What is rhinitis?

Rhinitis is the medical term for any condition causing the symptoms of a stuffy nose (blockage or congestion), increased nasal secretions (runny nose), sneezing, and itching. These symptoms are a natural response to any source of irritation or inflammation. Any stimulus can cause these symptoms since the nose only knows these four "languages" to indicate that there is a problem. The origin of these symptoms, that is allergic or non-allergic, can not be determined form the symptoms alone.

What causes rhinitis?

Common causes of rhinitis include (1) allergic reactions (contact of the respiratory mucosa with an airborne allergen), (2) chemical irritant exposure (like cigarette smoke and some cleaning agents, pungent odors, and the like), (3) changes in the weather, temperature, and humidity, (4) viral infections (the common cold), (5) anatomical abnormalities (like nasal septal deviation and nasal polyps), and (6) certain medication themselves (especially nasal sprays like Afrin, NeoSynephrine, etc.). These causes are explained in greater detail below. Rhinitis which lasts less than 6 weeks is usually caused by viral infections (a common cold); the other causes usually produce a more chronic set of symptoms which last longer than 6 weeks.

What are the symptoms of rhinitis?

Congestion: A normal function of the nose is warming and humidifying the air that we breathe in. The nose accomplishes this by increasing the blood supply to the tissues of the nose which will produce mild swelling of the nasal tissues. This swelling usually occurs in only one nasal passage at a time. Most individuals are not even aware of these natural "nasal cycles" which may last from 30 minutes to 4 hours. However, when there is additional congestion or the passages are small, these nasal cycles may become more apparent. Increased nasal congestion can be expected as a natural response to any source of inflammation and irritation. Also changes in head position, such as lying down, and strenuous exercise may adversely affect the amount of nasal congestion. Severe nasal congestion can also result in facial pressure and pain as well as dark circles under the eyes.

Excess secretions: Normally the nose clears particles which land on the surface lining of the nose (nasal mucosa) by producing a sticky secretion called mucus; hence the nose is always producing some amount of mucus. Mucus is normally a clear or white, thin, sticky liquid. The natural route of nasal mucus is toward the back of the nasal passages, and under normal conditions, a small amount of mucus is constantly being swallowed. When the amount of these secretions become increased, then a post nasal drip is perceived. The natural mechanism for removing these secretions from the back of the throat is coughing or frequent clearing of the throat. A sore throat can occur from chronically breathing through the mouth, a post nasal drip, or a frequent cough/throat clearing. When mucus production is excessive, these extra secretions may travel toward the front of the nose (runny nose).

Itching and sneezing: can also be a natural response to inflammation and irritation. Sneezing is an attempt to the nose to expel the irritant. Itching is most commonly associated with allergic reactions.

What is sinusitis?

Sinusitis is inflammation or infection of any of the four sets of air sinus cavities connected to the nasal passages. Usually the secretions become discolored (yellow or green) when a sinus infection is present. It is not exactly the same condition as rhinitis although they frequently occur together; furthermore, nasal congestion is not always associated with sinusitis. Therefore, the term "sinus problems" or "sinus congestion" is sometimes mistakenly used to mean congestion of the nasal passage itself.
Acute sinusitis is usually caused by either viral or bacterial infection. Treatment consists of clearing the congestion and combating the infection with antibiotics if the infection is bacterial in origin. Unfortunately, there are no antibiotics which can effectively clear viral infections; the body's own defense mechanisms must do that. When medicines are not able to cure a chronic sinusitis, then drainage by surgical methods may be necessary. Sinus X-rays help diagnose the presence of sinusitis and follow-up X-rays are helpful in determining whether the infection and congestion has resolved.

Rhinitis is not a disease but simply a term describing the symptoms produced by any source of nasal irritation or inflammation. In order to treat these symptoms more effectively, it is important to try and determine the underlying cause. The conditions responsible for rhinitis are primarily diagnosed by a medical interview, a physical examination, and certain diagnostic tests. The medical interview consists of a careful discussion of the exact symptoms, environmental factors and exposures, results of previous therapy, the use of medications, and the presence of other medical problems. The physical exam focuses on the nose, ears and throat. The presence of allergic rhinitis can be best diagnosed by allergen skin tests. Negative skin tests to the panel of allergens do not mean that you are having symptoms, but rather this indicates that the source of your symptoms is something other than contact with allergens. Other useful procedures may include sinus X-rays, examination of nasal secretions, or a blood test to check the serum level of a protein (IgE) associated with allergic conditions.

