

In development of learning objectives for senior rotations, if an EPA is to be utilized for meeting Quillen Institutional Objectives, students must be expected to perform all the functions listed for the EPA selected and be assessed on the EPA during the rotation. Formative feedback to the student on their performance, areas of strengths and weaknesses on which they need to spend additional effort in order to master the competency is expected.

## EPA 1: Gather a history and perform a physical examination

<b>Description of the activity</b>	<p>Day 1 residents should be able to perform an accurate complete or focused history and physical exam in a prioritized, organized manner without supervision and with respect for the patient. The history and physical examination should be tailored to the clinical situation and specific patient encounter. This data gathering and patient interaction activity serves as the basis for clinical work and as the building block for patient evaluation and management. Learners need to integrate the scientific foundations of medicine with clinical reasoning skills to guide their information gathering.</p> <p><b>Functions</b></p> <p><b>History</b></p> <ul style="list-style-type: none"> <li>• Obtain a complete and accurate history in an organized fashion.</li> <li>• Demonstrate patient-centered interview skills (attentive to patient verbal and nonverbal cues, patient/family culture, social determinants of health, need for interpretive or adaptive services; seeks conceptual context of illness; approaches the patient holistically and demonstrates active listening skills).</li> <li>• Identify pertinent history elements in common presenting situations, symptoms, complaints, and disease states (acute and chronic).</li> <li>• Obtain focused, pertinent histories in urgent, emergent, and consultative settings.</li> <li>• Consider cultural and other factors that may influence the patient's description of symptoms.</li> <li>• Identify and use alternate sources of information to obtain history when needed, including but not limited to family members, primary care physicians, living facility, and pharmacy staff.</li> <li>• Demonstrate clinical reasoning in gathering focused information relevant to a patient's care.</li> <li>• Demonstrate cultural awareness and humility (for example, by recognizing that one's own cultural models may be different from others) and awareness of potential for bias (conscious and unconscious) in interactions with patients.</li> </ul> <p><b>Physical Exam</b></p> <ul style="list-style-type: none"> <li>• Perform a complete and accurate physical exam in logical and fluid sequence.</li> <li>• Perform a clinically relevant, focused physical exam pertinent to the setting and purpose of the patient visit.</li> <li>• Identify, describe, and document abnormal physical exam findings.</li> <li>• Demonstrate patient-centered examination techniques that reflect respect for patient privacy, comfort, and safety (e.g., explaining physical exam maneuvers, telling the patient what one is doing at each step, keeping patients covered during the examination).</li> </ul>
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## EPA 2: Prioritize a differential diagnosis following a clinical encounter

<b>Description of the activity</b>	<p>To be prepared for the first day of residency, all physicians need to be able to integrate patient data to formulate an assessment, developing a list of potential diagnoses that can be prioritized and lead to selection of a working diagnosis. Developing a differential diagnosis is a dynamic and reflective process that requires continuous adaptation to avoid common errors of clinical reasoning such as premature closure.</p> <p><b>Functions</b></p> <ul style="list-style-type: none"> <li>• Synthesize essential information from the previous records, history, physical exam, and initial diagnostic evaluations.</li> <li>• Integrate information as it emerges to continuously update differential diagnosis.</li> <li>• Integrate the scientific foundations of medicine with clinical reasoning skills to develop a differential diagnosis and a working diagnosis.</li> <li>• Engage with supervisors and team members for endorsement and verification of the working diagnosis in developing a management plan.</li> <li>• Explain and document the clinical reasoning that led to the working diagnosis in a manner that is transparent to all members of the health care team.</li> <li>• Manage ambiguity in a differential diagnosis for self and patient and respond openly to questions and challenges from patients and other members of the health care team.</li> </ul>
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## EPA 3: Recommend and interpret common diagnostic and screening tests

