Guideline for
The Diagnosis and Management of Acute Pharyngitis

This clinical practice guideline (CPG) was developed by a Clinical Practice Guideline working group. The guideline is intended for use with the immunocompetent individual. The goal of this guideline is to reduce inappropriate use of antibiotics in the treatment of pharyngitis.

MANAGEMENT

Diagnosis

- Viruses are the most common cause of acute pharyngitis. Throat cultures do NOT need to be done when viral infection is suspected by the presence of: rhinorrhea, hoarseness, cough, and conjunctivitis.
- Group A Streptococcal pharyngitis is uncommon in children < 3 years old.
- A throat swab for culture must be done to reliably diagnose Group A Streptococcal pharyngitis.
- Patients with all four of the classic symptoms of Group A Streptococcal pharyngitis:
  - pharyngeal or tonsillar exudate
  - swollen anterior cervical nodes
  - a history of a fever greater than 38°C
  - absence of cough
  have a 44% chance that they will NOT have Group A Streptococcal pharyngitis.
- Rapid strep (antigen detection) tests lack sensitivity, lack evidence of improved clinical outcome and are NOT recommended.
- Antibody tests (ASOT) are of no immediate value in the diagnosis or treatment of acute Group A Streptococcal pharyngitis.
- Repeat (post treatment) throat cultures are not routinely recommended.

Treatment

Viral Pharyngitis

- Antibiotics are NOT indicated.
- Symptomatic treatment with over-the-counter pain relievers such as oral acetaminophen or ibuprofen may be helpful in relieving discomfort from pharyngitis.
- Products such as antiseptic/antibacterial lozenges, sprays and antibacterial mouthwashes/gargles are not recommended as they may lead to resistance.

Group A Streptococcal Pharyngitis

- Delay treatment until culture confirms diagnosis.
- Empiric antibiotic therapy is not recommended but the Clinical Practice Guideline working group acknowledges that in certain circumstances (lack of patient follow-up; lack of laboratory access; toxic presentation) patients presenting with all four classic symptoms of Group A Streptococcal pharyngitis (pharyngeal or tonsillar exudates, swollen anterior cervical glands, history of fever 38°C, and absence of cough), can be treated empirically with antibiotics (see over).
- Antibiotic therapy for confirmed Group A Streptococcal Pharyngitis decreases:
  - severity of symptoms
  - duration of symptoms by ~1 day
  - risk of transmission (after 24 hours of therapy)
  - likelihood of suppurative complications and rheumatic fever
- Antibiotic therapy for confirmed Group A Streptococcal Pharyngitis decreases:For Group A Streptococcal pharyngitis, a full 10 day course is recommended to prevent acute rheumatic fever.
- There is no good evidence that shorter antibiotic courses (including cephalosporins and newer macrolides) are as effective as 10 days.
- Confirmed Group A Streptococcal pharyngitis should be treated with penicillin unless contraindicated.

The above recommendations are systematically developed statements to assist practitioner and patient decisions about appropriate health care for specific clinical circumstances. They should be used as an adjunct to sound clinical decision making.
Alternatives in Penicillin Allergic Patients

- Oral erythromycin or clindamycin is acceptable for patients allergic to penicillin.

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<tr>
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<th>Children</th>
<th>Adults</th>
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<tbody>
<tr>
<td>Clindamycin</td>
<td>20mg/kg/day PO tid for 10 days</td>
<td>300mg PO tid for 10 days</td>
</tr>
<tr>
<td>Erythromycin</td>
<td>40mg/kg/day PO tid for 10 days</td>
<td>250mg PO qid or 333mg PO tid for 10 days</td>
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Antibiotics NOT Recommended in Pharyngitis

- TMP/SMX has no activity against Group A Streptococcus.
- It is the opinion of the Clinical Practice Guideline working group, that because of rapidly emerging bacterial resistance in commensal flora with subsequent transfer to pathogens, these broad spectrum antibiotics, including the quinolones and caphilosporins should NOT be used in the treatment of Group A Streptococcal pharyngitis.

