



NATIONAL GUIDELINE CLEARINGHOUSE™ (NGC)  
GUIDELINE SYNTHESIS

PHARYNGITIS/SORE THROAT

Guidelines

1. American College of Physicians (ACP). [Principles of appropriate antibiotic use for acute pharyngitis in adults](#). Ann Intern Med 2001 Mar 20; 134(6):506-8 [1 reference]
2. Finnish Medical Society Duodecim (FMSD). [Sore throat and tonsillitis](#). In: EBM Guidelines. Evidence-Based Medicine [CD-ROM]. Helsinki, Finland: Duodecim Medical Publications Ltd.; 2004 May 13. [9 references]
3. Infectious Diseases Society of America (IDSA). [Practice guidelines for the diagnosis and management of group A streptococcal pharyngitis](#). Clin Infect Dis 2002 Jul 15; 35(2):113-25 [96 references]

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INTRODUCTION:

A direct comparison of guidelines issued by ACP, FMSD, and IDSA for managing patients with acute pharyngitis (sore throat) in the outpatient setting is provided in the tables below. This comparison is restricted to recommendations for uncomplicated cases of acute pharyngitis where group A beta-hemolytic streptococcal (GABHS) pharyngitis is suspected. It does not include recommendations for high-risk patients, patients with severe symptoms such as respiratory distress, or other complicating factors of GABHS pharyngitis such as peritonsillar abscess (quinsy) or retropharyngeal abscess. High-risk patients are those with a personal history or family member with a history of acute rheumatic fever, specifically, those who have had rheumatic carditis or valvular disease. Additional recommendations addressing these patient populations may be found in the individual guidelines.

[Table 1](#) compares the scope of each of the guidelines. [Table 2](#) compares recommendations for diagnosis and treatment. Potential benefits of implementing the recommendations of each guideline are presented in the last section of this table.

The level of evidence supporting the major recommendations is also identified, with the definitions of the rating schemes used by FMSD and IDSA included in [Table 3](#). References supporting selected recommendations for the FMSD guideline are also provided in this table.

Following the content comparison tables, the areas of agreement and differences among the guidelines are identified.

Abbreviations used in the text and tables follow:

- ACP, American College of Physicians
- ARF, acute rheumatic fever
- FMSD, Finnish Medical Society Duodecim
- GABHS, group A beta-hemolytic streptococcal
- IDSA, Infectious Diseases Society of America
- RADT, rapid antigen detection test
- RST, rapid strep test

TABLE 1: SCOPE	
Objectives	
ACP (2001)	To provide recommendations on appropriate antibiotic use for acute pharyngitis in adults
FMSD (2004)	Evidence-Based Medicine Guidelines collect, summarize, and update the core clinical knowledge essential in general practice. The guidelines also describe the scientific evidence underlying the given treatment recommendations.
IDSA (2002)	<ul style="list-style-type: none"> <li>• To provide recommendations for the accurate diagnosis and optimal treatment of group A streptococcal pharyngitis</li> <li>• To update the 1997 guideline issued by IDSA on diagnosis and management of group A streptococcal pharyngitis [Clin Infect Dis. 1997 Sep; 17(3):574-83]</li> </ul>
Target Population	
ACP (2001)	<ul style="list-style-type: none"> <li>• United States</li> <li>• Adults (&gt;18 years of age) with acute pharyngitis</li> </ul>

