CENTRAL TEXAS ALLERGY & ASTHMA
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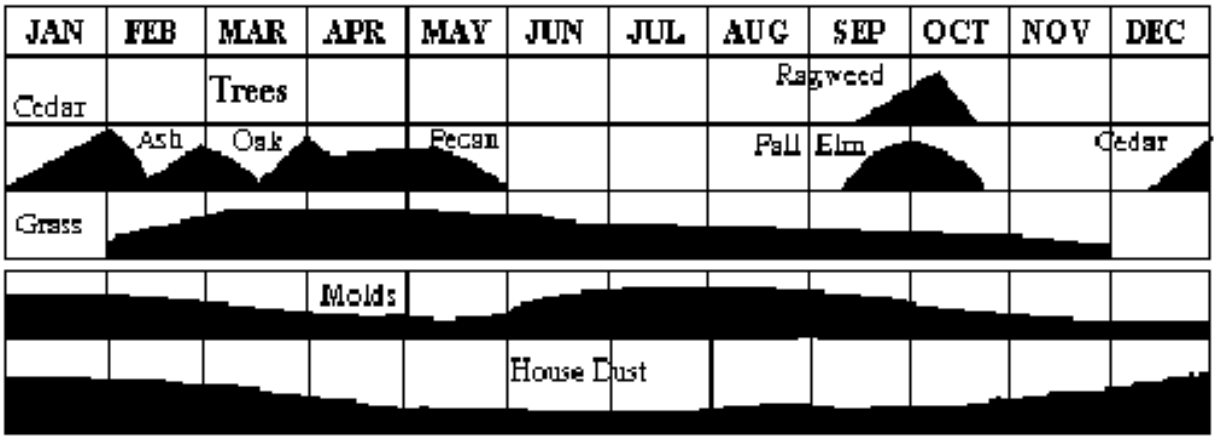
Allergic Rhinitis

Allergens are the triggers for ALL allergies. Each year, millions of people suffer from *seasonal allergy* symptoms such as nasal congestion, sneezing, itchy nose and throat, and watery eyes. However, many also suffer from *perennial allergies*, which result in symptoms throughout the year. Perennial allergies are triggered by indoor allergens, including house dust mite droppings, animal dander, cockroach droppings and indoor molds.

Seasonal & Perennial Allergies



Outdoor Allergens

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Seasonal *allergic rhinitis*, often referred to as "hay fever," affects more than 35 million people in the United States. Airborne pollens and mold spores are outdoor allergens that commonly trigger symptoms during the spring and fall. During these times, allergic rhinitis sufferers experience increased symptoms such as: sneezing, nasal congestion, runny nose, and itchiness in the nose, roof of the mouth, throat, eyes, and ears. The true cause of the reason depends on where they live in the country and the exact allergen to which they are allergic to.

Pollens

Pollens are tiny, egg-shaped male cells of flowering plants. These microscopic, powdery granules are necessary for plant fertilization. The average pollen particle is less than the width of an average human hair.

Pollens from plants with bright flowers, such as roses, usually don't trigger allergies. The larger, waxy pollens are carried by bees and transferred from plant to plant. On the other hand, many trees, grasses, and low-growing weeds have small, light, dry pollens that are well suited for dissemination by the wind currents. These are the pollens that trigger allergy symptoms.

Seasonal allergic rhinitis in the early spring is often triggered by the pollens of trees: oak, western red cedar, elm, birch, ash, hickory, poplar, sycamore, maple, cypress, and walnut. In the late spring and early summer, pollinating grasses are the culprit: timothy, bermuda, orchard, sweet vernal, red top and some blue grasses.

In addition to ragweed (the pollen most responsible for late summer and fall hay fever in North America) other weeds that can trigger allergic rhinitis symptoms include sagebrush, pigweed, tumbleweed, Russian thistle and cocklebur.

Each plant has a period of pollination that does not vary greatly from year to year. However, weather conditions can affect the amount of pollen in the air at any given time. The pollinating season starts later in the spring the further north one goes. Depending on where you live in the U.S., the pollen season can begin as early as January as it does here in Texas. Trees pollinate earliest, starting their pollination anywhere from January through May. Grasses follow next in the cycle, beginning pollination in May and continuing until mid- July. Weeds usually pollinate in late summer and early fall.

Molds

Molds are microscopic fungi. Molds are related to mushrooms and mildew, but are without stems, roots, or leaves. Their spores float in the air like pollen, and are present throughout the year in many states. Unlike pollens, molds do not have a specific season, but are affected by weather conditions such as rain, wind, and temperature. Outdoor mold spores begin to appear after a spring thaw and reach their peak in July in warmer states and October in the colder states. Molds can be found all year long outdoors in the South and on the West coast.

