Editorial

New competency assessment tool for laparoscopic colorectal surgery

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Due to an increasing awareness of the complications of medical and surgical treatment, the public has a growing distrust of the medical system and of their physicians. Patients have become more demanding when it comes to knowing the qualifications of those who are treating them. The expectations of physician training are increasing and the tools we use to assess that training must also improve. Historically, there has been little to no formal assessment of technical skill for board certification or credentialing in the United States. The assumption has been that if you have completed residency training, you are proficient. Board certification in surgery requires completion of a training program and passing written and oral exams, but no technical exam. Compounding the problem of assessment after residency and fellowship, many of the procedures performed by practicing surgeons were not taught in their training because they did not exist and are learned on the job. There is, therefore, a pressing need for formation and adoption of assessment tools such as the one presented in the recent Annals of Surgery article by Miskovic *et al*. (1).

Miskovic *et al*., present their competency assessment tool (CAT) which they have been using to assess apprentices following training in the National Training Programme in Laparoscopic Colorectal Surgery in England. The CAT was designed to assess surgeons who were already certified to be independent practitioners but were receiving specialized further training in laparoscopic colorectal surgery. The authors used complex statistical methods to validate the tool. Briefly, the authors used the Delphi method to have expert colorectal surgeons list and rate characteristics of competent performance in laparoscopic colorectal surgery. This was used to make an assessment tool for task-specific assessment in 4 areas: access and exposure, identification and dissection of the vascular pedicle, mobilization of the colon and rectum, and resection/anastomosis of the bowel. These tasks are rated in 4 domains on the assessment tool: use of instruments, tissue handling, errors, and the quality of the end product. Statistical assessment of validity and reliability were performed. The average CAT score of the experts was significantly better than those of the apprentices and the tool was able to distinguish between passing and failing apprentices.

The CAT is the first study of assessment of this type of tool for specialty practice. The authors should be applauded along with the National Training Programme in Laparoscopic Colorectal Surgery. More programs such as this one and validated skills assessment for those who complete them should be used to ensure that surgeons who are adopting these complex surgical procedures are going to be able to perform them safely.

One critique of the study is that the apprentices were asked to self-select videos of cases for assessment. Another is the lack of proven improvement in clinical outcome which is the gold standard. The score that predicts a low complication rate in patients is unknown. The authors argue that tools like this should be used to identify those who lack competence before waiting for poor outcomes to accumulate but did not link those to their tool in this study. More study is needed to prove this tool can be used to prevent problems.

As surgeons, we must have the confidence to operate on patients. We open their bodies and attempt to repair their pathophysiology. We complete a long and arduous training in order to be able to do so. Considering this, there is often reluctance to question the competency of the surgeon. The consequences of incompetence in the operating room

can be devastating to our patients. This was seen when laparoscopic cholecystectomy became popular and the rates of common bile duct injuries increased substantially (2). This increase in the rate of complications exposed the need for credentialing when new techniques become available.

Colon resections are commonly performed for a variety of problems, most commonly for colorectal cancer and diverticulitis. Laparoscopic colon resections are increasingly being performed in lieu of open procedures (3) but laparoscopy has a steep learning curve (4). Between 25 and 38 laparoscopic resections are needed to reach proficiency in studies of the learning curve for laparoscopic colectomy (5,6) but improvements in operative time, conversion rate, leak rate, and node harvest were found even after 200 laparoscopic resection (7). Thus, the outcome for the patient may be different depending on the number, type, and complexity of cases previously performed by the operating surgeon. In the case of colorectal cancer, proper resection can improve long term survival. Many practicing surgeons learn to perform complex laparoscopic procedures at short courses. A study by Lewis *et al*., showed that after only a short training program on laparoscopic colorectal surgery, up to 80% of the surgeons then incorporate these new procedures into their practices (8). Improved assessment of surgeon competency to perform these complex laparoscopic procedures is needed.

Several studies of complex disease have shown that patients treated by specialists or in specialty centers have improved outcomes. This has been shown in colorectal and pancreatic cancers (9,10). There is no way to parse out whether this is due to the medical care they receive or if the technical prowess of their surgeons is the reason for their improvement. Surgeons who have a specialized practice and those who have performed an increased number of laparoscopic colon resections have improved surgical outcomes (11).

While the assessment tool presented by Miskovic *et al*., is a move in the right direction, much work is left to determine how this type of tool should be used. It has great potential for use in certifying and credentialing. The next step in the validation of these types of tools is to assess for a correlation between performance on them and clinical outcomes. Ensuring the safe and effective practice of new techniques is a concern in surgery worldwide and using assessment tools may be one way to do so.

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