<p>FMSD (2004)</p>	<ul style="list-style-type: none"> <li>• Finland</li> <li>• Children and adults with sore throat and tonsillitis</li> </ul>
<p>IDSA (2002)</p>	<ul style="list-style-type: none"> <li>• United States</li> <li>• Pediatric, adolescent, and adult outpatients with a complaint of sore throat</li> </ul>
<p>Interventions and Practices Considered</p>	
<p>ACP (2001)</p>	<p>Diagnosis</p> <ul style="list-style-type: none"> <li>• No recommendations offered</li> </ul> <p>Treatment</p> <ul style="list-style-type: none"> <li>• Symptomatic treatment (analgesics, antipyretics, supportive care)</li> <li>• Antibiotic therapy depending on the likelihood of GABHS: penicillin; erythromycin</li> </ul>
<p>FMSD (2004)</p>	<p>Diagnosis</p> <ul style="list-style-type: none"> <li>• Clinical assessment, including physical examination of the pharynx, neck palpation, and checking for presence of rash or other foci of infection</li> <li>• Laboratory tests: throat culture or rapid test for streptococci</li> </ul> <p>Treatment/Secondary Prevention</p> <ul style="list-style-type: none"> <li>• Symptomatic treatment with analgesics (paracetamol and ibuprofen) and lidocaine spray</li> <li>• Antibiotic therapy for confirmed cases of group A streptococci <ul style="list-style-type: none"> <li>• Penicillin V; oral cephalexin or cephadroxil in case of penicillin allergy</li> <li>• Cephalexin or cephadroxil as first line therapy in recurrent infection; clindamycin</li> </ul> </li> <li>• Indications for tonsillectomy</li> </ul>
<p>IDSA (2002)</p>	<p>Diagnosis</p> <ul style="list-style-type: none"> <li>• Consideration of clinical and epidemiologic features to estimate probability of GABHS infection</li> <li>• Laboratory confirmation of possible GABHS pharyngitis: throat culture, rapid antigen detection test (RADT, also known as rapid strep test [RST], rapid strep screen, or rapid antigen screen)</li> </ul>

	<p>Treatment</p> <ul style="list-style-type: none"> <li>• Symptomatic treatment if diagnosis is confidently excluded on clinical and epidemiological ground or GABHS is ruled out on the basis of laboratory tests</li> <li>• Antimicrobial therapy for laboratory confirmed cases of GABHS</li> <li>• First line: Oral penicillin V or intramuscular benzathine penicillin G; Amoxicillin for young children; Erythromycin for penicillin-allergic patients</li> <li>• Alternative: First or second generation cephalosporins</li> </ul> <p>Management</p> <ul style="list-style-type: none"> <li>• Management of patients with repeated episodes of acute pharyngitis and cultures or RADTs positive for GABHS</li> </ul>
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TABLE 2: COMPARISON OF RECOMMENDATIONS	
DIAGNOSIS	
Clinical Presentation	
ACP (2001)	No recommendations offered
FMSD (2004)	<p><u>Risk Groups</u></p> <ul style="list-style-type: none"> <li>• Streptococci: children above 3 years and young adults (15 to 24 years)</li> </ul> <p><u>Investigations</u></p> <ul style="list-style-type: none"> <li>• Examination of the pharynx: peritonsillar oedema, exudate, trismus</li> <li>• Palpation of the neck <ul style="list-style-type: none"> <li>• Enlarged lymph nodes in other locations than the jaw angle: mononucleosis?</li> <li>• Enlarged, tender thyroid gland: thyroiditis?</li> </ul> </li> <li>• Rash: viruses, erythrogenic strains of group A streptococci, arcanobacterium?</li> <li>• Oedema of the eye lids: mononucleosis? See the Finnish Medical Society Duodecim guideline "Mononucleosis."</li> <li>• Other focuses of infection: sinuses, ears, teeth, lower respiratory tract</li> </ul>

