

AHRQ Safety Program for Telemedicine: Improving Antibiotic Use

Best Practices in Managing Acute Bronchitis and Acute Cough Over Telemedicine

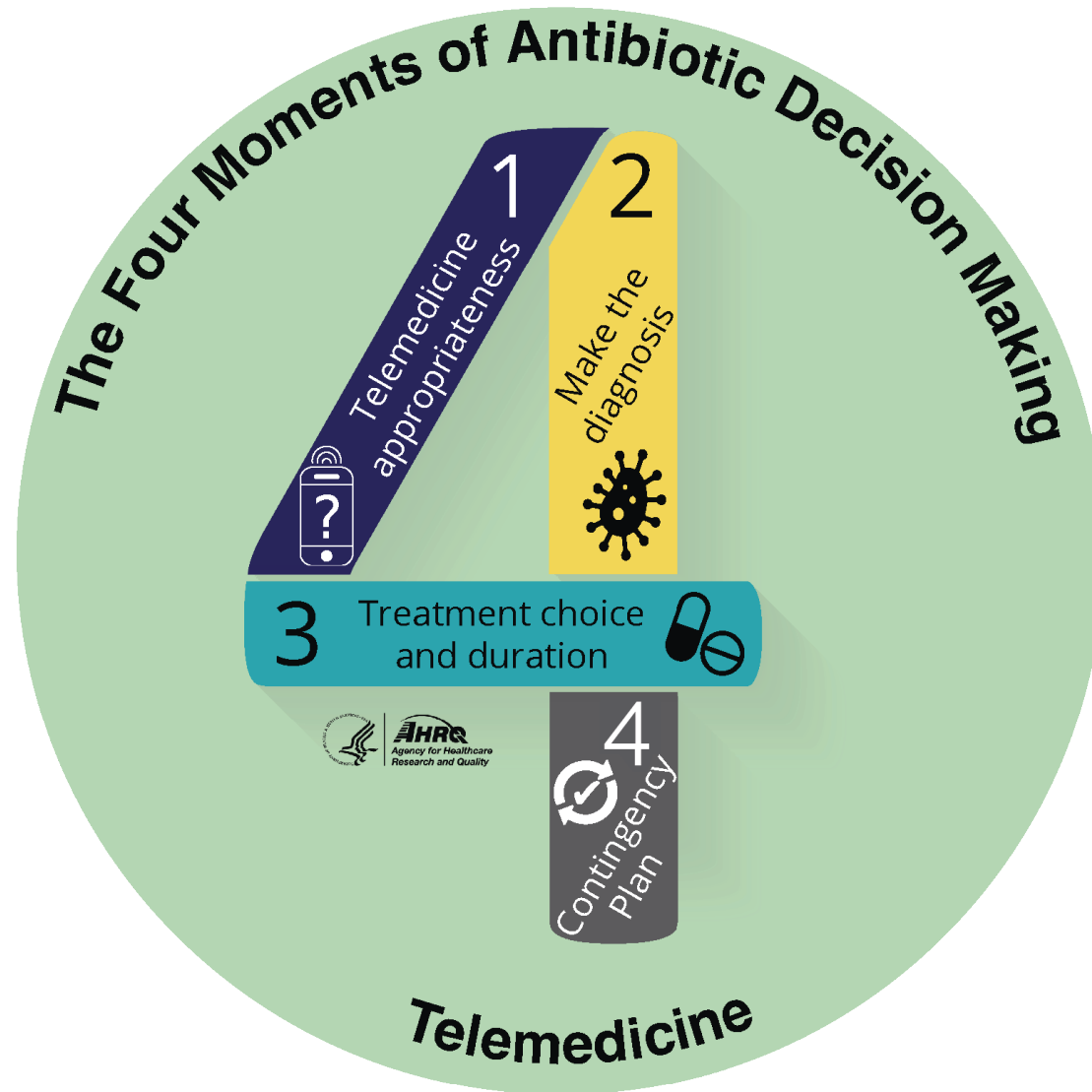


Objectives

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

- Describe how to diagnose acute bronchitis and acute cough over telemedicine
- Explain why antibiotic therapy is not useful in the treatment of acute bronchitis and acute cough
- Describe treatment options to manage the symptoms of acute bronchitis and acute cough in adults and children
- Discuss strategies to communicate the time course of acute bronchitis and acute cough to patients and family members

