Best Practices in Teaching Endoscopy According to a Delphi Survey of Gastroenterology Fellows and a Pilot Study of an Instructional Checklist at a Major Academic Medical Center

BEST PRACTICES IN TEACHING ENDOSCOPY ACCORDING TO A DELPHI SURVEY OF GASTROENTEROLOGY FELLOWS AND A PILOT STUDY OF AN INSTRUCTIONAL CHECKLIST AT A MAJOR ACADEMIC MEDICAL CENTER

MICHAEL AARON FUCHS

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Thesis Mentor: Dr. Navin Lingam Kumar Michael Aaron Fuchs

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Abstract

Endoscopy is a core component of gastroenterology (GI) fellowship training, yet there are no guidelines on how to teach the procedure. Previously, we surveyed a national cohort of GI fellowship program directors and identified 10 essential teaching practices for endoscopy education using a Delphi method. In follow-up of this study, we expand our understanding of best practice by characterizing the perspective of GI fellows. Using the same Delphi method, we invited a national cohort of 28 GI fellows to rate each competency as "essential," "important but not essential," or "not important." After two rounds, 15 of 18 competencies (83.3%) reached consensus. 10 competencies (55.6%) were deemed essential, 9 of which had been previously identified as essential by program directors. We subsequently developed a simple, dichotomous checklist of essential teaching practices. Using an explanatory, sequential mixed-methods design, we piloted this checklist among a sample of GI fellows and supervising gastroenterologists at Brigham and Women's Hospital. All data was kept anonymous. Fellows were invited to evaluate their supervising attending, and faculty were invited to self-evaluated their own performance. In the initial quantitative phase, 6 checklists were submitted by fellows and 4 were submitted by faculty. Of eleven possible essential teaching practices, fellows reported a mean performance score of 10.2 (92.7%) and faculty self-reported a mean performance score of 10.5 (95.4%). In the subsequent qualitative phase, we conducted 1:1 semi-structured interviews with study participants to understand user experience with the checklist. Both phases were limited by sample size. To address sampling issues, as well as incorporate suggestions from our participants, we hope to eventually trial a modified checklist among a multi-site cohort of faculty and fellows from ACGME-accredited GI fellowship programs.

Table of Contents

1. Chapter 1: Introduction..... 1
2. Chapter 2: Materials and Methods..... 2
    i. Delphi Survey Participants..... 2
    ii. Survey Design, Implementation, and Analysis..... 3
    iii. Checklist Development and Design..... 3
    iv. Pilot Testing..... 4
3. Chapter 3: Delphi Results 5
    i. Round 1..... 5
    ii. Round 2..... 5
4. Chapter 4: Pilot Study Results..... 6
    i. Quantitative Findings..... 6
    ii. Qualitative Findings..... 7
5. Chapter 5: Discussion..... 9
    i. Delphi Survey of GI Fellows..... 9
    ii. Pilot Checklist..... 11
    iii. Conclusion 12
6. References..... 13
7. Appendix..... 15

Figures

Figure 1: Checklist

Figure 2: Competency Framework

Tables

Table 1: Characteristics of Survey Participants

Table 2: Procedural Experience

Table 3. Teaching Competencies Meeting Consensus for Essential

Table 4. Rating Disparities According to Trainee Level

Table 5. Prevalence According to Fellows (N=6)

Table 6. Prevalence According to Faculty (N=4)

Table 7. Mean Score Comparison

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Chapter 1: Introduction

Learning how to perform endoscopic procedures is a core part of gastroenterology (GI) training,[1] yet there are no guidelines on how to teach the procedure to GI fellows.[2] Currently, the standard model for learning is based on apprenticeship, in which fellows are directly supervised by an attending when performing the procedure.[3] Instruction is typically at the discretion of the supervising attending; ergo, teaching can be highly variable both within individual institutions and among ACGME fellowship programs. Moreover, there is little guidance on the assessment of trainees and instructors. With regard to trainees, most programs rely on procedural volume and subjective evaluations, although some report using various assessment tools to determine proficiency.[3] To our knowledge, there are no published methods with which a program assesses or evaluates its staff's teaching skills.

