



Asthma: Avoiding Triggers

INTRODUCTION: Asthma is a chronic lung condition that causes inflammation and constriction of the airways and difficulty breathing. Asthma attacks, or worsening of asthma symptoms, can occur after exposure to factors known as triggers. Not all patients with asthma have the same triggers. Finding out which factors trigger an attack and taking steps to avoid the triggers are important parts of good asthma management.

IDENTIFYING AND MANAGING TRIGGERS: One of the best ways to identify asthma triggers is to pay careful attention to the pattern of asthma symptoms. For example, if symptoms occur primarily at home, something in that environment may be involved. If symptoms flare in the spring or fall, an outdoor allergy is more likely to blame. Using blood tests or skin tests can provide additional information about possible asthma triggers, however, these tests are not perfect and often can over or under identify allergens.

Once asthma triggers have been identified, the person has several options:

- Avoid the trigger entirely.
- Limit exposure to the trigger if it cannot be completely avoided.
- Immunotherapy (allergy shots) can sometimes be helpful.

INDOOR TRIGGERS

- Dust mites
- Mold
- Animal danders (skin, fur, feathers, saliva)
- Cockroaches

Dust mites: Dust mites are microscopic organisms that are present in most households. They avoid light and absorb humidity from the atmosphere (ie, they do not drink). Mites may live in bedding, sofas, carpets, or any woven material if the humidity is high enough.

- Create a physical barrier to the source of the mites by covering pillows and mattresses with plastic or another impermeable fabric cover. "Hypoallergenic" unbleached or organic cotton bedding covers are intended for people who have contact sensitivities to fabric dyes and are not recommended for containing dust mites.
- Decrease the population of dust mites in the home by washing bedding and pillows in warm water and detergent or drying them in an electric dryer on the hot setting once per week.
- Remove carpets from the bedroom. Minimize the number of stuffed toys in the child's bedroom and wash them weekly.
- Control humidity. Mites thrive in humid environments. Opening windows in dry climates and using air conditioning in humid ones decreases humidity in the home and reduces the number of mites. Avoid using a humidifier.

Mold

Mold spores can trigger symptoms of allergic rhinitis in allergic patients. Mold thrives in damp environments. Areas such as air conditioning vents, water traps, refrigerator drip trays, shower stalls, leaky sinks, and damp basements are particularly vulnerable to mold growth if not cleaned regularly.

To reduce the growth of mold, it is necessary to remove existing mold and reduce humidity to prevent future growth of mold. Humidity can be reduced by removing sources of standing water and persistent dampness by removing house plants, fixing leaky plumbing, correcting sinks and showers that do not drain completely,

removing bathroom carpeting that is exposed to steam and moisture, and dehumidifying damp areas to levels below 50 percent.

Indoor garbage pails should be regularly disinfected, and an electric dehumidifier should be used to remove moisture from the basement. Old books, newspapers, clothing, and bedding should not be stored in the home. Water damaged carpets should be thrown out because it is difficult or impossible to eliminate mold in this situation, even with thorough cleaning.

Mold thrives on soap film that covers tiles, sinks, and grout. Sinks, tubs, and other surfaces with visible mold growth should be cleaned at least every four weeks with dilute bleach (1 ounce bleach diluted in one quart of water). Other surfaces with visible mold growth should be also cleaned with a bleach solution. The use of bleach in people with asthma is discussed below.

Animal danders — Animal dander is made up of the dead skin cells or scales (like dandruff) that are constantly shed by animals. Asthma can be triggered by proteins from the "dander," saliva, and urine of common house pets such as cats and dogs. Any breed of dog and cat is capable of being allergenic, although the levels given off by individual animals may vary to some degree. In cats, the protein that causes most people's allergies is found in the cat's saliva, skin glands, and urinary/reproductive tract. Accordingly, short-haired cats are not necessarily less allergenic than long-haired animals, and furless cats have allergens that are similar to furred cats.

The most effective measure is to remove the animal from the home. Limiting an animal to a certain area in the house is not effective because some allergens are carried on clothing or spread in the air. Once a pet has left a home, careful cleaning of carpets, sofas, curtain, and bedding must follow. This is particularly true for cat allergens because they are "sticky" and adhere to a variety of indoor surfaces. Even after a cat has been removed from a home and it has been thoroughly cleaned, it can take months for the level of cat allergens to drop. For this reason, it may take months for the allergic person's symptoms to fully reflect the absence of the pet.

