# Acute Sinusitis

**Key Points**

- Majority of cases in healthy children are viral in etiology
- Much less likely in children under 4 year because the frontal and maxillary sinuses are not fully developed
- Duration of symptoms greater than 10 days can indicate bacterial etiology
- Imaging is usually not required in immune competent children
- Condition is often self limited

**Types:**

Acute Viral Sinusitis is usually < 10 days duration

- Initially the symptoms are intense and then slowly get better with time or supportive therapies.
- Supportive therapies include: Analgesic/antipyretic, intranasal saline/humidifiers. Over the counter cough and cold medicine should not be used in children 6 and under. Multi-symptom cold medications are not recommended at any age. Decongestants can be considered for use in children 12 and over but should be used with caution.

Acute Bacterial Sinusitis can be a complication of viral sinusitis and is usually <10 days duration

- The 3 most common organisms are Streptococcus pneumoniae (22-35 %), H. Flu (22-35 %), and Moraxalla catarrhalis (2-10 %).
- Bacterial sinusitis is usually > 10 days of symptoms, worsening symptoms, or severe symptoms.
- Severe symptoms are; 3 days of purulent nasal discharge with fever > 39 C or 102 F.

Subacute, Chronic, and Recurrent Sinusitis

- You can start therapies but will most likely need further evaluations

Other symptoms associated with sinusitis are cough, myalgia, sore throat, hyposmia, edematous turbinates, fever, new onset sleep apnea, otitis serous, and otitis media.

**Diagnosis:**

The diagnosis of acute sinusitis is clinical. Children with chronic sinusitis may require imaging and further lab testing and should be referred back to their primary care provider.

## Acute Sinusitis

### Treatment:

As mentioned above, if diagnosis is consistent with viral sinusitis, discuss supportive care treatments with parents. Antibiotics are not indicated. If antibiotics are indicated, the following are preferred:

| Empiric Antimicrobial Selection and Duration | | |
|---|---|---|
| **Outpatient Therapy[1]** | | **Duration** |
| Viral sinusitis | No antibiotics. Provide supportive care. | 7 days |
| Mild-moderate | Amoxicillin | |
| Severe | Amoxicillin-clavulanate | |
| Beta lactam allergies<br>Amoxicillin/Penicillin<br>Cephalosporin | <br>Cefuroxime or cefpodoxime<br>Levofloxacin | |
| Failure to initial therapy after 72 hours<br>Amoxicillin<br>Amoxicillin-clavulanate | <br>Amoxicillin-clavulanate<br>Cefuroxime or cefpodoxime PLUS clindamycin | |

[1]Macrolides (clarithromycin and azithromycin) and trimethoprim-sulfamethoxazole (TMP/SMX) are not recommended for empiric therapy.

| Oral Antimicrobial Dosing | | | |
|---|---|---|---|
| **Antimicrobial** | **Weight Based Dose (mg/kg/dose)** | **Maximum Dose (mg)** | **Interval (hr)** |
| Amoxicillin[1] | 45 | 1000 | Q12 |
| Amoxicillin-Clavulanate[2] | 45 | 875 (tablets)<br>900 (suspension) | Q12 |
| Cefpodoxime | 5 | 200 | Q12 |
| Cefuroxime[3] | 15 | 500 | Q12 |
| Clindamycin[4] | 10 | 600 | Q8 |
| Levofloxacin | 10 | 750 | Age ≥ 6 months to < 5 years: Q12<br>Age ≥ 5 years: Q24 |

[1] Use 400mg/5mL suspension or 500mg tablets
[2] Use 600mg-42.9mg/5mL suspension or 875mg-125mg tablet
[3]Only tablet formulation available. Do not crush. Crushed tablet has strong, persistent, bitter taste.
[4]Use capsules when possible. Oral suspension has bitter taste.

Consider changing antibiotic if:

- New onset of symptoms
- Worsening symptoms
- No improvement in 72 hours on antibiotics

Azithromycin is not recommended for treatment of acute bacterial sinusitis due a fair amount of resistance.

### References:


- Clinical Practice Guideline for the Diagnosis and management of Acute Bacterial Sinusitis in Children Age 1 to 18 years, Pediatrics 2013;132;e262 June 24,2013
- Acute sinusitis Entire Monograph—Epocrates online last update 1/29/2015



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