

Antimicrobial Therapy for Acute Uncomplicated Bacterial Rhinosinusitis (ABRS)

(NB Provincial Health Authorities Anti-Infective Stewardship Committee, September 2018)

Treatment Criteria				
<ul style="list-style-type: none"> ➤ Cardinal features of acute rhinosinusitis: Purulent nasal drainage accompanied by nasal obstruction, facial pain-pressure-fullness, or both lasting less than 4 weeks ➤ Clinical diagnosis and differentiation of acute bacterial from viral rhinosinusitis is based on the characteristic patterns of clinical presentations taking into account duration of symptoms, severity of illness, temporal progression and “double-sickening” in the clinical course ➤ The following clinical presentations (any of the 3) are recommended for identifying patients with acute bacterial vs. viral rhinosinusitis: <ol style="list-style-type: none"> 1. Onset with persistent symptoms or signs compatible with acute rhinosinusitis, lasting for greater than or equal to 10 days without any evidence of clinical improvement 2. Onset with severe symptoms or signs of high fever (greater than or equal to 39 °C) and purulent nasal discharge or facial pain lasting for at least 3 to 4 consecutive days at the beginning of illness 3. Onset with worsening symptoms or signs characterized by the new onset of fever, headache or increased in nasal discharge following a typical viral upper respiratory infection that lasted 5 – 6 days and were initially improving (“double sickening”) ➤ Caution: These guideline recommendations are not intended for patients with complicating factors such as immune deficiency or uncontrolled diabetes; watchful waiting should not be used for patients with complicating factors and they should be started promptly on appropriate antimicrobial therapy 				
Presentation	Preferred Empiric Regimen	Alternative Empiric Regimen	Duration	Comments
Mild – Moderate Symptoms less than 10 days duration	Symptomatic therapy only Consider intranasal saline irrigation			<ul style="list-style-type: none"> • with or without intranasal corticosteroids and/or analgesics (acetaminophen or ibuprofen)
Mild – Moderate Symptoms greater than 10 days OR worsening after 5 to 6 days OR Severe Symptoms for 3 to 4 consecutive days	doxycycline 100 mg po q12h OR May offer <u>watchful waiting along with agents for symptom relief</u> if mild symptoms and follow-up can be completed such that antimicrobial therapy is started if condition fails to improve by day 7 after diagnosis of ABRS or worsens at any time.	amoxicillin 1000 mg po q8h* OR amoxicillin/clavulanate 875/125 mg po q12h* OR sulfamethoxazole/trimethoprim 800/160 mg po q12h*	5 – 7 days	<ul style="list-style-type: none"> • May recommend analgesics (acetaminophen or ibuprofen), topical intranasal corticosteroids and/or nasal saline irrigation for symptomatic relief • If a patient has been on antibiotic therapy in the past month the antimicrobial therapy chosen should be based on a different mechanism of action regardless of the clinical success
Failure of Initial Therapy Symptoms worsening after 48 – 72 hrs. or failure to improve after 3 – 5 days of initial empiric antimicrobial therapy	amoxicillin/clavulanate 875/125 mg po q12h* + amoxicillin 1000 mg po q12h* (high-dose amoxicillin with clavulanate)	levofloxacin 750 mg po q24h* OR cefuroxime 500 mg po q8-12h*		<ul style="list-style-type: none"> • May recommend analgesics (acetaminophen or ibuprofen), topical intranasal corticosteroids and/or nasal saline irrigation for symptomatic relief • Patients who fail to respond should be assessed for possible causes including infection with resistant organism, inadequate dosing and noninfectious cause • Select an agent with broader spectrum of activity and from a different antimicrobial class
Clinical Pearls				
<ul style="list-style-type: none"> • Facial pain-pressure-fullness without purulent nasal discharge is not sufficient for a diagnosis of acute uncomplicated bacterial rhinosinusitis • Majority of cases of acute sinusitis are viral and resolve within 5 to 7 days without the need for antibiotics; only 0.5 – 2% of viral upper respiratory infections are complicated by bacterial infection • Colour of nasal discharge or sputum is related to the presence of neutrophils, not bacteria, and should not be used alone to diagnose bacterial rhinosinusitis • Watchful waiting should be excluded in patients with immune deficiency or coexisting bacterial illness; prescribers should also consider the patient’s age, general health, cardiopulmonary status and comorbid conditions when assessing suitability for watchful waiting • Macrolides are not recommended for empiric therapy due to growing resistance rates for <i>Streptococcus pneumoniae</i> and <i>Haemophilus influenzae</i> within the Province • Respiratory fluoroquinolones (e.g. levofloxacin, moxifloxacin) should be reserved for failure of first-line options due to the potential for increasing resistance, risk of <i>Clostridium difficile</i> infection and their importance in the management of other infections • Respiratory fluoroquinolones (e.g. levofloxacin, moxifloxacin) have not been found to be superior to β-lactams in the management of ABRS • Antibiotics have not been shown to be beneficial in chronic rhinosinusitis without acute clinical deterioration • Consider ID consultation for refractory nosocomial rhinosinusitis or if immunocompromised • Decongestants (topical or oral) and/or antihistamines are not recommended as adjunctive therapy • Bacteriology of ABRS: <i>S. pneumoniae</i>, <i>H. influenzae</i>, <i>Moraxella catarrhalis</i> and <i>S. aureus</i> (less than 10%) 				

*Dose adjustment required in renal impairment

References:

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5. Peters AT, Pector S, Hsu J *et al.* Diagnosis and management of rhinosinusitis: a practice parameter update. *Ann Allergy Asthma Immunol* 113(2014):347-385
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