<p>IDSA (2002)</p>	<p>The signs and symptoms of group A streptococcal and other (most frequently viral) pharyngitides overlap broadly.</p> <p>The diagnosis of acute group A streptococcal pharyngitis should be suspected on clinical and epidemiological grounds.</p> <p>Epidemiological features suggestive of GABHS include:</p> <ul style="list-style-type: none"> <li>• Children between 5 and 15 years of age</li> <li>• Seasonal occurrence (winter, early spring) in temperate climates</li> <li>• Recent close contact with a documented case of streptococcal pharyngitis</li> <li>• Known high prevalence of GABHS infections in the community</li> </ul> <p>Suggestive clinical findings include:</p> <ul style="list-style-type: none"> <li>• Sudden onset sore throat</li> <li>• Severe pain on swallowing</li> <li>• Fever</li> </ul> <p>Headache, nausea, vomiting and abdominal pain may also be present, especially in children. On examination, patients have tonsillopharyngeal erythema with or without exudates and tender, enlarged anterior cervical lymph nodes (lymphadenitis). Other findings may include a beefy, red, swollen uvula; petechiae on the palate; excoriated nares (especially in infants); and a scarlatiniform rash.</p> <p>However, none of these clinical findings is specific for GABHS pharyngitis. Conversely, the absence of fever or the presence of clinical features such as conjunctivitis, cough, hoarseness, coryza, anterior stomatitis, discrete ulcerative lesions, viral exanthem, and diarrhea strongly suggest a viral rather than a streptococcal etiology.</p>
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Clinical Scoring Systems	
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<p>ACP (2001)</p>	<p>No recommendations offered</p>
<p>FMSD (2004)</p>	<p>No recommendations offered</p>
<p>IDSA (2002)</p>	<p>Not recommended.</p> <p>Efforts have been made to incorporate the clinical and epidemiological features of acute pharyngitis into scoring systems that attempt to predict the probability that a particular illness is caused by GABHS. These clinical scoring systems are helpful in identifying patients who are at such low risk of streptococcal infection that performance of a throat culture or an RADT is usually unnecessary. However, the signs and symptoms of streptococcal and nonstreptococcal pharyngitis</p>

	<p>overlap too broadly for diagnosis to be made with the requisite diagnostic precision on clinical grounds alone. The clinical diagnosis of GABHS pharyngitis cannot be made with certainty even by the most experienced physicians, and bacteriologic confirmation is required. (category A, grade II)</p>
<p>Laboratory Confirmation of Diagnosis - Who should be tested?</p>	
<p>ACP (2001)</p>	<p>No recommendations offered</p>
<p>FMSD (2004)</p>	<p>For all patients with suspected streptococcal pharyngitis, streptococcal culture or rapid test is the most important investigation. Clinical assessment is not accurate in determining the microbial aetiology.</p>
<p>IDSA (2002)</p>	<p>The diagnosis of acute group A streptococcal pharyngitis should be suspected on clinical and epidemiological grounds and then supported by performance of a laboratory test. A positive result of either throat culture or RADT provides adequate confirmation of the presence of GABHS in the pharynx. However, for children and adolescents, a negative RADT result should be confirmed with a throat culture result, unless the physician has ascertained in his or her own practice that the RADT used is comparable to a throat culture. Because of the epidemiological features of acute pharyngitis in adults (e.g., low incidence of streptococcal infection and extremely low risk of rheumatic fever), diagnosis of this infection in adults on the basis of the results of an RADT, without confirmation of negative RADT results by negative results of culture, is an acceptable alternative to diagnosis on the basis of throat culture results. The generally high specificity of RADTs should minimize overprescription of antimicrobials for treatment of adults (category A, grade II).</p> <p>Selective use of diagnostic studies is recommended. Testing usually need not be done for patients with acute pharyngitis that has clinical and epidemiological features not suggestive of a group A streptococcal etiology.</p>
<p>Laboratory utilization - Which test, a rapid strep test [RST; rapid antigen detection test (RADT); rapid strep screen] or throat culture, should be ordered initially?</p>	
<p>ACP (2001)</p>	<ul style="list-style-type: none"> <li>• No recommendations offered</li> </ul>
<p>FMSD (2004)</p>	<ul style="list-style-type: none"> <li>• Culture of a throat swab is the most accurate and least expensive method, provided that notification of the result to the patient and delivery of the prescription to the pharmacy are organized effectively. <ul style="list-style-type: none"> <li>• Streptococcal culture also reveals non-A streptococci (no inhibition of hemolysis around a bacitracin disk).</li> </ul> </li> </ul>

