Core Entrustable Professional Activities for Entering Residency

Core Entrustable Professional Activities for Entering Residency: Toolkits for the 13 Core EPAs - Abridged

Learn
Serve
Lead
The Full Toolkit is Available on AAMC’s Website:
aamc.org/initiatives/coreepas/publicationsandpresentations.

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User Guide

This toolkit is for medical schools interested in implementing the Core Entrustable Professional Activities (EPAs) for Entering Residency. Written by the AAMC Core EPA Pilot Group, the toolkit expands on the EPA framework outlined in the EPA Developer’s Guide (AAMC 2014). The Pilot Group identified progressive sequences of student behavior that medical educators may encounter as students engage in the medical school curriculum and became proficient in integrating their clinical skills. These sequences of behavior are articulated for each of the 13 EPAs in one-page schematics to provide a framework for understanding EPAs; additional resources follow.

This toolkit includes:
- One-page schematic of each EPA
- Core EPA Pilot supervision and coactivity scales

One-Page Schematics

In 2014, the AAMC launched a pilot project with 10 institutions to address the feasibility of implementing 13 EPAs for entering residency in undergraduate medical education. To standardize our approach as a pilot and promote a shared mental model, the Core EPA Pilot Group developed one-page schematics for each of the 13 EPAs.

These schematics were developed to translate the rich and detailed content within The Core Entrustable Professional Activities for Entering Residency Curriculum Developers’ Guide published in 2014 by the AAMC into a one-page, easy-to-use format (AAMC 2014). These one-page schematics of developmental progression to entrustment provide user-friendly descriptions of each EPA. We sought fidelity to the original ideas and concepts created by the expert drafting panel that developed the Core EPA Guide.

We envision the one-page schematics as a resource for:
- Development of curriculum and assessment tools
- Faculty development
- Student understanding
- Entrustment committees, portfolio advisors, and others tracking longitudinal student progress

Understanding the One-Page Schematic

Performance of an EPA requires integration of multiple competencies (Englander and Carraccio 2014). Each EPA schematic begins with its list of key functions and related competencies. The functions are followed by observable behaviors of increasing ability describing a medical student’s development toward readiness for indirect supervision. The column following the functions lists those behaviors requiring immediate correction or remediation. The last column lists expected behaviors of an entrustable learner.

The members of the Curriculum and Assessment Team of the Core EPA Pilot Group led this initiative. Thirteen EPA groups, each comprising representatives from four to five institutions, were tasked with creating each EPA schematic. Development of the schematics involved an explicit, standardized process to reduce variation and ensure consistency with functions,
competencies, and the behaviors explicit in the Core EPA Guide. Behaviors listed were carefully gathered from the Core EPA Guide and reorganized by function and competency and listed in a developmental progression. The Curriculum and Assessment Team promoted content validity by carrying out iterative reviews by telephone conference call with the members of the Core EPA Pilot Group assigned to each EPA.

**EPA Curriculum and Assessment**

Multiple methods of teaching and assessing EPAs throughout the curriculum will be required to make a summative entrustment decision about residency readiness. The schematics can help to systematically identify and map curricular elements required to prepare students to perform EPAs. Specific prerequisite curricula may be needed to develop knowledge, skills, and attitudes before the learner engages in practice of the EPA.

To implement EPAs, medical schools should identify where in the curriculum EPAs will be taught, practiced, and assessed. Among other modalities, simulation, reflection, and standardized and structured experiences will all provide data about student competence. However, central to the concept of entrustment is the global performance of EPAs in authentic clinical settings, where the EPA is taught and assessed holistically, not as the sum of its parts.

**Workplace-Based Assessments: Supervision and Coactivity Scales**

On a day-to-day basis, clinical supervisors make and communicate judgments about how much help (coactivity) or supervision a student or resident needs. “Will I let the student go in the room without me? How much will I let the student do versus observe? Because I wasn’t present to observe, how much do I need to double-check?” Scales for clinical supervisors to determine how much help or supervision a student needs for a specific activity have been proposed (Chen et al 2015; Rekman et al 2016). There is limited validity evidence for these scales, and no published data comparing them. Given our initial experience, the Core EPA Pilot Group has agreed on a trial using modified versions of these scales (Appendix 1).
### EPA 1: Gather a History and Perform a Physical Examination

#### Key Functions with Related Competencies

<table>
<thead>
<tr>
<th>Key Function</th>
<th>Related Competencies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Obtain a complete and accurate history in an organized fashion</td>
<td>PC2</td>
</tr>
<tr>
<td>Demonstrate patient-centered interview skills</td>
<td>ICS1 ICS7 P1 P3 P5</td>
</tr>
<tr>
<td>Demonstrate clinical reasoning in gathering focused information relevant to a patient’s care</td>
<td>KP1</td>
</tr>
<tr>
<td>Perform a clinically relevant, appropriately thorough physical exam pertinent to the setting and purpose of the patient visit</td>
<td>PC2</td>
</tr>
</tbody>
</table>

#### Behaviors Requiring Corrective Response

<table>
<thead>
<tr>
<th>Behavior</th>
<th>Corrective Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>Does not collect accurate historical data</td>
<td>Relies exclusively on secondary sources or documentation of others</td>
</tr>
<tr>
<td>Is disrespectful in interactions with patients</td>
<td>Disregards patient privacy and autonomy</td>
</tr>
<tr>
<td>Fails to recognize patient’s central problem</td>
<td>Does not consider patient’s privacy and comfort during exams</td>
</tr>
<tr>
<td>Does not consider patient’s privacy and comfort during exams</td>
<td>Incorrectly performs basic physical exam maneuvers</td>
</tr>
<tr>
<td>Does not prioritize or filter information</td>
<td>Questions are not guided by the evidence and data collected</td>
</tr>
<tr>
<td>Questions reflect a narrow differential diagnosis</td>
<td>Performs basic exam maneuvers correctly</td>
</tr>
<tr>
<td>Performs basic exam maneuvers incorrectly</td>
<td>Does not perform exam in an organized fashion</td>
</tr>
<tr>
<td>Relies on head-to-toe examination</td>
<td>Relies on head-to-toe examination</td>
</tr>
<tr>
<td>Misses key findings</td>
<td>Misses key findings</td>
</tr>
</tbody>
</table>

#### Developing Behaviors

(Leader may be at different levels within a row.)

