Sinusitis is defined as inflammation and swelling of the mucus membranes of the paranasal sinuses and nasal passages and therefore is more appropriately termed rhinosinusitis. It can be categorized by duration into four types: acute (<4 weeks), sub-acute (4-12 weeks), chronic (>12 weeks), and recurrent (4 or more episodes per year). It manifests clinically as nasal congestion, drainage (anterior and posterior rhinorrhea), sneezing and internal itching of the nose and pharynx, and facial or periorbital pain or headache. There are two primary etiologies: allergic and non-allergic, including subtypes of infectious or occupational. Allergic rhinitis is the most common form, affecting an estimated 30 to 60 million people annually in the US. Yet up to 50% of patients with rhinitis have non-allergic triggers, resulting in a third categorization, mixed rhinitis. Estimates suggest that between 50 and 70% of patients with allergic rhinosinusitis actually have a mixed type.

Chronic or severe cases of rhinosinusitis are associated with substantial medical costs and an overall reduced quality of life. Research suggests a high prevalence of sleep disorders and diminished work performance with these conditions, and this is increased by the common association of asthma with allergic rhinitis.

Acute sinusitis often starts as a viral upper respiratory infection, or a reaction to allergens or pollutants, which can subsequently develop into a bacterial sinus infection. Only about 0.5-2.0% of viral sinusitis are complicated by bacterial infection. Symptoms often include facial pressure/pain, headache, purulent nasal discharge and/or drainage in the throat, fever, fatigue, cough, and congestion. The etiology of chronic sinusitis is unknown, but the sinus and nasal membranes thicken due to chronic inflammation. This condition is divided into three primary types: those with nasal polyps, those without, and allergic/fungal rhinosinusitis. Appropriate assessment of the cause of the symptoms is necessary to initiate appropriate treatment.

The most common acupuncture and Oriental Medicine (AOM) etiology of sinusitis begins with
invasion of external pathogens, often a Wind-Heat invasion or can result from Wind-Cold, impairing the descending function of Lung Qi: leading to phlegm and fluid stagnation. Heat stagnation may follow. Recurring Wind invasions are common in patients with sinusitis, resulting in purulent discharge or chronic sinusitis. AOM consists primarily of acupuncture, herbs, massage, and meditation practices. Of these modalities acupuncture and herbs are most often utilized in the treatment of sinusitis. A recent U.S. survey of acupuncture practitioners indicated that nearly 100% of respondents treat patients complaining of sinusitis. The acupuncturists surveyed indicated a high treatment success rate with the use of acupuncture, with 4.2 of 5 possible points on a perceived efficacy scale. Despite the apparent effectiveness of acupuncture in clinical practice, a dearth of research exists on this topic. A similar paucity of evidence exists in conventional medicine. A review in 2000 by Agency for Healthcare Research and Quality concluded that, “…compared with the frequency of this very common condition, the amount of high-quality evidence is remarkably limited.”

The ambiguous nature of the evidence supporting usual practice in conventional medicine for sinusitis suggests that consideration should be given of less invasive, less toxic treatments such as those offered by practitioners of acupuncture and Chinese medicine.

A total of four systematic reviews have been conducted on the use of acupuncture and Chinese medicine modalities for rhinitis. No reviews have been done for the treatment of sinusitis. A small randomized controlled trial on seasonal allergic rhinitis showed that acupuncture and specific Chinese herbal medicine was associated with improvement on the Global Assessment of Change Scale in 85% of patients compared to 40% of a control group who received non-acupoint stimulation and a non-specific herbal medication. While the numbers were small, 26 in each group, the results suggest that this treatment approach may be helpful.

Three studies on the treatment of chronic sinusitis have recently been published, suggesting that further study is warranted and that acupuncture and herbs increase nasal airflow and VAS. In a pilot RCT involving 24 subjects, Sertel et al found that acupuncture showed a significant improvement on a visual analog scale and measurement of nasal air flow for up to 30 minutes post treatment. A comparison of traditional Chinese acupuncture, sham acupuncture and conventional medical treatment of chronic sinusitis found “no clear evidence of one treatment over another…” A similar comparison of traditional Chinese acupuncture, sham acupuncture and conventional treatment of chronic sinusitis slightly favored conventional care for reduced soft tissue swelling and health related quality of life.
While evidence from these RCTs is equivocal, acupuncture treatment generally fared no worse than conventional care which suggests that acupuncture can be a reasonable treatment alternative.

