

# ASP-CHEST FOUNDATION OF THE AMERICAN COLLEGE OF CHEST PHYSICIANS GERIATRIC DEVELOPMENT RESEARCH AWARD



## AWARD RECIPIENT

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## PROJECT

"DYSPNEA IN PATIENTS WITH IDIOPATHIC PULMONARY FIBROSIS"

## MENTORSHIP TEAM

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Idiopathic pulmonary fibrosis (IPF) is the most common form of chronic fibrosing lung disease seen by pulmonologists, with an estimated 128,000 cases in the United States alone. It is almost surely a disorder related to aging, with a median age at the time of diagnosis of approximately 65 years; IPF is almost unheard of under the age of 50. Dyspnea is common in patients with IPF and is often the primary symptom of the disease. It is tightly linked to quality of life in IPF, suggesting that the experience of dyspnea has wide-ranging and clinically-significant consequences. Despite its importance, surprisingly little is known about the etiology or functional impact of dyspnea in this disease.

This research proposal can be divided into the following categories:

1. Determining the relationship of dyspnea to other conditions present in patients with IPF.

Dyspnea is a complex symptom, related to both mechanical and cognitive factors. The mechanisms of dyspnea in IPF remain unknown, but there are several likely contributors that are both IPF and non-IPF related. Although IPF is a chronic disease of the elderly, no one has investigated the relationship between common geriatric conditions, such as sarcopenia and malnutrition, and dyspnea. It is well established that the perception of dyspnea depends equally on factors that influence the intensity of the experience of breathlessness (such as thoracic restriction and weakness) and the distress which that intensity produces. Gender, ethnicity, anxiety, pain, and depression all may contribute to the distress caused by dyspnea (and therefore its intensity) in IPF. We hypothesize that dyspnea in IPF is related to disease-specific

factors as well as non-disease specific factors common to geriatric populations. Specifically, we hypothesize that dyspnea correlates with measures of pulmonary restriction, hypoxemia, age, gender, ethnicity, grip strength, weight, kyphoscoliosis, walk distance, anxiety, pain, and depression.

2. Defining the relationship between dyspnea and rate of functional decline in IPF.

Numerous studies have looked at predictors of survival in patients with IPF, and both baseline and change in dyspnea over time have been shown to be significantly associated. The prediction of future morbidity, however, is largely unstudied. Established markers of functional decline in geriatric patients include weight loss, decline in walking speed over 4 meters, and the onset of disability as defined by the ability to perform activities of daily living (ADLs) and instrumental activities of daily living (IADLs). Dyspnea likely impacts patients' activity levels and motivation to stay active and may contribute to worsening functional decline. We hypothesize that severity of dyspnea predicts the rate of functional decline in IPF. Specifically, we hypothesize that severe dyspnea predicts more rapid weight loss, change in grip strength, walking speed, and ADL/IADL scores.

My goal in seeking this ASP-CHEST Foundation of the American College of Chest Physicians Geriatric Development Research Award was to develop into an independent leader in the clinical investigation of patients with IPF, applying the principles of geriatric medicine to better understand and improve the lives of patients. The award will enable me to acquire the additional training and mentored research experience I need to achieve this goal.