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# Adult Sore Throat
## Pain Protocol

#ListenToPain

PM-GL-NOBR-24-00018

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# ADULT ACUTE SORE THROAT PAIN PROTOCOL IN PRIMARY CARE SETTINGS

## STEP 1: ASSESS SORE THROAT PAIN

### 1. ASK PATIENT ABOUT SORE THROAT SYMPTOMS[1]

| Scratchy/irritating sensation in throat | Pain on swallowing | Hoarse or muffled voice | Swollen glands in neck or jaw | Swelling on tonsils | Cough | Fever |
|---|---|---|---|---|---|---|

### 2. IDENTIFY SYMPTOMS OR CIRCUMSTANCES REQUIRING REFERRAL[1]

- A sore throat that is severe or lasts longer than a week
- Difficulty swallowing
- Difficulty breathing
- Difficulty opening your mouth
- Joint pain
- Earache
- Rash
- Fever higher than 101 F (38.3 C)
- Blood in saliva or phlegm
- Frequently recurring sore throats
- A lump in the neck
- Hoarseness lasting more than two weeks
- Swelling in the neck or face

## STEP 2: IDENTIFY TREATMENT CONSIDERATIONS

### IDENTIFY ANY CONDITIONS OR MEDICATIONS LIMITING TREATMENT OPTIONS[3-7]

| Medications limiting treatment | Medical conditions limiting treatment |
|---|---|
| • **NSAIDs*** – Risk of bleeding, decreased antihypertensive efficacy, increased drug levels of medicines like methotrexate<br>• **Paracetamol** -Increased risk of paracetamol toxicity | • Chronic kidney disease<br>• Liver disease<br>• Peptic Ulcer disease<br>• Cardiovascular Disease |

** With oral NSAIDs only; NSAIDS = non steroidal anti-inflammatory agents*

**IDENTIFY WHAT THE PATIENT HAS USED IN THE PAST TO TREAT THE PAIN**

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## STEP 3: RECOMMEND TREATMENT FOR SORE THROAT PAIN
### (APPARENTLY UNCOMPLICATED ACUTE SORE THROAT)

**DOES THE PATIENT HAVE ANY PREFERENCE FOR TREATMENT BASED ON WHAT WAS USED IN THE PAST ?**

**IF YES**

Recommend non-pharmacological treatment[8-10]
- Rest
- Adequate hydration (warm liquids)
- Gargling with antiseptic solutions or saltwater
- Humidify the air
- Avoiding irritants
- Stop smoking, alcohol, and spicy, cold, or excessively hot food intake

**AND**

Recommend the PATIENT's preference if possible, taking into consideration step 2

**IF NO**

Recommend non-pharmacological treatment[8-10]
- Rest
- Adequate hydration (warm liquids)
- Gargling with antiseptic solutions or saltwater
- Humidify the air
- Avoiding irritants
- Stop smoking, alcohol, and spicy, cold, or excessively hot food intake

**AND**

Recommend appropriate treatment for sore throat pain[2,11-13]

**Symptomatic treatment of throat pain:**
- **Throat preparations** (lozenges, gargle solutions, sprays) containing local anesthetics
- **Paracetamol:** 1,000mg up to four times per day
- **Ibuprofen:** 400mg up to three times per day

**For Group A Streptococcal Infection in patients without Penicillin allergy:**
- Penicillin V, oral: 250 mg four times daily or 500 mg twice daily for 10 days
- Amoxicillin oral: 50 mg per kg once daily (maximum = 1,000 mg) for 10 days

**For Group A Streptococcal Infection in patients with Penicillin allergy:**
- Cephalexin oral: 20 mg per kg per dose twice daily for 10 days
- Cefadroxil, oral: 30 mg per kg once daily for 10 days

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# ADULT ACUTE SORE THROAT PAIN PROTOCOL IN PRIMARY CARE SETTINGS

## STEP 1

### ASSESS SYMPTOMS

- Questions to ask (Table 1)
- Assess type of sore throat (Viral Vs Streptococcal Infection) (Table 2a and 2b)
- Symptoms or circumstances requiring referral (Table 3)

## STEP 2

### IDENTIFY TREATMENT CONSIDERATIONS

- Questions to ask to customize treatment (Table 4)
- Conditions and medications (Tables 5 and 6)
- Assess previous treatment (Table 7)
- Questions to ask about previous treatment (Table 7)

## STEP 3

### RECOMMEND TREATMENT

- Non-pharmacological recommendations (Table 8)
- Pharmacological recommendation (Table 9)

