



SAGES University MASTERS PROGRAM: Foregut Pathway

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The Masters Program organizes educational materials along clinical pathways into discrete blocks of content which could be accessed by a surgeon attending the SAGES annual meeting or by logging into the online SAGES University (Fig. 1.1) [1]. The SAGES Masters Program currently has eight pathways including Acute Care, Biliary, Bariatrics, Colon, Foregut, Hernia, Flex Endoscopy, and Robotic Surgery (Fig. 1.2). Each pathway is divided into three levels of targeted performance: competency, proficiency, and mastery (Fig. 1.3). The levels originate from the Dreyfus model of skill acquisition [2], which has five stages: novice, advanced beginner, competency, proficiency, and expertise. The SAGES MASTERS Program is based on the three more advanced stages of skill acquisition: competency, proficiency, and expertise. Competency is defined as what a graduating general surgery chief resident or MIS fellow should be able to achieve; proficiency is what a surgeon approximately 3 years out from training should be able to accomplish; and mastery is what more experienced surgeons should be able to accomplish after several years in practice. Mastery is applicable to SAGES surgeons seeking in-depth knowledge in a pathway, including the

Adopted from Jones DB, Stefanidis D, Korndorffer JR, Dimick JB, Jacob BP, Schultz L, Scott DJ (2017) SAGES University Masters Program: a structured curriculum for deliberate, lifelong learning. *Surg Endosc* 31:3061–3071

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J. Grams et al. (eds.), *The SAGES Manual of Foregut Surgery*,
https://doi.org/10.1007/978-3-319-96122-4_1

Fig. 1.1 MASTERS program logo



Fig. 1.2 MASTER program clinical pathways

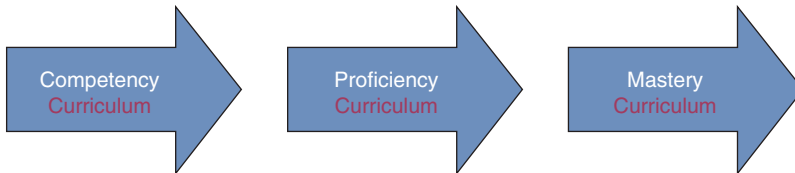


Fig. 1.3 MASTERS program progression

following: areas of controversy, outcomes, best practice, and ability to mentor colleagues. Over time, with the utilization of coaching and participation in SAGES courses, this level should be obtainable by the majority of SAGES members. This edition of the SAGES Manual – Foregut Surgery – aligns with the current version of the new SAGES University MASTERS Program Foregut Surgery Pathway (Table 1.1).

Foregut Curriculum

The key elements of the Foregut Surgery curriculum include a core lectures for the pathway, which provides a 45-minute general overview including basic anatomy, physiology, diagnostic work-up, and surgical management. As of 2018, all lecture

Table 1.1 Foregut surgery anchoring procedure by pathway

<i>Curriculum elements</i>	<i>Competency</i>
Anchoring procedure – competency	2
CORE LECTURE	1
CORE MCE 70%	1
Annual meeting content	5
Guidelines	1
SA CME hours	6
Sentinel articles	2
Social media	2
SAGES top 21 video	1
FLS	12
PEARLS	1
Motility module	1
Credits	35
<i>Curriculum elements</i>	<i>Proficiency</i>
Anchoring procedure – proficiency	2
CORE LECTURE	1
CORE MCE 70%	1
Annual meeting content	5
FUSE	12
Outcomes database enrollment	2
SA CME hours (ASMBS electives, SAGES or SAGES-endorsed)	6
Sentinel articles	2
Social media	2
SAGES top 21 video	1
PEARLS	1
Credits	35
<i>Curriculum elements</i>	<i>Mastery</i>
Anchoring procedure – mastery	2
CORE LECTURE	1
CORE MCE 70%	1
Annual meeting content	6
Fundamentals of surgical coaching	4
Outcomes database reporting	2
SA CME credits (ASMBS electives, SAGES or SAGES-endorsed)	6
Sentinel articles	2
Serving as video assessment reviewer and providing feedback (FSC)	4
Social media	6
SMART enhanced recovery	1
Credits	35

content of the annual SAGES meetings are labeled as follows: basic (100), intermediate (200), and advanced (300). This allows attendees to choose lectures that best fit their educational needs. Coding the content additionally facilitates online retrieval of specific educational material, with varying degrees of surgical complexity, ranging from introductory to revisional surgery.

SAGES identified the need to develop targeted, complex content for its mastery level curriculum. The idea was that these 25-min lectures would be focused on specific topics. It assumes that the attendee already has a good understanding of diseases and management from attending/watching competency and proficiency level lectures. Ideally, in order to supplement a chosen topic, the mastery lectures would also identify key prerequisite articles from *Surgical Endoscopy* and other journals, in addition to SAGES University videos. Many of these lectures will be forthcoming at future SAGES annual meetings.

