

Health Benchmarks[®] Program

Clinical Quality Indicator Specification 2011

Measure Title	USE OF NARROW SPECTRUM ANTIBIOTICS FOR PATIENTS WITH ACUTE STREPTOCOCCAL PHARYNGITIS		
Disease State	Pharyngitis	Indicator Classification¹	Disease Management
Strength of Recommendation²	B		
Organizations Providing Recommendation	American Academy of Pediatrics American College of Physicians American Heart Association American Society of Internal Medicine Centers for Disease Control Infectious Disease Society of America Institute for Clinical Systems Improvement		
Clinical Intent	To ensure that all eligible members with a diagnosis of acute streptococcal pharyngitis are treated with appropriate narrow spectrum antibiotics.		
Background	<p>Disease Burden</p> <ul style="list-style-type: none"> • In 2002, pharyngitis accounted for approximately 10 million office visits in the United States.[1] • Approximately 10% of cases in adults and 15-30% of cases in children are caused by group A β-hemolytic streptococcus (GABHS).[2-4] <p>Reason for Indicated Intervention or Treatment</p> <ul style="list-style-type: none"> • Widespread inappropriate antibiotic utilization has led to increasing levels of antibiotic resistance in bacteria that were once highly susceptible to antimicrobials.[2] • In light of increasing antibiotic resistance, it is important for providers to use antibiotics judiciously, including using narrow-spectrum, first-line antimicrobials whenever possible.[5-7] • Almost 66% of primary care physicians in a recent study do not adhere to the national guidelines on appropriate antibiotic prescription for pharyngitis.[8] • The total cost of group A streptococcal pharyngitis among children in the United States ranges from \$224 to \$539 million per year.[9] <p>Evidence Supporting Intervention or Treatment</p> <ul style="list-style-type: none"> • A meta-analysis of randomized controlled trials for antibiotic use found moderate effectiveness in reducing symptoms of patients that tested positive for GABHS compared to those that tested negative (OR = 0.78 95% CI 0.63-0.97).[10] • While several small randomized controlled trials have shown that 5-day courses of clarithromycin or amoxicillin/clavulanate have clinical efficacies 		

comparable to 10 days of penicillin V [11, 12], there is no evidence that either of these agents is clinically superior to penicillin V.

- However, a survey of 424 nurse practitioners showed a preference for prescribing amoxicillin over penicillin at 82.9% compared to 16.3%. [13]
- Even though several meta-analyses indicate that cephalosporins may have slightly higher rates of streptococcal eradication than penicillin, the studies have been criticized [14, 15] and it is thought that the differences found may be due to the superiority of cephalosporins in treating chronic streptococcal carriers. [16] Thus, use of these broader-spectrum agents as first-line agents for GABHS infections is not recommended. [14, 17]

**Clinical
Recommendations**

- The American College of Physicians—American Society of Internal Medicine, American Academy of Pediatrics Red Book Committee, Centers for Disease Control, American Heart Association, and Infectious Disease Society of America (IDSA) all recommend treating patients most likely to have GABHS infections with penicillin, or with erythromycin for those who are penicillin-allergic. [18-23]
- The position above of treating GABHS pharyngitis with penicillin, or erythromycin in penicillin allergic patients is supported by Centers for Disease Control. Extended spectrum macrolides and fluoroquinolones are not appropriate for uncomplicated pharyngitis. [24]
- The American Academy of Family Physicians recommends a 10-day course of penicillin V or a single dose of parenteral penicillin G benzathine. Alternatives include amoxicillin, first/second generation cephalosporins, clindamycin, or macrolides. [25]
- According to the 2002 IDSA guidelines, first-line antibiotics for pharyngitis include penicillins and amoxicillin. Erythromycin is an acceptable alternative for those allergic to penicillin. First generation cephalosporins are an acceptable alternative for patients not exhibiting immediate-type hypersensitivity to β -lactam antibiotics. [20]
- The Institute for Clinical Systems Improvement recommends penicillin as the drug of choice for GABHS pharyngitis, with the options of cephalosporin, erythromycin, and clindamycin if the patient has a penicillin allergy. [26]

Source IMS Health

Items adapted from other sources:

- Denominator exclusion definition of qualifying comorbid conditions. (HEDIS 2011®)

Denominator

**Denominator
Definition**

Continuously enrolled members with a diagnosis of acute streptococcal pharyngitis *only* who filled a prescription for an antibiotic 0-3 days after the diagnosis of acute streptococcal pharyngitis or who received an injected antibiotic on the index date.

Denominator Index Date First instance of members with a diagnosis of acute streptococcal pharyngitis *only* during the first 0-362 days of the measurement year.

