



**PHILIPS**

Ultrasound

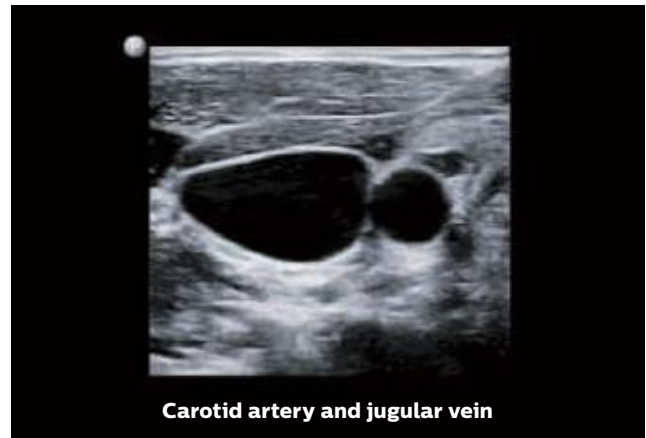
Lumify

## Ultrasound guidance for vascular access increases accuracy, reduces complications, and improves success

More than five million central venous catheters (CVC) are placed each year in the United States. These procedures have a complication rate of >15% and with typical associated cost of \$20-50K.<sup>1</sup> Pneumothorax is the most common mechanical complication and infections occur in 5-26% of patients.<sup>2</sup>

In a 2014 review article, authors found that ultrasound guidance for CVC placement for the internal jugular vein approach was superior to landmark guidance for higher overall success rate, higher success rate on first attempt, and reduced mechanical complications.<sup>3</sup> In addition, the Agency for Healthcare Research and Quality (AHRQ) strongly recommends using ultrasound guidance for CVC.<sup>4</sup>

A 2007 survey of cardiovascular anesthesiologist showed that only 15% always, or nearly always, used ultrasound for CVC procedures.<sup>5</sup> Lack of access to capable and easy to use ultrasound may be responsible for the lack of routine use.



Carotid artery and jugular vein

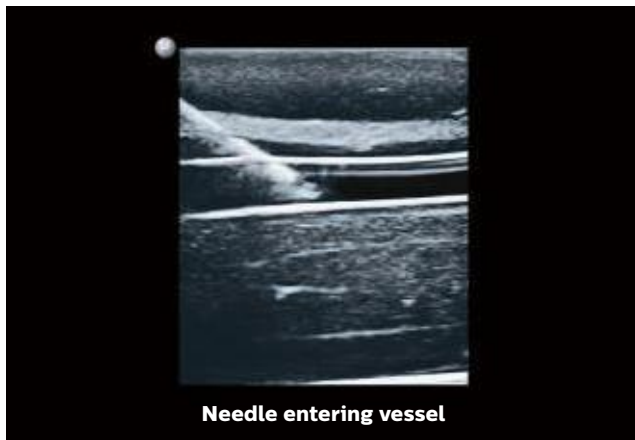
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## Ultrasound improves PIV access and reduces need for CVCs

Peripheral intravenous (PIV) access presents lower overall risk of complication but frequently CVCs are placed because IV access was too difficult. Using ultrasound has been shown to be successful in 85% of difficult PIV access cases<sup>6</sup>, reducing the need for the more risky and costly CVC.

## Philips Lumify is a great tool for ultrasound guided vascular access

The Philips Lumify ultrasound system has a specifically optimized vascular setting that makes vascular visualization easy, even on technically difficult patients. Lumify draws on decades of Philips ultrasound signal and image processing techniques to make needle visualization clearer. Additionally, Lumify's simplified user interface makes performing ultrasound guided procedures simple, with more automation, fewer buttons, and a reduced number of steps to gain access quickly. Whether hand-carried or mounted on a stand, Lumify is highly portable and accessible, making ultrasound readily available for bedside procedures and care.



## References

- 1 Feller-Kopman, D. (2007). Ultrasound-Guided Internal Jugular Access: A Proposed Standardized Approach and Implications for Training and Practice. *CHEST*. 132:302–309.
- 2 Tsotsolis, N, et al. (2015). Pneumothorax as a complication of central venous catheter insertion. *Annals of Translational Medicine*. 3(3): 40. doi: 10.3978/j.issn.2305-5839.2015.02.11.
- 3 Bowdle, A. (2014). Vascular complications of central venous catheter placement: evidence-based methods for prevention and treatment. *Journal of Cardiothoracic and Vascular Anesthesia*. 28(2):358–68. doi: 10.1053/j.jvca.2013.02.027.
- 4 Rothschild, JM. Ultrasound guidance of central vein catheterization. *On Making Health Care Safer: A Critical Analysis of Patient Safety Practices*. Rockville, MD: AHRQ Publications; 2001; Chapter 21: 245–255.
- 5 Bailey, PL, et al. (2007). A survey of the use of ultrasound during central venous catheterization. *Anesthesia & Analgesia*. 104(3):491–7.
- 6 Au, AK. (2012). Decrease in central venous catheter placement due to use of ultrasound guidance for peripheral intravenous catheters. *The American Journal of Emergency Medicine*. 30(9):1950–4. doi: 10.1016/j.ajem.2012.04.016.

