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## How to Introduce Scopemanship Into Your Training Program

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In sports, *sportsmanship* refers to an aspirational value encompassing the qualities and professionalism befitting a participant, and the pride and enjoyment in taking part. Such an emotive term is somewhat lacking in gastrointestinal endoscopy. *Scopemanship*, intended as

a gender-neutral term, (suggested alternatives include *Scopeship* and *Scopepersonship*) applies to endoscopy as sportsmanship applies to sports. *Scopemanship* may be defined as the art, professionalism, ethics, and the holistic approach befitting endoscopists that transcends beyond the core technical and nontechnical skills, including cognitive skills needed to perform procedures.

The term *Scopemanship* originated from Twitter under the hashtag #Scopemanship. The concept resonated with endoscopists, trainees, and patients across continents and initiated an open discussion regarding the attributes of scopemanship. The core concepts of scopemanship include being ethical, compassionate and attentive to the needs of others, and fostering communication and leadership skills to create a healthy endoscopy environment for both the patient and the clinical team.

The aim of this article is to attempt to define and provide examples of scopemanship and discuss how this can be incorporated into endoscopy training, and to impart this legacy onto future generations of endoscopists.

### Why Is Scopemanship Important?

Some of the scopemanship principles overlap with the endoscopic nontechnical skills and integrative skills frameworks.<sup>1,2</sup> These have previously been linked with improvements in patient safety and overall quality of care.<sup>2,3</sup> The novel coronavirus disease 2019 pandemic has significantly disrupted endoscopy practice worldwide with practical and emotional implications for patients and clinical staff alike. This crisis places even greater emphasis on the value of and the need for scopemanship qualities. The

cancellation of elective procedures requires skillful decision-making and leadership qualities, and the physical barriers created by distancing and personal protective equipment amplify the need for effective verbal communication. During high-stress situations, it can be easy to forget the patient behind the procedure, the people behind the entire endoscopy team, and the colleagues and fellows watching and emulating the actions and words of the endoscopist. Putting a compassionate and attentive focus on patients and clinical staff, and enhancing communication skills can positively impact the well-being of the endoscopy suite and successful teamwork.

Endoscopists also have the duty to train and mentor fellows and other clinicians, and training should extend beyond teaching technical endoscopic skills. Finally, with high prevalence of burnout in medical professionals, scopemanship should aim to foster positive and enduring working relationships to minimize stress and burnout amongst colleagues.

### Components of Scopemanship

The key domains within scopemanship (Figure 1) and domain-specific examples (Table 1) are described.

#### Communication and Compassion

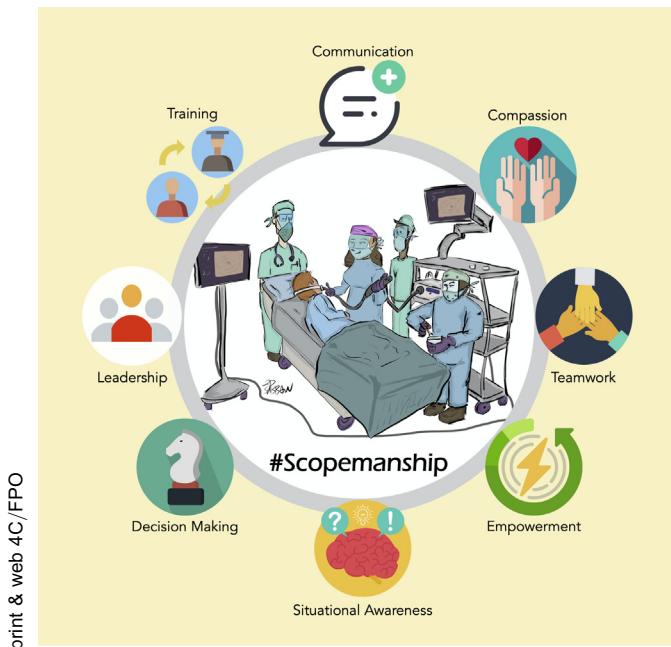
Scopemanship includes maintaining compassionate and empathic professionalism in action and in words during the entire procedural process, towards the patient, their family, and the endoscopy staff. At any stage of the your career, it is important to cultivate verbal and nonverbal communication skills, remain humble and mindful of the needs of others, advocate for the patient and the endoscopy team, and enhance communication between different parties to ensure safe and efficient endoscopy flow. Effective scopemanship in the procedure room ensures a professional and caring atmosphere by keeping the focus on the patient's well-being, safety, privacy, and dignity, before and during sedation. Examples include minimizing the distractions and noise of

