


## A Best Practice from the College of Urgent Care Medicine

### Diagnosis and Treatment of Group-A Streptococcal Pharyngitis in Adults and Children

Date Reviewed	November 13, 2023
 <p>Evidence-based guidelines</p>	<p>Shulman ST, Bisno AL, et. al. Clinical Practice Guideline for the Diagnosis and Management of Group A Streptococcal Pharyngitis: 2012 Update by the Infectious Disease Society of America. <i>Clinical Infectious Diseases</i>, Vol. 55, Issue 10, 15 November 2012, e86-e102. <a href="https://doi.org/10.1093/cid/cis629">https://doi.org/10.1093/cid/cis629</a></p> <p>ESCMID Sore Throat Guideline Group; Pelucchi C, Grigoryan L, Galeone C, Esposito S, Huovinen P, Little P, Verheij T. Guideline for the management of acute sore throat. <i>Clin Microbiol Infect</i>. 2012 Apr;18 Suppl 1:1-28. doi: 10.1111/j.1469-0691.2012.03766.x. PMID: 22432746. <a href="https://onlinelibrary.wiley.com/doi/pdf/10.1111/j.1469-0691.2012.03766">https://onlinelibrary.wiley.com/doi/pdf/10.1111/j.1469-0691.2012.03766</a></p> <p>Gerber MA, Baltimore RS, et. al. Prevention of Rheumatic Fever and Diagnosis and Treatment of Acute Streptococcal Pharyngitis. A Scientific Statement From the American Heart Association Rheumatic Fever, Endocarditis, and Kawasaki Disease Committee of the Council on Cardiovascular Disease in the Young, the Interdisciplinary Council on Functional Genomics and Translational Biology, and the Interdisciplinary Council on Quality of Care and Outcomes Research: <i>Endorsed by the American Academy of Pediatrics</i>. <i>Circulation</i>. 2009;119:1541–1551. <a href="https://doi.org/10.1161/CIRCULATIONAHA.109.191959">https://doi.org/10.1161/CIRCULATIONAHA.109.191959</a></p>
Patient Population	Adults and children presenting with sore throat
Rationale	Sore throat is a common presenting complaint in Urgent Care. The overwhelming majority of these patients have viral pharyngitis or non-infectious cause of sore throat with a very low pretest probability for streptococcal disease. For this reason, not all patients need rapid streptococcal antigen testing. Similarly, most patients do not require antibiotic treatment unless there is a high likelihood they have streptococcal pharyngitis. With greater emphasis being placed on Antibiotic Stewardship and curtailing the prescribing of unnecessary antibiotics for viral disease, this guideline makes recommendations for appropriate testing and treatment of patients with sore throat in the Urgent Care setting.
Introduction	Sore throat is one of the most common complaints seen in emergency medicine and Urgent Care. Although many patients

	<p>receive antibiotics for this complaint, only 5-15% of adults, and only 15-35% of children in the US will have a Group A streptococcal (GAS) infection (Mustafa). Unnecessary antibiotic prescribing for sore throats has been documented in the US in more than 50% of advanced practice nurses and more than 65% of physicians (Ellis).</p> <p>The treatment of GAS should be aimed at providing symptom relief, shortening the duration of illness, preventing complications such as abscess or rheumatic fever, and reducing the risk of contagion. At the same time, it should also minimize the use of antibiotics when not clinically indicated (Mustafa).</p>
<p>Key Points for Urgent Care (Strength of recommendation, quality of evidence), based on GRADE (Grading of Recommendations Assessment, Development, and Evaluation) criteria (Guyatt).</p>	<ul style="list-style-type: none"> <li>• Rapid antigen detection testing (RADT) should be performed on patients suspected of having GAS as clinical features alone do not reliably discriminate GAS from viral pharyngitis. (strong, high)</li> <li>• When overt viral features of cough, rhinorrhea, oral ulcerations, or hoarseness are present, no testing should be performed. (strong, high)</li> <li>• Positive RADTs are highly specific and do not need to be confirmed with a traditional culture. (strong, high)</li> <li>• Back up throat cultures for negative RADT should not routinely be sent on ADULTS because of the low incidence of rheumatic fever and suppurative complications in these patients. (strong, moderate) For children, see below.</li> <li>• Anti-streptococcal antibody titers should not be used. (strong, high)</li> <li>• Diagnostic testing should not be done on children &lt; 3 years as rheumatic fever is rare in these groups. (strong, moderate) Testing may be considered for children &lt; 3 years when a known exposure such as a sibling has occurred. (strong, moderate)</li> <li>• Follow up post treatment testing should not be performed. (strong, high)</li> <li>• Diagnostic testing or empiric treatment of asymptomatic household contacts is not recommended. (strong, moderate)</li> <li>• Patients with test positive GAS pharyngitis should be treated with the appropriate antibiotic, dose and duration. Penicillin or amoxicillin is the first line (see Table 1). (strong, high)</li> <li>• Patients with a history of allergy to penicillin can be treated with a first-generation cephalosporin unless they have a history of anaphylaxis. Clindamycin or a macrolide may be used in patients with a history of anaphylaxis to penicillin. (strong, moderate)</li> <li>• Analgesics and antipyretics should be considered for symptom control. (strong, high)</li> <li>• Aspirin should be avoided in children. (strong, high)</li> <li>• Corticosteroids are not routinely recommended. (weak, moderate) See below.</li> <li>• Patients with recurrent pharyngitis may be either having recurrent episodes or may be carriers with repeated viral infections. (strong, moderate)</li> </ul>

