### Appropriate Use of Antibiotics for Acute Respiratory Infections

#### ACUTE SINUSITIS

**Pediatric Guidelines**
- If symptoms (purulent nasal discharge, nasal obstruction, facial pain) present <10 days, observe and provide symptomatic treatment.
- If symptoms persist for >10 days OR are worsening after initial improvement, consider antibiotic therapy.

**Adult Guidelines**
- Provide symptomatic treatment (e.g., decongestant, pain reliever, nasal corticosteroids, saline nasal lavage).

<table>
<thead>
<tr>
<th>Most cases of acute sinusitis are VIRAL.</th>
<th>1st choice</th>
<th>Recent antibiotic use*</th>
<th>Penicillin allergic</th>
<th>1st choice</th>
<th>Recent antibiotic use*</th>
<th>Penicillin allergic</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Amoxicillin 80-90 mg/kg/d</td>
<td>Amox/clav 90/6.4 mg/kg/d</td>
<td>Macrolides</td>
<td>Amoxicillin</td>
<td>Amox/clav</td>
<td>Macrolides</td>
</tr>
<tr>
<td></td>
<td>Cephalexin†</td>
<td>Cephalosporins†</td>
<td>Fluoroquinolones</td>
<td>Cephalexin</td>
<td>Fluoroquinolones</td>
<td>Cephalosporins†</td>
</tr>
</tbody>
</table>

*Within the past 4-6 weeks

†Cephalosporins: cefdinir, cefpodoxime, cefuroxime (unless severe or anaphylactic reaction to penicillin)

#### ACUTE BRONCHITIS

**Pediatric Guidelines**
- Confirm uncomplicated situation (e.g., absence of vital sign and physical exam abnormalities consistent with pneumonia).
- Consider chest X-ray if abnormal vital signs or physical exam findings consistent with pneumonia.
- Presence of sputum, regardless of color, is not predictive of bacterial cause.

**Adult Guidelines**
- Treat symptoms (pain, fever, cough). Consider over-the-counter, albuterol, or prescription cough medications.
- Consider pertussis testing for severe or prolonged cough or possible pertussis exposure.
- Consider COPD in recurrent bronchitis.

<table>
<thead>
<tr>
<th>Most cases of acute bronchitis are VIRAL.</th>
<th>1st choice</th>
<th>2nd choice</th>
<th>Penicillin allergic</th>
<th>1st choice</th>
<th>2nd choice</th>
<th>Penicillin allergic</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No antibiotic</td>
<td>No antibiotic</td>
<td>No antibiotic</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### ACUTE PHARYNGITIS

**Pediatric Guidelines**
- Test only those with consistent clinical and epidemiological findings (fever, lymphadenopathy, exudates, absence of cough, or known Strep exposure).
- Test using rapid antigen detection test (RADT).
- Consider confirming negative RADT with culture, especially in children.
- Treat symptoms with over-the-counter pain relievers.

**Adult Guidelines**
- Test only those with consistent clinical and epidemiological findings (fever, lymphadenopathy, exudates, absence of cough, or known Strep exposure).
- Test using rapid antigen detection test (RADT).
- Consider confirming negative RADT with culture, especially in children.
- Treat symptoms with over-the-counter pain relievers.

<table>
<thead>
<tr>
<th>Most cases of acute pharyngitis are VIRAL.</th>
<th>1st choice</th>
<th>2nd choice</th>
<th>Penicillin allergic</th>
<th>1st choice</th>
<th>2nd choice</th>
<th>Penicillin allergic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group A Strep Pharyngitis (LAB CONFIRMED)</td>
<td>Penicillin VK 25-50 mg/kg/d</td>
<td>Cephalexin</td>
<td>Macrolides</td>
<td>Penicillin VK</td>
<td>Cephalexin</td>
<td>Macrolides</td>
</tr>
<tr>
<td></td>
<td>Amoxicillin 40-50 mg/kg/d</td>
<td>Amoxicillin</td>
<td>Cephalexin</td>
<td>Amoxicillin</td>
<td>Amoxicillin</td>
<td>Cephalexin</td>
</tr>
</tbody>
</table>

