

AHRQ Safety Program for Telemedicine: Improving Antibiotic Use

Best Practices in Managing Pharyngitis Over Telemedicine

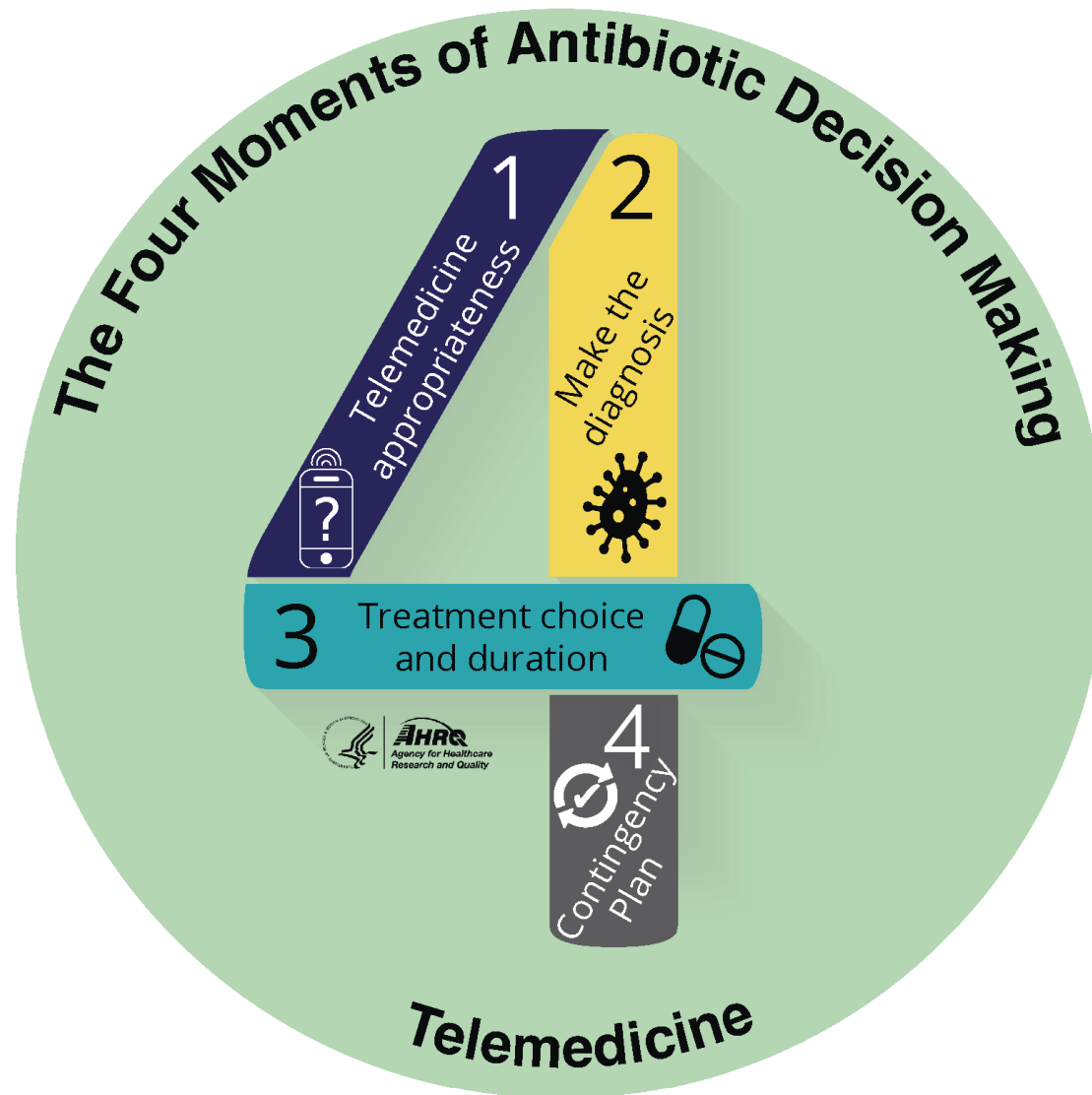


Objectives

By the end of this presentation, participants will be able to—

- Describe how to evaluate throat pain in children and adults over telemedicine
- Understand the management of pharyngitis unlikely to be caused by group A *Streptococcus*
- Determine when a person presenting with symptoms of pharyngitis over telemedicine may need to be evaluated in person