To identify best practices in teaching endoscopy, we previously developed and proposed 18 standard endoscopy teaching competencies.[4] The initial set of 18 competencies was based on literature review and drafted according to the specific, measurable, achievable, relevant, and timely (SMART) framework.[5] These competencies were further organized by the timing in which they would occur in a routine endoscopy session (before each session, before each procedure, during the procedure, after each procedure, and after each session). This set of 18 competency was then presented to a cohort of experts, who rated each competency on a three-point scale (essential, important, but not essential, not important). Following the Delphi process,[6] we used a predefined consensus level of 70% and allowed participants to modify their individual ratings after seeing the group's overall rating for each teaching competency. After two sequential rounds, our cohort reached consensus on 10 competencies across five timing domains: *Before each session* ("Assess trainee's procedural competency"); *Before each procedure* ("Discuss patient history and plans for procedure," "Confirm patient is aware of trainee participation and role"); *During each session* ("Maintain attention throughout case," "Provide appropriate amount of feedback," "Use standardized endoscopic language," "Assume control of procedure if necessary"); *After*

each procedure ("Discuss next steps in patient management," "Review procedure note and edit as needed with trainee"); and *After each session* ("Provide feedback on overall performance").[4]

While frameworks are often informed by expert opinion, the inclusion of other stakeholders, including those of trainees, can improve our understanding of competence by reinforcing shared beliefs and balancing diverging perspectives.[7] As trainees, GI fellows are a key stakeholder in endoscopy education whose opinion may differ from supervising faculty. Moreover, previous research has found disagreement between fellows and instructors, with program directors consistently rating the quality of training better than fellows.[3,8] Fellows also report that their attendings spend less time teaching and providing feedback than what is reported by their program directors.[8]

Expanding on our previous work, we invited a national cohort of GI fellows to rate the original 18 endoscopy teaching competencies using the same three-point scale. Using the perspectives of both trainees and experts, we finalized a list of essential teaching competencies. We then piloted a checklist at a major academic medical center to assess how often essential teaching activities occur during supervised endoscopy sessions.

Chapter 2: Materials and Methods:

Delphi Survey Participants

To match our sample with that of our previous Delphi study of program directors, we recruited trainees from the same cohort of 32 ACGME-accredited GI fellowship program from our original study.[4] In May of 2020, we contacted these programs directors and their respective coordinators with a description of our trainee-focused study. Twelve responded and agreed to distribute our recruitment information to their GI fellows. After recruiting from these programs, our sample skewed toward first and second year fellows. To achieve parity across level of training, we also invited three GI trainees at the Brigham and Women's Hospital.

Survey Design, Implementation, and Analysis

Akin to our previous survey, we invited participants to rate each competency on a three-point scale of "essential," "important, but not essential," and "not important." For the Delphi process, we used a pre-set threshold of 70% agreement to establish consensus.[4] We addended a demographic survey to our round 1 survey, as well.

During round 1, participants independently rated each competency according to the three-point scale. They were also given the opportunity to suggest revisions or additional competencies. These suggestions were reviewed and only minor edits were made to the list of competencies. In subsequent rounds, participants reviewed their individual rating, as well as the group's overall rating from the prior round. Participants were then asked to rate each competency again using both their previous rating and the group's rating. Competencies that reached the 70% consensus threshold during the first round were advanced to subsequent rounds to determine final level of consensus.

Checklist Development and Design:

There is ample literature on checklist development in medical education, but there are no comprehensive guidelines on how to develop checklists.[9–11] Most studies use a multi-stage developmental process that often includes conception, design, testing, implementation, and revision. For our pilot, we focused on primarily conception, design, testing. The goal of our checklist was to formally characterize the frequency of endoscopy teaching practices at a major academic medical center. Design and content were informed by the two prior Delphi surveys. Whether a competency occurred during the session was determined using simple dichotomous items (yes/ no). If the user wanted to abstain from grading a competency, a box was provided for an explanation **(Figure 1)**. Each competency was made a binary variable to reduce the time needed to fill out the checklist and to minimize disrupting the medical workflow.

