Entrustable Professional Activities: Our Once-A-Generation Opportunity to Advance Surgical Education

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Disclosures

- Grant from AAES to study EPAs in Endocrine Surgery
- Councilor for the American Board of Surgery
- Facilitator for ABS EPA Writing Group
Why, What, and How of EPAs
Why are We Talking About This?

PAPERS OF THE 133rd ASA ANNUAL MEETING

General Surgery Residency Inadequately Prepares Trainees for Fellowship

Results of a Survey of Fellowship Program Directors

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D. Rohan Jayasuriya, MD, FACS§ Lee L. Svanstrom, MD, FACS,¶ Ralph W. Aye, MD, FACS¶
Steven D. Winer, MD, FACS, FRCS, FRCS(Edin), PhD (Hon).**, Josué M. Martinez, MD, FACS.††
Sharona B. Ross, MD, FACS,†† Michael M. Awan, MD, FACS.†† Morris E. Franklin, MD, FACS.†††
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Ann Surg 2013

Are General Surgery Residents Ready to Practice? A Survey of the American College of Surgeons Board of Governors and Young Fellows Association

Lena M Napolitano, MD, FACS, FACC, FACC, Mark Savarise, MD, FACS, Juan C Paramo, MD, FACS,
Laurel C Soor, MD, FACS, S Rob Todd, MD, FACS, Jay Gregory, MD, FACS, Gary L Timmerman, MD, FACS,
William G Cioffi, MD, FACS, Elisabeth Davis, PhD, Ajit K Sachdeva, MD, FRCS, FACS

JACS 2014

Our Current Training System

“Enough” cases
“Index” cases
“The hardest” cases

Case completion ≠ Competence for the case
Current System

Fixed Time = Variable Outcome
Goal System

Fixed Outcome
A Brief History of Competency-Based Medical Education

Pre-1999

1999

ACGME/ABMS
Adopt 6 Core Competencies

2002-2008

No work hour restrictions
Few actual requirements

Residencies integrate Competencies into curricula

ACGME Outcomes Project
How to evaluate physician competencies?

- Medical Knowledge
- Patient Care
- Interpersonal Communication Skills
- Professionalism
- Systems-Based Practice
- Practice-Based Learning & Improvement
A Brief History of Competency-Based Medical Education

Pre-1999
No work hour restrictions
Few actual requirements

1999
ACGME/ABMS
Adopt 6 Core Competencies

1999
ACGME
Outcomes Project

2002-2008
Residencies integrate Competencies into curricula

2002-2008
ACGME Milestone Project

2012
ABS publishes Surgery Milestones

2012
Residencies report Milestone data to ACGME

2013-

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Milestones

Patient Care - 1

Level 0
Cannot perform focused, accurate H&P

Level 1
Performs focused, accurate H&P

Level 2
Diagnoses and can manage most “core” conditions

Level 3
Diagnoses many “core” condition and can initiate some management

Level 4
Leads a team caring for “core” conditions; recognizes atypical presentations

Englander, Med Educ, 2017
Holistic View

Would you trust this learner to perform this task without supervision?
We Already Do This

I can let the resident start and scrub in for the key portion

Not documented

No standardized behavior descriptions
Essential task of a “discipline” that an individual can be trusted to perform independently in a given context. Together, mass of critical elements that define a specialty. Shifts assessment focus from abstract and independent competencies to the work that must be done.
Integrating Competencies / Milestones / EPAs

Credit: American Board of Pediatrics
General Surgery EPAs

EPAs Chosen to Represent:

- Undeniable **core skills** of a general surgeon
- Common conditions
- Include other essential non-technical skills
  - Communication
  - Professionalism
- Management of the **entirety of the disease process**
General Surgery EPA Feasibility Pilot

2 Goals:
- Determine relationship of EPA assessments to milestone evaluations
- Identify successes and barriers to EPA implementation across general surgery programs

Pilot Details
- 28 Programs
- Each assigned 2 EPAs
- Asked to innovate around assessment collection
- Data collected bi-annually
If faced with this problem in the future, I trust this trainee to perform this EPA with:

<table>
<thead>
<tr>
<th>Learner:</th>
<th>Attending:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Date:</td>
<td></td>
</tr>
</tbody>
</table>

I would rate this case as:
- Straightforward
- Moderate
- Complex

1. Limited Participation
2. Direct Supervision
3. Indirect Supervision
4. Practice Ready
5. Can Teach Others
How do EPA assessments compare to current metrics?

