

# Judicious Use of Antibiotics for Acute Bacterial Sinusitis

## Potential Barriers and Suggested Ideas for Change

<b>Key Activity: Diagnose Infection Accurately—Acute Bacterial Sinusitis</b>		
<b>Rationale:</b> In order to achieve judicious antibiotic prescribing for bacterial infections such as acute bacterial sinusitis, it is important to understand and use stringent and validated clinical criteria as established through clinical guidelines. The careful application of these diagnostic criteria lead to more accurate diagnosing, resulting in the potential to mitigate overuse and misuse of antibiotics for common pediatric infections.		
Potential Barriers	Suggested Ideas for Change	Still Not Seeing Results?
<b>Gap: Acute bacterial sinusitis is not consistently diagnosed correctly, based on strict diagnostic criteria and patient's age.</b>		
Practitioners and/or staff may not be aware of the importance of using strict criteria to diagnose acute bacterial sinusitis.	<ul style="list-style-type: none"> <li>Review the guidelines and recommendations that discuss the importance of accurately diagnosing infections to avoid misuse or overuse of antibiotics:               <ul style="list-style-type: none"> <li>✓ <a href="#">Principles of Judicious Antibiotic Prescribing for Bacterial Upper Respiratory Tract Infections</a></li> <li>✓ <a href="#">Zaoutis, T. CDC highlights threats posed by antibiotic resistance, calls for action</a></li> <li>✓ <a href="#">Antibiotic Resistance Threats in the United States, 2013. Centers for Disease Control and Prevention</a></li> <li>✓ <a href="#">Centers for Disease Prevention (CDC) Program. Get Smart: Know When Antibiotics Work</a></li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>Discuss with all staff the importance of accurate diagnoses and stress the following:               <ul style="list-style-type: none"> <li>✓ Inappropriate diagnosis may lead to inappropriate use of antibiotics.</li> <li>✓ Antibiotic overuse is a serious health threat.</li> <li>✓ Adverse effects can result from unnecessary antibiotics.</li> <li>✓ Accurate diagnoses lead to appropriate treatment and judicious antibiotic use.</li> </ul> </li> </ul>
Strict diagnostic criteria are not routinely used because of lack of knowledge of what the criteria (signs and symptoms) are.	<ul style="list-style-type: none"> <li>Review the guidelines and recommendations that outline the diagnostic criteria to be used to accurately diagnose acute bacterial sinusitis:               <ul style="list-style-type: none"> <li>✓ <a href="#">AAP Clinical Practice Guideline for the Diagnosis and Management of Acute Bacterial Sinusitis in Children Aged 1 to 18 Years</a></li> <li>✓ <a href="#">Principles of Judicious Antibiotic Prescribing for Bacterial Upper Respiratory Tract Infections</a></li> </ul> </li> <li>Distribute and review the <a href="#">Judicious Use of Antibiotics for Acute Bacterial Sinusitis Flowchart</a>, which summarizes the essential criteria.</li> <li>Criteria apply to children 12 months or older.</li> </ul>	<ul style="list-style-type: none"> <li>Conduct a “Lunch and Learn” session with fellow clinicians and review the following to ensure that all clinicians are aware of the criteria to diagnose acute bacterial sinusitis. Use the following resources:               <ul style="list-style-type: none"> <li>✓ <a href="#">AAP Clinical Practice Guideline for the Diagnosis and Management of Acute Bacterial Sinusitis in Children Aged 1 to 18 Years</a></li> <li>✓ <a href="#">Judicious Use of Antibiotics for Acute Bacterial Sinusitis Flowchart</a>, developed for this course, or your practice's own diagnostic tool</li> </ul> </li> </ul>