Prior to beginning the pilot, we cognitively tested the checklist with a GI trainee and faculty member. Using a retrospective probing technique,[12] we invited both participants to individually debrief their experience once they had completed the self-administered checklist. Their feedback was minimal, and only minor changes were made to the checklist.

Pilot Testing:

Using an explanatory, sequential mixed-methods design, we piloted the checklist among a sample of GI fellows and supervising gastroenterologists at Brigham and Women's Hospital. Any general GI fellow or endoscopy educator was eligible to participate. This study was approved by the Partner's institutional review board. In May of 2021, the program director of the GI fellowship program at Brigham and Women's Hospital sent an email introducing the study to fellows and faculty. In this email, both were informed that they would be asked, at random, to fill out a short, post-procedural checklist of 11 essential endoscopy teaching practices.

In the initial quantitative phase, we asked fellows and their supervising faculty to fill out our post-procedural checklist immediately after the last procedure of a paired training session. A session was defined as a group of procedures performed by the same GI fellow and supervising faculty member. At Brigham and Women's Hospital, second year fellows are paired longitudinally with a faculty member who supervises their outpatient procedures. These sessions occur weekly, either during the morning or afternoon. We timed data collection to follow these paired sessions on the outpatient schedule.

For each session, both the fellow and their supervising faculty member received a checklist. Fellows evaluated their supervising faculty, while the supervising faculty self-evaluated their own teaching performance. Checklists were filled out anonymously and distributed with a coversheet to maintain privacy. To prevent faculty from changing their teaching style in response to being observed (often described as the Hawthorn effect),[13] neither

fellow nor faculty received advanced notice of checklist distribution. In addition, the study investigator never entered the procedural room and appeared only to distribute checklists immediately after the final scheduled procedure.

In the subsequent qualitative phase, we conducted 1:1 semi-structured interviews with study participants to understand user experience with the checklist. Given participants professional relationships, as well as concern that participants may inadvertently disclose professional information, we opted against focus groups. Interviews were done using a Partners approved Zoom account and recorded with interviewees' verbal consent. Audio from these recordings was transcribed. Transcripts were anonymized and deidentified, subsequently coded, and analyzed thematically.

Chapter 3: Delphi Results

The survey response rate for round 1 was 92.9% (26 of 28) and 100% (26 of 26) for round 2. Participants were distributed evenly across level of training (Year 1- 30.8%, Year 2 - 30.8%, Year 3 - 38.5%) and most were enrolled in a clinical track program (65.4%). All were affiliated with a major academic medical center **(Table 1) (Table 2)**.

Round 1

After the first round, seven teaching competencies reached consensus as essential (38.9%). No competencies reached consensus status as important but not essential or as not important. Five participants provided feedback. Minor edits were made to three competencies. The revised list was used for round 2.

Round 2

After the second round, an additional three competencies reached consensus as essential and five reached consensus as important, but not essential. All seven competencies that reached

essential status during round one remained above our consensus threshold during round two. In total, 15 of 18 competencies (83.3%) reached our 70% consensus threshold after two rounds of the Delphi process. The seven competencies that reached essential status during round 1 were: (1) “Assesses trainee's current procedural competency,” (2) “Discusses patient history and plans for procedure with trainee,” (3) “Ensures trainee has discussed anticipated needs for the procedure with endoscopy staff (nurse and/or technician),” (4) “Maintains attention throughout the case,” (5) “Assumes control of procedure when trainee is unable to progress or if patient safety concerns arise,” (6) “Discusses next steps in management for the patient,” (7) “Provides feedback to the trainee.” Three additional competencies reached consensus as essential during round 2 were : (1) “Confirms patient is aware of trainee's participation and role,” (2) “Provides appropriate amount of feedback during procedure,” and (3) “Reviews procedure note and provides feedback as needed to trainee” **(Table 3)**.

Ratings were similar across level of training. Disagreement was observed in the breakdown of only four competencies. These were: (1) “Sets expectations for procedure” was essential only amongst first year fellows. (2) Confirms patient is aware of trainee’s participation and role” and (3) “Monitors and responds to trainee’s cognitive load” were essential only for third year fellows. (4) “Reviews procedure note and provides feedback as needed to trainee” reached consensus as essential among first and third year fellows, but not second year fellows **(Table 4)**.

