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Research Article

## Interrater reliability of emergency physician-performed ultrasonography for diagnosing femoral, popliteal, and great saphenous vein thromboses compared to the criterion standard study by radiology

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### ABSTRACT

#### Purpose

To assess the interrater reliability and test characteristics of lower limb sonographic examination for the diagnosis of deep venous and proximal great saphenous vein thrombosis when performed by Emergency Physicians (EPs) as compared to that by the Department of Radiology (Radiology). The secondary objective was to assess the effects of patient body mass index and EP satisfaction with bedside ultrasound on sensitivity and specificity.

#### Methods

A prospective study was conducted for patients with clinical suspicion for lower extremity thrombus. EPs evaluated for venous thrombosis in the common femoral vein, femoral vein of the thigh, popliteal vein, and proximal great saphenous vein. Subsequently, all patients received ultrasounds by Radiology, the criterion standard.

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One hundred ninety-seven patients (237 individual legs) were evaluated. There was 90–95% agreement between EP and Radiology, moderate kappa agreement for common femoral vein, and femoral vein of the thigh and fair kappa agreement for great saphenous vein and popliteal vein. The sensitivity and specificity of EP ultrasounds compared with criterion standard were lower than previously reported. There was no trend in patient body mass index or provider satisfaction influencing the test characteristics.

## Conclusions

Our study suggests that point-of-care sonography should not replace Radiology-performed scans. The required amount of training for EPs to be competent in this examination needs further investigation. © 2016 Wiley Periodicals, Inc. *J Clin Ultrasound* **44**:360–367, 2016

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