The Four Moments of Antibiotic Decision Making



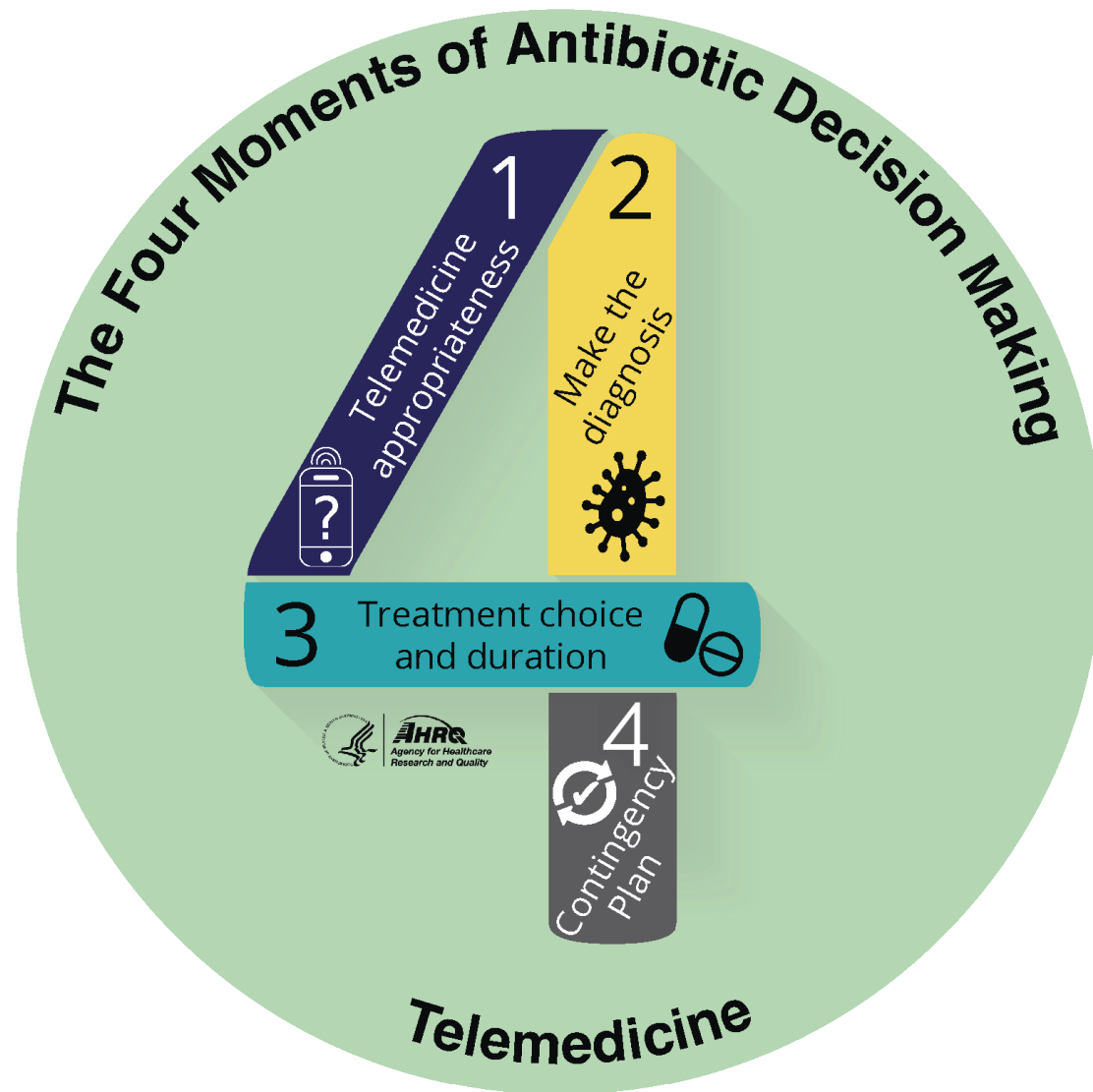
1. Is my patient an appropriate candidate for a telemedicine visit?
2. Does my patient have signs and symptoms indicating an infection that may require antibiotics? Is a diagnostic test needed?
3. If antibiotics are indicated, what is the narrowest, safest, and shortest regimen I can prescribe?
4. What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

- A 54-year-old man with no past medical history presents with 10 days of cough
- Occasional white or yellow-tinged sputum
- The cough is worse at night
- No fevers or shortness of breath