<table>
<thead>
<tr>
<th>Behavior</th>
<th>Corrective Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gathers excessive or incomplete data</td>
<td>Uses a logical progression of questioning</td>
</tr>
<tr>
<td>Does not deviate from a template</td>
<td>Questions are prioritized and not excessive</td>
</tr>
<tr>
<td>Communicates unidirectionally</td>
<td>Demonstrates effective communication skills, including silence, open-ended questions, body language, listening, and avoids jargon</td>
</tr>
<tr>
<td>Does not respond to patient verbal and nonverbal cues</td>
<td>Anticipates and interprets patient's emotions</td>
</tr>
<tr>
<td>May generalize based on age, gender, culture, race, religion, disabilities, and/or sexual orientation</td>
<td>Incorporates responses appropriate to age, gender, culture, race, religion, disabilities and/or sexual orientation</td>
</tr>
<tr>
<td>Does not consistently consider patient privacy and autonomy</td>
<td>Demonstrates astute clinical reasoning through targeted hypothesis-driven questioning</td>
</tr>
<tr>
<td>Questions are not guided by the evidence and data collected</td>
<td>Integrates secondary data into medical reasoning</td>
</tr>
<tr>
<td>Questions are purposefully used to clarify patient’s issues</td>
<td>Identifies and describes normal findings</td>
</tr>
<tr>
<td>Is able to filter signs and symptoms into pertinent positives and negatives</td>
<td>Performs an accurate exam in a logical and fluid sequence</td>
</tr>
</tbody>
</table>

#### Expected Behaviors for an Entrustable Learner

- Obtains a complete and accurate history in an organized fashion
- Seeks secondary sources of information when appropriate (e.g. family, primary care physician, living facility, pharmacy)
- Adapts to different care settings and encounters
- Demonstrates communication skills to the individual patient’s needs and characteristics
- Responds effectively to patient’s verbal and nonverbal cues and emotions
- Demonstrates astute clinical reasoning through targeted hypothesis-driven questioning
- Incorporates secondary data into medical reasoning

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**Underlying entrustability for all EPAs are trustworthy habits, including truthfulness, conscientiousness, and discernment.**

**This schematic depicts development of proficiency in the Core EPAs. It is not intended for use as an assessment instrument. Entrustment decisions should be made after EPAs have been observed in multiple settings with varying context, acuity, and complexity and with varying patient characteristics.**
EPA 2: Prioritize a Differential Diagnosis Following a Clinical Encounter

Key Functions with Related Competencies

**Synthesize essential information from previous records, history, physical exam, and initial diagnostic evaluations to propose a scientifically supported differential diagnosis**

PC2 KP3 KP4 KP2

**Prioritize and continue to integrate information as it emerges to update differential diagnosis, while managing ambiguity**

PC4 KP3 KP4 PPD8 PBL1

**Engage and communicate with team members for endorsement and verification of the working diagnosis that will inform management plans**

KP3 KP4 ICS2

Behaviors Requiring Corrective Response

Cannot gather or synthesize data to inform an acceptable diagnosis

Lacks basic medical knowledge to reason effectively

Disregards emerging diagnostic information

Becomes defensive and/or belligerent when questioned on differential diagnosis

Ignores team’s recommendations

Develops and acts on a management plan before receiving team’s endorsement

Cannot explain or document clinical reasoning

→ Developing Behaviors →

(Learner may be at different levels within a row.)

Approaches assessment from a rigid template

Struggles to filter, prioritize, and make connections between sources of information

Proposes a differential diagnosis that is too narrow, is too broad, or contains inaccuracies

Demonstrates difficulty retrieving knowledge for effective reasoning

Does not integrate emerging information to update the differential diagnosis

Displays discomfort with ambiguity

Ignores team’s recommendations

Develops and acts on a management plan before receiving team’s endorsement

Cannot explain or document clinical reasoning

→

Gathers pertinent data based on initial diagnostic hypotheses

Proposes a reasonable differential diagnosis but may neglect important diagnostic information

Is beginning to organize knowledge by illness scripts (patterns) to generate and support a diagnosis

Considers emerging information but does not completely integrate to update the differential diagnosis

Acknowledges ambiguity and is open to questions and challenges

Recommends a broad range of untailored diagnostic evaluations

Depends on team for all management plans

Does not completely explain and document reasoning

Gathers pertinent information from many sources in a hypothesis-driven fashion

Filters, prioritizes, and makes connections between sources of information

Proposes a relevant differential diagnosis that is neither too broad nor too narrow

Organizes knowledge into illness scripts (patterns) that generate and support a diagnosis

Seeks and integrates emerging information to update the differential diagnosis

Encourages questions and challenges from patients and team

Proposes diagnostic and management plans reflecting team’s input

Seeks assistance from team members

Provides complete and succinct documentation explaining clinical reasoning

Underlying entrustability for all EPAs are trustworthy habits, including truthfulness, conscientiousness, and discernment.

