Sinusitis, Acute Bacterial

Children's Physicians/Urgent Care

Children's NEBRASKA

Consider acute bacterial sinusitis when a child with an acute upper respiratory infection presents with:
Persistent Illness: i.e. nasal discharge (of any quality) or cough or both lasting more than 10 days without improvement
OR
Worsening Course: i.e. worsening or new onset of nasal discharge, cough, or fever after initial improvement
OR
Severe Onset: i.e. concurrent fever (temp. ≥ 39C/102.2F) and purulent nasal discharge for at least 3 consecutive days

Inclusion Criteria
- Child aged 1-18 years

Exclusion Criteria
- Toxic appearing
- Children with anatomic abnormalities of the paranasal sinuses (facial dysmorphisms or trauma)
- Immunodeficiencies
- Immunocompromised patients
- Cystic Fibrosis
- Primary ciliary dyskinesia (Immotile-cilia syndrome)
- Children with complications or suspected complications of acute bacterial sinusitis which include:
  - Preseptal orbital cellulitis or sympathetic edema
  - Subperiosteal abscess
  - Orbital abscess
  - Postseptal orbital cellulitis
  - Cavernous sinus thrombosis
  - Any neurologic changes

Are signs of an acute bacterial sinusitis infection consistent with **Persistent Illness**, **Worsening Course**, or **Severe Onset**?

No →

Consider Viral URI
- Provide symptom relief
- Instruct to return if symptoms don't improve within 10 days

Manage off Pathway

Persistent Illness →

Persistent Illness
- For children with persistent illness, in shared decision making, providers should prescribe an antibiotic or offer observation for 3 days
- If patient does not improve clinically in observation, or if there is any clinical worsening, provider should prescribe an antibiotic

Worsening Course OR Severe Onset →

Worsening Course or Severe Onset

First Line Antibiotic Therapy
- **Amoxicillin Clavulanate**-45 mg/kg/day PO in 2 divided doses (usual adult dose 1,750 mg/day divided BID, based on Amoxicillin component) for 5-7 days
- **Ceftriaxone**-50 mg/kg/dose IM (max single dose 1,000 mg) for 5-7 days

First Line for Beta Lactam Allergy

Non-type I Hypersensitivity
- **Cefixime** – 8 mg/kg/day PO in 2 divided doses for 5-7 days
- **Cefpodoxime** – 10 mg/kg/day PO in 2 divided doses

Type I Hypersensitivity
- **Levofloxacin**- 10-20 mg/kg/day Q12-24 hrs for 5-7 days

Clinical worsening after 72 hours of abx **OR** failure to improve after 3-5 days of antibiotics?

No → Complete Antibiotics

Yes →

Was the patient on Amoxicillin-clavulante?

Yes →

Amoxicillin Clavulanate (high dose)-90 mg/kg/day PO in 2 divided doses (usual adult dose 1,750 mg/day divided BID, based on Amoxicillin component) for 5-7 days

Clinical worsening after 72 hours of abx **OR** failure to improve after 3-5 days of Amoxicillin Clavulanate?

Yes →

No → Complete Antibiotics

No →

Second Line Antibiotic Therapy in Patients with or without Penicillin Allergies:
- **Cefpodoxime-** 10 mg/kg/day in 2 divided doses **+ Clindamycin** 30-40 mg/kg/day PO in 3 divided doses (usual adult dose 1350 mg/day divided TID) for 5-7 days
- **Cefixime** 8 mg/kg/day PO in 2 divided doses (usual adult dose 400 mg/day given once daily) **+ Clindamycin** 30-40 mg/kg/day PO in 3 divided doses (usual adult dose 1350 mg/day divided TID) for 5-7 days

For patients with a Type 1 hypersensitivity beta lactam allergy, call Infectious Disease

Clinical worsening after 72 hours of abx **OR** failure to improve after 3-5 days of antibiotics?

No → Complete Antibiotics

Yes →

Indications for Referral
- Severe infection (high persistent fever with temperature > 39C [102F]; orbital edema, severe headache, visual disturbance, altered mental status, meningeal signs) – **ED**
- Recalcitrant infection with failure to respond to extended courses of antimicrobial therapy – **ID or ENT**
- Recurrent episodes of acute bacterial rhinosinusitis suggesting chronic sinusitis – **ENT, Allergy/Immunology**
- Recurrent episodes of rhinosinusitis with concern for possible allergic component - **Allergy**
- Chronic rhinosinusitis (with or without polyps or asthma) with recurrent ABRS exacerbations – **ENT**

CLINICAL EFFECTIVENESS

Disclaimer: Pathways are intended as a guide for practitioners and do not indicate an exclusive course of treatment nor serve as a standard of medical care. These pathways should be adapted by medical providers, when indicated, based on their professional judgement and taking into account individual patient and family circumstances.