

Judicious Use of Antibiotics

Measures

Track 3: Acute Streptococcal Pharyngitis

Directions:

Pull 10 or more charts of patients:

- 1) Seen by your practice more than 5 days ago, and;
- 2) Diagnosed with Acute Streptococcal Pharyngitis (strep throat), and;
- 3) Treated with an antibiotic
- 4) Exclude patients with a previous diagnosis of strep in the last 3 months

Question 1: Was this patient seen for an office sick visit that resulted in the diagnosis of acute streptococcal pharyngitis (strep throat)?

Yes No, the patient was not seen in the office

Measure #1: Patient diagnosed with acute streptococcal pharyngitis seen for office sick visit

Definition: Percentage of patients who were diagnosed with acute streptococcal pharyngitis that were seen for an office sick visit and resulted in a diagnosis of acute streptococcal pharyngitis

Source: Question #1

Numerator: Yes selected in #1

Denominator: Total Number of Charts

Aim: 100% of patients diagnosed with acute streptococcal pharyngitis, will have been seen for an office sick visit

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Question 2: Were one or more of the following signs or symptoms listed below present upon the history and/or examination?

Yes No

- conjunctivitis
- hoarseness
- coryza
- mouth ulcers
- cough
- maculopapular rash
- diarrhea

Note: These are all viral symptoms and alone, they do not warrant testing or treatment.

Note: Acute streptococcal pharyngitis should not be diagnosed in patients under 36 months of age unless they currently have a household contact with confirmed group A streptococcal pharyngitis. It is acceptable to test the patient under 36 months of age if there is a household contact with confirmed group A streptococcal pharyngitis.

Question 3: Is there documentation in the medical record that one or more of the following symptoms, signs, or features were present upon the examination?

Yes No

- tonsillopharyngeal erythema
- patchy tonsillopharyngeal exudates
- tender cervical adenopathy
- palatal petechiae
- scarlatiniform rash
- sudden onset of sore throat and fever
- swollen red uvula

Question 4: Was a rapid antigen detection test (RADT) ordered to confirm the diagnosis?

Yes No N/A, throat culture performed

If Yes, to Question #4 (RADT ordered), *Continue*

If No, to Question #4 (RADT not ordered) *Skip to Question #5*

If N/A, throat culture performed, to Question #4 *Skip to Question #4c*

Question 4a: If yes, to Question #4 (RADT performed), what were the results?

Positive RADT Negative RADT

If Positive to Question #4a (Positive RADT) , *Skip to Question #5*

If Negative to Question #4a (Negative RADT), *Continue*

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Question 4b: If Negative to Question #4a (RADT result was negative), was a throat culture performed?

Yes No

If Yes, to Question 4b (throat culture performed), *Continue*

If No, to Question 4b (No throat culture ordered), *Skip to Question #5*

Question 4c: If N/A to Question #4 or Yes, to Question #4b (throat culture performed), what were the results?

Positive throat culture Negative throat culture

Measure #2: Appropriate diagnosis of acute streptococcal pharyngitis (strep throat)

Definition: Percentage of patients who were appropriately diagnosed with acute streptococcal pharyngitis

Source: Questions # 3, 4a, & 4c

Numerator: [Positive RADT selected in Question #4a AND Yes selected in Question #3] OR [Positive throat culture selected in Question #4c AND Yes selected in Question #3]

Denominator: Total Number of Charts

Aim: 100% of patients prescribed antibiotics were appropriately diagnosed with acute streptococcal pharyngitis (strep throat) consistent with overt GAS symptoms present and/or a positive RADT or throat culture.

Measure #3: Negative RADT backed-up by throat culture

Definition: Percent of patients with a negative RADT will have a throat culture performed

Source: Questions # 4a & 4b

Numerator: Yes selected in Question #4b

Denominator: Negative RADT selected in Question #4a

Aim: 100% of patients with a Negative RADT will have a throat culture performed.

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Measure #4: Patients with ONLY viral symptoms who were inappropriately given a diagnosis of strep pharyngitis and/or prescribed an antibiotic

Definition: Percent of patients with ONLY viral symptoms that were prescribed an antibiotic

Source: Questions #2 & 3

Numerator: Yes selected in Question #2 And No selected in Question #3

Denominator: Total Number of Charts

Aim: 0% of patients presenting with ONLY viral symptoms will be diagnosed with strep pharyngitis and/or prescribed an antibiotic.

Question 5: Was this patient treated with penicillin or amoxicillin[†](including injected penicillin)?

Yes No N/A, Previous [severe allergic reaction](#) or [non-severe allergic reaction[†]](#)

If Yes, (patient treated with penicillin or amoxicillin), *Continue*

If No, (patient NOT treated with penicillin or amoxicillin), *Skip to Question #7*

If N/A, Previous [severe allergic reaction](#) or [non-severe allergic reaction[†]](#), *Skip to Question #6*

Measure #5: Appropriate use of penicillin or amoxicillin

Definition: Percent of patients appropriately treated with penicillin or amoxicillin

Source: Question # 5

Numerator: Yes selected in #5

Denominator: Total Number of Charts Minus N/A, Previous severe or non-severe allergic reaction selected in Question #5

Aim: 100% of patients diagnosed with acute streptococcal pharyngitis will be appropriately treated with penicillin or amoxicillin unless previous severe or non-severe reaction.

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Question 5a: If yes, to Question #5 (patient treated with penicillin or amoxicillin), was the penicillin or amoxicillin prescribed for a duration of 10 days?

