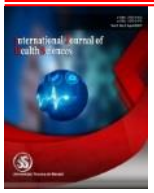

International Journal of Health Sciences
Available online at www.sciencescholar.us
Vol. 10 No. 2, August 2026, pages: 117-122
E-ISSN: 2550-696X
https://doi.org/10.53730/ijhs.v10n2.15943

Sore Throat in Pregnancy: Etiology, Diagnosis, and Evidence-Based Safe Management

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Manuscript submitted: 27 March 2026, Manuscript revised: 09 April 2026, Accepted for publication: 12 May 2026

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Keywords

antibiotic stewardship;
Group A Streptococcus;
laryngopharyngeal reflux;
pharyngitis;
pregnancy;
sore throat;
upper respiratory tract infection;

Abstract

Sore throat (pharyngitis) is one of the most common otolaryngological complaints in pregnancy, most frequently caused by viral upper respiratory tract infections. Pregnancy induces immunological modulation, hormonal changes, and mechanical effects that increase susceptibility to infectious and non-infectious causes, including laryngopharyngeal reflux. While most cases are self-limited, prompt identification of bacterial pharyngitis—particularly Group A β-haemolytic Streptococcus (GAS)—is essential to prevent maternal complications such as invasive disease and obstetric sequelae, including preterm labour. This narrative review summarizes the etiology, pathophysiology, clinical evaluation, diagnosis, and management of sore throat in pregnancy. Non-pharmacological measures and acetaminophen are first-line for symptom relief. For confirmed GAS, penicillin V or amoxicillin remains the antibiotic of choice. Emphasis is placed on risk stratification using clinical scores, antibiotic stewardship, and foetal-safe care. Early recognition and individualized management minimize risks to the mother and foetus. Further prospective studies are needed to strengthen pregnancy-specific guidelines.

Contents

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1 Introduction

Sore throat is a frequent symptom in pregnant women, resulting from the high incidence of upper respiratory tract infections (URTIs) combined with pregnancy-specific physiological vulnerabilities. Immune modulation during pregnancy, characterized by a shift toward Th2-dominant responses, confers relative impairment of cell-mediated immunity (Vlastarakos et al., 2008). Hormonal influences (elevated progesterone) and mechanical compression by the gravid uterus exacerbate gastroesophageal and laryngopharyngeal reflux (LPR), which can mimic or coexist with infectious pharyngitis in a large proportion of pregnancies (Kumar et al., 2011; Hamilton et al., 2013).

Most episodes are viral and resolve spontaneously within 3–7 days. However, untreated bacterial pharyngitis due to GAS carries risks of suppurative and non-suppurative complications, as well as potential links to adverse obstetric outcomes such as preterm birth (Laibl & Sheffield, 2006). This review provides an evidence-based, clinically oriented synthesis for obstetricians, general practitioners, and midwives, focusing on safe diagnostic and therapeutic strategies while promoting antimicrobial stewardship.

2 Epidemiology

Exact prevalence data for sore throat in pregnancy are limited. Viral URTIs, with pharyngitis as a prominent feature, affect a substantial proportion of pregnant women, with some cohorts reporting at least one episode in 46–71% of pregnancies (Murphy et al., 2013). Viral pathogens account for 50–80% of adult pharyngitis cases, while GAS is responsible for 5–15% (Choby, 2009). Pregnancy does not markedly increase GAS incidence but is associated with greater severity of invasive GAS infections, particularly in the third trimester and postpartum period (Rottenstreich et al., 2019; Khalil et al., 2023).
Risk factors include obesity, gestational diabetes, anaemia, asthma, and seasonal viral circulation.

Aetiology and Pathophysiology

Viral causes predominate (rhinovirus, coronavirus, influenza, adenovirus, respiratory syncytial virus). Pregnancy-related rhinitis and increased mucosal vascularity facilitate viral entry and inflammation (Erebara et al., 2008). Bacterial pharyngitis is most often due to GAS (Streptococcus pyogenes), with occasional involvement of Group C/G streptococci or other pathogens.

Non-infectious etiologies are prominent: LPR/GERD affects >70% of pregnancies due to progesterone-mediated lower esophageal sphincter relaxation, delayed gastric emptying, and uterine compression (Ramu et al., 2011). Allergic or vasomotor rhinitis with post-nasal drip and mouth breathing further contribute to pharyngeal irritation. Physiological immunosuppression and increased oxygen demand may prolong symptoms or predispose to secondary bacterial infection. Severe maternal inflammation can trigger uterine contractions or placental hypoperfusion (Laibl & Sheffield, 2006).

3 Clinical Evaluation and Diagnosis

History should include symptom onset, associated features (fever, cough, rhinorrhoea, fatigue), sick contacts, red-flag symptoms (severe odynophagia, dysphagia, stridor, rash), gestational age, and reflux symptoms. Physical examination evaluates pharyngeal erythema, tonsillar exudate, palatal petechiae, cervical lymphadenopathy, and airway patency. The modified Centor (McIsaac) score aids risk stratification for GAS (Table 1). The 2025 Infectious Diseases Society of America (IDSA) guidelines support the use of such scores to reduce unnecessary testing in low-risk patients (Barshak et al., 2026; Muthanna et al., 2022).