Cockroaches — Cockroach droppings contain allergens that have been shown to trigger asthma in sensitive individuals. Cockroaches thrive in warm environments with easily accessible food and water. Unfortunately, efforts to control cockroach populations in infested areas are often less than successful. Still, certain measures are recommended, including:

- Use multiple baited traps or poisons
- Remove garbage and food waste promptly from the home
- Wash dishes and cooking utensils immediately after use
- Remove cockroach debris quickly
- Eliminate any standing water from leaking faucets or drains

CONTROLLING OTHER ASTHMA TRIGGERS — In addition to indoor allergens, other factors may be identified as asthma triggers.

Respiratory infections

Infections that cause airway inflammation can trigger asthma, including colds, influenza (flu), bronchitis, ear infections, sinus infections, and pneumonia. An asthma attack that occurs along with a respiratory infection may be more severe than one that occurs at other times. To reduce the risk of a serious flare related to respiratory infection, a person with asthma should:

- Call a healthcare provider at the first sign of an infection.
- Get a flu shot once a year.
- Get a pneumonia vaccine (if needed based on other risk factors)
- Wash hands frequently, especially when in contact with an infected person, and avoid contact with infected people when possible.
- Use treatments prescribed for symptoms, such as nasal steroids and decongestants.

Allergies to food and medicine

Allergy to foods, especially foods containing sulfites (potatoes, shrimp, dried fruit, beer, wine) may trigger asthma in sensitive individuals. A food diary, listing all foods and drinks along with asthma symptoms, may help isolate sensitivity to a particular food. If a sulfite allergy has been identified, the patient should be sure to read food labels to make sure sulfites are not present.

Sensitivity to medications can also trigger asthma. In particular, [aspirin](#), some other anti-inflammatory drugs

such as [ibuprofen](#) (Advil®, Motrin®) and [naproxen](#) (Aleve®, Anaprox®) and certain beta blocker heart medicines may cause an attack in certain individuals. [Acetaminophen](#) (Tylenol®) does not cause symptoms in most aspirin-sensitive patients.

Outdoor allergens

Asthma symptoms that worsen outdoors at certain times of year are likely to be triggered by an allergy to pollen or other plant material. Affected individuals should stay indoors as much as possible during the season when their asthma tends to flare, use air conditioning when possible, and keep windows closed. Exercising outdoors or participating activities that require exertion should be avoided when levels of air pollution are high. Patients should also try to avoid cutting grass, digging around plants, or participating in other outdoor activities that seem to worsen asthma symptoms.

Irritants: A variety of irritants can trigger asthma. Irritants can be found inside or outside, and include:

- Cigarette smoke and ashes
- Aerosol sprays, perfumes — Non-aerosol products should be used, and exposure to offending perfumes avoided.
- Gas stoves, fireplace smoke and cooking odors
- Air pollution, car exhaust, gas fumes
- Formaldehyde and volatile organic compounds — Odors from new linoleum flooring, carpeting, particleboard, wallcoverings, furniture, and recent painting

Chemicals: Industrial or occupational exposure to chemicals is responsible for about 15 percent of cases of asthma. If symptoms tend to flare in a workplace where chemicals are in use, develop a plan with your physician on how to limit exposure. Strong odors such as bleach should be used in a well ventilated area.

Menstrual cycle: Between 20 and 40 percent of women with asthma report that their asthma symptoms worsen before or during their menstrual period. The reason for this phenomenon is unclear. There is no known management at this time other than to limit other triggers.

Physical activity: Although exercise can trigger asthma in certain people, it should not be avoided. Exercise strengthens the cardiovascular system and may decrease sensitivity to asthma triggers. To minimize the effects of this trigger, asthmatics should:

- Take one or 2 puffs from an [albuterol](#) inhaler 5 minutes before beginning exercise
- Start any new exercise regime slowly, gradually building strength and endurance.
- Warm up gradually at the beginning of each exercise session.
- Take all medications on schedule.
- Avoid exercising outdoors in extremely cold weather and cover the mouth and nose with a scarf to help warm the inspired air when temperatures are low.

WHERE TO GET MORE INFORMATION — Your healthcare provider is the best source of information for questions and concerns related to your medical problem. Because no two patients are exactly alike and recommendations can vary from one person to another, it is important to seek guidance from a provider who is familiar with your individual situation.

- The National Library of Medicine
(www.nlm.nih.gov/medlineplus/healthtopics.html)
- American Academy of Allergy, Asthma, and Immunology
(www.aaaai.org)
- National Heart, Lung, and Blood Institute
(www.nhlbi.nih.gov/)
- National Lung Health Education Program
(www.nlhep.org)
- American Lung Association
(www.lungusa.org)
- American College of Allergy, Asthma, and Immunology
(www.allergy.mcg.edu/)