Management of Non-Responders

- If a patient with confirmed Group A Streptococcal pharyngitis remains symptomatic on appropriate antibiotic therapy after 72 hours, the patient should be reassessed for such factors as:
  - acute complications of Group A Streptococcal pharyngitis (e.g., peritonsillar abscess)

Management of Symptomatic Recurrences

- If the patient has 3 or more culture confirmed symptomatic episodes of Group A Streptococcal pharyngitis in a one year period assess for:
  - carrier status and transmission within families
  - concurrent viral infections
  - compliance.
where one family member or close contact may be an asymptomatic carrier of Group A Streptococcus.
- do throat swab during asymptomatic interval to document carrier status of patients to document carrier status
- do throat swab during of all household members to document carrier status (see next page).

**Carriers**
Streptococcal carriers appear to be at little risk for developing rheumatic fever. In general, chronic carriers are not considered to be important in the spread of Group A Streptococcus to individuals who live and work around them.

Up to 20% of the pediatric population may carry Group A Streptococcus asymptomatically. Carriage rates in older adolescents and adults is much lower at 2.4-3.7%. **These asymptomatic carriers do NOT need to be identified or treated except in high risk settings:**
- family member with rheumatic fever or post Streptococcal glomerulonephritis
- outbreak of rheumatic fever
- outbreak of pharyngitis in a closed community
- repeat transmission within families
- multiple (≥ 3/year) culture confirmed episodes of symptomatic pharyngitis

**Eradication of Carrier State in HIGH RISK Patients**

<table>
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<tr>
<th>Children</th>
<th>Duration</th>
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<tr>
<td>Clindamycin 20mg/kg/d PO tid</td>
<td>10 days</td>
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<tr>
<td>Amoxicillin-clavulanate 40mg/kg/day PO tid</td>
<td></td>
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<tr>
<td>[Penicillin VK 40mg/kg/d PO bid or tid + Rifampin 10mg/kg PO bid (max 300mg/dose)]</td>
<td>10 days</td>
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<table>
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<tr>
<th>Adults</th>
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<tbody>
<tr>
<td>Clindamycin 300mg PO tid</td>
<td>4 days</td>
</tr>
<tr>
<td>Amoxicillin-clavulanate 875mg PO bid or 500mg PO tid</td>
<td></td>
</tr>
<tr>
<td>[Penicillin VK 300 mg PO tid or 600mg PO bid + Rifampin 300mg PO bid over last 4 days of treatment]</td>
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</table>

**Prevention**
- Handwashing
- Avoid sharing items such as utensils, water bottles, and toothbrushes

**ISSUES**
- **The majority of cases of pharyngitis are of viral etiology and should NOT be treated with antibiotic therapy.**
- Excessive or inappropriate use of antibiotics for viral infections has led to the emergence of antibiotic resistance of other oropharyngeal flora.
- Group A β-hemolytic streptococcus (Group A Streptococcus) is the most common bacterial pathogen causing pharyngitis.
  - the goal of antibiotics is to prevent acute and long term sequelae (acute rheumatic fever);
  - awaiting the results of throat cultures prior to treating the disease is recommended and will still prevent complications;
  - Group A Streptococci are uniformly susceptible, worldwide, to penicillin;
- **The diagnosis of streptococcal pharyngitis can not be reliably made without throat culture.**

**BACKGROUND**

**Introduction**

Physicians in primary care encounter adults and children who have a sore throat either as part of a constellation of symptoms or as an isolated symptom. Etiologic agents involved in pharyngitis are most often viral (including the virus causing mononucleosis). Group A Streptococcus is the most commonly encountered bacterial pathogen in pharyngitis. Other bacterial causes include other beta-haemolytic streptococci (group C and G), *Neisseria gonorrhoeae* and *Arcanobacterium haemolyticum*. The role of *Chlamydia pneumoniae* and *Mycoplasma pneumoniae* has been suggested but not substantiated. The clinical significance and treatment of Group C and G streptococcus remains controversial. The reporting of these organisms by microbiology
Throat Cultures

The diagnostic standard for Group A Streptococcal pharyngitis is the throat swab for culture. Proper technique includes sampling of the tonsils and peritonsillar pillars, as cultures of saliva and buccal mucosa often yield a negative result. Throat cultures are 90 to 95% sensitive, i.e., a 5 to 10% false negative rate when compared in serial specimens. Thus there is a minimal but defined need to reculture a negative result assuming proper technique for untreated symptomatic patients with repeat visits.

