

## Group A Strep Pharyngitis September 2023 UPDATE

Clinical Update from Infectious Disease, ENT, and Community Practice Advisory Council

Cases of GAS pharyngitis increased in our area, including recurrences, beginning in the fall of 2022. This clinical update reviews our current understanding of testing and treatment of both primary and recurrent GAS infections. It is based on a review of current recommendations from the AAP Red Book, CDC, American Academy of Otolaryngology, CCHMC faculty guidance, and recent data from MMWR. This version has been updated to include clarification on treatment as of September 2023.

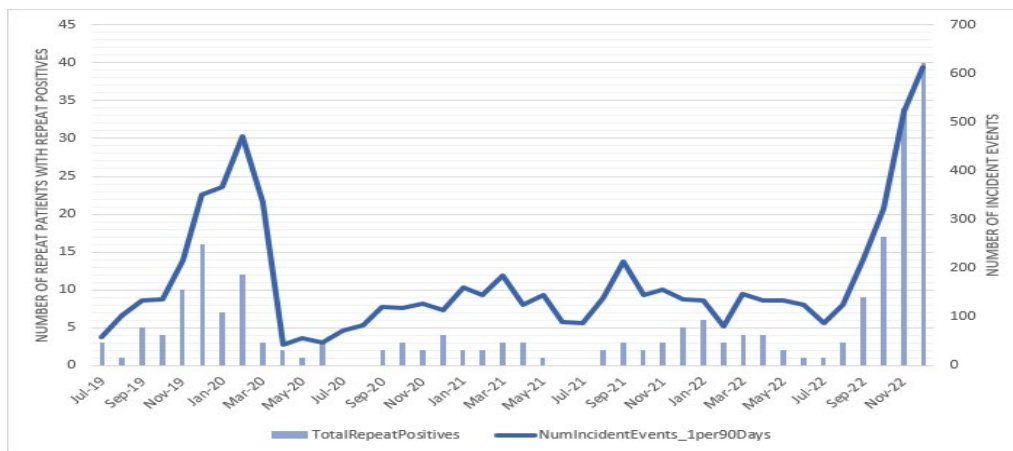
### CLINICAL PRESENTATION

The most common group A infection is acute pharyngitis which manifests as sore throat with tonsillar inflammation, often tender anterior cervical lymphadenopathy, palatal petechiae, or strawberry tongue. Scarlet fever may also occur and involves a characteristic erythematous sandpaper like rash.

Acute streptococcal pharyngitis has historically been relatively uncommon in children under 3 years, however it can occur, especially with direct household/childcare exposures. Children in this age group may also present with rhinitis and protracted illness with moderate fever, irritability, and anorexia (streptococcal fever or streptococci).<sup>1</sup>

### CASES

The graph below shows CCHMC lab data over time through December 2022. Incident (new) events are defined as any positive result >90 days from any prior GAS pos events. An event was considered a “repeat” if positive 14-90 days after a previous event. Events <14 days were not included in repeats because they seemed to be unlikely to be due to a new infection.<sup>3</sup>



CCHMC Lab data not for publication

### RECURRENCE

Recurrences are mainly felt to be due to high community levels and re-infection, but other factors could be contributing. Data from the fall of 2022 from CO and MN do not suggest there is resistance to penicillin/amoxicillin.<sup>2</sup>

## TESTING

Testing is recommended when there are consistent symptoms and exam findings. Avoid testing in first couple days of an illness with other viral symptoms (cough, rhinorrhea, pharyngeal blisters) and no exposures or physical exam findings to support a secondary infection with strep.<sup>1</sup>

## TREATMENT<sup>1</sup>

The goal of treatment of GAS is to reduce acute morbidity, suppurative and nonsuppurative complications, and transmission to close contacts.

### **First line treatment remains PCN or Amoxil.**

Amoxil 50 mg/kg/div BID or QD max 1000 mg/day.

PCN VK: 250 mg 2 to 3 times per day for 10 days for children less than 27 kg; 500 mg 2-3 times per day for children over 27 kg.

Amoxicillin or PCN VK can be used with recurrences in same season. For patients who were non-adherent with first treatment, consider IM PCN G.

If a patient does not respond to PCN/amoxicillin, consider looking for additional/alternative diagnoses (viral illness such as EBV, enterovirus) or complications such as peritonsillar abscess.

