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4. Centers for Disease Control and Prevention. Welcome to WISQARS. CDC’s WISQARS (Web-based Injury Statistics Query and Reporting System): violent death data are from the National Violent Death Reporting System (NVDRS); data from fatal injury reports are from the National Violent Death Reporting System (NVDRS); CDC’s National Center for Health Statistics. https://www.cdc.gov/injury/wisqars/. Accessed April 15, 2018.


PACIFIC COAST SURGICAL ASSOCIATION

Association of Fundamentals of Laparoscopic Surgery Certification With Outcomes of Laparoscopic Cholecystectomy Performed by Surgical Residents

The Fundamentals of Laparoscopic Surgery (FLS) program was developed to assess the skills and knowledge essential to surgeons as laparoscopy emerged, with the goal of improving quality of care and safety, including reducing complication rates.1 As laparoscopy has become mainstream, the ongoing value of FLS certification as a high-stakes examination comes into question. We hypothesized that implementing mandatory FLS certification would not appreciably alter resident performance of or patient outcomes after laparoscopic cholecystectomy (LC).

Methods | A retrospective review of all LCs (urgent, emergent, and elective) performed by junior surgical residents (postgraduate year [PGY]1-3) with a senior resident (PGY4-5) teaching assistant at a university-affiliated public teaching hospital in Torrance, California, was completed for 2 periods: before...
Table 2. Comparison of Baseline Demographic Characteristics and Outcomes Before and After FLS Certification Required

<table>
<thead>
<tr>
<th>Characteristic or Outcome</th>
<th>Before FLS</th>
<th>After FLS</th>
<th>OR (95% CI)</th>
<th>P Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total No. of patients</td>
<td>1663 (54.8)</td>
<td>1371 (45.2)</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>Age, median (IQR), y</td>
<td>37 (28-49)</td>
<td>40 (29-53)</td>
<td>3 (1-6)&lt;sup&gt;a&lt;/sup&gt;</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Female</td>
<td>1346 (80.9)</td>
<td>1065 (77.7)</td>
<td>0.82 (0.69-0.98)</td>
<td>.03</td>
</tr>
<tr>
<td>Diabetes</td>
<td>68 (4.1)</td>
<td>115 (8.4)</td>
<td>2.15 (1.58-2.92)</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Preoperative diagnosis&lt;sup&gt;bc&lt;/sup&gt;</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acute cholecystitis</td>
<td>535 (32.2)</td>
<td>591 (43.1)</td>
<td>1.60 (1.38-1.85)</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Symptomatic cholecithiasis</td>
<td>668 (40.2)</td>
<td>351 (25.6)</td>
<td>0.51 (0.44-0.60)</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Gallstone pancreatitis</td>
<td>242 (14.6)</td>
<td>199 (14.5)</td>
<td>0.99 (0.81-1.22)</td>
<td>.98</td>
</tr>
<tr>
<td>Choledocholithiasis</td>
<td>173 (10.4)</td>
<td>248 (18.1)</td>
<td>1.90 (1.54-2.34)</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Chronic cholecystitis</td>
<td>17 (1.0)</td>
<td>52 (3.8)</td>
<td>3.81 (2.20-6.63)</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Cholangitis</td>
<td>22 (1.3)</td>
<td>26 (1.9)</td>
<td>1.44 (0.81-2.56)</td>
<td>.21</td>
</tr>
<tr>
<td>Other</td>
<td>5 (0.3)</td>
<td>39 (2.8)</td>
<td>9.71 (3.82-24.70)</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Intraoperative cholangiogram</td>
<td>722 (43.4)</td>
<td>451 (32.9)</td>
<td>0.64 (0.55-0.74)</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Intraoperative complication</td>
<td>19 (1.1)</td>
<td>16 (1.2)</td>
<td>1.02 (0.53-1.97)</td>
<td>.95</td>
</tr>
<tr>
<td>Bile duct injury</td>
<td>7 (0.4)</td>
<td>3 (0.2)</td>
<td>0.52 (0.15-1.84)</td>
<td>.53</td>
</tr>
<tr>
<td>Surgery length, median (IQR), h</td>
<td>1.55 (1.11-2.12)</td>
<td>1.60 (1.17-2.17)</td>
<td>0.30 (0-0.50)&lt;sup&gt;b&lt;/sup&gt;</td>
<td>.06</td>
</tr>
<tr>
<td>Conversion to open cholecystectomy</td>
<td>139 (8.4)</td>
<td>93 (6.8)</td>
<td>0.80 (0.61-1.05)</td>
<td>.10</td>
</tr>
<tr>
<td>Biliary bypass performed</td>
<td>1 (0.1)</td>
<td>2 (0.2)</td>
<td>2.43 (0.22-26.81)</td>
<td>.45</td>
</tr>
<tr>
<td>Overall hospital complication</td>
<td>35 (2.1)</td>
<td>45 (3.3)</td>
<td>1.59 (1.01-2.47)</td>
<td>.04</td>
</tr>
<tr>
<td>Hospital length of stay, median (IQR), d</td>
<td>3 (0-6)</td>
<td>4 (2-6)</td>
<td>1 (0-2)&lt;sup&gt;a&lt;/sup&gt;</td>
<td>.001</td>
</tr>
<tr>
<td>Mortality</td>
<td>0</td>
<td>0</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>30-d Readmission</td>
<td>10 (0.6)</td>
<td>62 (4.5)</td>
<td>7.83 (3.99-15.33)</td>
<td>&lt;.001</td>
</tr>
</tbody>
</table>