<b>Description of the activity</b>	<p>This EPA describes the essential ability of the day 1 resident to select and interpret common diagnostic and screening tests* using evidence-based and cost-effective principles as one approaches a patient in any setting.</p> <p><b>Functions</b></p> <ul style="list-style-type: none"> <li>• Recommend first-line, cost-effective diagnostic evaluation for a patient with an acute or chronic common disorder or as part of routine health maintenance.</li> <li>• Provide a rationale for the decision to order the test.</li> <li>• Incorporate cost awareness and principles of cost-effectiveness and pre-test/post-test probability in developing diagnostic plans.</li> <li>• Interpret the results of basic diagnostic studies (both lab and imaging); know common lab values (e.g., electrolytes).</li> <li>• Understand the implications and urgency of an abnormal result and seek assistance for interpretation as needed.</li> <li>• Elicit and take into account patient preferences in making recommendations.</li> </ul> <p><b>*Common diagnostic and screening tests include the following:</b></p> <p><b>Plasma/serum/blood studies:</b></p> <table data-bbox="462 1459 1218 1596"> <tr> <td>Arterial blood gases</td> <td>Culture and sensitivity</td> <td>HIV antibodies</td> </tr> <tr> <td>Bilirubin</td> <td>Electrolytes</td> <td>HIV viral load</td> </tr> <tr> <td>Cardiac enzymes</td> <td>Glucose</td> <td>Lipoproteins</td> </tr> <tr> <td>Coagulation studies</td> <td>Hepatic proteins</td> <td>Renal function tests</td> </tr> <tr> <td>CBC</td> <td>HgbA1c</td> <td>RPR</td> </tr> </table> <p><b>Urine studies:</b></p> <table data-bbox="462 1627 1136 1795"> <tr> <td>Chlamydia</td> <td><b>Body fluids (CSF, pleural, peritoneal):</b></td> </tr> <tr> <td>Culture and sensitivity</td> <td>Cell counts</td> </tr> <tr> <td>Gonorrhea</td> <td>Culture and sensitivity</td> </tr> <tr> <td>Microscopic analysis</td> <td>Protein(s)</td> </tr> <tr> <td>U/A dipstick</td> <td></td> </tr> </table>	Arterial blood gases	Culture and sensitivity	HIV antibodies	Bilirubin	Electrolytes	HIV viral load	Cardiac enzymes	Glucose	Lipoproteins	Coagulation studies	Hepatic proteins	Renal function tests	CBC	HgbA1c	RPR	Chlamydia	<b>Body fluids (CSF, pleural, peritoneal):</b>	Culture and sensitivity	Cell counts	Gonorrhea	Culture and sensitivity	Microscopic analysis	Protein(s)	U/A dipstick	
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## EPA 4: Enter and discuss orders and prescriptions

<b>Description of the activity</b>	<p>Writing safe and indicated orders is fundamental to the physician's ability to prescribe therapies or interventions beneficial to patients. It is expected that physicians will be able to do this without direct supervision when they matriculate to residency. Entering residents will have a comprehensive understanding of some but not necessarily all of the patient's clinical problems for which they must provide orders. They must also recognize their limitations and seek review for any orders and prescriptions they are expected to provide but for which they do not understand the rationale. The expectation is that learners will be able to enter safe orders and prescriptions in a variety of settings (e.g., inpatient, ambulatory, urgent, or emergent care).</p> <p><b>Functions</b></p> <ul style="list-style-type: none"><li>• Demonstrate an understanding of the patient's current condition and preferences that will underpin the orders being provided.</li><li>• Demonstrate working knowledge of the protocol by which orders will be processed in the environment in which they are placing the orders.</li><li>• Compose orders efficiently and effectively, such as by identifying the correct admission order set, selecting the correct fluid and electrolyte replacement orders, and recognizing the needs for deviations from standard order sets.</li><li>• Compose prescriptions in verbal, written, and electronic formats.</li><li>• Recognize and avoid errors by using safety alerts (e.g., drug-drug interactions) and information resources to place the correct order and maximize therapeutic benefit and safety for patients.</li><li>• Attend to patient-specific factors such as age, weight, allergies, pharmacogenetics, and co-morbid conditions when writing or entering prescriptions or orders.</li><li>• Discuss the planned orders and prescriptions (e.g., indications, risks) with patients and families and use a nonjudgmental approach to elicit health beliefs that may influence the patient's comfort with orders and prescriptions.</li></ul>
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## EPA 5: Document a clinical encounter in the patient record

