Sinusitis
Brown Health Services Patient Education Series

What is a Sinus Infection?
- A sinus infection or “sinusitis” is an infection of the sinus cavities: those mucous-producing, air-filled cavities behind and adjacent to our nose and eyes. The most common cause of sinus infections are viruses.
- When we are well, the normal mucous that is produced in our sinuses exits via a tiny opening into our noses on a regular basis. Once in our nose, we blow or clean our noses as necessary.
- When we get a "cold" or a viral respiratory infection, the opening from the sinuses into our noses can get congested with sticky mucous. Because the mucous can’t exit via it’s normal route, the mucous begins to drain down the back of the throat as “postnasal drip.”

What are some symptoms of sinus infection?
- Obstructed sinuses can cause a sensation of pressure in our cheeks, teeth, around your nose, eyes, or forehead.
- Post nasal drip in its mildest form may be the need to “ahem” to clear your throat. At its worst, post nasal drainage may trigger recurrent bouts of gagging and is one of the most common causes of cough in young adults.
- Sleep can also be disrupted at night by cough as the mucous drains with gravity.
- Sore throat may occur, particularly on awakening due to mucous that has collected.
- Yellow or green mucus from the nose and throat can occur commonly in colds and sinusitis caused by viruses, especially in the morning, having accumulated and dried during sleep. The color and thickness will often clear as you are up and about.
- Ears can feel blocked because the eustachian tubes get obstructed by the same congested tissue.
- Sinuses can be most obstructed towards the end of a cold at a time when your nose is feeling less stuffy.
- Sometimes the only symptom you may experience is persistent post nasal drip causing a nagging cough following a cold.
What about persistent sinus symptoms?

- Occasionally, **bacteria** can infect obstructed sinuses.
- Bacterial infection is suggested when sinus congestive symptoms are not improving, or worsening after **7-10 days** of cold symptoms.
- Mucous from the nose and throat may become more persistently discolored throughout the day- yellow, green, brown, or blood-tinged.
- Pain and tenderness over the cheeks, nose, teeth, or eyes may worsen, and may intensify when bending over.
- Loss of taste and smell may occur.
- Worsening cough.
- Fever may develop with increasing weakness or fatigue.
- Some individuals with known abnormal sinus anatomy may be prone to bacterial sinus infection.
- Like any illness, symptoms vary among individuals, but if you are experiencing persistent or escalating sinus symptoms, make an appointment to see your Health Services provider.

Getting The Mucous Out: A Two Pronged Attack: Moisture and Decongestants

- Fortunately, most of the time, congested sinuses clear on their own over 7-10 days.
- TWO things you can use to help this process along: moisture, particularly in the form of sinus irrigation and decongestants.

Decongestants

Decongestants reduce the swelling of sinus openings, allowing mucous to drain, relieving pressure. They come in the form of nasal sprays or pills, do not need a prescription, and can be used singly or together.

Decongestant Nasal spray Oxymetazoline (Afrin or generic equivalent) works the fastest, is safe and well tolerated, and helps reduce nasal congestion in over 90% of people. ONE important warning: Afrin can only be used for 3 DAYS because the nose can become “addicted” to it; rebound nasal swelling can occur if one continues to use it.

Using a nasal spray:

- Practice squeezing the bottle to create a geiser-like squirt into the air, then spray once in each nostril.
- You don’t need to inhale during the spray, cover the other nostril, or change your head position.
- Wait 5 minutes between the first, second and third spray to each nostril.
- This method will open up the lower nose, allowing the subsequent sprays to reach higher in the nose where the sinus openings reside.
- You may do 3 sprays in each nostril in the morning and at night for 3 days and then STOP the Afrin. One bottle should make it thru 4 years of college and perhaps graduate school!

Decongestant pills

- **Pseudoephedrine** (Sudafed, Sudogest) is the most effective decongestant available in pill form.
• It is ONLY available by requesting it at a pharmacy where it is stored “behind the counter.” Formerly available over the counter (OTC), pseudoephedrine can be used to make an illegal methamphetamine, “crystal meth”. To prevent criminal production of this drug, the government changed its OTC status in 2006 and pharmacies are required to document all purchases.
• Pseudoephedrine will usually not make you tired, in fact, it has stimulant qualities; some people are kept awake if it is taken too close to bedtime.
• Pseudoephedrine comes in a short and long-acting versions, and may be taken with Afrin spray or used alone as a decongestant.
• Be aware that it is an ingredient in Claritin D, Mucinex D and Zyrtec D, so be careful not to such products take such products at same time.
• Pseudoephedrine may be used until you feel the congestion and post-nasal drip have resolved.
• Do not use OTC combination products with phenylephrine along with pseudoephedrine.