The Four Moments of Antibiotic Decision Making



1. Is my patient an appropriate candidate for a telemedicine visit?
2. Does my patient have signs and symptoms indicating an infection that may require antibiotics? Is a diagnostic test needed?
3. If antibiotics are indicated, what is the narrowest, safest, and shortest regimen I can prescribe?
4. What symptomatic relief should I offer or prescribe to my patient? What should I tell my patient about the expected course and the followup plan?

Case Presentation

46-year-old man with 2 days of sore throat and dysphagia

- When did it start?
- How bad is the pain?
- Associated symptoms?
- Difficulty swallowing secretions?
- Difficulty breathing?
- Asymmetry in the neck?
- Rash?
- Fatigue or myalgias?
- Abdominal pain?
- Any other symptoms?



Case Presentation: José's Responses

- Sneezing, coughing, and feeling generally congested for about 2 days
- He thinks he has a fever
- No trouble with drooling or keeping secretions down
- Able to swallow soup and keep it down without difficulty
- Has been taking care of 3-year-old niece
- No recent sexual activity

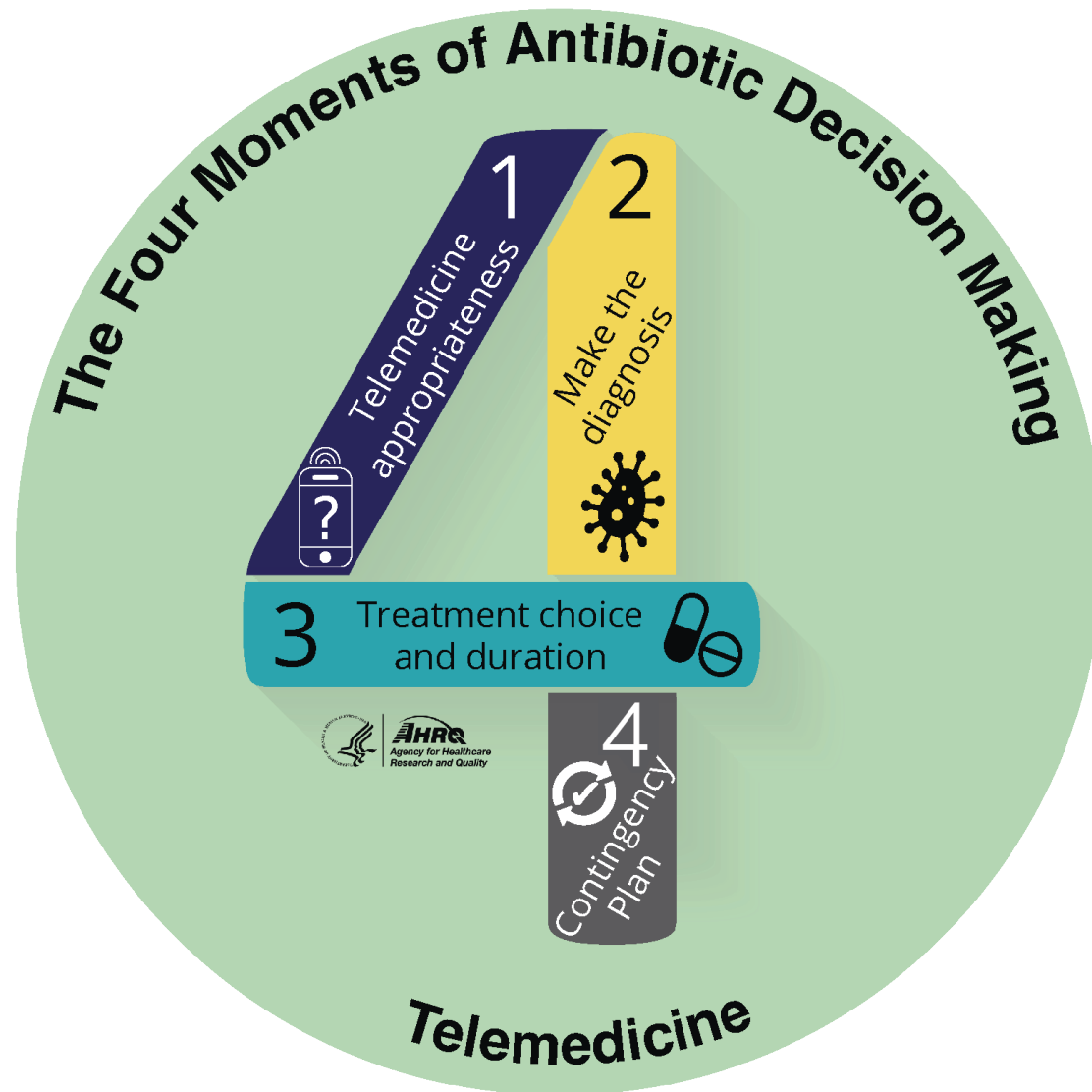


Moment 1: Telemedicine Appropriateness

- Based on what you know thus far, José does not appear acutely ill
- Able to speak in full sentences and respond appropriately to questions
- Does not appear to have a muffled voice suggestive of a peritonsillar abscess
- No evidence of stridor or respiratory distress
- Able to swallow his secretions



