

REACH Notes

Recent Developments to Promote Judicious Antibiotic Prescribing

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SINUSITIS IN CHILDREN: THE CONTROVERSY CONTINUES

The American Academy of Pediatrics recently released clinical practice guidelines for management of sinusitis,¹ but this has not ended the controversy regarding management.

According to the guideline, diagnostic criteria for acute bacterial sinusitis include:

- 1) Severe symptoms: Fever $\geq 102^{\circ}\text{F}$ and purulent nasal discharge persisting for 3-4 consecutive days in a child who seems ill.
- 2) Persistent symptoms: Nasal discharge or daytime cough lasting beyond 10-14d ***without any evidence that symptoms are beginning to resolve.***

Physical findings (sinus tenderness, transillumination) are unreliable, especially in young children, and imaging studies are not recommended for children ≤ 6 years (and are controversial in older children and adults).

First line therapy remains amoxicillin at either regular (45 mg/kg/d) or high dose (90 mg/kg/day) divided BID, because of its low failure rate even with current levels of antibiotic resistance. For patients with risk factors for infection with resistant organisms (including daycare attendance, recent antibiotic use, or moderate to severe symptoms), the guideline recommends high dose amox/clav (90 mg/kg/d amox, 6.4 mg/kg/d clavulanate, which can be prescribed as amox/clav 45 mg/kg/d *plus* amoxicillin 45 mg/kg/d).

REACH Comment: ***Why still the controversy?*** These guidelines confirm that the diagnosis of sinusitis is extremely difficult in children. There is broad consensus that treatment of children with proven bacterial sinusitis by radiologic criteria and those with "severe" symptoms are likely to benefit from antibiotics. The diagnosis based on "persistent" mild symptoms is controversial. The symptoms overlap substantially with prolonged or repeated viral URI (which often involves the sinuses), and the diagnosis relies heavily on parental report without confirmation by objective criteria. Though there is evidence that treatment with antibiotics leads to more rapid clinical cure for patients with confirmed sinusitis, rates of self-resolution are also high (60-80%) according to a technical report accompanying the guideline.² A recent office based randomized trial that excluded cases of "fulminant" sinusitis,³ showed no benefit of antibiotic treatment among patients diagnosed clinically on the basis of "persistent" symptoms. This suggests minimal benefit of antibiotics for patients with more mild symptoms. Finally, while granting that resistance rates are somewhat higher among children in daycare, we disagree with the AAP recommendation that amox/clav should be used for initial treatment of all children in daycare. Increased penicillin-resistance is not due to beta-lactamase production, but to changes in penicillin binding (not affected by addition of clavulanate). In short, we recommend clinicians use judgment in interpreting these guidelines, and reserve antibiotics for those children with clear signs and symptoms of acute sinusitis.

References

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3. Garbutt JM, Goldstein M, Gellman E, Shannon W, Littenberg B. A randomized, placebo-controlled trial of antimicrobial treatment for children with clinically diagnosed acute sinusitis. *Pediatrics* 2001; 107:619-625.