Molina Healthcare of California has adopted the CMA Foundation Acute Respiratory Tract Infection Guideline Summaries for Adults and Pediatrics. The guideline was reviewed and adopted by the Molina Healthcare of California Clinical Quality Management Committee (CQMC) on December 6, 2006, December 5, 2007 and December 10, 2008.

Molina Healthcare of California has adopted the CMA Foundation Acute Respiratory Tract Infection Guideline Summaries for Adults and Pediatrics (2010). The guideline was reviewed and adopted by the Molina Healthcare of California CQMC on November 4, 2009.

Molina Healthcare of California has adopted the CMA Foundation Acute Respiratory Tract Infection Guideline Summaries for Adults and Pediatrics (2011). The guideline was reviewed and adopted by the Molina Healthcare of California CQMC on December 8, 2010.

Molina Healthcare of California has adopted the CMA Foundation Acute Respiratory Tract Infection Guideline Summaries for Adults and Pediatrics (2012). The guideline was reviewed and adopted by the Molina Healthcare of California CQMC on March 21, 2012.

Molina Healthcare of California has adopted the CMA Foundation Acute Respiratory Tract Infection Guideline Summaries for Adults and Pediatrics (2013). The guideline was reviewed and adopted by the Molina Healthcare of California Clinical Quality Improvement Committee (CQIC) on December 12, 2012.

Molina Healthcare of California has adopted the CMA Foundation Acute Respiratory Tract Infection Guideline Summaries for Adults and Pediatrics (2014). The guideline was reviewed and adopted by the Molina Healthcare of California CQIC on December 11, 2013.


Molina Healthcare of California has adopted the CMA Foundation Acute Respiratory Tract Infection Guideline Summaries for Adults and Pediatrics (2016). The guideline was reviewed and adopted by the Molina Healthcare of California CQIC on February 16, 2017.

The Clinical Practice Guideline may be accessed from:
http://www.thecmafoundation.org/Resources/Physician-Resources
Evidence-Based Management of Acute Respiratory Tract Infections

Repeated studies and meta-analyses have demonstrated no significant benefit from antibiotics in otherwise healthy persons. Antibiotic administration is associated with allergic reactions, C. difficile infection and future antibiotic resistance in the treated patient and the community.


Supporting Organizations
Health Net of California
Alameda Alliance for Health
Health Plan of San Joaquin
Inland Empire Health Plan
Kern Health System
L.A. Care Health Plan
Molina Healthcare of California

Endorsing Organizations
American Academy of Pediatrics,
California Academy of Family Physicians
California Pharmacists Association,
Urgent Care Association of America

Adapted by Molina Healthcare of California Clinical Quality Improvement Committee 12/10/14, 3/16/16, and 2/16/17.

FOR MORE INFORMATION OR ADDITIONAL MATERIALS, VISIT WWW.AWARE.MD.
### Illness Indications for Antibiotic Treatment in Adults