Moment 1



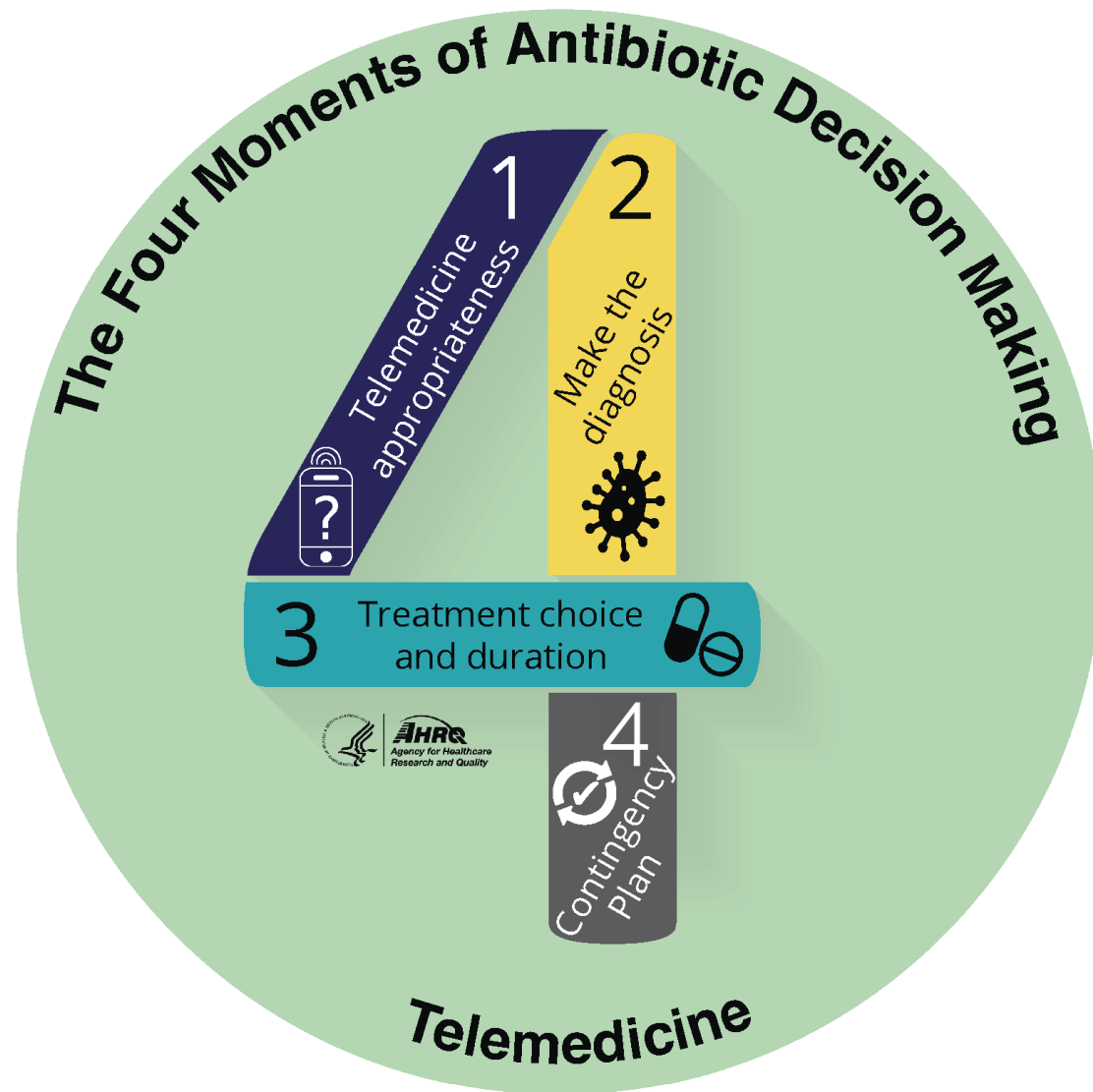
1. Is my patient an appropriate candidate for a telemedicine visit?

Moment 1: Telemedicine Appropriateness

- Patient is appropriate to be seen via telemedicine
 - No high fever
 - No altered mental status
 - No difficulty breathing



Moment 2



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?

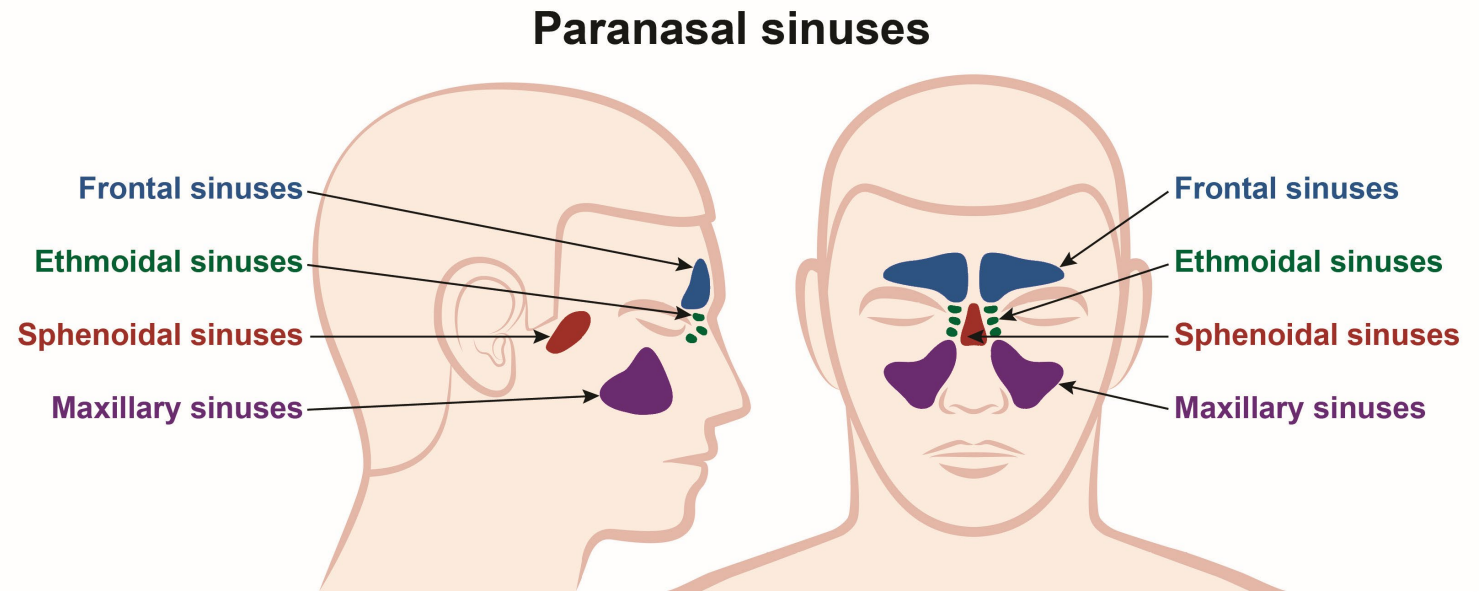
Moment 2: Additional History

- No history of heart failure or pulmonary disease
- No sensation of burning or acid reflux
- At-home rapid test for influenza and COVID-19 was negative
- Symptoms have not worsened