Concurrent Validity Evidence for Entrustable Professional Activities in General Surgery Residents

Brazelle, Morgan MD; Zmijewski, Polina MD, MA; McLeod, Chandler PhD; Corey, Britney MD, FACS; Porterfield, John R Jr MD, FACS; Lindeman, Brenessa MD, MEHP, FACS

Author Information


A Phased Approach: The General Surgery Experience Adopting Entrustable Professional Activities in the United States

Brenessa Lindeman 1, Karen Brasel 2, Rebecca M Minter 3, Jo Buyske 4, Marni Grambau 5, George Sarosi 6

Gender Differences in Entrustable Professional Activity Evaluations of General Surgery Residents

Elena P Padilla 1, Christopher C Stahl 2, Sarah A Jung 2, Alexandra A Rosser 2, Patrick B Schwartz 2, Taylor Aiken 2, Alexandra W Acher 2, Daniel E Abbott 2, Jacob A Greenberg 2, Rebecca M Minter 2
## Study Population Characteristics

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Resident # (n=34)</th>
<th>Eval # (n=320)</th>
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</thead>
<tbody>
<tr>
<td><strong>Gender (%)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>15 (44)</td>
<td>114 (36)</td>
</tr>
<tr>
<td>Male</td>
<td>19 (56)</td>
<td>206 (64)</td>
</tr>
<tr>
<td><strong>PGY Level (%)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>6 (14.3)</td>
<td>8 (2.5)</td>
</tr>
<tr>
<td>2</td>
<td>11 (26.1)</td>
<td>30 (9.4)</td>
</tr>
<tr>
<td>3</td>
<td>7 (16.7)</td>
<td>74 (23.1)</td>
</tr>
<tr>
<td>4</td>
<td>10 (23.8)</td>
<td>136 (42.5)</td>
</tr>
<tr>
<td>5</td>
<td>8 (19.0)</td>
<td>72 (22.5)</td>
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<tr>
<td><strong>EPA (%)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inguinal Hernia</td>
<td>16 (47.1)</td>
<td>37 (11.6)</td>
</tr>
<tr>
<td>RLQ Pain</td>
<td>12 (35.3)</td>
<td>18 (5.6)</td>
</tr>
<tr>
<td>Gallbladder Disease</td>
<td><strong>24 (70.6)</strong></td>
<td><strong>102 (31.9)</strong></td>
</tr>
<tr>
<td>Consultation</td>
<td>21 (61.8)</td>
<td>72 (22.5)</td>
</tr>
<tr>
<td>Trauma</td>
<td>6 (17.6)</td>
<td>91 (28.4)</td>
</tr>
</tbody>
</table>

- **320 Entrustment Ratings**
- **34 Unique Residents**
- **Range of Evals/Resident: 1-44**
Results - Overall

Overall EPA Ratings by PGY Level

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Results – By Activity

Non-Operative EPA Ratings by PGY Level

Operative EPA Ratings by PGY Level
Pilot Data Overview

- Total possible residents
  - 1,115 unique resident IDs in file
  - 6,236 Observations
  - Average of 5.6 observations per resident
  - Residents who received at least one observation had a mean of 7.25 observation
### Active residents per cycle