	<ul style="list-style-type: none"> <li>• Patients who are carriers should not be identified or treated because they do not develop complications or spread disease. (strong, moderate)</li> </ul>
<p>Discussion</p>	<p>One of the most important points when considering treatment for an exudative pharyngitis is not treatment to cure the disease of streptococcal pharyngitis but to provide symptom relief, prevent transmission to others, and prevent complications, the most serious of which are peritonsillar or retropharyngeal abscess and rheumatic fever, especially in the pediatric population. These complications only occur in the US in a small number of patients. Treatment of uncomplicated streptococcal pharyngitis with antibiotics only shortens the course of illness by hours to 2 days, and many cases go undetected and improve spontaneously. Most patients will improve in 3-5 days without treatment (Brink). The use of antibiotics for all sore throats without testing or with negative testing is inappropriate, potentially dangerous, and contributes to the worldwide problem of antibiotic resistance. Clinicians should prescribe antibiotics to only those patients with a high likelihood of GAS who test positive for the infection. Treating a patient for GAS without a conclusively positive test may lead to over 40% of adult patients being prescribed antibiotics unnecessarily (Mustafa).</p> <p>Diagnosis of GAS by using the criteria of pharyngeal exudate and enlarged, tender cervical lymphadenopathy has a specificity of &gt;90%, but a sensitivity of &lt;15% (Ebell). Clinical scoring systems, such as Centor and McIsaac improve the ability to detect GAS infection, but also have been shown to have low sensitivity (50%) but high specificity (82-98%). It is recommended to use these criteria to determine who to test, NOT who to treat.</p> <p>Rapid antigen detection testing (RADT) is available in most Urgent Care centers, with specificity approaching 99%, and sensitivity between 77-92%. Because of the lower sensitivity and higher risk of complications in children, negative RADT's should be confirmed with a PCR test or culture. Since adults are far less likely to develop complications, a confirmatory test is not required in these patients.</p> <p>If a rapid test is negative, and a culture or PCR is sent to the lab, the likelihood of developing complications in 1-2 while waiting for results is very small. The clinician need not start the patient on antibiotics while waiting for results. If, however, one chooses to do this, the antibiotic should be discontinued if the culture returns negative.</p> <p>Cultures that return positive for other bacteria, such as Group C and G streptococcus need not be treated; these bacteria do not result in the complications associated with GAS. Ordering a culture only for GAS will prevent the return of these results.</p>

