

Physician adherence to clinical decision tools suggests potential benefit to PE patients

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A review paper published in the *American Journal of Roentgenology* (*AJR*) suggests a potential benefit to the use of clinical decision tools in the diagnostic work-up of suspected pulmonary embolism (PE) patients. The finding could impact the traditional use of pulmonary CT angiography (CTA) as the imaging modality of choice for evaluating patients believed to suffer from PE.

The study titled "Role of Clinical Decision Tools in the Diagnosis of Pulmonary Embolism" indicates that despite the increased use of pulmonary CTA, the diagnostic yield remains low. Dr. William M. Sherk and Dr. Jadranka Stojanovska, both from University of Michigan Health Systems, Ann Arbor, authored the paper which is available for viewing on the *AJR* website accessible [here](#).

"While pulmonary CTA is desirable as a test for suspected PE, the binary yes or no answer to a challenging diagnosis with ambiguous clinical presentation is enticing," said Stojanovska. "As with other diagnostic tests, however, the posttest probability of pulmonary CTA hinges on pretest clinical assessment."

"Validated clinical [decision](#) rules and integrated clinical decision support (CDS) systems can influence the appropriate use of pulmonary CTA, but further investigation is required to define the most successful means of integration into clinical practice," Stojanovska said.

PE is a frequently suspected diagnosis, especially in patients appearing in

emergency departments with cardiopulmonary symptoms. The study suggests that CTA is overused as a screening rather than a diagnostic examination, which increases financial costs and medical consequences from radiation exposure and the use of contrast media.

Clinical decision rules were developed to determine which patients would benefit from further diagnostic work-up such as pulmonary CTA. Unfortunately, according to the study, the moderate impact of CDS on pulmonary CTA use and yield is related to physician nonadherence, an issue that is not unique.

Electronic [clinical decision](#) rules or support systems are cumbersome and require added input by the ordering clinician. Distrust of standardized rules, fear of legal retribution if a morbid or fatal PE is missed, and unfamiliarity with radiation exposure and iodinated contrast risks all further detract from successful implementation. Patient input also factors into nonadherence; some [patients](#) with particular symptoms may request CT for evaluation. Clinicians may assume that in the absence of PE an alternative diagnosis will be established with pulmonary CTA, despite evidence that different etiologic factors are supported in only one-third of cases.

According to the study, single or limited educational intervention is not as likely to help overcome these obstacles as repetitive educational efforts up to five years.

More information: William M. Sherk et al, Role of Clinical Decision Tools in the Diagnosis of Pulmonary Embolism, *American Journal of Roentgenology* (2017). [DOI: 10.2214/AJR.16.17206](https://doi.org/10.2214/AJR.16.17206)

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