Sinusitis and Sinus Pain: Evaluation Summary

Key Signs and Symptoms (6-8)

Sinusitis most often follows an upper respiratory tract infection or allergic rhinitis that has lingered for more than 7 days.

**MAJOR CRITERIA**
- Significant craniofacial pain/pressure, commonly over the sinuses. This is often the dominant symptom.
- Headache
- Nasal congestion with mucopurulent discharge
- Purulent pharyngeal discharge
- Coughing, more common in children
- Olfactory disturbance

**MINOR CRITERIA**
- Foul breath (*fetor oris*)
- Sore throat
- Earache
- Increased wheeze
- Fever (more common in acute and in children)
- Nasal speech
- Irritability (more common in children)
- Periorbital edema (more common in children)
- Maxillary toothache

**ADDITIONAL FINDINGS**
- Rhinoscopic exam: irregularly bright red appearance, edema, crusts, purulence and/or polyps.
- Facial pain and pressure less likely primary complaint in chronic versus acute sinusitis.
- Nasal congestion and obstruction with production of thickened secretions primary complaint in chronic sinusitis.

**BACTERIAL SINUSITIS**
- May occur after flying, diving, swimming, nasal packing, nasal intubation, upper molar dental work.
- If purulent discharge is present, it is usually yellow, brown or green.

**ALLERGIC SINUSITIS**
- A thin watery discharge, (lasting more than seven days) especially if associated with intermittent sneezing and a runnyitchy nose.
- History of allergic response (e.g., may have a seasonal trigger).
- Usually an absence of fever, chills, myalgia, lymphadenopathy, productive cough, sore throat.

**Most common symptoms.** Preceding upper respiratory infection, any nasal discharge or purulent nasal discharge, painful mastication, malaise, cough, and hyposmia. **Note:** No single finding is highly accurate. (7)

**Combination of signs.** Considered in combination, maxillary toothache, poor response to nasal decongestants, abnormal transillumination, and colored nasal discharge by history or by examination are the most useful clinical findings in primary care populations.

**IMAGING**

In most circumstances, imaging will not be ordered by the treating chiropractor. Imaging of the sinuses is appropriate for the patient who does not respond to antibiotic therapy or conservative care, or the patient who has an unusual presentation of sinusitis. (9, Appendix I)

**Risk Factors/Causes**
- Nasal polyps, septal deviation, trauma/surgery to the nose.
- Factors increasing the risk for infection: such as frequent participation in swimming and diving, immuno-suppressive therapy, chronic diseases such as diabetes or renal disease.
- Recurrent allergic rhinitis or a history of uncontrolled allergies.
- Identify immediate circumstances of the current episode, recent upper respiratory infection (include the length of time of the symptoms and whether there is a bi-modal pattern), dental procedures, exposure to smoke, physical or chemical irritants, and forceful nose blowing.
- List OTCs, failure to respond to decongestants, or history of asthma attacks.
Physical Evaluation

Key Aspects (10-12)

- Take temperature
- Percuss/transilluminate sinuses
- Examine nasal passage (rhinoscope) and pharynx
- Tap maxillary teeth
- Palpate lymph nodes
- Examine cervical muscles and joints
- Screen TMJ
- Perform otoscopic exam (in children)
- Lung auscultation (if indicated)
- Cranial nerves II to V (if indicated)

IDENTIFY INVOLVED SINUSES

Pain patterns may suggest which sinuses are involved.

- Maxillary sinusitis: pain in the maxillary area, toothache, and frontal headache.
- Frontal sinusitis: pain in the frontal area and frontal headache; severe pain to the temple or sometimes to the occiput.
- Ethmoid sinusitis: causes pain behind and between the eyes, and a frontal headache often described as “splitting.”
- Isolated sphenoid sinusitis: rare. Pain is less well localized and is referred to the frontal or occipital area. Diverse pain may be present throughout the head and neck, including the vertex of the skull and occiput, mimicking a mild meningitis.

Special Considerations:

Pediatrics (12)

- Rhinitis and cough may predominate rather than pain or pressure.
- Symptoms may be more insidious in children. History may not be as reliable.

- Children who present with fever, headache, and facial pain may already be suffering from complications. Consider referring these children for further evaluation.

- Perform an otoscopic examination. Tympanic membrane changes (sensitivity 68%) are the most common physical examination findings associated with sinusitis in children.

- A fever of 102°F or higher suggests a medical referral.

- Transillumination may be less reliable in children than in adults.

- Periorbital edema and irritability are more common in children.

Red Flags: Poorer Prognosis for Conservative Care (13)

- Fever of 102°F and/or chills warrants further investigation and/or referral.

- Yellow, brown or green discharge, positive culture, or positive ESR/CRP. May warrant referral for possible antibiotic therapy if the patient fails to respond to conservative care in a reasonable therapeutic trial.

- Stiff neck and/or disorientation are signs of extension of infection to the central nervous system. Immediate referral is indicated.

- Changes in visual acuity or deficits in cranial nerve III (such as abnormal extraocular motion, proptosis), IV, or V could suggest an infection of the sphenoid. Although rare, this would constitute a medical emergency.

