PLAIN LANGUAGE SUMMARY:
Adult Sinusitis (sinus infection)

BACKGROUND

This plain language summary serves as an overview in explaining sinusitis (pronounced sign-you-side-tis). This summary applies to adults 18 years of age or older with sinusitis. The summary addresses how to manage and treat sinusitis symptoms. The purpose of this plain language summary is to provide patients with standard language explaining their condition. Sinusitis is often called a sinus infection. A healthcare provider may refer to a sinus infection as rhinosinusitis (pronounced rhi-no-sign-you-side-tis). This includes the nose (rhino) as well as the sinuses in the name. The information written in this summary is based on the 2015 Clinical Practice Guideline: Adult Sinusitis. The evidence-based guideline includes research to support more effective diagnosis and treatment of adult sinus infections.

WHAT IS SINUSITIS?

Sinusitis refers to infection, inflammation, or swelling of the sinuses and nasal cavity. They affect millions of adults in the US each year. The sinuses are a group of hollow spaces that surround the nose and eyes. Sinus infections include cloudy or colored discharge from the nose with nasal blockage or facial pain/pressure. Other symptoms include fever, cough, fatigue, lack of or reduced sense of smell, dental pain, and ear fullness. The symptoms can be serious enough to disturb your quality of life or general well-being.

Sinus infections can be caused by viruses, bacteria, or fungi. A *viral* sinus infection has similar symptoms as bacterial infections, but improves within 10 days and does not get worse. A *bacterial* sinus infection is defined by how long the symptoms last. The three types are *acute* (short course), *recurrent* (repeated), or *chronic* (long lasting). An *acute* bacterial sinus infection is one that either fails to get better within 10 days or has suddenly gotten worse after an initial period of getting better. Acute bacterial sinus infection lasts less than four weeks. *Recurrent* bacterial sinus infections are when an acute sinus infection occurs four or more times in a one-year period. A *chronic* sinus infection is when two or more symptoms and swelling lasts for 12 weeks or longer. A *fungal* sinus infection is one that is linked with chronic symptoms. Fungal sinus infections usually occur with people who have weak immune systems. Fungal sinus infections can also occur with people who have used long-term antibiotics.

In addition to viral, bacterial, and fungal sinus infections, there are other causes of sinus problems. A healthcare provider can make the proper diagnosis.

WHAT CAUSES ADULT SINUSITIS?

A sinus infection is typically caused by a viral upper respiratory infection, like a cold. A viral infection does not get better from taking antibiotics. Acute bacterial sinus infections are caused by a bacterial infection. Some people with bacterial infections can benefit from the use of antibiotics, although antibiotics are not necessary for everyone.

WHAT CAN YOU DO?

You should see a healthcare provider soon after symptoms occur. Early diagnosis may help avoid misdiagnosis or delayed treatment and worse results. There are several types of sinus infections, so it is important to get the correct diagnosis for proper treatment. Treatment options should be discussed with the healthcare provider after diagnosis. Antibiotics do not work for viral sinus infections. Antibiotics are not recommended for all types of bacterial infections.

HOW IS ADULT SINUSITIS DIAGNOSED?

A healthcare provider can diagnose a sinus infection by reviewing the medical history and doing a physical exam. The exam should review and document the conditions in your medical record. A healthcare provider will take note of how long symptoms have been present.

The healthcare provider should identify *acute bacterial* sinus infection from *viral* sinus infection or noninfectious conditions. Your healthcare provider should diagnose an a*cute bacterial* sinus infection will be diagnosed when:
> (a) symptoms (facial pain-pressure-fullness, nasal blockage) or signs (cloudy or colored nasal drainage) or both continue without getting better for at least 10 days after the onset of upper respiratory symptoms like a cold, or
> (b) symptoms or signs of a sinus infection worsen within 10 days after getting better (double worsening).

Other conditions can seem like a sinus infection. For instance, a headache alone may not mean a sinus infection. With a sinus infection there is usually cloudy or colored nose drainage.

An *acute* sinus infection is diagnosed when there are up to four weeks of colored or cloudy runny nose with nasal blockage, facial pain-pressure-fullness, or both. A healthcare provider should decide between *chronic* and *recurrent acute* sinus infections <u>from</u> single incident of *acute bacterial* sinus infections and other causes of sinonasal (nose and sinus) symptoms.

The healthcare provider cannot diagnose *chronic* sinus infection based on symptoms alone. The healthcare provider will also need to see nasal swelling or inflammation on exam. The healthcare provider may use tools such as an endoscope or rhinoscope. These types of tools can offer a better view of your sinuses. The healthcare provider may also order a CT (CAT) scan to view sinonasal swelling. The CT scan may confirm a diagnosis of chronic sinus infections. For chronic sinus infections, the healthcare provider should confirm whether nasal polyps are present. Nasal polyps are harmless growths. Having nasal polyps will modify care of your symptoms.