Chapter 4: Pilot Study Results

We collected 6 fellow evaluations and 4 faculty self-evaluations. No faculty member filled out the survey more than once. From this sample, we interviewed 1 fellow and 1 faculty member.

Quantitative Findings:

Fellows reported that their supervising faculty performed most essential teaching competencies during their endoscopy session. Notably, all supervising faculty performed the

essential "during procedure" competencies. Additional competencies that fellows consistently endorsed included 1) "Discusses patient history and plans for procedure with trainee," 2) "Discusses next steps in management for the patient," and 3) "Provides feedback to trainee" **(Table 5)**.

Faculty self-evaluations were similarly positive All faculty reported performing "during procedure" competencies, as well as the three additional competencies that fellows reported their supervising faculty performing consistently. Additional competencies that all faculty self-reported included 1) "Confirms patient is aware of trainee's participation and role," and 2) "Ensures trainee has discussed anticipated needs for the procedure with endoscopy staff (nurse and/or technician)" **(Table 6)**.

Overall, faculty and fellows gave similar scores on teaching performance **(Table 7)**. The mean number of competencies performed by supervising faculty according to fellows was 10.2 (92.7%). The mean number of competencies self-reported by faculty was 10.5 (95.4%).

Qualitative Findings:

Both faculty and fellow agreed that organizing the competencies temporally was practical for the person evaluating the session, as it followed 'a natural progression':

> *"It follows the natural progression of how you think about [the session]… planning the procedure to know indication, to know what's happening, to make sure you understand the plan beforehand, and as far as what interventions are necessary, what do you expect to find." –Fellow*

There was also agreement that evaluating teaching performance as a binary variable had advantages and tradeoffs. The use of a dichotomous variable (i.e. yes/no) was thought to be more efficient for the user, but some information was lost by grading competencies as a binary. For

example, the faculty member thought some 'during procedure' competencies could be assessed on a larger scale with more than two categories. Broadening the scale could provide a more detailed view of the quality of procedural teaching:

> *"I guess […] it maybe depends on each question. There is a certain simplicity and elegancy to a binary scale that makes it very easy… if you do a Likert scale you will have to clarify what the different degrees [are], like what the numbers represent on [a] scale." –Fellow*

> *"Discussion of history. This one is varied… could be [graded on] a Likert scale […] The problem is if you do one that is like [a] Likert and the others [as] yes/no, it would make it complicated […] I think the pre-procedure [competencies] should all be yes/no… [and] during the procedure, I guess that could be on a Likert scale… most [should be] yes/no except the first two ones in 'during the procedure.'" –Faculty*

Both the fellow and faculty member thought all eleven competencies were essential for high quality endoscopy teaching, but acknowledged that it was not essential to perform all competencies at each session. Some competencies are performed at fixed intervals and could be assessed longitudinally:

> *"I think some things don't need to happen…the faculty and instructors work with us weekly on a regular basis… some of these conversations are happening overall… like for the first one 'assessing trainee's competency'… I know I scope with this physician and this physician knows me… assessment is something that [would] happen more on a 6-month basis or at the beginning of your first year, second year, third year." –Fellow*

When given the findings from the quantitative phase, neither the faculty member nor fellow were surprised by the results. Both thought the checklist encompassed essential practices that should be performed during the procedure or across multiple sessions.

"In some ways, I'm not surprised because I think some [of] these things are happening throughout the procedure timeline." –Fellow

"While 11 may not be necessary for educational endoscopy session, the vast majority of things are happening implicitly or explicitly during [the] procedure timeline." –Faculty

Chapter 5: Discussion

This is a two-part dissertation submitted in partial fulfillment of the requirements for a Degree of Master of Medical Sciences in Medical Education. Using a Delphi process, we identified teaching competencies most critical for endoscopic learning as perceived by GI fellows. Upon finalizing our competency list, we pilot-tested a checklist instrument to assess the teaching practices of attending endoscopists at a major academic medical center.