For patients who have a history of non-anaphylactic allergy to penicillin, a 10-day course of a narrow-spectrum (first-generation) oral cephalosporin (eg, cephalexin) is indicated. Patients with immediate (anaphylactic) or type I hypersensitivity to penicillin should receive oral clindamycin (20 mg/kg per day in 3 divided doses; maximum, 900 mg/day for 10 days) rather than a cephalosporin.

An oral macrolide (eg, erythromycin, azithromycin, or clarithromycin) also is acceptable for penicillin-allergic patients. This should not be used in patients who can take a beta-lactam agent. Therapy for 10 days is indicated, except for azithromycin, which is given for 5 days. GAS strains resistant to macrolides have been highly prevalent in some countries and have resulted in treatment failures. In some areas in the United States, macrolide resistance rates of more than 20% have been reported.

Children with recurrent GAS pharyngitis shortly after a full course of a recommended oral agent can be retreated with the same antimicrobial agent (if it is a beta-lactam), an alternative beta-lactam oral drug (such as cephalexin or amoxicillin-clavulanate), or an intramuscular dose of penicillin G benzathine.

## PREVENTION

Antibiotic prophylaxis for household contacts is not required. Prevention is primarily through hand hygiene and avoiding contact with contaminated secretions. Affected patients should avoid sharing food, drinks, toothbrushes, etc. with others.<sup>1</sup>

## RETURN TO SCHOOL/ACTIVITIES

Return to school/childcare can occur when well appearing and at least 12 hours after initiation of antibiotics.<sup>1</sup>

## COMPLICATIONS OF GAS

Complications are rare in children who are on adequate therapy but include invasive infections such as peritonsillar abscess or suppurative cervical lymphadenitis. The CDC reported an increase in overall invasive Group A Streptococcal infections such as sepsis and necrotizing fasciitis in the winter of 2022-23. Nonsuppurative complications include acute rheumatic fever and acute glomerulonephritis which are rare in the United States where prompt treatment is widely available. <sup>5</sup>

## CARRIERS

Throat culture surveys of healthy asymptomatic children during the strep season yield GAS infection prevalence rates as high as 25%. Antimicrobial therapy is not indicated for most GAS pharyngeal carriers. It is difficult to eradicate with conventional antibiotic therapy. Indications for eradication include: 1. A local outbreak of ARF or PSGN; 2. An outbreak of GAS pharyngitis in a closed community; 3. A family history of ARF; 4. Multiple episodes of documented symptomatic GAS pharyngitis in a family over many weeks despite therapy; 5. When a patient is being considered for tonsillectomy solely on recurrent GAS. Oral clindamycin 20-30 m/kg per day in 3 doses (max 900 mg per day) for 10 days has been reported most effective. <sup>1</sup>

## TONSILLECTOMY

Tonsillectomy is sometimes indicated for recurrent GAS. According to the American Academy of Otolaryngology-Head and Neck Surgery guidelines, clinicians should recommend watchful waiting for recurrent throat infection if there has been less than 7 episodes in one year, 5 episodes per year for two consecutive years, or 3 episodes per year for three consecutive years. Clinicians should assess the child with recurrent throat infection who does not meet the above criteria for modifying factors that may nonetheless favor tonsillectomy, including but not limited to: multiple antibiotic allergies/intolerances, more than one episode of peritonsillar abscess, PFAPA. <sup>4</sup>

## REFERENCES

1. American Academy of Pediatrics. Group A Streptococcal Infections. 694-707. In: Kimberlin DW, Barnett ED, Lynfield R, Sawyer MD, eds. Red Book: 2021 Report of the Committee on Infectious Diseases. Itasca, IL: American Academy of Pediatrics: 2021 (694-707).
2. Barnes M, Youngkin E, Zipprich J, et al. Notes from the Field: Increase in Pediatric Invasive Group A Streptococcal Infections – Colorado and Minnesota, October-December 2022. MMWR Morb Mortal Wkly Rep 2023; 72:265-267.
3. CCHMC Proprietary Lab Data not published or for distribution.
4. Mitchell RB, Archer SM, Ishman SL, et al. Clinical Practice Guideline: Tonsillectomy in Children (Update). Otolaryngology – Head and Neck Surgery. 2019; 160 (1\_suppl): S1-S42.
5. CDC (<https://www.cdc.gov/groupastrep/igas-infections-investigation.html>)