Yes No N/A, patient treated with injection of penicillin

All responses, Skip to Question #8

Measure #6: Name: Appropriate duration of penicillin or amoxicillin treatment

Definition: Percent of patients prescribed penicillin or amoxicillin for duration of 10 days

Source: Questions #5 & #5a

Numerator: Yes selected in Question #5a

Denominator: Total Number of Charts with Yes selected in Question #5

Aim: 100% of patients who were prescribed penicillin or amoxicillin will be directed to treat for duration of 10 days.

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Question 6: If N/A, previous severe or non-severe allergic reaction to penicillin or amoxicillin to question #5, was the patient treated with any of the following antibiotics?

Yes No

If Yes, (patient treated with one of the following antibiotics), *Skip to Question #8*

If No, (patient NOT treated any of the following antibiotics), *Continue*

| | |
|--|---|
| Preferred agents in chronic carriers of group A streptococci | |
| <ul style="list-style-type: none"> amoxicillin-clavulanate | |
| Preferred agents for penicillin-allergic individuals: Should be considered first | Non-preferred agents for penicillin-allergic individuals: Should be considered secondarily |
| <ul style="list-style-type: none"> narrow-spectrum *cephalosporins: <ul style="list-style-type: none"> cephalosporin cefadroxil cephalexin | <ul style="list-style-type: none"> broad-spectrum *cephalosporins: <ul style="list-style-type: none"> cefaclor cefuroxime cefixime cefdinir cefpodoxime |
| <ul style="list-style-type: none"> clindamycin | |
| <ul style="list-style-type: none"> oral macrolides: <ul style="list-style-type: none"> erythromycin clarithromycin azalide azithromycin | <p>*Some penicillin-allergic persons (up to 10%) are also allergic to cephalosporins, and these agents should not be used in patients with immediate (anaphylactic-type) hypersensitivity to penicillin</p> |

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Measure #7: Appropriate use of 2nd line antibiotics

Definition: Percent of patients who had previous severe or non-severe allergic reaction to penicillin or amoxicillin that were appropriately prescribed 2nd line antibiotics

Source: Questions #5 & 6

Numerator: Yes selected in Question #6

Denominator: Total Number of Charts with N/A, Previous severe or non-severe allergic reaction selected in Question #5

Aim: 100% of patients who had a previous severe or non-severe allergic reaction to penicillin or amoxicillin will be appropriately treated with 2nd line antibiotics

Question 7: If No to Question #6 (patient not treated with listed antibiotic) was the patient treated with any of the following antibiotics?

Yes No

Limited activity or needlessly broad spectrum and should **not** be used

- **Fluoroquinolones:**

- ciprofloxacin
- levofloxacin
- moxifloxacin

- **Sulfonamides:**

- trimethoprim-sulfamethoxazole

- **Tetracycline**

- doxycycline

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Measure #8: Inappropriate use of broad-spectrum antibiotics

Definition: Percent of patients in appropriately treated with any of the following antibiotics: levofloxacin, trimethoprim-sulfamethoxazole, tetracycline, ciprofloxacin, moxifloxacin

Source: Questions #6 & #7

Numerator: Yes selected in Question #7

Denominator: Total Number of Charts with No selected in Question #5 OR #6

Aim: 0% of patients will be prescribed broad-spectrum antibiotics

Question 8: Did any provider in the practice discuss and document the following risks of antibiotic therapy with the patient/family?

Yes No

| Should always be discussed: | Should be discussed if patient/family has concerns: |
|---|--|
| <ul style="list-style-type: none"> Side effects Allergic reaction | <ul style="list-style-type: none"> Antibiotic resistance[†] <p>[†]NOTE: A clinical GAS isolate resistant to penicillin or cephalosporin never has been documented.¹</p> |

Measure 9: Risks of antibiotic therapy discussed with patient/family

Definition: Percent of patients prescribed antibiotics with documentation that risks of antibiotic therapy were discussed with the patient/family

Source: Question #8

Numerator: Yes selected in Question #8

Denominator: Total Number of Charts

Aim: 100% of patients prescribed antibiotics will have documentation in the medical record that risks of antibiotic therapy was discussed with the patient/family

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Appendix

Non-severe and severe allergic reactions:

- **Non-severe** symptoms include hives or pruritic (itchy) rashes.
- **Severe** symptoms include anaphylaxis, angioedema, throat tightening, wheezing plus shock, airway compromise, or cardiovascular collapse. Cardiac collapse requires intervention (eg epinephrine, corticosteroids, vasopressors).

Note: Side effects such as vomiting, abdominal pain, and diarrhea are *non-allergic*.

Antibiotic Resistance - Overuse and/or inappropriate use of antibiotics can result in antibiotics losing the ability to treat bacterial infections

[†]**NOTE:** A clinical GAS isolate resistant to penicillin or cephalosporin never has been documented.¹

¹American Academy of Pediatrics. *Red Book: 2012 Report of the Committee on Infectious Diseases. Section 3: Summaries of Infectious Diseases, Group A Streptococcal Infections*. 668-680. Pickering LK, ed. 29th ed. Elk Grove Village, IL: American Academy of Pediatrics; 2012.

Reference: [Clinical Practice Guide for Diagnosis and Management of Group A Streptococcal Pharyngitis: 2012. Update by the Infectious Diseases Society of America](#). Shulman S. T., Bisno, A.L., Clegg, H.W. et al. 2012.