



Diagnosis and Management of Sinusitis in Adults and Children

2023 Update

This care process model (CPM) was developed by Intermountain Healthcare's Antibiotic Stewardship and Community-Based Care teams. It is based on expert opinion and clinical practice guidelines from the Infectious Disease Society of America (IDSA), the American Academy of Pediatrics (AAP), and the American Academy of Otolaryngology (AAO). This CPM provides best-practice recommendations for diagnosing and managing acute sinusitis in adult and pediatric patients, including guidance for when and how antibiotics should be used for acute bacterial sinusitis.

Key Points

Antibiotics are over-prescribed for sinusitis.

- Although 85% of adults with sinus symptoms will have a resolution/reduction of symptoms in the next 5-7 days without antibiotics, 80-90% of adults with sinus symptoms are prescribed antibiotics.¹
- Studies have shown the use of antibiotics does not significantly alter the persistent disease course in both children² and adults³. It is estimated that only 35-59% of antibiotic prescriptions for sinusitis are appropriate.⁴
- A recent Cochrane Review concluded that there is no place for antibiotics for people with uncomplicated acute rhinosinusitis.⁵

Watchful waiting, with or without a delayed antibiotic prescription is a recommended treatment option for persistent acute bacterial sinusitis.

- The AAP and AAO guidelines allow observation (watchful waiting) of patients exhibiting purulent nasal discharge ≥ 10 days. In children, the AAP recommends observing for an additional 3 days, while adults can be observed for 7 days.^{6,7}

Antibiotic recommendations:

- Guidelines recommend antibiotic therapy for:
 - Children with *Severe* or *Worsening* clinical presentation
 - Adults with a *Severe* clinical presentation. (See [page 2](#) for definitions)
- A duration of 5-days is recommended for the initial course of antibiotics in adults and children.^{8,9} See antibiotic stewardship quick order page
- Amoxicillin is recommended as first-line treatment in non-severe sinusitis due to low rates of beta-lactamase positive organisms in the region.

Intermountain provides tools to help improve antibiotic stewardship.

- Order sets for delayed antibiotics; search “only fill”— [iCentra instructions](#)
- See Antibiotic Stewardship folder on QuickOrders page for details

What's Inside?

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What's new in this update?

Recommended first-line antibiotic treatment course for acute bacterial sinusitis in adults and children has been shortened to 5 days.⁸

Intermountain Measures

- Antibiotic prescribing rates for sinusitis
- Duration of primary antibiotic therapy for adult and pediatric sinusitis

See [SCORE UC Prescribing Dashboard](#)

Supporting evidence

- [Infectious Diseases Society of America \(IDSA\) 2012 Guidelines](#)
- [American Academy of Pediatrics \(AAP\) 2013 Guidelines](#)
- [American Association of Otolaryngology 2015 Guidelines](#)

Diagnosis of Acute Sinusitis in Adults and Children

Patient presents with purulent nasal discharge (a) AND nasal obstruction or facial pressure (b)

NOTE: Imaging is not recommended in uncomplicated sinusitis (c)

Symptoms ≥ 4 weeks?

yes

Refer to ENT
Consider sub-acute or chronic sinusitis

no

Assess for Acute Bacterial Sinusitis (ABS)	
Clinical diagnosis of ABS requires ONE of the following	
SEVERE	Temperature 102.2 ° F (39 ° C), facial pain /pressure and purulent nasal discharge for 3 consecutive days.
PERSISTENT	Purulent nasal discharge AND facial pain or nasal obstruction without improvement for ≥ 10 days.
WORSENING	New or worsening sinusitis signs and symptoms AFTER initial improvement or following an URI that has lasted 7 days.