<table>
<thead>
<tr>
<th>Cycle</th>
<th>Number of Residents</th>
<th>Number (%) of Residents with observations</th>
<th>Number (%) of Residents with No observations</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>845</td>
<td>265 (31.4%)</td>
<td>580 (68.6%)</td>
</tr>
<tr>
<td>2</td>
<td>826</td>
<td>355 (43%)</td>
<td>471 (57.0%)</td>
</tr>
<tr>
<td>3</td>
<td>432</td>
<td>186 (43.1%)</td>
<td>246 (56.9%)</td>
</tr>
<tr>
<td>4</td>
<td>140</td>
<td>54 (38.6%)</td>
<td>86 (61.4%)</td>
</tr>
</tbody>
</table>

8,143 Surgery residents total in US in 2019-20
EPAs Observations by program by cycle
## Entrustment Decisions by Phase and EPA

<table>
<thead>
<tr>
<th>Phase</th>
<th>Gallbladder</th>
<th>Inguinal Hernia</th>
<th>RLQ pain</th>
<th>Trauma</th>
<th>Consult</th>
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<tbody>
<tr>
<td>Pre</td>
<td>102</td>
<td>92</td>
<td>153</td>
<td>108</td>
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<tr>
<td>Intra operative</td>
<td>272</td>
<td>114</td>
<td>195</td>
<td>165</td>
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</tr>
<tr>
<td>Post</td>
<td>81</td>
<td>79</td>
<td>138</td>
<td>118</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>455</td>
<td>285</td>
<td>486</td>
<td>391</td>
<td>138</td>
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</tbody>
</table>
Average Entrustment by Phase and PGY Level

Figure 5. Average entrustment rating by PGY level (pre-operative)*

Figure 6. Average entrustment rating by PGY level (intra-operative)*

Figure 7. Average entrustment rating by PGY level (post-operative)*
EPAs (Entrustable Professional Activities):

Essential task of a “discipline” that an individual can be trusted to perform independently in a given context
EPA Language Quiz

EPAs represent:

- OPRS
- OSATS
- Mini-CEX
- Zwisch
- EPA Micro-Assessment

Assessment Tool

Assessment Framework
EPA Components

The Task

Step 1 EPA Functions

The Assessment Framework

Step 2 Mapped Milestones

Step 3 Specific Observable Behaviors
EPAs: Under the Hood
The Promise of EPAs

- Provide an assessment framework that makes sense to faculty & trainees
- Facilitate CCC processes
- Help overcome barriers to feedback
- Kickstart teaching at beginning of rotations
Mapping to Milestones

- Each EPA mapped to 6-7 sub-competencies *most* essential to performance
- Only PROF-3 not represented among mapping of all 18 GS EPAs
- CCCs could utilize this mapping to populate the ACGME milestones

<table>
<thead>
<tr>
<th>COMPETENCY</th>
<th>AB WALL HERNIA</th>
<th>COLON DISEASE</th>
<th>ACUTE ABDOMEN</th>
<th>GALLBLADDER</th>
<th>CRITICALLY ILL</th>
<th>SOFT TISSUE</th>
<th>NECROTIZING PANCREATITIS</th>
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<tr>
<td>PC1</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>PC2</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td>X</td>
<td></td>
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<tr>
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<tr>
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<td></td>
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</tr>
</tbody>
</table>

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CCC Summative EPA Ratings Convert to Milestones

Based on Summative Entrustment decisions for EPAs rating for assigned Milestones Result

