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ASSESSING INTRAOPERATIVE JUDGMENT THROUGH THE GYNECOLOGY CONTINUUM OF PRACTICE

Hypothesis / aims of study

Our current understanding of the natural course of surgical judgment after a surgeon completes their training program is not well understood. Anecdotal evidence suggests that surgical judgment improves through continued "practice of surgery" as this helps to refine the network of experiences for which surgeons can apply to newly encountered scenarios. It is also assumed that this improvement in judgment results in better patient outcomes. However, a recent meta-analysis suggests that this is not necessarily accurate. On the contrary, published data actually suggest that the quality of healthcare may decrease over time across medical and surgical practices. [1] These findings highlight the need to develop and use tools to assess and study the natural course of judgment in practicing surgeons.

An emerging alternative to assess clinical decision making or judgment uses a novel multiple-choice written examination based on Script Concordance Theory. First developed by Charlin et al, Script Concordance Testing (SCT) aims to compare an examinee's responses to a series of "ill-defined" scenarios in which correct decisions are weighted and compared to a reference panel of experts. These scenarios can be diagnostic, prognostic or therapeutic by design. SCTs have been previously validated in Surgery, Urology, Internal Medicine and Obstetrics and Gynecology. [2]

Our primary aim was to measure surgical judgment in Female Pelvic Medicine & Reconstructive Surgery (FPMRS) across the Obstetrics and Gynecology (OBGYN) continuum of practice in a diverse group of U.S. and Latin American surgeons. A secondary aim was to identify factors that correlate with surgical judgment. Our hypothesis was that surgical judgment depends more on surgical volume than years in practice and that this would be reflected between groups of surgeons at different points along the continuum of practice.

Study design, materials and methods

A 45-item written examination was developed using script concordance theory, which compares an examinee's responses to a series of "ill-defined" FPMRS surgical scenarios to a reference panel of surgical experts. [3] The domains of the test covered intraoperative management of surgical complications or abnormal findings at the time of female pelvic reconstructive surgery. The test consisted of case stems that provide a surgical vignette that if real, would require further surgical therapeutic action. Each vignette was followed by new additional information and is followed by a question that asks the participant given the new information, whether they are more or less likely to proceed with their original surgical strategy. A total of 20 case stems, each with 2-3 response items were constructed for a total of 45 items. Face validity of the items were obtained by allowing additional experts to view and give feedback regarding case stems and items before administration of the final test. The length of the test was also limited to 20 cases as it was felt this was the upper limit of questions that could be asked in a CME setting to practicing surgeons without affecting response rates. The test was administered to OBGYN residents, FPMRS fellows, practicing OBGYN physicians and FPMRS experts from the United States and South America. Translation of the English version into a Spanish version was performed by professional translators. Translated tests were independently reviewed by surgeons in their native language prior to administration to subjects for any clarifications. Scoring was calculated using a modified aggregate method and raw scores were transformed based on the expert panel mean (±SD) of 80 (±5). Surgical judgment as measured using the examination was evaluated by comparing test scores of each group against the expert panel scores. Factors related to surgical experience were measured for association with test scores.

Results

147 participants, including OBGYN residents (N=11), FPMRS fellows (N=37), practicing OBGYN physicians (N=88) and FPMRS experts (N=11) completed the examination. Practicing physicians reported being in practice for a mean (25%, 75% quartile) of 12 (6, 20) years. Mean transformed scores for practicing physicians (65•2 ± 7•4) were similar to residents (67•2 ± 7.1), and significantly worse than fellows (72•6 ± 4•2, P<0•001) and experts (80 ± 5, P<0•001) (see Figure 1). 81•8 % of practicing physicians scored ≥2 SD below the mean expert score. Significant positive correlations between participant's test scores and surgical experience included: annual number of vaginal hysterectomies (R=0•32, P=<0•001), robotic hysterectomies (R=0•17, P=0•048), stress incontinence (R=0•29, P<0•001) and pelvic organ prolapse procedures (R= 0•37, P<0•001). An inverse correlation was seen between better test scores and years in practice. (R= -0•19, P=0•02).

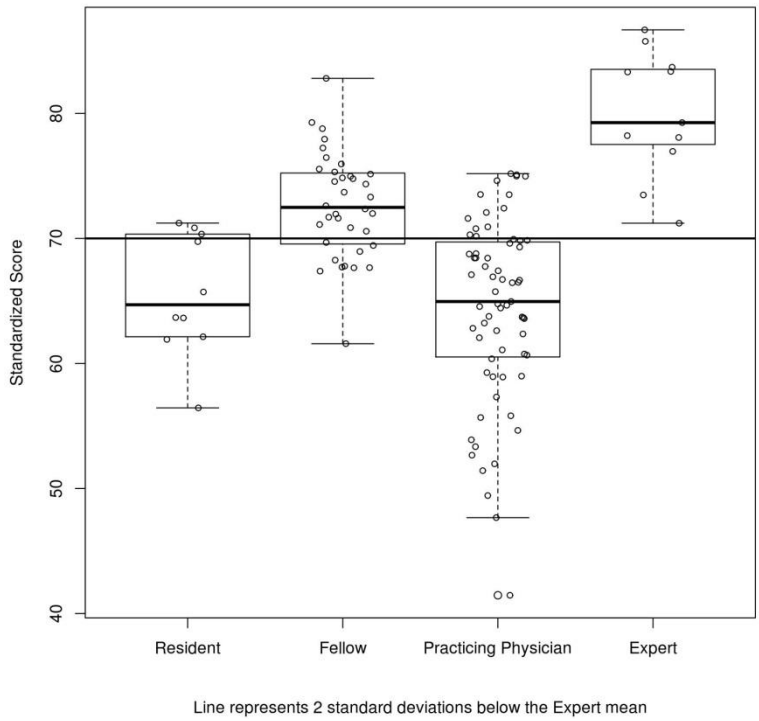
Interpretation of results

Intraoperative judgment in practicing OBGYN physicians appears similar to resident physicians. Practicing physicians who perform FPMRS procedures perform poorly on this examination of surgical judgment; this lower performance correlates with less surgical experience and the greater amount of time a surgeon is in practice. Annual surgical volume may be a better indicator of surgical judgment. We are unable to determine if changes in annual surgical volume result in changes in operative judgment or whether judgment results in changes in annual cases. Despite this, these findings lend support to recent findings that quality of healthcare provided may actually decrease over a surgeon's lifetime of practice and surgical judgment should be assessed over the continuum of practice in advanced gynecologic surgery.

Concluding message

Valid and reliable assessment strategies to understand, maintain and improve surgical judgment should be performed in order to design educational strategies to ensure safe and effective surgical care.

Figure 1. Scores Summary



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