Common airborne molds include: alternaria, cladosporium, and aspergillus. Molds are present in almost every possible habitat. Outdoors, they can be found in soil, vegetation and rotting wood. Molds can also be found indoors in attics, basements, bathrooms, refrigerators, food storage areas, garbage containers, carpets, and upholstery.

Pollen and Mold Counts

Pollen and mold spore counts measure the amount of airborne allergens present in the air. Counts are compiled by a variety of methods. Pollen and mold spore counts can be determined daily, and are reported as grains per cubic meter of air. Certified aeroallergen counters at universities, medical centers and clinics provide these counts on a volunteer basis.

The National Allergy Bureau (NAB) is the nation's only pollen and mold counting network certified by the AAAAI. As a free service to the public, the NAB compiles pollen and mold counts from certified stations across the nation and reports them to the media three times a week. These counts are also available on the NAB page of the AAAAI's web site, www.aaaai.org, and throughout the toll-free service 1-800-9-POLLEN.

Interpretation of pollen and mold counts and their relationship to symptoms is complex. Sampling techniques such as the type of device used and its location within the community can affect counts. While many patients develop symptoms when pollen counts are 20-100 grains per cubic meter, one's symptoms may also be affected by recent exposure to other allergens, the intensity of pollen exposure, and an individual's sensitivity. Pollen counts reported to the public are generally taken the proceeding one to three days, and may vary widely from day to day during a season. Overall, the use of pollen counts in predicting symptom severity in a given individual is somewhat limited.

Effects of Weather and Location

Weather can influence hay fever symptoms. Allergy symptoms are often minimal on days that are rainy, cloudy, or windless because pollen does not move about during these conditions. Hot, dry, and windy weather signals greater pollen and mold distribution and thus, increased allergy symptoms.

If you are allergic to plants in your area, you may believe that moving to another area of the country with different plants will help lessen your symptoms. However, many pollens (especially grasses and molds) are common to most plant zones in the United States. Additionally, other related plants can also trigger the same symptoms. Many who move to a new region to escape their allergies find that they acquire new airborne allergens prevalent in the new area within one to two years. Therefore, moving to another part of the country to escape allergies is often ultimately disappointing, and not recommended.

Appropriate treatment(not escape) is the best method for coping with your allergies. If your seasonal allergy symptoms are making you miserable, see your allergist, who during their evaluation can determine exactly which pollens or molds are triggering your symptoms. He or she will help you determine when these airborne allergens are most prevalent in your area. To lessen your symptoms, your allergist may also prescribe an allergy nose spray, non-sedating antihistamine, decongestant or other medications.

If your symptoms continue or if you have them for many months of the year, your allergist may also recommend immunotherapy treatment, also called allergy vaccinations or shots. This treatment involves receiving injections periodically- as determined by your allergist- over a period of three to five years. This treatment helps your immune system to become more and more resistant to the specific allergen, and lessens your symptoms as well as the need for future medications.

Tips for Avoiding Allergens

Following are some Dos and Don'ts that you may want to follow during the pollen and mold seasons to lessen your exposure to the pollens or molds that trigger your allergy symptoms.

DO keep windows closed at night to prevent pollens or molds from drifting into your home. Instead, if needed, use the air conditioning, which cleans, cools, and dries the air.
DO minimize early morning activity when pollen is usually emitted (5-10 AM).
DO keep your car windows closed when traveling.
DO try and stay inside when pollen count and humidity is reported high, and on windy days when dust and pollen are blown about.
DO take a vacation during the height of the pollen season to a more pollen-free area, such as the beach or sea.
DO take medications prescribed by your allergist regularly, in the recommended dosage.
DON'T take more medication than recommended in attempt to lessen your symptoms.
DON'T mow your lawn or be around freshly cut grass; mowing stirs up pollens and molds.
DON'T rake up leaves, as this also stirs up molds.
DON'T hang sheets or clothing out to dry. Pollens and molds may collect in them.
DON'T grow too many or over water indoor plants if you are allergic to mold. Wet soil encourages mold growth.

Indoor Allergens

Allergens are the triggers for ALL allergies. Each year, millions of people suffer from *perennial allergy* symptoms such as nasal congestion, sneezing, itchy nose, itchy throat, and watery eyes. Perennial allergies are triggered by indoor allergens, including house dust mite droppings, animal dander, cockroach droppings and indoor molds.