<table>
<thead>
<tr>
<th>Illness</th>
<th>Pathogen</th>
<th>Antibiotic Therapy</th>
<th>Antibiotic Choice</th>
<th>Guidelines Reviewed</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Outpatient Community-Acquired Pneumonia</strong></td>
<td>Straphylococcus pneumonia, Mycoplasm pneumonia, Haemophilus influenzae, Chlamydia pneumonia</td>
<td>Empiric Therapy: Healthy with no recent antibiotic use risk factors; macrolide*: consider doxycycline</td>
<td>Macrolide (azithromycin or clarithromycin)*</td>
<td>ISA, ATS, ICSI</td>
</tr>
<tr>
<td>When NOT to Treat with an Antibiotic as an Outpatient: Consider inpatient admission if P1-score &gt;70, CURB-65 5-7, unable to tolerate oral, unstable situation, or if clinical judgment so indicates.</td>
<td></td>
<td>Presence of co-morbidity or antibiotic use within 3 months</td>
<td>Doxycycline alternative to macrolide</td>
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<tr>
<td>When to Treat with an Antibiotic as an Outpatient: Perform chest x-ray (CXR) to confirm the diagnosis of pneumonia.</td>
<td></td>
<td>Respiratory quinolone (5-14 days) plus macrolide* or doxycycline as an alternative to the macrolide.</td>
<td>With Comorbidities: 8-Lactam Alternatives:</td>
<td></td>
</tr>
<tr>
<td>Evaluate for outpatient management. Consider pre-existing conditions, calculate Pneumonia Severity Index (PSI) 1-10 (for outpatient management) or CURB 65 5-7 (for inpatient management). Visit <a href="http://www.idisociety.org">www.idisociety.org</a> for more information.</td>
<td></td>
<td>High dose amoxicillin or amoxicillin-clavulanate</td>
<td>Amoxicillin-clavulanate (875 mg/125 mg po bid)</td>
<td>AAMI, AAP/AOA, ACP, CDC, ISA</td>
</tr>
<tr>
<td>Spumum gram stain and culture are recommended if active alcohol abuse, severe obstructive/structural lung disease, or pleural effusion.</td>
<td></td>
<td>Cephalosporins (cephalexin, cefuroxime)</td>
<td>Doxycycline, Respiratory quinolone (levofloxacin, moxifloxacin)</td>
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<tr>
<td>Pneumococcal vaccination should be done following current ACP recommendations which have been recently updated. Selective use of PCV 13 (conjugated pneumococcal vaccine) is now recommended in some situations for adults in conjunction with regular pneumococcal vaccine (PPSV23).</td>
<td></td>
<td>Other Alternatives: Respiratory quinolone (moxifloxacin, levofloxacin 750mg QD*)</td>
<td>For 8-Lactam Allergy:</td>
<td></td>
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<tr>
<td><strong>Upper Respiratory Tract Infection</strong></td>
<td>Straphylococcus pneumonia, Mycoplasm pneumonia, Haemophilus influenzae, Chlamydia pneumonia</td>
<td></td>
<td>Doxycycline, Respiratory quinolone (levofloxacin, moxifloxacin)*</td>
<td></td>
</tr>
<tr>
<td>When NOT to Treat with an Antibiotic: Abbreviations not indicated; however non-specific URI is a major cause of acute respiratory illnesses presenting to primary care practitioners. Patients often present expecting some treatment. Attempt to discourage antibiotic use and explain appropriate non-pharmacologic treatment.</td>
<td></td>
<td>Mainly viral pathogens</td>
<td>Not indicated</td>
<td>AAFP, ACP, CDC, ICSI</td>
</tr>
<tr>
<td>When to Treat with an Antibiotic: Nearly all cases of acute sinusitis resolve without antibiotics. Antibiotic use is reserved for moderate symptoms that are not improving after 10 days, or that are worsening after 9-7 days, and severe symptoms.</td>
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<tr>
<td>When to Treat with an Antibiotic: Diagnosis of acute bacterial sinusitis may be made in adults with symptoms of acute rhinosinusitis (nasal obstruction or purulent discharge, facial fullness or pain, fever, or anxiety) who have any of the following three clinical presentations: Symptoms lasting &gt;10 days without clinical improvement.</td>
<td></td>
<td>Failure to respond after 72 hours of antibiotics: Re-evaluate patient and switch to alternate antibiotic.</td>
<td>Amoxicillin-clavulanate (875 mg/125 mg po bid)</td>
<td>AAMI, AAP/AOA, ACP, CDC, ISA</td>
</tr>
<tr>
<td>Severe illness with fever (&gt;39°C [102.2°F] F)] and purulent nasal discharge or facial pain for &gt;3 consecutive days at the beginning of illness. Worsening symptoms or signs (new onset fever, headache, increase in nasal discharge) following typical URI that lasted 5-7 days and were initially improving.</td>
<td></td>
<td></td>
<td>Alternatives: Amoxicillin-clavulanate (high dose 2000 mg/125 mg po bid). Doxycycline, Respiratory quinolone (levofloxacin, moxifloxacin).</td>
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<tr>
<td>When to Treat with an Antibiotic: Pharyngitis: Most pharyngitis cases are viral in origin. The presence of the following is uncommon with Group A Strep, and point away from using antibiotics: conjunctivitis, cough, rhinorrhea, rhinorrhea, and absence of fever.</td>
<td>Streaphylococcus pyogenes</td>
<td></td>