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**Figure 1.** The key components of scopemanship.

sideline conversations and in/out traffic, and exhibiting simple compassionate gestures like a warm blanket and empathic communication when explaining what to expect from the endoscopy process. It is important to assess potential physical limitations when positioning the patient, warn the patient (if conscious sedation) before an uncomfortable maneuver (eg, rectal examination or abdominal pressure), keep the body properly covered, and ensure the patient remains at the center of the clinical staff conversations and interactions. Finally, when delivering serious endoscopic diagnoses such as inflammatory bowel disease or colon cancer, it is essential to be mindful of the patient's emotional state and privacy: Do not act rushed, find a quiet area for the discussion, use the right tone of voice, and be objective, but provide compassionate reassurance that a plan is in place and will be set in motion.

## *Teamwork and Empowerment*

Undergoing any procedure including endoscopy can lead to apprehension and anxiety in patients. There are multiple members of the health care team that make the patient journey easier from scheduling to pre-, intra- and post-procedure care. Scopemanship means involving, respecting, and empowering all team members. This includes clearly defining the roles of all team members, including endoscopy nurses, technicians, and the sedation team. The endoscopist should review the important aspects of the procedure indications with the team and any possible interventions planned. By educating everyone on the endoscopy findings and disease process, and creating an atmosphere conducive for learning, the team remains engaged in the process of caring for patients. In turn, the team members should feel empowered to voice their opinions and concerns to the endoscopist at all stages of the procedure without feeling intimidated. This environment

allows everyone to put the patient first at all times. A simple example of bidirectional communication and team work would be for the endoscopist to check the degree of sedation with the anesthesiologist before intubating the esophagus. At the other extreme, when faced with challenges during the procedures, the endoscopist should remain calm and resolve conflict through constructive comments during the procedure and during a post-procedure debrief.

## *Situational Awareness*

Complications are inherent to the practice of endoscopy and can occur even in the most experienced hands. Human factors can be amplified in situations of stress. When performing complex procedures, it is easy to develop tunnel vision with the monitor and lose sight of vital observations, unsafe patient position change, barotrauma, or staff concerns and warnings. Situational awareness requires an accurate perception of how the procedure is going and the anticipation of potential complications. In a rapidly evolving situation, early recognition of an (impending) complication, and thoughtful and efficient decision making, in addition to technical skills, can be life saving. Multiprofessional in situ simulations of procedural complications may be used to develop situational awareness.<sup>4</sup>

## *Decision Making*

Decision making involves not only the cognitive and technical aspect of endoscopy such as which colonoscope (adult vs pediatric) to use during a difficult colonoscopy, but also emphasizes a patient-centered approach when assessing the value and the risks and benefits of a diagnostic or therapeutic procedure for a patient. For instance, in a frail patient with a large intrapapillary mucinous neoplasm in the pancreas, the decision to pursue endoscopic ultrasound examination should be based on shared decision making with the patient (and family) weighing the risks and benefits of the procedure and how it would determine management. Similarly, determining which therapy to apply to a GI bleeding source, or how to manage endoscopy complications or unexpected findings requires flexibility to adapt in real time to new challenges in an endoscopy room. This effort requires the prioritization of patient safety and benefit, and the recognition of one's own limitations. Finally, it is important to communicate clearly in the endoscopy report the findings and the challenges of a particular procedure to facilitate decision making at the time of a follow-up endoscopy: this point is particularly important if a pathology requires follow-up or further care by a colleague (interventional endoscopist, surgeon, interventional radiologist), or if a particularly difficult colonoscopy should be repeated by a more experienced endoscopist.

## *Leadership*

Although endoscopy is a team-based specialty, it is easy for the endoscopist to become a passive participant in the process. Scopemanship requires a rounded demonstration of leadership from the time a decision is made to schedule the endoscopy to when the patient is safely discharged from the unit, with the judicious use of the qualities described