Moment 2: Need for Antibiotics



1. Is my patient an appropriate candidate for a telemedicine visit?
2. Does my patient have signs and symptoms indicating an infection that may require antibiotics? Is a diagnostic test needed?

Moment 2: Virtual Physical Examination 1

- Ensure appropriate lighting
- Position the camera
- Examine the oropharynx
- Examine tonsils for symmetry and ensure no uvular deviation
- Look for exudates which could be consistent with strep or other bacterial infection or mononucleosis
- Look for oral ulcers that could be herpes simplex virus



Moment 2: Virtual Physical Examination 2

- Ensure the neck is fully exposed, with clothing that may obscure visualization (e.g., collars or turtlenecks) moved out of the way
- Inspect for visible swelling, asymmetry, or lymphadenopathy
- Ask patient to slowly rotate head to each side and then flex and extend the neck, noting any pain or restricted range of motion
- Instruct patient in self-palpation of the anterior cervical, posterior cervical, supraclavicular, and axillary lymph node regions, asking them to report any tenderness or palpable enlargement

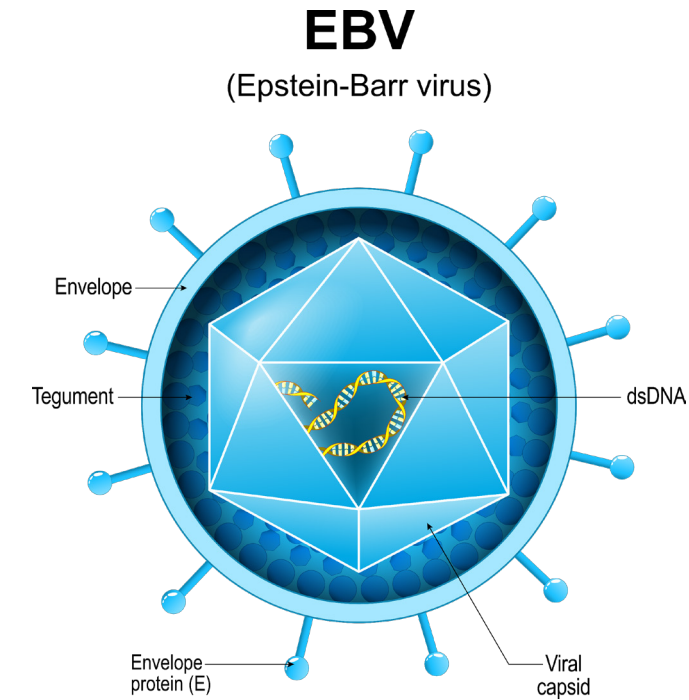


Viral Pharyngitis¹⁻³

- Symptoms and physical examination most suggestive of viral pharyngitis
- Patients typically have other viral symptoms (e.g., low-grade fever, malaise, fatigue, rhinorrhea, cough, and/or conjunctivitis)
- Generally self-resolving
- Expected to improve within 7–10 days
- Antibiotics will not help