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### EPA 3: Recommend and Interpret Common Diagnostic and Screening Tests

#### Key Functions with Related Competencies

| Recommend first-line cost-effective screening and diagnostic tests for routine health maintenance and common disorders |
| PC5 PC9 SBP3 PBLI9 KP1 KP4 |

| Provide rationale for decision to order tests, taking into account pre- and posttest probability and patient preference |
| PC5 PC7 KP1 KP4 SBP3 PBLI9 |

| Interpret results of basic studies and understand the implication and urgency of the results |
| PC4 PC5 PC7 KP1 |

#### Behaviors Requiring Corrective Response

| Unable to recommend a standard set of screening or diagnostic tests |
| Demonstrates frustration at cost-containment efforts |
| Cannot provide a rationale for ordering tests |
| Can only interpret results based on normal values from the lab |
| Does not discern urgent from nonurgent results |

#### Developing Behaviors

(Learner may be at different levels within a row.)

| Recommends tests for common conditions |
| Does not consider harm, costs, guidelines, or patient resources |
| Does not consider patient-specific screening unless instructed |
| Recommends unnecessary tests or tests with low pretest probability |
| Neglects patient's preferences |
| Misinterprets insignificant or explainable abnormalities |
| Does not know how to respond to urgent test results |
| Requires supervisor to discuss results with patient |

| Considers costs |
| Identifies guidelines for standard tests |
| Repeats diagnostic tests at intervals that are too frequent or too lengthy |
| Understands pre- and posttest probability |
| Neglects impact of false positive or negative results |
| Aware of patient's preferences |
| Recognizes need for assistance to evaluate urgency of results and communicate these to patient |

#### Expected Behaviors for an Entrustable Learner

| Recommends key, reliable, cost-effective screening and diagnostic tests |
| Applies patient-specific guidelines |
| Provides individual rationale based on patient’s preferences, demographics, and risk factors |
| Incorporates sensitivity, specificity, and prevalence in recommending and interpreting tests |
| Explains how results will influence diagnosis and evaluation |
| Distinguishes common, insignificant abnormalities from clinically important findings |
| Discerns urgent from nonurgent results and responds correctly |
| Seeks help for interpretation of tests beyond scope of knowledge |

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EPA 4: Enter and Discuss Orders and Prescriptions

### Key Functions with Related Competencies

<table>
<thead>
<tr>
<th>Function</th>
<th>Related Competencies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Compose orders efficiently and effectively verbally, on paper, and electronically</td>
<td>PC6 PBLI1</td>
</tr>
<tr>
<td>Demonstrate an understanding of the patient’s condition that underpins the provided orders</td>
<td>PC5 PC2</td>
</tr>
<tr>
<td>Recognize and avoid errors by attending to patient-specific factors, using resources, and appropriately responding to safety alerts</td>
<td>PBLI7</td>
</tr>
<tr>
<td>Discuss planned orders and prescriptions with team, patients, and families</td>
<td>ICS1 SBP3</td>
</tr>
</tbody>
</table>

### Behaviors Requiring Corrective Response

<table>
<thead>
<tr>
<th>Behavior</th>
<th>Corrective Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unable to compose or enter electronic orders or write prescriptions (or does so for the wrong patient or using an incorrect order set)</td>
<td>Compose orders efficiently and effectively verbally, on paper, and electronically</td>
</tr>
<tr>
<td>Does not follow established protocols for placing orders</td>
<td>Demonstrate an understanding of the patient’s condition that underpins the provided orders</td>
</tr>
<tr>
<td>Lacks basic knowledge needed to guide orders</td>
<td>Recognize and avoid errors by attending to patient-specific factors, using resources, and appropriately responding to safety alerts</td>
</tr>
<tr>
<td>Discounts information obtained from resources designed to avoid drug–drug interactions</td>
<td>Discuss planned orders and prescriptions with team, patients, and families</td>
</tr>
<tr>
<td>Fails to adjust doses when advised to do so by others</td>
<td>Discuss planned orders and prescriptions with team, patients, and families</td>
</tr>
<tr>
<td>Ignores alerts</td>
<td>Discuss planned orders and prescriptions with team, patients, and families</td>
</tr>
<tr>
<td>Places orders without communicating with others; uses unidirectional style (“Here is what we are doing...”)</td>
<td>Discuss planned orders and prescriptions with team, patients, and families</td>
</tr>
<tr>
<td>Does not consider cost of orders or patient’s preferences</td>
<td>Discuss planned orders and prescriptions with team, patients, and families</td>
</tr>
</tbody>
</table>