**Table 1.** Examples of Scopemanship in Relation to Endoscopy Procedures

	Before Endoscopy	During Endoscopy	After Endoscopy
Communication and compassion	Inform the team if specific staff and equipment are needed	Be mindful of the anesthesiologist, nurses and technicians' input and needs	Discuss findings in a empathic, objective and nonrushed way
	Walk the patient through what to expect in the endoscopy room and recovery	Thank your team for their efforts at the end of the procedure	Respect patient's wishes for privacy or for the presence of friends or family  Discuss and facilitate a follow-up plan  Inform the referring team
Teamwork and empowerment	Set expectations and roles	Promote a culture of learning and growth	Address issues and give constructive feedback during a team debrief when needed
	Review procedure indications with the endoscopy team	Listen to feedback from team members	
Situational awareness	Recognize when not to proceed with endoscopy	Remain aware of patient safety while focusing on the technical aspects of endoscopy	Recognize complications early and make appropriate care decisions
	Ensure appropriate sedation type	Remind assistant to release pressure when no longer required	
	Ensure appropriate time, staff, equipment, and skills are available for the planned procedure	Anticipate and recognize complications quickly	
Decision making	Assess risks and benefits of the procedure and personalize plan of care of potential findings based on the patient's clinical status	Weigh risks and benefits of endoscopic interventions	Include relevant details in the procedure reports: rationale for specific interventions or lack of, procedure difficulty, specific recommendations, and plan
		Manage endoscopic complications calmly in a stepwise fashion	
		Ask for help when needed	

**Table 1.** Continued

	Before Endoscopy	During Endoscopy	After Endoscopy
Leadership	<p>Brief the team before complex procedure or when challenges are expected</p> <p>Ensure adequate ergonomics for everyone</p> <p>Identify and resolve issues that may compromise safety</p>	<p>Demonstrate and encourage clear and open communication</p> <p>Foster a safe working environment</p>	<p>Take initiative and ownership of unexpected findings or complications</p> <p>Resolve conflicts</p> <p>Initiate steps to improve work flow and safety</p>
Training	<p>Get to know the trainee</p> <p>Set SMART<sup>a</sup> goals</p> <p>Establish language and boundaries</p>	<p>Minimize cognitive load</p> <p>Provide effective guidance</p> <p>Empower and foster confidence</p> <p>Maximize teaching opportunities</p>	<p>Provide structured and constructive feedback</p> <p>Assess present skills</p> <p>Set future goals and clear steps to achieve them</p>

<sup>a</sup>SMART (Specific, Measurable, Achievable, Realistic, Timely).

above. Good leadership also includes taking ownership of endoscopy suite failures or procedure complications, and initiating needed changes by listening to others' input, delivering constructive feedback to the team, and keeping the focus of the discussion on practical solutions to improve existing workflows and overcome similar endoscopic challenges in the future. Good leadership extends beyond the limits of a procedure to include initiatives to improve quality, productivity, and sustainability credentials within an endoscopy unit. Moreover, a good leader also finds ways to improve staff welfare and decrease physician burnout. This can be, in part, addressed by allocating appropriate time for procedures and addressing the issues of overbooking, understaffing, electronic health record challenges, and ergonomically unfriendly room layouts. These leadership skills are important to impart to the next generation of endoscopists during their training.

### Training

The joy, passion, and skill of imparting endoscopy wisdom is integral to scopemanship. Given the disruption to endoscopy training with novel coronavirus disease 2019, trainers should aim to include trainees when hands-on opportunities are available. Additional time should be invested before the procedure to assess the trainee's level of endoscopic skills, determine current learning objectives, and agree when the trainer would take over the scope. During the procedure, mentors should optimize cognitive load and give appropriate high-quality feedback.<sup>5,6</sup> Where possible, trainees should be shielded from service commitments. Formative assessment tools should be used to gauge performance and address future objectives. Training should be geared to empower trainee confidence while maintaining patient safety and comfort.

### The Next Step: Passing the Baton of Scopemanship to the Next Generation

Beyond teaching endoscopy skills, endoscopy trainers have the duty to impart a solid work ethic and scopemanship qualities to their trainees. Here, we share our strategies for fostering scopemanship.

#### Lead by Example

Trainers and mentors should strive to be role models for scopemanship through their actions, words, attitudes, and work philosophy. They should empower trainees to keep the patient at the center of what they do, and to focus on the quality and purpose of their work beyond the acquisition of more technical skills and procedure counts. In essence, trainers should remember that trainees learn mainly through observation. They should lead by example and inspire trainees to go the extra mile for patients, colleagues, and the endoscopy team members.

#### Teach Scopemanship

Scopemanship attributes will inevitably vary depending on individual personalities, mood, physical or emotional stressors, time pressure, and factors out of one's control.