CCC Reviews Microassessments and makes Summative rating by phase

<table>
<thead>
<tr>
<th>Milestone Table:</th>
<th>Preoperative/Assessment</th>
<th>Intraoperative/Procedural</th>
<th>Postoperative/Disposition</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Limited Participation</td>
<td>PC1 L1, MK2 L1, ICS1 L1, PBU1 L1</td>
<td>PC2 L1, PC3 L1, MK2 L2</td>
<td>PC4 L1, ICS1 L1</td>
</tr>
<tr>
<td>2 Direct Supervision</td>
<td>PC1 L2, MK2 L2, PBU1 L2, ICS1 L2</td>
<td>PC2 L2, PC3 L2</td>
<td>PC4 L2, ICS1 L2</td>
</tr>
<tr>
<td>3 Indirect Supervision</td>
<td>PC1 L3, MK2 L3, ICS1 L3</td>
<td>PC2 L3, PC3 L3, MK2 L3</td>
<td>PC4 L3, ICS1 L3, MK2 L3</td>
</tr>
<tr>
<td>4 Practice Ready</td>
<td>PC1 L4, MK2 L4, PBU1 L4, ICS1 L4</td>
<td>PC2 L4, PC3 L4, MK2 L4, PBU1 L4</td>
<td>PC4 L4, ICS1 L4</td>
</tr>
</tbody>
</table>

PC1 Level 3
PC2 Level 2
PC3 Level 2
PC4 Level 3
MK2 Level 3
ICS1 Level 3
The EPA Set Will Prepopulate Milestones

- CCC Dashboard integrates all assigned summative decisions to display milestones ratings for resident

- CCC reviews assignments and considers other program data to arrive at final rating
EPA Micro-Assessments

Date: Pre-populated
Assessor: 
Complexity:

- Straightforward
- Moderate
- Complex

Level of Entrustment: (details next slide)

Narrative Feedback:

Nice use of both hands to provide tension and counter-tension as you dissected. Work on targeting the same area for spreading to enhance efficiency.
## Evaluate and manage a patient with gallbladder disease

**Intra-Operative Phase**

<table>
<thead>
<tr>
<th>Level</th>
<th>Description</th>
</tr>
</thead>
</table>
| **1 Limited Participation** | Describes anatomic structures & their relationships; needs assistance to identify them  
                             Difficulty coordinating hands & requires prompting to identify/dissect normal planes  
                             Describes basic steps of operation & critical view of safety |
| **2 Direct Supervision**   | Articulates critical view of safety, requires assistance to obtain it  
                             Usually coordinated with two hands; needs prompting to move operation forward  
                             Identifies plane to remove gallbladder from liver bed; some assistance to stay in plane |
| **3 Indirect Supervision** | Obtains critical view of safety in routine cases; consistent careful tissue handling  
                             Smooth instrument handling with effective use of both hands  
                             Moves fluidly through routine operation & stays in plane; Performs IOC in routine cases |
| **4 Practice Ready**     | Obtains critical view of safety despite scarring/inflammation; performs IOC in any case  
                             Recognizes when operative plan deviation indicated; develops/implements plan to address  
                             Adapts operative technique to tissue quality; analyzes how instrumentation affects cost |
Resident A takes the patient to the operating room for cholecystectomy with their attending.

Resident A requires direct guidance to place the initial trocar, and is not sure where to place the other trocars but is able to place them safely following instruction about location. Resident A describes the critical view of safety, but struggles to retract the infundibulum of the gallbladder adequately to obtain exposure. The gallbladder is slightly inflamed, and A is very tentative in their attempts to dissect the hepatocystic triangle.

When A is unable to make any progress after 20 minutes, the attending switches sides with A and completes the dissection. They switch back, and A clips and divides the cystic duct and artery. Then, with coaching, A is able to remove the gallbladder from the liver bed and complete the case, requiring some redirection to stay in plane.

What level of entrustment is this resident demonstrating?
Evaluate and manage a patient with gallbladder disease

**Intra-Operative Phase**

**Describes the anatomic structures and relationships in gallbladder (GB) surgery (eg, cystic duct, cystic artery, hepatocystic triangle) and identifies them with assistance in a routine case.** (MK2 L1)

**Describes basic steps of the operation and the critical view of safety.** (MK2 L1)

**Handles instruments safely but tentatively, demonstrates a lack of coordination between both hands, and is inefficient with suturing and knot-tying.** (PC2 L1)

**Articulates sharps safety, safe surgical energy use, and surgical field sterility.** (PC2 L1)

**Requires active instruction to move the operation forward.** (PC3 L1)

**Centers the operative field (anatomy and instruments) with the camera with frequent adjustments and reminders.** (PC3 L1)

