Does Virtual Simulation in a Busy Surgical Residency Need to be Optimized?

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BACKGROUND

- Basic surgical skills and procedural skills training on virtual trainer have become an integral part of a good surgical residency program.
- The literature supports the fact that the skills on lap mentor has construct and face validity.
- Data on whether the basic skills training can complement the procedural skills are lacking.

AIM

- Basic skills training in lap mentor could minimize the error committed during the procedural skills (laparoscopic cholecystectomy)?
- Basic skills training could be compromised by having to do the procedural skills first?

METHODS & MATERIALS

- This is a prospective study.
- 15- PGY1 residents in general surgery residency program used lap mentor during their simulation rotation.
- Basic and procedural tasks (lap cholecystectomy) were practiced.
- The tasks in basic skills were camera manipulation, clip application, two handed maneuvers, transfer of objects and cutting.
- Group I had their procedural skills followed by basic skills training.
- Group II had their basic skills training followed by the procedural skills.
- Their performance in total cautery time, efficiency of cautery (%), accuracy rate - applied clips (%), number and economy of movements of instrument (%), total path length of clipper and instrument (cm), were compared between two groups.

STATISTICAL

- T-tests and Mann-Whitney test were employed to compare their performance.
- P value < 0.05 was considered as statistically significant.

Basic Surgical Skills
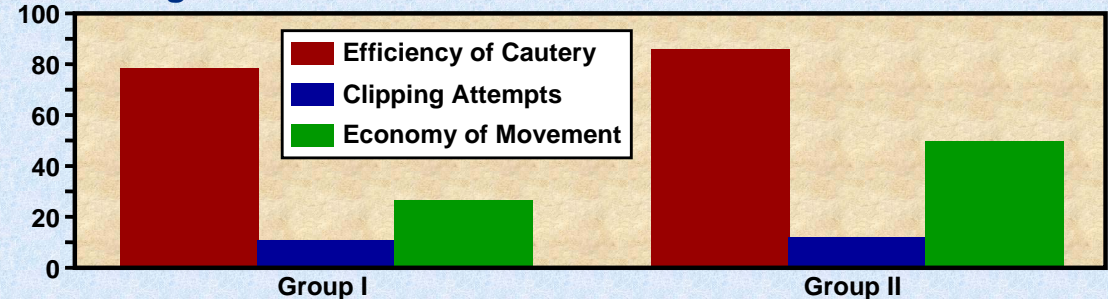
Procedural Skills – Lap Cholecystectomy

Particulars	Group	Mean	SD	Range (Min – Max)	P value
Speed of the left instrument movement	I	3.29	0.483243	2.3-3.9	0.01‡
	II	1.97	0.60	1.3-2.9	
‡ - significant P value					

CONCLUSIONS

- The performance of the residents who had their basic skills training followed by the procedural skills was better.
- The errors committed in the procedural skills were minimized significantly.
- In a busy residency program, the virtual simulation training has to be standardized and optimized.