



## Pulmonary embolism imaging

(SEPTEMBER 2005)

**TO THE EDITOR:** The recent article by Stengel et al entitled “Imaging in Practice: Diagnostic Imaging Approach to Pulmonary Embolism” (*Cleve Clin J Med* 2005; 72:821–824) includes a very misleading and incorrect workup flow chart. The text correctly states “If the D-dimer assay is negative *and* [our emphasis] the clinical probability of pulmonary embolism is low, then it is considered safe to exclude pulmonary embolism without imaging.” This statement is well supported by the literature. Unfortunately, the flow diagram goes directly to the D-dimer test and recommends that physicians “pursue other diagnosis” if the test is negative. There is no consideration of the pretest probability of a pulmonary embolism. If the probability of a pulmonary embolism is high or intermediate, a D-dimer test should never be used to rule out this diagnosis. I am sure the authors agree and have mistakenly let an incorrect figure slip through.

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**IN REPLY:** Our flow chart was simplified to make it less “busy.” In general, we agree that the pretest probability of a diagnosis should influence the ordering of subsequent imaging

examinations. The overall text of our article reflects this belief. For example, we state that “an experienced physician’s clinical suspicion is a valid method of determining pretest probability.”<sup>1</sup> To this end, we included “factors to consider” such as symptoms of deep venous thrombosis and malignancy at the top of our flow chart.

We regret the possibility that our flow chart obfuscates the current medical norm of a high clinical suspicion of pulmonary embolic disease assuming primacy in the need to order imaging studies. However, it should be noted that at least one recent peer-reviewed article suggests that the diagnosis of pulmonary embolism can be excluded in patients with a negative D-dimer test, regardless of clinical probability.<sup>2</sup> The authors of this article report that “retrospective analysis of a sequential series of 376 patients revealed that no patient with a D-dimer of < 275 ng/mL was diagnosed with pulmonary embolism, irrespective of clinical probability.”<sup>2</sup>

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### ■ REFERENCES

1. Stengel JW, Einstein DM, Herts BR, Graham RJ. Imaging in practice. Diagnostic imaging approach to pulmonary embolism. *Cleve Clin J Med* 2005; 72:821–824.
2. Hammond CJ, Hassan TB. Screening for pulmonary embolism with a D-dimer assay: do we still need to assess clinical probability as well? *J Roy Soc Med* 2005; 98:54–58.