Acute VIRAL sinusitis likely

Does patient meet ANY of the 3 ABS Criteria?

yes

Acute BACTERIAL sinusitis possible

Treat VIRAL sinusitis symptoms	
Analgesics	Acetaminophen and NSAIDs to relieve facial pain and fever
Topical intranasal corticosteroids	May relieve facial pain and congestion (benefit may be small)
Nasal saline irrigation	May improve quality of life and decrease symptoms especially if frequent sinusitis. Counsel on appropriate rinse solutions and cleaning to prevent amoebic meningitis.
Oral antihistamine	Unclear benefit; may help if significant allergic component

< 18 years old

≥ 18 years old

See page 4
Treatment of Suspected ABS in Pediatrics

See page 3
Treatment of Suspected ABS in Adults

Instruct patients to return if symptoms worsen or persist ≥ 10 days

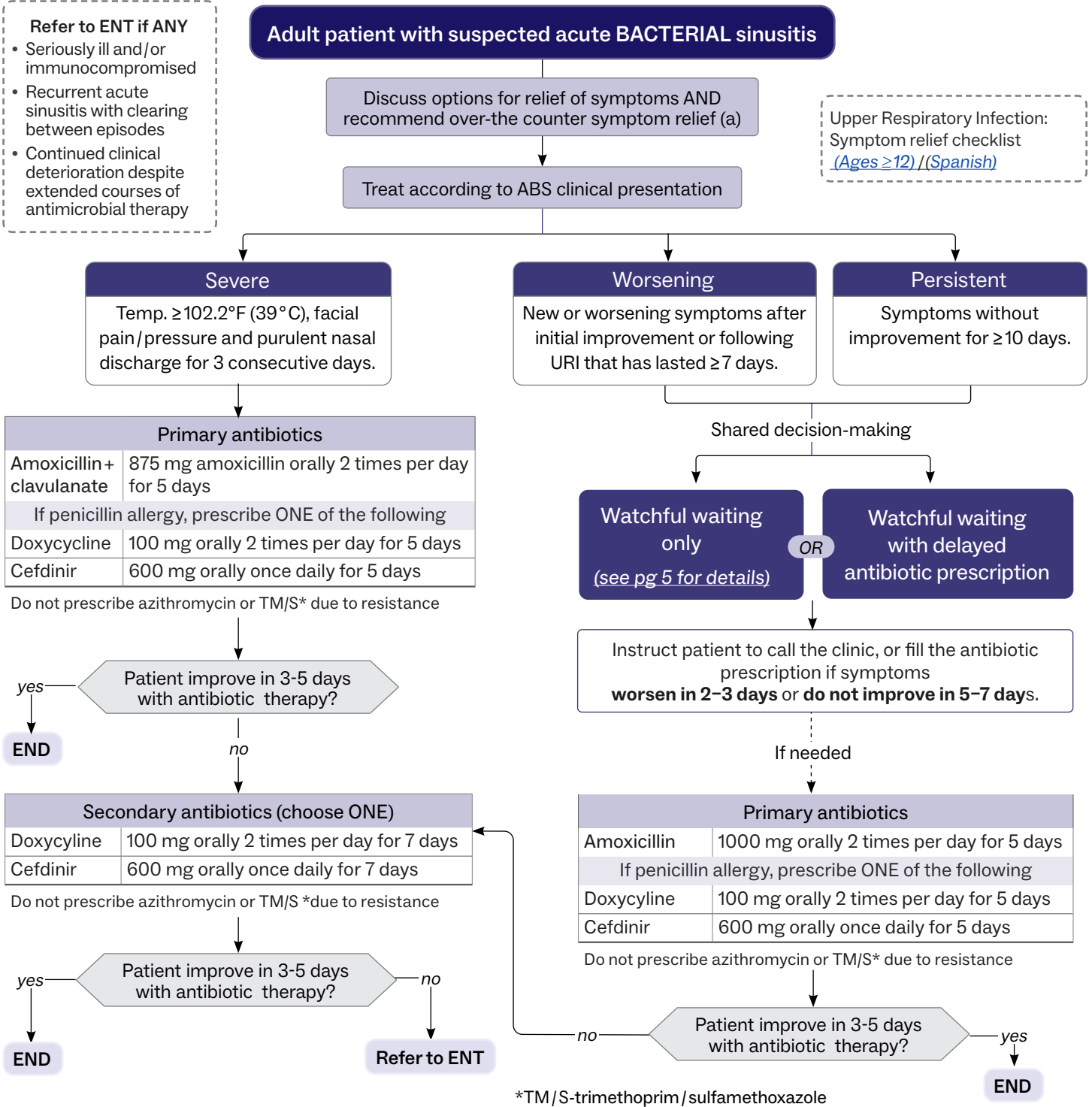
Upper Respiratory Infection: Symptom relief checklist
[\(Ages <12\) / \(Spanish\)](#)
[\(Ages ≥12\) / \(Spanish\)](#)

