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 or Allergic 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, decongestants (in children over 7), intranasal corticosteroid, ipratropium, antihistamines, and mucolytics.
- Fever is more common with viral vs. bacterial unless there are abrupt onset of fever associate with new symptoms or worsening symptoms.

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.
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:

<table>
<thead>
<tr>
<th>Antibiotic</th>
<th>Dose</th>
<th>Max Dose</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amoxicillin</td>
<td>80-90 mg/kg divided BID</td>
<td>875 mg BID</td>
<td><strong>First line therapy</strong> in children not allergic to PCN</td>
</tr>
<tr>
<td>Amoxicillin Clavulanate</td>
<td>80-90 mg/kg of amoxicillin component divided BID</td>
<td>875 mg BID</td>
<td>Can be used if severe disease or if patient was recently on Amoxicillin – can use ES (extra strength 600 mg amox/5 mL) preparation if dose exceeds 500 mg BID as this will decrease the risk of diarrhea.</td>
</tr>
<tr>
<td>Cephalosporin - 3rd generation (Cefixime, Cefpodoxime, Cefdinir)</td>
<td></td>
<td></td>
<td>Penicillin allergic patients can use third generation cephalosporin (as long as the initial Penicillin allergic reaction did not include respiratory component). There can be a risk of cross-sensitivity between penicillin and third generation cephalosporins.</td>
</tr>
<tr>
<td>Clindamycin</td>
<td></td>
<td></td>
<td>Use for severe penicillin allergy</td>
</tr>
</tbody>
</table>

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