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# STEP 1: ASSESS SYMPTOMS

## TABLE 1

| QUESTIONS TO ASK |
|---|
| **Can you tell me about your sore throat symptoms?**[8,10]<br>• How long have you had a sore throat?<br>• How severe is the sore throat?<br>• Are you experiencing hoarseness?<br>• Do you have a cough?<br>• Do you have fever? |
| **Other questions**[8,10]<br>• Do you smoke? If so, what type of tobacco do you smoke? How many cigarettes do you smoke per day? How long have you smoked or?<br>• Did the sore throat begin after excessive vocal cord overload or after a long stay in a smoky room, or inhalation of chemical substances?<br>• Is the sore throat accompanied by other cold symptoms (headache, rhinitis, fever)? |

## TABLE 2A

| CRITERIA FOR CLASSIFICATION OF VIRAL AND BACTERIAL SORE THROAT | |
|---|---|
| **Symptoms suggestive of Group A streptococcal (GAS) infection**[13-14] | **Symptoms suggestive of viral sore throat**[13-14] |
| • Fever<br>• Pain when swallowing<br>• Sore throat that can start very quickly and may look red<br>• Red and swollen tonsils<br>• White patches or streaks of pus on the tonsils<br>• Tiny, red spots on the roof of the mouth, called petechiae<br>• Swollen lymph nodes in the front of the neck | • Cough<br>• Runny nose<br>• Hoarseness (changes in your voice that makes it sound breathy, raspy, or strained)<br>• Conjunctivitis (also called pink eye) |
| • **The etiology of sore throat is in 70%-95% of cases viral.**[15]<br>• 15%-30% of all cases with sore throat (5%- 15% in adults, 20%-30% in children), Streptococcus pyogenes (group A streptococcus, GAS) is detected.[15] | |
| Assessment of the patient's condition and the likelihood of streptococcal infection is suggested to be performed according to the FeverPAIN or Centor (or McIsaac) criteria, which have the following common indices: fever, tonsil state, and presence/absence of cough. Higher scores suggest more severe symptoms and likely bacterial (streptococcal) cause. | |

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# STEP 1: ASSESS SYMPTOMS

## TABLE 2B

| FEVER PAIN AND CENTOR SCORING SYSTEM TO ASSESS THE LIKELIHOOD OF SORE THROAT WITH STREPTOCOCCAL INFECTION[8,12] | |
|---|---|
| **FeverPAIN criteria**<br><br>(Each criteria scores 1 point (maximum score of 5) | **CENTOR criteria**<br><br>Each criteria scores 1 point (maximum score of 4) |
| • **F**ever (during the previous 24 hours)<br>• **P**urulence (pus on tonsils)<br>• **A**ttend rapidly (within 3 days after onset of symptoms)<br>• Severely **I**nflamed tonsils<br>• **N**o cough or coryza (inflammation of mucus membranes in the nose) | • Tonsillar exudate<br>• Tender anterior cervical lymphadenopathy (abnormal enlargement of lymph nodes in the head and neck) or<br>• Lymphadenitis (enlargement in one or more lymph nodes, usually due to infection.)<br>• History of fever (over 38°C)<br>• Absence of cough |
| **Score and % likelihood of isolating streptococcus**<br><br>• 0 or 1 = 13–18%<br>• 2 or 3 = 34–40%<br>• 4 or 5 = 62–65% | **Score and % likelihood of isolating streptococcus**<br><br>• 0 to 2 = 3–17%<br>• 3 or 4 = 32-56%<br>• 4 or 5 = 62–65% |

## TABLE 3

| SYMPTOMS OR CIRCUMSTANCES REQUIRING REFERRAL (RED FLAGS)[1] |
|---|
| • A sore throat that is severe or lasts longer than a week<br>• Difficulty swallowing<br>• Difficulty breathing<br>• Difficulty opening your mouth<br>• Joint pain<br>• Earache<br>• Rash<br>• Fever higher than 101 F (38.3 C)<br>• Blood in the saliva or phlegm<br>• Frequently recurring sore throats<br>• A lump in the neck<br>• Hoarseness lasting more than two weeks<br>• Swelling in the neck or face |

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# STEP 2:
# IDENTIFY TREATMENT CONSIDERATIONS

## TABLE 4

| QUESTIONS TO ASK TO CUSTOMIZE SORE THROAT TREATMENT |
|---|
| • Are you taking any regular medicines, both on prescription and over-the-counter (OTC)?<br>• Have you already taken any medicine to alleviate the symptoms? |