Denominator Encounters/Claims Criteria CPT-4 code(s): 99201-99205, 99211-99215, 99241-99245, 99271*-99275*, 99281-99285, 99301*-99303*, 99304-99310, 99311*-99313*, 99315-99316, 99318-99337, 99341-99350, 99354-99355, 99366, 99381-99387, 99391-99397, 99401-99429, 99450, 99455-99456

HCPCS code(s): J0120, J0200, J0278, J0290, J0295, J0456, J0530, J0540, J0550, J0558, J0559, J0560, J0561, J0570, J0580, J0690, J0692, J0694, J0696, J0697, J0698, J0710, J0713, J0715, J0720, J0744, J0770, J0878, J1267, J1335, J1364, J1580, J1590, J1840, J1850, J1890, J1956, J2010, J2020, J2185, J2280, J2510, J2540, J2543, J2700, J2770, J2970, J3260, J3320, J3370, J3095

ICD-9 diagnosis code(s): 034.0, 462, 463

UB revenue code(s): 045x, 051x, 0520-0523, 0526-0529, 057x-059x, 077x, 082x-085x, 088x, 0981, 0982, 0983

Drug list: azithromycin, clarithromycin, erythromycin, telithromycin, moxifloxacin, gemifloxacin, or levofloxacin, doxycycline, Ciprofloxacin, norfloxacin, ofloxacin, Cefaclor, cefadroxil, cefdinir, cefditoren, cefixime, cefpodoxime, cefprozil, ceftibuten, cefuroxime, cephalexin, sulfamethoxazole/trimethoprim, trimethoprim, clindamycin, metronidazole, fosfomycin, nitrofurantoin, linezolid, amoxicillin, amoxicillin/clavulanate, ampicillin, penicillin, dicloxacillin sulfadiazine, minocycline, tetracycline, vancomycin, rifampin

*Code was retired but is retained for retrospective analysis.

Denominator Exclusion

Denominator Exclusion Definition Members with a diagnosis of acute streptococcal pharyngitis during the 1-90 days prior to the index date (exclusive of the index date), members who filled a prescription for an antibiotic during the 1-30 days prior to the index date (exclusive of the index date), members with a visit to a physician 30 days prior through 3 days after the index date in any setting (exclusive of the index date), or members who had any diagnosis for a qualifying comorbid condition in the 0-365 days prior to the index date (inclusive of the index date).

Denominator Exclusion Claims Criteria CPT-4 code(s): 99201-99205, 99211-99215, 99217-99220, 99221-99223, 99231-99233, 99234-99236, 99238-99239, 99241-99245, 99251-99255, 99261*-99263*, 99271*-99275*, 99281-99285, 99291-99300, 99301*-99303*, 99304-99310, 99311*-99313*, 99315-99316, 99318-99337, 99341-99350, 99354-99355, 99356-99357, 99431*-99440*, 99460-99465, 99366, 99381-99387, 99391-99397, 99401-99429, 99450, 99455-99456, 99468-99476, 99477-99480

ICD-9 diagnosis code(s): 010.xx-018.xx, 042, 034.0, 140.xx-209.xx, 277.0x, 279.xx,

462, 463, 491.xx, 492.x, 493.2x, 494.x, 495.x, 496, 500.x-508.x, 510.xx-519.xx, V08

UB revenue code(s): 010x, 0110-0114, 0119, 0120-0124, 0129, 0130-0134, 0139, 0140-0144, 0149, 0150-0154, 0159, 016x, 020x-022x, 045x, 051x, 0520-0523, 0526-0529, 057x-059x, 072x, 077x, 080x, 082x-085x, 088x, 0981, 0982, 0983, 0987

Drug list: penicillin V, amoxicillin, erythromycin, first or second generation cephalosporin (cefadroxil, cephalexin, cefaclor, cefprozil, cefuroxime), clindamycin

*Code was retired but is retained for retrospective analysis.

Numerator

Numerator Definition Members whose denominator antibiotic prescription for pharyngitis was for a first line agent (penicillin G, penicillin V, amoxicillin, erythromycin, first or second generation cephalosporin, or clindamycin) or members whose denominator antibiotic injection for pharyngitis was for a penicillin G injection.

Numerator Claims Criteria HCPCS code(s): J0530, J0540, J0550, J0558, J0559, J0560, J0561, J0570, J0580, J2510, J2540

Drug list: penicillin V, amoxicillin, erythromycin, first or second generation cephalosporin (cefadroxil, cephalexin, cefaclor, cefprozil, cefuroxime), clindamycin

Physician Attribution

Physician Attribution Description **If client data contains prescribing provider:**

Score the physician who prescribed the denominator antibiotic.

If client data does not contain prescribing provider:

Score the physician who diagnosed the member with acute streptococcal pharyngitis on the index date.