Moment 2: Virtual Physical Examination

- Ask them to check their temperature
 - RESPONSE: “My temperature is 99.1 degrees Fahrenheit.”
- Ask patient and/or caregiver to move their body and the camera and lighting so that you can see the following:
 - Nares
 - Mouth
 - Oropharynx
- Ask the patient to tap above his eyebrows, on cheekbones, and upper nares and tell you how it feels



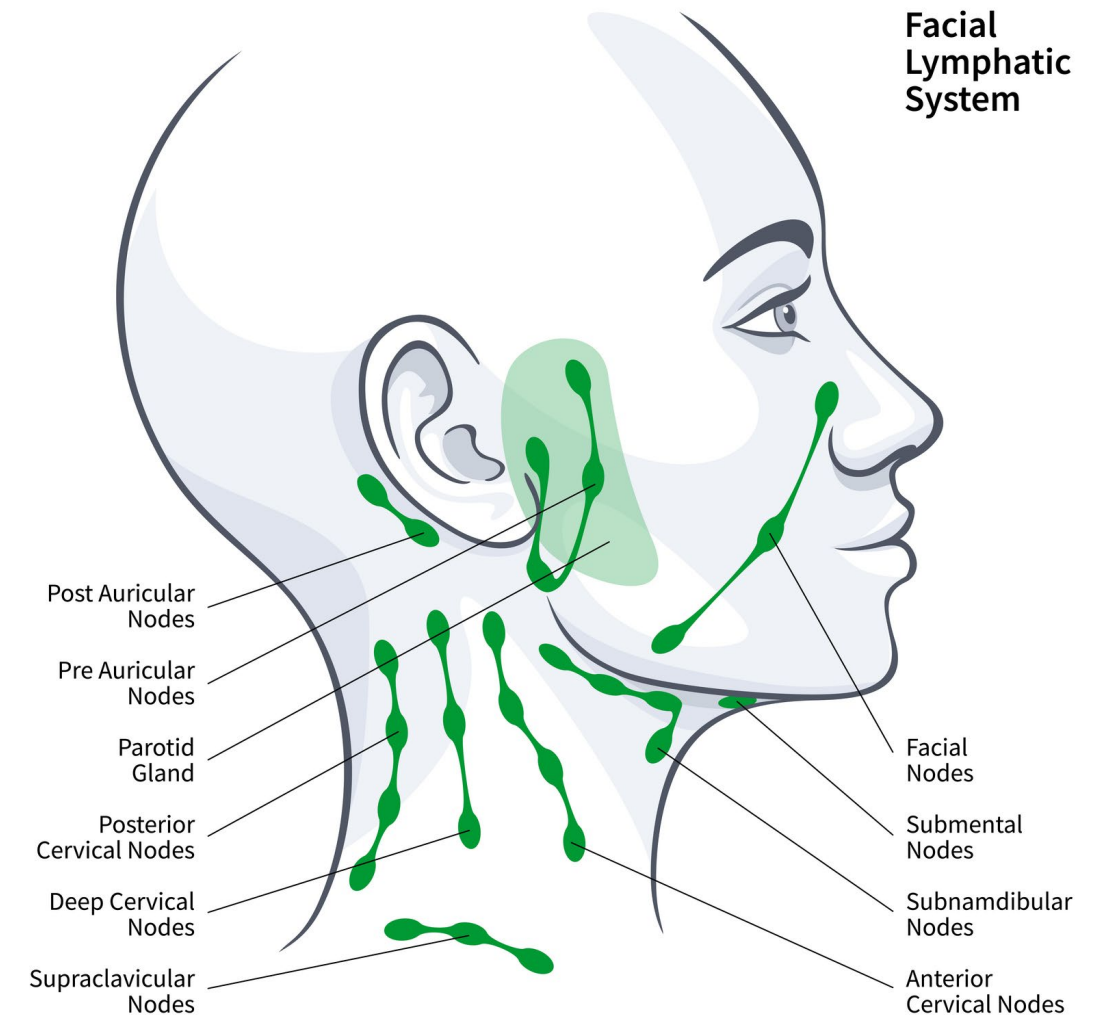
Moment 2: Virtual Physical Examination – Head, Eyes, Ears, Nose, and Throat

- Your observations:
 - Nasal mucosa are mildly erythematous with mild edema bilaterally
 - No nasal discharge
 - Oral mucosal membranes are moist
 - The oropharynx is not erythematous
- Response from patient: “It doesn’t really hurt anywhere where I was tapping.”



Moment 2: Virtual Physical Examination – Lymph Nodes

- Demonstrate to the patient or caregiver where anterior cervical, posterior cervical, or submandibular lymph nodes are
 - Ask the patient or caregiver whether the lymph nodes are palpable, and if so, firm, soft, or tender
 - Response from patient: “I feel no swelling. Nothing hurts.”



Moment 2: Virtual Physical Examination – Pulmonary 1

- Observe for—
 - Visible dyspnea
 - Tripoding
 - Increased work of breathing
 - Speaking in full sentences
 - Retractions
- Respiratory rate
- Listen carefully for wheezing
 - Ask the patient or their family, “Do you hear any wheezing?”