<b>Description of the activity</b>	<p>Entering residents should be able to provide accurate, focused, and context-specific documentation of a clinical encounter in either written or electronic formats. Performance of this EPA is predicated on the ability to obtain information through history, using both primary and secondary sources, and physical exam in a variety of settings (e.g., office visit, admission, discharge summary, telephone call, email). Documentation is a critical form of communication that supports the ability to provide continuity of care to patients and allows all health care team members and consultants to</p> <ol style="list-style-type: none"><li>1. Understand the evolution of the patient's problems, diagnostic work-up, and impact of therapeutic interventions.</li><li>2. Identify the social and cultural determinants that affect the health of the patient.</li><li>3. View the illness through the lens of the patients and family.</li><li>4. Incorporate the patient's preferences into clinical decision making.</li></ol> <p>The patient record is a <i>legal document</i> that provides a record of the transactions in the patient-physician contract.</p> <p><b>Functions</b></p> <ul style="list-style-type: none"><li>• Filter, organize, and prioritize information.</li><li>• Synthesize information into a cogent narrative.</li><li>• Record a problem list, working and differential diagnosis and plan.</li><li>• Choose the information that requires emphasis in the documentation based on its purpose (e.g., Emergency Department visit, clinic visit, admission History and Physical Examination).</li><li>• Comply with requirements and regulations regarding documentation in the medical record.</li><li>• Verify the authenticity and origin of the information recorded in the documentation (e.g., avoids blind copying and pasting).</li><li>• Record documentation so that it is timely and legible.</li><li>• Accurately document the reasoning supporting the decision making in the clinical encounter for any reader (e.g., consultants, other health care professionals, patients and families, auditors).</li><li>• Document patient preferences to allow their incorporation into clinical decision making.</li></ul>
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## EPA 6: Provide an oral presentation of a clinical encounter

<b>Description of the activity</b>	<p>The day 1 resident should be able to concisely present a summary of a clinical encounter to one or more members of the health care team (including patients and families) in order to achieve a shared understanding of the patient's current condition. A prerequisite for the ability to provide an oral presentation is synthesis of the information, gathered into an accurate assessment of the patient's current condition.</p> <p><b>Functions</b></p> <ul style="list-style-type: none"><li>• Present information that has been personally gathered or verified, acknowledging any areas of uncertainty.</li><li>• Provide an accurate, concise, and well-organized oral presentation.</li><li>• Adjust the oral presentation to meet the needs of the receiver of the information.</li><li>• Assure closed-loop communication between the presenter and receiver of the information to ensure that both parties have a shared understanding of the patient's condition and needs.</li></ul>
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## EPA 7: Form clinical questions and retrieve evidence to advance patient care

<p><b>Description of the activity</b></p>	<p>On day 1 of residency, it is crucial that residents be able to identify key clinical questions in caring for patients, identify information resources, and retrieve information and evidence that will be used to address those questions. Day 1 residents should have basic skill in critiquing the quality of the evidence and assessing applicability to their patients and the clinical context. Underlying the skill set of practicing evidence-based medicine is the foundational knowledge an individual has and the self-awareness to identify gaps and fill them.</p> <p><b>Functions</b></p> <ul style="list-style-type: none"> <li>• Develop a well-formed, focused, pertinent clinical question based on clinical scenarios or real-time patient care.</li> <li>• Demonstrate basic awareness and early skills in appraisal of both the sources and content of medical information using accepted criteria.</li> <li>• Identify and demonstrate the use of information technology to access accurate and reliable online medical information.</li> <li>• Demonstrate basic awareness and early skills in assessing applicability/generalizability of evidence and published studies to specific patients.</li> <li>• Demonstrate curiosity, objectivity, and the use of scientific reasoning in acquisition of knowledge and application to patient care.</li> <li>• Apply the primary findings of one's information search to an individual patient or panel of patients.</li> <li>• Communicate one's findings to the health care team (including the patient/family).</li> <li>• Close the loop through reflection on the process and the outcome for the patient.</li> </ul>
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## EPA 8: Give or receive a patient handover to transition care responsibility