**Vasomotor rhinitis:** most common source of chronic nasal and sinus symptoms. Only 25% of people with chronic, recurrent nasal and sinus problems have allergic rhinitis. The symptoms of vasomotor rhinitis are almost identical to those of allergic rhinitis and include recurrent or chronic nasal congestion, excessive mucus production, sneezing, etc. However, rather than being caused by the contact of the nasal mucosa with allergens, these symptoms are caused by an underlying sensitivity of the mucosa of the nose to the irritant effects of certain factors. In these individuals, the allergen skin tests are negative.

Irritant factors usually trigger the symptoms, and some of these factors may not be thought of as irritants by the patient. These irritants are nonspecific and do not involve any recognition by the allergic immune system. Common causes of this irritant rhinitis include exposure to cigarette smoke, strong odors or fumes (such as perfume, chemical smells, fabric stores, flowers), certain chemicals (such as hairspray, cleaning solvents and solutions, chlorine from swimming pools, gasoline, car exhaust, and air pollution), and fine particles in the air (like laundry powder, dust, cut grass). Also changes in the temperature, weather, and humidity can be perceived as an irritant by the nose. Some patients are very sensitive to temperature changes. For example, some patients start sneezing when leaving an air-conditioned building if the outside temperature and humidity is different from that inside. Spices used in cooking and temperature of the food may cause nasal irritation; symptoms may occur during or right after meals. Other things which aggravate vasomotor rhinitis are alcoholic beverages (particularly wine and beer), aspirin, and certain blood pressure medications.

Patients with vasomotor (irritant) rhinitis should avoid substances causing nasal irritation to the extent possible. Saline nasal sprays and lavages are cleansing and reduce irritation; they may be safely used several times daily. Unless primary symptoms are runny nose, these patients should avoid drugs, such as antihistamines, which dry the nose. Topical steroid nasal sprays may be beneficial. An anticholinergic nose spray may also help some patients. Surgery is not useful unless other mechanical problems are associated.

**Allergic rhinitis:** The symptoms of allergic rhinitis are caused by exposure to a substance to which the patient has become allergic. Allergies require a genetic predisposition to become allergic; thus, allergies tend to run in families and take time to develop. Persons who have allergies make specific allergic antibodies which can recognize the allergen in a very precise manner. This antibody is found in highest concentrations in the tissues of the respiratory tract (nose, sinus and lungs) and the skin. Sometimes it is also present in the gastrointestinal tract. The skin test can demonstrate the presence of the antibody in the skin of allergic people. A positive skin test reflects to a great extent the reaction which occurs in the nose when contact with an allergen occurs. Positive prick skin tests correlate well with the symptoms produced following a deliberate allergen challenge. The most helpful approach to treating allergic rhinitis...
depends on which particular allergen is responsible for the symptoms.

**Mechanical Blockage:** Mechanical blockage of the nose really isn't rhinitis, although it produces congestion or blockage which is a symptom of rhinitis. When rhinitis of any origin and mechanical blockage coexist, the symptoms are likely to be more severe. Mechanical blockage should be suspected when one side is more affected than the other or only one side is affected. Common causes of mechanical obstruction include nasal septal deviation, enlarged adenoids, nasal polyps, and enlargement of the turbinates (structures in the nose which help warm and humidify the air). Most patients with mechanical blockage learn to put up with their symptoms. Surgery will improve severe symptoms caused by deviated septum, large turbinates, large adenoids, and chronic sinusitis. Surgery is generally necessary for nasal tumors.

**Medicine induced (Rhinitis medicamentosa):** Some medications can cause chronic nasal congestion. These include birth control pills and other female hormone preparations, certain blood pressure or heart medications (beta blockers and vasodilators) and, most commonly, over-the-counter decongestant nasal sprays.