Rapid antigen detection testing (RADT) is recommended when suspicion is moderate-to-high. In adults, a negative RADT typically does not require throat culture. Throat culture is the gold standard when RADT is unavailable. Viral testing is reserved for suspected influenza or SARS-CoV-2. Laboratory or imaging studies are indicated only for systemic illness or suspected complications.

Table 1
Modified Centor (McIsaac) Score for Predicting Group A Streptococcal Pharyngitis

Criterion	Points
Age 15–44 years	0
Tender anterior cervical lymphadenopathy	+1
Tonsillar exudate or swelling	+1
Fever (history or measured)	+1
Absence of cough	+1

Interpretation in adults (approximate GAS probability): Score 0–1: low risk (no testing recommended); Score 2–3: moderate risk (test); Score ≥4: higher risk (consider testing or empiric therapy in select settings, though not routine in pregnancy).

Differential Diagnosis

- Viral pharyngitis (most common)
- Streptococcal (GAS) pharyngitis
- Laryngopharyngeal reflux or GERD
- Allergic or post-nasal drip pharyngitis
- Less common: infectious mononucleosis, primary HIV, gonococcal pharyngitis, peritonsillar abscess

Management

Non-Pharmacological Measures (First-line, safe in all trimesters)

- Hydration and rest
- Warm salt-water gargles (½ teaspoon salt in 240 mL warm water, several times daily)
- Cool-mist humidification
- Honey in warm fluids (safe for pregnant women)
- Lozenges with menthol or pectin
- Reflux management: head-of-bed elevation, small frequent meals, avoidance of triggers (Gregory et al., 2018).

Symptomatic Pharmacotherapy

Acetaminophen is the analgesic and antipyretic of choice (≤3–4 g/day, lowest effective dose) (American Pregnancy Association, 2026). Non-steroidal anti-inflammatory drugs should be avoided after 20 weeks due to fetal risks (MotherToBaby, 2023). Antihistamines (e.g., chlorpheniramine) or intranasal saline/corticosteroids may help with allergic components. Topical benzocaine preparations have minimal systemic absorption and may be used for short-term.

Antibiotics

Reserve for confirmed or highly suspected GAS pharyngitis. First-line agents per safety data and 2025 IDSA updates:

- Phenoxymethylpenicillin 500 mg orally four times daily for 10 days, or
- Amoxicillin 500 mg orally three times daily for 10 days.

These are pregnancy category B with extensive safety data (Centers for Disease Control and Prevention, 2025; UpToDate, 2024). Cephalexin is an alternative for non-anaphylactic penicillin allergy; macrolides (e.g., azithromycin) for true allergy (guided by local resistance patterns) (Kanagasabai et al., 2024).

Treatment modestly shortens symptoms, prevents transmission, and reduces complications. In pregnancy, prompt therapy is important to mitigate risks of invasive GAS and preterm labour [7,8]. Antibiotics are not indicated for viral pharyngitis.

Table 2
Summary of Safe Management Options in Pregnancy

Category	Recommended Agents/Measures	Notes
Non-pharmacological	Hydration, gargles, humidification, honey, lozenges, reflux lifestyle changes	First-line, all trimesters
Analgesia/Antipyretic	Acetaminophen (≤3–4 g/day)	Preferred across trimesters
Antibiotics (GAS only)	Penicillin V or amoxicillin (10 days)	First-line, category B
Allergy alternatives	Cephalexin; azithromycin	Per guidelines and resistance patterns

Complications and Pregnancy-Specific Considerations
Most viral cases are uncomplicated. Untreated GAS may lead to peritonsillar abscess, scarlet fever, rheumatic fever, or glomerulonephritis. In pregnancy, severe infection can cause fever-induced contractions, fetal hypoxia, or invasive disease with higher morbidity in the peripartum period [7,9,18]. Fetal medication risks are minimized by using category B agents and limiting unnecessary drugs. Multidisciplinary consultation (obstetrics, infectious diseases, ENT) is advised for severe, recurrent, or complicated cases.

Prevention
- Hand hygiene and respiratory etiquette
- Influenza and COVID-19 vaccination (strongly recommended)
- Avoidance of sick contacts
- Reflux optimization and general health maintenance

Special Populations and Future Directions
Heightened vigilance is warranted in women with obesity, gestational diabetes, or asthma. Research priorities include prospective validation of diagnostic scores in pregnancy, longitudinal outcome data comparing viral versus bacterial pharyngitis, and evaluation of adjunctive therapies.

4 Conclusion

Sore throat in pregnancy is usually viral and benign, but requires careful evaluation to identify bacterial causes and non-infectious contributors such as LPR. A stepwise approach emphasizing non-pharmacological measures, acetaminophen, and targeted penicillin-class antibiotics for confirmed GAS optimizes safety for mother and fetus while supporting antibiotic stewardship. Clinicians should individualize care according to gestational age, comorbidities, and symptom severity. High-quality pregnancy-focused studies are needed to refine future guidelines.

Declarations
Conflicts of Interest: The authors declare no conflicts of interest.
Funding: None.
Author Contributions: Conceptualization, Literature review, Writing – original draft, Review & editing
Ethics Approval: Not applicable (narrative review).
Acknowledgements: None.

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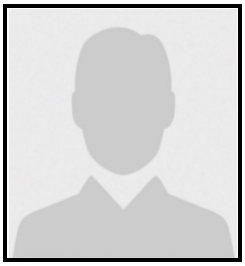

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