

Enhanced POCUS skills after additional instruction from simulated patients

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BACKGROUND

- Point of Care Ultrasound (POCUS) training in Canadian undergraduate medical programs is steadily increasing¹.
- To date, the simulated patients (SPs) in our program account for approximately 448 SP-contact hours/year but have only been providing feedback on comfort and professionalism^{2,3}.
- Involving the SPs as teachers (SP-teachers) of POCUS skills provides an additional opportunity for instruction to students⁴.



Figure 1: Student engaging with SP-teacher

AIMS

What is the impact of SP-teachers on the development of POCUS skills?

Did scanning proficiency improve?

METHODS AND RESULTS

Medical students (N=19) were randomized into a standard or SP-teacher learning experience on Urological POCUS. Both groups received the standard instructions, teaching and basic SP feedback (comfort and professionalism) but the SP-teaching group received additional instruction (landmarks, transducer technique, and troubleshooting). Students were then assessed in an OSCE.

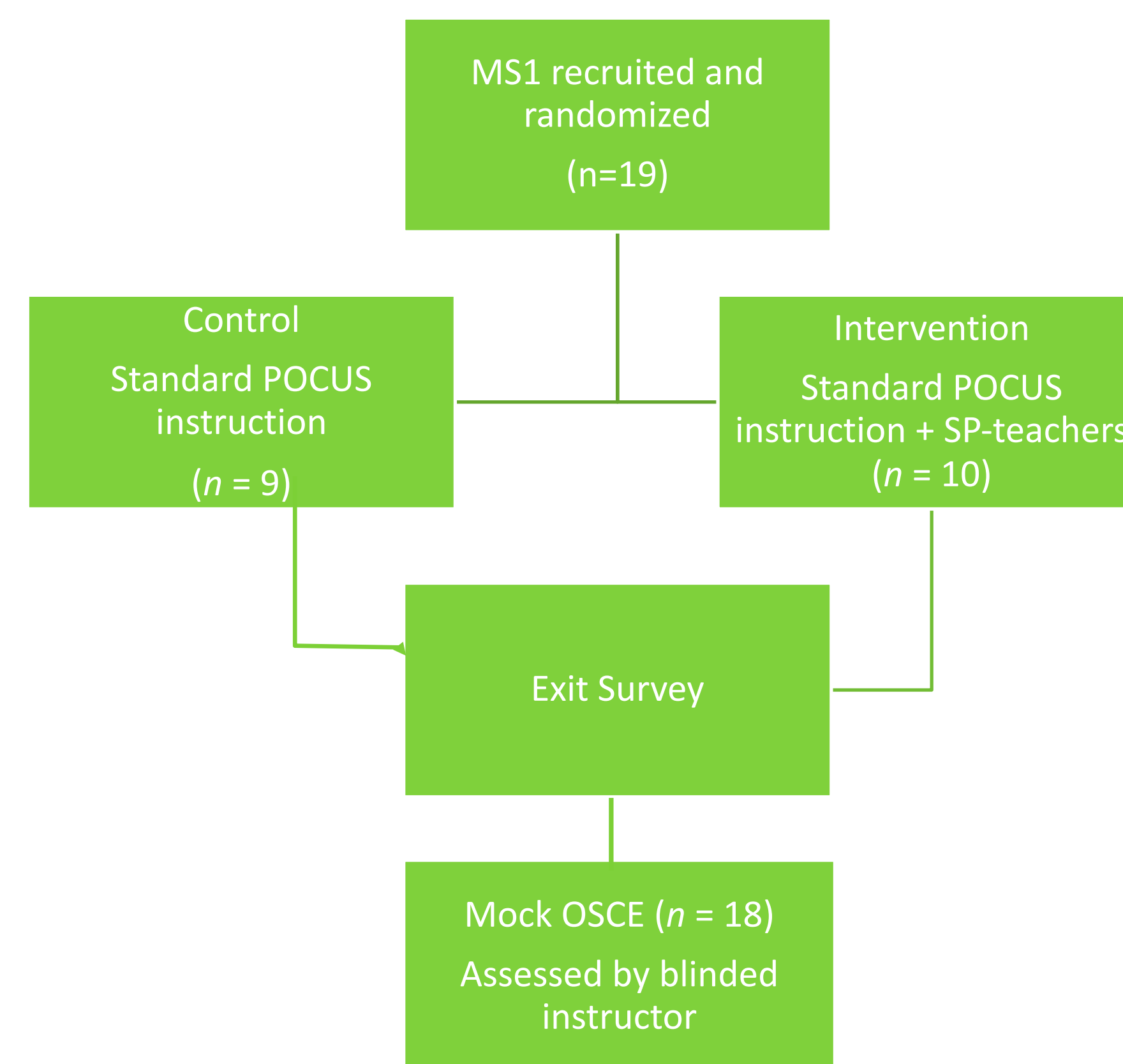


Figure 2: Schematic of study design

- Students that received SP-teaching scored significantly higher in both image acquisition ($p=0.029$, $d=1.26$) and **overall entrustment ($p=0.002$, $d=1.75$)**.
- Both groups gave equally high scores on the post-workshop evaluations.

