

# THE "INFO"-HALER



TAKE IN THE INFO~TION

An easy to understand, informative newsletter for our patients of all ages from the *Allergy & Asthma Associates of Michigan, P. C.*

## SINUSITIS

The sinuses are hollow, air-filled cavities located behind and around the nose and eyes. They are empty spaces in the bones of the face and head that surround and connect the nasal cavities. The sinuses are technically called the paranasal sinuses; "para" meaning near or around and "sinus" meaning space or hollow. There are four paired sets of paranasal sinuses and each is named for the bone of the skull in which it lies. The frontal sinuses are located above the eyes and across the forehead. The maxillary sinuses (the largest of the sinuses) are located above the eyes and cheekbone. The ethmoid sinuses are multicompartmental and are located between the bony orbits of the eyes on either side of the nose. The sphenoid sinuses are situated deeper within the skull behind the ethmoids. The purpose of the sinuses is to lighten the skull and make it easier to hold the head erect, to cushion the brain from blows to the front part of the skull, to protect the lungs by filtering out viruses, dirt, dust, allergens, etc., to humidify and moisten dry air that ordinarily would be irritating to the lungs, to regulate air temperature by cooling excessively hot air and warming excessively cold air that would shock the lungs, and to influence one's sense of smell and taste, voice quality, and production of mucous. The ethmoid, sphenoid, and maxillary sinuses are all present at birth, although they do not reach full development until age sixteen to twenty-one years. The frontal sinuses are not present until the age of eight.

The sinuses are connected to the nasal passages by thin ducts about the size of a pencil lead which facilitate mucous drainage and air exchange. The openings of the ducts are called "ostia" and they average two millimeters in diameter. The sinuses are lined with the same kind of mucous membranes that line the nose. On the surface of these membranes are "cilia" (microscopic hair-like projections that maintain a constant sweeping motion to remove mucous). Humans inhale approximately 17,000 times per day moving two gallons of air per minute and producing between a pint and a quart of mucous daily. The cilia sweep the mucous to the back of the nose where it is swallowed and broken down by stomach acids. Conditions that hamper normal sinus drainage and mucous clearance cause "sinusitis". Sinusitis is an inflammation of the mucous membranes of the sinuses. Viral and bacterial infections, allergies, air pollution, dry air, cold air, tumors, foreign bodies, smoke, swimming, diving, flying, and abuse of over the counter nasal decongestants are all possible causes of inflammation of the mucous membranes (sinusitis).

When the mucous membranes become inflamed, they swell and produce more mucous which eventually closes off the ostia and prevents infected material from draining to the nose. The cilia then lose their ability to sweep the mucous out of the sinuses, causing painful pressure in the area of the affected sinus. Sinusitis can occur in one sinus or several. If all the sinuses are affected the condition is called "pansinusitis".

Symptoms of sinusitis can include pain and swelling in the cheeks, under the eyes, and in the teeth of the upper jaw (maxillary sinusitis), pain between and behind the eyes and pressure on either side of the nose (ethmoid sinusitis), pain above the eyes and in the forehead (frontal sinusitis), or generalized pain and headache toward the back of the head or the base of the skull (sphenoid sinusitis). Other symptoms of sinusitis may include extreme fatigue, laryngitis, cough, sore throat, fever, yellow-green purulent nasal discharge, loss of smell and taste, and foul breath odor.

Diagnosis of sinusitis is made by Doctor's examination where purulent material is often seen seeping from sinus openings, sinus x-rays, and occasionally CAT scans. Sinusitis may be acute requiring treatment for several days to a couple of weeks, or it may be chronic requiring treatment for three weeks or more. Treatment consists of

antibiotics for infection, antihistamines and decongestants to relieve sneezing, stuffy nose, swollen mucous membranes, and clogged sinuses, pain relieving drugs, and topical nasal steroids with occasional steroid bursts. Other important treatment measures consist of rest, forcing fluids, and steam inhalation. Occasionally surgery is needed to create a larger opening in the sinuses, to remove the abnormal sinus membrane, to remove polyps, or to clean out the infected material.

One out of every seven Americans (about thirty-seven million people) are sinus sufferers. Approximately 100,000 days of missed work or school are due to sinus infections each year. As many as 80% of patients with recurrent sinus infections have allergies, and as many as 75% of people with asthma experience sinusitis. Untreated sinusitis can lead to serious complications such as bone infections, infections of the eye sockets, abscess formations, meningitis, development of chronic bronchial infections, and flare-ups of bronchial asthma. It is imperative to see the Doctor if you suspect sinusitis, and equally as important to follow the treatment program exactly as prescribed!

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