## TABLE 5

**MEDICATIONS TO USE WITH CAUTION WITH PARACETAMOL/ORAL NSAIDS[3,16,17]**

| Concern | Potential drug interaction |
|---|---|
| Increased risk of bleeding with oral NSAIDs | • Some Selective-Serotonin Reuptake Inhibitors (SSRI)<br>• Some tricyclic antidepressants<br>• Acetylsalicylic acid (ASA)<br>• Corticosteroids<br>• Warfarin<br>• Ginkgo biloba |
| Decreased antihypertensive efficacy with oral NSAIDs | • Angiotensin converting enzyme (ACE) inhibitors<br>• Angiotensin II receptor blockers (ARB)<br>• Diuretics<br>• Beta-blockers |
| Increased drug levels with oral NSAIDs | • Lithium<br>• Methotrexate |
| Increased risk of paracetamol toxicity | • Epilepsy medications (e.g. carbamazepine)<br>• Other P450 enzyme inducers (e.g. isoniazid, rifampin)<br>• Alcohol |

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# STEP 2:
# IDENTIFY TREATMENT CONSIDERATIONS

## TABLE 6

**CONSIDERATIONS WHEN SELECTING ANALGESICS IN PATIENTS WITH COMORBIDITIES[3-7]**

| Comorbidity | Notes |
|---|---|
| Chronic kidney disease | • NSAIDs have proven nephrotoxic class effects and should be avoided where possible in patients with symptoms of renal impairment<br>• Paracetamol is the preferred first-line analgesic for episodic treatment of mild pain in patients with renal dysfunction, CKD, and/or requiring dialysis. However, dose minimization may sometimes be warranted (maximum of 3 g/day has been recommended for patients with advanced kidney failure) |
| Liver disease | • NSAIDs- NSAIDs can cause acute liver injury with variable severity.<br>• Paracetamol: Not contraindicated in liver disease. Can cause liver toxicity if taken in large amounts. |
| Peptic-ulcer disease | • Chronic NSAID drug use is associated with potentially serious upper gastrointestinal adverse drug reactions including peptic ulcer disease and gastrointestinal bleeding.<br>• Paracetamol – Lesser risk of adverse effects compared to NSAIDs |
| Cardiovascular disease | • All non-aspirin NSAIDs may be associated with a potential increase in CV thrombotic risk.<br>• NSAIDs are contraindicated in patients who have undergone coronary artery bypass graft surgery<br>• Use of paracetamol at recommended doses is not associated with any additional risk of major CV events. |

## TABLE 7

**QUESTIONS TO ASK TO ABOUT PREVIOUS TREATMENT**

- What have you used before to treat your sore throat pain?
  - What dose did you use?
  - Was it effective?
  - Did you have any side effects from it?
- Do you have any preference for any specific treatment?

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# STEP 3: RECOMMEND TREATMENT

## TABLE 8

**NON-PHARMACOLOGICAL RECOMMENDATIONS FOR SORE THROAT PAIN[1,8]**

- Intake of large amounts of warm liquid is recommended - Fluids keep the throat moist and prevent dehydration (avoid caffeine and alcohol)
- Try comforting foods and beverages- Warm liquids (broth, caffeine-free tea or warm water with honey can soothe a sore throat)
- Gargling with antiseptic solutions should be performed every 2–3 hours
- Patients should stop smoking, alcohol, and spicy, cold, or excessively hot food intake
- Prior to the topical administration of medicines used for sore throat symptomatic treatment (aerosols, sprays, lozenges), the mouth should be rinsed with warm water
- Medicines in the form of lozenges and candies must be kept in the mouth until completely dissolved
- Use a cool-air humidifier to eliminate dry air that may further irritate a sore throat, being sure to clean the humidifier regularly so it doesn't grow mold or bacteria. Or sit for several minutes in a steamy bathroom.
- Avoid irritants. Keep the home free from cigarette smoke and cleaning products that can irritate the throat.

## TABLE 9

**RECOMMENDATIONS FOR THE PHARMACOLOGIC MANAGEMENT OF APPARENTLY UNCOMPLICATED ACUTE SORE THROAT[2,11-13, 16-21]**

| Medication | Adverse Events | Drug Interactions | Comments |
|---|---|---|---|
| Throat preparations (lozenges, gargle solutions, sprays) containing local anesthetics and/or non-steroidal anti-inflammatory drugs (NSAIDs). | | | Offer low efficacy for a very limited period of time – hence weak level of recommendation |
| **Paracetamol**<br><br>1,000mg up to four times per day | Good safety profile at therapeutic levels.<br><br>Can cause liver toxicity if taken in large amounts.<br><br>Dosage must be appropriately adjusted/lowered for poorly nourished patients, those with liver dysfunction, or those undergoing treatment with other hepatotoxic medications.<br><br>Dose reduction may be needed in severe renal impairment and hepatic disease | Paracetamol + isoniazid: may increase the risk of hepatotoxicity<br><br>Paracetamol + imatinib: may increase levels of paracetamol<br><br>Paracetamol + warfarin: may increase the risk of bleeding. | Recommended by major guidelines for the treatment of fever and pain. |