Rapid Antigen Tests

Many Group A Streptococci antigen detection tests are available. Most of the tests have a high degree of specificity but their sensitivity in clinical practice is low. A negative test however does not exclude the presence of Group A Streptococcal pharyngitis, therefore, a throat culture should be obtained. Because of the low sensitivity and because antibiotic treatment of Group A Streptococcal pharyngitis can be delayed without consequence, rapid antigen tests are not currently recommended.

TREATMENT

Patients with Group A Streptococcal pharyngitis are infectious for 2-5 days prior to symptoms, during acute illness, and for ~1 week after if not treated.

Treatment Schedules

In selecting a regimen for the treatment of Group A Streptococcal pharyngitis, physicians should consider various factors, including bacteriologic and clinical efficacy, ease of adherence to the recommended regimen, spectrum of activity of the selected agent, potential side effects, and cost. No single regimen eradicates Group A Streptococcal from the pharynx in 100% of treated patients.

Delayed treatment

Many patients with acute pharyngitis are prescribed antibiotics before throat culture results are available. Since up to 85% of these patients do not have Group A Streptococcal pharyngitis and thus do not respond to antibiotic treatment, a large number of patients receive antibiotics unnecessarily. Delaying antibiotic treatment, while awaiting the results of the throat culture, for

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Compliance

Dosage interval, treatment duration, side effects and palatability can affect compliance and thus clinical outcome. These factors are especially important in the treatment of children, in whom non-compliance can be a significant medical issue.17

Response to Treatment

Clinical response of children with Group A Streptococcal pharyngitis to appropriate antimicrobial treatment is usually evident within 24-48 hours. Persistence of high fever and severe symptoms beyond this period indicates the need for reassessment and is suggestive of the development of a suppurative complication or another underlying disease. Antibiotic failure is also a possibility.

Follow-Up

The majority of patients with Group A Streptococcal pharyngitis respond clinically to antimicrobial therapy, and Group A Streptococcus are eradicated from the pharynx.13,14, 18-21 Routine follow-up and/or post-treatment throat cultures 2 to 7 days after completion of therapy are not required.

ADVICE TO PATIENTS

The Toward Optimized Practice Program supports the right of the patient to make an informed decision about his/her health care options. Patient education is important in understanding that in many cases, pharyngitis has a viral rather than bacterial origin. Education is also important in decisions surrounding treatment of Group A Streptococcal pharyngitis. It is paramount that patients recognize that the success of antimicrobial therapy hinges on compliance with treatment recommendations and that the opportunity for treatment failure and antibiotic resistance increases with poor compliance.
REFERENCES

Toward Optimized Practice (TOP) Program

Arising out of the 2003 Master Agreement, TOP succeeds the former Alberta Clinical Practice Guidelines program, and maintains and distributes Alberta CPGs. TOP is a health quality improvement initiative that fits within the broader health system focus on quality and complements other strategies such as Primary Care Initiative and the Physician Office System Program.

The TOP program supports physician practices, and the teams they work with, by fostering the use of evidence-based best practices and quality initiatives in medical care in Alberta. The program offers a variety of tools and outreach services to help physicians and their colleagues meet the challenge of keeping practices current in an environment of continually emerging evidence.

The CPG Working Group for Antibiotics is a multi-disciplinary team composed of family physicians, infectious disease specialists, internal medicine specialists, pediatricians, community and hospital pharmacists, epidemiologists, public health professionals, consumers, and an Alberta Health representative. The team encourages your feedback. If you have difficulty applying this guideline, if you find the recommendations problematic, or if you need more information on this guideline, please contact:

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