	<ul style="list-style-type: none"> <li>If a rapid test is used, a negative result should be confirmed by culture (confirmation of a negative test is not necessary in children under the age of 3 years, as streptococcal disease is uncommon in this age group).</li> </ul>
<p>IDSA (2002)</p>	<p>Either throat culture or RADT can be used to confirm the diagnosis of GABHS. A positive result of either throat culture or RADT provides adequate confirmation of the presence of group A beta-hemolytic streptococci in the pharynx.</p> <p>For children and adolescents, a negative RADT result should be confirmed with conventional blood agar plate culture results, unless the physician has ascertained in his or her own practice that the RADT used is comparable to a throat culture (category A, grade II).</p> <p>Because of the epidemiological features of acute pharyngitis in adults (e.g., low incidence of streptococcal infection and extremely low risk of rheumatic fever), diagnosis of this infection in adults on the basis of the results of an RADT, without confirmation of negative RADT results by negative results of culture, is an acceptable alternative to diagnosis on the basis of throat culture results (category A, grade II).</p> <p>Throat Culture. Culture of a throat swab on a sheep-blood agar plate remains the standard for the documentation of the presence of group A streptococci in the upper respiratory tract and for the confirmation of the clinical diagnosis of acute streptococcal pharyngitis (category A grade II). If done correctly, culture of a single throat swab on a blood agar plate has a sensitivity of 90 to 95% for the detection of the presence of group A beta-hemolytic streptococci in the pharynx (category A grade II).</p> <p>RADT. A disadvantage of culturing a throat swab on blood agar plates is the delay (overnight or longer) in obtaining the result. RADTs have been developed for the identification of group A beta-hemolytic streptococci directly from throat swabs. Although these rapid tests are more expensive than blood agar culture, they provide results faster. Rapid identification and treatment of patients with streptococcal pharyngitis can reduce the risk of the spread of group A beta-hemolytic streptococci, allowing the patient to return to school or work sooner, and can reduce the acute morbidity associated with the illness (category A, grade II). The use of RADTs for certain populations (e.g., patients seen in emergency departments) has been shown to significantly increase the number of patients appropriately treated for streptococcal pharyngitis, compared with use of traditional throat cultures.</p> <p>The great majority of the RADTs that are currently available have an excellent specificity of 95%, compared with blood agar plate culture (category A, grade II). This means that false-positive test results are</p>

	<p>unusual, and, therefore, therapeutic decisions can be made with confidence on the basis of a positive test result. Unfortunately, the sensitivity of most of these tests is 80 to 90%, or even lower, compared with blood agar plate culture (category A, grade II).</p>
<p>TREATMENT</p>	
<p>Treatment Decisions</p> <ul style="list-style-type: none"> <li>• Who should be treated?</li> <li>• When should antibiotics be used?</li> </ul>	
<p>ACP (2001)</p>	<p>All patients with pharyngitis should be offered appropriate doses of analgesics, antipyretics, and other supportive care.</p> <p>Physicians should limit antimicrobial prescriptions to patients who are most likely to have GABHS. To determine who are the most likely the following strategies are suggested:</p> <ol style="list-style-type: none"> <li>a. Empirical antibiotic treatment of adults with at least three of four clinical criteria (history of fever, tonsillar exudates, tender anterior cervical lymphadenopathy, and absence of cough) and non-treatment of all others</li> <li>b. Empirical treatment of adults with all four clinical criteria, rapid antigen testing of patients with three (or perhaps two) clinical criteria, and treatment of those with positive test results and non-treatment of all others</li> </ol>
<p>FMSD (2004)</p>	<ul style="list-style-type: none"> <li>• The physician should see all children and those adults who have an underlying disease, pain in the sinuses or in the ear, productive cough, or trismus.</li> <li>• Adult patients can usually be examined by a nurse, who takes a streptococcal test.</li> <li>• Antibiotics are indicated only for patients with a positive culture or rapid test for either <ul style="list-style-type: none"> <li>• Group A streptococci, or</li> <li>• Any streptococci if the symptoms are severe, particularly during an epidemic</li> </ul> </li> <li>• If the patient has severe symptoms, a one-day dose of antibiotic can be given while waiting for the result of the bacterial culture. If the result is negative, the antibiotic should be discontinued.</li> </ul>
<p>IDSA (2002)</p>	<p>Antimicrobial therapy is indicated for persons with symptomatic pharyngitis if the presence of an organism in the throat is confirmed by culture or RADT.</p>