Abbreviations: FLS, Fundamentals of Laparoscopic Surgery; IQR, interquartile range; NA, not applicable; OR, odds ratio.
<sup>a</sup>Categorical variables expressed as No. (%); continuous variables, as median (IQR).
<sup>b</sup>Median difference (95% CI).
<sup>c</sup>Some cases were coded with multiple preoperative diagnoses.

mandatory FLS certification (2005-2009) and after mandatory FLS certification (2010-2014). An FLS certification at our institution is obtained in the research year between PGY3 and PGY4. Outcome measures comprised a composite of all intraoperative complications, including intraoperative bile duct injury (BDI), surgery length, need for conversion to open cholecystectomy or biliary bypass, overall hospital complications, length of stay, and 30-day readmission. The Los Angeles Biomedical Research Institute Institutional Review Board approved this study and waived the need for obtaining patient informed consent given the minimal risk to patients involved in this study.

The before and after FLS certification categorical outcomes were compared using 2-tailed $\chi^2$ or Fisher exact tests, whereas the continuous variables were analyzed with the Wilcoxon rank sum test. For significantly associated variables in bivariate analyses, multivariable regression analyses were performed. Statistical analyses were conducted from November 1, 2015, to September 30, 2017, using SAS, version 9.3 (SAS Institute Inc). A 2-sided $P < .05$ was considered to be statistically significant.

**Results** | During the study period, 3034 LCs were performed. Acute cholecystitis (1126, 37.1%) and symptomatic cholelithiasis (1019, 33.6%) were the most common preoperative diagnoses. Overall, there were 35 intraoperative complications (1.2%), with 10 BDIs (0.3%) (Table 1). The results of bivariate analyses comparing data before and after the FLS certification requirement indicated no significant difference with respect to intraoperative complications (odds ratio [OR], 1.02; 95% CI, 0.53-1.97; $P = .95$), BDI (OR, 0.52; 95% CI, 0.15-1.84; $P = .53$), need for conversion to open surgery (OR, 0.80; 95% CI, 0.61-1.05; $P = .10$) or biliary bypass (OR, 2.43; 95% CI, 0.22-26.81; $P = .45$), or surgery length (OR, 0.30; 95% CI, 0.05-0.50; $P = .06$); however, overall hospital complications (OR, 1.59; 95% CI, 1.01-2.47; $P = .04$), hospital length of stay (OR, 1.0; 95% CI, 0-2.0; $P = .001$), and 30-day readmissions (OR, 7.83; 95% CI, 3.99-15.33; $P < .001$) were significantly different (Table 2). The results of multivariable analyses indicated that patient age was the only factor independently associated with intraoperative complications (OR, 1.03; 95% CI, 1.01-1.06; $P = .006$); no factor was associated with longer length of stay, and both increasing patient age (OR, 1.03; 95% CI, 1.01-1.04; $P < .001$) and after mandatory FLS certification (OR, 7.6; 95% CI, 3.8-15.0; $P < .001$) were significantly associated with readmission.

**Discussion** | In this study, after implementation of mandatory FLS certification, we found no appreciable improvement in outcomes of LCs performed by residents as measured by
several outcome measures, including intraoperative complications, surgery length, and the need for conversion to open cholecystectomy.

A recent systematic review finding limited data to support the validity of FLS manual skill examination tasks or the scoring method suggested that demonstrating differences in scores between novices and experts does little to confirm content validity. In a review of 53 632 LCs from an insurance database, Schweitzenberg et al. reported that FLS-certified surgeons had, counterintuitively, a higher rate of BDI compared with non-FLS-certified surgeons (0.47% vs 0.14%, \( P = .001 \)). A 2003 study determined that 97% of BDIs during LC were attributable to errors in perception, judgment, and knowledge, but the FLS examination addresses only basic laparoscopic skills. When combined with the results of the present study, those study results bring into question whether FLS certification positively influences rates of intraoperative complications, one of the stated certification goals.

This study is limited by its retrospective design and potential selection bias given that it is a single-institution study. In addition, the residents at our institution participate very early in hands-on training in laparoscopic surgery; thus, it is possible that owing to this extensive early exposure, the operative outcomes at our institution were not substantially influenced by the implementation of mandatory FLS certification.

Today’s residents face greater hurdles to achieve board certification, including mounting student debt, longer training periods, and a growing list of mandatory certifications. The first-time pass rate for FLS is 96%, suggesting a low discriminating value. There does not appear to be evidence that mandatory FLS certification has improved LC outcomes. As such, one must reassess the value of continuing FLS in its current format as a high-stakes examination.

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Administrative, technical, or material support: de Virgilio.

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Preference for People-First Language Among Patients Seeking Bariatric Surgery

People with obesity—particularly those with the highest body mass indices (BMIs)—face societal stigma. Words used by health care practitioners when discussing weight may contribute to this stigma. For example, words such as fat and morbid obesity are perceived by persons with obesity as more undesirable and stigmatizing than terms such as BMI. The use of people-first language (ie, person with obesity rather than obese person or the obese) and weight sensitivity training have been promoted among health care professionals to reduce weight stigma. To our knowledge, no study to date has assessed patients’ responses to the use of people-first language or the discussion of weight stigma in treatment settings.

This study evaluated responses to people-first language and terms for describing a BMI of 40 or more (calculated as weight in kilograms divided by height in meters squared) among patients seeking bariatric surgery. We also explored patients’ receptivity to discussing weight stigma in a weight management setting.

Methods | As part of a substudy within a larger investigation, questionnaires were distributed from December 1, 2015, to December 31, 2017, to patients seeking bariatric surgery at a uni-