

# Standardized General Endoscopy Lexicon for Learners

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## INTRODUCTION

- Physicians completing subspecialty training in gastroenterology are expected to develop competence in performing general endoscopic procedures including upper endoscopy, colonoscopy, and flexible sigmoidoscopy.
- Endoscopy education is often provided through an apprenticeship model where trainees work with various endoscopists and develop skills in real-time procedures. Inherent to this model is heterogeneity in the education provided.
- Recent research exploring essential teaching competencies for those involved in endoscopic education suggests usage of succinct standardized language when teaching endoscopy, but to date no one has examined the breadth of terms used or developed consensus around specific language to be used in this aspect of medical training.
- In this study we surveyed terminology used worldwide by expert teachers of endoscopy and, through a Delphi process, developed a standardized lexicon for general endoscopic education.

## METHODS

- 22 physicians identified as expert endoscopy educators from various countries around the world were invited to participate in this Delphi process (Figure 1).
- Four rounds of surveys were completed.
- Common terminology was identified in round 1.
- Rounds 2 through 4 consisted of surveys where participants indicated terms they were most likely to use when instructing learners during endoscopy.
- A consensus threshold of 70% was defined for term inclusion into the lexicon. Terms that achieved a 70% minimum consensus were included as "recommended terms". Terms that offered balance to the lexicon but did not reach the threshold consensus were included as "suggested terms".

TABLE 1: GENERAL ENDOSCOPY LEXICON

Endoscopy Instruction	Committee Consensus (%)	Final Stance
<b>Scope Manipulation</b>		
Rotate (torque) clockwise/counterclockwise	100*	Recommended
Rotate (torque) right/left		
Big wheel/dial up	94.42	Recommended
Big wheel/dial down	88.9	Recommended
Little wheel/dial up	88.9	Recommended
Little wheel/dial down	88.89	Recommended
Advance scope	77.78	Recommended
Pull scope Back	100%	Recommended
<b>Brush Manipulation</b>		
Put brush out	100%*	Recommended
Advance brush		
Pull brush in	83.33*	Recommended
Withdraw brush		
Brush tissues	56.25	Suggested
<b>Clip Manipulation</b>		
Open clip	93.75	Recommended
Close clip	81.25	Recommended
Rotate clip	87.5	Recommended
Deploy clip	91.67*	Recommended
Fire clip		
<b>Cautery - Monopolar, Bipolar – Manipulation</b>		
Advance cautery probe	75	Recommended
Start cautery	58.33*	Suggested
Cut/coagulate		
<b>Forceps Manipulation</b>		
Open forceps	93.75	Recommended
Close forceps	81.25	Recommended
Advance forceps	91.67	Recommended
Withdraw forceps	100	Recommended
<b>Pictures/Video</b>		
Take a picture/video	77.78	Recommended
<b>Air (blue button)</b>		
Insufflate	72.22	Recommended
<b>Water (blue button)</b>		
Clean your lens	88.89	Recommended
<b>Suction (red button)</b>		
Suction	77.78	Recommended
<b>Through the Scope Balloon Dilator Manipulation</b>		
Advance dilator	56.25	Suggested
Inflate balloon	100	Recommended
Deflate balloon	56.25	Suggested
<b>Bougie Dilator Manipulation</b>		
Advance wire	81.25	Recommended
Advance dilator over wire	87.5	Recommended
<b>Net Manipulation</b>		
Open net	93.75	Recommended
Close net	93.75	Recommended
<b>Use of Electrocautery Pedals (blue, yellow)</b>		
Blue pedal	81.25	Recommended
Yellow pedal	81.25	Recommended
<b>Snare Manipulation</b>		
Open snare	93.75	Recommended
Close snare	93.75	Recommended
Cut	56.25	Suggested

\*The committee consensus to include both terms in the lexicon.

## RESULTS

- After 4 rounds of surveys, 36 recommended terms and 5 suggested terms were included in our general endoscopy lexicon (Table 1).

## DISCUSSION

- Through this international Delphi project, we constructed a general endoscopy lexicon for learners.
- The use of standardized language has been shown to have several benefits in other areas of healthcare including improved communication, quality of patient care, and knowledge generation.
- We expect that adopting a uniform lexicon will improve quality of endoscopic education for learners.
- In addition, because this study was conducted on an international level, we anticipate this lexicon to be applicable to trainees throughout the world.
- Future projects exploring standardized language for advanced endoscopic procedural education should be considered.

FIGURE 1

