



Our objective was to investigate whether training on phantoms with smaller or larger vessels would improve success rate in novice medical students learning this skill” Davis et al (2017).

Abstract:

PURPOSE: Our objective was to investigate whether training on phantoms with smaller or larger vessels would improve success rate in novice medical students learning this skill.

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METHODS: Medical students who participated in a voluntary, extracurricular ultrasound training day were asked to participate in the study as part of their procedural training. They were given a standardized education and demonstration of how to use ultrasound to place a peripheral intravenous (IV) catheter. They were then randomized to practice three times on homemade phantom models with either a 5-mm or a 2.5-mm diameter simulated vessel. Afterwards, they were observed attempting to place an ultrasound-guided IV on a 5-mm diameter vessel. Successful cannulation rates was the primary outcome.

RESULTS: Fifty-one students from five institutions were included in the analysis. No significant difference in success rate, time to cannulation, number of sticks, or number of

redirects was seen between the group who trained on the phantoms with the smaller vessels versus those who trained on the phantoms with the larger vessel. A trend towards significance was seen for success rate and number of redirects, favoring the group trained on the smaller vessels, but this did not reach significance.

CONCLUSION: In our small sample, there was no difference in success rate of novice students trained in ultrasound-guided peripheral IV access using either a smaller or a larger vessel phantom. Future work should focus on elucidating other aspects of training in ultrasound-guided procedures and should attempt a similar study with a larger sample size.

Reference:

Davis, J., Faust, T., Tajani, A., Bates, A., Jarriel, J., Au, A. and Fields, J.M. (2017) A randomized study of training with large versus small vessel size on successful ultrasound-guided peripheral venous access. *The Journal of Vascular Access*. January 31st. .

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