Delphi Survey of GI Fellows:

In this follow-up Delphi survey, 10 essential teaching competencies reached consensus as essential. 9 of 10 (90%) teaching competencies rated as essential by GI fellows were also rated as essential by the GI program directors and endoscopy experts **(Figure 2)**. This project advances endoscopy education research by incorporating the perspective of GI fellows. When compared to our previous Delphi survey of endoscopy experts and program directors, our research suggests that trainees and experts share a similar perspective on best practices for endoscopy education.

The highest rated teaching competencies (> 90% agreement) centered around communication between supervising faculty and fellow before and after the procedure **(Table 3)**. A majority of fellows thought discussion of patient history and plans for procedure was an essential task to perform prior to the procedure (92.3%). A majority also thought discussion of next steps in patient management and feedback were essential tasks following the procedure (96.2% and 92.3%, respectively). Previous research has found post-procedural training to be

optimal for learning, yet peri-procedure periods are rarely used for endoscopy teaching. In addition, research applying cognitive load theory to endoscopy training suggests trainees can become overloaded when taught during the procedure.[14] Our findings provide further evidence that using peri-procedural periods for discussion and teaching may help optimize cognitive load management.

Competencies that did not reach consensus as essential among the entire study cohort may still be important for novice trainees **(Table 4)**. For example, "Sets expectations for the procedure" failed to reach consensus among the entire cohort but was rated as essential among 87.5% of first year fellows. In comparison, only 62.5% of second year fellows and 40.0% of third year fellows rated this competency as essential. This trend is consistent with the novice-to-expert framework developed by Stuart and Hubert Dreyfus (1986).[15] First year fellows are novice learners and benefit for additional instruction, whereas third year fellows can anticipate tasks and no longer require explicit instruction. A faculty member, an expert in this model, would no longer require any deliberation and is able to perform tasks intuitively.[16]

Our findings suggest trainees and faculty have a similar perspective on the essential practices of high quality endoscopy teaching. In both Delphi studies, 9 of 10 competencies were rated as essential by both faculty and fellows **(Figure 2)**. Yet, previous research has found disagreement between trainees and faculty regarding the quality of endoscopy education, with program directors consistently rating the quality of training better than fellows.[8] In light of our findings, we suggest that previous disagreement may represent suboptimal use of teaching strategies, as opposed to differing beliefs on high quality education.

This project had some limitations. To best match the sample of our first Delphi survey, we distributed our follow-up survey to fellows at programs included in our original study. This could have introduced participation bias, insofar as these programs represented a subset of GI

fellowship programs that were responsive to both invitations. In addition, in order to have even representation across level of training, we invited three GI fellows from Brigham and Women's Hospital, which did not participate in our original study. Despite adding a large, academic program to our study, our cohort had representation across program size and setting similar to our original study.

Pilot Checklist:

Using the results from our two previous Delphi surveys, we piloted a checklist instrument to assess the teaching practices of attending endoscopists at a major academic medical center. Overall, faculty and fellows gave similarly positive scores on teaching performance. Every participant documented 'during procedure' teaching competencies, with discrepancies occurring only in the pre- and post- procedural categories. Participants had generally favorable views of the checklist but also offered suggestions to improve its practical utility for endoscopy education.

Although most competencies were performed consistently, there were small discrepancies in the evaluation of pre- and post- procedural teaching practices **(Table 5) (Table 6)**. As was mentioned by our two participants, this may indicate some competencies do not need to be performed at each session. For instance, "*assessing trainee's competency,"* could occur at specific intervals or outside the procedural timeline. Alternatively, it is possible that these competencies are still performed but not explicitly acknowledged during the session. As was also mentioned by participants, some teaching activities may occur implicitly during the procedural timeline. With the regard to the forementioned competency, "*assessing trainee's competency,"* competence may be inferred when discussing the procedure with the trainee and during other peri-procedural activities.[17]

We hypothesized that faculty and fellows may give disparate ratings on teaching performance. Previous research has shown discrepancies in how faculty and fellows view their

endoscopy training, with faculty rating the quality of teaching higher than their trainees.[3,8] In our survey, however, faculty and fellows were in agreement that essential teaching practices were performed regularly during supervised endoscopy sessions **(Table 7**). Albeit a small sample, our findings are encouraging and suggest that essential practices are performed regularly at Brigham and Women's Hospital.

