Short Clinical Guidelines:  
Sinusitis, Diagnosis and Management

The diagnosis of sinusitis is based on a combination of clinical history with physical examination, and/or imaging studies.

History:
- Generally proceeded by uncomplicated viral upper respiratory tract infections or allergic rhinitis.
- Factors that may predispose to sinusitis include allergic or occupational rhinitis, vasomotor rhinitis, nasal polyps, rhinitis medicamentosa, and immunodeficiency.
- Rare disorders in the differential diagnosis of sinusitis (especially in young people) includes cystic fibrosis, Wegener’s granulomatosis, HIV infection, Kartagener’s syndrome, immotile cilia syndrome, and tumors.

Physical:
- Acute rhinosinusitis: Up to 4 weeks of nasal congestion, purulent rhinorrhea, postnasal drainage, facial pain-pressure-fullness, headache, worsening nighttime coughing (In children, color of nasal discharge has been shown to be immaterial.)
- Acute bacterial rhinosinusitis: symptoms of greater than 10 or more days duration beyond the onset of upper respiratory symptoms, severe illness with fever, symptoms worsen within 10 days after initial improvement (double worsening)
- Viral rhinosinusitis: symptoms or signs of acute rhinosinusitis are present less than 10 days and the symptoms are not worsening
- Tenderness overlying the sinuses

Imaging:
- Plain x-rays: Not very sensitive for diagnosing sinusitis and not recommended.
- CT scan: Limited CT for the diagnosis of sinusitis. Should be performed only after antibiotic treatment for at least 4 – 6 weeks without resolution or with multiple recurrences, not at the onset of therapy.

Indications for imaging:
- Medically refractory acute sinusitis (Unsuccessful 8-week course of antibiotics plus treatment of allergy symptoms, if necessary). Imaging is not necessary to confirm the diagnosis of clinical sinusitis in children less than 6 years of age.
- Immediately for any evidence of serious complications of sinusitis (e.g., meningitis, CNS empyema, brain abscess, cavernous sinus thrombosis, osteomyelitis, and periorbital infections.)

Treatment:
- Watchful waiting – appropriate in cases of mild illness (i.e., mild pain, temperature <101 F°) with recommendations for symptomatic relief (analgesics, saline nasal lavage, decongestants) and access to appropriate follow-up if condition fails to improve in 7 days or worsens at any time.
- Antibiotic therapy - principal bacterial pathogens of acute, subacute, and recurrent acute bacterial sinusitis are Streptococcus pneumoniae, nontypeable Haemophilus influenza, and Moraxella catarrhals.
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**Adults:** *Augmentin, doxycycline, or trimethoprim-sulfamethoxazole* are the favored antibiotics.

**Pediatrics:** It is essential that children diagnosed as having acute bacterial sinusitis meet the defining clinical presentations of “persistent” or “severe” disease.

- Persistent symptoms are those that last longer than 10 to 14, despite nasal saline washes, mucolytics and decongestants but less than 30 days. Those are nasal or postnasal discharge, day time cough (which may be worse at night), or both. Color of nasal discharge is not diagnostic.
- Sinus tenderness on physical examination is not usually reliable until age 9 – 10 years.
- Severe symptoms include a temperature of at least 102 F° (39 C°) and purulent nasal discharge present concurrently for at least 3 to 4 consecutive days in a patient who seems ill.
- Favored antibiotics: *Augmentin* (high dose of 90mg/kg/d bid)
- In case of PCN allergy: *3rd generation Cephalosporin* (dose appropriate for weight)
- Alternative therapy is *Clindamycin* 30 to 40 mg/kg/d in 3 divided doses.
- If no improvement, high dose of Augmentin should be used prior to referral.
- Acute rhinosinusitis may take as long as seven days after diagnosis to improve, regardless of whether the initial therapy is observation or antibiotics.

Treatment failure is indicated if the patient worsens or fails to improve with the initial management by 7 days after diagnosis. The patient should be re-assessed to exclude other causes of illness and detect complications. If diagnosis is confirmed, the clinician should change the antibiotic. Consider primary immune deficiency if there are 2 or more documented sinus infections in a 12 month period.

**Prevention:**
- Practice of good hand hygiene
- Smoking cessation
- Saline nasal irrigation
- Treatment of underlying conditions (GERD, allergies)

**When to refer:**
- Condition becomes chronic, persists for several months, or recurs 2 to 3 times per year despite treatment by PCP
- Patient with multiple antibiotic allergies, allergic fungal sinusitis, or resistant pathogens.
- When there are complications of sinusitis, such as chronic otitis media, asthma, bronchiectasis nasal polyps, or recurrent bronchitis.
- When there is consideration for an allergic or immunologic basis for the sinusitis.

**Consider Allergy referral vs. ENT or both – depending on clinical history.**