

Addressing misconceptions about antibiotics and antibiotic use with patients and families

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Talking points:

Average coughing time for an adult with a respiratory viral illness was almost 18 days. Patients believed their cough was only going to last for about 5 to 9 days.ⁱ

Amoxicillin/clavulanic acid causes antibiotic-associated diarrhea in one out of eight patients (NNTH = 8).ⁱⁱ NNT (for any reasonable antibiotic) to achieve one additional positive outcome at 7 to 12 days is 7 patients.ⁱⁱⁱ

About 1/8 of patients who go to an ER for an adverse drug reaction got the reaction from an antibiotic.^{iv}

Specific and clear instructions for symptom control combined with a delayed prescription for antibiotics significantly decreases antibiotic use without negatively affecting patient satisfaction, symptom duration, or disease severity.^v

Children:

In children (6 months to 12 years) with ear infections or ear symptoms, antibiotics were less likely when the clinicians encouraged the parents to offer their opinion about their child's treatment.^{vi}

Parents are interested in hearing about possible adverse drug reactions; including severe ones. They often consult clinicians to have them examined to rule out an infection that would require antibiotics.^{vii}

"In 90% of children, earache was resolved by seven to eight days, sore throat between two and seven days, croup by two days, bronchiolitis by 21 days, acute cough by 25 days, common cold by 15 days, and non-specific respiratory tract infections symptoms by 16 days."^{viii}

A combination of positive recommendations (symptom control) with negative recommendations (not bacterial/doesn't require antibiotics) gives good satisfaction and is associated with low antibiotic prescribing.^{ix}

Practice Changes:

High clinician empathy, as perceived by patients, can shorten the duration and severity of the common cold.^x

Clinicians are more likely to prescribe antibiotics in "never indicated" and "sometimes indicated" situations as their shift progresses towards the end.^{xi}

Patients have higher satisfaction with not being prescribed an antibiotic for acute bronchitis when it is referred to as a "chest cold."^{xii}

Higher patient satisfaction may be associated with higher mortality.^{xiii}

Useful phrases and strategies (quoted text is from cited article^{xiv})

Negative recommendations	<p>“This is a nasty cold, so antibiotics won’t make you better faster.”</p> <p>“The strep test is negative, meaning your sore throat is caused by a virus, and antibiotics won’t help.”</p> <p>“You have a chest cold, and antibiotics won’t help.”</p>
Positive recommendations	<p>“Taking ibuprofen and drinking plenty of fluids will help you feel better.”</p> <p>“Honey can actually soothe your child’s cough and help her sleep better.”</p>
Co-creating a plan	<p>We need to help you feel better while we are waiting for you to get better. Which symptom is bothering you the most?</p> <p>How do you think that we can help your child feel better while they recover from this?</p>
Empathy	<p>Wow, you feel so bad you are worried about missing work and you need the money. That must be really scary.</p> <p>I’m sorry you aren’t sleeping well. It must be hard to get through your day.</p> <p>It’s tough to see our children feeling ill.</p>
Delayed antibiotic prescriptions	<p>“Your child has an ear infection that will likely clear up on its own. If the ear still hurts in two days or gets worse, call or come back and we will recheck the ears.”</p> <p>“Your child has an ear infection that will likely clear up on its own. Just in case it doesn’t, here is an antibiotic prescription. Fill this prescription in two days if the ear still hurts, or earlier if your child gets worse. Feel free to call me with any questions.”</p>
Contingency plan	<p>“If you are not better in three or four days, call or come back and we can reassess the need for antibiotics then.”</p> <p>“If your child is still sick in a week or if he develops a fever, come back and see me.”</p>

ⁱ Ebell, M. H., Lundgren, J., & Youngpairoj, S. (2013). How long does a cough last? Comparing patients' expectations with data from a systematic review of the literature. *Annals of family medicine*, 11(1), 5–13. doi:10.1370/afm.1430

ⁱⁱ Gillies, M., Ranakusuma, A., Hoffmann, T., Thorning, S., McGuire, T., Glasziou, P., & Del Mar, C. (2015). Common harms from amoxicillin: a systematic review and meta-analysis of randomized placebo-controlled trials for any indication. *CMAJ : Canadian Medical Association journal = journal de l'Association medicale canadienne*, 187(1), E21–E31. doi:10.1503/cmaj.140848

ⁱⁱⁱ Rosenfeld RM, Singer M, Jones S. Systematic review of antimicrobial therapy in patients with acute rhinosinusitis. *Otolaryngol Head Neck Surg*. 2007;137(3 suppl):S32–S45.

^{iv} Budnitz DS, Pollock DA, Weidenbach KN, Mendelsohn AB, Schroeder TJ, Annest JL. (2006). National Surveillance of Emergency Department Visits for Outpatient Adverse Drug Events. *JAMA*. 296(15):1858–1866. doi:10.1001/jama.296.15.1858

^v Little Paul, Moore Michael, Kelly Jo, Williamson Ian, Leydon Geraldine, McDermott Lisa et al. Delayed antibiotic prescribing strategies for respiratory tract infections in primary care: pragmatic, factorial, randomised controlled trial *BMJ* 2014; 348 :g1606

^{vi} Yanmengqian Zhou, Erina L. MacGeorge & Nicole Hackman (2019) Parent-Provider Communication and Antibiotic Prescribing for Pediatric Ear Infections, *Communication Research Reports*, 36:2, 170-178, DOI: [10.1080/08824096.2019.1586666](https://doi.org/10.1080/08824096.2019.1586666)

^{vii} Roberts, R. M., Albert, A. P., Johnson, D. D., & Hicks, L. A. (2015). Can Improving Knowledge of Antibiotic-Associated Adverse Drug Events Reduce Parent and Patient Demand for Antibiotics?. *Health services research and managerial epidemiology*, 2, 2333392814568345. doi:10.1177/2333392814568345

^{viii} Thompson Matthew, Vodicka Talley A, Blair Peter S, Buckley David I, Heneghan Carl, Hay Alastair D et al. Duration of symptoms of respiratory tract infections in children: systematic review *BMJ* 2013; 347 :f7027

^{ix} Mangione-Smith, R., et al., Communication practices and antibiotic use for acute respiratory tract infections in children. *Annals of Family Medicine*, 2015. 13(3): p. 221-227.

^x Rakel, D. P., Hoelt, T. J., Barrett, B. P., Chewning, B. A., Craig, B. M., & Niu, M. (2009). Practitioner empathy and the duration of the common cold. *Family medicine*, 41(7), 494–501.

^{xi} Linder, J.A., et. Al (2014). Time of Day and the Decision to Prescribe Antibiotics. *Jama Intern Med*. 174(12): 2029-2031. Doi: 10.1001/jamainternmed.2014.5225

^{xii} Phillips, T.G. and Hickner, J. (2005) Calling Acute Bronchitis a Chest Cold May Improve Patient Satisfaction with Appropriate Antibiotic Use. *J Am Board Fam Pract*. 18 (6) 459-463; DOI: 10.3122/jabfm.18.6.459

^{xiii} Fenton JJ, Jerant AF, Bertakis KD, Franks P. (2012). The Cost of Satisfaction: A National Study of Patient Satisfaction, Health Care Utilization, Expenditures, and Mortality. *Arch Intern Med*. 172(5):405–411. doi:10.1001/archinternmed.2011.1662

^{xiv} Fleming-Dutra, K.E., Mangione-Smith, R., and Hicks, L.A. (2016). How to Prescribe Fewer Unnecessary Antibiotics: Talking Points That Work with Patients and Their Families. *American Family Physician*. 94(3); 200-202.