Controlling Dust Mites

House dust is composed of small particles of plant and animal matter in the home. While this is not appealing to us, microscopic creatures called dust mites thrive from it. The droppings of these mites are the most common trigger for perennial allergy and asthma symptoms.

Dust mites are found throughout the home, but they especially thrive in high humidity areas and places where human dander (dead skin flakes) are found. Symptoms of dust mite allergies include congested and/or runny nose, sneezing, watery eyes, coughing and wheezing.

To reduce dust mites, it is important to control humidity to below 50% throughout the entire home by using a de-humidifier or central or window air conditioning. Wall to wall carpeting should be removed as much as possible, especially that which is laid over concrete floors. Hardwood, tile, or linoleum floor is better for those with allergies. Washable throw rugs may also be used if they are regularly washed in hot water and or dry cleaned.

Because people spend more time in the bedroom than in any other room, it is essential to reduce mite levels there. Encase your mattress, box springs, and pillows in airtight, zippered plastic or special allergen- proof fabric covers (available in many stores). Bedding should also be washed weekly in hot water (130'F) and dried in a hot dryer. For waterbeds, regularly wash the mattress pad on top of the bed. Comforters and pillows made of natural materials such as feathers or cotton should be replaced with items made from synthetic fibers, or covered with allergy-proof encasings.

It is also best to have smooth, uncluttered surfaces. Dust collecting objects can be stored away in cabinets. Avoid using the room where you sleep as a library or study. Weekly vacuuming can help to further eliminate dust mites. Those with allergies should use a vacuum with HEPA (high efficiency particulate) filter or a double bag, since using a standard or water filled vacuum cleaner stirs dust up into the air. Allergic individuals should also wear a dust mask.

Controlling Indoor Molds

Indoor molds and mildew thrive in areas in the house with increased humidity, such as damp basements and bathroom windows. These molds send out small spores that can trigger your allergy symptoms.

Fortunately, indoor molds and mildew are easily eliminated once you discover them. Use a cleaning solution containing 5% of bleach and a small amount of detergent. If mold or mildew is visible in carpeting or wallpaper, remove them from the house immediately. Also, repair and seal leaky roofs or pipes. Never put carpeting on concrete or damp floors. Avoid storing clothes, papers or other items in damp areas.
Using humidifiers in a damp basement may be helpful, but they generally cannot control humidity throughout the house. Empty the water in dehumidifiers often to prevent mildew from forming. All rooms (especially basements and kitchens) require ventilation and consistent cleaning to deter mold and mildew growth.

Removing House Dust and Other Allergic Irritants from your Home

House dust is not dust that blows from the outdoors. Instead, house dust is produced indoors from fibers and breakdown of plant and animal matter used in the home. These plant and animal matter include: feathers, cotton, wool, jute, hemp, animal hairs, etc. They can be found in such items as stuffing in mattresses, pillows, quilts, upholstered furniture, and carpets.

The components of house dust may include human skin scales, animal dander and saliva, and a large variety of molds. Other allergy triggers found in the house are proteins from cockroaches and microscopic dust mites. These mites, who are related to spiders, produce allergenic proteins, which are one of the major triggers of asthma and other allergic reactions.

House dust mite allergy is especially troublesome in homes where the indoor humidity is high or in houses at a low altitude. Dust mites can be found throughout the house, but they especially thrive where human dander is located, such as mattresses, pillows, bed covers, upholstered furniture, and carpeting.

Symptoms of house dust allergy may include a blocked or runny nose with sneezing (particularly in the morning), watery eyes, occasional itching, rashes, coughing and wheezing, Sometimes these symptoms may appear together, but often individuals have one symptom only (e.g. asthma) and may not realize they are allergic to house dust.

Additional Tips

Although you may be tempted to "air out," indoor allergens from the home, opening the windows can bring outdoor allergens such as pollen and mold spores into the house.

You may also consider using in-home air filters, many of which can be used in conjunction with existing forced air-cooling and heating systems. These include HEPA filtering systems, mechanical filters with standard disposable fiberglass filters (that should be changed monthly). Permanent air filters with baffles that should be cleaned periodically, and electrostatic filters that utilize the natural electrostatic properties of polypropylene and polyester to clean the air. The filters' plates should be cleaned often or it may produce irritating ozone. Keep in mind that although air filters and devices may be popular, none have been scientifically proven to remove allergens and decrease allergy or asthma symptoms. Similarly, having air ducts cleaned, an expensive procedure, has not shown to reduce respiratory symptoms. Those with allergies and asthma should avoid airborne irritants including tobacco smoke, aerosols, paint, perfumes, cleaning products, or other strong odors and fumes.