Instead of prescribing antibiotics right away for your *acute bacterial* sinus infection, your health care provider may suggest a treatment option known as *watchful waiting*. This option usually includes a seven-day waiting period without antibiotics to see if you get better on your own.

You may be tested for allergies and immune function. This testing will help tell chronic or recurrent sinus infections from allergies.

WHAT TREATMENTS ARE AVAILABLE?
It is important to properly diagnose viral and bacterial sinus infections. If you have heart, kidney or liver disease, your healthcare provider may consider different treatment.

For a *viral* <u>sinus infection</u>: Talking with your healthcare provider can help you make decisions about the treatment of symptoms. To relieve symptoms, pain relievers, nasal steroid sprays, and/or nasal saline rinse may be recommended. Nasal saline rinse can be purchased or homemade. Nasal saline rinse involves using a bulb, squeeze bottle or Neti pot. The mixture includes water, baking soda and a non-iodized salt. Antibiotics are not used for a *viral* sinus infection.

For an *acute bacterial* <u>sinus infection</u>: The healthcare provider should offer either watchful waiting without antibiotics or an antibiotic. If a decision is made to treat acute bacterial sinus infection with an antibiotic, amoxicillin will likely be prescribed. A combination of amoxicillin with clavulanate for 5 to 10 days may also be prescribed as a different treatment. If you feel worse or do not improve after seven days, you should see your healthcare provider. The healthcare provider will review the diagnosis and exclude other causes. The healthcare provider may also decide to start or change antibiotics. To relieve your symptoms, your healthcare provider may recommend over-the-counter treatments. These treatments may include pain relievers, nasal steroid sprays, decongestants, and nasal saline rinse. Nasal saline rinse can be purchased or homemade. Nasal saline rinse involves using a bulb or squeeze bottle or Neti pot. The mixture includes water, baking soda, and non-iodized salt.

For a *chronic* <u>sinus infection</u>: Your healthcare provider may recommend saline nasal rinse or topical intranasal corticosteroids. Your healthcare provider may also prescribe both for symptom relief. Your healthcare provider should <u>not</u> prescribe antifungal therapy for chronic sinus infections. Your treatment will be modified if you have asthma, cystic fibrosis, a weakened immune system, or ciliary dyskinesia.

WHERE CAN I FIND HELP?
Patients and healthcare providers should discuss the benefits and potential risks or harms of treatments. Engaging in shared decision making helps achieve better health outcomes. To learn more about sinus infections, there are a number of resources available. Go to http://www.entnet.org/AdultSinusitisCPG to see printable patient resources and tables. The tables will explain when to use home remedies, such as salt water rinses in the nose. The tables will also explain when it is ok to take an antibiotic and the side effects of antibiotics.

AMERICAN ACADEMY OF OTOLARYNGOLOGY—HEAD AND NECK SURGERY FOUNDATION
Empowering otolaryngologist—head and neck surgeons to deliver the best patient care

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Patient Information on Diagnosis of Acute Sinusitis

QUESTION	ANSWER
What are the sinuses?	Sinuses are hollow spaces in the bones around the nose that connect to the nose through small, narrow channels. The sinuses stay healthy when the channels are open, which allows air from the nose to enter the sinuses and mucus made in the sinuses to drain into the nose.
What is sinusitis?	Sinusitis, also called rhinosinusitis, affects about 1 in 8 adults annually and generally occurs when viruses or bacteria infect the sinuses (often during a cold) and begin to multiply. Part of the body's reaction to the infection causes the sinus lining to swell, blocking the channels that drain the sinuses. This causes mucus and pus to fill up the nose and sinus cavities.
How can I tell if I have acute sinusitis?	You have acute sinusitis when there has been up to 4 weeks of cloudy or colored (not clear) drainage from the nose plus one or both of the following: (a) a stuffy, congested, or blocked nose or (b) pain, pressure or fullness in the face, head, or around the eyes.
How can I tell if my sinusitis is caused by viruses or bacteria?	Acute viral sinusitis is likely if you have been sick less than 10 days and are not getting worse. Acute bacterial sinusitis is likely when you do not improve at all within 10 days of getting sick or when you get worse within 10 days after beginning to get better.
Why is it important to tell if my sinusitis is caused by bacteria?	Because sinusitis is treated differently based on cause: acute viral Sinusitis does not benefit from antibiotics, but some patients with acute bacterial sinusitis may get better faster with an antibiotic.

About the AAO-HNS
The American Academy of Otolaryngology—Head and Neck Surgery (www.entnet.org), one of the oldest medical associations in the nation, represents about 12,000 physicians and allied health professionals who specialize in the diagnosis and treatment of disorders of the ears, nose, throat, and related structures of the head and neck. The Academy serves its members by facilitating the advancement of the science and art of medicine related to otolaryngology and by representing the specialty in governmental and socioeconomic issues. The AAO-HNS Foundation works to advance the art, science, and ethical practice of otolaryngology-head and neck surgery through education, research, and lifelong learning. The organization's vision: "Empowering otolaryngologist-head and neck surgeons to deliver the best patient care."

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