**TABLE 9 CONT.**

# STEP 3: RECOMMEND TREATMENT

## TABLE 9 CONT.

| | | | |
|---|---|---|---|
| **Ibuprofen**<br><br>400 mg up to three times per day | Increases risk of GI problems<br><br>Contraindicated in those with hypersensitivity to NSAIDs including aspirin, patients with H/O peptic ulcer or GI bleeding or those undergoing a coronary artery bypass grafting (CABG)<br><br>Use with caution in patients with heart and kidney disease, liver cirrhosis, high blood pressure, uncontrolled diabetes, glaucoma asthma, urinary incontinence or an enlarged prostate | Decreases the effect of diuretics like thiazide and furosemide, and ACE inhibitors like lisinopril and captopril<br><br>Reduces the effect on platelets, including the impact of low dose aspirin. Take aspirin at least 30 mins before taking ibuprofen or naproxen<br><br>Adverse effects may be increased when used along with medications like warfarin and aspirin, and antidepressant SSRIs like sertraline, fluoxetine, and citalopram. | Recommended by major guidelines for the treatment of fever and pain. |
| **Antibiotics for Group A Streptococcal Infection in patients without penicillin allergy[13]** | | | |
| **Penicillin V, oral**<br><br>250 mg four times daily or 500 mg twice daily for 10 days | The commonly encountered adverse drug reaction with penicillin is hypersensitivity of immediate onset or delayed onset.<br><br>Other symptoms include nausea, vomiting, diarrhea, rash, abdominal pain, and urticaria. | Concurrent sulfonamides, erythromycin, chloramphenicol should be avoided due to antagonistic effects.<br><br>Probenecid decreases the volume of distribution of penicillin. | Dose modification needed in patients with end-stage renal disease.<br><br>Remind the patient to complete the entire course of the antibiotic. |
| **Amoxicillin oral**<br><br>50 mg per kg once daily (maximum = 1,000 mg)<br><br>Alternative: 25 mg per kg twice daily (maximum = 500 mg) for 10 days | Nausea, vomiting, or diarrhea.<br><br>May cause a mild rash that is usually not serious. | Taking probenecid with amoxicillin could lead to increased blood levels of amoxicillin.<br><br>May cause rash if combined with Allopurinol.<br><br>Increased risk of bleeding with anticoagulants | Lower dose recommended in patients with kidney disease.<br><br>Remind the patient to complete the entire course of the antibiotic |

TABLE 9 CONT.

# STEP 3: RECOMMEND TREATMENT

## TABLE 9 CONT.

| **Antibiotics for Group A Streptococcal infection in patients with penicillin allergy[13]** (with high quality of evidence) | | | |
|---|---|---|---|
| **Cephalexin oral***<br><br>20 mg per kg per dose twice daily (maximum = 500 mg per dose) for 10 days | Nausea, vomiting, or diarrhea.<br><br>Serious side effects include hives<br>trouble breathing<br>swelling of the face, lips, tongue, or throat. | Taking probenecid with Cephalexin could lead to increased blood levels of cephalexin.<br><br>Taking metformin and cephalexin together may cause kidney problems | Contraindicated in patients with known allergy to the cephalosporin group of antibiotics.<br><br>Lower dose recommended in patients with kidney disease.<br><br>Remind the patient to complete the entire course of the antibiotic |
| **Cefadroxil, oral***<br><br>30 mg per kg once daily (maximum = 1 g) for 10 days | Nausea, vomiting, or diarrhea. | | Contraindicated in patients with known allergy to the cephalosporin group of antibiotics.<br><br>Should be used with caution in the presence of markedly impaired renal function. |
| **Avoid in individuals with immediate hypersensitivity to penicillin.* | | | |

*Note:*

- *A sore throat is usually a self-limiting illness and without antibiotic treatment, roughly four out of five patients are well within 1 week.*
- *Patients with apparently uncomplicated acute sore throat and low clinical scoring (Centor score 0–2 or FeverPAIN 0–2) in a setting with low risk for rheumatic fever do not require testing for the presence of group A streptococcus (GAS) nor a prescription of antibiotics.*
- *Corticosteroids should not be used for analgesic treatment of sore throat*

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