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Potential Barriers	Suggested Ideas for Change	Still Not Seeing Results?
<p>The practice does not have a systematic approach or tool for applying diagnostic criteria.</p> <ul style="list-style-type: none"> <li>– Lack of a clear tool for diagnosis</li> <li>– Lack of ready access to diagnosis information or tool</li> </ul>	<ul style="list-style-type: none"> <li>• Institute use of an existing diagnostic algorithm created for this course:               <ul style="list-style-type: none"> <li>✓ <a href="#">Judicious Use of Antibiotics for Acute Bacterial Sinusitis Flowchart</a></li> </ul> </li> <li>• Alternately, create your own diagnosis tool for acute bacterial sinusitis. Consider the following:               <ul style="list-style-type: none"> <li>✓ The tool should have clear criteria for discerning between viral and bacterial infections with emphasis on the detailed criteria for diagnosing acute bacterial sinusitis.</li> </ul> </li> <li>• Make the diagnostic tool available in each examining room.</li> </ul>	<ul style="list-style-type: none"> <li>• Survey the practitioners to ensure that every clinician has access to strict diagnostic criteria and a diagnostic flowchart or tool.</li> <li>• Conduct a Lunch and Learn or similar session with fellow clinicians to review the criteria using these resources:               <ul style="list-style-type: none"> <li>✓ <a href="#">Judicious Use of Antibiotics for Acute Bacterial Sinusitis Flowchart</a></li> <li>✓ <a href="#">AAP Clinical Practice Guideline for the Diagnosis and Management of Acute Bacterial Sinusitis in Children Aged 1 to 18 Years</a></li> </ul> </li> </ul>
<p>An alternative or noninfectious diagnosis that overlaps or mirrors acute bacterial sinusitis is not considered.</p>	<ul style="list-style-type: none"> <li>• Review the following information:               <ul style="list-style-type: none"> <li>✓ Symptoms of acute bacterial sinusitis and other diagnoses may overlap or mirror one another. Acute bacterial sinusitis symptoms may be vague. Therefore, it is important to use clinical criteria to differentiate between bacterial sinusitis and the following:                   <ul style="list-style-type: none"> <li>– Viral URIs (eg, rhinovirus)</li> <li>– Allergic rhinitis (eg, seasonal allergy)</li> <li>– Nonallergic rhinitis (eg, vasomotor)</li> <li>– Foreign body</li> <li>– Irritants</li> </ul> </li> <li>✓ Physical examination, as well as careful history, is necessary to exclude other overlapping, noninfectious diagnoses.</li> <li>✓ Resources for this clinical criteria include:                   <ul style="list-style-type: none"> <li>– <a href="#">AAP Clinical Practice Guideline for the Diagnosis and Management of Acute Bacterial Sinusitis in Children Aged 1 to 18 Years</a></li> <li>– <a href="#">Judicious Use of Antibiotics for Acute Bacterial Sinusitis Flowchart</a></li> </ul> </li> </ul> </li> </ul>	

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Potential Barriers	Suggested Ideas for Change	Still Not Seeing Results?
<b>Gap: Radiographic imaging studies are used to diagnose acute bacterial sinusitis when they should NOT be used.</b>		
Practitioners may not be aware that imaging (sinus radiograph, CT, or MRI) of sinuses is not useful EXCEPT in the case of suspected complications such as orbital cellulitis or intracerebral abscesses.	<ul style="list-style-type: none"> <li>Review the guideline pertaining to use of imaging in the following: <ul style="list-style-type: none"> <li>✓ <a href="#">AAP Clinical Practice Guideline for the Diagnosis and Management of Acute Bacterial Sinusitis in Children Aged 1 to 18 Years</a>, Key Action Statement 2A</li> </ul> </li> <li>Develop and communicate imaging policies that clearly outline when imaging is useful and the issues with use of imaging. <ul style="list-style-type: none"> <li>✓ Imaging (plain, CT, or MRI) of sinuses is not useful and should not be used to diagnose acute bacterial sinusitis EXCEPT in the case of suspected complications such as orbital cellulitis or intracerebral abscesses.</li> <li>✓ Radiographs and CT do not help diagnose and may needlessly expose patients to radiation.</li> <li>✓ A CT scan is appropriate if signs of orbital cellulitis (eg, impaired extraocular movements) or CNS (central nervous system) signs or symptoms are present on history and/or physical examination.</li> </ul> </li> </ul>	
Practice does not have an effective triage system to optimize an accurate diagnosis.	<ul style="list-style-type: none"> <li>Develop and communicate practice policies to ensure a triage system is established and used appropriately in order to ensure accurate diagnoses. Consider the following elements: <ul style="list-style-type: none"> <li>✓ Diagnoses must be based on a physical examination by a physician, NP, or PA.</li> <li>✓ Do not use nurse-only visits for diagnosis or treatment.</li> <li>✓ Do not allow prescribing over the phone.</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>Brainstorm with practice staff for ideas to improve your triage system to reduce diagnoses without a physical exam by a physician, NP, or PA.</li> <li>Consult with other practices about their procedures for triage.</li> </ul>

## Key Activity: Treat Acute Bacterial Sinusitis Effectively with Judicious Use of Antibiotics

**Rationale:** It is widely documented that antibiotics are frequently prescribed when not required or the incorrect antibiotic is prescribed. Such overuse and misuse of antibiotics causes avoidable drug-related adverse events, unnecessary cost, and contributes to antibiotic resistance, which is a very serious health threat. Judicious use of antibiotic for treating acute bacterial sinusitis includes using antibiotics only when they are needed to treat the infection, choosing the right antibiotics, and administering them in the correct way.