References

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¹ **Indicator Classification** (Adapted from HEDIS® technical specifications)

Diagnosis	Measures applicable to patients receiving diagnostic workups for a symptom or condition that delineate appropriate laboratory or radiological testing to be performed (e.g., evaluation of thyroid nodule; pregnancy test in patients with vaginal bleeding or abdominal pain).
Effectiveness of Care	
Prevention	Measures applicable to asymptomatic individuals that are designed to prevent the onset of the targeted condition (e.g., immunizations).
Screening	Measures applicable to asymptomatic patients who have risk factors or pre-clinical disease, but in whom the condition has not become clinically apparent (e.g., pap smears; screening for elevated blood pressure).
Disease Management	Measures applicable to individuals diagnosed with a condition that are part of the treatment or management of the condition (e.g., cholesterol reduction in patients with diabetes; radiation therapy following breast conserving surgery; appropriate follow-up after acute event).
Medication Monitoring	Measures applicable to patients taking medications with narrow therapeutic windows and / or potential preventable significant side effects or adverse reactions (e.g., thyroid stimulating hormone (TSH) testing after levothyroxine dose change; hepatic enzyme monitoring for patients using antimycotic pharmacotherapy).
Medication Adherence	Measures applicable to patients taking medications for chronic conditions that are designed to assess patient adherence to medication (e.g., adherence to lipid lowering medication).
Utilization	Measures applicable to patients receiving treatment for a symptom or condition that advocate appropriate utilization of laboratory and pharmaceutical resources (e.g., conservative use of imaging for low back pain; inappropriate use of antibiotics for viral upper respiratory infection).

² Strength of Recommendation

Strength of Recommendation Based on a Body of Evidence

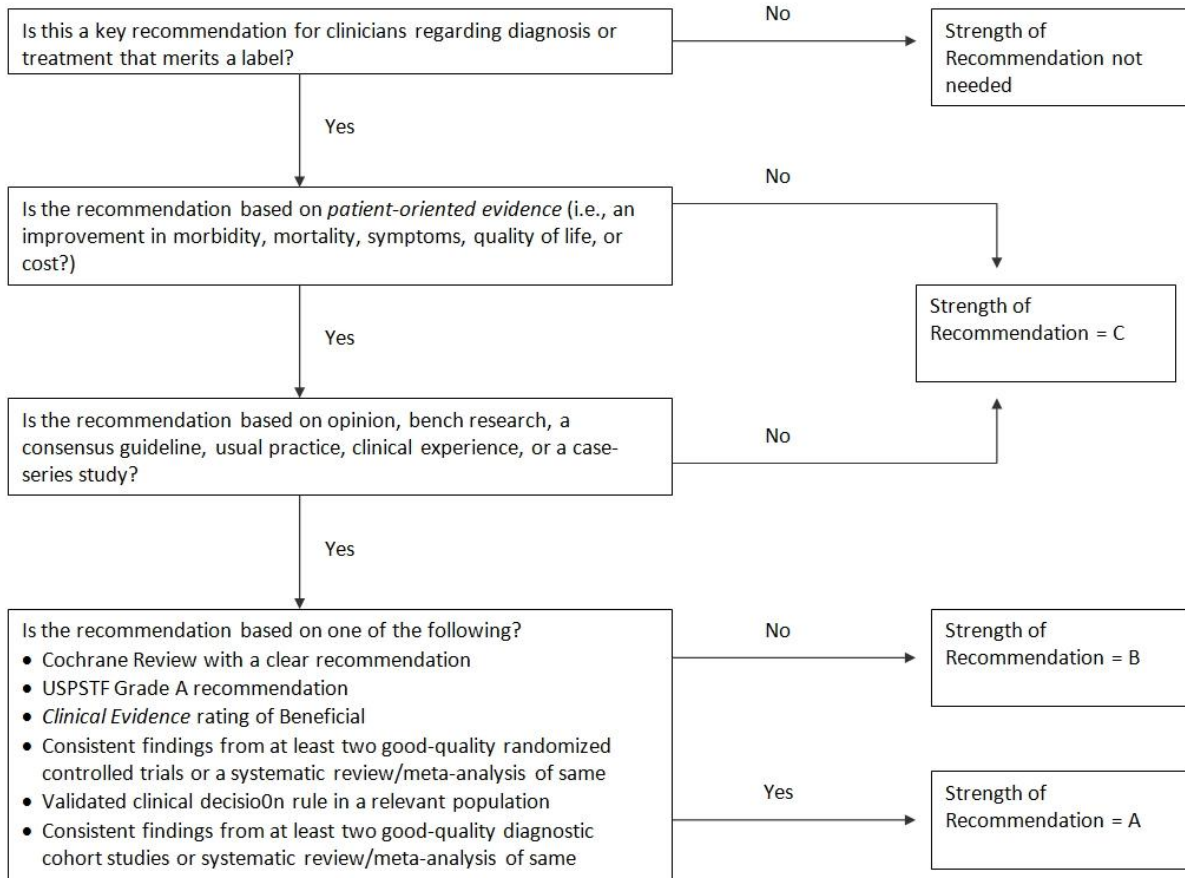


FIGURE 2. Algorithm for determining the strength of a recommendation based on a body of evidence (applies to clinical recommendations regarding diagnosis, treatment, prevention, or screening). While this algorithm provides a general guideline, authors and editors may adjust the strength of recommendation based on the benefits, harms, and costs of the intervention being recommended. (USPSTF = U.S. Preventive Services Task Force)