ADVANCES IN ENDOSCOPY

Current Developments in Diagnostic and Therapeutic Endoscopy

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Competence and Credentialing in Endoscopy

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G&H What is meant by "competence" in terms of gastrointestinal (GI) endoscopy?

GM Before defining competence as it relates to endoscopic training, it is important to differentiate competence from credentialing, as these terms are sometimes erroneously used interchangeably. Credentialing is the review of evidence that a prospective endoscopist possesses the proper licensure, education, and adequate training to qualify for privileges at an institution. Training directors are asked to attest to the competence level of trainees after completion of the training program but do not credential the trainees. Competency requires the consistent ability to meet the technical goals of the intended procedure and to correctly perform the cognitive aspects of the procedure. An excellent document that thoroughly addresses competence in endoscopy was recently published by the combined American College of Gastroenterology/American Society for Gastrointestinal Endoscopy (ACG/ASGE) Taskforce on Quality in Endoscopy, which defined competence as the following: "the minimal level of skill, knowledge, and/or expertise derived through training and experience that is required to safely and proficiently perform a task or procedure. When applied to endoscopy, this means that the endoscopist has gone through a period of training to develop requisite endoscopic skills and acquire the knowledge base required to safely perform, interpret, and correctly manage findings of endoscopic procedures. Competence assures that a safe and technically successful procedure is performed and that the observations and results are accurate."

G&H How are fellows monitored in your endoscopic training program?

GM Despite the increased emphasis placed on training programs by accrediting bodies such as the Accreditation Council for Graduate Medical Education (ACGME) to document the technical and cognitive success obtained by trainees, nothing can replace the daily feedback and dialogue between the trainee and endoscopy trainer. Throughout its 3-year duration, our program—like most other training programs—employs direct observation by mentor physicians that fosters immediate feedback. With this real-time observational approach, we are able to monitor not only technical skill acquisition but also assess other important aspects of procedures, such as whether the trainee understands the indications for the procedure, obtains prior informed consent, employs basic airway management, and uses proper sedation techniques. We assess multiple aspects of the six ACGME "core competencies," which include elements of patient care, medical knowledge, interpersonal skills, and professionalism. The ASGE has also made available on their training website multiple endoscopic competency evaluation forms that our faculty completes on a quarterly basis. Attention has shifted away from the volume of procedures performed over time and turned the focus more toward whether certain endpoints have been reached such as cecal intubation rates for colonoscopy or therapeutic success when performing endoscopic therapy for a bleeding ulcer. The expectation is that each fellow should exhibit linear progression over time. As the training director, I then receive and collate the evaluations that our faculty completes and discuss them on a quarterly basis with the fellows during their semi-annual reviews.

G&H Should all fellows receive training in advanced procedures such as endoscopic retrograde cholangiopancreatography (ERCP) and/or endoscopic ultrasound (EUS)?

GM The answer to this question hinges upon the training philosophy and mission of each training program. Despite

established competency threshold numbers, a recent survey found that many recent graduates maintain that they will continue to perform ERCP despite inadequate training. In contrast, over two thirds of physicians performing EUS in practice had completed an advanced endoscopy fellowship and achieved threshold numbers. Herein lies the great disconnect between the recommended experience set forth by the ASGE and the reality of fellowship training. Unfortunately, unless training directors have a greater role in the credentialing process, graduates will continue to dabble in these risky procedures until untoward litigation forces change. During my own fellowship, training in both ERCP and EUS was often mutually exclusive. However, over time, the expanding role of EUS has led to an appropriate decrease in unnecessary diagnostic ERCP. Conversely, endosonographers not trained in ERCP, such as myself, feel uncomfortable and incapable of completing therapeutic interventions such as pseudocyst drainage independently. The future biliary endoscopist will need to possess both skill sets. Thus, as to the question that Dr. Baillie once posed in an article asking "why, how, and will we even need ERCP in the future" for training in advanced pancreaticobiliary endoscopy, I would firmly answer affirmatively. The appropriate duration of training in both EUS and ERCP is a challenging issue, however. Based upon the number of biliary procedures encountered at even high-volume academic centers, an experience of less than 12–18 months would likely preclude adequate training in both procedures.

G&H Although fellows develop their skills at different rates, are there individuals who just never acquire the necessary skills, and if so, how are they recognized and counseled?

GM Most trainees who choose to train in gastroenterology have some interest in performing procedures. Often, this procedural aspect of GI is what attracts fellows into the specialty. However, there is undoubtedly great variation among trainees. Although training is one of the vital missions, it must not become paramount at the expense of patient comfort and safety. In addition to faculty mentors, skilled and experienced nurses in our unit have been involved in the training of nearly 40 fellows over the past several decades. Nearly all of the faculty are involved in training fellows and, hence, have personal insight to their skill levels. Direct feedback with the fellows is encouraged after each procedure. If a fellow is glaringly deficient or "dangerous," we have the ability and responsibility to help correct their shortcomings by taking their endoscope away and then showing them the correct technique. Vigilant faculty directly involved in the teaching of correct techniques and the input of experienced nurses ensure that fellows in need of close supervision are identified very early on in their training. Based upon the faculty and 360-degree evaluations that are completed collectively by our nurses, we sit down with all the fellows, at the very minimum, on a semi-annual basis or sometimes as often as every 2 weeks, depending upon the need to correct their deficiencies until they develop the skill.

G&H As a practitioner at a teaching center, how do you obtain consent from patients to allow trainees to perform procedures?