- (a) Other symptoms of sinusitis**
- Fever
 - Cough
 - Bad breath
 - Hyposomia
 - Ear pain/pressure
 - Fatigue
 - Dental pain

- (b) Importance of nasal purulence**
- Nasal purulence alone does not indicate ABS
 - Colored purulence is indicative of neutrophil invasion and can be caused by viral or bacterial infection. Alone it is not indication for antibiotic treatment.
 - Allergic/non-allergic rhinitis can precipitate ABS or may be mistaken for sinusitis.

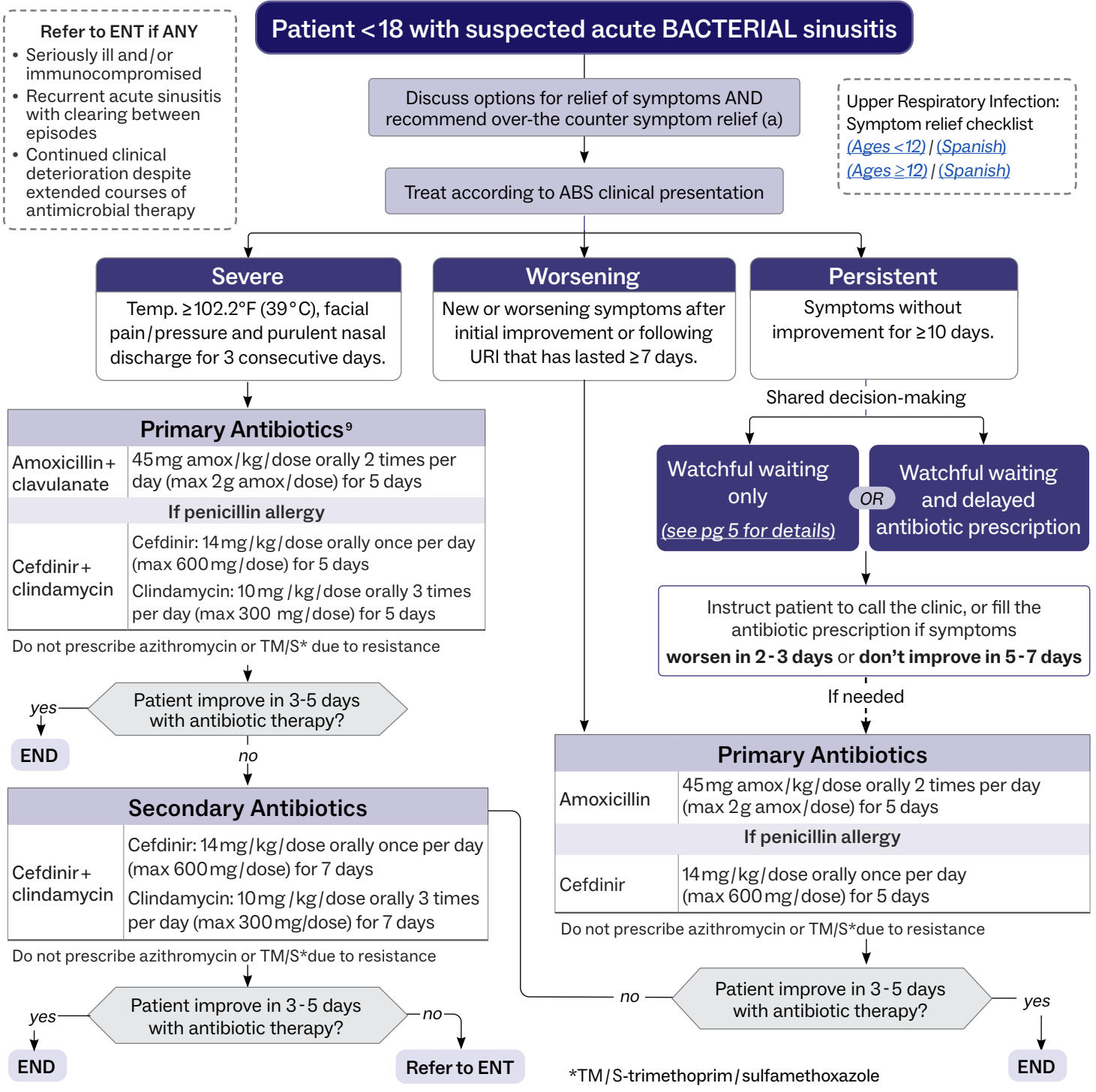
- (c) Imaging (CT, X-ray)**
- Imaging NOT recommended for uncomplicated sinusitis
- Imaging indicated if:
- Orbital involvement (swollen eye, proptosis, pain with eye movement, impaired function of extraocular muscles)
 - Intracranial involvement (severe headache, photophobia seizures, other focal neurological findings)