**Coordinates hand movements for simple maneuvers, though inefficiently and with direct instruction.** (PC3 L1)

**Identifies variations in cystic duct and artery anatomy in a straightforward case; articulates implications for the operation.** (MK2 L2)

**Knows common positioning options but cannot name factors for one over another.** (PC3 L2)

**Smoothly performs basic maneuvers, such as suturing and knot-tying.** (MK2 L2)

**Provides a basic description of the operative plan; omits some steps.** (PC3 L2)

**Places subsequent laparoscopic trocars after initial entry, uses surgical energy safely, closes skin independently.** (PC3 L2)

**Identifies plane of dissection (eg, to remove the GB from liver bed), requires redirection to maintain the optimal plane.** (PC3 L2)

**Usually demonstrates careful tissue handling and coordinated use of both hands.** (PC3 L2)

**Moves the operation forward, though sometimes requires direction.** (PC3 L2)

**Requires assistance to control bleeding or perform IOC.** (PC3 L2)

**Identifies variable cystic duct and artery anatomy despite inflammation or scarring, requires assistance to adapt the operative approach in response.** (MK2 L3)

**Performs lap chole with straightforward anatomy and minimal inflammation safely, including identifying the critical view of safety.** (PC2 L2)

**Performs IOC independently in a routine case.** (PC2 L3)

**Demonstrates careful tissue handling. Dissects cystic duct and artery efficiently, obtains critical view of safety, and places clips accurately in a routine case or with 1-2 challenges.** (PC3 L3)

**Moves fluidly through the operation; anticipates next steps and logistical needs and clearly communicates to the OR team.** (PC3 L3)

**Identifies plane of dissection (eg, to remove GB from the liver bed) accurately in a routine case.** (PC3 L3)

**Recognizes when deviation from the initial operative plan (eg, conversion to open or subtotal cholecystectomy) is required.** (PC3 L4)

**Implements early management steps, including calling for assistance, when a complication is identified.** (PC3 L4)

**Analyzes how choice of instruments will affect overall procedure cost.** (SBP3 L3)

**Adapts to unexpected/variant anatomy in a complex cholecystectomy (eg, inflamed, shortened cystic duct), changing the operative approach (subtotal or dome-down).** (MK2 L4; PC3 L4)

**Functions as teaching assistant for a case with normal anatomy, recognizing when technical requirements necessitate them to take over.** (PC2 L4)

**Performs IOC safely in the presence of scarring and inflammation.** (PC2 L4)

**Adapts operative technique to tissue quality and case complexity. Identifies correct plane, dissects the cystic duct and artery, obtains critical view of safety in presence of scarring/inflammation.** (PC3 L4)

**Devises and implements a plan when deviation from the initial operative plan (eg, conversion to open or subtotal cholecystectomy) is required.** (PC3 L4)

**Implements early management steps, including calling for assistance, when a complication is identified.** (PC3 L4)
Alignment and Transparency

“Resentment occurs when you fail to meet an expectation that I didn’t tell you I had.”
Judgment

Your performance wasn’t good

You didn’t meet expectations

You need to try harder
Indirect Supervision

Obtains critical view of safety in routine cases; consistent careful tissue handling
Smooth instrument handling with effective use of both hands
Moves fluidly through routine operation & stays in plane; Performs IOC in routine cases

You needed help obtaining the critical view of safety this time

You veered from the plane when taking the gallbladder off the liver bed

You qualify for direct supervision based on this case
Finding the Right Words

Your workup included some unnecessary tests (HIDA scan)

You did a nice job with the plan and consent for this straightforward patient

You qualify for direct supervision based on this case

Initiates gallbladder disease workup, includes unnecessary/duplicate tests; DDx complete
Develops mgmt. plan for straightforward pt with uncomplicated gallbladder disease
Obtains informed consent including risks/benefits/alternatives
I saw you’ve been at indirect supervision for your last 2 cases.