Mononucleosis⁴⁻⁵

- Caused by the Epstein-Barr virus
- Commonly affects adolescents and young adults
- Spread through contact with saliva
- Symptoms: fever, exudative pharyngitis, fatigue, cervical lymphadenopathy
- Splenomegaly occurs in about half of people with mononucleosis
 - Avoid contact sports for at 3 to 6 weeks from the onset of symptoms
- Consider submitting a referral for a monospot test or EBV antibody testing
- Antibiotics are not indicated
 - Amoxicillin can cause an erythematous, macular rash when given to patients with mononucleosis
- Cytomegalovirus can cause a presentation similar to mononucleosis



Bacterial Pharyngitis^{1-2,6-11}

- Tonsillar exudates, fever, and cervical lymphadenopathy
- Typical viral symptoms such as cough and congestion are generally lacking
- Most common: group A *Streptococcus* or other beta-hemolytic streptococcal species like group C or group G *Streptococcus*
- Less common causes include *Arcanobacterium haemolyticum*, *Fusobacterium necrophorum*, and *Neisseria gonorrhoeae*



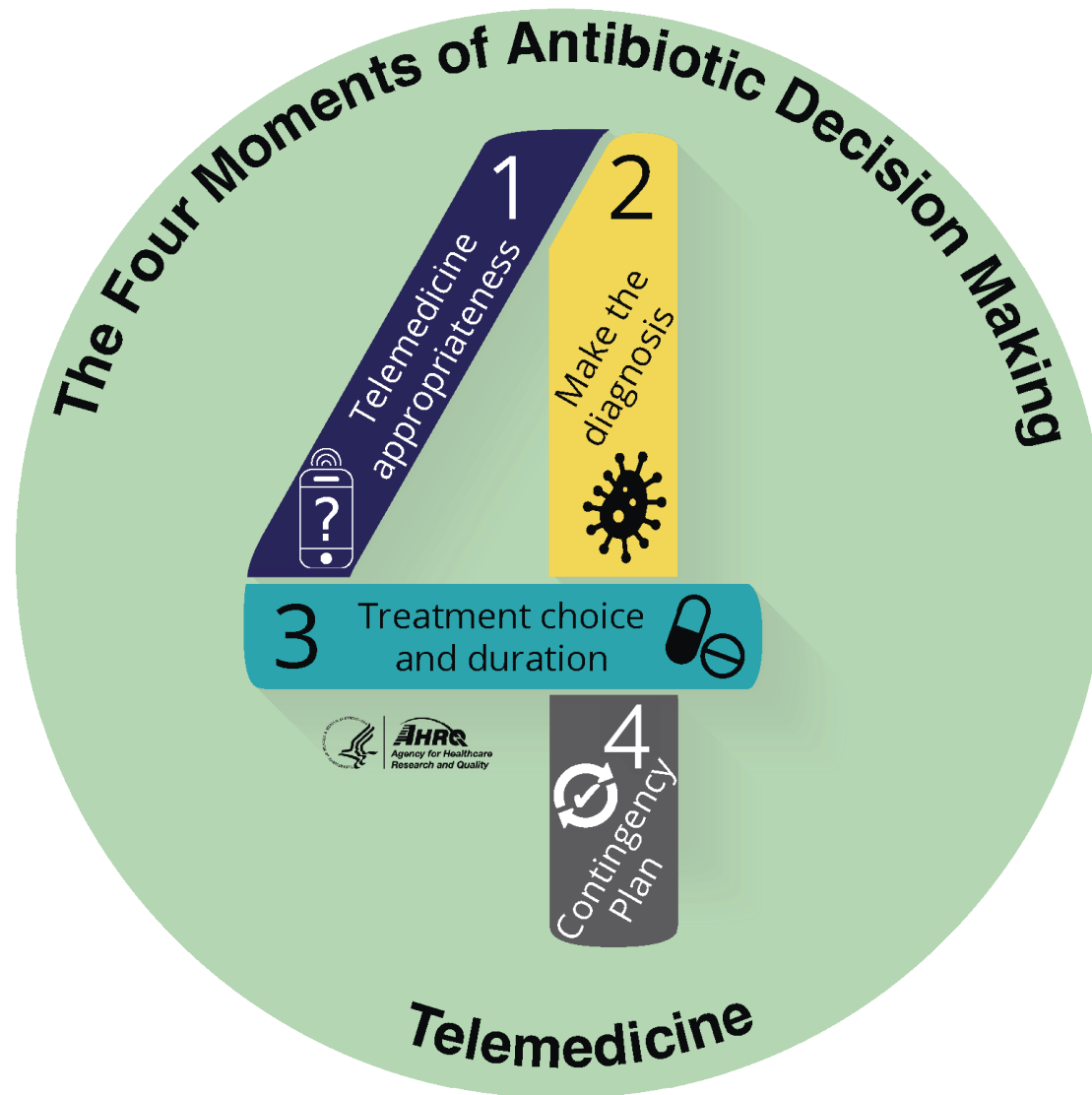
Centor Criteria for Strep Pharyngitis¹²⁻¹⁵

