This study compared medical residents’ preferences for and performance of ultrasound-guided central venous access using the transverse, longitudinal, and oblique approaches” Caffery et al (2018).

Abstract:

BACKGROUND: Obtaining central venous cannulation of the internal jugular vein is an important skill for physicians to master. To our knowledge, no studies to date have examined residents’ preferences or the safety of the oblique approach compared to other approaches. This study compared medical residents’ preferences for and performance of ultrasound-guided central venous access using the transverse, longitudinal, and oblique approaches.

METHODS: Emergency medicine and internal medicine residents (n = 72) at an urban community hospital participated in a central venous access course. To assess the residents’ preferences, residents were asked to rank the transverse, longitudinal, and oblique approaches as first, second, or third. In addition to preference, skin-to-vein time, carotid artery puncture, and successful completion on the first attempt during a final skills analysis were measured.

RESULTS: During the final skills analysis, the majority (87.5%) of residents preferred the transverse approach. The oblique approach had a significantly larger proportion of failures of technique than the transverse approach (P = 0.02). No significant differences in successful
cannulation on the first attempt, skin-to-vein time, or carotid artery puncture among the 3 approaches were found during the final skills assessment.

CONCLUSION: The majority of residents preferred the transverse approach to the longitudinal and oblique approaches. Although no significant differences among the 3 approaches were found in performance measures, more failures of technique occurred with the oblique approach. This study suggests that novices may require in-depth training and supervision to become proficient with the oblique approach.

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