	<p>If there is clinical or epidemiological evidence that results in a high index of suspicion, antimicrobial therapy can be initiated while the physician is waiting for laboratory confirmation, provided that the therapy is discontinued if the diagnosis of streptococcal pharyngitis is not confirmed by results of laboratory test.</p>
<p>Antibiotic Selection and Duration</p>	
<p>ACP (2001)</p>	<p>The preferred antimicrobial agent for treatment of acute GABHS pharyngitis is penicillin, or erythromycin in penicillin-allergic patients. No recommendations are offered for length of antibiotic therapy.</p>
<p>FMSD (2004)</p>	<ul style="list-style-type: none"> <li>• Penicillin V 1.5 million units x 2 x 10</li> <li>• In case of penicillin allergy: oral cephalexin 750 mg x 2 or cephadroxil 1 g x 1 (Deeter et al., 1992; DARE-953519, 1999) [A].</li> <li>• It is not necessary to start antibiotics immediately: a delay of 1 (-3) day(s) does not increase complications or delay the resolution of acute disease.</li> <li>• Antibiotics shorten the duration of symptoms somewhat ("Antibiotics for sore throat", 2002) [A] and reduce the risk of rheumatic fever ("Penicillin for secondary prevention of rheumatic fever", 2002) [C].</li> <li>• An analgesic (Thomas, Del Mar, &amp; Glasziou, 2000; DARE-20018156, 2002) [B] (paracetamol and ibuprofen are the safest) is more effective than antibiotics against symptoms. Pain at swallowing can even be treated with lidocaine spray.</li> </ul>
<p>IDSA (2002)</p>	<ul style="list-style-type: none"> <li>• Patients with acute streptococcal pharyngitis should receive therapy with an antimicrobial agent in a dosage and for a duration that is likely to eradicate the infecting organism from the pharynx.</li> <li>• On the basis of penicillin's narrow spectrum of antimicrobial activity, the infrequency with which it produces adverse reactions, and its modest cost, it is the drug of choice for non-allergic patients (category A, grade II). A 10-day course of penicillin is recommended. Intramuscular benzathine penicillin G is preferred for patients who are unlikely to complete a full 10-day course of oral therapy (category A, grade II).</li> <li>• Amoxicillin is often used in place of penicillin V as oral therapy for young children; the efficacy appears to be equal. This choice is primarily related to acceptance of the taste of the suspension.</li> <li>• Erythromycin is a suitable alternative for patients allergic to penicillin. First-generation cephalosporins are also acceptable for patients allergic to penicillin who do not manifest immediate-type hypersensitivity to beta-lactam antibiotics.</li> <li>• For the rare patient infected with an erythromycin-resistant strain of group A Streptococcus who is unable to tolerate beta-lactam antibiotics, clindamycin is an appropriate alternative.</li> </ul>