<p><b>Description of the activity</b></p>	<p>Effective and efficient handover communication is critical for patient care. Handover communication ensures that patients continue to receive high-quality and safe care through transitions of responsibility from one health care team or practitioner to another. Handovers are also foundational to the success of many other types of interprofessional communication, including discharge from one provider to another and from one setting to another. Handovers may occur between settings (e.g., hospitalist to PCP; pediatric to adult caregiver; discharges to lower-acuity settings) or within settings (e.g., shift changes).</p> <p><b>Functions for transmitter of information</b></p> <ul style="list-style-type: none"> <li>• Conduct handover communication that minimizes known threats to transitions of care (e.g., by ensuring you engage the listener, avoiding distractions).</li> <li>• Document—and update—an electronic handover tool.</li> <li>• Follow a structured handover template for verbal communication.</li> <li>• Provide succinct verbal communication that conveys, at a minimum, illness severity, situation awareness, action planning, and contingency planning.</li> <li>• Elicit feedback about the most recent handover communication when assuming primary responsibility of the patients.</li> <li>• Demonstrate respect for patient privacy and confidentiality.</li> </ul> <p><b>Functions for receiver of information</b></p> <ul style="list-style-type: none"> <li>• Provide feedback to transmitter to ensure informational needs are met.</li> <li>• Ask clarifying questions.</li> <li>• Repeat back to ensure closed-loop communication.</li> <li>• Ensure that the health care team (including patient/family) knows that the transition of responsibility has occurred.</li> <li>• Assume full responsibility for required care during one's entire care encounter.</li> <li>• Demonstrate respect for patient privacy and confidentiality.</li> </ul>
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## EPA 9: Collaborate as a member of an interprofessional team

<b>Description of the activity</b>	<p>Effective teamwork is necessary to achieve the Institute of Medicine competencies for care that is safe, timely, effective, efficient, and equitable. Introduction to the roles, responsibilities, and contributions of individual team members early in professional development is critical to fully embracing the value that teamwork adds to patient care outcomes.</p> <p><b>Functions</b></p> <ul style="list-style-type: none"><li>• Identify team members' roles and the responsibilities associated with each role.</li><li>• Establish and maintain a climate of mutual respect, dignity, integrity, and trust.</li><li>• Communicate with respect for and appreciation of team members and include them in all relevant information exchange.</li><li>• Use attentive listening skills when communicating with team members.</li><li>• Adjust communication content and style to align with team-member communication needs.</li><li>• Understand one's own roles and personal limits as an individual provider and seek help from the other members of the team to optimize health care delivery.</li><li>• Help team members in need.</li><li>• Prioritize team needs over personal needs in order to optimize delivery of care.</li></ul>
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## EPA 10: Recognize a patient requiring urgent or emergent care and initiate evaluation and management

<b>Description of the activity</b>	<p>The ability to promptly recognize a patient who requires urgent or emergent care, initiate evaluation and management, and seek help is essential for all physicians. New residents in particular are often among the first responders in an acute care setting, or the first to receive notification of an abnormal lab or deterioration in a patient's status. Early recognition and intervention provides the greatest chance for optimal outcomes in patient care. This EPA often calls for simultaneously recognizing need and initiating a call for assistance. Examples of conditions for which first-day interns might be expected to recognize, initiate evaluation and management, and seek help include the following:</p> <ol style="list-style-type: none"><li>1. chest pain</li><li>2. mental status changes</li><li>3. shortness of breath and hypoxemia</li><li>4. fever</li><li>5. hypotension and hypertension</li><li>6. tachycardia and arrhythmias (e.g., SVT, Afib, heart block)</li><li>7. oliguria, anuria, urinary retention</li><li>8. electrolyte abnormalities (e.g., hyponatremia, hyperkalemia)</li><li>9. hypoglycemia and hyperglycemia</li></ol> <p><b>Functions</b></p> <ul style="list-style-type: none"><li>• Recognize normal vital signs and variations that might be expected based on patient- and disease-specific factors.</li><li>• Recognize severity of a patient's illness and indications for escalating care.</li><li>• Identify potential underlying etiologies of the patient's decompensation.</li><li>• Apply basic and advanced life support as indicated.</li><li>• Start initial care plan for the decompensating patient.</li><li>• Engage team members required for immediate response, continued decision making, and necessary follow-up to optimize patient outcomes.</li><li>• Understand how to initiate a code response and participate as a team member.</li><li>• Communicate the situation to responding team members.</li><li>• Document patient assessments and necessary interventions in the medical record.</li><li>• Update family members to explain patient's status and escalation-of-care plans.</li><li>• Clarify patient's goals of care upon recognition of deterioration (e.g., DNR, DNI, comfort care).</li></ul>
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## EPA 11: Obtain informed consent for tests and/or procedures