Potential Barriers	Suggested Ideas for Change	Still Not Seeing Results?
<b>Gap: The option for initial observation (watchful waiting) is not considered or offered to the patient when criteria for persistent illness is met.</b>		

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Potential Barriers	Suggested Ideas for Change	Still Not Seeing Results?
The initial observation (watchful waiting) option is not presented because it is not understood as an option for persistent illness only (not appropriate for severe or worsening illness).	<ul style="list-style-type: none"> <li>Review the guidelines and recommendations that outline the options for initial observation (watchful waiting) when determining the treatment for sinusitis: <ul style="list-style-type: none"> <li>✓ <a href="#">AAP Clinical Practice Guideline for the Diagnosis and Management of Acute Bacterial Sinusitis in Children Aged 1 to 18 Years</a>. See Table 2: <i>Initial Use of Antibiotics for Acute Bacterial Sinusitis</i>.</li> <li>✓ Make the option of initial observation (watchful waiting) part of your treatment flowchart for persistent illness.</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>Meet with practice clinicians to review the guidance relative to offering initial observation and discuss any concerns they have for offering this option to patients. <ul style="list-style-type: none"> <li>✓ <a href="#">AAP Clinical Practice Guideline for the Diagnosis and Management of Acute Bacterial Sinusitis in Children Aged 1 to 18 Years</a> (See Table 2: <i>Initial Use of Antibiotics for Acute Bacterial Sinusitis</i>.)</li> <li>✓ <a href="#">Judicious Use of Antibiotics for Acute Bacterial Sinusitis Flowchart</a></li> </ul> </li> </ul>
<b>Gap: A follow-up plan is not created for patients choosing initial observation (watchful waiting).</b>		
There is no protocol for creating a follow-up plan in the patient's chart (eg, appointment, phone call) when watchful waiting is chosen.	<ul style="list-style-type: none"> <li>Create a clear practice protocol for following up on patients for whom a watchful waiting plan has been determined. Consider the following in the protocol: <ul style="list-style-type: none"> <li>✓ Routine discussion and selection of a follow-up plan at the patient visit when observation is selected</li> <li>✓ Selection of any preferred mean(s) of follow-up: appointment, phone call, e-mail, etc., for the practice</li> <li>✓ Patient charting to include documentation of follow-up plan</li> <li>✓ Parent guidance to stress importance of following up if there is no improvement</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>Discuss with staff the importance of establishing and documenting a follow-up plan when watch-and-wait is determined. Get agreement on a protocol to achieve follow-up. Identify any issues and adjust the protocol.</li> <li>Put in place a patient education campaign that stresses the importance of following up when their child's symptoms do not improve.</li> <li>Publicize the need for follow-up on your practice Web site.</li> <li>Create a prescription-like pad that indicates when and how to follow up.</li> <li>Consideration of a staff responsibility for following up if the patient/family does not within 72 hours.</li> </ul>
<b>Gap: Diagnosed patients are not prescribed antibiotics although antibiotics are indicated.</b>		

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Potential Barriers	Suggested Ideas for Change	Still Not Seeing Results?
Lack of awareness of, or access to, the clinical guideline recommendations for the correct treatment of acute bacterial sinusitis.	<ul style="list-style-type: none"> <li>Obtain and review the following guideline: <ul style="list-style-type: none"> <li>✓ <a href="#">AAP Clinical Practice Guideline for the Diagnosis and Management of Acute Bacterial Sinusitis in Children Aged 1 to 18 Years</a> <ul style="list-style-type: none"> <li>– See Table 2: <i>Initial Use of Antibiotics for Acute Bacterial Sinusitis</i>.</li> <li>– See Table 4: <i>Management of Worsening or Lack of Improvement at 72 Hours</i>.</li> </ul> </li> <li>✓ See <a href="#">Initial Antibiotic Management Table</a> created for this course</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>Survey the practitioners to ensure that every clinician has access to the guideline recommendations for treatment.</li> <li>Conduct a “Lunch and Learn” or similar session with fellow clinicians to review the treatment recommendations using these resources: <ul style="list-style-type: none"> <li>✓ <a href="#">Judicious Use of Antibiotics for Acute Bacterial Sinusitis Flowchart</a>, created for this course</li> <li>✓ <a href="#">AAP Clinical Practice Guideline for the Diagnosis and Management of Acute Bacterial Sinusitis in Children Aged 1 to 18 Years</a></li> </ul> </li> </ul>
<b>Gap: Patient are not treated with the correct antibiotic.</b>		
<p>There is a lack of awareness of, or access to, the clinical guideline recommendations for the treatment of acute bacterial sinusitis including:</p> <ul style="list-style-type: none"> <li>First-line treatment</li> <li>Treatment if penicillin or amoxicillin allergy</li> <li>Treatments that should <u>not</u> be prescribed</li> </ul>	<ul style="list-style-type: none"> <li>Obtain and review the following guideline: <ul style="list-style-type: none"> <li>– <a href="#">AAP Clinical Practice Guideline for the Diagnosis and Management of Acute Bacterial Sinusitis in Children Aged 1 to 18 Years</a>, <i>Key Action Statement 4</i> <ul style="list-style-type: none"> <li>– See Table 2: <i>Initial Use of Antibiotics for Acute Bacterial Sinusitis</i>.</li> <li>– See Table 4: <i>Management of Worsening or Lack of Improvement at 72 Hours</i>.</li> </ul> </li> </ul> </li> <li>Review and use a diagnostic and treatment tool for sinusitis. <ul style="list-style-type: none"> <li>✓ <a href="#">Judicious Use of Antibiotics for Acute Bacterial Sinusitis Flowchart</a></li> </ul> </li> <li>Make a diagnostic and treatment flowchart available in every examination room.</li> </ul>	<ul style="list-style-type: none"> <li>Survey the practitioners to ensure that every clinician has access to the guideline recommendations for treatment.</li> <li>Conduct a Lunch and Learn or similar session with fellow clinicians to review the treatment recommendations using these resources: <ul style="list-style-type: none"> <li>✓ <a href="#">Judicious Use of Antibiotics for Acute Bacterial Sinusitis Flowchart</a>, created for this course</li> <li>✓ <a href="#">Initial Antibiotic Management Table</a> created for this course</li> <li>✓ <a href="#">AAP Clinical Practice Guideline for the Diagnosis and Management of Acute Bacterial Sinusitis in Children Aged 1 to 18 Years</a> <ul style="list-style-type: none"> <li>– See Table 2: <i>Initial Use of Antibiotics for Acute Bacterial Sinusitis</i>.</li> </ul> </li> </ul> </li> </ul>