Benefits of Antibiotics for GABHS	
ACP (2001)	<ul style="list-style-type: none"> <li>• Provide symptom relief by decreasing the duration of some symptoms by 1 to 2 days</li> <li>• Decrease the risk for already rare complications (acute rheumatic fever, acute glomerulonephritis), and suppurative complications, such as peritonsillar abscess</li> <li>• Decrease spread of disease in areas of overcrowding or close contact, especially if small children may be exposed</li> </ul>
FMSD (2004)	<ul style="list-style-type: none"> <li>• Antibiotics are effective in the prevention of acute rheumatic fever following acute tonsillitis.</li> <li>• Antibiotics reduce the duration of symptoms of sore throat by about 8 hours overall.</li> </ul>
IDSA (2002)	<ul style="list-style-type: none"> <li>• Prevention of acute rheumatic fever</li> <li>• Prevention of suppurative complications</li> <li>• Improvement of clinical symptoms and signs</li> <li>• Reduction in transmission of GABHS to close contacts</li> </ul>

TABLE 3: EVIDENCE RATING SCHEMES AND REFERENCES	
FMSD (2004)	<p>Levels of Evidence</p> <p>A: Strong research-based evidence. Multiple relevant, high-quality scientific studies with homogeneous results.</p> <p>B: Moderate research-based evidence. At least one relevant, high-quality study or multiple adequate studies.</p> <p>C: Limited research-based evidence. At least one adequate scientific study.</p> <p>D: No research-based evidence. Expert panel evaluation of other information.</p> <p>References</p> <p>Antibiotics for sore throat. The Cochrane Database of systematic reviews. CD000023. In: Cochrane Library [database online]. Issue 2. Oxford: Update Software; 2002</p> <p>Deeter RG, Kalman DL, Rogan MP, Chow SC. Therapy for pharyngitis</p>

	<p>and tonsillitis caused by group A beta-hemolytic streptococci: a meta-analysis comparing the efficacy and safety of cefadroxil monohydrate versus oral penicillin V. Clin Ther 1992 Sep-Oct; 14(5): 740-54.</p> <p>Penicillin for secondary prevention of rheumatic fever. The Cochrane Database of systematic reviews. CD002227. In: Cochrane Library [database online]. Issue 3. Oxford: Update Software; 2002</p> <p>The Database of Abstracts of Reviews of Effectiveness (University of York), Database no: DARE-953519. In: Cochrane Library [database online]. Issue 4. Oxford: Update Software; 1999</p> <p>Thomas M, Del Mar C, Glasziou P. How effective are treatments other than antibiotics for acute sore throat. Br J Gen Pract 2000 Oct; 50(459):817-20. [29 references]</p>
<p>IDSA (2002)</p>	<p>Strength of recommendation:</p> <ul style="list-style-type: none"> <li>A. Good evidence to support a recommendation for use.</li> <li>B. Moderate evidence to support a recommendation for use.</li> <li>C. Poor evidence to support a recommendation for or against use.</li> <li>D. Moderate evidence to support a recommendation against use.</li> <li>E. Good evidence to support a recommendation against use.</li> </ul> <p>Quality of evidence</p> <ul style="list-style-type: none"> <li>I. Evidence from at least one properly randomized, controlled trial.</li> <li>II. Evidence from at least one well-designed clinical trial without randomization, from cohort or case-controlled analytic studies (preferably from more than one center), or from multiple time-series studies or dramatic results from uncontrolled experiments.</li> <li>III. Evidence from opinions of respected authorities based on clinical experience, descriptive studies, or reports of expert committees.</li> </ul>

#### GUIDELINE CONTENT COMPARISON

The American College of Physicians (ACP), Finnish Medical Society Duodecim (FMSD), and the Infectious Diseases Society of America (IDSA) present recommendations for managing acute pharyngitis in adults in the primary care setting. FMSD and IDSA also address the pediatric population and include diagnostic testing recommendations. FMSD and IDSA provide explicit reasoning

behind their judgments, rating the evidence upon which recommendations are based. Although ACP does not offer an evidence-rating scheme, their guideline is accompanied by a background paper, part 2 of the clinical practice guideline that supports their management recommendations [Cooper RJ, Hoffman JR, Bartlett JG, Besser RE, Gonzales R, Hickner JM, Sande MA. Principles of appropriate antibiotic use for acute pharyngitis in adults: background. *Ann Intern Med* 2001 Mar 20; 134(6): 509-17].

