

Outpatient treatment proves safe, effective for low-risk patients with pulmonary embolism

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Outpatient care for certain low-risk patients with pulmonary embolism (PE) can be safely and effectively used in place of inpatient care, according to a randomized, multi-center study in 19 emergency departments. The findings, published June 23 online in the *Lancet*, support current practice guidelines that are rarely followed by physicians.

"This is the most rigorous study to date to compare inpatient and [outpatient care](#) for a selected group of stable [patients](#) with [pulmonary embolism](#)," said Donald M. Yealy, M.D., senior author of the study and chairman of the Department of [Emergency Medicine](#) at the University of Pittsburgh School of Medicine. "Our findings support a shift in [clinical management](#) of PE for a substantial portion of low-risk patients, which may reduce hospitalizations and costs."

Pulmonary embolism is a blockage of the main artery of the lung or one of its branches. Most are due to pelvic and upper leg blood clots that grow in the vein before detaching and traveling to the lungs. The most common symptoms include unexplained shortness of breath or chest pain while breathing. On average, 650,000 PEs occur annually, and it is the third-leading cause of hospital death.

In the Outpatient Treatment of Pulmonary Embolism (OPTE) trial, researchers looked at more than 300 patients at 19 emergency

departments in Switzerland, Belgium, France and the U.S. who had been randomly assigned to inpatient or outpatient care between February 2007 and June 2010. These patients were judged to have a low risk of death, based on a validated clinical prognostic model. Of those screened, 30 percent met the eligibility criteria, suggesting that a shift in the clinical management of such patients may have a broad effect.

Patients assigned to outpatient treatment received standardized teaching from a study nurse about self-injection with enoxaparin, an anti-coagulant, and were to be discharged from the [emergency department](#) within 24 hours. Patients assigned to inpatient treatment were admitted to the hospital and received the same enoxaparin regimen. In both groups, the study protocol recommended early initiation of oral anticoagulation medications and continuation for a minimum of 90 days.

Patient outcomes for outpatient care showed that it was as safe and effective as inpatient care. For instance, researchers found that one of 171 outpatients developed recurrent venous thromboembolism, or blood clots forming within the veins, within 90 days compared with none of 168 inpatients. One patient in each group died within 90 days. Two of the outpatients and no inpatients had major bleeding within 14 days.

Patient satisfaction regarding care exceeded 90 percent for both groups, and both had essentially the same numbers of hospital readmissions, [emergency department](#) visits and outpatient visits to a doctor's office within 90 days. But researchers found that cost savings from reductions in hospital stays might be partially offset by an increased frequency in home-nursing visits.

"Our findings are consistent with previous non-randomized studies and systematic reviews that outpatient care of PE is associated with low rates of recurrent venous thromboembolism, major bleeding and death," said

Dr. Yealy. "Patients with PE prefer outpatient treatment, and these reassuring trial results should prompt physicians to consider such care more often for low-risk patients."

Provided by University of Pittsburgh

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