<td>For 8-Lactam Allergy:</td>
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<tr>
<td>When NOT to Treat with an Antibiotic: 90% of cases are nonbacterial. Literature fails to support use of antibiotics in adults without history chronic bronchitis or other co-morbid conditions.</td>
<td></td>
<td>Mainly viral pathogens</td>
<td>Not indicated</td>
<td>AAGR, AC, CDC, GIM, ICSI</td>
</tr>
<tr>
<td>When to Treat with an Antibiotic: Streaphylococcus pyogenes (Group A Strep) Symptoms of sore throat, fever, headache. Physical findings include: Fever, tonsillar pharyngeal erythema and exudate, palatal petechiae, tender and enlarged anterior cervical lymph nodes, and absence of cough. Confirmation diagnosis with throat culture or rapid antigen detection before using antibiotics.</td>
<td>Streaphylococcus pyogenes</td>
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<tr>
<td>Pertussis</td>
<td>Bordetella pertussis</td>
<td>Treatment is required for all cases and close contacts or as directed by health officer</td>
<td>Asthromycin*</td>
<td>ACP, AAFP, CDC, ICSI</td>
</tr>
<tr>
<td>Testing for pertussis is recommended particularly during outbreaks and according to public health recommendations, particularly those at high risk – teachers, day care and healthcare workers. Persons with exposure to infants (parents, child care workers or family members) should be vaccinated and tested if they have symptoms. Vaccination per ACP recommendations is highly encouraged to prevent outbreaks. All pregnant women should be vaccinated during every pregnancy.</td>
<td></td>
<td></td>
<td>Alternatives: Doxycycline, Clarithromycin</td>
<td>ACP, AC, CDC</td>
</tr>
<tr>
<td>Cellulitis and Abscesses</td>
<td>Cellulitis is almost always secondary to strepococcal species. Treatment should be directed synergistically.</td>
<td>With Comorbidities:</td>
<td>*Macrolides and quinolones cause QT prolongation and have an increased risk of cardiac death; Reserve the use of quinolones when treating acute bacterial sinusitis, acute bacterial exacerbation of chronic bronchitis, and uncomplicated urinary tract infections for patients who do not have alternative treatment options.</td>
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<tr>
<td>When NOT to Treat with an Antibiotic: 85% of cases are nonbacterial. Literature fails to support use of antibiotics in adults without history of chronic bronchitis or other co-morbid conditions.</td>
<td>Streaphylococcus pneumoniae, Staphylococcus aureus (methicillin sensitive and methicillin resistant)</td>
<td>Indicated incision and drainage. If significant associated cellulitis, add antibiotics</td>
<td>Amoxicillin-clavulanate (high dose 2000 mg/125 mg po bid). Doxycycline, Respiratory quinolone (levofloxacin, moxifloxacin).</td>
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<td>When to Treat with an Antibiotic: Abscesses are often secondary to Staphylococcus aureus – including methillin-resistant Staphylococcus aureus (MRSA). The treatment is primarily drainage and this is required for larger abscesses. If surrounding cellulitis, treatment should be broadened to cover MRSA. Cultures should be obtained.</td>
<td>Staphylococcus aureus (methicillin sensitive and methicillin resistant)</td>
<td></td>
<td>Doxycycline, Respiratory quinolone (levofloxacin, moxifloxacin)*</td>
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<tr>
<td>Urinary Tract Infection</td>
<td>Straphylococcus pneumoniae, Staphylococcus aureus (methicillin sensitive and methicillin resistant)</td>
<td>Empiric therapy: 5 days</td>
<td>Cystitis: 3-7 days</td>
<td>IDSA, ATS, ICSI</td>
</tr>
<tr>
<td>When NOT to Treat with an Antibiotic: Urinary tract infections (UTI) may be given when urinalysis demonstrates pyuria (positive leukocyte esterase test) or &gt;10 white blood cells (WBCs) per high-power field (20 WBCs per mL), and urine culture demonstrates coliform bacteria or sugarcube aspiration. A positive culture consists of &gt;104,000 colony-forming units (CFUs) per mL of a urine sample.</td>
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<td>Pyelonephritis: 5-14 days</td>
<td>IDSA, ATS, ICSI</td>
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<td>Cellulitis: Perineal, Cephalhem, Ditracoid, Cephalexin, Clarithromycin</td>
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<tr>
<td>Abscesses (if significant cellulitis/erysipelas or fever):</td>
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<tr>
<td>Empiric therapy for UTI may be given when urinalysis demonstrates pyuria (positive leukocyte esterase test) or &gt;10 white blood cells (WBCs) per high-power field (20 WBCs per mL), and urine culture demonstrates coliform bacteria or sugarcube aspiration. A positive culture consists of &gt;104,000 colony-forming units (CFUs) per mL of a urine sample.</td>
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</tbody>
</table>
Confirm a Streptococcal Cause of Pharyngitis BEFORE Prescribing Antibiotics.