FMSD also issues recommendations regarding tonsillectomy for recurrent sore throat in children and adults. IDSA briefly addresses surgical treatment for recurrent pharyngitis. ACP, however, does not discuss indications for elective tonsillectomy. IDSA contains more detailed information regarding variables affecting throat culture and laboratory results than the other organizations. FMSD and IDSA also detail recommendations for repeated diagnostic testing and management of patients with repeated episodes of acute pharyngitis and positive laboratory tests for GABHS. To aid implementation and evaluation of their guidelines, IDSA describes indicators of quality care.

### Areas of Agreement

ACP, FMSD, and IDSA each recommend antibiotic treatment of GABHS pharyngitis, to prevent acute rheumatic fever and to shorten the duration of signs and symptoms. Similar features of the diagnostic testing strategies proposed by FMSD and IDSA include selective use of laboratory tests (RADT and throat culture) for patients suspected of having GABHS pharyngitis. Management strategies for pharyngitis presented by ACP, FMSD, and IDSA share a common goal of refraining from antibiotic treatment if GABHS infection is an unlikely cause.

All three groups agree the antibiotic of choice to treat GABHS pharyngitis in non-allergic adults is penicillin, with most groups citing its proven efficacy in eradicating the organism from the oropharynx, safety profile, low cost, and narrow spectrum.

Pediatric recommendations are provided by FMSD and IDSA. IDSA's recommendations for all ages, classify patients into two general categories according to whether they have symptoms consistent with GABHS pharyngitis or suggesting against GABHS pharyngitis. Unless the diagnosis of GABHS can be confidently excluded on the basis of clinical and/or epidemiological grounds, IDSA recommends laboratory testing to ensure appropriate treatment of children. FMSD recommends laboratory testing for all patients to determine the microbial etiology. Both FMSD and IDSA generally advise that negative results obtained with rapid strep tests require confirmation with throat culture, due to the lower sensitivity of the screening test. In their most recent guideline update, however, IDSA has modified their 1997 guideline in the acceptance of negative results of rapid strep tests under certain circumstances (if the physician is certain that the sensitivity of the rapid strep test used is comparable to that of a throat culture and for diagnosis of streptococcal infection in adults). FMSD suggests that confirmation of a negative rapid strep test is not necessary in children younger than three because streptococcal infection is uncommon in very young children.

### Areas of Differences

## Perspective on Acute Rheumatic Fever

The most dramatic difference among these recommendations reflects the nationality of the organizations: ACP and IDSA represent perspectives from the United States; and FMSD represents a Finnish position. According to IDSA and FMSD, the primary importance of diagnosing and treating GABHS pharyngitis is to prevent acute rheumatic fever in children and adults. ACP also acknowledges that antibiotic treatment of GABHS leads to a decreased risk for already rare complications in adults. IDSA as well as FMSD present diagnostic strategies for laboratory testing; all three organizations provide recommendations for antibiotic treatment of GABHS pharyngitis. (See [Diagnostic Strategies](#) and [Treatment Decisions](#) below.)

## Diagnostic Strategies and Treatment Decisions

Recommendations for diagnostic strategies and treatment decisions are provided by FMSD and IDSA; ACP provides treatment recommendations only.

### Diagnostic Strategies

IDSA recommends classifying patients into two groups based on the likelihood of GABHS pharyngitis versus viral infection or other etiology. To favor the diagnosis of GABHS pharyngitis, IDSA considers suggestive clinical findings, such as sudden onset of sore throat, pain on swallowing, and fever, as well as epidemiological features, such as age (5-15 years old), seasonal occurrence, and exposure to GABHS. IDSA discusses symptom profiles that are more consistent with viral infection than GABHS infection, such as cough and nasal congestion. IDSA also concludes laboratory testing and antimicrobial therapy are not indicated if the diagnosis can be confidently excluded on clinical and epidemiological grounds. For all other patients with possible GABHS pharyngitis, laboratory testing is recommended to determine appropriateness of antibiotic therapy.

