

# Pediatric (Age 5-17 Years) Pharyngitis Guideline

## Pediatric Patient Presents with Signs/Symptoms of Sore Throat

### Sore Throat Suggestive of Streptococcal Pharyngitis

Clinical symptoms (**TABLE A**) suggestive of streptococcal pharyngitis are present (at least five symptoms):

- Age 5-17 years
- Season (late fall, winter, early spring)
- Evidence of acute pharyngitis (erythema, edema, and/or exudates)
- Tender enlarged anterior cervical lymph nodes
- Fever (between 101 °F/38.3 °C and 103 °F/39.4 °C)
- Absence of cough or other symptoms associated with viral upper respiratory tract infections

#### <5 Clinical Symptoms

#### Sore Throat Suggestive of Viral Origin

Symptoms consistent with an acute sore throat of viral origin:

- Conjunctivitis
- Coryza
- Hoarseness
- Cough
- Diarrhea
- Characteristic exanthsms
- Characteristic enanthems

Provide Symptomatic Treatment (**TABLE B**) and Communication (**TABLE C**) for Viral Pharyngitis

#### ≥ 5 Clinical Symptoms

#### Perform Rapid Strep Antigen Test (RAT)

#### Negative Rapid Strep Antigen Test

#### Reflex to GABHS Culture

Await results to determine if antibiotics are indicated

<sup>^</sup>Negative Throat Culture for GABHS

Positive Throat Culture for GABHS

#### Positive Rapid Strep Antigen Test

#### Antibiotic Treatment and Communication (**TABLE D**) IS Indicated

#### First Choice Penicillin (PNC) or Amoxicillin (GABHS resistance 0)

- Penicillin V drug of choice
  - 250 mg po two times a day or three times a day for 10 days (< 27 kg)
  - 500mg po two times a day or three times a day for 10 days (> 27 kg, adolescents and adults)

OR

- Amoxicillin 50 mg/kg/day (max 1-1.2 g/day) for 10 days; once daily dosing is appropriate<sup>2</sup>

OR

- Penicillin G benzathine IM
  - 600,000 U (< 27 kg) single dose
  - 1.2 million U (> 27 kg) single dose

#### Non anaphylactic reaction to PNC:

- First Generation Cephalosporin:
  - Cephalexin (Keflex) 25-50 mg/kg/day PO divided three times a day (daily adult dose 1-2 grams)

#### Anaphylactic reaction to PNC:

- Clindamycin (Cleocin) 20 mg/kg per day in three divided doses (max 1.8 g/day)
- Azithromycin (Zithromax) 12 mg/kg/day (max 500 mg/dose) (5 days)
- Erythromycin, clarithromycin (10 days)
  - Macrolides higher rate of GI adverse effects
  - Macrolide resistance 5-8%
  - Clindamycin resistance 6%

<sup>^</sup> Non-GABHS (group B, C, G) may be part of normal oral flora and typically do not warrant antibiotic treatment. If clinical situation warrants, consider respiratory culture-source throat.

EVALUATION AND TREATMENT

**TABLE A: Clinical Symptoms of Streptococcal Pharyngitis**

**Features suggestive of GABHS (Group A beta-hemolytic streptococcus) as causative agent:**

- Sudden-onset sore throat
- Pain on swallowing
- Fever
- Scarlet fever rash
- Headache
- Tonsillopharyngeal erythema
- Tonsillopharyngeal exudates
- Nausea, vomiting, and abdominal pain
- Soft palate petechiae
- Beefy, red, swollen uvula
- Tender, enlarged anterior cervical nodes
- Patient 5 to 17 years of age
- Presentation in winter or early spring (in temperate climates)
- History of exposure

**TABLE B: Symptomatic Treatment of Viral Pharyngitis**

- Acetaminophen or ibuprofen
- Oral rinses for oral/throat ulcers-viral. Equal parts of diphenhydramine and Maalox® (magnesium hydroxide, aluminum hydroxide, and simethicone). Children ≥ 6-8 years may swish and spit mixture.
- Salt-water gargles. Most recipes suggest 1/4 to 1/2 teaspoon of salt per cup (8 ounces) of warm water. The water should be gargled and then spit out (not swallowed). Children younger than six to eight years are not able to gargle properly. It is not clear if this treatment is effective, but it is unlikely to be harmful.
- Other interventions - Sipping warm beverages (eg, honey or lemon tea, chicken soup), cold beverages, or eating cold or frozen desserts (eg, ice cream, popsicles). These treatments are safe for children.
- Honey should not be given to children younger than 12 months due to the potential risk of botulism poisoning.
- Alternative therapies - Health food stores, vitamin outlets, and Internet Web sites offer alternative treatments for relief of sore throat pain. We do not recommend these treatments due to the risks of contamination with pesticides/herbicides, inaccurate labeling and dosing information, and a lack of studies showing that these treatments are safe and effective.
- Sprays containing topical anesthetics (benzocaine) - not recommended for children (can cause allergic reactions)
- Lozenges - not recommended for children

