

Cleaning Agents and Asthma

Instructions to obtain 0.5 Continuing Medical Education Credits

These credits can be earned by reading the text and taking this CME examination online through the SEaic's web site at www.seaic.es.

The questions should be answered within 6 weeks from the publication of the examination.



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CME Items

1. Which of the following statements regarding asthma symptoms among cleaners is not true?
 - a) Cleaning products have not been implicated as asthma triggers.
 - b) Exposure to cleaning products may elicit new-onset asthma.
 - c) Cleaning agents may cause exacerbation of asthma symptoms among individuals with pre-existing asthma.
 - d) Cleaning activities may cause asthma-like symptoms without asthma.
2. Which of the following occupations are commonly associated with a higher risk of asthma symptoms related to exposure to cleaning products?
 - a) Domestic cleaner
 - b) Janitor
 - c) Professional cleaner and nurse
 - d) All of the above
3. Which of the following statements is true regarding the risk of adult asthma related to nonoccupational use of common household cleaning products?
 - a) The use of cleaning sprays at home is not associated with the incidence of asthma symptoms.
 - b) The incidence of physician-diagnosed asthma is higher among those using cleaning sprays at least 4 days per week.
 - c) There are no risks in using commonly used glass-cleaning, furniture, and air freshener sprays.
 - d) Cleaning products applied in spray form are not associated with asthma.
4. A cross-sectional analysis among subjects who did the cleaning in their homes showed that
 - a) The frequent use of bleach was associated with the prevalence of lower respiratory tract symptoms and bronchial hyperresponsiveness.
 - b) An inverse association was observed between use of bleach and the prevalence of atopic sensitization to common environmental allergens and allergic symptoms.
 - c) Lower respiratory tract symptoms, but not allergic symptoms, were more prevalent among those using bleach 4 or more days per week.
 - d) All of the above
5. Which of the following cleaning products has not been frequently associated with asthma symptoms among Spanish cleaners?
 - a) Bleach
 - b) Ammonia
 - c) Liquid detergents
 - d) Degreasing and glass cleaning sprays
6. Which of the following agents contained in cleaning products is not considered to have a sensitizing potential?
 - a) Amine compounds (eg, monoethanolamine)
 - b) Chlorine
 - c) Quaternary ammonium compounds (eg, benzalkonium chloride)
 - d) Scents containing terpenes (eg, pinene, d-limonene)
7. Which of the following statements is not true regarding chlorine?
 - a) It is released when pouring ammonia.
 - b) The main component of household bleach is sodium hypochlorite (3%-10% available chlorine).
 - c) It is a very toxic gas and exposure to levels as low as 1 ppm for a few minutes can irritate the eyes, nose, and throat.
 - d) Chlorine has a strong irritant effect on the airways and may increase bronchial hyperresponsiveness.
8. Which of the following agents is not a common chemical component of cleaning products?
 - a) Disinfectants
 - b) Acid anhydrides
 - c) Alkaline agents
 - d) Film formers and polishes
9. Which of the following pathogenic mechanisms have been suggested for cleaning-related asthma?
 - a) High-level respiratory irritant exposures causing reactive airway dysfunction syndrome
 - a) Chronic low-to-moderate respiratory irritant exposure
 - c) Immunologic occupational asthma with a latency period
 - d) All of the above
10. Which of the following statements is true regarding airway inflammation with cleaning agents?
 - a) No inflammatory changes are observed.
 - b) In individuals with work-exacerbated asthma, exposure to irritants usually elicits either no changes in airway inflammatory markers or a neutrophilic type of airway inflammation.
 - c) Airway eosinophilia is always present.
 - d) An increase in both airway eosinophils and neutrophils is not possible.