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The microbiology of acute bacterial sinusitis is not understood or considered.	<ul style="list-style-type: none"> <li>Review the discussion of microbiology in <i>Key Action Statement 4; KAS Profile 4 Page e270</i> of the acute bacterial sinusitis guideline: <ul style="list-style-type: none"> <li>✓ <a href="#">AAP Clinical Practice Guideline for the Diagnosis and Management of Acute Bacterial Sinusitis in Children Aged 1 to 18 Years</a></li> </ul> </li> </ul>	
The geographic resistance patterns that may inform antibiotic choice are not understood or considered.	<ul style="list-style-type: none"> <li>Review resources that inform local geographic resistance patterns, including: <ul style="list-style-type: none"> <li>✓ <i>Key Action Statement 4; KAS Profile 4</i> of Acute Bacterial Sinusitis guideline: <ul style="list-style-type: none"> <li>– <a href="#">AAP Clinical Practice Guideline for the Diagnosis and Management of Acute Bacterial Sinusitis in Children Aged 1 to 18 Years</a></li> </ul> </li> </ul> </li> </ul>	
Lack of a conceptual framework regarding broad-spectrum versus narrow-spectrum antibiotics, especially the role of broad spectrum antibiotics in promoting resistance and disrupting normal flora.	<ul style="list-style-type: none"> <li>Review the following to learn about broad-spectrum versus narrow-spectrum antibiotics: <ul style="list-style-type: none"> <li>✓ <a href="#">Principles of Judicious Antibiotic Prescribing for Bacterial Upper Respiratory Tract Infections</a></li> <li>✓ <a href="#">Antibiotic Resistance Threats in the United States, 2013. Centers for Disease Control and Prevention</a></li> <li>✓ <a href="#">The Human Microbiome and Its Potential Importance to Pediatrics.</a></li> </ul> </li> </ul>	
There is a lack of a clear understanding of true antibiotic allergies and the adverse effects associated with the choice of antibiotic.	<ul style="list-style-type: none"> <li>Review the following : <ul style="list-style-type: none"> <li>✓ <a href="#">True Antibiotic Allergies</a> discussion from this course</li> <li>✓ <a href="#">Principles of Judicious Antibiotic Prescribing for Bacterial Upper Respiratory Tract Infections</a></li> <li>✓ <a href="#">A review of evidence supporting the American Academy of Pediatrics recommendation for prescribing cephalosporin antibiotics for penicillin-allergic patients.</a> <i>Pediatrics.</i> 2005 Apr;115(4):1048-57.</li> <li>✓ <a href="#">Committee on Infectious Diseases. Policy statement: <i>Clostridium difficile</i> infection in infants and children.</a> <i>Pediatrics.</i> 2013;131(1):196–200</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>Conduct a Lunch and Learn or other comparable session to review the concept of true antibiotic allergies with practice clinicians.</li> <li>Review the specifics and classify the antibiotic reaction for any child in whom an antibiotic allergy is reported.</li> </ul>



