



Effects of formaldehyde, as an indoor air pollutant, on the airway

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Homes are being built to be more airtight because of demands for energy conservation in recent years. At the same time, recognition of numerous sources of formaldehyde in indoor environments has increased concerns about health hazards from this pollutant. Formaldehyde has been shown to cause and exacerbate asthmatic symptoms. In addition, the effects of formaldehyde on the airway are proportional to the concentration and duration of exposure and are greater in inflamed than in healthy airways. Formaldehyde may induce features of airway inflammation associated with asthma, such as epithelial disruption, microvascular leakage and increased airway secretions. Exposure to this chemical may facilitate IgE sensitization to a variety of allergens, as well as producing IgE-mediated allergic responses to itself. Thus, avoidance of formaldehyde exposure may reduce the incidence and severity of asthma, although the ability of low concentrations of formaldehyde to trigger mechanisms contributing to asthmatic symptoms is still debated. Setting appropriate exposure limits for formaldehyde as an indoor environmental pollutant requires further quantitative and predictive evaluation of its health effects.

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