Assessing surgical competence: A challenge

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‘In surgery, the hand of the beginner is heavy!’

Lord Moynihan

It is examination season now in India. The entrance examinations to the various postgraduate courses in urology are just over and the exit examinations have started. The country now debates on a uniform standard entry examination.

In the various stages of my life I have been both a student and examiner. The answer that has always eluded me is this—how does one evaluate the competence of an individual as a consultant. It is possible to judge the core theoretical knowledge with a combination of tests. A well-structured theory paper is limited in scope and at best evaluates recall function and falls short in application. The classical ‘viva voce’ though intimidating and non-standardized can assess a candidate knowledge in lesser or greater depth and also examine the mechanism used to reach such a conclusion. The addition of objective structured clinical examinations (OSCE) to the traditional formats can result in the standardized evaluation of a wide variety of clinical topics. However, the question of surgical competence still remains unanswered—Is the examinee a safe and competent surgeon? Logbooks are not standardized and lack transparency. This question has no easy answers.

Surgery is both an art and science. Good surgery involves a wide knowledge base, good clinical judgment, and proficient technical skills. Traditionally surgery has been learnt by apprenticeship. After a variable period, the mentor would feel that the trainee surgeon was fit to be independent and could appear for a certification examination. Times have changed significantly. Today, surgical competence and its maintenance is a matter of much debate both in scientific circles and in the lay media. Urology has unique needs; we have been pioneers in endoscopic surgery, and early adopters of the laparoscopic and the robotic approach. Open urological procedures in the pelvis and reconstructive surgery remain technically challenging with a steep learning curve. To be surgically competent in all such diverse approaches and technique is difficult for even experienced urologists, leave alone the trainee.

While surgery is not about technique alone, it remains a fact that at the core of surgical practice lies proficient technical skills. It is a field which can be quite difficult to objectively assess. Technical competence involves judgment, knowledge, and dexterity. While the clinical judgment and knowledge base can be assessed objectively with the traditional examination, it is difficult to quantify surgical dexterity. It remains an ill-defined term, referring to a combination of diverse psychomotor skills, that is, movement, tissue handling, and decision making.

Objective structured assessments of technical skills (OSATS) was developed in the 1990s and involved assessment, the candidate performs a standardized surgical task (placing sutures in synthetic skin, joining the cut ends of bowel in a bench, or inserting a catheter) while being observed by at least two assessors.

Hand motion analysis either using the movements of hand attached trackers in an electromagnetic field and virtual reality techniques using simulators have been used in an attempt to standardize assessment.

While these allow to some extent the assessment of a standardized set of skills under controlled conditions, it does not assess judgment and do not replicate the environment of the actual surgery. The results in a skills lab are also not a reflection of the results in surgery.

While assessing technical competence is difficult, there is no doubt that a formal teaching of basic
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surgical skills and repeated practice helps. The basic surgical skills (BSS) has been taught in the United Kingdom since 1996 and also adopted in some form in many countries around the world. There is yet no such course for urology. This becomes even more important after the recent increase in the number of residency slots available for urology training in India without simultaneous increase in the facilities for training.

In the future, the clamor for independent assessment of surgical competence will become louder and publication of the results of surgical procedures may become mandatory. External validation of a residency program and mandatory periodic candidate feedback may well be the future to maintain minimum standards for surgical training. It is important for us as a specialty to evolve a robust methodology to assess and certify all aspects of urological training.

This issue has a symposium on modern endourological practice edited by Madhu S. Agrawal. With contributions from some of the most prominent endourologists practicing today, I am sure it will be interest to both trainee and consultant urologists.

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