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	<ul style="list-style-type: none"> <li>✓ Jackson MA, Hersch AL. <a href="#">Why's and how's of judicious antibiotic prescribing for URIs</a> AAP News. doi: 10.1542/aapnews.20131118-</li> </ul>	
Patient/family requests that antibiotics or a <u>specific</u> antibiotic should be prescribed.	<ul style="list-style-type: none"> <li>• Agree on, establish, and communicate a practice policy regarding prescription of the recommended antibiotic only, based on bacterial sinusitis clinical guidelines.</li> <li>• Prepare to respond to parents' requests and inquiries with an explanation of the benefits of the recommended treatment with amoxicillin.</li> <li>• Devote part of the visit flow to share with patient/family which antibiotic is recommended for treatment and why it is recommended.</li> <li>• Establish practice policies that eliminate over-the-phone prescribing of antibiotics (ie, the diagnosis must be based on a physical examination).</li> <li>• See <i>Table 3: Parent Information Regarding Initial Management of Acute Bacterial Sinusitis</i>, page e275, in <a href="#">AAP Clinical Practice Guideline for the Diagnosis and Management of Acute Bacterial Sinusitis in Children Aged 1 to 18 Years</a>.</li> <li>• Consult the <a href="#">Antibiotic Guidance and Education Checklist</a> created for this course for a summary of key messages and key information to share with parents.</li> </ul>	<ul style="list-style-type: none"> <li>• Meet with practice staff to: <ul style="list-style-type: none"> <li>✓ Discuss the importance of a practice policy for addressing parental pressure and the best way to communicate the policy.</li> <li>✓ Brainstorm ideas for your specific patient population to address the common concerns and misconceptions practitioners face.</li> <li>✓ Develop answers to parents' common questions, beliefs, and resistance</li> </ul> </li> <li>• Use available resources to educate parents <ul style="list-style-type: none"> <li>– <i>Table 3: Parent Information Regarding Initial Management of Acute Bacterial Sinusitis</i>. Page e275 in <a href="#">AAP Clinical Practice Guideline for the Diagnosis and Management of Acute Bacterial Sinusitis in Children Aged 1 to 18 Years</a>.</li> <li>– <a href="#">Patient and Family Antibiotic Education Resource List</a></li> <li>– <a href="#">HealthyChildren.org articles</a></li> </ul> </li> </ul>
Resources to deal with parental misconceptions or pressure about antibiotic use are not available or are not utilized.	<ul style="list-style-type: none"> <li>• Consider using the following resources for discussion with parents: <ul style="list-style-type: none"> <li>✓ AAP Parent Education Online (requires subscription) <ul style="list-style-type: none"> <li>– <a href="#">Antibiotics and Your Child</a></li> <li>– <a href="#">Common Childhood Infections</a></li> <li>– <a href="#">Sinusitis and Your Child</a></li> </ul> </li> <li>✓ HealthyChildren.org articles:</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Meet with practice staff to: <ul style="list-style-type: none"> <li>✓ Discuss the importance of a practice policy for addressing parental pressure and the best way to communicate the policy.</li> <li>✓ Brainstorm ideas for your specific patient population to address the common concerns and misconceptions practitioners face.</li> </ul> </li> </ul>

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Potential Barriers	Suggested Ideas for Change	Still Not Seeing Results?
	<ul style="list-style-type: none"> <li>– <a href="#">Antibiotic Prescriptions for Children: 10 Common Questions Answered</a></li> <li>– <a href="#">Choosing Wisely</a></li> <li>– <a href="#">How Do Antibiotics Work?</a></li> <li>– <a href="#">Guidelines for Antibiotic Use</a></li> <li>– <a href="#">Antibiotics for a Sore Throat, Cough or Runny Nose?</a></li> <li>– <a href="#">The Difference between Sinusitis and a Cold</a></li> <li>– <a href="#">Caring for a Child with a Viral Infection</a></li> <li>✓ Centers for Disease Prevention (CDC) Program. <a href="#">Get Smart: Know When Antibiotics Work</a></li> <li>• Distribute <a href="#">Patient and Family Antibiotic Information Resource List</a> created for this course</li> <li>• Make selected resources readily available in every examination room.</li> <li>• Post antibiotic use information and policies in waiting rooms examination rooms, on practice Web site, on patient portal, etc.</li> </ul>	<ul style="list-style-type: none"> <li>✓ Develop answers to parents' common questions, beliefs, and resistance.</li> <li>• Practice antibiotic stewardship in your practice. Use these resources: <ul style="list-style-type: none"> <li>✓ <a href="#">Centers for Disease Control: Get Smart for Healthcare</a></li> <li>✓ <a href="#">Antimicrobial stewardship in pediatrics: how every pediatrician can be a steward</a> (Pubmed Abstract)</li> </ul> </li> <li>• Create a Judicious Use portal on your practice Web site with educational resources including information on your practice's approach to common clinical infections.</li> <li>• Appoint an office Judicious Use Champion.</li> </ul>
Practitioners may not understand the impact of antibiotics on the course of bacterial sinusitis and on the occurrence of complications.	<ul style="list-style-type: none"> <li>• Review the following resource(s) and information: <ul style="list-style-type: none"> <li>✓ <a href="#">AAP Clinical Practice Guideline for the Diagnosis and Management of Acute Bacterial Sinusitis in Children Aged 1 to 18 years</a> <ul style="list-style-type: none"> <li>– See Table 4: <i>Management of Worsening or Lack of Improvement in 72 hours</i>, p. e276</li> </ul> </li> <li>✓ <a href="#">Principles of Judicious Antibiotic Prescribing for Bacterial Upper Respiratory Tract Infections</a></li> <li>✓ Duration of symptoms of respiratory tract infections in children: systematic review. <i>BMJ</i>. 2013;347:f7027 doi: 10.1136/bmj.f7027 (Published 11 December 2013)</li> </ul> </li> </ul>	
<b>Gap: A valid reason was not documented for treating with an antibiotic other than amoxicillin.</b>		
Practice policy does not require documentation of the reason for alternative treatment.	<ul style="list-style-type: none"> <li>• Establish a practice policy to document in the medical record when and why antibiotics are prescribed that don't conform to the recommended antibiotic (amoxicillin).</li> </ul>	



