

CHRONIC TONSILLITIS: MODERN DIAGNOSTIC AND TREATMENT APPROACHES

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Abstract: Chronic tonsillitis is a common and often underrecognized inflammatory condition of the palatine tonsils that places a substantial burden on patients and healthcare systems worldwide. This narrative review synthesizes current evidence on the epidemiology, pathophysiology, diagnosis, and management of chronic and recurrent tonsillitis, drawing on clinical practice guidelines, systematic reviews, and consensus statements from otolaryngology and infectious disease societies. Pathogenesis is increasingly understood to center on the formation of bacterial biofilms within tonsillar crypts, which sustain a self-perpetuating cycle of microbial colonization, chronic local immune activation, and recurrent acute exacerbation. Diagnosis relies on a structured clinical history, validated scoring systems for group A streptococcal pharyngitis, and, for recurrent disease, standardized frequency criteria used to guide the decision between continued medical management and surgical referral. Treatment follows a stepwise approach: supportive care and, when bacterial infection is confirmed, targeted antibiotic therapy for acute episodes; a period of structured observation, or watchful waiting, for most patients with recurrent disease; and tonsillectomy reserved for patients who meet established frequency criteria or who have qualifying modifying factors. Continued refinement of diagnostic criteria and individualized, evidence-based selection for surgery remain central to optimizing outcomes and reducing unnecessary intervention.

Keywords: Chronic tonsillitis, recurrent tonsillitis, tonsillar biofilm, group A streptococcus, Paradise criteria, tonsillectomy, PFAPA syndrome, pharyngitis.

Methods

This work was prepared as a narrative literature review. A literature search was conducted in August 2026 using PubMed, the Cochrane Library, and the websites of major otolaryngology and infectious disease societies, with the search terms “chronic tonsillitis,” “recurrent tonsillitis,” “tonsillar biofilm,” “tonsillectomy,” and “group A

streptococcal pharyngitis,” combined with filters for publication in English between 2011 and 2026. Priority was given to clinical practice guidelines issued by recognized otolaryngology and infectious disease societies, systematic reviews, and peer-reviewed original research; narrative summaries from established clinical reference sources were included for foundational background. Case reports and articles without accessible full text were excluded. A total of eleven sources meeting these criteria were selected and synthesized for this review.

Introduction

The palatine tonsils are paired lymphoid structures situated in the lateral oropharynx as part of Waldeyer’s ring, serving as a first-line immunologic barrier against inhaled and ingested pathogens [6]. Tonsillitis, or inflammation of the tonsils, accounts for a substantial share of outpatient and emergency visits worldwide and is caused by viral infection in the large majority of cases, with group A β -hemolytic streptococcus (*Streptococcus pyogenes*) responsible for most bacterial cases in both children and adults [4].

While a single episode of acute tonsillitis typically resolves with supportive care or a short course of antibiotics, a subset of patients develops recurrent acute tonsillitis or chronic tonsillitis, characterized by persistent low-grade inflammation, crypt debris, halitosis, and repeated symptomatic episodes that substantially affect quality of life and generate considerable direct and indirect healthcare costs [1], [3]. Chronic and recurrent tonsillitis pose distinct diagnostic and management challenges compared with isolated acute infection, and an ongoing debate persists regarding the optimal threshold for surgical referral [1].

The aim of this review is to summarize current evidence on the pathophysiology, diagnosis, and stepwise management of chronic tonsillitis, with particular emphasis on evidence-based criteria for distinguishing patients who benefit from continued medical management from those who benefit from tonsillectomy.

Understanding the modern approach to chronic tonsillitis is relevant across several areas of clinical practice, including:

- Otolaryngology (diagnosis, surgical indication, and perioperative management)
- Pediatrics and primary care (initial evaluation, antibiotic stewardship, and referral timing)
- Infectious disease (differentiation of streptococcal from viral and other bacterial causes)
- Immunology and microbiology (biofilm biology and host immune response)
- Public health and health economics (burden of recurrent outpatient visits and hospital admissions)

Etiology and Pathophysiology

Acute tonsillitis is caused by a viral infection in approximately 70–95% of cases, while group A β -hemolytic streptococcus accounts for tonsillitis in roughly 5–15% of affected adults and 15–30% of children between five and fifteen years of age; other

bacterial pathogens, including *Staphylococcus aureus* and *Haemophilus influenzae*, are also implicated, particularly in recurrent and chronic disease [4], [6].

