorpheniramine or doxylaminine reduced runny nose and sneezing after two days compared with placebo, but the clinical benefit was small. The second review (32 RCTs, involving 8,228 adults and children with naturally acquired colds and 702 with experimentally induced colds) assessed a wide variety of antihistamines and found no significant difference in overall cold symptoms at 1–10 days between antihistamines and placebo [2].

References

1. D'Agostino RB Sr, Weintraub M, Russell HK, Stepanians M, D'Agostino RB Jr, et al. (1998) The effectiveness of antihistamines in reducing the severity



of runny nose and sneezing: A meta-analysis. *Clin Pharmacol Ther* 64: 579–596.

2. Sutter AI, Lemiengre M, Campbell H, Mackinnon HF (2004) Antihistamines for the common cold. *Cochrane Database Syst Rev* 2004: CD001267.

Answer 6. There is insufficient evidence to assess whether steam inhalation works, and its effectiveness remains unknown

A systematic review of RCTs found insufficient evidence to assess steam inhalation for people with the common cold [1]. The review included six RCTs, involving 319 people (four RCTs in people with naturally acquired colds and two in people with experimentally induced colds). The reviewers could not do a meta-analysis of all of the trials because of heterogeneity in populations, methods used to assess symptoms, and poor reporting in some of the trials.

References

1. Singh M (2004) Heated, humidified air for the common cold. *Cochrane Database Syst Rev* 2004: CD001728.

Answer 7. The evidence suggests that they reduce nasal congestion over 3–10 hours after a single dose, but there is insufficient evidence for benefits over the longer term

One systematic review of four RCTs found that, compared with placebo, decongestants reduced nasal congestion over 3–10 hours after a single dose in people with common cold, but the review found insufficient evidence to assess the effects of longer use of decongestants [1].

References

1. Taverne D, Bickford L, Draper M (2004) Nasal decongestants for the common cold. *Cochrane Database Syst Rev* 2004: CD001953.

Answer 8. Neither of the above

Two systematic reviews (involving a total of eight RCTs) found limited evidence that some preparations of echinacea may improve cold symptoms compared with placebo [1,2]. But the weakness of the trial methods and differences in interventions—more than 200 different preparations based on different plants, different parts of the plant, and different methods of extraction—make it difficult to draw firm conclusions about effectiveness [3].

References

1. Melchart D, Linde K, Fischer P, Kaesmayr J (2004) Echinacea for preventing and treating the common cold. *Cochrane Database Syst Rev* 2004: CD000530.
2. Giles JT, Palat CT 3rd, Chien SH, Chang ZG, Kennedy DT (2000) Evaluation of echinacea for treatment of the common cold. *Pharmacotherapy* 20: 690–697.
3. Arroll B (2004 May) Common cold. *Clinical Evidence*. London: BMJ Publishing Group. Available: <http://www.clinicalevidence.com/ceweb/conditionpdf/1510.pdf>. Accessed 1 June 2005.

Answer 9. Evidence from different systematic reviews is conflicting, so the effectiveness remains unknown

One systematic review found limited evidence that zinc lozenges may reduce duration of cold symptoms at seven days compared with placebo [1], but another review found no significant difference in duration of symptoms [2].

References

1. Marshall I (2004) Zinc for the common cold. *Cochrane Database Syst Rev* 2004: CD001364.
2. Jackson JL, Lesho E, Peterson C (2000) Zinc and the common cold: A meta-analysis revisited. *J Nutr* 130: 1512S–1515S.

Answer 10. There is some evidence to show that antibiotics can increase the chances of recovery at five days in those with nasopharyngeal culture-positive *Haemophilus influenzae*, *Moraxella catarrhalis*, or *Streptococcus pneumoniae*

Two systematic reviews and one additional RCT found no significant difference between antibiotics and placebo in cure or in general improvement at 6–14 days in people with colds [1–3]. The additional RCT compared amoxicillin/clavulanic acid with placebo in 314 adults with naturally acquired colds (of 1–30 days duration) [3]; it found that in a subgroup of people (20%) with nasopharyngeal culture-positive *H. influenzae*, *M. catarrhalis*, or *S. pneumoniae*, antibiotics increased recovery at five days compared with placebo.

References

1. Arroll B, Kenealy T (2004) Antibiotics for the common cold and acute purulent rhinitis. *Cochrane Database Syst Rev* 2004: CD000247.
2. Fahey T, Stocks N, Thomas T (1998) Systematic review of the treatment of upper respiratory tract infection. *Arch Dis Child* 79: 225–230.
3. Kaiser L, Lew D, Hirscher B, Auckenthaler R, Morabia A, et al. (1996) Effects of antibiotic treatment in the subset of common-cold patients who have bacteria in nasopharyngeal secretions. *Lancet* 347: 1507–1510.

References

Anderson TW, Suranyi G, Beaton GH (1974) The effect on winter illness of large doses of vitamin C. *Can Med Assoc J* 111: 31–36.

Arroll B (2004 May) Common cold. *Clinical Evidence*. London: BMJ Publishing Group. Available: <http://www.clinicalevidence.com/ceweb/conditionpdf/1510.pdf>. Accessed 1 June 2005.

Arroll B, Kenealy T (2004) Antibiotics for the common cold and acute purulent rhinitis. *Cochrane Database Syst Rev* 2004: CD000247.

D'Agostino RB Sr, Weintraub M, Russell HK, Stepanians M, D'Agostino RB Jr, et al. (1998) The effectiveness of antihistamines in reducing the severity of runny nose and sneezing: A meta-analysis. *Clin Pharmacol Ther* 64: 579–596.

Douglas RM, Hemila H (2005) Vitamin C for preventing and treating the common cold. *PLoS Med* 2: e168. DOI: 10.1371/journal.pmed.0020168

Douglas RM, Hemila H, D'Souza R, Chalker EB, Treacy B (2004) Vitamin C for preventing and treating the common cold. *Cochrane Database Syst Rev* 2004: CD000980.

Fahey T, Stocks N, Thomas T (1998) Systematic review of the treatment of upper respiratory tract infection. *Arch Dis Child* 79: 225–230.

Giles JT, Palat CT 3rd, Chien SH, Chang ZG, Kennedy DT (2000) Evaluation of echinacea for treatment of the common cold. *Pharmacotherapy* 20: 690–697.

Jackson JL, Lesho E, Peterson C (2000) Zinc and the common cold: A meta-analysis revisited. *J Nutr* 130: 1512S–1515S.

Kaiser L, Lew D, Hirscher B, Auckenthaler R, Morabia A, et al. (1996) Effects of antibiotic treatment in the subset of common-cold patients who have bacteria in nasopharyngeal secretions. *Lancet* 347: 1507–1510.

Lauber B (1996) The common cold. *J Gen Intern Med* 11: 229–236.

Marshall I (2004) Zinc for the common cold. *Cochrane Database Syst Rev* 2004: CD001364.

Melchart D, Linde K, Fischer P, Kaesmayr J (2004) Echinacea for preventing and treating the common cold. *Cochrane Database Syst Rev* 2004: CD000530.

Singh M (2004) Heated, humidified air for the common cold. *Cochrane Database Syst Rev* 2004: CD001728.

Sutter AI, Lemiengre M, Campbell H, Mackinnon HF (2004) Antihistamines for the common cold. *Cochrane Database Syst Rev* 2004: CD001267.

Taverne D, Bickford L, Draper M (2004) Nasal decongestants for the common cold. *Cochrane Database Syst Rev* 2004: CD001953.