Treatment of Suspected Acute BACTERIAL Sinusitis in Adults



(a) Symptom relief			
Analgesics	Acetaminophen and NSAIDs for pain or fever	Opioids	Not recommended
Topical intranasal corticosteroids	For pain and congestion; may be limited benefit in some	Oral antihistamines	Unclear benefit; may worsen congestion because of drying; may help if significant allergy component
Decongestant nasal spray	May give relief; use no more than 3 days	Oral steroids	Not recommended
Nasal saline irrigation	May improve quality of life and lessen symptoms; especially if frequent sinusitis; counsel on appropriate rinse solutions and cleaning to prevent amoebic meningitis	Oral decongestants	Unclear benefits; watch for contraindications (hypertension); pseudoephedrine may be more effective than phenylephrine for congestion ^{10,11}

Treatment of Suspected Acute BACTERIAL Sinusitis in Children



(a) Symptom relief

Analgesics	Acetaminophen and NSAIDs for pain or fever	Opioids	Not recommended
Topical intranasal corticosteroids	For pain and congestion; may be limited benefit in some	Oral antihistamines	Unclear benefit; may worsen congestion because of drying; may help if significant allergy component
Decongestant nasal spray	Do not use in children <4 years; has no demonstrated benefit in pediatric patients.	Oral steroids	Not recommended
Nasal saline irrigation	May improve quality of life and lessen symptoms; especially if frequent sinusitis; counsel on appropriate rinse solutions and cleaning to prevent amoebic meningitis.	Oral decongestants	Do not give to children <4 years; unclear benefits; watch for contraindications; pseudoephedrine may be more effective than phenylephrine ^{10,11}

Watchful Waiting and Delayed Antibiotic Prescriptions

TALKING WITH PATIENTS

Several studies have identified successful strategies for talking with patients/families while still maintaining their satisfaction.¹² See examples below.

Explain to your patients why antibiotics are not needed.

- Antibiotics don't work on viruses.
- Antibiotics can cause harm; only use when needed.
- Antibiotic usage promotes antibiotic resistance.

Give patients an alternative treatment plan.