A key factor distinguishing chronic and recurrent tonsillitis from isolated acute infection is the formation of bacterial biofilms within the tonsillar crypts. These structured microbial communities, encased in a self-produced extracellular matrix, protect embedded bacteria from host immune defenses and reduce antibiotic penetration, allowing pathogens to persist between symptomatic episodes and repeatedly reseed infection [7]. This biofilm-driven persistence helps explain why chronic and recurrent tonsillitis often responds only transiently to antimicrobial therapy and why repeated antibiotic courses can contribute to antimicrobial resistance without resolving the underlying reservoir of infection [7].

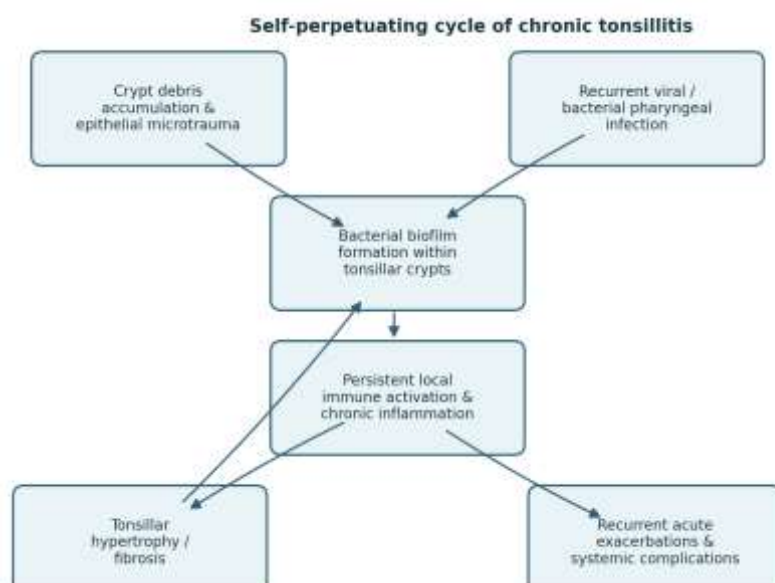


Figure 1. Self-perpetuating cycle of chronic tonsillitis: crypt debris accumulation and recurrent infection promote biofilm formation, which sustains chronic local inflammation, tonsillar hypertrophy, and further exacerbations.

Emerging evidence has also identified associations between chronic tonsillitis and other persistent organisms, including *Helicobacter pylori* colonization of tonsillar tissue, suggesting that the microbial ecology of chronic disease may be broader than classically recognized pathogens alone [10]. In a distinct subset of children, recurrent pharyngotonsillitis occurs as part of PFAPA syndrome (periodic fever, aphthous stomatitis, pharyngitis, and cervical adenitis), an autoinflammatory rather than primarily infectious process that nonetheless represents an accepted modifying factor favoring earlier surgical referral [13].

Clinical Features and Diagnosis

Acute tonsillitis typically presents with sore throat, odynophagia, fever, and erythematous or exudative tonsils, often accompanied by cervical lymphadenopathy [6]. Chronic tonsillitis is characterized by more indolent, persistent findings, including chronic sore throat or throat discomfort, halitosis related to retained crypt debris, tonsillar

hypertrophy or scarring, and recurrent episodes of frank acute exacerbation superimposed on this background [7].

A validated symptom-based scoring system, such as the Centor score, together with oropharyngeal and serum laboratory testing, assists in differentiating streptococcal from other causes of pharyngitis and tonsillitis; this distinction is clinically important because group A streptococcal infection carries a risk of progression to suppurative complications and to nonsuppurative sequelae such as acute rheumatic fever and post-streptococcal glomerulonephritis if inadequately treated [4], [5].

For patients presenting with recurrent episodes, standardized frequency-based criteria, most widely the Paradise criteria, are used to characterize disease severity and to inform the decision between continued observation and referral for surgical evaluation, as summarized in Table 1 [8], [9].

Table 1. Paradise Criteria for Recurrent Throat Infection [8], [9]

Frequency of Episodes	Time Frame	Required Documentation per Episode
≥ 7 episodes	In the preceding 1 year	Sore throat plus ≥ 1 of: fever $> 38.3^{\circ}\text{C}$, cervical lymphadenopathy, tonsillar exudate, positive culture for group A β -hemolytic streptococcus
≥ 5 episodes per year	In each of the preceding 2 years	Same as above
≥ 3 episodes per year	In each of the preceding 3 years	Same as above

Infectious mononucleosis due to Epstein-Barr virus is an important differential diagnosis in adolescents and young adults presenting with severe exudative tonsillitis, often accompanied by marked fatigue, posterior cervical lymphadenopathy, and splenomegaly, and should be considered particularly before initiating amoxicillin, which can precipitate a characteristic rash in this setting [11]. Asymmetric or persistently enlarged tonsillar tissue that does not follow a typical infectious course warrants evaluation to exclude tonsillar lymphoma or other neoplastic causes [6].