Moment 2: Virtual Physical Examination – Pulmonary 2

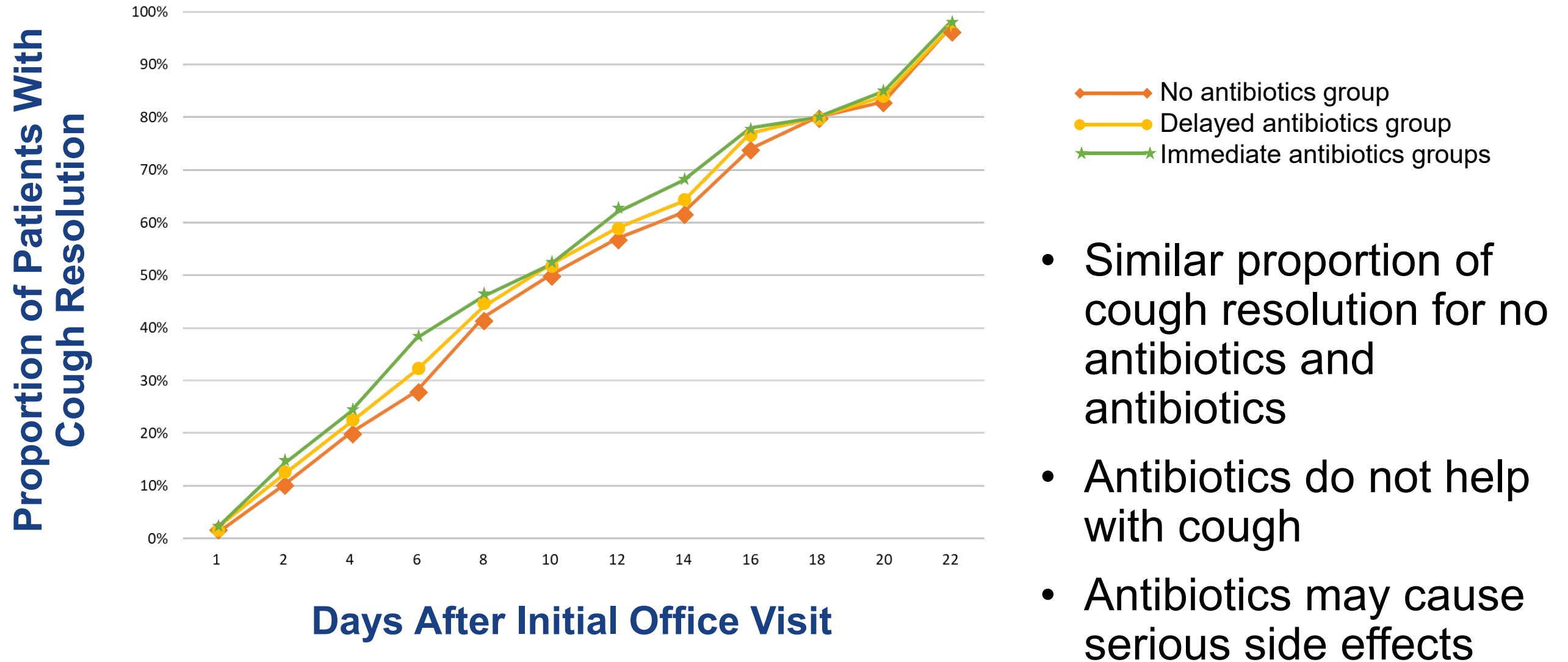
- Your observations:
 - There is no visible dyspnea
 - No tripodding or increased work of breathing
 - Speaking in full sentences
 - No retractions
 - Respiratory rate: 15 breaths per minute
 - No wheezing



Moment 2: Acute Bronchitis and Acute Cough

- Acute bronchitis: Cough with or without sputum production
 - Generally starts with a viral upper respiratory tract infection
- The term “bronchitis” is not applicable to children
 - Children commonly have lingering viral respiratory infections with a cough
- Antibiotic treatment of acute bronchitis is not recommended, regardless of the duration of the cough¹⁻³

