

LETTERS-CONCISE RESEARCH REPORTS

General Internists in Pursuit of Diagnostic Excellence

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We read with interest the recent contribution from Kwan and Singh calling for general internists to promote diagnostic excellence.¹ We agree that novel approaches need to be explored and that accurate and timely diagnosis of common conditions—such as CHF and pneumonia—need to be prioritized over the pursuit of the esoteric.

The authors contend that incorrect diagnoses often result from incomplete history and physical examination, but especially for the common conditions, diagnostic errors often result from the inherent limitations of the history and physical. For the diagnosis of acute heart failure, for example, the presence of orthopnea has a positive likelihood (LR+) of only 1.9 and a negative likelihood ratio (LR−) of 0.74. Similarly, the presence of jugular venous distension is of limited utility (LR+ 2.8, LR− 0.76).² Cough, fever, and auscultation are likewise insensitive for the diagnosis of pneumonia. Even chest radiographs, which many rely on heavily in cases of undifferentiated dyspnea, will miss the diagnosis in about half of patients with CHF and pneumonia.^{2, 3}

For many conditions, the most significant improvements in diagnostic accuracy may result not from taking a more thorough history or addressing our cognitive biases, but rather by obtaining more accurate and direct measures of end-organ pathology. Although CT and MRI have already radically altered the diagnostic process, their use is limited by radiation exposure and cost. Bedside ultrasound has the potential to have a similar impact but without the risks and expense; over the last 20 years, our colleagues in the emergency room have convincingly demonstrated that bedside ultrasound can dramatically improve our diagnostic accuracy for many common conditions.⁴

Lung ultrasound, in particular, significantly enhances our ability to diagnose CHF (LR+ 10, LR− 0.06) and pneumonia (LR+ 9.5, LR− 0.06),⁴ is easy to learn, and is quick to perform. Furthermore, with the upcoming release of much more affordable semiconductor-based ultrasound probes that connect to smartphones,⁵ the dissemination of bedside ultrasound is likely to accelerate significantly.

General internists hoping to improve our diagnostic performance should more commonly acknowledge the limitations of the history and physical and, with that admission, seek out better data. Bedside ultrasound has the potential to provide that real-time high-quality data, transforming how we care for patients while at the same time keeping us at the bedside. Bedside ultrasound offers to restore our pride in being preeminent diagnosticians.

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