Let’s have you take the lead to start and we can swap if we’re having difficulty.

I’ll show you how I like to do it so far.
Integration into Workflow
Wait, I have to keep track of 18 EPAs?
General Surgery EPA Suite

5 + 13 = 18 Total

- Thyroid/Parathyroid Disease
- Breast Disease
- Abdominal Wall Hernia
- Small Bowel Obstruction
- Colon Disease
- Soft Tissue Infection
- Inguinal Hernia
- Anorectal Disease
- Gallbladder Disease
- Necrotizing Pancreatitis
- Hemodialysis Access
- Acute Abdomen
- Surgical Consultation
- Trauma
- Critically Ill Patient
- Flexible Endoscopy
Minimally Invasive Surgery

- Surgical Consultation
- Trauma
- Critically Ill Patient
- Flexible Endoscopy
- Thyroid/Parathyroid Disease
- Breast Disease
- Acute Abdomen
- Cutaneous Neoplasia
- Gallbladder Disease
- Abdominal Wall Hernia
- Necrotizing Pancreatitis
- Small Bowel Obstruction
- Inguinal Hernia
- Colon Disease
- Soft Tissue Infection
- Anorectal Disease
- Hemodialysis Access
- Appendicitis
- Flexible Endoscopy
Colorectal Surgery

- Surgical Consultation
- Trauma
- Critically Ill Patient
- Flexible Endoscopy
- Thyroid/Parathyroid Disease
- Cutaneous Neoplasia
- Breast Disease
- Acute Abdomen
- Abdominal Wall Hernia
- Gallbladder Disease
- Small Bowel Obstruction
- Necrotizing Pancreatitis
- Colon Disease
- Soft Tissue Infection
- Inguinal Hernia
- Anorectal Disease
- Hemodialysis Access
## Service Structure to Guide EPA Assessments

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<th></th>
<th>Consult</th>
<th>GB</th>
<th>Appy</th>
<th>G Hernia</th>
<th>V Hernia</th>
<th>SBO</th>
<th>Breast</th>
<th>Colon</th>
<th>Thyroid</th>
<th>Crit III</th>
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Service Structure to Guide EPA Assessments

- Individual
- Division
- Program
### Example Structures:

<table>
<thead>
<tr>
<th>Division</th>
<th>Individual</th>
<th>Program</th>
</tr>
</thead>
<tbody>
<tr>
<td>Every Operation = 3-4/day</td>
<td>1 EPA / day on service</td>
<td>At least 10 EPA assessments from at least 2 different faculty</td>
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<tr>
<td>= 12 assessments/week</td>
<td>= 5 assessments/week</td>
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</tr>
<tr>
<td>1-2 patients/clinic/learner</td>
<td>1 EPA / clinic</td>
<td></td>
</tr>
<tr>
<td>= 2-4 assessments/week</td>
<td>= 1 assessment/week</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>~60 assessments over a 6-week rotation</td>
<td>~35 assessments over a 6-week rotation</td>
<td>~10 assessments over a 6-week rotation</td>
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</tbody>
</table>
**Example Structures:**

<table>
<thead>
<tr>
<th>Division</th>
<th>Individual</th>
</tr>
</thead>
<tbody>
<tr>
<td>Every Operation = 3-4/day</td>
<td>1 EPA/day</td>
</tr>
<tr>
<td>~12 assessments/week</td>
<td>~5 assessments/week</td>
</tr>
<tr>
<td>~2 patients/clinic/learner</td>
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</table>

All more than the 1 assessment most trainees previously received
Addition by Subtraction

- Elimination of less meaningful assessments
  - Global End of Rotation Evaluation
- Grounding of CCC conversations -> efficiency
- Enhancement of career transition handoffs
- Potential for integration with and automation of ACGME required elements
  - ‘Case logs’, milestones maps, faculty development
Thank You!
blindeman@uabmc.edu

