In radiology, the term “Aunt Minnie” has been used for decades. Attributed to Dr Benjamin Felson, it refers to “a case with radiologic findings so specific and compelling that no realistic differential diagnosis exists.” In Dr Felson’s mind, if it looks like your Aunt Minnie, then it must be Aunt Minnie. To paraphrase Dr Felson, patients with chronic obstructive pulmonary disease (COPD) often fall into the Aunt Minnie category. If it looks like COPD, then it must be COPD. There are undoubtedly providers who make the diagnosis of COPD on a clinical basis. COPD often harkens images of patients labeled as “pink puffers” or “blue bloaters,” patients with severe emphysema or progressive cor pulmonale. Unfortunately, while these do represent COPD patients, the disease severity represented is often end-stage and in inexorable decline.

COPD has long been acknowledged as a major cause of respiratory disability, but the magnitude of its impact has been only recently recognized. It is the fourth leading cause of death in the United States and is the only cause of death projected to continue to increase over the ensuing decade. The American Thoracic Society and European Respiratory Society joint COPD guidelines emphasize COPD as a preventable and treatable disease, much different from previous images of end-stage lung disease. The Global Initiative for Chronic Obstructive Lung Disease further emphasizes an extrathoracic systemic component that previously attracted little attention.

The diagnosis of COPD should be considered in any patient who experiences cough, sputum production, or dyspnea, in association with specific risk factors, which for the vast majority is cigarette smoking. Spirometry is essential for diagnosis and to categorize the severity of disease. The recommendation for spirometry is reiterated in numerous treatment guidelines, including one from the Veterans Affairs Healthcare System and Department of Defense. It would seem that diagnosis would be straightforward, but experience suggests that this is not the case.

The shortcomings in COPD diagnosis by the medical community are well documented. Some databases in England would place the COPD prevalence at 1.4%, when it is closer to 20%, with estimates as high as 65% not diagnosed because symptoms are misinterpreted. Other reviews suggest a worldwide prevalence closer to 10% in adults over 40 years of age. Irrespective of the actual prevalence, it is clearly not < 2%, as this would be inconceivable for a condition projected to be the third leading worldwide cause of death by 2020. Without a diagnosis, treatment cannot be rendered and COPD morbidity and mortality will continue to increase.

Given uncertainty about the prevalence of COPD at their medical center, and to better gauge their smoking-cessation program, in this issue of the Journal, Thompson and St-Hilaire evaluate their experience with a patient population of middle-age, mostly male veterans. Not surprisingly, COPD was diagnosed more frequently in older (> 50 y) men, who were current or past smokers. They reported a COPD prevalence of 8.8% in that group, but 14.1% and 16.1% for smokers and previous smokers. On further examination of those with a COPD diagnosis, less than half (45.5%) had undergone spirometry. Some may have had spirometry at outside institutions or some may have been unable to undergo spirometry, but this could not have occurred in over 50% of their patients. Another Veterans Affairs study suggests that outside spirometry is obtained in a little over 5% of COPD patients. Some patients may have undergone spirometry outside of the 7-year window of analysis, but, again, it was unlikely to have occurred in more than half of their patients.

The utilization or lack of utilization of spirometry is noteworthy, since it is from a population with a traditionally high prevalence of cigarette use and thus a high risk of COPD. It would be expected that their health-care providers would have greater experience with the presentation and diagnosis of COPD than a non-veterans facility. Spirometry should be universal in COPD, much in the same manner that blood pressure readings and hypertension or serum glucose and diabetes are linked. Each measurement is not only integral to the diagnosis, but important for the monitoring of treatment. This may not be a totally fair analogy, but consider when the last patient seen with heart disease did not have an electrocardiogram. Spirometry in less than half of these patients means that more than half are not receiving optimal and recommended care.

This discrepancy raises further questions, the most fundamental being the diagnosis of COPD. If there was no
spirometry, how was this diagnosis established? Perhaps smoking status and respiratory symptoms were sufficient for some providers. Nevertheless, spirometry should have been done for confirmation. In their cohort, they identified 642 smokers or previous smokers with respiratory symptoms, yet only 29% (187/642) carried a diagnosis of COPD, and of 455 with a smoking history and respiratory symptoms, only 40% had undergone spirometry.12

The under-utilization of spirometry has long been recognized as a gaping deficiency in the management of the COPD patient. In review of a Veterans Affairs database of almost 200,000 patients with newly diagnosed COPD, only 33.7% underwent spirometry in the ensuing year, and those seen in a pulmonary specialty clinic were over 3 times as likely to undergo spirometry. This experience is not unique to the Veterans Affairs Health Care System, as other databases of over one million report similar utilization rates.14

Whereas access to spirometry may have been a limiting factor in the past, this is also no longer a legitimate reason not to perform spirometry. Office spirometry, with less bulky, easier-to-use equipment, has long been endorsed as acceptable for patient management. Office spirometry is relatively inexpensive; at less than $100, and probably less than $50 it can be performed in less than 15 min, and is reimbursed.15 Other factors that limit use of spirometry include issues with education, unfamiliarity, and training.16

There is also a potentially confusing message regarding spirometry. The United States Preventive Services Task Force does not recommend screening spirometry for asymptomatic individuals.18,19 The yield from screening spirometry is low, and the potential of over-diagnosis, anxiety, and adverse effects of unnecessary therapy exceed the potential benefit of spirometry, specifically prevention of a COPD exacerbation. While the recommendation pertains to asymptomatic individuals, it can be easily misinterpreted by the busy clinician who may generalize the recommendation to include those who have early undiagnosed COPD. The distinction in these patients is that spirometry would not represent a screening test, but is part of appropriate medical care.

This non-endorsement seems to reinforce existing nihilism in COPD management, but that is subject to change. Spirometry may be an effective adjunct to smoking-cessation programs.20 Earlier diagnosis represents earlier treatment, which is more effective than previously available remedies. This coming decade will herald the arrival of new medications or emphasis on existing combinations as evidence mounts for treatment, decreasing the decline in lung function, dyspnea relief, and improvement in quality of life. Mortality is lower with therapy even if statistical thresholds are not reached.21-25 Old concepts may be hard to shed, but the modern face of COPD is no longer the older male smoker. More patients with COPD are female, but are less likely to be diagnosed with COPD, and women with COPD may fare worse than men.26-28

The 18th century author Samuel Johnson wrote “What is easy is seldom excellent.” The same can be said for our current approach to COPD. There are many more COPD patients than are diagnosed, which implies that these undiagnosed patients are not being treated. Spirometry would identify these patients, but spirometry utilization is quite low. Past concepts about the disease course are changing, and treatments are available. The information from Thompson and St-Hilaire12 is not necessarily new, but calls for a renewed focus on management. Mortality from COPD is increasing and represents a huge mountain to climb. The path to the top will not be easy, but at least it is now in view.

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