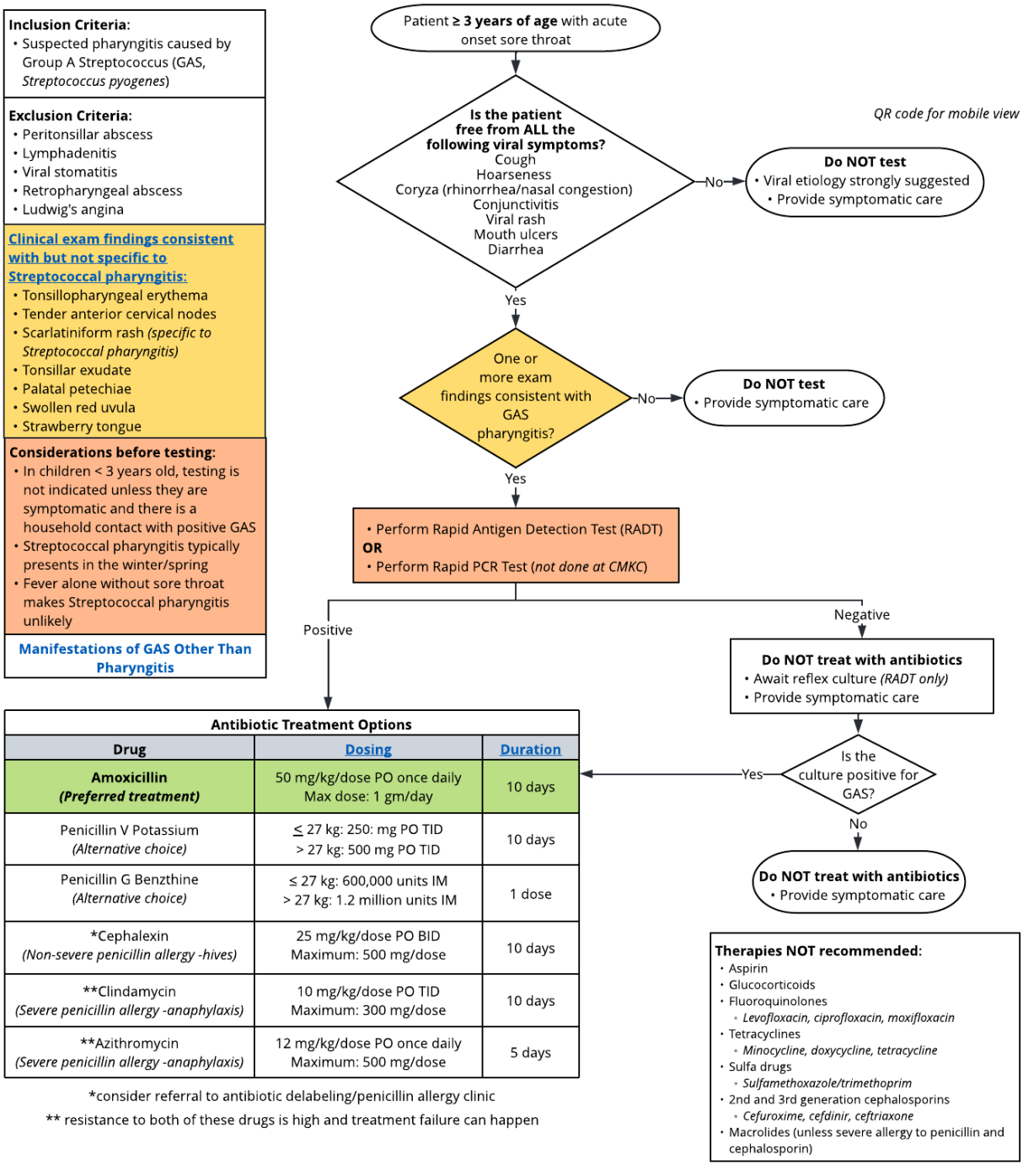
Pharyngitis
Clinical Pathway Synopsis

Pharyngitis Clinical Pathway Algorithm



Antibiotic Treatment Options

Drug	Dosing	Duration
Amoxicillin ***(Preferred treatment)***	50 mg/kg/dose PO once daily Max dose: 1 gm/day	10 days
Penicillin V Potassium *(Alternative choice)*	≤ 27 kg: 250: mg PO TID > 27 kg: 500 mg PO TID	10 days
Penicillin G Benzthine *(Alternative choice)*	≤ 27 kg: 600,000 units IM > 27 kg: 1.2 million units IM	1 dose
*Cephalexin *(Non-severe penicillin allergy -hives)*	25 mg/kg/dose PO BID Maximum: 500 mg/dose	10 days
**Clindamycin *(Severe penicillin allergy -anaphylaxis)*	10 mg/kg/dose PO TID Maximum: 300 mg/dose	10 days
**Azithromycin *(Severe penicillin allergy -anaphylaxis)*	12 mg/kg/dose PO once daily Maximum: 500 mg/dose	5 days

*consider referral to antibiotic delabeling/penicillin allergy clinic

** resistance to both of these drugs is high and treatment failure can happen

Given that complications of GAS pharyngitis are rare, the benefit of antibiotic use may not outweigh the risks of therapy in all patients.