**TABLE C: Communication for Viral Pharyngitis**

- Sore throat caused by viral infections usually last 5-7 days
- Treatments to reduce pain may be helpful but will not help to eliminate the virus
- Antibiotics do not improve throat pain caused by a virus and are not recommended
- A child with a viral infection is usually allowed to return to school when there has been no fever for 24 hours and the child feels well enough to pay attention

**TABLE D: Communication for Streptococcal Pharyngitis**

**Instruct parents to seek medical attention if:**

- Difficulty swallowing or breathing
- Excessive drooling in an infant or young child
- Persistent fevers (≥ 101 °F/38.3 °C) or symptoms for > 3 days after initiation of therapy
- Swelling of the neck
- Child is unable or unwilling to drink or eat
- Voice sounds muffled
- Child has a stiff neck or difficulty opening the mouth

## Clinical Pearls

- Group A beta-hemolytic streptococcus (GABHS) pharyngitis is uncommon in children  $\leq$  2-3 years of age.
- Repeat testing for GABHS in patients treated for GABHS is not indicated.
- In young children, GABHS manifests with prolonged nasal discharge, tender anterior cervical adenopathy, and low-grade fever. Microbiologic testing may be warranted for symptomatic young children, particularly if they have been exposed to contacts with GABHS infection.
- Vesicles in posterior pharynx: Herpangina (Coxsackie virus).
- Patient with buccal or gingival lesions: differential diagnosis includes herpetic stomatitis and Stevens Johnson syndrome (rash and multisystemic involvement).
- Prominent posterior cervical or diffuse lymphadenopathy: rule out infectious mononucleosis, HIV.
- Patient unimmunized with recent travel: consider diphtheria.
- Oral sexual contact: consider gonococcal pharyngitis.
- Persistent fevers: rule out infectious mononucleosis.
- Patient acutely ill: epiglottitis, retropharyngeal abscess, tonsillar hypertrophy secondary to Epstein Barr virus infection, diphtheria and Lemierre's syndrome need to be considered in the differential diagnosis and appropriate care instituted.
- Unilateral enlarged tonsil crossing the midline: peritonsillar abscess.
- Tetracyclines, sulfonamides, fluoroquinolones should NOT be used for treatment of GABHS.

## References

1. Cooper, R., et al. (2001, March 20). Principles of appropriate antibiotic use for acute pharyngitis in adults: background. *Annals of Emergency Medicine*, 134(6):509-17.
2. Gerber, M., et al. (2009, March 24). Prevention of rheumatic fever and diagnosis and treatment of acute streptococcal pharyngitis. *Circulation*, 119(11):1541-1551.
3. Kimberlin, D., Brady, M., Jackson, M., Long, S. eds. (2015). In *Red Book: 2012 Report of the Committee on Infectious Diseases 30th ed. Group A Streptococcal infections*. Elk Grove Village, IL: American Academy of Pediatrics, 2015:732-753.
4. Robertson, K., Volmink, J., Mayosi, B. (2005, May 31). Antibiotics for the primary prevention of acute rheumatic fever: a meta-analysis. *BMC Cardiovascular Disorders*, 5:11-20.
5. Shaikh, N., Leonard, E., Martin, J. (2010, September). Prevalence of streptococcal pharyngitis and streptococcal carriage in children: a meta-analysis. *Pediatrics*, 126(3):e557-64.
6. Shulman, S., et al. (2012, November 15). Clinical practice guideline for the diagnosis and management of Group A Streptococcal Pharyngitis: 2012 update by the infectious diseases society of America. *Clinical Infectious Diseases*, 55(10):e86-102.
7. Van Driel, De Sutter, A., et al. (2013, April 30) Different antibiotic treatments for group A streptococcal pharyngitis. *Cochrane Database of Systematic Reviews* (online). Retrieved from doi: 10.1002/14651858.CD004406.pub3.
8. Wald, E., Green, M., Schwartz, B., Barbadora, K. (1998). A streptococcal score card revisited. *Pediatric Emergency Care*, 14:109-111.