A prospective outcomes based trial, conducted at the UCLA Center for East-West Medicine, investigated the effects of adding acupuncture to routine care for the treatment of chronic sinusitis. Patients (n=11) were diagnosed by a board-certified otolaryngologist and were classified as recalcitrant cases, that is, patients who were still seeking care despite trying “maximal medical therapy, e.g. antibiotic course for 4-6 weeks, topical nasal steroids, decongestants, mucolytics, and nasal saline irrigations.” In addition to continuing with usual medical care, patients received eight weekly acupuncture treatments. Each session was individualized based on TCM principles and also included acupressure and dietary recommendations. Improvements were detected with two outcome measures: the SF-36 and Sino Nasal Outcome Test (SNOT-20). Based on these preliminary findings, the authors call for further large-scale trials and suggest that, “patients...can achieve improvements in sinus-specific measures...as well as in general health status.”

Two older case series reports from India on acupuncture treatment of sinusitis also indicate the possible benefit of this approach to a difficult clinical problem. While case series represent a lower level of evidence, they do point to potential therapeutic effects of acupuncture. Given the limited evidence that supports many conventional medical treatments, it is not unreasonable for patients to consider acupuncture as a therapeutic option.

**Classic Symptoms**

- Purulent nasal discharge (purulent rhinitis may be common in viral sinusitis so may not imply bacterial infection).
- Facial pain, pressure, or fullness.
  - may involve anterior face, periorbital region, upper teeth or manifest with localized or diffuse headache.
  - may have unilateral prominence.
  - pain can be above or below eyes on leaning forward.
- Nasal obstruction (may be reported as nasal obstruction, congestion, blockage, stuffiness, reduced sense of smell).
- Patient may report having a “cold,” fever, malaise, fatigue.

**Syndrome Differentiation**

- Differentiation among wind-heat, lung-heat, liver and gallbladder fire, and stomach and spleen damp heat patterns.

**Treatment Plans**

- Sufficient rest, with proper positioning with a pillow on the side that offers the best airflow is recommended.
• Acupuncture and Oriental medicine as indicated
• Hot liquids and plenty of fluids are encouraged.
• Application of moist heat using a warm, wet towel against the face, or inhalation of steam through a cloth or towel can relieve sinus pressure and open sinus passages.
• Some OTC cold medicines can aggravate symptoms or cause other problems. Over-the-counter cold medicines are to be avoided with some patients.
• Nose sprays containing decongestants should not be used for more than 3 days.
• Over-the-counter anti-inflammatories and fever reducers such as acetaminophen can be used for pain.
• Alcohol should be avoided as it can worsen sinus congestion and swelling.
• Sinus passages can be rinsed with an OTC or sterile saline solution (neti pot).

Length of Treatment
• Treatment of uncomplicated sinusitis should bring resolution in a week to 10 days.
• Chronic or recurrent infections require treatment of underlying conditions (such as allergies) and resolution of predisposing conditions.

Referral Criteria
• Persistent acute symptoms lasting more than two weeks.
• Suggested bacterial sinusitis.
  o Worsening of fever and facial pain after one week of treatment.
  o Fever >102 degrees F.

Resources for Clinicians (links to authoritative evidence-based information)
Cochrane Collaboration. http://www.cochrane.org/search/site/sinusitis

National Guidelines Clearinghouse “Sinusitis.”

Resources for Patients (links to patient-focused, evidence-based information)

UpToDate. Patient information: Acute sinusitis ( sinus infection) (Beyond the Basics).

Clinical Pathway Feedback
CHP desires to keep our clinical pathways customarily updated. If you wish to provide additional input, please click on the email address listed below and identify which clinical pathway you are referencing. Thank you for taking the time to give us your comments.

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