### Developing Behaviors (Learner may be at different levels within a row.)

<table>
<thead>
<tr>
<th>Expected Behaviors for an Entrustable Learner</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recognizes when to tailor or deviate from the standard order set</td>
</tr>
<tr>
<td>Completes simple orders</td>
</tr>
<tr>
<td>Demonstrates working knowledge of how orders are processed in the workplace</td>
</tr>
<tr>
<td>Asks questions, accepts feedback</td>
</tr>
<tr>
<td>Routinely recognizes when to tailor or deviate from the standard order set</td>
</tr>
<tr>
<td>Able to complete complex orders requiring changes in dose or frequency over time (e.g., a taper)</td>
</tr>
<tr>
<td>Undertakes a reasoned approach to placing orders (e.g., waits for contingent results before ordering more tests)</td>
</tr>
<tr>
<td>Recognizes limitations and seeks help</td>
</tr>
<tr>
<td>Articulates rationale behind orders</td>
</tr>
<tr>
<td>May not take into account subtle signs or exam findings guiding orders</td>
</tr>
<tr>
<td>Recognizes patterns, takes into account the patient’s condition when ordering diagnostics and/or therapeutics</td>
</tr>
<tr>
<td>Explains how test results influence clinical decision making</td>
</tr>
<tr>
<td>Routinely practices safe habits when writing or entering prescriptions or orders</td>
</tr>
<tr>
<td>Responds to EHR’s safety alerts and understands rationale for them</td>
</tr>
<tr>
<td>Uses electronic resources to fill in gaps in knowledge to inform safe order writing (e.g., drug–drug interactions, treatment guidelines)</td>
</tr>
<tr>
<td>En ters orders that reflect bidirectional communication with patients, families, and team</td>
</tr>
<tr>
<td>Considers the costs of orders and the patient’s ability and willingness to proceed with the plan</td>
</tr>
</tbody>
</table>
EPA 5: Document a Clinical Encounter in the Patient Record

Key Functions with Related Competencies

- Prioritize and synthesize information into a cogent narrative for a variety of clinical encounters (e.g., admission, progress, pre- and post-op, and procedure notes; informed consent; discharge summary)
  - P4 ICS1

- Follow documentation requirements to meet regulations and professional expectations
  - ICS5 P4 SBP1

- Document a problem list, differential diagnosis, and plan supported through clinical reasoning that reflects patient’s preferences
  - PC4 PC6 ICS1 ICS2

Behaviors Requiring Corrective Response

- Provides incoherent documentation
- Copies and pastes information without verification or attribution
- Does not provide documentation when required
- Provides illegible documentation
- Includes inappropriate judgmental language
- Documents potentially damaging information without attribution

→ Developing Behaviors →
(Learner may be at different levels within a row.)

Misses key information
- Produces documentation that has errors or does not fulfill institutional requirements (e.g., date, time, signature, avoidance of prohibited abbreviations)
- Has difficulty meeting turnaround expectations, resulting in team members’ lack of access to documentation
- Does not document a problem list, differential diagnosis, plan, clinical reasoning, or patient’s preferences
- Interprets laboratories by relying on norms rather than context
- Does not include a rationale for ordering studies or treatment plans
- Demonstrates limited help-seeking behavior to fill gaps in knowledge, skill, and experience

Provides key information but may include unnecessary details or redundancies
- Recognizes and corrects errors related to required elements of documentation
- Meets needed turnaround time for standard documentation
- Documents a problem list, differential diagnosis, plan, and clinical reasoning
- Interprets laboratory values accurately
- Demonstrates limited help-seeking behavior resulting in improved ability to develop and document management plans
- Solicits patient’s preferences and records them in a note

→ Expected Behaviors for an Entrustable Learner →

Provides a verifiable cogent narrative without unnecessary details or redundancies
- Adjusts and adapts documentation based on audience, context, or purpose (e.g., admission, progress, pre- and post-op, and procedure notes; informed consent; discharge summary)
- Provides accurate, legible, timely documentation that includes institutionally required elements
- Documents in the patient’s record role in team-care activities
- Documents use of primary and secondary sources necessary to fill in gaps
- Documents a problem list, differential diagnosis, and plan, reflecting a combination of thought processes and input from other providers
- Interprets laboratory values accurately
- Identifies key problems, documenting engagement of those who can help resolve them
- Communicates bidirectionally to develop and record management plans aligned with patient’s preferences
### EPA 6: Provide an Oral Presentation of a Clinical Encounter

**Key Functions with Related Competencies**

<table>
<thead>
<tr>
<th>Task</th>
<th>Competencies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Present personally gathered and verified information, acknowledging areas of uncertainty</td>
<td>PC2 PBL1 PPD4 P1</td>
</tr>
<tr>
<td>Provide an accurate, concise, well-organized oral presentation</td>
<td>ICS2 PC6</td>
</tr>
<tr>
<td>Adjust the oral presentation to meet the needs of the receiver</td>
<td>ICS1 ICS2 PBL1 PPD7</td>
</tr>
<tr>
<td>Demonstrate respect for patient’s privacy and autonomy</td>
<td>P3 P1 PPD4</td>
</tr>
</tbody>
</table>

**Behaviors Requiring Corrective Response**

- Fabricates information when unable to respond to questions
- Reacts defensively when queried
- Presents in a disorganized and incoherent fashion
- Presents information in a manner that frightens family
- Disregards patient’s privacy and autonomy