@BrenessaL
@UABsurgery
Endocrine Surgery EPA Pilot

# EPAs

<table>
<thead>
<tr>
<th>Resident 1</th>
<th>Resident 2</th>
<th>Resident 3</th>
<th>Resident 4</th>
<th>Resident 5</th>
<th>Fellow</th>
</tr>
</thead>
<tbody>
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Intra-Operative Entrustment Levels

<table>
<thead>
<tr>
<th>Resident 1</th>
<th>Resident 2</th>
<th>Resident 3</th>
<th>Resident 4</th>
<th>Resident 5</th>
<th>Fellow</th>
</tr>
</thead>
<tbody>
<tr>
<td>Limited</td>
<td>Direct</td>
<td>Indirect</td>
<td>Ready</td>
<td>Can Teach</td>
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</table>

THE AMERICAN BOARD OF SURGERY | www.absurgery.org
Resident B is called to the ED to evaluate a 32-year-old post-partum woman with a 24-hour history of right upper quadrant pain radiating around to her right flank & right-sided shoulder pain.

Resident B performs a focused H&P and learns:

• Patient had prior episodes of similar pain during pregnancy, never this severe or long-lasting
• She was evaluated for fatty food intolerance during pregnancy and found to have gallstones
• No history of jaundice, does have subjective fevers
• On exam, has RUQ tenderness and fullness, with a Murphy’s sign, tachycardia and fever

B orders a CBC, LFTs, an amylase, and a right upper quadrant ultrasound

Personally reviews the images, noting a dilated gallbladder with wall thickening, no biliary dilation or choledocholithiasis

Labs show WBC 16,000, but minimally elevated bilirubin without an elevated alkaline phosphatase.

B starts abx and fluids and tells chief resident Y the patient has severe acute cholecystitis, and doubts choledocholithiasis. B proposes the patient go to the OR, to which the patient is in agreement. B obtains informed consent for cholecystectomy with discussion of complications and unexpected findings.
Obtains an H&P with cultural humility and develops a differential for a patient with uncomplicated gallbladder (GB) disease in elective and emergent settings. (PC1 L1)

Understands the basic elements of gallbladder anatomy. (MK2 L1)

Communicates basic facts about the condition to patient/caregivers in a respectful way but does not use applicable language services and audio/visual aids. (ICS1 L1)

Understands the elements that constitute an informed consent discussion but omits some when documenting the discussion. (ICS1 L1)

Has basic awareness of costs of care as they relate to diagnostic and treatment options, including radiologic and laboratory assessments for biliary disease. (SBP3 L1)

Accesses evidence and considers patient preference in determining the best approach for managing GB pathology at a basic level (eg, operative vs nonoperative management). (PBL1 L1)

Evaluates a patient with gallbladder disease, interpreting laboratory values and imaging studies. (PC1 L2)

Develops a plan for managing a patient with uncomplicated gallbladder disease. (PC1 L2)

Communicates the basic facts of a plan for uncomplicated gallbladder disease to patient/caregivers, customizing communication to overcome barriers and cultural differences and using applicable language services and audio/visual aids. (ICS1 L2)

Demonstrates understanding of an informed consent discussion for a straightforward cholecystectomy, providing information about risks, benefits, and alternatives and documenting the discussion. (ICS1 L2)

Demonstrates understanding of key components of billing and coding but suggests a duplicate or unnecessary test. (SBP3 L2)

Incorporates published guidelines regarding the cost-effective management of patients presenting with gallstone disease. (PBL1 L2)

Independently develops, concisely presents comprehensive management plan for complicated and uncomplicated GB disease, considering nonoperative management. (ICS1 L3, PC1 L3)

Communicates with a patient/caregivers across cultural differences to elicit a personalized care plan in shared decision-making for a straightforward presentation. (ICS1 L3)

Conducts informed consent discussion for a straightforward cholecystectomy with cultural humility and documents the discussion related to the operative management of GB disease. (ICS1 L3)

