THE "INFO"-HALER

TAKE IN THE INFORMATION

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

POLLEN

Trees, weeds, and flowering plants all reproduce by pollination. Pollination is the process of transferring pollen grains from the anther (the male organ of plants) to the stigma (the female organ of plants). Once this transfer is completed, fertilization can take place. Pollen is the male fertilizing agent in the process (equivalent to sperm in the animal kingdom). The transfer of pollen from plant to plant is accomplished either by' insects or wind currents. Pollen grains are microscopic in size and invisible to the naked eye. Insects are attracted to the heavier pollens of the fragrant, colorful plants (such as rose bushes, pine trees, goldenrod weeds, and dandelions) and are generally responsible for the fertilization of these plants. It is the lightweight, colorless, not particularly fragrant plants (trees, grass, ragweed) which produce the largest amounts of airborne pollens and are the most troublesome for allergy sufferers. Since the airborne method of fertilization is not particularly accurate, many excess pollen grains are produced in the hopes that one or another will find a female plant to fertilize. One plant can release in excess of a billion pollen grains and these grains are capable of traveling hundreds of miles and even out to sea. It is therefore quite apparent that pollen can become a real problem for many allergic individuals.

Pollen, however, is not a problem for everyone, only those individuals whose immune systems can be stimulated to produce an allergic response. Pollen grains carry enzymes on their surface to help the pollen enter female plants. When people breathe in these airborne pollen grains, the grains settle inside the person's nose and release their enzymes which penetrate the mucous membranes of the nose. These enzymes cause allergic individuals to produce IgE antibodies which trigger the mast cells of the nose to release chemicals that cause the allergic symptoms. Pollen sensitive individuals experience such symptoms as nasal congestion, runny nose, itchy nose, frequent sneezing, itchy throat, itchy ears, and itchy, watery eyes.

Fortunately pollination is a seasonal event and not a year round problem. Pollen arrival dates are different throughout the United States, and if you are an allergic individual you may want to investigate pollen counts before making travel plans. In Michigan, trees pollinate in the spring, grass pollinates in the summer, and weeds pollinate in the fall. Pollen seasons vary slightly from year to year. Factors controlling pollen seasons are air temperature and weather conditions. Cold, damp, rainy, humid weather minimizes pollination, while hot, dry, windy weather accelerates pollination. Ragweed plants release their pollen in the early morning hours, while grass releases pollen in the early afternoon hours.

During pollen season, pollen counts are obtained to measure the amount of airborne pollen in the area sampled. Pollen counts are determined by using special devices called collecting rods. These rods are coated with a sticky substance and are rotated in the air for pre-determined time intervals (usually ten minutes every hour for a twenty-four hour period). As the rods are rotated pollen grains adhere to their surface. After twenty-four hours of rotation, the rods are collected and stained. The stain is absorbed by the pollen grains and the grains distend and take on a highly characteristic appearance, making it easy to differentiate one type of pollen from another. The average number of grains of each pollen, as well as the average total number of pollen grains per cubic yard of the air sampled are tabulated and the numbers become the pollen count for the last twenty-four hours. It is not, however, as important to know the specific pollen count numbers as it is to know when the pollen you are sensitive to is elevated.

Management of pollen allergies is a real challenge. Allergy injections can help reduce allergy symptoms and crease the need for medications. Although there is no objective way to measure the success of allergy injections, except by comparing your past and present allergy symptoms, allergy injections are thought to be 85% successful in the treatment of seasonal allergic rhinitis. In addition to allergy injections, the following tips may make pollen season more endurable:

Keep house and car windows closed and use air-conditioning when possible.
Use air-conditioning that recirculates inside air, rather than attic and window fans that draw air in from the outside. Shower and shampoo after coming in from outdoors during pollen season.
Do not plant trees and shrubs close to your home.
Maintain weed control in your yard.
Consider use of electronic furnace filters or room air cleaners. Do not hang clothes and bedding outside to dry.
Consider wearing a mask when outdoors during high pollen count days. Have someone else do your yard work and grass cutting.

Seasonal pollens are very hard to avoid and have become one of the most difficult aspects of our environment to control. Although there is no cure for this problem, we hope that by increasing your knowledge and awareness of pollens, you will be better able to improve the quality of your life during pollen season.

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