Antibiotics Do Not Improve Post-Viral Cough⁴



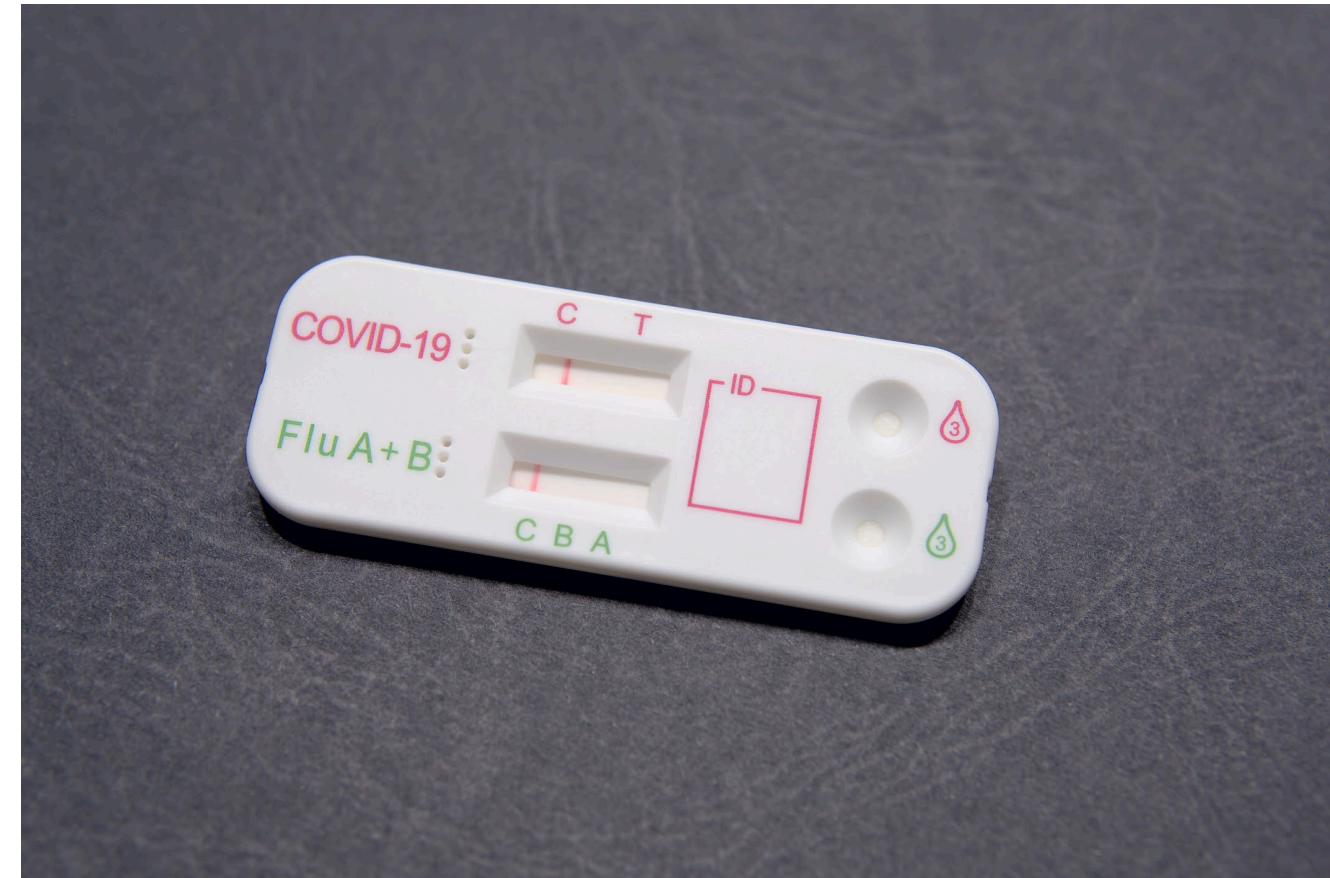
Moment 2: Diagnostic Testing in Acute Bronchitis

- Diagnostic testing is not indicated for acute bronchitis without signs and symptoms of bacterial infection
 - Chest x ray: **Only** if patient has signs and symptoms of pneumonia, including fevers, shortness of breath, abnormal vital signs, focal findings on chest exam
 - Do not need to see patient in person since no worrying signs indicating dyspnea



Diagnostic Testing – What To Rule Out⁵⁻⁷

- Generally not indicated
- Consider recommending COVID-19 or influenza test if concerned
 - At-home multiplex testing or clinic-based testing in brick and mortar