Allergy Treatment

Indoor environmental control measures should focus on sites where allergens accumulate. By taking a thorough history and performing allergy tests, if needed, your allergist can help you determine which indoor allergens provoke your symptoms. Environmental control measures differ for dust mites, animal allergens, cockroaches, and molds. To relieve your symptoms, your allergist may also prescribe appropriate medications such as decongestants, antihistamines, or asthma medications.

Making changes to your indoor environment can take some time. To begin, you may want to write down a priority list. Progressive changes to your environment will make it less allergenic, easier to clean, and healthier for your families.

1) **Mattresses**- Encase them in airtight covers. Controlling dust mites in mattresses requires either regular vacuuming or putting them in dust free casings. The easier solution is to place zippered, airtight plastic or special allergen-proof fabric casings on the pillows, mattresses and box springs. Waterbeds do not have this problem, but the mattress pad on top of the waterbed should be washed regularly.
2) **Bedding**- Bedding should be washable and should be washed weekly in hot water. This is necessary since washing with cool water does not kill dust mites. Comforters and pillows made of down feathers, kapok, and cotton should be replaced with synthetic fibers such as Dacron or Orlon. Comforters and pillows should be washed regularly and synthetic should be replaced every 2-3 years.
3) **Vacuuming**- Cleaning is essential, but vacuuming with a standard or water filled vacuum cleaner stirs dust up into the air. Allergic individuals should wear a dust mask while vacuuming or use a vacuum with a HEPA filter. Upholstered furniture should be vacuumed, and other surfaces should be mopped or wiped. Regular weekly house cleaning is suggested, but more frequent cleaning does not allow dust to settle. Small children who spend a lot of time indoors inhale these particles and this makes their allergies more severe.
4) **Carpeting**- Where possible, carpeting should be removed, since house dust mites, molds spores, animal dander, and other allergens are abundant. Hardwood floor or linoleum is much better for those with allergies. Carpeting over concrete floors is not recommended as the floor contains especially high levels of dust mites due to the humidity level.
5) **Thermostat Fan/Filter**- Always turns the thermostat fan switch ON position while vacuuming. This allows the small particles stirred up by vacuuming to be circulated through the air conditioning filter and be removed from the air. During the summer, the fan switch should be in the AUTO position to continually reduce dust in the home. During all other seasons, the fan should be run for 3-4 hours per day.
   Pollen and dirt from outside infiltrates through leaky doors and windows. Because pollen is not easily detected in the home, dirt is used as the indicator. To test for pollen in your home:
   a. Take the dirty air filter out of the grill.
   b. Wash the filter with water.
   c. Collect the water in a pan or bucket.

   If you see brown dirt in the pan, then compare it to the dirt outside your home. If the dirt is the same color then the dirt is infiltrating your home. If the air filter grill is 10-20 feet away from a door, window, or attic access door, then this is probably where the dirt and pollen are coming from. To reduce this pollen install an air filtration device as discussed in No. 6 below.
6) **Air cleaning devices**- An efficient way to reduce indoor allergens is to remove or control the source of allergens. Filtering the air to remove airborne allergens is an additional step that can help. Several filtering devices are available and some can be used in conjunction with an existing air conditioner.
7) **Bathroom Exhaust Fan**- During the summer, turn on the bathroom exhaust fan while taking a shower or bath. This will help reduce the humidity and mold problems that exist in the bathroom.
8) **Humidity/Air Conditioning**- Controlling the indoor relative humidity to below 50% is important to reduce the growth of dust mites and mold. Central air conditioning is the most effective way of controlling humidity. Window units may be effective, but it is important to clean filters on a regular basis. Air conditioning cleans and cools the indoor air and keeps the outside air outdoors.
9) **Chemical Agents**- Chemical agents may kill the dust mites and or reduce dust mite antigens in the house.
10) **Indoor molds**- Indoor molds thrive in areas of the house with increased humidity (moisture). Dehumidifiers are helpful in damp basements, but generally do not control humidity throughout the house. Basement, bathrooms, and kitchens need ventilation and consistent cleaning to help keep mold growth to a minimum. Mold killers, including chlorine bleach, TSP and household cleaners help keep other surfaces clear of mold. Other sources of mold are cold-water humidifiers, carpeting, plants, garbage containers, rotting flooring, windowsills, damp firewood, and water-damaged wallpaper.
11) **Odors and Fumes**- It is important that allergic patients avoid other irritants that can be found in the house including tobacco smoke, aerosols, and cleaning products with strong odors.