

ASP-AMERICAN ACADEMY OF ALLERGY, ASTHMA,  
AND IMMUNOLOGY GERIATRICS DEVELOPMENT INITIATIVE  
JUNIOR FACULTY DEVELOPMENT AWARD



**AWARD RECIPIENT**

ANDREW M. SMITH, MD

*University of Cincinnati College of Medicine*

**PROJECT**

"ASTHMA RISK FACTOR AND QUALITY OF LIFE IN ELDERLY ADULTS"

**MENTORSHIP TEAM**

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Asthma in the elderly is underdiagnosed and undertreated, despite having an equal incidence across age groups. The diagnostic evaluation of the elderly is less thorough than that which is recommended in asthma practice guidelines, and treatment with inhaled corticosteroids is underutilized. Undertreatment can result in suboptimal asthma control and increased cost for elderly asthmatic patients. Elderly patients with asthma bear other disproportionate burdens including: 1) decreased quality of life; 2) a disproportionate number of unscheduled ambulatory visits; 3) emergency department visits; 4) asthma hospitalizations; and 5) a significantly higher death rate attributable to asthma.

Environmental factors including aeroallergen and environmental tobacco smoke (ETS) exposure are recognized as triggers of asthma symptoms in other age groups. In adults, sensitization to aeroallergens, such as dust mite allergens, cat dander, dog dander, and *Aspergillus* mold, has also been associated with reduced forced expiratory volume in 1 second and increased asthma symptoms. While elderly asthmatics reportedly have a high frequency of sensitization to inhalant allergens, evidence is lacking that defines the relationship between exposure to aeroallergens and asthma morbidity in the elderly asthmatic population. ETS is a major component of indoor air pollution, exposing non-smokers to the same toxic substances as identified in mainstream tobacco smoke. ETS exposure may enhance asthma symptoms by increasing nonspecific airway hyper-responsiveness as well as exerting a direct irritant effect. In elderly asthmatic patients, the effects of passive ETS exposure on asthma control and exacerbations have not been adequately studied.

The objectives of the study are to:

1. Evaluate the differences in host characteristics between older asthmatics and non-asthmatics and how these differences impact overall quality of life and health status.
2. Identify among older asthmatics environmental factors and patterns of treatment that may affect asthma symptom control and disease specific quality of life.

Our results may identify significant barriers to asthma control in the elderly and in the future provide targets for intervention such as ETS avoidance and appropriate use of asthma medications that can improve outcomes. Furthermore, using this data, we plan to define clinical features and establish clinical phenotypes that can identify elderly patients at high risk for increased asthma morbidity. Based on this data, appropriate intervention studies can be performed in high risk elderly asthmatic patients to identify those treatment modalities that improve outcome.

The ASP-American Academy of Allergy, Asthma, and Immunology Geriatrics Development Initiative Junior Faculty Development Award will allow me to initiate a research career focused on investigating asthma and other allergic diseases in the geriatric population. As part of this experience, I will participate in structured geriatrics training through the University of Cincinnati Geriatric Medicine Fellowship Program. This further training will allow me to better educate residents and medical students about the unique issues associated with the care of geriatric patients suffering from allergic disorders. Through the support of the award, I will gain valuable experience in study design and implementation as well as data management and analysis, with the ultimate goal of contributing to the understanding of geriatric allergic disease.