FMSD's diagnostic recommendations lean strongly towards laboratory confirmation of any suspected infection because of the inaccuracy of clinical assessment.

### Treatment Decisions

FMSD and IDSA discourage empiric treatment in the absence of laboratory confirmation and recommend antimicrobial therapy only for those with a positive rapid strep test or throat culture result. Both FMSD and IDSA allow for initiation of antimicrobial therapy for cases with a high index of suspicion; however, a laboratory test is still recommended so that therapy may be discontinued if the diagnosis of streptococcal pharyngitis is not confirmed. IDSA recommends against laboratory testing and antibiotic treatment for adults who are unlikely to have GABHS pharyngitis. IDSA recommends assessing this probability by evaluating patients for both clinical and epidemiologic features that would suggest a viral rather than a streptococcal etiology.

ACP recommends analgesics, antipyretics, and other supportive care for all patients with pharyngitis. Recommendations are made for antibiotic therapy

limited to those patients most likely to have GABHS pharyngitis. Although ACP does not discuss strategies to determine that likelihood, they offer two strategies to guide treatment decisions: (1) Empirical antibiotic treatment of adults with at least three of four clinical criteria (history of fever, tonsillar exudates, tender anterior cervical lymphadenopathy, and absence of cough) and non-treatment of all others; or (2) Empirical treatment of adults with all four clinical criteria, rapid antigen testing of patients with three (or perhaps two) clinical criteria, and treatment of those with positive test results and non-treatment of all others. Finally, this group recommends penicillin, or erythromycin in penicillin-allergic patients, as first-line therapy for acute GABHS pharyngitis.

Although the assessment of the likelihood of GABHS pharyngitis differs among the organizations, the general management strategies of these three organizations can be summarized in the following Table:

Likelihood of GABHS Pharyngitis, as Defined in Each Guideline			
	High	Intermediate	Low
ACP	Empirical treatment without laboratory testing of adults with at least 3 of 4 clinical criteria (fever, tonsillar exudate, lymphadenopathy, absent cough)		No laboratory testing and no antimicrobial treatment
	OR		
	Empirical treatment of adults with all four clinical criteria	RADT of patients with 2 or 3 of 4 clinical criteria; Treat those with a positive test, nontreatment of others	No laboratory testing and no antimicrobial treatment
FMSD	<ul style="list-style-type: none"> <li>Laboratory testing (RADT or throat culture) of patients with clinical findings and epidemiological features suggestive of GABHS</li> <li>Antimicrobial treatment of laboratory-confirmed cases</li> </ul>		
IDSA	<ul style="list-style-type: none"> <li>Laboratory testing (RADT or throat culture) of patients with clinical findings and epidemiological features suggestive of GABHS</li> <li>Antimicrobial treatment of laboratory-confirmed cases</li> </ul>		No laboratory testing and no antimicrobial treatment

In conclusion, FMSD and IDSA strive to balance laboratory utilization and antibiotic usage through different means. IDSA calls for testing patients characterized with high and/or intermediate probability of GABHS pharyngitis. FMSD calls for testing in all patients with suspected streptococcal pharyngitis. Because laboratory utilization and diagnostic strategies are not the focus of their guideline, ACP offers treatment recommendations only. All the guidelines target

antimicrobial treatment to those most likely to have GABHS pharyngitis and aim to decrease excessive antibiotic use.

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This Synthesis was originally prepared by ECRI on October 6, 1999. It has been modified a number of times since that time. The most current version of this Synthesis removes UMHS's guideline, which has now been archived.

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