**Developing Behaviors** (Learnert may be at different levels within a row.)

<table>
<thead>
<tr>
<th>Behavior</th>
<th>Expected Behaviors for an Entrustable Learner</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gathers evidence incompletely or exhaustively</td>
<td>Presents personally verified and accurate information, even when sensitive</td>
</tr>
<tr>
<td>Fails to verify information</td>
<td>Acknowledges gaps in knowledge, reflects on areas of uncertainty, and seeks additional information to clarify or refine presentation</td>
</tr>
<tr>
<td>Reacts defensively when queried</td>
<td></td>
</tr>
<tr>
<td>Presents a story that is imprecise because of omitted or extraneous information</td>
<td></td>
</tr>
<tr>
<td>Presents information in a manner that frightens family</td>
<td></td>
</tr>
<tr>
<td>Disregards patient’s privacy and autonomy</td>
<td></td>
</tr>
<tr>
<td>Delivers a presentation that is not concise or that wanders</td>
<td></td>
</tr>
<tr>
<td>Presents a story that is imprecise because of omitted or extraneous information</td>
<td></td>
</tr>
<tr>
<td>Delivers a presentation organized around the chief concern</td>
<td></td>
</tr>
<tr>
<td>Presents a story that is imprecise because of omitted or extraneous information</td>
<td></td>
</tr>
<tr>
<td>Follows a template</td>
<td></td>
</tr>
<tr>
<td>Uses acronyms and medical jargon</td>
<td></td>
</tr>
<tr>
<td>Projects too much or too little confidence</td>
<td></td>
</tr>
<tr>
<td>Incorporates patient’s preferences and privacy needs</td>
<td></td>
</tr>
<tr>
<td>Lacks situational awareness when presenting sensitive patient information</td>
<td></td>
</tr>
<tr>
<td>Does not engage patients and families in discussions of care</td>
<td></td>
</tr>
<tr>
<td>Incorporates patient’s preferences and privacy needs</td>
<td></td>
</tr>
<tr>
<td>Respects patients’ privacy and confidentiality by demonstrating situational awareness when discussing patients</td>
<td></td>
</tr>
<tr>
<td>Engages in shared decision making by actively soliciting patient’s preferences</td>
<td></td>
</tr>
</tbody>
</table>

**Underlying entrustability for all EPAs are trustworthy habits, including truthfulness, conscientiousness, and discernment.**

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EPA 7: Form Clinical Questions and Retrieve Evidence to Advance Patient Care

**An EPA: A unit of observable, measurable professional practice requiring integration of competencies**

**EPA 7**

**Clinical questions to advance patient care**

**Key Functions with Related Competencies**

<table>
<thead>
<tr>
<th>Function</th>
<th>Competencies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Combine curiosity, objectivity, and scientific reasoning to develop a well-formed, focused, pertinent clinical question (ASK)</td>
<td>KP3 PBLI6 PBLI1 PBLI3</td>
</tr>
<tr>
<td>Demonstrate awareness and skill in using information technology to access accurate and reliable medical information (ACQUIRE)</td>
<td>PBLI6 PBLI7</td>
</tr>
<tr>
<td>Demonstrate skill in appraising sources, content, and applicability of evidence (APPRAISE)</td>
<td>PBLI6 KP3 KP4</td>
</tr>
<tr>
<td>Apply findings to individuals and/or patient panels; communicate findings to the patient and team, reflecting on process and outcomes (ADVISE)</td>
<td>ICS1 ICS2 PBLI1 PBLI8 PBLI9 PC7</td>
</tr>
</tbody>
</table>

**Behaviors Requiring Corrective Response**

<table>
<thead>
<tr>
<th>Behavior</th>
<th>Corrective Behavior</th>
</tr>
</thead>
<tbody>
<tr>
<td>Does not reconsider approach to a problem, ask for help, or seek new information</td>
<td>With prompting, translates information needs into clinical questions</td>
</tr>
<tr>
<td>Declines to use new information technologies</td>
<td>Seeks assistance to translate information needs into well-formed clinical questions</td>
</tr>
<tr>
<td>Refuses to consider gaps and limitations in the literature or apply published evidence to specific patient care</td>
<td>Uses vague or inappropriate search strategies, leading to an unmanageable volume of information</td>
</tr>
<tr>
<td>Accepts findings from clinical studies without critical appraisal</td>
<td>Identifies limitations and gaps in personal knowledge</td>
</tr>
<tr>
<td>Communicates with rigid recitation of findings, using medical jargon or displaying personal biases</td>
<td>Develops knowledge guided by well-formed clinical questions</td>
</tr>
</tbody>
</table>

**Developing Behaviors** (Learner may be at different levels within a row.)

<table>
<thead>
<tr>
<th>Developing Behaviors</th>
<th>Expected Behaviors for an Entrustable Learner</th>
</tr>
</thead>
<tbody>
<tr>
<td>With prompting, translates information needs into clinical questions</td>
<td>Identifies limitations and gaps in personal knowledge</td>
</tr>
<tr>
<td>Seeks assistance to translate information needs into well-formed clinical questions</td>
<td>Develops knowledge guided by well-formed clinical questions</td>
</tr>
<tr>
<td>Employs different search engines and refines search strategies to improve efficiency of evidence retrieval</td>
<td>Identifies and uses available databases, search engines, and refined search strategies to acquire relevant information</td>
</tr>
<tr>
<td>Applies published evidence to common medical conditions</td>
<td>Uses levels of evidence to appraise literature and determines applicability of evidence</td>
</tr>
<tr>
<td>Applies nuanced findings by communicating the level and consistency of evidence with appropriate citation</td>
<td>Seeks guidance in understanding subtleties of evidence</td>
</tr>
<tr>
<td>Connects outcomes to process by which questions were identified and answered and findings were applied</td>
<td>Reflects on ambiguity, outcomes, and the process by which questions were identified and answered and findings were applied</td>
</tr>
</tbody>
</table>

This schematic depicts development of proficiency in the Core EPAs. It is not intended for use as an assessment instrument. Entrustment decisions should be made after EPAs have been observed in multiple settings with varying context, acuity, and complexity and with varying patient characteristics.