GM Our informed consent forms clearly state the faculty, colleagues, or associated physicians with the faculty who will perform the procedure. Thus, indirectly, the patients sign that they are aware that the person performing the procedure may very well be either a colleague or a fellow performing the procedure with the faculty. I admit that the distinction is more often emphasized to patients undergoing advanced procedures such as EUS and ERCP and glossed over when obtaining patient consent for routine procedures. When patients directly ask who will be performing the procedure, we inform them that it will be a trainee but reassure them that a faculty member will be supervising the entire time. If the patient objects to a trainee performing the procedure, their preference is always respected.

G&H Do you believe, as some experts do, that working with trainees increases the risk of complications when performing endoscopy?

GM I hesitate to make a blanket statement that trainees increase the complication rates when performing endoscopic procedures. There exist some data supporting such claims, however. A survey of approximately 10,000 colonoscopies performed at the Mayo Clinic in Scottsdale, Arizona, revealed that 8 of the 20 perforations that occurred over a 10-year period had trainee involvement. However, this was not shown to be a statistically significant finding. From my personal experience, the first several months of any trainee performing a new procedure poses the greatest complication risk, no matter what his or her level of training has been up to that point. Thus, during this phase, the faculty may be wise to "have an extra hand on the endoscope," so to speak. There really is no substitute for the tactile feel of resistance encountered when pushing the endoscope. This feel pertains equally to the colonoscope when negotiating a tortuous sigmoid colon and to the fairly inflexible EUS endoscope when intubating an esophageal stricture.

G&H Are simulators helpful for teaching endoscopic procedures?

GM Preliminary data regarding the utility of simulators in enhancing the learning curve for trainees were not favorable. However, the newer-generation simulators nearly mimic conventional endoscopy, including the resistance encountered, the stiffness of the endoscope, and the torquing. As Dr. Gerson poignantly suggested in a recent article, "a teaching instrument that could provide the first-year gastroenterology fellow with information about endoscopic technique in addition to advancing skill level of the trainee to bypass this initial challenging time would be ideal for patients, fellows, and mentors." Dr. Cohen and associates studied the impact of simulation-based training in a multicenter clinical trial. They randomized 45 first-year fellows (23 fellows to simulator training for 10 hours and 22 fellows to no simulator training). The primary outcomes were objective and subjective competency during 200 colonoscopies. The investigators found that the simulator-trained group showed higher objective competency during the first 80 cases, but there was no difference in patient discomfort. I believe that the maximal benefit of simulators will ultimately be realized in teaching advanced procedures such as EUS and ERCP. The challenges that have been met, with surprising success, include creating the imaging/cognitive component for EUS and simulating the therapeutic maneuvers needed in ERCP. I envision that future advanced training will rely heavily on these EUS/ERCP simulators, especially for familiarizing trainees in techniques such as EUS-guided fine needle aspiration and sphincterotomy.

G&H With the growing interest and excitement for natural orifice translumenal endoscopic surgery (NOTES), how are you preparing your trainees for the upcoming NOTES era?

GM NOTES has certainly burst onto the scene with as much vigor as antireflux procedures approximately 5 years ago and laparoscopic surgery nearly 2 decades ago. The similarities end there, however. NOTES has promoted collaboration between surgical endoscopists and interventional gastroenterologists as never before. Members of the original group interested in NOTES from ASGE and the Society of American Gastrointestinal and Endoscopic Surgeons have now formed a working group with the appropriate acronym NOSCAR (Natural Orifice Surgery Consortium for Assessment and Research). The pros and cons of performing these procedures on our patients are being vigorously debated. I applaud the leaders of this working group for rigorously designing animal studies to determine feasibility; the group is methodically designing the tools to ensure long-term success. The GI community will have strong data on NOTES from animal models before it is unleashed on patients. Certainly, the GI training programs and, specifically, the interventional centers would be appropriate environments in which to push this envelope. An animal laboratory is absolutely critical for any facility that intends to train fellows in NOTES procedures. My colleague Dr. Conway is close to establishing our own animal laboratory. We have sent our advanced trainees to NOSCAR- and NOTES-sponsored courses, but at the moment, our advanced training is limited to EUS, ERCP, endoscopic mucosal resection, double-balloon enteroscopy, and palliative stenting.

Suggested Reading

ASGE/ACG Taskforce on Quality in Endoscopy. Ensuring Competence in Endoscopy. Available at: http://www.asge.org/WorkArea/showcontent.aspx?id=3384. Accessed November 27, 2007.

Kowalski T, Kanchana T, Pungapapong S. Perceptions of gastroenterology fellows regarding ERCP competency and training. *Gastrointest Endosc*. 2003;58:345-349.

Wasan SM, Kapadia AS, Adler DG. EUS training and practice patterns among gastroenterologists completing training since 1993. *Gastrointest Endosc.* 2005;62:914-920.

Meenan J, Tibble J, Prasad P, Wilkinson M. The substitution of endoscopic ultrasound for endoscopic retrograde cholangiopancreatography: implications for service development and training. *Eur J Gastroenterol Hepatol.* 2004;16:299-303.

Baillie J. Training in advanced pancreaticobiliary endoscopy: why, how, and will we even need ERCP in the future? *Tech Gastrointest Endsoc.* 2004;6:100-106.

Anderson ML, Pasha TM, Leighton JA. Endoscopic perforation of the colon: lessons from a 10-year study. *Am J Gastroenterol.* 2000;95:3418-3422.

Gerson LB. Can colonoscopy simulators enhance the learning curve for trainees? *Gastrointest Endosc*. 2006;64:369-373.

Cohen J, Cohen SA, Vora KC, Xue X, Burdick JS, et al. Multicenter, randomized, controlled trial of virtual-reality simulator training in acquisition of competency in colonoscopy. *Gastrointest Endosc*. 2006;64:361-368.

Swanstrom LL, Whiteford M, Khajanchee Y. Developing essential tools to enable transgastric surgery. *Surg Endosc*. 2007; Nov 1 [Epub ahead of print].