The decongestant nasal sprays work quickly and effectively, but they alter normal nasal physiology. After a few weeks of use, the nasal tissues swell after the medication wears off. About all that seems to relieve the congestion is more nasal spray. After a while, the effectiveness of the medicine starts lasting for a shorter length of time than before. Eventually, permanent damage to the nasal tissues may occur. Stopping over-the-counter nasal sprays will cure rhinitis medicamentosa providing that there is no underlying disorder. Consultation with a physician to help you "get off" this decongestant spray may be necessary.

**The common cold:** The most common source of acute rhinitis is the common cold. Cold can be caused by more than 200 viruses. Children, in particular young children in school or day care, usually have 8 to 12 colds each year, usually clustered in the winter. Fortunately, the frequency of colds lessens after immunity has been produced following exposures to many viruses. Colds usually begin with sensation of congestion, rapidly followed by runny nose and sneezing. Over the next few days, congestion becomes more prominent, nasal mucus usually becomes colored light tan or light green, and there may be a slight fever and cough. Cold symptoms spontaneously resolve over the next few days to 1-2 weeks. The cough may persist for up to 6 weeks in some patients.

Many causes of rhinitis are in a sense incurable, in that no medication or treatment will make them go away permanently. When no specific cure is available, options are ignoring your symptoms, avoiding or decreasing exposure to irritants or allergens, and taking medications to help control your symptoms. Patients with allergic rhinitis also have the option of allergen desensitization immunotherapy.

**Antihistamines:** Antihistamines dry excess secretions and reduce itching and sneezing. There are dozens of different antihistamines. Some are available over-the-counter in any pharmacy, and others require a prescription. The response to antihistamines varies from person to person; an antihistamine which causes sleepiness and no relief of symptoms in one individual may be just at bedtime; the beneficial effects may last for 24 hours without causing daytime drowsiness. However, there are now several new antihistamines which do not cause drowsiness. Some people notice that after using the same antihistamine regularly for about 4 to 6 weeks, it doesn't control the symptoms as well as it did initially; if this happens, it may be useful to switch to another antihistamine.

**Decongestants:** Decongestant nose sprays work within minutes and the effect lasts for hours. However, these medications should not be used regularly for more than 3 to 5 days; otherwise, they can cause rhinitis medicamentosa. Patients with chronic rhinitis should avoid this type of medication unless your physician has prescribed them as part of your treatment. Oral decongestants are found in most over-the-counter and prescription allergy medications. Oral decongestants do not cause rhinitis medicamentosa but need to be avoided by some patients with high blood pressure. One advantage of decongestants is that they do not cause drowsiness.

**Topical Steroid Sprays:** These are prescription medications which are very safe to use.
They can be very effective at controlling most nasal and sinus symptoms; however, it will take 7 to 14 days to experience the benefit that these medications can produce. Furthermore, these sprays produce the most benefit if they are used regularly each day for several weeks. The usual directions are 1 spray in each nostril twice a day for 4 to 6 weeks.

**Antibiotics:** Antibiotics are for the treatment of bacterial infections. They do not affect the course of the usual viral upper respiratory tract infections and are of no benefit for non-infectious rhinitis. In treating chronic sinusitis, usually three full weeks of antibiotic therapy are necessary to eradicate the infection.

**Surgery:** Nasal surgery will usually cure or improve symptoms caused by mechanical blockage or chronic sinusitis. However, not all causes of obstruction respond well to surgery; surgery and surgical alternatives need to be carefully considered. Sometimes chronic sinusitis and nasal polyps respond to medical therapy, but surgery is generally required, especially when nasal polyps and chronic sinusitis coexist.

**Topical Atropine:** Atropine and the related drug ipratropium bromide will block the symptom of runny nose. Atropine can be taken orally, and is a component in some antihistamine/decongestant preparations. At the present time, these medications are not commercially available as a nasal spray, however some physicians adapt the asthma metered dose inhaler for nasal application.

**Immunotherapy:** This form of treatment is also called desensitization, hyposensitization, or "allergy shots." Immunotherapy is used in the treatment of allergic patients with respiratory symptoms, mainly of hayfever or asthma. In this form of therapy, injections of allergen extract are given in gradually increasing amounts over a period of months. The goal is to induce a degree of tolerance to the allergens and to bring about a decline in the symptoms and the medication requirements. It will usually take 6 to 8 months of immunotherapy before the benefit of these injections become apparent; usually these injections are continued for at least 2 years after symptoms have significantly decreased before being discontinued.