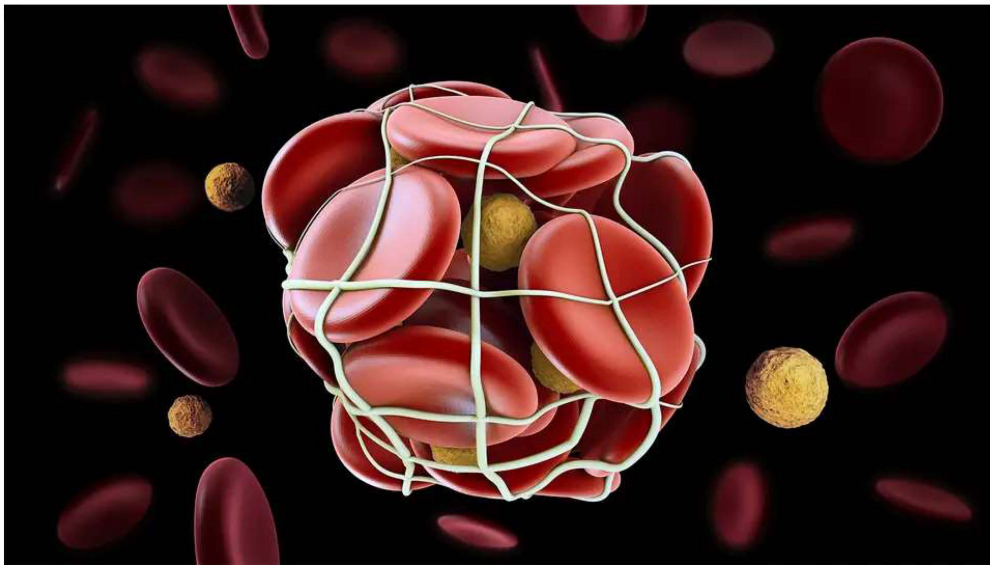


Surveillance Still Not an Option for Many With Subsegmental Pulmonary Embolism

— Few patients actually eligible for alternative to anticoagulation

by [Elizabeth Short](#), Staff Writer, MedPage Today August 3, 2023



Only a narrow pool of outpatients with acute subsegmental pulmonary embolism (PE) may be candidates for structured surveillance without anticoagulation based on current guideline restrictions, a retrospective study found.

At one large integrated health system, only one person out of 229 low-risk adults received structured surveillance for subsegmental PE -- a "remarkably low" 0.4% over the years from 2017 to 2021, reported David Vinson, MD, of Kaiser Permanente Roseville Medical Center, California, and coauthors in *JAMA Network Open*.

Under modified recommendations from the American College of Chest Physicians (CHEST), only 15.3% of low-risk patients - or 5.3% from the total pool of outpatients -- had been eligible for surveillance in the first place due to extensive exclusion criteria such as active cancer, asthma, pregnancy, and suggestions of right ventricular dysfunction.

"These findings suggest that there was almost no effect on surveillance practices attributable to the CHEST guideline in this large U.S. health care system -- a system that is conducive to structured surveillance, with ready access to VTE [venous thromboembolism] imaging, specialty consultation, and timely primary care follow-up," Vinson's group wrote.

While treatment for a more traditional PE can range from blood thinners to surgical clot removal, researchers noted that there is some debate about the best course of treatment for subsegmental PE patients who have their blood clots contained within the subsegmental pulmonary arteries, a subset comprising approximately 3-12% of the entire PE population.

[CHEST had released guidelines in 2016](#) that cautiously endorsed structured surveillance in lieu of anticoagulation for subsegmental PE patients with no proximal deep vein thrombosis (DVT) in the legs who have a low risk for recurrent VTE. Such a program would ideally entail close follow-up, careful instructions for when to seek urgent medical attention, and serial lower-extremity compression ultrasonography to evaluate for DVT.

For subsegmental PE patients with a high risk of experiencing recurrent VTE, the college suggests the opposite: anticoagulation to prevent further blood clots, despite the potential for bleeding complications.

"Based on the current literature, we think it prudent to treat patients with subsegmental PE like those with a more proximal PE: anticoagulate unless contraindicated," Vinson and colleagues wrote. "However, we recognize that certain patient subpopulations (e.g., athletes who participate in contact or extreme sports) may be at higher risk of bleeding complications from anticoagulation and might benefit from structured surveillance without anticoagulation."

"Particularly in these select situations, a patient-tailored approach grounded in shared decision-making of risks, benefits, and patient preferences is warranted," they suggested.

Study authors said that the extensive CHEST exclusion criteria for structured surveillance are likely a challenge to implement in the real world where, ultimately, only an estimated <2% of all outpatients with acute PE would be surveillance-eligible.

Researchers acknowledged that implementing guidelines can be a slow process, as it can take time to change long-established practical patterns. "In addition, specialty recommendations may be unfamiliar to primary care and emergency medicine clinicians who diagnose most cases of outpatient subsegmental PE in the U.S.," they said.

"Although trials are ongoing to define which patients with subsegmental PE can safely undergo surveillance, widespread uptake of any new surveillance practice will require more than passive diffusion," they urged.

For their study, they probed records spanning January 2017 through December 2021 from 21 centers within the Kaiser Permanente Northern California integrated health system.


The study included 666 patients who had experienced an acute subsegmental PE, with 229 low-risk individuals forming the basis of the present analysis.

Of this low-risk group, 52.4% were men and the average age was 58 years. Most of the patients were non-Hispanic white (56%), followed by Black patients (15%), Hispanic or Latino patients (14%), and Asian patients (14%).

By 90 days, the low-risk group had no cases of recurrent VTE, but one person had a nonfatal major hemorrhage after going on anticoagulation (0.4%). Three people died due to comorbidities that were not VTE.

Vinson's group noted that when employing a stricter version of the CHEST criteria for surveillance, the proportion of eligible patients dropped to 6.6% of low-risk patients and 2.3% of the full outpatient group.

Limitations to the study include its retrospective design and the limited 5-year observation period. Physician abstractors were also unblinded to patient variables, and results may not be generalizable to other geographic areas and practice settings.

[Elizabeth Short](#) is a staff writer for MedPage Today. She often covers pulmonology and allergy & immunology. [Follow](#) 

Disclosures

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