<b>Description of the activity</b>	<p>All physicians must be able to perform patient care interventions that require informed consent. From day 1, residents may be in a position to obtain informed consent for interventions, tests, or procedures they order or perform (e.g., immunizations, central lines, contrast and radiation exposures, blood transfusions). Of note, residents on day 1 should not be expected to obtain informed consent for procedures or tests for which they do not know the indications, contraindications, alternatives, risks, and benefits.</p> <p><b>Functions</b></p> <ul style="list-style-type: none"><li>• Describes the indications, risks, benefits, alternatives, and potential complications of the procedure.</li><li>• Communicates with the patient/family and ensures their understanding of the indications, risks, benefits, alternatives, and potential complications.</li><li>• Creates a context that encourages the patient/family to ask questions.</li><li>• Enlists interpretive services when necessary.</li><li>• Documents the discussion and the informed consent appropriately in the health record.</li><li>• Displays an appropriate balance of confidence with knowledge and skills that puts patients and families at ease.</li><li>• Understands personal limitations and seeks help when needed.</li></ul>
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## EPA 12: Perform general procedures of a physician

<b>Description of the activity</b>	<p>All physicians need to demonstrate competency in performing a few core procedures on completion of medical school in order to provide basic patient care. These procedures include:</p> <ul style="list-style-type: none"><li>• Basic cardiopulmonary resuscitation (CPR)</li><li>• Bag and mask ventilation</li><li>• Venipuncture</li><li>• Inserting an intravenous line</li></ul> <p><b>Functions</b></p> <ul style="list-style-type: none"><li>• Demonstrate the technical (motor) skills required for the procedure.</li><li>• Understand and explain the anatomy, physiology, indications, risks, contraindications, benefits, alternatives, and potential complications of the procedure.</li><li>• Communicate with the patient/family to ensure pre- and post-procedure explanation and instructions.</li><li>• Manage post-procedure complications.</li><li>• Demonstrate confidence that puts patients and families at ease.</li></ul>
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## EPA 13: Identify system failures and contribute to a culture of safety and improvement

<b>Description of the activity</b>	<p>Since the publication of the IOM reports "To Err is Human"<sup>25</sup> and "Crossing the Quality Chasm,"<sup>26</sup> the public has been focused on the need to improve quality and safety in health care. Preventing unnecessary morbidity and mortality requires health professionals to have both an understanding of systems and a commitment to their improvement. This commitment must begin in the earliest stages of health professional education and training. Therefore, this EPA is critical to the professional formation of a physician and forms the foundation for a lifelong commitment to systems thinking and improvement.</p> <p><b>Functions</b></p> <ul style="list-style-type: none"><li>• Understand systems and their vulnerabilities.</li><li>• Identify actual and potential ("near miss") errors in care.</li><li>• "Speak up" in the face of real or potential errors.</li><li>• Use system mechanisms for reporting errors (e.g., event reporting systems, chain of command policies).</li><li>• Recognize the use of "workarounds" as an opportunity to improve the system.</li><li>• 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 conferences; failure modes and effects analyses; improvement projects).</li><li>• Engage in daily safety habits (e.g., universal precautions, hand washing, time-outs).</li><li>• Admit one's own errors, reflect on one's contribution, and develop an improvement plan.</li></ul>
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