This study had several limitations. First, we surveyed only a small sample, from which only two participants participated in qualitative interviews. In follow-up of this pilot, we plan on studying our instrument with a larger cohort and with representation from multiple programs. Second, this study was subject to response bias. Our survey was anonymous, but fellows may still have been influenced by their professional relationships with faculty. Faculty were informed that this would not impact their professional standing, but their self-evaluations may have been susceptible to positive bias, as well. Finally, our findings do not provide information on how well each competency was performed during the procedural timeline. This information is difficult to capture with a binary checklist. A broader rating scale may provide some additional information but would introduce new challenges, particularly around defining and ordering different survey response options. Given feedback from participants, we may trial our checklist again with an expanded scale for a subset of competencies.

Conclusion

This is a two-part dissertation submitted in partial fulfillment of the requirements for a Degree of Master of Medical Sciences in Medical Education. Our findings indicate trainees and experts share a similar perspective on best practices for endoscopy education, with subtle differences across level of training. Informed by the results of two Delphi surveys, we developed a checklist of essential teaching practice and subsequently piloted it at Brigham and Women's Hospital. Our findings suggest essential teaching practices occur regularly during supervised training experiences, but this should ultimately be

interpreted with caution given our small sample size. To address sampling issues, as well as suggestions from our participants, we hope to trial a modified checklist with a multi-site cohort comprised of faculty and fellows from ACGME-accredited GI fellowship programs in the near future.

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Appendix

Figures

Figure 1: Checklist

Before Procedure:			
	Yes	**No**	**Not applicable (please explain)**
Faculty instructor assessed trainee's procedural competency.			
Faculty instructor discussed patient history and plans for procedure.			
Faculty instructor confirmed patient is aware of trainee participation and role.			
Faculty instructor ensures trainee has discussed anticipated needs for the procedure with endoscopy staff (nurse and/or technician).			
During Procedure:			
	Yes	**No**	**Not applicable (please explain)**
Faculty instructor maintained attention throughout case.			
Faculty instructor provided appropriate amount of feedback.			
Faculty instructor used standardized endoscopic language.			
Faculty instructor assumed control of procedure if appropriate.			
After Procedure:			
	Yes	**No**	**Not applicable (please explain)**
Faculty instructor discussed next steps in patient management.			
Faculty instructor reviewed procedure note and edited as needed with trainee.			
Faculty instructor provided feedback to trainee.			

Caption: Copy of checklist. Includes simple yes/no dichotomous options, as well as a box to provide explanation if the competency was not applicable to the trainee's learning. Printed copies were distributed to both faculty and fellows, and were accompanied by a blank coversheet.

