



## **Building Air Quality**

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### **What are Allergies and Asthma**

Allergies and asthma can mean different things to different people. Even sufferers can't always agree on whether they are dealing with one or the other.

"Allergies" refers to a reaction that someone has in response to exposure to certain chemical products, dusts, or even the presence of molds. As they are exposed, their body reacts by creating an allergen, which then hypersensitizes the individual. The next time they are exposed to the substance, their body reacts by creating the same allergen.

"Asthma" is a medical condition that involves the lining of the lower airways and the muscles surrounding them. Asthma can be aggravated by exposure to pollutant "triggers" such as certain components of vehicle exhaust and industrial emissions; tobacco smoke; pollen; and allergens from animals and insects. Often, urban environments have high levels of outdoor pollution and poor housing conditions, which often are associated with increased levels of indoor pollution.

### **What is the Impact of Allergies and Asthma**

Asthma is a serious problem in our society. It kills about 4,000 people a year and was estimated to cost \$6.2 billion in medical care and lost time from school and work in 1990. Asthma is the leading chronic illness of children in the United States and the leading cause of school absenteeism due to chronic illness. Asthma deaths and the number of Americans diagnosed with asthma continue to increase each year.

Asthma is Expensive

- The annual medical bills for a child with asthma are over \$600 per year higher than for non-asthmatic children.
- The American College of Emergency Physicians reports that asthma accounts for nine million lost workdays in the U.S. each year.
- The research document titled [An Economic Evaluation of Asthma in the United States](#) reports that the costs for lost work days for parents who have to care for asthmatic children is estimated to be \$900 million dollars a year.

### **Limiting Your Exposure to Problems From Allergens**

#### **Outdoor Recommendations**

- Advise tenants to use public transportation, carpool, and encourage everyone to limit polluting activities. Encourage them to stay inside or avoid heavy outdoor exercise on days when pollutants such as ozone, sulfur dioxide, or pollen are high.

#### **Inside a Commercial Building**

- Don't allow smoking indoors, unless it is in a room just for smokers, with a separate ventilation system to exhaust smoke outside.

- Combustion gases and particles can cause breathing difficulties for people with asthma. Change HVAC system filters according to manufacturer's instructions. Consider installing higher efficiency filters to reduce the number of particles in the air.
- Try to keep humidity levels between 30 and 50%, because high humidity can promote growth of biological agents that may trigger asthma episodes.
- Keep the building clean to reduce allergy-causing agents like microscopic dust mites, animal dander, and pollen.
- Evaluate building cleaning products to ensure that they are safe when used as intended and that they do not present a hazard if they are accidentally misused.
- Encourage tenants to get organized! Cluttered tenant spaces can create a two-fold exposure. First, tenants who are more highly prone to react to allergens in the space will be exposed to more of them when the space is cluttered. Second, building custodial staff is less likely to vacuum and dust as thoroughly in a cluttered office or workspace, for fear of "messing up" the piles of books, boxes, papers, etc.
- Ensure that the building's custodial staff is using vacuum cleaners that employ high-efficiency filtration. Make sure that they understand how to properly vacuum carpeted areas and that the filters are being changed on a regular basis.
- When carpets are cleaned, make sure that a hot water or steam extraction process is used and that all areas are dry within 18 hours of the process. This will inhibit (or eliminate) the potential for mold growth in wet carpet.
- Discourage using a dry rag to perform dusting activities as this will only reposition the dust on other horizontal surfaces. Ensure that any dusting chemicals are used as directed on the bottle, and that little residual compounds are left on dusted surfaces. Minimizing a tenant's exposure to cleaning chemicals (or their residuals) can go a long way toward preventing allergic reactions of sensitive individuals.

## **In Schools**

- Some people with asthma may be sensitive to allergens from classroom pets like birds and gerbils. Keep cages clean and don't let animals roam.
- Strong-smelling chemicals in laboratories or art supplies can trigger asthma episodes. Make sure ventilation is adequate.
- Gyms, locker rooms, and libraries may be a source of dust and mold; make sure they are cleaned regularly and humidity levels are kept between 30 and 50%.