

## Web-based tool identifies PE patients who can be treated at home

NOVEMBER 12, 2018

---

By Marilyn Larkin

NEW YORK (Reuters Health) - An online decision-support tool can quickly and easily identify many low-risk patients with acute pulmonary embolism (PE) who can be safely discharged from the emergency department (ED) and treated at home, researchers say.

"Home management of eligible patients with acute PE has been slow to catch on for several reasons," Dr. David Vinson of Kaiser Permanent Sacramento Medical Center in California told Reuters Health by email.

"Some physicians may be hesitant to embrace outpatient management because they are unaware of how safe it can be in the right population; some may be hesitant to be an outlier if their peers in the department have yet to adopt the practice; many have little experience sorting their patients with acute PE into different risk classes; and some might not know which of several PE risk classification systems are best to use," he said.

Dr. Vinson and colleagues compared acute PE outcomes in 10 EDs that used an integrated electronic clinical decision support system (CDSS) to facilitate risk stratification versus 11 EDs that did not use the tool. The 16-month study included an 8-month preintervention and an 8-month postintervention period (intervention sites received the tool and education at month 9).

Further, at intervention sites, an onsite ED physician-researcher served as a "champion" and promoted tool use during the study period.

Intervention sites were selected by convenience, not randomization, an acknowledged study limitation. The primary outcome was discharge to home from the ED or a short-term (<24-hour) ED-based observation unit.

As reported online November 12 in *Annals of Internal Medicine*, 881 PE patients were diagnosed at intervention sites and 822 at control sites. Adjusted home discharge rates increased at intervention sites from 17.4% pre- to 28% post-intervention.

By contrast, no such increase occurred at control sites (15.1% pre- and 14.5% post-intervention).

No increases in five-day PE-related return visits or in 30-day major adverse outcomes were associated with CDSS implementation.

"Active promotion by an on-site physician champion was vital to the success of the program," Dr. Vinson noted. "It can be difficult to transform long-standing, entrenched practice patterns."

However, he added, "If the culture of the department were to change so that outpatient management for eligible patients became the norm practiced by physicians and taught to new employees, then little promotion would be needed thereafter."

"Health care systems with robust electronic health records could replicate our tool," he said. "Even absent such software, however, physicians can use online calculators to risk-stratify their patients with acute PE."

Dr. Paul Stein of Michigan State University College of Osteopathic Medicine in East Lansing, coauthor of a related editorial, told Reuters Health in an email, "Physicians in EDs have several considerations regarding home treatment of PE. The top priority is safety of the patient. Next is (patient) comfort and preference for home or hospital treatment, and finally, cost."

Further, he noted, "The ED physician typically has limited time, and liability is always on (his or her) mind."

Patient safety, he said, "includes obtaining necessary tests such as venous ultrasound for proximal DVT, assessment of right ventricular size, either from CT angiography or echocardiography, and appropriate coagulation studies."

"The physician must be sure that follow-up will be prompt and adequate," he added. "The patient must be educated about the risks and management of anticoagulants, and the risks and evidence of recurrent PE."

"Many criteria for home treatment have been used and found to be safe," Dr. Stein pointed out. "It would strengthen the confidence of ED physicians if there was local agreement on criteria to be used."

"Balancing all of these considerations, it is easier, faster and more traditional for the ED physician to select hospitalization over home treatment," he concluded. "As data on safe home treatment increase, hesitancy for selection of home treatment will diminish."

SOURCE: <https://bit.ly/2B1Yszt>

Ann Intern Med 2018.

---

© 2018 /alert® unless otherwise noted. All rights reserved.  
Reproduction in whole or in part without permission is prohibited.

|