Treatment

Management follows a stepwise approach guided by episode frequency, severity, and the presence of modifying factors. For individual episodes of acute tonsillitis, treatment is primarily supportive, including analgesia, hydration, and rest; antibiotic therapy is reserved for cases with confirmed or strongly suspected group A streptococcal infection, for which penicillin remains the recommended first-line agent given its narrow spectrum,

established efficacy, and low cost, with amoxicillin as a commonly used alternative [4], [6].

For patients with recurrent acute tonsillitis who do not meet criteria for surgery, a period of watchful waiting is strongly recommended, generally for at least twelve months, since many children experience a substantial spontaneous decline in episode frequency over time and since the benefit of tonsillectomy in less severely affected patients is comparatively modest [2], [9]. A 2023 systematic review and consensus statement further emphasized individualized, evidence-based decision-making for tonsillectomy, reflecting an ongoing shift away from fixed thresholds toward a more nuanced assessment of disease burden and patient-reported impact on quality of life [1].

Tonsillectomy is indicated for patients who meet the Paradise frequency criteria or who have qualifying modifying factors, and remains one of the most frequently performed surgical procedures in both pediatric and adult otolaryngology practice [2], [9]. Absolute and relative indications are summarized in Table 2.

Table 2. Indications for Tonsillectomy in Recurrent or Chronic Tonsillitis [2], [8], [9], [13]

Category	Indications
Absolute	Recurrent throat infection meeting Paradise criteria; obstructive sleep-disordered breathing confirmed by polysomnography; suspected malignancy; hemorrhagic tonsillitis
Relative / modifying factors	PFAPA syndrome (periodic fever, aphthous stomatitis, pharyngitis, adenitis); history of peritonsillar abscess; antibiotic allergy or intolerance; multiple antibiotic treatment failures; halitosis or significant impact on quality of life
Not indicated	Fewer than 7 episodes in the past year, fewer than 5 per year over 2 years, or fewer than 3 per year over 3 years, without modifying factors — watchful waiting is recommended for at least 12 months

Perioperative management has also been refined by clinical practice guidelines, which recommend a single intraoperative dose of intravenous dexamethasone to reduce postoperative nausea and pain, and ibuprofen and/or acetaminophen rather than opioids as first-line analgesia after tonsillectomy [9]. Adjunctive and alternative approaches targeting biofilm-associated disease, including partial tonsillectomy (tonsillotomy) and cryptolysis techniques, continue to be studied as options that may reduce surgical morbidity while addressing the underlying crypt reservoir of infection in selected patients [1], [7].

Complications and Systemic Burden

Untreated or inadequately managed group A streptococcal tonsillitis carries a risk of suppurative complications, including peritonsillar abscess, as well as nonsuppurative sequelae such as acute rheumatic fever and post-streptococcal glomerulonephritis [4], [5]. Beyond individual complications, recurrent and chronic tonsillitis generate a considerable cumulative burden through repeated outpatient visits, antibiotic courses, missed school or work days, and, in some health systems, avoidable hospital admissions for acute exacerbations, underscoring the value of accurate diagnosis and judicious selection of patients for surgical referral [3], [4].

Conclusion

Chronic tonsillitis reflects a self-perpetuating cycle in which crypt debris accumulation, bacterial biofilm formation, and persistent local immune activation sustain recurrent symptomatic disease. Accurate diagnosis rests on a structured clinical history, validated tools for identifying streptococcal infection, and standardized frequency criteria for characterizing recurrent disease severity.

Management should proceed stepwise, beginning with supportive care and targeted antibiotic therapy for confirmed bacterial episodes, followed by a defined period of watchful waiting for most patients with recurrent disease, and reserving tonsillectomy for patients who meet established frequency criteria or who have qualifying modifying factors such as PFAPA syndrome or peritonsillar abscess.

Continued refinement of diagnostic thresholds and individualized, evidence-based patient selection for surgery remain central priorities for reducing both the burden of unmanaged recurrent disease and the morbidity associated with unnecessary intervention.

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