We describe the effect of simulation-based education on residents’ adherence to protocols for and performance of central venous access” Jagneaux et al (2017).

Abstract:

OBJECTIVE: We describe the effect of simulation-based education on residents’ adherence to protocols for and performance of central venous access.

METHODS: Internal medicine and emergency medicine residents underwent a central venous access course that included a lecture, video presentation, readings, and simulation demonstrations presented by faculty. Baseline data were collected before the course was initiated. After a skills session where they rehearsed their ultrasound-guided central venous access skills, residents were evaluated using a procedural checklist and written knowledge exam. Residents also completed questionnaires regarding confidence in performing ultrasound-guided central venous access and opinions about the training course.

RESULTS: Residents demonstrated significant improvement on the written knowledge exam ($P < 0.0001$) and Standard Protocol Checklist ($P < 0.0001$) after the training course. Training
improved a number of patient safety elements, including adherence to sterile technique, transparent dressing, discarding sharps, and ordering postprocedure x-rays. However, a number of residents failed to wash their hands, prepare with chlorhexidine, drape the patient using a sterile technique, anesthetize the site, and perform a preprocedure time-out. Significant improvement in procedural skills was also noted for reduction in skin-to-vein time (P < 0.003) as well as a reduction in number of residents who punctured the carotid artery (P < 0.02).

CONCLUSIONS: Simulation-based education significantly improved residents’ knowledge and procedural skills along with their confidence. Adherence to the protocol also improved. This study illustrates that simulation-based education can improve patient safety through training and protocols.

Reference:
doi: 10.1097/PTS.0000000000000425.

Thank you to our partners for supporting IVTEAM