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	<ul style="list-style-type: none"> <li>For recommended antibiotics, see: <ul style="list-style-type: none"> <li>✓ <a href="#">AAP Clinical Practice Guideline for the Diagnosis and Management of Acute Bacterial Sinusitis in Children Aged 1 to 18 years</a> <ul style="list-style-type: none"> <li>– Table 2: <i>Initial Use of Antibiotics for Acute Bacterial Sinusitis</i></li> <li>– Table 4: <i>Management of Worsening or Lack of Improvement at 72 Hours</i></li> </ul> </li> <li>✓ <a href="#">Principles of Judicious Antibiotic Prescribing for Bacterial Upper Respiratory Tract Infections</a></li> </ul> </li> </ul>	

## Key Activity: Provide Guidance and Education to Patients and Families

**Rationale:** It is important for patients and their families to understand how overuse or incorrect use of antibiotics can contribute to avoidable adverse effects, unnecessary costs, and antibiotic resistance. Patients should also understand both the benefits and risks of antibiotic therapy. Parental guidance should address under what conditions they should follow up with the practice. Education can assist the patients and families to engage in shared decision making with their pediatrician.

Potential Barriers	Suggested Ideas for Change	Still Not Seeing Results?
<b>Gap: <i>Risks of antibiotic therapy are not discussed with the patient.</i></b>		
Practitioners may not have complete knowledge of the range of risks and adverse events associated with antibiotic use including allergy.	<ul style="list-style-type: none"> <li>Side effects and allergic reaction should always be discussed. Antibiotic resistance should be discussed if the patient/family has concerns.</li> <li>Review the following: <ul style="list-style-type: none"> <li>✓ <a href="#">Antibiotic Resistance Threats in the United States, 2013</a></li> <li>✓ This course's discussion of <a href="#">Drug-Related Adverse Effects</a></li> <li>✓ <a href="#">CDC highlights threats posed by antibiotic resistance, calls for action</a></li> <li>✓ <a href="#">A Review of Evidence Supporting the American Academy of Pediatrics Recommendation for Prescribing Cephalosporin Antibiotics for Penicillin-Allergic Patients</a></li> <li>✓ <a href="#">Committee on Infectious Diseases. Policy statement: <i>Clostridium difficile</i> infection in infants and children.</a> <i>Pediatrics</i>. 2013 Jan;131(1)</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>Make part of your practice policy that all practitioners must understand risks, discuss risks with the patient/family, and document that discussion in the patient's record.</li> </ul>

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	<ul style="list-style-type: none"> <li>✓ <a href="#">Why's and how's of judicious antibiotic prescribing for URIs</a>. AAP News. Nov. 18, 2013.</li> </ul>	
Resources are not available (or not utilized) to guide patient/family discussion of the risks related to antibiotics.	<ul style="list-style-type: none"> <li>• Make selected resources readily available in every examination room. Consider the following:               <ul style="list-style-type: none"> <li>✓ <a href="#">Patient and Family Antibiotic Information Resource List</a>, created for this course</li> <li>✓ <a href="#">HealthyChildren.org</a> articles including:                   <ul style="list-style-type: none"> <li>– <a href="#">Antibiotic Prescriptions for Children: 10 Common Questions Answered</a></li> <li>– <a href="#">Choosing Wisely</a></li> <li>– <a href="#">How Do Antibiotics Work?</a></li> <li>– <a href="#">Guidelines for Antibiotic Use</a></li> </ul> </li> <li>✓ AAP Patient Education Online (requires subscription):                   <ul style="list-style-type: none"> <li>– <a href="#">Antibiotics and Your Child</a></li> <li>– Create and post a Commitment Letter in the practice waiting and/or examination rooms. A Commitment Letter is a poster-size letter to display in the practice's office which should have photographs and signatures of each provider along with their commitment to reduce inappropriate use of antibiotics.</li> <li>– See CDC's <a href="#">Get Smart: Poster-based Interventions</a>.</li> </ul> </li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Utilize information from the <a href="#">HealthyChildren.org</a> articles and this course's summary of <a href="#">Drug-Related Adverse Effects</a> to create your own patient handout or talking points regarding antibiotic use.</li> <li>• Create a Judicious Use portal on your practice Web site with educational resources including information on judicious use of antibiotics.</li> <li>• Appoint an office Judicious Use Champion.</li> </ul>
<p>Routine education on antibiotic use and risks are not part of the practice's standard visit flow.</p> <p>There is not enough time in the visit to adequately counsel patients and families regarding antibiotic risks and adverse effects.</p>	<ul style="list-style-type: none"> <li>• Consider making discussion and/or brochure about antibiotic use and risks a routine part of sick visits for respiratory conditions.</li> <li>• Consider making antibiotic education a routine part of designated well-child visits as part of well-child care.</li> <li>• Provide a handout to parents during the visit that includes a list of information sources. See this course's <a href="#">Patient and Family Antibiotic Information Resource List</a>.</li> <li>• Post antibiotic use information and policies in waiting rooms and on practice Web site, patient portal, etc.</li> </ul>	<ul style="list-style-type: none"> <li>• Utilize information from the <a href="#">HealthyChildren.org</a> articles and this course's <a href="#">Drug Related Adverse Effects</a> to create your own patient handout or talking points regarding antibiotic use and risks.</li> <li>• Create a Judicious Use portal on your practice Web site with educational resources including information on your practice's approach to common clinical infections.</li> <li>• Appoint an office Judicious Use Champion.</li> </ul>