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Objective of Clinical Pathway

To provide care standards for the patient diagnosed with Group A Streptococcus (GAS) pharyngitis. The Pharyngitis Clinical Pathway will standardize care and improve health outcomes in pediatric patients with GAS pharyngitis by establishing care focused on diagnosis, initiation of treatment and proper follow up as needed.

Epidemiology

GAS is the most common cause of bacterial pharyngitis in children and adolescents. It accounts for 20 to 30 percent of all cases of pharyngitis in children between the ages of 5 and 15 years (Ashurst & Edgerley-Gibb, 2023), and peaks at 7 to 8 years of age. GAS pharyngitis is most common in school-age children but may occur in younger children, especially if they have close contact with school-age children. Prevalence of GAS pharyngitis among school-aged children who present to an outpatient clinic or emergency department with sore throat is around 37 percent. The prevalence among children < 5 years is around 24 percent (Ashurst & Edgerley-Gibb, 2023). Up to 60% of patients with sore throats seen in primary care receive prescriptions for antimicrobials, while only five to 30% are likely to have GAS pharyngitis (Rao et al., 2019; Shulman et al., 2012).

Target Users

- Physicians (Residents, Fellows, Hospitalists, ED, UCC, Pediatricians)
- Nurses (Advanced Practice, Direct Care)
- Laboratory
- Patients and Families

Target Population

Inclusion Criteria

- Patients ≥ 3 years of age with complaint of a sore throat
- Suspected pharyngitis caused by GAS (*Streptococcus pyogenes*)

Exclusion Criteria

- Peritonsillar abscess
- Lymphadenitis
- Viral stomatitis
- Retropharyngeal abscess
- Ludwig's angina

AGREE II

The Clinical Practice Guideline for the Diagnosis and Management of Group A Streptococcal Pharyngitis by the Infectious Diseases Society of America (IDSA) national guideline(s) provided guidance to the Pharyngitis Clinical Pathway committee (Shulman et al., 2012). See Table 1 for AGREE II.

Table 1

AGREE II[a] Summary for the IDSA Guideline (Shulman et al., 2012)

Domain	Percent Agreement	Percent Justification^
Scope and purpose	99%	The aim of the guideline, the clinical questions posed, and target populations **were** identified.
Stakeholder involvement	78%	The guideline **was developed** by the appropriate stakeholders, but it is unclear if they obtained the views of its intended users, specifically patients and families.
Rigor of development	92%	The process used to gather and synthesize the evidence, the methods to formulate the recommendations and to update the guidelines **were** explicitly stated.
Clarity and presentation	97%	The guideline recommendations **are** clear, unambiguous, and easily identified; in addition, different management options are presented.
Applicability	55%	The guideline **did not** fully and clearly address implementation barriers and facilitators, utilization strategies, but did address resource costs associated with implementation.
Editorial independence	100%	The recommendations **were not** biased with competing interests.

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Overall guideline assessment	86%
See Practice Recommendations	

Note: Four EBP Scholars completed the AGREE II on this guideline.
^Percentage justification is an interpretation based on the Children's Mercy EBP Department standards.

Practice Recommendations

Please refer to the Infectious Diseases Society of America (IDSA) (Shulman et al., 2012) clinical practice guideline for full practice recommendations, evaluation, and treatment recommendations.

Additional Questions Posed by the Clinical Pathway Committee

1. In pediatric patients diagnosed with group A streptococcal pharyngitis, is amoxicillin given QD as effective as amoxicillin or penicillin VK given BID?
2. In pediatric patients with group A streptococcal pharyngitis, is a 5–7-day course of antibiotics as effective as a 10-day course?

Updates from Previous Versions of the Clinical Pathway

- *Power plans updated to include oral prescription medications as well as intramuscular penicillin. The previous version only included the IM dosing.*
- *Caregiver education in the HER depart process was updated to better convey the evidence.*

Recommendation Specific for Children's Mercy

No deviations were made from the IDSA 2012 guideline regarding practice recommendations, but logistical processes specific to Children's Mercy were added and/or affirmed.

1. Based on best evidence and a review of additional considerations, a strong recommendation is made for amoxicillin provided once daily over a 10-day course supported by literature of very low certainty and additional considerations, including a decrease in burden with only once a day dosing (see critically appraised topic on dosing frequency, additional question 1).

2. The Pharyngitis Clinical Pathway Committee recommends continuing the current practice of providing a 10-day course of antibiotics for patients with microbiologically confirmed (GAS) pharyngitis in accordance with national guidelines, as ten days of therapy was found to be superior to 5-7 days for the outcome of bacterial eradication, based on low certainty of evidence (see critically appraised topic on dosing duration, additional question 2).