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However, the attributes of scopemanship can be taught away from the live environment to improve competence in endoscopy. Even brief interventions can make a difference: in the randomized trial by Walsh et al,<sup>7</sup> novice trainees who received an additional hour of didactic nontechnical skills training (covering communication, leadership, situational awareness, team work, professionalism, and decision making) demonstrated significant improvements in overall performance during their first colonoscopy procedures. Lectures on the principles of scopemanship for trainees, and Train-the-Trainer courses that are aimed at endoscopy to maximize the effectiveness of training delivery,<sup>8</sup> could also be adapted to bring greater emphasis on scopemanship principles.

## *Promote the Culture of Scopemanship*

Set practical steps to establish and foster a culture of scopemanship in the endoscopy unit. These principles could be incorporated in the unit mission statement and propelled by the involvement of colleagues and a commitment from staff of all hierarchies to embrace the values of scopemanship.

## *Develop Scopemanship within the Trainee*

Assessment and feedback are essential to maximize benefit from hands-on training. Scopemanship competencies should be assessed during endoscopy to provide feedback and to set objectives for personal development. These are currently part of the United Kingdom direct observation of procedural skills assessments,<sup>9,10</sup> which assess qualities of leadership, situational awareness, judgement and decision making, and communication in both formative and summative contexts. Objective feedback from nursing staff and patients can also be incorporated in this evaluation to reflect and improve practice. Moreover, trainees should be encouraged to attend courses relevant to scopemanship skills, including those for leadership training and communication skills development.

## *Scopemanship and Social Media*

In the current era, knowledge has no bound. In addition to traditional knowledge-sharing avenues, there are multiple social media platforms where health care workers interact and engage to share knowledge and exchange ideas. We encourage trainees and trainers alike to join the conversation on social media to share positive examples of scopemanship to promote good practices. This allows for a global dialogue and direct interactions with patients and patient advocates which in turn highlights the principles of scopemanship most valued by our patients.

## *Conclusions*

Most endoscopists will recall their most inspirational trainers and mentors during their training. Often, it is not only their level of knowledge that sets them apart; but that special *je ne sais quoi* or *X-factor* attribute that drives this inspiration and leaves a lasting legacy to their trainees, colleagues, and patients. We believe that this factor relates to scopemanship, a higher order attribute that encompasses

the spirit of endoscopy. With the changing landscape of endoscopy with highly advanced procedures and high pressure for productivity, it is now more timely than ever to bring back the focus on the basic principles, ethics and joy in endoscopy. Just as sportsmanship sparks that extra joy in sports, we hope that this outline of the spirit of scopemanship will spark an interactive discussion and promote practical changes in endoscopy practice and training, which will in turn stimulate the personal and professional growth of the future generation of endoscopists.

## References

1. Walsh CM. In-training gastrointestinal endoscopy competency assessment tools: types of tools, validation and impact. *Best Pract Res Clin Gastroenterol* 2016; 30:357–374.
2. Matharoo M, Haycock A, Sevdalis N, et al. Endoscopic non-technical skills team training: the next step in quality assurance of endoscopy training. *World J Gastroenterol* 2014;20:17507–17515.
3. Hitchins CR, Metzner M, Edworthy J, et al. Non-technical skills and gastrointestinal endoscopy: a review of the literature. *Frontline Gastroenterol* 2018;9:129–134.
4. Graafland M, Schraagen JMC, Boormeester MA, et al. Training situational awareness to reduce surgical errors in the operating room. *Br J Surg* 2015;102:16–23.
5. Dilly CK, Sewell JL. How to Give feedback during endoscopy training. *Gastroenterology* 2017;153:632–636.
6. Schumacher DJ, Englander R, Carraccio C. Developing the master learner: applying learning theory to the learner, the teacher, and the learning environment. *Acad Med* 2013;88:1635–1645.
7. Walsh CM, Scaffidi MA, Khan R, et al. Non-technical skills curriculum incorporating simulation-based training improves performance in colonoscopy among novice endoscopists: randomized controlled trial. *Dig Endosc* 2020;9:CD008237.
8. Waschke KA, Anderson J, Valori RM, et al. ASGE principles of endoscopic training. *Gastrointestinal Endoscopy* 2019;90:27–34.
9. Siau K, Crossley J, Dunckley P, et al. Colonoscopy direct observation of procedural skills assessment tool for evaluating competency development during training. *Am J Gastroenterol* 2020;115:234–243.
10. Siau K, Dunckley P, Valori R, et al. Changes in scoring of Direct Observation of Procedural Skills (DOPS) forms and the impact on competence assessment. *Endoscopy* 2018;50:770–778.

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### Conflicts of Interest

The authors disclose no conflicts.