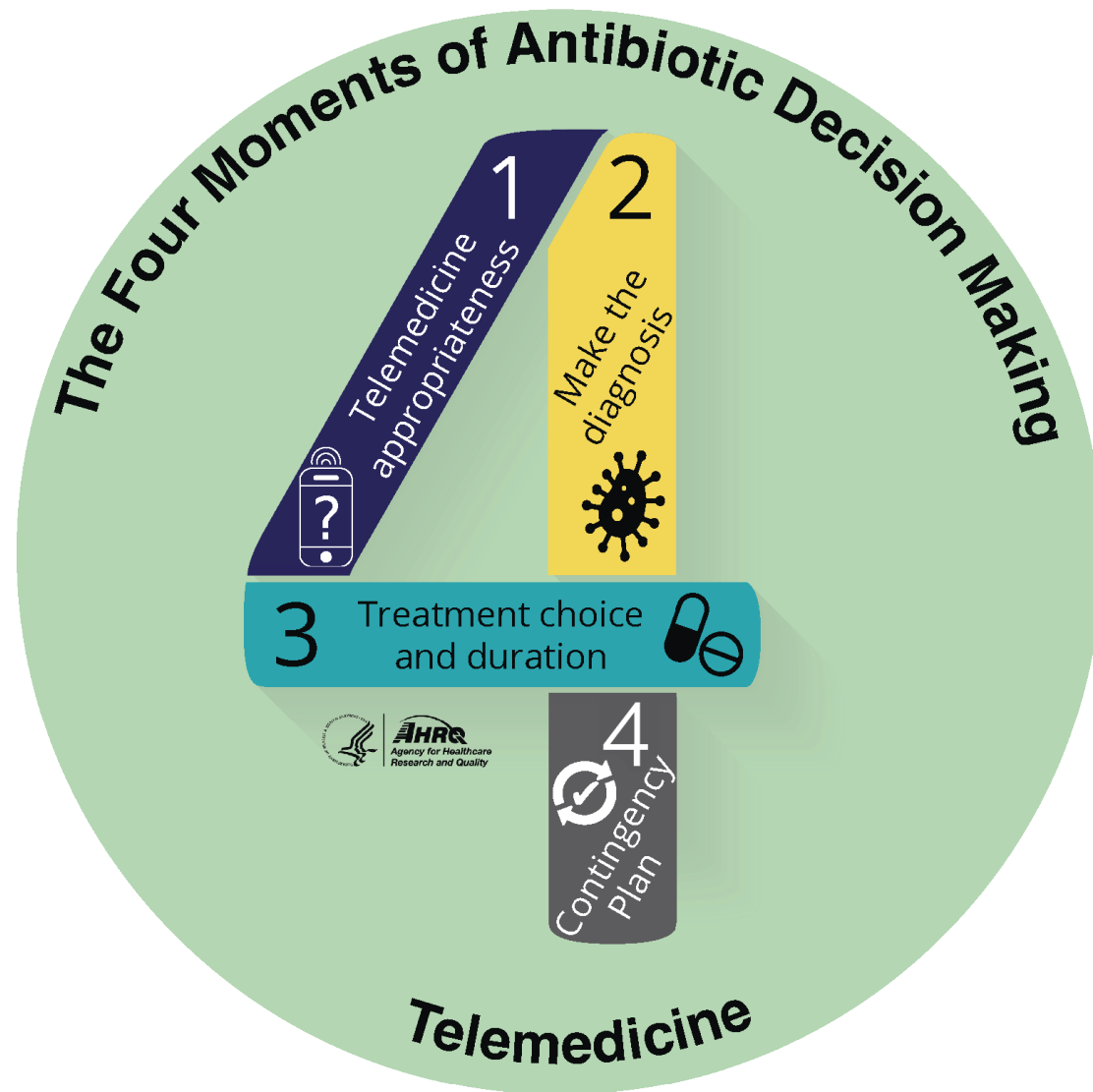


Moment 2: Our Patient

- Symptoms are highly consistent with acute bronchitis
- No antibiotic treatment recommended



