

Allergic Rhinitis, Sinusitis, and Rhinosinusitis

Inflammation of the nasal mucous membrane is called rhinitis. The symptoms include sneezing and runny and/or itchy nose, caused by irritation and congestion in the nose. There are two types: allergic rhinitis and non-allergic rhinitis.

Allergic Rhinitis occurs when the body's immune system over-responds to specific, non-infectious particles such as plant pollens, molds, dust mites, animal hair, industrial chemicals (including tobacco smoke), foods, medicines, and insect venom. During an allergic attack, antibodies, primarily immunoglobulin E (IgE), attach to mast cells (cells that release histamine) in the lungs, skin, and mucous membranes. Once IgE connects with the mast cells, a number of chemicals are released. One of the chemicals, histamine, opens the blood vessels and causes skin redness and swollen membranes. When this occurs in the nose, sneezing and congestion are the result.

Seasonal allergic rhinitis or hay fever occurs in late summer or spring. Hypersensitivity to ragweed, not hay, is the primary cause of seasonal allergic rhinitis in 75 percent of all Americans who suffer from this seasonal disorder. People with sensitivity to tree pollen have symptoms in late March or early April; an allergic reaction to mold spores occurs in October and November as a consequence of falling leaves.

Perennial allergic rhinitis occurs year-round and can result from sensitivity to pet hair, mold on wallpaper, houseplants, carpeting, and upholstery. Some studies suggest that air pollution such as automobile engine emissions can aggravate allergic rhinitis. Although bacteria are not the cause of allergic rhinitis, one medical study found a significant number of the bacteria *Staphylococcus aureus* in the nasal passages of patients with year-round allergic rhinitis, concluding that the allergic condition may lead to higher bacterial levels, thereby creating a condition that worsens the allergies.

Patients who suffer from recurring bouts of allergic rhinitis should observe their symptoms on a continuous basis. If facial pain or a greenish-yellow nasal discharge occurs, a qualified ear, nose, and throat specialist can provide appropriate sinusitis treatment.

Non-Allergic Rhinitis does not depend on the presence of IgE and is not due to an allergic reaction. The symptoms can be triggered by cigarette smoke and other pollutants as well as strong odors, alcoholic beverages, and cold. Other causes may include blockages in the nose, a deviated septum, infections, and over-use of medications such as decongestants.

Rhinosinusitis: Clarifying the Relationship Between the Sinuses and Rhinitis

Recent studies by otolaryngologist-head and neck surgeons have better defined the association between rhinitis and sinusitis. They have concluded that sinusitis is often preceded by rhinitis and rarely occurs without concurrent rhinitis. The symptoms, nasal obstruction/discharge and loss of smell, occur in both disorders. Most importantly, computed tomography (CT scan)

findings have established that the mucosal linings of the nose and sinuses are simultaneously involved in the common cold (previously, thought to affect only the nasal passages). Otolaryngologists, acknowledging the inter-relationship between the nasal and sinus passages, now refer to sinusitis as rhinosinusitis.

The catalyst relating the two disorders is thought to involve nasal sinus overflow obstruction, followed by bacterial colonization and infection leading to acute, recurrent, or chronic sinusitis. Likewise, chronic inflammation due to allergies can lead to obstruction and subsequent sinusitis.

Other medical research has supported the close relationship between allergic rhinitis and sinusitis. In a retrospective study on sinus abnormalities in 1,120 patients (from two to 87 years of age), thickening of the sinus mucosa was more commonly found in sinusitis patients during July, August, September, and December, months in which pollen, mold, and viral epidemics are prominent. A review of patients (four to 83 years of age) who had surgery to treat their chronic sinus conditions revealed that those with seasonal allergy and nasal polyps are more likely to experience a recurrence of their sinusitis.