

Gastroesophageal Balloon Tamponade Simulation-based Training: An Unmet Curricular Need Across Specialties

Christopher Mowry, MD¹, Michael Kriss, MD², Cody McIlvain, MD³, Maria Moreira, MD³, Anna Neumeier, MD⁴

¹Department of Medicine, University of Colorado; ²Department of Gastroenterology & Hepatology, University Colorado;

³Department of Emergency Medicine, Denver Health Medical Center, ⁴Division of Pulmonary Sciences and Critical Care Medicine, University of Colorado

BACKGROUND

- Gastroesophageal balloon tamponade (GEBT) tube placement is a life-saving intervention for refractory variceal hemorrhage.
- Typically performed by gastroenterology, critical care, and/or emergency medicine (EM) physicians.
- Given infrequency of placement, the development of proficiency may not be achieved through clinical experience alone.
- We sought to understand the learner experience, confidence, and educational needs of faculty and trainees across specialties and then develop a curriculum that fits those needs.

METHODS

- A needs assessment using the Qualtrics survey platform was emailed to trainees (residents & fellows) and faculty in the EM and pulmonary and critical care medicine (PCCM) departments at the University of Colorado Hospital training sites.
- The assessment addressed the following themes:
 - 1) Experience with GEBT during training or clinical practice
 - 2) Training needs in GEBT tube placement
 - 3) Self-confidence with GEBT tube placement and management.