- **Scoring system designed for age ≥ 3 years:**
 - Fever of ≥ 100.4 degrees Fahrenheit (+1 point)
 - Tonsillar exudates (+1 point)
 - Tender anterior cervical lymphadenopathy (+1 point)
 - Absence of cough (+1 point)
 - Age¹⁶
 - 3–14 years: +1 point
 - 15–44 years: 0 points
 - ≥ 45 years: –1 point
- **Significance of scores**
 - Scores 0–1: No action needed
 - Scores of 2–3: Rapid antigen testing or a throat culture should be considered
 - Score of 4–5: Antibiotic treatment or confirmation with diagnostic testing recommended

Applying the Centor Score to José's Case

- **Scoring system designed for age ≥ 3 years:**
 1. Fever of ≥ 100.4 degrees Fahrenheit = **1 point**
 2. Tonsillar exudates = **0 points**
 3. Tender anterior cervical lymphadenopathy = **0 points**
 4. Absence of cough = **1 point**
 5. Age 46 years
 - **≥ 45 years: -1 point**
- Significance of score:
 - Scores 0–1: **No action needed**

Moment 3: Antibiotic Therapy



1. Is my patient an appropriate candidate for a telemedicine visit?
2. Does my patient have signs and symptoms indicating an infection that may require antibiotics? Is a diagnostic test needed?
3. If antibiotics are indicated, what is the narrowest, safest, and shortest regimen I can prescribe?

Treatment of Group A *Streptococcus*^{7,17-18}

- **First-line for strep throat (adults and children)**
 - **Oral penicillin V or oral amoxicillin** (amoxicillin preferred in children)
 - Alternative: Intramuscular benzathine penicillin G (single dose)
 - Mild penicillin allergy in adult or child:
 - **Cephalexin or cefadroxil BID**
 - Severe penicillin allergy in adult or child:
 - **10-day course of clindamycin or 5-day course of azithromycin**
 - Macrolide resistance (e.g., azithromycin) and clindamycin resistance can occur
- **10-day treatment course (adults and children)**



Treatment of Other Causes of Bacterial Pharyngitis^{1-2,6,10}

- Other causes of bacterial pharyngitis: Unlikely to treat during a virtual visit
 - Diagnostic testing of a throat swab is necessary
- Group C or G *Streptococcus*
 - Not associated with rheumatic fever
 - Antibiotic therapy not necessary, supportive care is sufficient
 - If patient tested positive for group C or G *Streptococcus* and is experiencing severe throat pain, prescribing 5 days of oral penicillin or amoxicillin may be considered
- *Fusobacterium necrophorum*
 - Causes about 20 percent of cases of pharyngitis in young adults
 - Throat pain resolves without antibiotic therapy
 - Very rarely causes Lemierre syndrome