**EPA 8: Give or Receive a Patient Handover to Transition Care Responsibility**

**Key Functions with Related Competencies**

- **Document and update an electronic handover tool and apply this to deliver a structured verbal handover**
  - PBL17 ICS2 ICS3 P3
  - *Transmitter*
- **Conduct handover using communication strategies known to minimize threats to transition of care**
  - ICS2 ICS3
  - *Transmitter*
  - Provide succinct verbal communication conveying illness severity, situational awareness, action planning, and contingency planning
- **ICS2 PC8**
  - *Transmitter*
  - Give or elicit feedback about handover communication and ensure closed-loop communication
  - PBL15 ICS2 ICS3
  - *Transmitter and Receiver*
  - Demonstrate respect for patient’s privacy and confidentiality
  - P3
  - *Transmitter and Receiver*

**Behaviors Requiring Corrective Response**

- **Inconsistently uses standardized format or uses alternative tool**
- **Provides information that is incomplete and/or includes multiple errors in patient information**
- **Is frequently distracted**
- **Carries out handover with inappropriate timing and context**
- **Communication lacks all key components of standardized handover**
- **Withholds or is defensive with feedback**
- **Displays lack of insight on the role of feedback**
- **Does not summarize (or repeat) key points for effective closed-loop communication**
- **Is unaware of HIPAA policies**
- **Breaches patient confidentiality and privacy**

**→ Developing Behaviors →**

(Learner may be at different levels within a row.)

- **Uses electronic handover tool**
- **Inconsistently updates tool**
- **Requires clarification and additional relevant information from others to prioritize information**
- **Provides patient information that is disorganized, too detailed, and/or too brief**
- **Requires assistance to minimize interruptions and distractions**
- **Demonstrates minimal situational awareness**
- **Inconsistently communicates key components of the standardized tool**
- **Does not provide action plan and contingency plan**
- **Withholds or is defensive with feedback**
- **Displays lack of insight on the role of feedback**
- **Does not summarize (or repeat) key points for effective closed-loop communication**
- **Is unaware of HIPAA policies**
- **Breaches patient confidentiality and privacy**

**Expected Behaviors for an Entrustable Learner**

- **Consistently updates electronic handover tool with clear, relevant, and succinct documentation**
- **Adapts and applies all elements of a standardized template**
- **Presents a verbal handover that is prioritized, relevant, and succinct**

---

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* Functions are designated as “transmitter” or “transmitter and receiver.”

**Underlying entrustability for all EPAs are trustworthy habits, including truthfulness, conscientiousness, and discernment.**

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### EPA 9: Collaborate as a Member of an Interprofessional Team

#### Key Functions with Related Competencies

<table>
<thead>
<tr>
<th>Identify team members' roles and responsibilities and seek help from other members of the team to optimize health care delivery</th>
</tr>
</thead>
<tbody>
<tr>
<td>IPC2 SBP2 ICS3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Include team members, listen attentively, and adjust communication content and style to align with team-member needs</th>
</tr>
</thead>
<tbody>
<tr>
<td>ICS2/IPC3 IPC1 ICS7 P1</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Establish and maintain a climate of mutual respect, dignity, integrity, and trust</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prioritize team needs over personal needs to optimize delivery of care</td>
</tr>
<tr>
<td>Help team members in need</td>
</tr>
<tr>
<td>P1 ICS7 IPC1 SBP2</td>
</tr>
</tbody>
</table>

#### Behaviors Requiring Corrective Response

- Does not acknowledge other members of the interdisciplinary team as important
- Displays little initiative to interact with team members
- Dismisses input from professionals other than physicians
- Has disrespectful interactions or does not tell the truth
- Is unable to modify behavior
- Puts others in position of reminding, enforcing, and resolving interprofessional conflicts

#### Developing Behaviors (Learner may be at different levels within a row.)

- Identifies roles of other team members but does not know how or when to use them
- Acts independently of input from team members, patients, and families
- Communication is largely unidirectional, in response to prompts, or template driven
- Has limited participation in team discussion
- Is typically a more passive member of the team
- Prioritizes own goals over those of the team

- Interacts with other team members, seeks their counsel, actively listens to their recommendations, and incorporates these recommendations into practice
- Listens actively and elicits ideas and opinions from other team members
- Communicates bidirectionally; keeps team members informed and up to date
- Integrates into team function, prioritizing team goals
- Demonstrates respectful interactions and tells the truth
- Remains professional and anticipates and manages emotional triggers

#### Expected Behaviors for an Entrustable Learner

- Effectively partners as an integrated member of the team
- Articulates the unique contributions and roles of other health care professionals
- Actively engages with the patient and other team members to coordinate care and provide for seamless care transition
- Communicates bidirectionally; keeps team members informed and up to date
- Tailors communication strategy to the situation
- Supports other team members and communicates their value to the patient and family
- Anticipates, reads, and reacts to emotions to gain and maintain therapeutic alliances with others
- Prioritizes team’s needs over personal needs
EPA 10: Recognize a Patient Requiring Urgent or Emergent Care and Initiate Evaluation and Management

Key Functions with Related Competencies

- Recognize normal and abnormal vital signs as they relate to patient- and disease-specific factors as potential etiologies of a patient’s decompensation

Behaviors Requiring Corrective Response

- Fails to recognize trends or variations of vital signs in a decompensating patient

Expected Behaviors for an Entrustable Learner

- Recognizes variations of patient’s vital signs based on patient- and disease-specific factors

Underlying entrustability for all EPAs are trustworthy habits, including truthfulness, conscientiousness, and discernment.

