

NLHEP News

Spirometry Does More Than Detect COPD

While there may be controversy regarding spirometry as a screening tool for the general population, there is more universal agreement that spirometry is very useful in a medical practice as a tool for risk assessment. In fact, guidelines on COPD from both the Global Initiative for Chronic Obstructive Lung Disease (GOLD) and the American Thoracic Society/European Respiratory Society (ATS/ERS) recommend that smokers over 40, or anyone with symptoms of cough, sputum production, and shortness of breath are candidates for spirometric assessment.

Any health care practitioner should ensure availability of this assessment. This risk assessment will likely lead to the diagnosis of COPD in a number of cases; and in fact, if such an approach is not taken, most people who have Stage I disease, many with Stage II, and even some with more serious cases of COPD may never be diagnosed. Most people are not aware that spirometry is also very effective for assessing risk of the other leading causes of death in the United States: ischemic heart disease, lung cancer, and stroke.

The scientific results from the Lung Health Study have documented that early intervention with smoking cessation during the asymptomatic portion of the natural history of COPD can prevent this disorder. Abnormal spirometry (FEV_1/FVC or FEV_1/FEV_6 ratio below 70 percent) in smokers predicts the top four causes of death (ischemic heart disease, lung cancer, stroke, and, of course, COPD), as well as the sixth most common cause of death: pneumonia. So this intervention may prevent much more than COPD.

Assessment for early airflow obstruction among smokers will identify those at increased risk for these other significant causes of death. In developed countries, of smokers who die in middle age, approximately 50 percent die from diseases produced by cigarette smoking. Almost all these deaths are from disorders that can be prevented through smoking cessation and other interventions.

Preventive prospects will be greatly enhanced by early evaluation of asymptomatic smokers to identify

those at greatest risk of these important diseases. While most textbooks state that only 20 percent of smokers develop severe COPD, in fact, about 40 percent of smokers begin the accelerated decline of lung function known to be an early predictor of end-stage COPD. One of the reasons only 20 percent develop end-stage disease is because many die from ischemic heart disease, lung cancer, and stroke before they get to end-stage COPD.

As work evolves, a worldwide consensus on COPD identification and management is likely to follow.

Educational programs should be aimed at primary care physicians and other frontline health care providers, such as respiratory therapists, physicians' assistants, and nurse practitioners. Smokers at risk and individuals with symptoms of lung disease will then receive spirometric assessment and the appropriate intervention instituted — including smoking cessation, even at very high levels of intensity. In selected cases, further risk assessment for diseases such as lung cancer, heart disease, and stroke, with appropriate additional intervention for these disorders, can be instituted

as well.

About 20 to 25 years of life are lost for smokers who die in middle age. These deaths are chiefly from the disorders that can be predicted by abnormal spirometry in smokers. The opportunity for a real revolution in public health through disease intervention is possible through this approach. 🫁



William C. Bailey, MD, FACP, is professor of medicine at the Lung Health Center, University of Alabama Medical Center. He also serves on the executive committee of the National Lung Health Education Program.

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ADDITIONAL READING

Clark, N.M., Bailey, W.C., & Rand, C. (1998). Advances in prevention and education in lung disease. *The American Journal of Respiratory and Critical Care Medicine*, 157(4), S155-S167.