Table 1: Summary of OSCE results

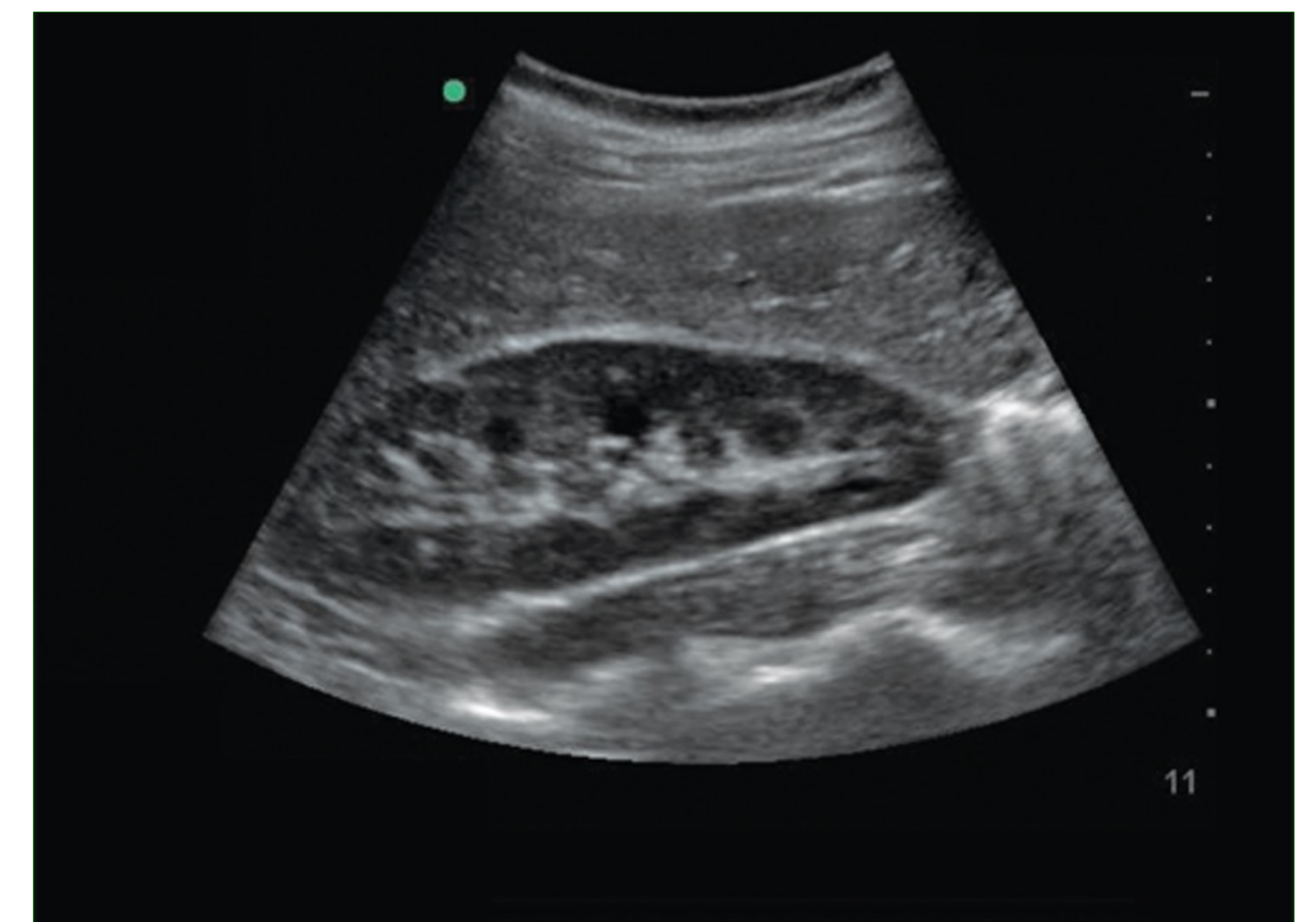
Item	Control		Intervention	
	M	SD	M	SD
Preparation	3.00	.00	3.00	.00
Image Acquisition	2.38	.52	2.90*	.32
Image Optimization	2.75	.46	2.80	.42
Clinical Interpretation	2.75	.46	3.00	.00
Entrustment	2.88	.64	3.80**	.42

* $p < 0.05$ ** $p < 0.005$

Entrustment score: 1 "I had to do", 2 "I had to talk them through, 3 "I had to prompt them, 4 "I needed to be there in case, 5 "I did not need to be there"

DISCUSSION AND CONCLUSIONS

- Students that received SP-teaching were observed to better acquire images and scored higher entrustment scores
- SP-teachers had a positive effect on the acquisition of POCUS skills related to obstructive nephropathy
- Without significant additional resources⁵, SP-Teachers had a moderate to large effect on the acquisition of POCUS skills



Source: Kevin J. Knoop, Lawrence B. Stack, Alan B. Storrow, R. Jason Thurman: The Atlas of Emergency Medicine, 5e

Figure 3: Image representative of those achieved by students

FUTURE DIRECTIONS

Future studies should examine improvements to clinical skills over time and the perspective of the SP-teachers.

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