	<p>Patients should be treated based on the appropriate symptoms, (&gt;2-3 Centor Criteria or similar) and a positive test. Patients who are minimally or not symptomatic may have viral disease in the setting of a carrier state. Patients who are carriers should not be treated.</p> <p>First-line treatment for GAS pharyngitis is penicillin or amoxicillin. For children the liquid preparation is not particularly palatable, however amoxicillin in liquid form generally is quite palatable. Conversely, penicillin V tablets are quite small and easier to swallow than the larger amoxicillin tablets. The clinician should take this into account when prescribing to ensure compliance with treatment. Chewable preparations may also be available. Benzathine Penicillin G given in a single dose IM may be appropriate in some cases to improve compliance. It is, however, quite painful.</p> <p>Patients who have mild, non-anaphylactoid allergies to penicillin can be treated with a first-generation cephalosporin with little to no loss in efficacy. Those with a true anaphylaxis type reaction to penicillin or amoxicillin should be treated with clindamycin or a macrolide, keeping in mind that resistance to macrolide antibiotics is increasing in the US (Green).</p> <p>See Table 4 for recommendations and dosages.</p> <p>Symptomatic treatment should also be recommended and include acetaminophen and NSAID's for fever and pain. Aspirin should never be given to children. Over the counter sore throat drops or sprays containing benzocaine (NOT cough drops) may provide temporary relief. Dietary recommendations such as soft foods may also be of value. When initial guidelines were written, there was not enough clinical evidence to recommend corticosteroids for the treatment of sore throat (Principi); however, a more recent meta-analysis showed the benefit of a single dose of corticosteroids for relief of pain with minimal side effects (Sadeghirad).</p> <p>Patients may return to work or school 24 hours after the first dose of antibiotics as long as fever has resolved, and they feel well enough to return.</p> <p>Patients with suspected abscess, severe swelling, inability to swallow (drooling), or dehydration should be referred for emergency evaluation forthwith. Patients with significant recurrent infections, multiple antibiotic allergies, or history of abscess should be referred to ENT for further evaluation.</p>
Additional References	Guyatt GH, Oxman AD, Vist GE, et al. GRADE: an emerging consensus on rating quality of evidence and strength of

	<p>recommendations, <i>BMJ</i>, 2008, vol. 336 (pg. 924-6)  <a href="https://doi.org/10.1136/bmj.39489.470347.AD">https://doi.org/10.1136/bmj.39489.470347.AD</a></p> <p>Mustafa Z, Ghaffari M. Diagnostic Methods, Clinical Guidelines, and Antibiotic Treatment for Group A Streptococcal Pharyngitis: A Narrative Review. <i>Front Cell Infect Microbiol</i> 10:563627.</p> <p>Ellis C, Camacho-Walsh M, AGREE Appraisal of Clinical Practice Guideline for the Diagnosis and Management of Group A Streptococcal Pharyngitis: 2012 Update by the Infectious Diseases Society of America. <i>Advanced Emergency Nursing Journal</i> 37(1):p 34-41, January/March 2015.</p> <p>Brink WR, Rammelkamp CH Jr, Denny FW, Wannamaker LW. Effect in penicillin and aureomycin on the natural course of streptococcal tonsillitis and pharyngitis. <i>Am J Med.</i> 1951 Mar;10(3):300-8. doi: 10.1016/0002-9343(51)90274-4. PMID: 14819035.</p> <p>Ebell, M, Diagnosis of Streptococcal Pharyngitis. <i>Am Fam Physician.</i> 2014;89(12):976-977</p> <p>Green MD, Beall B, et. al. Multicentre surveillance of the prevalence and molecular epidemiology of macrolide resistance among pharyngeal isolates of group A streptococci in the USA, <i>Journal of Antimicrobial Chemotherapy</i>, Volume 57, Issue 6, June 2006, Pages 1240–1243, <a href="https://doi.org/10.1093/jac/dkl101">https://doi.org/10.1093/jac/dkl101</a></p> <p>Principi, N., Bianchini, S., Baggi, E. <i>et al.</i> No evidence for the effectiveness of systemic corticosteroids in acute pharyngitis, community-acquired pneumonia and acute otitis media. <i>Eur J Clin Microbiol Infect Dis</i> 32, 151–160 (2013).  <a href="https://doi.org/10.1007/s10096-012-1747-y">https://doi.org/10.1007/s10096-012-1747-y</a></p> <p>Sadeghirad B, Siemieniuk R A C, Brignardello-Petersen R, Papola D, Lytvyn L, Vandvik P O et al. Corticosteroids for treatment of sore throat: systematic review and meta-analysis of randomized trials <i>BMJ</i> 2017; 358:j3887 doi:10.1136/bmj.j3887</p>
Reviewers	Tracey Q. Davidoff, MD, FCUCM and Cesar Mora Jaramillo, MD FAAFP FCUCM
Attachments (flow charts, graphics, tables, etc.)	See below