Measures

- Antibiotic frequency and duration
- Antibiotic selection

Value Implications

The following improvements may increase value by reducing healthcare and non-monetary costs (e.g., missed school/work, loss of wages, stress) for patients and families and reducing costs and resource utilization for healthcare facilities.

- Decreased risk of overtreatment (i.e., testing for GAS pharyngitis as indicated, utilization of preferred antibiotics over optional antibiotics to align with antibiotic stewardship)
- Decreased unwarranted variation in care

Organizational Barriers and Facilitators

Potential Barriers

- Variability of acceptable level of risk among providers

Potential Facilitators

- Collaborative engagement across care continuum settings during clinical pathway development
- High rate of use of the clinical pathway
- Standardized order set for Urgent Care Clinic, Emergency Department, Hospital Medicine, and Pediatric Care Clinics

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Diversity/Equity/Inclusion

Our aim is to provide equitable care. These issues were discussed with the Committee, reviewed in the literature, and discussed prior to making any practice recommendations.

Power Plans

- EDP Pharyngitis Pathway
- Primary Care Pharyngitis Pathway

ED Quick Visit Orders

- Strep Pharyngitis
- Rapid Strep Test Standing Order

Associated Policies

- There are no associated policies with this pathway

Education Materials

- Testing and Care for Patient with Strep Throat
  - Intended to be discussed and provided to the patient and family at time of discharge.
  - Found in Cerner depart instructions or the Pharyngitis Clinical Pathway website page.
  - Available in English and Spanish

Clinical Pathway Preparation

This pathway was prepared by the Evidence Based Practice (EBP) Department in collaboration with the Pharyngitis Clinical Pathway Committee composed of content experts at Children's Mercy Kansas City. Literature analysis for additional questions posed by the Pharyngitis Committee was performed by EBP Scholars and the EBP team. The development of this pathway supports the Quality Excellence and Safety Division's initiative to promote care standardization that is evidenced by measured outcomes. If a conflict of interest is identified, the conflict will be disclosed next to the committee member's name.

Pharyngitis Clinical Pathway Committee Members and Representation

- Rana El Feghaly, MD, MSCI | Infectious Diseases | Committee Co-Chair
- Kedar Tilak, MBBS, MD | Fellow – Infectious Diseases/Neonatal-Perinatal Medicine | Committee Co-Chair
- Allison Burris, MD | Urgent Care Clinic | Committee Member
- Jessica Costalez, MD | Emergency Medicine | Committee Member
- Juhi Kangas, MD | Pediatric Care Clinic | Committee Member
- Christine Scoby, DO | Hospital Medicine | Committee Member
- Alaina Burns, PharmD, BCPPS | Infectious Diseases | Committee Member

Patient/Family Committee Member

- Julie M. Smith, BA | Patient and Family Engagement | Committee Member

EBP Committee Members

- Kathleen Berg, MD, FAAP | Hospitalist, Evidence Based Practice
- Andrea Melanson, OTD, OTR/L | Evidence Based Practice
- Kori Hess, PharmD | Evidence Based Practice

Clinical Pathway Development Funding

The development of this clinical pathway was underwritten by the following departments/divisions: Infectious Diseases, Emergency Medicine, Primary Care Clinic, Hospital Medicine, and Evidence Based Practice.

Conflict of Interest

The contributors to the Pharyngitis Clinical Pathway have no conflicts of interest to disclose related to the subject matter or materials discussed.

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Approval Process

- This pathway was reviewed and approved by the Pharyngitis Committee, Content Experts, and the EBP Department; after which they were approved by the Medical Executive Committee.
- Pathways are reviewed and updated as necessary every 3 years within the EBP Department at CMKC. Content expert teams are involved with every review and update.

Review Requested

Department/Unit	Date Obtained
Infectious Diseases	February 2024
Emergency Medicine	February 2024
Hospital Medicine	January 2024
Pediatric Care Clinic	January 2024
Pharmacy	January 2024
Urgent Care Clinic	February 2024

Version History

Date	Comments
April 2018	Version one – Developed guidance to standardize diagnostics, treatment, and proper follow-up for pediatric patients with streptococcal pharyngitis
February 2024	Version two – Updated algorithm and power plans to reflect current literature on antibiotic dosing and frequency. Parent education in the EHR was also updated and consolidated to improve understanding of education provided.

Date for Next Review

- February 2027

Implementation & Follow-Up

- Once approved, the pathway was presented to appropriate care teams and implemented. Care measurements will be assessed and shared with appropriate care teams to determine if changes need to occur.
- Power plans consistent with recommendations were updated for each care setting.
- Education was provided to all stakeholders:
    - Providers from Infectious Diseases, Emergency Medicine, Urgent Care, Pediatric Care Clinics, and Hospital Medicine
- Additional institution-wide announcements were made via email, the hospital website, and relevant huddles.
- Metrics will be assessed and shared with appropriate care teams to determine if changes need to occur.

Disclaimer

When evidence is lacking or inconclusive, options in care are provided in the supporting documents and the power plan(s) accompanying the clinical pathway.

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