Selects preoperative imaging and testing to diagnose GB pathology in resource- and time-efficient manner; distinguishes cost and outcome differences associated with various treatment strategies. (SBP3 L3)

Applies published guidelines for workup and management of complex GB disease and incorporates patient preference into the plan. (PBL1 L3)

Manages a patient with complicated gallbladder disease (eg, severe cholecystitis, choledocholithiasis post R-Y gastric bypass) or in a medically complex patient (eg, sepsis, anticoagulation use, cardiac dysfunction), customizing use of nonoperative management. (PC1 L4)

Customizes communication based on an patient’s characteristics and preferences across barriers in a critical or life-threatening situation. Manages and de-escalates conflict with a difficult or hostile patient/caregiver. (ICS1 L4)

Conducts informed consent discussion for a complex or emergent cholecystectomy with cultural humility, eliciting patient preferences, and documenting individualized risks and benefits. (ICS1 L4)

Triages treatment of GB disease considering patient circumstances and preferences (ie, comorbidities, socioeconomics). (SBP3 L4)

Applies current published guidelines for workup and management of GB disease, considering nuances and exceptions in a complex situation. (PBL1 L4)
Summative Entrustment
What do residents say about use of EPAs?

Better Feedback

Adds to workload
What do faculty say about use of EPAs?

Workflow Integration

Minimal Time

Incomplete picture
Evaluate and manage a patient with gallbladder disease

Description of the Activity:
Gallbladder disease is a condition commonly encountered by general surgeons both in the elective and emergent care setting. These surgeons must be able to treat the spectrum of benign biliary disease as well as recognize diseases requiring specialty referral in both adolescent and adult patients.

Functions:
Pre-Operative:
• Synthesize essential information from records, history, physical examination, and initial diagnostic evaluations to develop a differential diagnosis.
• Complete a cost-effective, evidence-based diagnostic evaluation
• Communicate both diagnosis and potential treatment options to patients, families, and consultants
• Obtain informed consent, describing indications, risks, benefits, alternatives, and potential complications of the planned operation, including nuances relevant to the patient’s individual condition and comorbidities, and ensure patient understanding
• Identify patients in whom operative intervention may be contraindicated:
  • Patients in whom cholecystostomy placement is indicated
  • Patients with prohibitive surgical or anesthetic risk secondary to medical morbidity
  • High-risk patients who exceed the capacity of the surgical environment
  • Patients with asymptomatic disease or atypical symptoms
Intra-Operative

• Perform the procedures required to manage gallbladder disease
  • Cholecystectomy, minimally invasive and open techniques
    • Systematically identify and dissect the structures of Calot’s triangle to achieve the critical view of safety
    • Circumferentially expose the cystic duct and cystic artery before clipping and dividing structures
    • Recognize when the cystic plate is obliterated or there is failure to progress and transition to either a laparoscopic or open dome down approach or partial cholecystectomy
  • Recognize indications for and perform cholangiography (with interpretation)
    • High suspicion of common duct stones
    • Uncertainty regarding biliary anatomy
  • Manage common intraoperative complications such as bleeding from the liver bed
  • Recognize and develop a management plan for unexpected intraoperative findings such as choledocholithiasis, gallbladder mass, biliary tract injury, and aberrant anatomy

Post-Operative

• Provide postoperative management for patients with benign biliary tract disease to include:
  • Routine postoperative, immediate, and follow-up care
  • Management of cholecystostomy tube
  • Communication with the patient/family to ensure that instructions are understood
  • Recognize early and late complications related to biliary tract procedures
    • Late presentation of biliary injury
    • Retained stone
    • Bile leak
    • Persistent postcholecystectomy pain or chronic diarrhea
How to evaluate art?

Art Elements:
- Line
- Shape
- Tone
- Color
- Texture
- Form

Physician Competencies:
- MK
- PC
- SBP
- PBLI
- PROF
- ICS
Like art, good doctoring requires the integration of elements/competencies

Remain focused on what the overall product looks like at the end