*For all conditions, encourage a smoke-free environment. Advise smokers to quit and refer to the Colorado QuitLine (1-800-784-8669) or www.coloradoquitline.org.*

These clinical guidelines (approved 12/19/07) are designed to assist clinicians in appropriately prescribing antibiotics for acute respiratory infections and are not intended to replace a clinician’s judgment or establish a protocol for all patients with a particular condition. For references, important updates, or additional copies of the guidelines, go to www.healthteamworks.org or call (303) 446-7200.
**Acute Otitis Media**

**Pediatric Guidelines**

**Diagnosis**

AOM diagnosis requires three elements:

1. Recent onset of symptoms
   - Otalgia (ear pain)
   - Fever
2. Presence of middle-ear effusion
   - Tympanic membrane bulging
   - Limited or absent mobility of tympanic membrane
   - Air fluid level behind tympanic membrane
   - Otorrhea
3. Signs and symptoms of middle-ear inflammation
   - Tympanic membrane erythema
   - Otalgia that interferes with normal activity or sleep

**Optional Observation Period 48-72 hours**

- Consider observation period for select patients over 6 months of age.
- Consider option of providing a delayed prescription for antibiotics with instructions to fill the prescription if symptoms do not improve after 48-72 hours.
- Treat symptoms with acetaminophen, or ibuprofen (if >6 months), and/or topical anesthetic agent (if >5 years).

**When to Consider Antibiotics**

<table>
<thead>
<tr>
<th>AGE</th>
<th>CERTAIN DIAGNOSIS</th>
<th>UNCERTAIN DIAGNOSIS</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;6 months</td>
<td>Antibiotics</td>
<td>Observation unless severe*</td>
</tr>
<tr>
<td>6 months - 2 years</td>
<td>Observation unless severe*</td>
<td>Observation</td>
</tr>
<tr>
<td>≥2 years</td>
<td>Observation</td>
<td></td>
</tr>
</tbody>
</table>

**Antibiotic Recommendations**

<table>
<thead>
<tr>
<th>Severe*</th>
<th>Amoxicillin 90/6.4 mg/kg/d</th>
<th>Ceftriaxone 1d or 3d</th>
<th>Ceftriaxone 3d</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-severe</td>
<td>Amoxicillin 80-90 mg/kg/d</td>
<td>Ceftriaxone 3d</td>
<td>Ceftriaxone 3d</td>
</tr>
<tr>
<td></td>
<td>Penicillin allergic</td>
<td>Clindamycin</td>
<td></td>
</tr>
</tbody>
</table>

*Severe illness = moderate to severe otalgia or fever ≥39°C
*Non-severe illness = mild otalgia and fever <39°C in past 24 hours
†Cephalosporins: cefdinir, cefpodoxime, cefuroxime (unless severe or anaphylactic reaction to penicillin)
‡After 48-72 hours

**Consider ENT referral for persistent or recurrent otitis media.**

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**Patient Education Tips**

**Appropriate Antibiotic Use**

1. Only prescribe antibiotic therapy when likely to be beneficial to the patient.
2. Prescribe the narrowest spectrum possible for the appropriate dose and duration to target likely pathogens.
3. Educate patients on potential adverse events.
4. Encourage patients to complete antibiotic prescription regardless of symptomatic relief.

**Promoting Patient Satisfaction**

1. Take time to explain the diagnosis and answer questions.
3. Develop specific plan with patient if symptoms worsen or fail to improve.
4. Educate patients and provide educational materials on appropriate antibiotic use and symptomatic treatment. (For free materials, go to www.getsmartcolorado.com.)

**Preventing Respiratory Illness**

1. Wash hands often.
2. Cover your mouth and nose with a tissue or your sleeve when coughing or sneezing.
3. Avoid touching your eyes, nose or mouth.
4. Avoid close contact with people who are sick.
5. Avoid sharing cups and utensils.
6. Provide influenza vaccine to eligible children and adults.
7. Ensure all patients have received other recommended immunizations (www.immunize.org).

**Preventing AOM**

1. Encourage breastfeeding for at least six months.
2. Advise against bottle propping.
3. Encourage a smoke-free environment.