- Recommend specific over-the-counter or home remedies that are effective for symptomatic relief. See tools below.

– [Upper Respiratory Infection: Symptom relief checklist \(Ages <12\) \(Spanish\)](#)

– [Upper Respiratory Infection: Symptom relief checklist \(Ages ≥12\) \(Spanish\)](#)

Communicate specific contingency plans to patients.

- If A occurs — then execute B; based on likely events and the patient's specific concerns.

Consider delayed antibiotic prescription

- Set clear symptom/sign parameters for filling the prescription.
- Allow patients to contact your office if they have questions.

In most instances, sinusitis resolves on its own without antibiotic treatment. A strategy of observation, also known as "watchful waiting" or "active monitoring," should be considered in lieu of immediate antibiotic treatment in specific circumstances in both children^{AAP} and adults.^{ROS} These include:

- Children with persistent acute bacterial sinusitis diagnosis
- Adults with persistent or worsening acute bacterial sinusitis diagnosis

Consider the following steps when employing watchful waiting

- 1 Use a shared decision-making process involving provider and patient or parent.**
 - The sidebar on the left contains useful strategies for discussing watchful waiting and the delay of antibiotics with patients and their families.
- 2 Clearly communicate to patients/parents.**
 - Recommend specific over-the-counter or home treatment options, including those for pain management.
 - Describe specific signs and symptoms they need to monitor for the next 5 days paying special attention to whether the symptoms improve, stay the same, or worsen.
- 3 Ensure a follow-up plan for patients that do not improve.**
 - Patients/parents should be instructed to return/call for prescription or fill a delayed prescription if symptoms worsen within 2–3 days or fail to improve within 5–7 days.

Delayed Antibiotic Prescriptions

1. Write a prescription that can be filled in the future. Search order sets for "only fill". See [iCentra instructions](#).
2. Make sure to include a start date and expiration date on the prescription so that it is only active during the observation window.
3. Discuss over-the-counter and home treatment options.
4. Describe specific signs and symptoms they need to monitor for the next 5 days paying special attention to whether the symptoms improve, stay the same, or worsen.
5. Instruct patient to fill prescription if symptoms worsen in 2–3 days or fail to improve in 5–7 days.

Some examples of delayed prescription programs include "safety net antibiotic prescriptions" (SNAP) and "wait-and-see prescriptions" (WASP).

Research indicates the use of delayed prescriptions significantly decreases antibiotic usage in upper respiratory infections including those with sinusitis.¹³

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This CPM presents a model of best care based on the best available scientific evidence at the time of publication. It is not a prescription for every physician or every patient, nor does it replace clinical judgment. All statements, protocols, and recommendations herein are viewed as transitory and iterative. Although physicians are encouraged to follow the CPM to help focus on and measure quality, deviations are a means for discovering improvements in patient care and expanding the knowledge base. Send feedback to Payal Patel MD; Medical Director-Antibiotic Stewardship; Intermountain Health; payal.patel@imail.org

Sinusitis Patient Education

- “Watchful Waiting” and Delayed Antibiotic Prescriptions [English](#) / [Spanish](#)
- Upper Respiratory Infection: Symptom relief checklist (Ages <12) [English](#) / [Spanish](#)
- Upper Respiratory Infection: Symptom relief checklist (Ages ≥12) [English](#) / [Spanish](#)
- Pediatric Dosing Guide: Acetaminophen and Ibuprofen [English](#) / [Spanish](#)
- Colds and Coughs in Adults: Managing Viral Infections [English](#) / [Spanish](#)
- Colds and Coughs in Children and Adolescents: Managing Viral Infections [English](#) / [Spanish](#)

Other Provider Resources

- [Intermountain GermWatch](#) (regional epidemiology of current infectious diseases)
- [Sinusitis Pediatric Summary Card](#)
- [Sinusitis Adult Summary Card](#)
- “Five for Five” Antibiotic guidelines

Citations

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