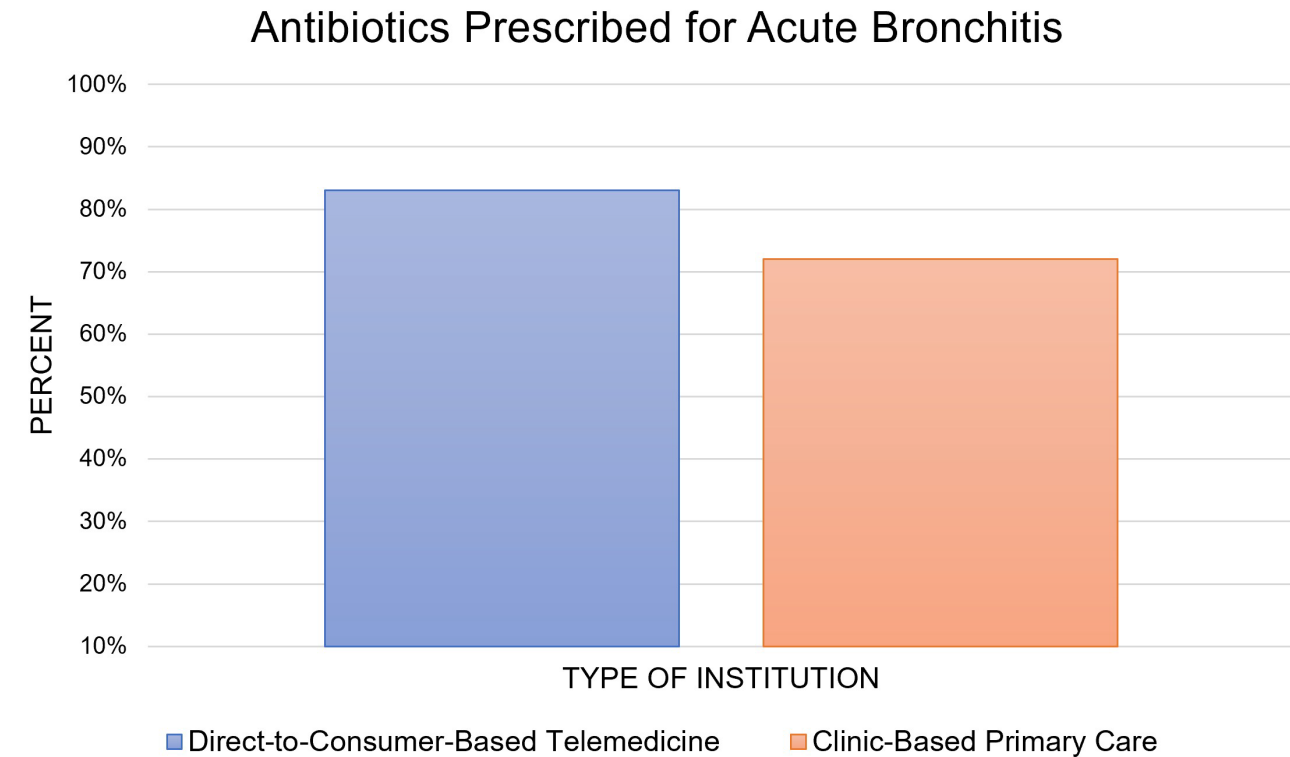
Moment 3



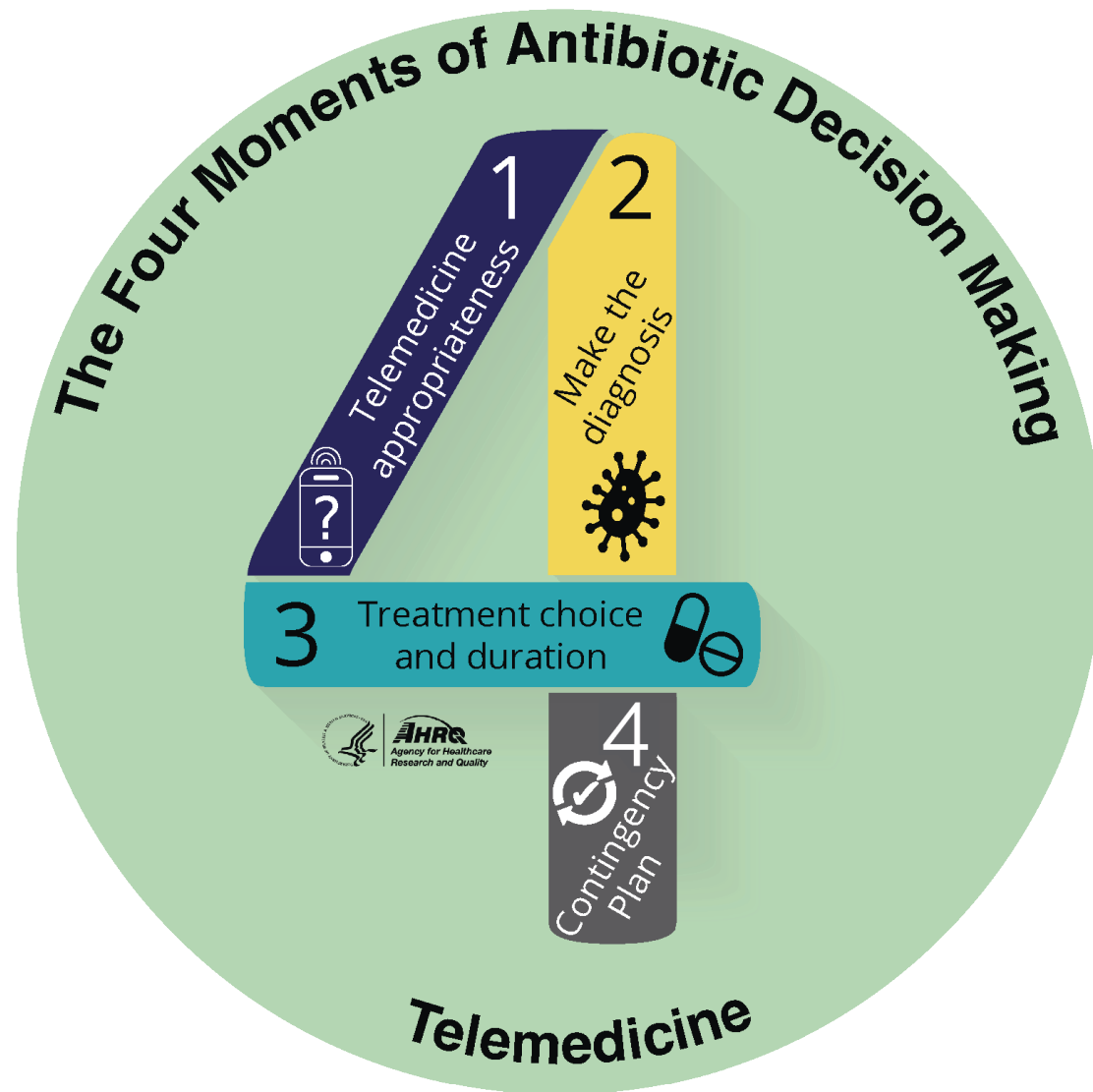
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Moment 3: Avoiding Antibiotics for Acute Bronchitis

- No antibiotics indicated for treatment of acute bronchitis or acute cough
- However, antibiotics are commonly inappropriately prescribed
 - Antibiotics were prescribed for acute bronchitis 83 percent of the time in virtual-first or direct-to-consumer-based telemedicine⁸
 - Prescribed 72 percent of the time in clinic-based primary care⁸



Moment 4



1. Is my patient an appropriate candidate for a telemedicine visit?
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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?

Moment 4: Symptomatic Treatment of Acute Bronchitis – 1

- Over-the-counter medications⁹⁻¹¹
 - Dextromethorphan
 - Guaifenesin
 - Combination antihistamine-decongestants
 - Avoid in children <6 years of age
 - Not advised in children 6–12 years of age due to serious side effects
- Honey¹²
 - Should not be given to children <1 year of age



Moment 4: Symptomatic Treatment of Acute Bronchitis – 2

Consideration for severe cough:

- Prescription medications⁹⁻¹¹
 - Benzonatate
 - Avoid in children <10 years of age
 - Beta-agonists (if evidence of airflow obstruction)¹³



Moment 4: Expectations and Followup Plan

- Cough may last at least 3 weeks
 - Antibiotics will not help
- Seek an in-person evaluation for—
 - Cough that persists beyond 3 weeks
 - High fever (above 102°F)
 - Rash
- Emergency department visit for—
 - Severe headache
 - Confusion
 - Difficulty breathing or swallowing
 - Shortness of breath or chest pain
 - Severe weakness



Take-Home Messages

- ✓ Antibiotics are not indicated for adults with acute bronchitis or for children with an acute cough
- ✓ Consider providing symptomatic treatment options for patients who are experiencing cough that interferes with daily activities or sleep
 - Limited data for efficacy

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