

A New Look at an Old Problem: Inappropriate Antibiotics for Acute Respiratory Infections

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Upper respiratory tract infection, bronchitis, pharyngitis, sinusitis—every family physician sees hundreds of patients with these common acute respiratory tract infections each year, so we ought to know how to diagnose and treat them. But the evidence shows that there are large gaps between how these mostly self-limited infections ought to be treated and how we do treat them. The central issue is overuse of antibiotics for these overwhelmingly viral infections. The most recently published doctor-bashing study from the United States (led by a family physician, I might add) shows that antibiotics are prescribed for 65% of episodes of upper respiratory tract infection, 78% of acute bronchitis, 65% of acute pharyngitis, and 81% of acute sinusitis.¹ These percentages have barely budged since 2000, despite the massive public health campaign by the Centers for Disease Control and Prevention to reduce inappropriate use of antibiotics for common acute respiratory infections.

Why do we clinicians have such a hard time mending our wayward prescribing habits? Educating, admonishing, and shaming do not seem to be suffi-

cient. We need a fresh approach based on new insights, and 2 studies of common respiratory infections in this issue of the *Annals*, one about acute pharyngitis and the other about acute sinusitis, provide new insights that could help clinicians reframe the issues and improve performance.

In an observational study of the reasons patients consult with their family physicians for sore throat, van Driel's findings suggest that patients with sore throat consult their physicians not so much to get an antibiotic but to seek relief of their symptoms—pain relief, in this instance.² In this survey of 298 patients with a sore throat, the 3 most common reasons for consulting the physician were to find out the cause of the symptoms, pain relief, and information about the course of the illness. Hope for an antibiotic was ranked 11 out of 13 reasons! Furthermore, desire for pain relief was a strong predictor for hope of receiving an antibiotic. In the past we have blamed patients for demanding prescriptions, but perhaps we have not understood what patients really want from us. Because we have been obsessed with worrying about appropriate use of antibiotics for respiratory infections, we think that sorting out those patients with streptococcal pharyngitis from those with viral sore throat is our most important task. Van Driel's study suggests that pain relief, not establishing the cause of pain, should be at the top of our agenda in treating patients who complain of sore throat. From a pragmatic standpoint, this strategy is one that primary care clinicians can try today. From a research standpoint, I agree with the authors that a randomized trial of aggressive pain management to reduce inappropriate antibiotic prescribing is the next step.

Most cases of acute sinusitis (now called rhinosinusitis) to honor the concomitant nasal symptoms and

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abnormalities) resolve without an antibiotic, because these infections, too, are predominantly viral in origin. Part of the problem with reducing antibiotic treatment of acute sinusitis is that, although most cases are due to viral infection, some are bacterial and do resolve more quickly with an antibiotic. In a previous editorial³ I argued that we need either a new test for accurate diagnosis of bacterial sinusitis (analogous to the rapid strep test for pharyngitis), or we need someone to figure out the constellation of symptoms that differentiates bacterial from viral sinusitis. De Sutter and colleagues have pretty well eliminated the second option by their study published in this issue of the *Annals*.⁴ In a clever secondary analysis of the data from their previous randomized trial of antibiotic treatment of sinusitis, they discovered that none of the typical sinusitis-like symptoms or abnormalities on sinus radiographs had any prognostic value. Furthermore, prognosis was unaffected by antibiotic treatment, no matter what the baseline symptoms. This news is not good. I used to think that I should reserve antibiotics for sicker patients and those with more classical symptoms of bacterial sinusitis, such as purulent nasal discharge and maxillary pain. Not so, according to this analysis of 300 typical family practice patients. The excuses and quasi-legitimate reasons for prescribing an antibiotic for most patients with acute sinusitis are vanishing quickly!

How have these 2 studies reframed my approach to management of acute respiratory infections? I will focus more on symptom relief than on explanations of the differences between viruses and bacteria for all patients with common acute respiratory infections. I will stop guessing which patients with sinusitis

symptoms are most likely to respond to an antibiotic. I will give a million dollar reward to the researcher who develops a test that accurately predicts antibiotic-responsive acute sinusitis.

Readers should note that both of these studies come from the Department of General Practice and Primary Health Care of the University of Ghent in Belgium. I greatly admire their work. I have been following the sparse primary care respiratory infection research literature since 1989, and I must congratulate the Europeans and British on their persistent creativity in investigating the diagnostic and treatment dilemmas surrounding these bread-and-butter conditions of primary care. With a few notable exceptions, where are the US primary care researchers?

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References

1. Gill JM, Fleischut P, Haas S, et al. Use of antibiotics for adult upper respiratory infections in outpatient settings: a national ambulatory network study. *Fam Med*. 2006;38:349-354.
2. van Driel M, de Sutter A, Deveugele M, et al. Are sore throat patients who hope for antibiotics actually asking for pain relief? *Ann Fam Med*. 2006;4:494-499.
3. Hickner J. Acute sinusitis, antibiotics, and the Holy Grail. *J Fam Pract*. 2005;54:152-153.
4. De Sutter A, Lemiengre M, van Maele G, et al. Predicting prognosis and effect of antibiotic treatment in rhinosinusitis. *Ann Fam Med*. 2006;4:486-493.