- Clinical signs and symptoms that strongly suggest a non-streptococcal (usually viral) etiology:
  - Fever
  - Headache
  - Cough
  - Runny nose
  - Watery eyes
  - Watery stools
- Clinical signs and symptoms that increase the probability of strep pharyngitis:
  - Pharyngitis or tonsillitis swelling
  - Rash
  - Red/brown spots
  - Neck pain/pain/shininess
- The signs and symptoms of streptococcal and non-streptococcal pharyngitis overlap too broadly for diagnosis to be made on clinical grounds alone. Laboratory confirmation of the diagnosis is necessary.

Perform RAPID ANTIGEN DETECTION TEST

- Positive rapid test: Antibiotic therapy warranted
  - Symptom management
    - Pain control is important for maintaining patient comfort, and in hospitalization. Assist in identifying safe home remedies and appropriate over-the-counter (OTC) medications (e.g., analgesics and/or antipyretics) that may offer symptom relief.
    - Assist using aspirin for Reye's syndrome.
  - N/A
- Negative rapid test: Perform throat culture
  - Symptom management
  - Antibiotic therapy warranted
- Negative culture
  - No antibiotic needed

Educate, Advise and Assist Patients and Parents/Caregivers.

Viral cause: A rapid test excluding is negative, educate patients and parents/caregivers that the cause (potentially possible culture) is not strep but one of many different viruses, and antibiotics are not necessary. Treat with typical symptomatic therapy. Offer them reassurance that with support, they may increase the chances, but does not adequately confirm a current strep infection.

Value of testing/potential harm of antibiotics: Advise patients and parents/caregivers that rapid tests are highly reliable and allow providers to avoid using unnecessary antibiotics and the associated possible harm (medication side effects and increasing personal and societal antimicrobial resistance).

Signs of worsen: Educate parents and patients/caregivers that, occasionally, whatever the cause of a sore throat and whether antibiotics are prescribed or not, symptoms can worsen. This is the case of rhinovirus/subacute. If symptoms do not begin to abate in 24 hours, schedule a visit for further evaluation.

Illness prevention: Review illness prevention, including good hand and respiratory hygiene. Offer influenza vaccination to children 6 months to 18 years of age. Encourage parents/caregivers and household contacts of children to get vaccinated.

REFERENCE ARTICLES


Assessment of Streptococcal Pharyngitis in the Adult Outpatient Setting: 2009 CDC guidelines.


Bronchoconstrictive/restrictive: 2015;36:480-488


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For more information, visit: www.aware.md

CMA Foundation, 2230 L Street, Sacramento, CA 95816

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