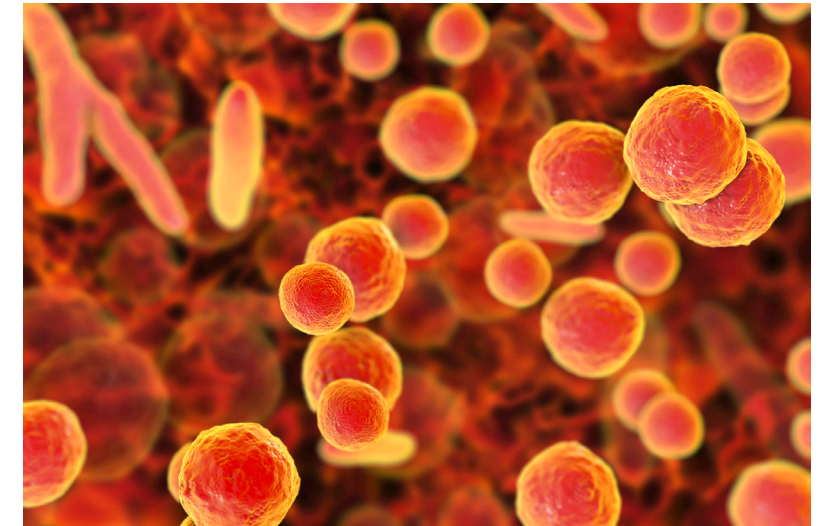
Treatment of Gonococcal Pharyngitis^{1-2,11}

- Should be considered in sexually active adolescents or adults
- Typically presents with sore throat, pharyngeal exudates, and cervical lymphadenitis
- If suspected, patient should be referred for testing
- Preferred treatment: intramuscular ceftriaxone



Treatment of *Mycoplasma* Pharyngitis¹⁻²

- Most common in children and young adults
- *Mycoplasma* pharyngitis typically resolves without antibiotics
- Consider prescribing 3–5 days of azithromycin during the virtual visit for people with **significant throat pain** and—
 - Known positive lab test for *Mycoplasma*
 - Known positive contacts (e.g., partners, household members) with *Mycoplasma*
 - Known chest x-ray findings of patchy consolidation
 - Sore throat has remained for more than a week without any improvement
 - Shortness of breath, chest pain, or increased work of breathing for more than a week



Treatment of *Arcanobacterium* Pharyngitis^{1-2,9}

- Diagnosed by throat cultures typically obtained to look for strep pharyngitis
- Most common in adolescents and young adults (~2% of pharyngitis cases)
- Associated with a scarlatiniform rash about half the time
- If patient is experiencing severe throat pain, 3–5 days of azithromycin or erythromycin may be considered

Moment 4: Supportive Care¹⁹⁻²⁰

- Over-the-counter medications
 - Acetaminophen for pain and fever
 - Ibuprofen for pain and inflammation
- For localized throat pain
 - Warm soup
 - Warm tea with or without honey (avoid honey in children <1 year of age)
 - Eating cold or frozen desserts
 - Sucking on ice or hard candy (age >5 years)
 - Gargling saltwater (dissolve half a teaspoon of salt in warm water)
 - Lozenges with menthol or benzocaine or throat sprays with benzocaine
- Avoid cough and cold medications in children <6 years of age



Moment 4: Expectations and Followup Plan

- Fever and sore throat typically improve within 3 days
 - If diagnosis is mononucleosis: fever and sore throat can last 1 month, and fatigue can last several months
- Antibiotic treatment for bacterial pharyngitis
 - Reduce symptoms by a day
 - Reduce the risk of purulent complications
- Seek in-person evaluation if—
 - Fever persists beyond 3 days
 - Throat pain worsens
- Emergency department visit for—
 - Confusion
 - Bulging neck mass
 - Difficulty breathing or swallowing



Take-Home Messages

- ✓ Over 90 percent of pharyngitis cases are viral and don't require diagnostic testing.
- ✓ The Centor criteria can help differentiate group A strep pharyngitis from viral causes.
 - Preferred treatments for group A *Streptococcus* pharyngitis include oral penicillin or amoxicillin as a 10-day course.
- ✓ Other bacterial causes of pharyngitis such as *Arcanobacterium*, *Fusobacterium*, and gonorrhea require diagnostic testing before treatment.
- ✓ Supportive care can improve symptoms.
- ✓ Always inform patients of symptoms that warrant an in-person visit.

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