# Judicious Use of Antibiotics for Acute Bacterial Sinusitis

Potential Barriers	Suggested Ideas for Change	Still Not Seeing Results?
	<ul style="list-style-type: none"> <li>Create and post a <a href="#">Commitment Letter</a> in the practice waiting and/or examination rooms. See <a href="#">CDC's Get Smart: Poster-based Interventions</a>.</li> <li>Reserve spots for same-day sick appointments in your schedule.</li> </ul>	
<b>Gap: Discussion of risks of antibiotic use was not documented in the medical record.</b>		
There is no systematic practice to document the discussion of antibiotic risks in the patient's chart.	<ul style="list-style-type: none"> <li>Devote part of the visit flow to discuss risk and possible adverse effects and to document that discussion in the patient's medical record.</li> </ul>	<ul style="list-style-type: none"> <li>Make it a check box on the sick-visit flow for review of risks.</li> </ul>
<b>Gap: Patients and families are not educated about effective treatment with judicious use of antibiotics.</b>		
The sick-visit flow does not include informing the patient/family of effective treatment options and judicious use of antibiotics.	<ul style="list-style-type: none"> <li>Make part of the sick visit flow to inform patient/family of the following: <ul style="list-style-type: none"> <li>✓ Option for watchful waiting when appropriate</li> <li>✓ Recommended antibiotic treatment (if any) and why that treatment is optimal</li> <li>✓ Antibiotic dose and course</li> <li>✓ The need to complete entire course</li> <li>✓ Imaging is only indicated if their child is suspected of having a complication of the sinus infection</li> <li>✓ Dispel myth about mucus secretions and type of infection</li> <li>✓ Options for treatment of symptoms</li> </ul> </li> <li>Consult the <a href="#">Antibiotic Guidance and Education Checklist</a> created for this course for a summary of key information to review with patients and families.</li> </ul>	<ul style="list-style-type: none"> <li>Use selected resources to educate the patient/family about effective treatment and judicious use of antibiotics (see below).</li> <li>Share with parents an article that stresses the need for adherence. <ul style="list-style-type: none"> <li>✓ <a href="#">Guidelines for Antibiotic Use</a> from Healthychildren.org</li> </ul> </li> <li>Review the following: <ul style="list-style-type: none"> <li>✓ <a href="#">Policy Statement—Guidance for the Administration of Medication in School</a></li> </ul> </li> </ul>
The practice does not have adequate resources to educate parents about effective treatment of acute bacterial sinusitis and the judicious use of antibiotics.	<ul style="list-style-type: none"> <li>Select and utilize resources to educate patients/families: <ul style="list-style-type: none"> <li>✓ AAP Patient Education Online (requires subscription): <ul style="list-style-type: none"> <li>• <a href="#">Antibiotics and Your Child</a></li> <li>• <a href="#">Common Childhood Infections</a></li> <li>• <a href="#">Sinusitis and Your Child</a></li> </ul> </li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>Create a Judicious Antibiotic Use portal on your practice Web site with educational resources including information on your practice's approach to common clinical infections.</li> <li>Appoint an office Judicious Use Champion.</li> </ul>