Other medications
• Phenylephrine, an OTC sold as a substitute for pseudoephedrine (Sudafed PE for exp) is not quite as effective. It is also in many combination products such as Dayquil, Nyquil, TYLENOL Cold etc).
• Combination cold and sinus OTC products (for exp.Dayquil, Advil Cold and Sinus, TYLENOL Sinus) are generally not recommended. They bundle multiple medicines (decongestants, pain relievers, cough suppressants or expectorants) that you may not need for your symptoms. They also tend to cost more.
• Guaifenesin (eg. Mucinex or generic) is an expectorant/mucus thinner which some people find helpful to thin and mobilize mucus. It is available by itself or in combination with pseudoephedrine (for exp. “MucinexD”), “behind-the-counter”. Studies are mixed with regard to its effectiveness.
• Diphenhydramine (Benadryl), Aprodine (Actifed), Nyquil, may be helpful for some bothered by post-nasal drip cough which is disrupting sleep.
• Acetaminophen (Tylenol) or Ibuprofen (eg Advil, Motrin) may be useful to treat fever, throat or sinus pain, or headache. If you don’t have these symptoms you don’t need these medications. Be aware that Tylenol is included in many combination cold and sinus products, and in the prescription pain medicines: Percocet and Vicodin.
• Tylenol overdose is a far more serious health problem than sinus congestion; checking what is in the medicines you are taking is a very wise practice. Acetaminophen and Ibuprofen come in different strengths.

Safe dosing guidelines:
Acetaminophen regular strength 325 mg tabs - take 2 tabs every 4-6 hours as needed. Do not take more than 3250 mg of regular strength acetaminophen daily.

OR
Acetaminophen extra strength 500 mg tabs - 2 tabs every 6-8 hours as needed. **Do not take more than 3000 mg of extra strength acetaminophen daily.**

OR

Ibuprofen OTC strength 200 mg tabs – take 2 tabs every 4 hours as needed with food, or 3 tabs every 6-8 hours with food OR as directed by your provider. **Do not take more than 2400 mg ibuprofen daily.**

Sinus Irrigation/Moisturizing: A Wet Nose is a Healthy Nose

- Mucous can be very thick and adherent, especially in the winter when indoor heating dries out the air; dryness also contributing to nose- bleeds in the winter.
- Getting moisture to the sinuses to help loosen and wash out the mucous is essential.
- SINUS IRRIGATION
  - A practice where salt water is gently guided into the nose to wash out mucous congestion in the sinuses. It is **recommended by ENT specialists** as a great way to prevent sinus infections, treat sinus congestion, and may help prevent the need for antibiotics. By cleaning out the mucous, it doesn’t stagnant and bacteria may be prevented from setting in.
  - While the concept may at first seem odd, it is a natural and healthy way to clean the mucous out of the nose and sinuses and the benefits are immediate for most users-less pressure in their sinuses, less postnasal drip.
  - Sinus irrigation is accomplished by using devices such as the Neti Pot (a small pitcher into which salt water is placed) or other “squirt bottle” type irrigation systems (such as McNeil Sinus Rinse). Both are available at the Brown Pharmacy, and at most local pharmacies and Whole Foods.
  - Package insert product directions are very helpful and clear. YouTube also has some demonstrations of the Neti pot (Himalayan Institute’s clip may be helpful).
  - Optimal timing for sinus irrigation is 20 minutes after you have used a decongestant to allow the salt water to easily enter the nose.
  - Tap water should not be used. Rather dis- tilled, previously boiled, or sterile water is advised. Most irrigation kits come with the salt packets, but you may mix up your own using non-iodized Kosher or Sea Salt.
  - It is important to clean the device after each use and use fresh saline solution.
  - Initially try to irrigate once in the morning and once at night; after a while you will find out what works best for you. You may adjust frequency over time. Some people with allergies find great relief irrigating intermittently as

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Other ways to moisturize sinuses

- Salt water sprays that gently mist the nose may be used many times a day. “Simply Saline” is one example which doesn’t have any preservatives, but many brands are available at pharmacies including the Brown Pharmacy.
- Try breathing steam over a pot of hot water.
- Consider purchasing a vaporizer or humidifier to increase the moisture in the air around you, especially as you sleep.
- Take frequent warm showers.
- Gargle with salt water in the morning and night to clean your throat.
- Increase your fluids, try to drink a lot of hot fluids such as tea.
- Apply hot wet towels to your cheeks to bring circulation over the sinuses.

When DO I need an antibiotic?

- Good question. Since the great majority of sinus infections are viral, and antibiotics do not work on infections caused by viruses, most experts believe decongestants and moisturizing techniques should be tried before antibiotics are considered.
- Antibiotic resistance is a serious worldwide problem, which occurs when antibiotics are overused in for illnesses that are not bacterial.
- However, bacterial infections do occur. See your Health Services provider when symptoms have lasted for at least 7 - 10 days after the onset of your initial cold symptoms.
- If you are treated with antibiotics, we would expect improvement over the several days. If this is not the case, follow-up your provider.
- Sometimes steroids sprays or pills are also prescribed to further decrease swelling of sinus passages. Getting good sleep truly helps getting over a respiratory or sinus infection. Try to allow yourself a chance heal.
- We want you to feel better as fast as possible. Please be in touch with your provider if you have any concerns.