Indoor allergens
Exposure to indoor allergens is associated with exacerbation of asthma for sensitized individuals. Common indoor allergens include mold, dust mites, cockroaches, cats, and dogs.

Mold
Mold spores and bacteria found in the air, in settled dust, on surfaces, and behind walls have been significantly associated with increased prevalence of respiratory symptoms and decreased lung function among children with asthma. There is also emerging evidence of a relationship between exposure to mold and the development of asthma in children. Mold and bacteria problems are worse in certain conditions, such as when there is moisture damage or high indoor humidity.

Dust mites
Dust mites have been consistently associated with both allergic sensitization and increased asthma symptom prevalence and severity, especially when there is inadequate ventilation and high humidity. There is conflicting evidence regarding the role of exposure to dust mites in the development of asthma. Intervention studies have shown that dust mite allergen levels are reduced by putting polyurethane-coated covers on mattresses, quilts, and pillows; by removing carpets and rugs; and by improving ventilation to reduce humidity.

Cockroaches and rodents
Cockroach and rodent (mouse and rat) allergens in kitchens and bedrooms have been linked to an increase in the prevalence and severity of asthma symptoms. Intervention studies have demonstrated that professional cleaning, profes-
sional extermination or integrated pest management, and air filtration reduced levels of these pest allergens or allergic responses to them, including asthma.37,58,83,85

Cats and dogs
Allergens from dogs and cats can collect in dust on smooth floors, on upholstered furniture, and especially on carpets and rugs. Findings on the relationship between pet allergens and asthma have been inconsistent.3,86 While some studies found that exposure to cats is related to an increased risk of allergic sensitization,5,51,87,88 other studies found a decreased risk.3,77,89,92 Studies examining exposure to dogs suggest no effect or a protective effect.77,84-88,90,91,93 However, there is consistent evidence that both cat and dog exposure is related to asthma exacerbations among sensitized individuals.6,12,82,94-96 Intervention studies have reported that some air filtration devices58 and the removal of carpets and rugs reduced levels of pet allergens in the home.66,97

What Can Be Done About Environmental Triggers In The Home?
Community Action to Fight Asthma (CAFA) is a network of asthma coalitions in California working to shape local, regional, and state policies to reduce the environmental triggers of asthma for school-aged children where they live, learn, and play. Examples of local and state policies aimed at reducing environmental triggers in the home include the following:

- Reduce children’s exposure to environmental tobacco smoke.
- Develop indoor air quality guidelines for housing authority agencies and housing code inspectors, and improve inspection and remediation practices.
- Promote clean indoor air programs and policies for private and public landlords and tenants.
- Remove or reduce indoor exposures by promoting the use of building materials, consumer products, and appliances that emit little or no air pollutants.
- Engage tenants to be stronger advocates and spokespersons for indoor air quality improvement policies and tenant rights.

Please visit our website at www.rampasthma.org to learn more about Community Action to Fight Asthma, connect with local coalitions, locate asthma resources across California, and sign up for our e-newsletter.

References