Figure 2: Competency Framework

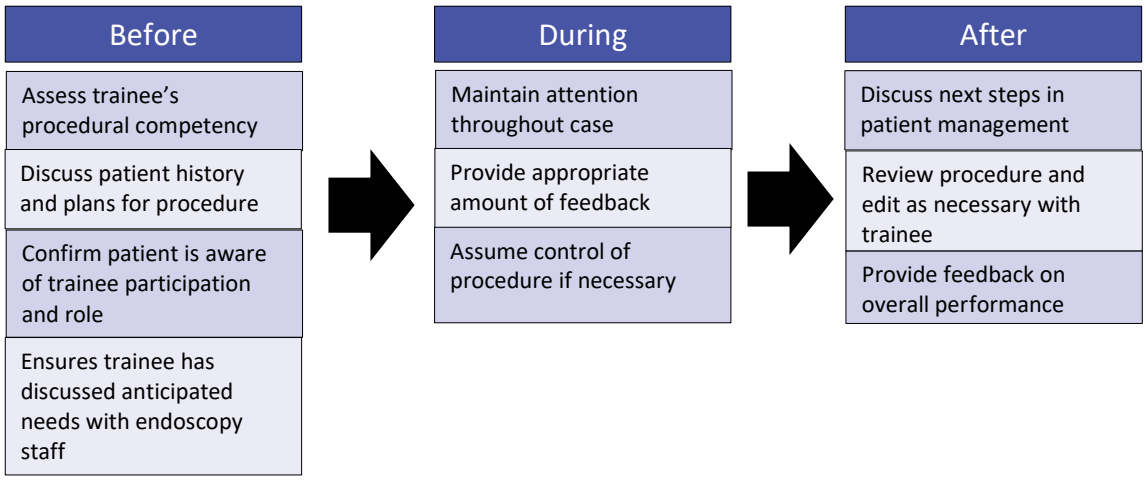

Figure 2a: Essential framework according to GI trainees

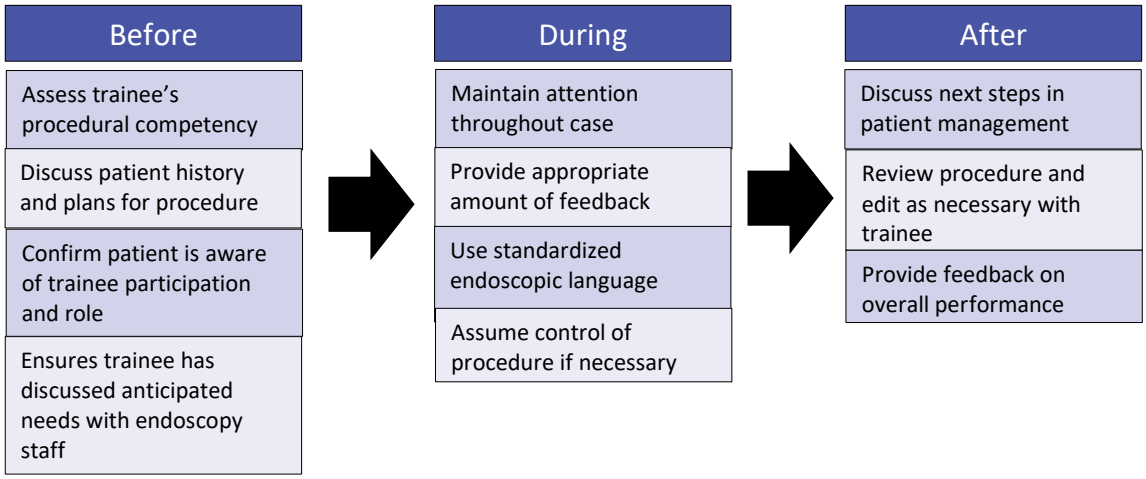

Figure 2b: Modified essential framework according to endoscopy experts and trainees

Caption: (2a) Essential competencies according to GI fellows. (2b) Essential competencies according to faculty and fellows.

Tables

Table 1: Characteristics of Survey Participants

Characteristic	Number (%)
Male gender	19 (73)
Training level	
First year	8 (30.8)
Second year	8 (30.8)
Third year	10 (38.4)
Size of program	
Less than 5	0 (0)
5 to 9	7 (26.9)
10 to 14	8 (30.8)
15 to 19	6 (23.1)
20 or greater	5 (19.2)
Fellowship training track	
Clinical (not research-focused)	17 (65.4)
Research (basic science)	3 (11.5)
Research (clinical)	5 (19.2)
Other	1 (3.8)
Program Setting	
University	26 (100)
VA Medical Center	16 (61.5)
Inner-city/ County	8 (30.8)
Community	10 (38.5)

Caption: Demographic characteristics of GI fellows who participated in the Delphi survey.

Table 2: Procedural Experience

Procedures, Current Count			
EGD		Colonoscopies	
Range	Number (%)	Range	Number (%)
Less than 50	0 (0.0)	Less than 50	0 (0.0)
50-129	3 (11.5)	50-139	5 (19.2)
130-250	3 (11.5)	140-274	7 (26.9)
Greater than 250	20 (76.9)	275-500	9 (34.6)
		Greater than 500	5 (19.2)
Procedures, Expected Count			
EGD		Colonoscopies	
Range	Number (%)	Range	Number (%)
Less than 50	0 (0.0)	Less than 50	0 (0.0)
50-129	1 (3.8)	50-139	1 (3.8)
130-250	0 (0.0)	140-274	1 (3.8)
Greater than 250	25 (96.2)	275-500	6 (23.1)
		Greater than 500	18 (69.2)

Caption: Procedural experience of survey participants. Most participants had performed more than 250 EGD's (esophagogastroduodenoscopy).