The MASTERS Program has a self-assessment, multiple-choice exam for each module to guide learner progression throughout the curriculum. Questions are submitted by core lecture speakers and SAGES annual meeting faculty. The goal of the questions is to use assessment for learning, with the assessment being criterion-referenced with the percent correct set at 80%. Learners will be able to review incorrect answers, review educational content, and retake the examination until a passing score is obtained.

The MASTERS Program Foregut Surgery curriculum taps much of the SAGES existing educational products including FLS, FES, FUSE, SMART, Top 21 videos, and Pearls (Fig. 1.4). The Curriculum Task Force has placed the aforementioned modules along a continuum of the curriculum pathway. For example, FLS, in general, occurs during the Competency Curriculum, whereas the Fundamental Use of Surgical Energy (FUSE) is usually required during the Proficiency Curriculum. The Fundamentals of Laparoscopic Surgery (FLS) is a multiple-choice exam and a skills assessment conducted on a video box trainer. Tasks include peg transfer, cutting, intracorporeal and extracorporeal suturing, and knot tying. Since 2010, FLS has been required of all US general surgery residents seeking to sit for the American Board of Surgery qualifying examinations. The Fundamentals of Endoscopic Surgery (FES) assesses endoscopic knowledge and technical skills in a simulator. FUSE teaches about the safe use of energy devices in the operating room and is available at FUSE.didactic.org. After learners complete the self-paced modules, they may take the certifying examination.

The SAGES Surgical Multimodal Accelerated Recovery Trajectory (SMART) Initiative combines minimally invasive surgical techniques with enhanced recovery pathways (ERPs) for perioperative care, with the goal of improving outcomes and patient satisfaction. Educational materials include a website with best practices, sample pathways, patient literature, and other resources such as videos, FAQs, and an implementation timeline. The materials assist surgeons and their surgical team with implementation of an ERP.

Top 21 videos are edited videos of the most commonly performed MIS operations and basic endoscopy. Cases are straightforward with quality video and clear anatomy.

Pearls are step-by-step video clips of ten operations. The authors show different variations for each step. The learner should have a fundamental understanding of the operation.

SAGES Guidelines provide evidence-based recommendations for surgeons and are developed by the SAGES Guidelines Committee following the Health

Fig. 1.4 SAGES educational content: FLS, FES, FUSE, SMART



and Medicine Division of the National Academies of Sciences, Engineering, and Medicine standards (formerly the Institute of Medicine) for guideline development [3]. Each clinical practice guideline has been systematically researched, reviewed, and revised by the SAGES Guidelines Committee and an appropriate multidisciplinary team. The strength of the provided recommendations is determined based on the quality of the available literature using the GRADE methodology [4]. SAGES Guidelines cover a wide range of topics relevant to the practice of SAGES surgeon members and are updated on a regular basis. Since the developed guidelines provide an appraisal of the available literature, their inclusion in the MASTERS Program was deemed necessary by the group.

The Curriculum Task Force identified the need to select required readings for the MASTERS Program based on key articles for the various curriculum procedures. Summaries of each of these articles follow the American College of Surgeons (ACS) Selected Readings format.

Facebook™ Groups

While there are many great platforms available to permit online collaboration by user-generated content, Facebook(™) offers a unique, highly developed mobile platform that is ideal for global professional collaboration and daily continuing surgical education (Fig. 1.5). Facebook groups allow for video assessment, feedback, and coaching as a tool to improve practice.

Based on the anchoring procedures determined via group consensus (Table 1.2), participants in the MASTERS Program will submit video clips on closed Facebook groups, with other participants and/or SAGES members providing qualitative feedback. For example, for the Foregut Curriculum, surgeons would submit the critical views during a laparoscopic paraesophageal hernia repair such as identification of the anterior and posterior vagus nerves. Using crowdsourcing, other surgeons would comment and provide feedback.

Eight unique vetted membership-only closed Facebook groups were created for the MASTERS Program, including a group for bariatrics, hernia, colorectal, biliary, acute care, flexible endoscopy, robotics, and foregut. The Foregut Surgery Facebook group is independent of the other groups and will be populated only by physicians, mostly surgeons or surgeons in training interested in foregut surgery.

The group provides an international platform for surgeons and healthcare providers interested in optimizing outcomes in a surgical specialty to collaborate, share, discuss, and post photos, videos, and anything related to a chosen specialty. By embracing social media as a collaborative forum, we can more effectively and transparently obtain immediate global feedback that potentially can improve patient outcomes, as well as the quality of care we provide, all while transforming the way a society's members interact.



