

Lower risk treatment for blood clots 'empowers' patients, improves care

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Potentially fatal blood clots account for thousands of emergency room visits each year and often those patients are admitted to the hospital, treated with an injectable anticoagulant and monitored for a few days. In companion studies published July 15 in *Academic Emergency Medicine*, an alternative approach was found to be more effective, less costly and allowed patients to go home the same day.

Researchers at the Indiana University School of Medicine treated 106 low-risk patients diagnosed with deep vein thrombosis or pulmonary embolism at two metropolitan emergency rooms. The patients were admitted to the [emergency room](#) between March 2013 and April 2014. Seventy-one had deep vein thrombosis, 30 had pulmonary embolisms and five had both diagnoses.

The standard of care is to admit the patient to the hospital, treat with heparin, an injectable anticoagulant, and oral warfarin with close monitoring to assure safe dosage levels to prevent additional blood clots or bleeding.

The patients in the study were treated with rivaroxaban, which does not require daily blood monitoring, and released to go home. The patients received follow up monitoring at two and five weeks, and at three and six months. Heparin and warfarin require blood monitoring about every week. Warfarin also means the patient must carefully control their intake of vitamin K, which is found in green leafy vegetables.

Senior author Jeffrey A. Kline, M.D., vice chair of research in emergency medicine and professor of [emergency medicine](#) and cellular and integrative physiology at the Indiana University School of Medicine, said the prospect of being able to send patients home from the emergency room is a quality of life issue. In addition to avoiding a hospital stay, Dr. Kline and his team found that patients diagnosed with [deep vein thrombosis](#) who were immediately discharged from the emergency room and treated with rivaroxaban had a low rate of recurrent thrombosis and bleeding.

"This study is about giving patients a new option," Dr. Kline said. "Treating patients at home for [blood clots](#) was found to have fewer errors than the standard of care and better outcomes. Patients have to be taught to give themselves injections and it scares them to death. Almost everyone has taken a pill so there is no learning curve for [patients](#)."

In the second study, Dr. Kline and colleagues compared costs associated with both treatment protocols and found that the rivaroxaban protocol resulted in about half the cost of hospitalization and treatment with heparin and warfarin. Patients were matched for age, sex and severity of their illness. Ninety-seven cases were evaluated after six months and the median cost for the rivaroxaban group was \$4,787, less than half the median cost of \$11,128 for the group that was hospitalized and treated with the current standard of care.

"We really do empower the patient more with this anticoagulant treatment," Dr. Kline said. "Patients say treatment with no injections is a much better option. This treatment for DVT or [pulmonary embolisms](#) takes a condition that is life-threatening and makes it something the patient can control."

Provided by Indiana University

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