REFERENCES

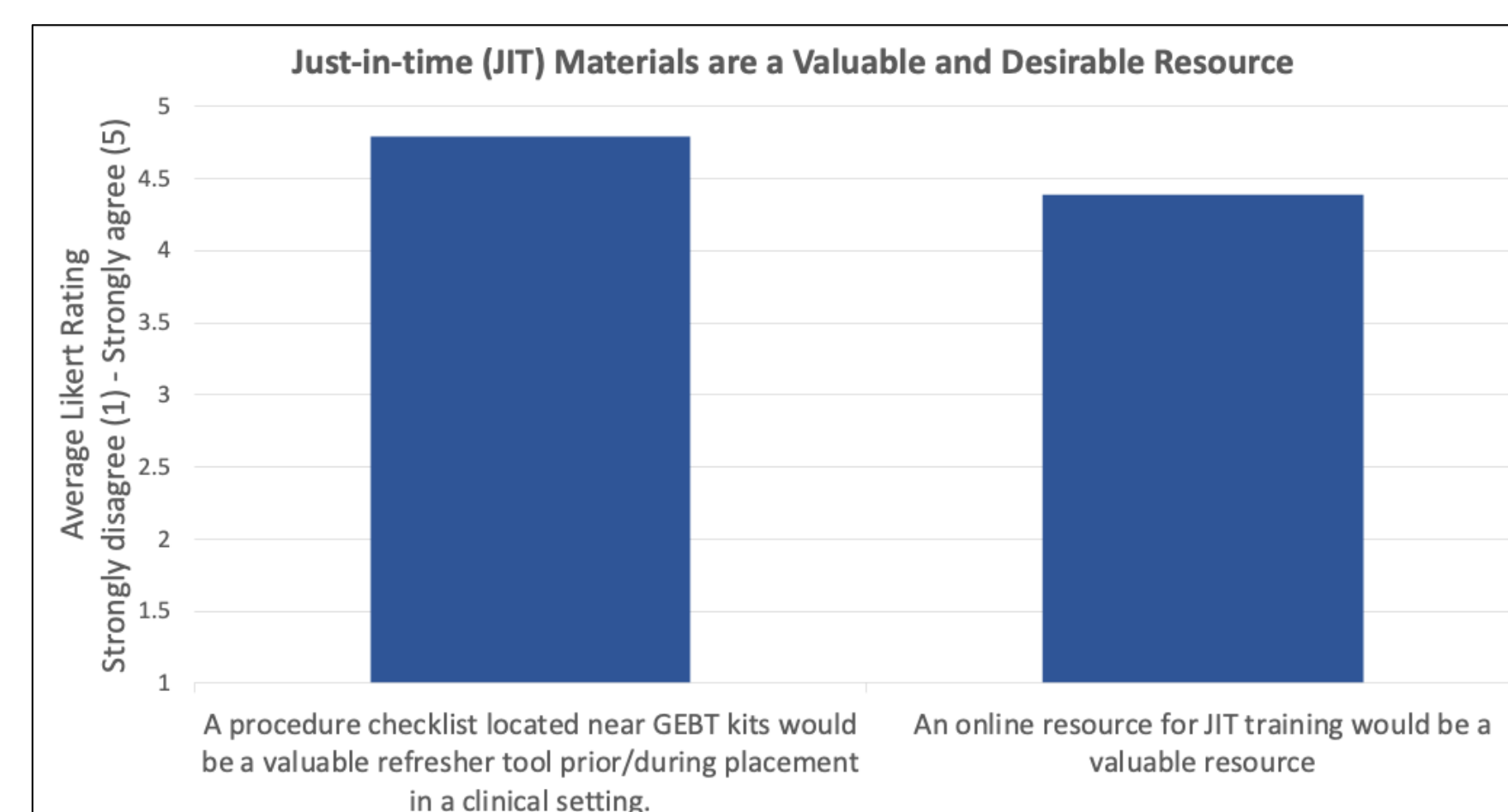


RESULTS

Survey Responses			
	PCCM	EM	
Resident	-	31	31
Fellow	21	10	31
Faculty/Attending	15	31	46
	36	72	108

Survey Question	Likert scale (1-5)	Mean Likert score (1-5)			
		PCCM		EM	
		Trainee	Faculty	Trainee	Faculty
I expect to place at least one GEBT tube during my career.	Strongly disagree (1) - Strongly Agree (5)	4.27	4.67	4.63	4.45
Trainees in my field should be proficient in GEBT tube placement upon completion of training program.	Strongly disagree (1) - Strongly Agree (5)	4.32	-	4.83	-
Faculty/attendings in my field should be proficient in GEBT tube placement.	Strongly disagree (1) - Strongly Agree (5)	-	4.67	-	4.83
Confidence placing GEBT tube without error.	Not confident (1) - Completely confident (5)	1.64	3.27	2.03	3.4
Confidence with when to inflate gastric vs esophageal balloon.	Not confident (1) - Completely confident (5)	1.55	3.47	2.16	3.33
Confidence with management and troubleshooting of GEBT tube following placement.	Not confident (1) - Completely confident (5)	1.55	3.33	1.76	2.7
Confidence with instructing others how to properly place GEBT tube.	Not confident (1) - Completely confident (5)	1.32	2.87	1.84	3.03
I wish my current program had more training available.	Strongly disagree (1) - Strongly Agree (5)	4.32	4.47	4.4	3.87
How desirable is asynchronous video training.	Not desired (1) - Very desired (5)	3.55	3.87	2.7	3.83
How desirable is case-based training.	Not desired (1) - Very desired (5)	3.41	2.8	3.24	2.31
How desirable is simulation-based training.	Not desired (1) - Very desired (5)	4.59	4.4	4.65	3.9
A procedure checklist located near GEBT kits would be a valuable resource.	Strongly disagree (1) - Strongly Agree (5)	4.5	4.93	4.81	4.83

Figure 1: Selected needs assessment questions with aggregated responses for Pulmonary and Critical Care Medicine (PCCM) faculty and trainees (fellows) and Emergency Medicine (EM) faculty and trainees (residents & fellows).



While valuable, only 65% of respondents know where to find JIT material for GEBT tube placement

CONCLUSIONS

- GEBT is an infrequently performed procedure resulting in limited and varied exposure for trainees.
- Trainees and faculty within EM and PCCM strongly believe they should be proficient in GEBT placement and management upon completing training.
- Clinical exposure alone is insufficient to gain confidence with the key steps of GEBT tube placement and management.
- Trainees and faculty across specialties highly desire a simulation-based training curriculum with just-in-time training in the form of video and checklist refresher tools.

Current Progress & Future Directions

- We have developed a competency-based curriculum comprised of asynchronous/just-in-time training along with a simulation assessment.
- Developed a checklist for GEBT placement with expert opinion from members of GI, EM, and PCCM departments.
- Utilizing the Angoff standard setting model, determined a minimum passing standard utilizing the checklist assessment.
- Developed a just-in-time training video on the placement of a GEBT device.
- Implemented the pilot curriculum among PCCM fellows with all fellows reaching our minimum passing standard upon completion of training.
- Future training sessions are planned for GI, emergency medicine, and pediatric emergency medicine training programs.

