

# Out-Of-Hospital Treatment for PE Safe for Selected Patients



By Will Boggs, MD

NEW YORK (Reuters Health) Sep 12 - Selected patients with newly diagnosed pulmonary embolism (PE) may be safely treated as outpatients, a new systematic review suggests.

Dr. David R. Vinson from Kaiser Permanente Roseville Medical Center in Roseville, California, who led the study, described the evolution of the concept in an email to Reuters Health.

"In the late 1990s our Sacramento, California emergency department was among the first in the country to implement an outpatient management treatment pathway for select patients with acute deep vein thrombosis," he said. "This shift in treatment venue was a welcome change for patients."

"A similar approach to low-risk patients with pulmonary embolism is possible," he continued, "but the higher morbidity and mortality that attends pulmonary embolism will require more work upfront to insure that such a process employs the highest safety standards and is carefully monitored."

In the meantime, the existing data on the safety of exclusive ambulatory management of acute symptomatic PE aren't very strong. Most of the evidence is from observational studies, Dr. Vinson and colleagues found.

Ultimately, their systematic review included eight studies involving 777 patients. Only one was a randomized controlled trial.

As reported by the research team online September 3rd in *Annals of Emergency Medicine*, all eight studies objectively confirmed the diagnosis of PE, but only three studies undertook explicit risk stratification with various instruments.

Treatment included subcutaneous low-molecular-weight heparin for at least five days while waiting for an oral vitamin K antagonist, if prescribed, to reach therapeutic limits.

Seven studies (including 741 patients) reported 90-day outcomes; in these studies there were no cases of venous thromboembolic-related or hemorrhage-related death. In the one study that reported only 180-day outcomes, there were two deaths related to venous thromboembolism and hemorrhage.

Nonfatal major hemorrhage rates in the seven studies with 90-day follow-up ranged from 0% to 1.2%. Nonfatal recurrent venous thromboembolic event rates in these studies ranged from 0% to 6.2%.

Patient satisfaction rates were similar for outpatients and inpatients (92% vs 95%, respectively), but the proportion of patients from the inpatient control arm who would have preferred home therapy was higher than the proportion of outpatients who would have preferred inpatient care.

"The results of this systematic review show us that outpatient management of patients with acute symptomatic PE is feasible and can be undertaken safely if patients are carefully screened for eligibility and if a system is in place for patient education and timely follow-up," Dr. Vinson concluded.

"Home therapy has many advantages," he said. "Leading the list are increased patient comfort and satisfaction, lower healthcare costs, and avoiding exposure to hospital-acquired infections."

"Further studies are needed to better characterize the risks and benefits of selective outpatient PE management in day-to-day practice, outside the constraints of a randomized clinical trial," Dr. Vinson added. "Our research team at Kaiser Permanente will be studying several prognostic instruments among this population in the community setting. We also hope to study the real-world effects of a simplified prediction model as an electronic clinical decision support tool to aid physicians in choosing the optimal site of initial patient management."

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