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An EPA: A unit of observable, measurable professional practice requiring integration of competencies

- Chest pain
- Mental status change
- Shortness of breath and hypoxemia
- Fever
- Hypotension or hypotension
- Tachycardia or arrhythmia
- Oliguria, anuria, or urinary retention
- Electrolyte abnormalities
- Hypoglycemia or hyperglycemia

EPA 10

Recognize urgent or emergent situation

- Upon recognition of a patient’s deterioration, communicate situation, clarify patient’s goals of care, and update family members

- Dismisses concerns of team members (nurses, family members, etc.) about patient deterioration

- Disregards patient’s goals of care or code status

- Demonstrates limited ability to gather, filter, prioritize, and connect pieces of information to form a patient-specific differential diagnosis in an urgent or emergent setting

- Recognizes outliers or unexpected results or data and seeks out an explanation

- Gathers, filters, and prioritizes information related to a patient’s decompensation in an urgent or emergent setting

- Responds to early clinical deterioration and seeks timely help

- Prioritizes patients who need immediate care and initiates critical interventions

- Initiates and applies effective airway management, BLS, and advanced cardiovascular life support (ACLS) skills

- Monitors response to initial interventions and adjusts plan accordingly

- Adheres to institutional procedures and protocols for escalation of patient care

- Uses the health care team members according to their roles and responsibilities to increase task efficiency in an emergent patient condition

- Communicates bidirectionally with the health care team and family about goals of care and treatment plan while keeping them up to date

- Actively listens to and elicits feedback from team members (e.g., patient, nurses, family members) regarding concerns about patient deterioration to determine next steps

EPA 11: Obtain Informed Consent for Tests and/or Procedures

Key Functions with Related Competencies

- Describe the key elements of informed consent: indications, contraindications, risks, benefits, alternatives, and potential complications of the intervention
- Communicate with the patient and family to ensure that they understand the intervention
- Display an appropriate balance of confidence and skill to put the patient and family at ease, seeking help when needed

Behaviors Requiring Corrective Response

- Lacks basic knowledge of the intervention
- Provides inaccurate or misleading information
- Hands the patient a form and requests a signature
- Uses language that frightens patient and family
- Disregards emotional cues
- Regards interpreters as unhelpful or inefficient
- Displays overconfidence and takes actions that can have a negative effect on outcomes

→ Developing Behaviors →

(Learner may be at different levels within a row.)

- Is complacent with informed consent due to limited understanding of importance of informed consent
- Allows personal biases with intervention to influence consent process
- Obtains informed consent only on the directive of others
- Uses medical jargon
- Uses unidirectional communication; does not elicit patient's preferences
- Has difficulty in attending to emotional cues
- Does not consider the use of an interpreter when needed
- Displays a lack of confidence that increases patient stress or discomfort, or overconfidence that erodes trust
- Asks questions
- Accepts help

Expected Behaviors for an Entrustable Learner

- Understands and explains the key elements of informed consent
- Provides complete and accurate information
- Recognizes when informed consent is needed and describes it as a matter of good practice rather than as an externally imposed sanction
- Avoids medical jargon
- Uses bidirectional communication to build rapport
- Practices shared decision making, eliciting patient and family preferences
- Responds to emotional cues in real time
- Enlists interpreters collaboratively
- Demonstrates confidence commensurate with knowledge and skill so that patient and family are at ease
- Seeks timely help

From day 1, residents may be in a position to obtain informed consent for interactions, tests, or procedures they order and perform, including immunizations, medications, central lines, contrast and radiation exposures, and blood transfusions.

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EPA 12: Perform General Procedures of a Physician

Key Functions with Related Competencies

- Demonstrates technical skills required for the procedure
- Understands and explains the anatomy, physiology, indications, contraindications, risks, benefits, alternatives, and potential complications of the procedure
- Communicates with the patient and family to ensure they understand pre- and post-procedural activities
- Demonstrates confidence that puts patients and families at ease

Behaviors Requiring Corrective Response

- Lacks required technical skills
- Fails to follow sterile technique when indicated
- Displays lack of awareness of knowledge gaps
- Uses inaccurate language or presents information distorted by personal biases
- Disregards patient’s and family’s wishes
- Fails to obtain appropriate consent before performing a procedure
- Displays overconfidence and takes actions that could endanger patients or providers
- Displays a lack of confidence that increases patient’s stress or discomfort, or overconfidence that erodes patient’s trust if the learner struggles to perform the procedure
- Asks for help when offered

→ Developing Behaviors → (Learner may be at different levels within a row.)

- Approaches procedures as mechanical tasks to be performed and often initiated at the request of others
- Struggles to adapt approach when indicated
- Describes most of these key issues in performing procedures: indications, contraindications, risks, benefits, and alternatives
- Demonstrates knowledge of common procedural complications but struggles to mitigate them
- Demonstrates technical skills as variably applied
- Completes the procedure unreliably
- Uses universal precautions and aseptic technique inconsistently
- Demonstrates limited knowledge of procedural complications or how to minimize them
- Uses jargon or other ineffective communication techniques
- Does not read emotional response from the patient
- Does not engage patient in shared decision making
- Asks for help with complications
- Seeks timely help

Expected Behaviors for an Entrustable Learner

- Demonstrates necessary preparation for performance of procedures
- Correctly performs procedure on multiple occasions over time
- Uses universal precautions and aseptic technique consistently
- Demonstrates and applies working knowledge of essential anatomy, physiology, indications, contraindications, risks, benefits, and alternatives for each procedure
- Knows and takes steps to mitigate complications of procedures
- Demonstrates patient-centered skills while performing procedures (avoids jargon, participates in shared decision making, considers patient’s emotional response)
- Having accounted for the patient’s and family’s wishes, obtains appropriate informed consent

An EPA: A unit of observable, measurable professional practice requiring integration of competencies

• Basic cardiopulmonary resuscitation (CPR)
• Bag-mask ventilation (BMC)
• Sterile technique
• Venipuncture
• Insertion of an intravenous line
• Placement of a Foley catheter

Underlying entrustability for all EPAs are trustworthy habits, including truthfulness, conscientiousness, and discernment.