- Orbital pain, periorbital swelling/erythema, or facial swelling/erythema suggest immediate referral for antibiotics.
Sinusitis and Sinus Pain: Management Summary

**Therapeutic Objectives**
- Control infection
- Improve drainage and promote decongestion
- Improve immune status
- Restore normal biomechanics of associated neck structures
- Remove potential allergens

**STRATEGY BASED ON PATIENT PROFILE: RHINITIS/POSSIBLE SINUSITIS**

**Presentation:** The patient has symptoms of recent onset of cold, congestion, even a headache/sinus "pressure."

**Strategy:** Offer advice and reassure the patient that the condition is benign and usually self-limiting. In the first week or so (from the time of onset), treat like a cold (e.g., rest, fluids, adjust, lymphatic massage, etc.).

**ACUTE OR ACUTE RECURRENT SINUSITIS**

**Presentation:** The patient has symptoms that last longer than a week and are consistent with a nonspecific sinusitis or an acute bacterial infection (specifically: purulent discharge, facial pain/headache, and failure to respond to decongestants), but without any red flags or complications.

**Strategy:** If symptoms are relatively mild or very recent, watchful waiting along with the conservative care outlined above, perhaps including argyrol. If the episode appears to be part of a longer trend, nasal specific may also be considered at this time. If the patient fails to respond within two weeks to treatment, consider referring for antibiotics.

**CHRONIC SINUSITIS**

**Presentation:** The patient presents with symptoms lasting more than 8 weeks or has had more than 2 episodes over a 6 month period, with or without previous medical evaluation or management.

**Strategy:** If any red flags or complicating factors are present, consider immediate referral for antibiotic therapy. In the uncomplicated case, follow the conservative pathway outlined above including nasal specific or argyrol applications to promote adequate drainage. If there is no improvement in 4-6 weeks of treatment, consider referral for further evaluation, CT, and/or possible antibiotic therapy.

**Procedures**

**Nasal Specific (16, Appendix II)**
Expect symptom reduction in one to three treatments. If no improvement is achieved after three treatments, discontinue. Generally two to five treatments over a two-week period achieve maximum benefit.

**Complications and side effects:** Epistaxis is rare. Patients with bleeding disorders or patients who are taking anticoagulant medications should be considered high risk. Patients with prior nasal surgery, especially with modification of the turbinates, are not good candidates for nasal specific because the integrity of the structures is unpredictable. Patients with recent (under two years) nasal or facial bone fracture may not be good candidates.

**Endonasal Procedure (17)**
Perform once a week for three weeks as a therapeutic trial for the treatment of Eustachian tube dysfunction. If reduction of symptoms is not achieved after three treatments, discontinue. Contraindicated when there is evidence of acute throat infection.

**Percussion (17)**

**Facial Massage and Lymphatic Drainage Techniques (18, Appendix IV, videotape)**

**Adjusting/Joint Mobilization**
Two to three times per week during the early stages of treatment. A two week therapeutic trial should be sufficient to yield results.
Ancillary Procedures

Nasal Lavage (19)

Argyrol Nasal Applications (19)
Repeat this procedure for two consecutive days, skip a day, and repeat on the fourth day. On rare occasions, a fourth application is added if it appears the patient would derive some benefit.

Physiotherapeutic Modalities

MICROCURRENT (MYOMATIC) WITH ACUPRESSURE POINTS (19)

Common Acupressure Points Used GB14, UB2, LI20, LI14 (Appendix IV)

Dietary and Nutritional Considerations

Dietary and nutritional interventions are usually reserved for the treatment of chronic or chronic recurrent sinusitis.

Trial allergen elimination diet. Most common food allergens are milk, eggs, wheat, rye, corn, sugar, chocolate, cola, yeast, coffee, tea, alcohol, legumes, and food additives.

Vitamin/botanical considerations. Neither the literature nor current practice profiles in WSCC clinics allowed the CSPE panel to arrive at a sufficient consensus to make specific recommendations. Should a practitioner choose to give a supplement, he or she can consult Appendix III.

Over-the-counter decongestants. If decongestants are used, topical sprays may be preferable to oral agents but they should always be discontinued after 72 hours to prevent the complication of rhinitis medicamentosus. These should be cautiously used, especially cautious among elderly or hypertensive patients.

General Self-Care Advice (20)

Note: Patients should be instructed to call back if symptoms worsen or do not improve within 1 week of home therapy.

- Drink at least six to eight 8-oz. glasses of water per day.
- Chronic cases may be aided by moderate exercise.
- Using a humidifier may be of benefit.
- Recurrent cases should consider air filtration systems for the home.
- Steam inhalation effectively produces nasal vasoconstriction and promotes drainage. One to two 15-minute treatments are recommended daily. Eucalyptus or camphor can be added to the water to enhance the effects of the steam.
- Smokers with recurrent and/or chronic sinusitis should be encouraged to quit smoking.
- Daily nasal lavage may help to promote drainage and reduce the healing time.
- Avoid exposure to possible allergens/irritants (e.g., smoke, abrupt change in temperature).

Prognosis (21)

- Patients with acute bacterial sinusitis generally respond to antibiotic therapy within 3 to 5 days.
- Patients with uncomplicated acute sinusitis seem to respond to conservative care within 3 to 10 days.
- Expect a significant improvement with chronic sinusitis within 3 to 4 weeks

Considerations For Referral/Consultation (21)

Fever over 102°F, purulent green or yellow discharge, facial pain and/or malaise warrant consideration for referral. Minor bacterial infections may best be treated with the conservative care procedures outlined here. In any case, if the patient fails to respond to treatment, or the condition worsens after 7 to 10 days, then referral is indicated.