



Ultrasound may be an effective tool to confirm central venous catheter placement in instances where there is a delay in obtaining a confirmatory CXR” Wilson et al (2017).

Abstract:

**BACKGROUND:** The current standard for confirmation of correct supra-diaphragmatic central venous catheter (CVC) placement is with plain film chest radiography (CXR). We hypothesized that a simple point-of-care ultrasound (POCUS) protocol could effectively confirm placement and reduce time to confirmation.

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**METHODS:** We prospectively enrolled a convenience sample of patients in the emergency department and intensive care unit who required CVC placement. Correct positioning was considered if turbulent flow was visualized in the right atrium on sub-xiphoid, parasternal or apical cardiac ultrasound after injecting 5 cc of sterile, non-agitated, normal saline through the CVC.

**RESULTS:** Seventy-eight patients were enrolled. POCUS had a sensitivity of 86.8% (95%CI 77.1%-93.5%) and specificity of 100% (95%CI 15.8%-100.0%) for identifying correct central

venous catheter placement. Median POCUS and CXR completion were 16 minutes (IQR 10-29) and 32 minutes (IQR 19-45), respectively.

**CONCLUSION:** Ultrasound may be an effective tool to confirm central venous catheter placement in instances where there is a delay in obtaining a confirmatory CXR.

Reference:

Wilson, S.P., Assaf, S., Lahham, S., Subeh, M., Chiem, A., Anderson, C., Shwe, S., Nguyen, R. and Fox, J.C. (2017) Simplified point-of-care ultrasound protocol to confirm central venous catheter placement: A prospective study. *World Journal of Emergency Medicine*. 8(1), p.25-28.

doi: 10.5847/wjem.j.1920-8642.2017.01.004.

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