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EPA 13: Identify System Failures and Contribute to a Culture of Safety and Improvement

**Key Functions with Related Competencies**

- Identify and report actual and potential ("near miss") errors in care using system reporting structure (e.g., event reporting systems, chain of command policies)
- Participate in system improvement activities in the context of rotations or learning experiences (e.g., rapid-cycle change using plan–do–study–act cycles, root cause analyses, morbidity and mortality conference, failure modes and effects analyses, improvement projects)
- Engage in daily safety habits (e.g., accurate and complete documentation, including allergies and adverse reactions, medicine reconciliation, patient education, universal precautions, hand washing, isolation protocols, falls and other risk assessments, standard prophylaxis, time-outs)
- Admit one’s own errors, reflect on one’s contribution, and develop an individual improvement plan

**Behaviors Requiring Corrective Response**

- Reports errors in a disrespectful or misleading manner
- Displays frustration at system improvement efforts
- Places self or others at risk of injury or adverse event
- Avoids discussing or reporting errors; attempts to cover up errors
- Demonstrates defensiveness or places blame

**Expected Behaviors for an Entrustable Learner**

- Identifies and reports patient safety concerns in a timely manner using existing system reporting structures (e.g., event reporting systems, chain of command policies)
- Speaks up to identify actual and potential errors, even against hierarchy
- Actively engages in efforts to identify systems issues and their solutions
- Engages in daily safety habits with only rare lapses

**Developing Behaviors** (Learner may be at different levels within a row.)

- Superficial understanding prevents recognition of real or potential errors
- Identifies and reports actual and potential errors
- Demonstrates structured approach to describing key elements of patient safety concerns
- Passively observes system improvement activities in the context of rotations or learning experiences
- Participates in system improvement activities when prompted but may require others to point out system failures
- Requires prompts for common safety behaviors
- Demonstrates common safety behaviors
- Requires prompts to reflect on own errors and their underlying factors
- Identifies and reflects on own contribution to errors but needs help developing an improvement plan
- May not recognize own fatigue or may be afraid to tell supervisor when fatigued
- Identifies and reflects on the element of personal responsibility for errors
- Recognizes causes of lapses, such as fatigue, and modifies behavior or seeks help

Appendix 1: Core EPA Pilot Supervision and Coactivity Scales

Scales for clinical supervisors to determine how much help (coactivity) or supervision they judge a student needs for a specific activity have been proposed—the Chen entrustment scale and the Ottawa scale (Chen et al 2015; Rekman et al 2016). There is limited validity evidence for these scales and no published data comparing them. We include these published tools here for your reference. The Core EPA Pilot Group has agreed on a trial using modified versions of these scales (described below). A description of how the pilot is working with these scales is available on the Core EPA website.

<table>
<thead>
<tr>
<th>Modified Chen entrustment scale: If you were to supervise this student again in a similar situation, which of the following statements aligns with how you would assign the task?</th>
<th>Corresponding excerpt from original Chen entrustment scale (Chen et al 2015)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1b. “Watch me do this.”</td>
<td>1b. Not allowed to practice EPA; allowed to observe</td>
</tr>
<tr>
<td>2a. “Let's do this together.”</td>
<td>2a. Allowed to practice EPA only under proactive, full supervision as coactivity with supervisor</td>
</tr>
<tr>
<td>2b. “I'll watch you.”</td>
<td>2b. Allowed to practice EPA only under proactive, full supervision with supervisor in room ready to step in as needed</td>
</tr>
<tr>
<td>3a. “You go ahead, and I'll double-check all of your findings.”</td>
<td>3a. Allowed to practice EPA only under reactive/on-demand supervision with supervisor immediately available, all findings double-checked</td>
</tr>
<tr>
<td>3b. “You go ahead, and I'll double-check key findings.”</td>
<td>3b. Allowed to practice EPA only under reactive/on-demand supervision with supervisor immediately available, key findings double-checked</td>
</tr>
</tbody>
</table>
Modified Ottawa scale: In supervising this student, how much did you participate in the task?

<table>
<thead>
<tr>
<th>Modified Ottawa scale</th>
<th>Original Ottawa scale (Rekman et al 2016)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. “I did it.” Student required complete guidance or was unprepared; I had to do most of the work myself.</td>
<td>1. “I had to do.” (i.e., requires complete hands-on guidance, did not do, or was not given the opportunity to do)</td>
</tr>
<tr>
<td>2. “I talked them through it.” Student was able to perform some tasks but required repeated directions.</td>
<td>2. “I had to talk them through.” (i.e., able to perform tasks but requires constant direction)</td>
</tr>
<tr>
<td>3. “I directed them from time to time.” Student demonstrated some independence and only required intermittent prompting.</td>
<td>3. “I had to prompt them from time to time.” (i.e., demonstrates some independence, but requires intermittent direction)</td>
</tr>
<tr>
<td>4. “I was available just in case.” Student functioned fairly independently and only needed assistance with nuances or complex situations.</td>
<td>4. “I needed to be there in the room just in case.” (i.e., independence but unaware of risks and still requires supervision for safe practice)</td>
</tr>
<tr>
<td>5. (No level 5: Students are ineligible for complete independence in our systems.)</td>
<td>5. “I did not need to be there.” (i.e., complete independence, understands risks and performs safely, practice ready)</td>
</tr>
</tbody>
</table>