## Judicious Use of Antibiotics for Acute Bacterial Sinusitis

Potential Barriers	Suggested Ideas for Change	Still Not Seeing Results?
	<ul style="list-style-type: none"> <li>✓ HealthyChildren.org articles: <ul style="list-style-type: none"> <li>• <a href="#">Antibiotic Prescriptions for Children: 10 Common Questions Answered</a></li> <li>• <a href="#">Choosing Wisely</a></li> <li>• <a href="#">How Do Antibiotics Work?</a></li> <li>• <a href="#">Guidelines for Antibiotic Use</a></li> <li>• <a href="#">Caring for a Child with a Viral Infection</a></li> <li>• <a href="#">The Difference between Sinusitis and a Cold</a></li> </ul> </li> <li>✓ Centers for Disease Prevention (CDC) Program: <a href="#">Get Smart: Know When Antibiotics Work (cdc.gov/getsmart)</a></li> <li>• Consult the <a href="#">Antibiotic Guidance and Education Checklist</a> created for this course for a summary of key information to review with patients and families.</li> <li>• Distribute <a href="#">Patient and Family Antibiotic Information Resource List</a> created for this course.</li> <li>• Make selected resources readily available in every examination room.</li> <li>• Create and post a Commitment Letter in the practice waiting and/or examination rooms. A Commitment Letter is a poster-size letter to display in the practice's office which should have photographs and signatures of each provider along with their commitment to reduce inappropriate use of antibiotics.</li> <li>✓ See CDC's <a href="#">Get Smart: Poster-based Interventions</a>.</li> <li>• Post judicious antibiotic use information and policies in waiting rooms and on practice Web site, patient portal, etc.</li> </ul>	<ul style="list-style-type: none"> <li>• Develop answers to parents' common questions, beliefs, and resistance for use by staff.</li> <li>• Provide scripts to address symptomatic care for viral URI. For example: <ul style="list-style-type: none"> <li>✓ <a href="#">Get Smart Prescription Pads</a> from the CDC Get Smart materials (scroll down to Prescription Pads).</li> </ul> </li> </ul>
<b>Gap: Patient/family is not instructed to follow up with the practice if no improvement in 48–72 hours.</b>		
The sick-visit flow does not include informing the patient/family of expected course of bacterial sinusitis and when to follow up.	<ul style="list-style-type: none"> <li>• Devote part of your visit flow to inform parents of the expected course of the illness and when follow-up is indicated for each condition.</li> <li>• Consult the <a href="#">Antibiotic Guidance and Education Checklist</a> created for this course for a summary of key information to review with patients and families.</li> </ul>	

## Judicious Use of Antibiotics for Acute Bacterial Sinusitis

Potential Barriers	Suggested Ideas for Change	Still Not Seeing Results?
There is no systematic practice to establish, communicate, and document a follow-up plan in the patient's chart (eg, appointment, phone call) to ensure clinical improvement within 48 to 72 hours of diagnosis.	<ul style="list-style-type: none"> <li>Consult the <a href="#">Illness Duration Table</a> created for this course.</li> <li>Create a clear practice protocol for following up on patients, especially those for whom a watchful waiting plan has been determined. Consider the following in the protocol: <ul style="list-style-type: none"> <li>✓ Routine discussion and selection of a follow-up plan at the patient visit</li> <li>✓ Selection of any preferred mean(s) of follow-up: appointment, phone call, e-mail, etc., for the practice</li> <li>✓ Patient charting to include documentation of the follow-up plan</li> <li>✓ Parent guidance to stress importance of following up if no improvement</li> </ul> </li> <li>Consult the <a href="#">Antibiotic Guidance and Education Checklist</a> created for this course for a summary of key information to review with patients and families including when patients/families should follow up.</li> </ul>	<ul style="list-style-type: none"> <li>Discuss with staff the importance of establishing and documenting a follow-up plan when watch-and-wait is utilized or in cases where the patient has not improved. Get agreement on a protocol to achieve follow-up. Identify any issues and adjust the protocol.</li> <li>Develop a patient education campaign stressing the importance of following up when their child symptoms do not improve.</li> <li>Publicize the need for follow-up on your practice Web site.</li> <li>Create a prescription-like pad that indicates when and how to follow up.</li> <li>Develop consideration of a staff responsibility for following up within 72 hours if the patient/family does not.</li> </ul>
<b>Gap: Follow-up conversation with the family (see above) was not documented in the medical record.</b>		
<p>There is no systematic practice to establish and document a follow-up plan in the patient's chart.</p> <p>There is not enough time to document the follow-up plan.</p>	<ul style="list-style-type: none"> <li>Create a clear practice protocol for documenting the follow-up plan in the patient's chart.</li> <li>Make it a check box on the sick-visit flow for communicating the need for follow-up.</li> </ul>	
<b>Gap: Patients and families are not educated about prevention techniques.</b>		
The sick-visit flow does not include informing the patient/family of prevention techniques.	<ul style="list-style-type: none"> <li>Consider making the recommendations below a component of your practice protocols, as appropriate:</li> </ul>	

## Judicious Use of Antibiotics for Acute Bacterial Sinusitis

Potential Barriers	Suggested Ideas for Change	Still Not Seeing Results?
	<ul style="list-style-type: none"> <li>✓ Recommend pneumococcal conjugate vaccine to all children based on the schedule of the Advisory Committee on Immunization Practices of the CDC, AAP, and AAFP.</li> <li>✓ Recommend annual influenza vaccine to all children and their families according to schedule of the Advisory Committee on Immunization Practices of the CDC, AAP, and AAFP.</li> <li>✓ Encourage avoidance of tobacco smoke exposure.</li> <li>✓ Encourage safe food preparation practices.</li> <li>✓ Encourage hand washing.</li> </ul>	