Table 3. Teaching Competencies Meeting Consensus for Essential

Teaching Competency	Percent rated essential
Before each session	
Assesses trainee's current procedural competency.	88.5%
Prior to each procedure	
Discusses patient history and plans for procedure with trainee.	92.3%
Confirms patient is aware of trainee's participation and role.	76.9%
Ensures trainee has discussed anticipated needs for the procedure with endoscopy staff (nurse and/or technician).	80.8%
During the procedure	
Maintains attention throughout the case.	88.5%
Provides appropriate amount of feedback during procedure.	73.1%
Assumes control of procedure when trainee is unable to progress or if patient safety concerns arise.	88.5%
After each procedure	
Discusses next steps in management for the patient.	96.2%
Reviews procedure note and provides feedback as needed to trainee.	73.1%
After each session	
Provides feedback to the trainee.	92.3%

Caption: Ratings for each competency after two sequential rounds of the Delphi process.

Table 4. Rating Disparities According to Trainee Level†

Teaching Competency	Training Level		
	First Year	Second Year	Third Year
Before each session			
Sets expectations for the procedure.	87.5%*	62.5%	40.0%
Prior to each procedure			
Confirms patient is aware of trainee's participation and role.	62.5%	62.5%	100%*
During the procedure			
Monitors and responds to trainee's cognitive load.	50.0%	50.0%	70.0%*
After each procedure			
Reviews procedure note and provides feedback as needed to trainee.	87.5%*	50.0%	80.0%*

† Percent rated essential at each training level
* Greater than 70% consensus

Caption: Rating breakdown by year-in-training. Competencies that reached consensus as essential among training level are marked with an asterisk.

Table 5. Prevalence According to Fellows (N=6)

Teaching Competency	Prevalence
Before Procedure	
Assesses trainee's current procedural competency.	83.3%
Discusses patient history and plans for procedure with trainee.	100.0%
Confirms patient is aware of trainee's participation and role.	83.3%
Ensures trainee has discussed anticipated needs for the procedure with endoscopy staff (nurse and/or technician).	66.7%
During Procedure	
Maintains attention throughout the case.	100.0%
Provides appropriate amount of feedback during procedure.	100.0%
Uses standardized endoscopic language	100.0%
Assumes control of procedure when trainee is unable to progress or if patient safety concerns arise.	100.0%
After Procedure	
Discusses next steps in management for the patient.	100.0%
Reviews procedure note and provides feedback as needed to trainee.	83.3%
Provides feedback to the trainee.	100.0%

Caption: The prevalence of each competency according to fellow participants.

Table 6. Prevalence According to Faculty (N=4)

Teaching Competency	Prevalence
Before Procedure	
Assesses trainee's current procedural competency.	75.0%
Discusses patient history and plans for procedure with trainee.	100.0%
Confirms patient is aware of trainee's participation and role.	100.0%
Ensures trainee has discussed anticipated needs for the procedure with endoscopy staff (nurse and/or technician).	100.0%
During Procedure	
Maintains attention throughout the case.	100.0%
Provides appropriate amount of feedback during procedure.	100.0%
Uses standardized endoscopic language	100.0%
Assumes control of procedure when trainee is unable to progress or if patient safety concerns arise.	100.0%
After Procedure	
Discusses next steps in management for the patient.	100.0%
Reviews procedure note and provides feedback as needed to trainee.	75.0%
Provides feedback to the trainee.	100.0%

Caption: The prevalence of each competency according to faculty participants.

Table 7. Mean Score Comparison

Rater	Mean Total Score
Fellows	10.2 (92.7%)
Faculty	10.5 (95.4%)

Caption: Mean total score was calculating by taking an average of the number of competencies scored per rating group. Participants could score a maximum of 11 competencies.