

REACH Notes

Recent Developments to Promote Judicious Antibiotic Prescribing

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PHARYNGITIS GUIDELINES

Pharyngitis is a potential source of antibiotic overprescribing in children. The vast majority of pharyngitis is caused by common cold viruses such as rhinovirus (20%), coronavirus (5-10%), adenovirus (5%), and herpes simplex viruses (4%).¹

Antibiotics have a limited role in symptomatic relief of pharyngitis, reducing its duration by approximately 1 day.^{2,3} The primary purpose of treating pharyngitis with antibiotics is to prevent acute rheumatic fever and rheumatic heart disease. Therefore, the key to limiting unnecessary antibiotic use is to accurately diagnose the 15% of pediatric pharyngitis that is due to Group A *Streptococci*.

Clinical criteria for the diagnosis of Group A Streptococcal pharyngitis have a poor positive predictive value. The McIssac Score⁴ (a modification of the Centor Strep Score for adults) was validated in a population of children and adults, and is based on the clinical signs and symptoms of fever (>38 C), tender anterior cervical adenopathy, swollen tonsils or tonsillar exudate, absence of a cough, and age less than 15 years old. Patients meeting none of the criteria have a 1% chance of having strep throat. Interestingly, only 53% of children meeting all these criteria have positive cultures for Group A *Streptococcus*. This suggests that the lack of clinical signs may be sufficient to rule out strep throat, but an abundance of signs only warrants testing rather than empiric therapy.

Rapid streptococcal antigen tests are extremely useful in quickly evaluating the need for antibiotics. If the test is negative, then a throat culture is recommended for confirmation. Use of these diagnostic tools has been shown to be more cost-effective than empiric treatment.⁵

Current CDC Guidelines⁶

- Do NOT empirically treat patients when awaiting the results of the rapid test OR the culture. Treatment of pharyngitis within NINE days is sufficient to prevent the occurrence of acute rheumatic fever and its sequelae.
- Antibiotics are not benign. Their risk for rash, abdominal distress, other allergic reactions, and engendering antibiotic resistance due to partial or unneeded exposure should be emphasized to parents.
- Penicillin remains the treatment of choice. To date, there have been no reported penicillin-resistant strains of Group A streptococcus. Recommended dosing is 250mg po bid or tid for children, and 500mg po bid or tid for adolescents or adults. Cephalosporins may be better at eliminating carriage, but are more broad-spectrum than is needed, and may increase antibiotic resistance pressure. There is no clear evidence that elimination of carriage prevents pharyngitis or rheumatic fever.

¹ Bisno AL. Acute pharyngitis. NEJM 2001; 344 (3): 205-211.

² Middleton DB, D'Amico FD, Merenstein JH. Standardized symptomatic treatment versus penicillin as initial therapy for streptococcal pharyngitis. J Periatr. 1988; 113: 1089-94.

³ Krober MS, Bass JW, Michels GN. Streptococcal pharyngitis: placebo-controlled double-blind evaluation of clinical response to penicillin therapy. JAMA 1985; 253:1271-4.

⁴ Ebell MH, Smith MA, Barry HC, Ives K, Carey M. Does this patient have strep throat? JAMA 2000; 284(22): 2912-8.

- ⁵ Lieu TA, Fleisher GR, Schwartz JS. Cost-effectiveness of rapid latex agglutination testing and throat culture for streptococcal pharyngitis. *Pediatrics*. 1990; 85(3): 246-56.
- ⁶ Schwartz B, Marcy SM, Phillips WR, Gerver MA, Dowell SF. Pharyngitis – Principles of judicious use of antimicrobial agents. *Pediatrics* 1998;101: 171-4.