Overtraining in simulation-based mastery learning – performance translation of ultrasound-guided peripheral intravenous catheter placement from a simulator to humans

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Simulation-based mastery learning (SBML) has been shown to improve skill translation from simulators to humans, however, in our study, we explored if skill translation is improved by overtraining. This was a prospective, randomized study of 48 medical students naïve in ultrasound-guided peripheral intravenous catheter (USGPIV) placement. Students received training in USGPIV placement using the SBML approach to minimum passing standard (MPS), then randomized to either 0, 4 or 8 extra simulated attempts to MPS. Once this was achieved, students then attempted USGPIV placement on a human and assessed by a blinded rater.