Fig. 1.5 Foregut surgery facebook Facebook(™)group

Table 1.2 MASTERS program colon curriculum outline

Anchoring procedure by pathway	Level
Foregut Surgery	
Lap Nissen	Competency
Lap Paraesophageal or Heller Myotomy	Proficiency
Lap Redo Nissen	Mastery

For the first two levels of the MASTERS Program, competency and proficiency, participants will be required to post videos of the anchoring procedures and will receive qualitative feedback from other participants. However, for the mastery level, participants will submit a video to be evaluated by an expert panel. A standardized video assessment tool, depending on the specific procedure, will be used. A benchmark will also be utilized to determine when the participant has achieved the mastery level for that procedure.

Once the participant has achieved mastery level, s/he will participate as a coach by providing feedback to participants in the first two levels. MASTERS Program participants will therefore need to learn the fundamental principles of surgical coaching. The key activities of coaching include goal setting, active listening, powerful inquiry, and constructive feedback [5, 6]. Importantly, peer coaching is much different than traditional education, where there is an expert and a learner. Peer coaching is a “co-learning” model where the coach is facilitating the development of the coachee by using inquiry (i.e., open-ended questions) in a noncompetitive manner.

Surgical coaching skills are a crucial part of the MASTERS curriculum. At the 2017 SAGES Annual Meeting, a postgraduate course on coaching skills was developed and video recorded. The goal is to develop a “coaching culture” within the SAGES MASTERS Program, wherein both participants and coaches are committed to lifelong learning and development.

The need for a more structured approach to the education of practicing surgeons as accomplished by the SAGES MASTERS Program is well recognized [7]. Since performance feedback usually stops after training completion and current approaches to MOC are suboptimal, the need for peer coaching has recently received increased attention in surgery [5, 6]. SAGES has recognized this need, and its MASTERS Program embraces social media for surgical education to help provide a free, mobile, and easy to use platform to surgeons globally. Access to the MASTERS Program groups enables surgeons at all levels to partake in the MASTERS Program curriculum and obtain feedback from peers, mentors, and experts. By creating surgeon-only private groups dedicated to this project, SAGES can now offer surgeons posting in these groups the ability to discuss preoperative, intraoperative, and postoperative issues with other SAGES colleagues and mentors. In addition, the platform permits transparent and responsive dialogue about technique, continuing the theme of deliberate, lifelong learning.

To accommodate the needs of this program, SAGES University is upgrading its web-based features. A new learning management system (LMS) will track progression and make access to SAGES University simple. Features of the new IT infrastructure will provide the ability to access a video or lecture on-demand in relation to content, level of difficulty, and author. Once enrolled in the MASTERS Program, the LMS will track lectures, educational products, MCE, and other completed requirements. Participants will be able to see where they stand in relation to module completion, and SAGES will alert learners to relevant content they may

be interested in pursuing. Until such time that the new LMS is up and running, it is hoped that the SAGES Manual will help guide learners through the Masters Program Curriculum.

Conclusions

The SAGES MASTERS Program Foregut Surgery Pathway facilitates deliberate, focused postgraduate teaching and learning. The MASTERS Program certifies completion of the curriculum but is *not* meant to certify competency, proficiency, or mastery of surgeons. The MASTERS Program embraces the concept of lifelong learning after fellowship, and its curriculum is organized from basic principles to more complex content. The MASTERS Program is an innovative, voluntary curriculum that supports MOC and deliberate, lifelong learning.

References

1. Jones DB, Stefanidis D, Korndorffer JR, Dimick JB, Jacob BP, Schultz L, Scott DJ. SAGES University masters program: a structured curriculum for deliberate, lifelong learning. *Surg Endosc*. 2017;31:3061–71.
2. Dreyfus SE. The five-stage model of adult skill acquisition. *Bull Sci Technol Soc*. 2004;24:177–81.
3. Graham R, Mancher M, Miller Woman D, Greenfield S, Steinberg E. Institute of Medicine (US) committee on standards for developing trustworthy clinical practice guidelines. *Clinical practice guidelines we can trust*. Washington, DC: National Academies Press (US); 2011.
4. Guyatt GH, Oxman AD, Vist GE, Kunz R, Falck-Ytter Y, Alonso-Coello P, Schünemann HJ, GRADE Working Group. GRADE: an emerging consensus on rating quality of evidence and strength of recommendations. *BMJ*. 2008;336:924–6.
5. Greenberg CC, Ghouseini HN, Pavuluri Quamme SR, Beasley HL, Wiegmann DA. Surgical coaching for individual performance improvement. *Ann Surg*. 2015;261:32–4.
6. Greenberg CC, Dombrowski J, Dimick JB. Video-based surgical coaching: an emerging approach to performance improvement. *JAMA Surg*. 2016;151:282–3.
7. Sachdeva AK. Acquiring skills in new procedures and technology: the challenge and the opportunity. *Arch Surg*. 2005;140:387–9.