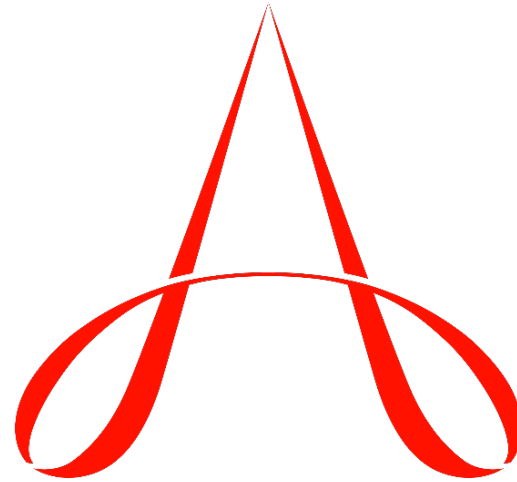




# Supplemental Guide: Regional Anesthesiology and Acute Pain Medicine



ACGME

January 2020

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## **Milestones Supplemental Guide**

This document provides additional guidance and examples for the Surgery Milestones. This is not designed to indicate any specific requirements for each level, but to provide insight into the thinking of the Milestone Work Group.

Included in this document is the intent of each Milestone and examples of what a Clinical Competency Committee (CCC) might expect to be observed/assessed at each level. Also included are suggested assessment models and tools for each subcompetency, references, and other useful information.

Review this guide with the CCC and faculty members. As the program develops a shared mental model of the Milestones, consider creating an individualized guide (Supplemental Guide Template available) with institution/program-specific examples, assessment tools used by the program, and curricular components.

Additional tools and references, including the Milestones Guidebook, Clinical Competency Committee Guidebook, and Milestones Guidebook for Residents and Fellows, are available on the [Resources](#) page of the Milestones section of the ACGME website.

<b>Patient Care 1: Peri-Procedural Assessment and Management</b> <b>Overall Intent:</b> Formulates and implements a regional anesthetic plan and manages complications.	
Milestones	Examples
<p><b>Level 1</b> <i>Formulates and implements regional anesthetic plans for healthy patients undergoing routine procedures</i></p> <p><i>Identifies common perioperative, neurologic, pharmacologic, infectious, and hemorrhagic complications</i></p>	<ul style="list-style-type: none"> <li>● Selects interscalene block for shoulder arthroscopy</li> <li>● Identifies symptoms of phrenic nerve block</li> </ul>
<p><b>Level 2</b> <i>Formulates and implements regional anesthetic plans for healthy patients undergoing routine procedures</i></p> <p><i>Identifies common perioperative, neurologic, pharmacologic, infectious, and hemorrhagic complications</i></p>	<ul style="list-style-type: none"> <li>● Modifies approach for a patient with chronic obstructive pulmonary disease (COPD)</li> <li>● Identifies and manages symptoms of phrenic nerve block with direct supervision</li> </ul>
<p><b>Level 3</b> <i>Formulates and implements regional anesthetic plans for patients with moderately complex co-morbidities (e.g., obstructive sleep apnea) undergoing major procedures</i></p> <p><i>Identifies and manages less common perioperative, neurologic, pharmacologic, infectious, and hemorrhagic complications, with direct supervision</i></p>	<ul style="list-style-type: none"> <li>● Selects interscalene catheter for patient undergoing shoulder arthroplasty</li> <li>● Identifies and manages brachial plexus injury with direct supervision</li> </ul>
<p><b>Level 4</b> <i>Formulates and implements regional anesthetic plans for patients with moderately complex co-morbidities (e.g., obstructive sleep apnea) undergoing major procedures</i></p> <p><i>Identifies and manages less common perioperative, neurologic, pharmacologic, infectious, and hemorrhagic complications, with direct supervision</i></p>	<ul style="list-style-type: none"> <li>● Modifies approach for patient with severe COPD undergoing shoulder arthroplasty</li> <li>● Identifies and manages brachial plexus injury with oversight</li> </ul>

<p><b>Level 5</b> <i>Formulates and implements regional anesthetic plans for patients with rare comorbidities (e.g., inherited genetic disease) undergoing major procedures</i></p> <p><i>Identifies and manages rare peri-operative, neurologic, pharmacologic, infectious, and hemorrhagic complications</i></p>	<ul style="list-style-type: none"> <li>• Modifies approach for patient with myasthenia gravis undergoing shoulder arthroplasty</li> <li>• Identifies and manages respiratory failure</li> </ul>
<p>Assessment Models or Tools</p>	<ul style="list-style-type: none"> <li>• Direct observation</li> <li>• Faculty evaluations</li> <li>• Sim Lab performance</li> <li>• Objective Structured Clinical Examinations (OSCE)</li> </ul>
<p>Curriculum Mapping</p>	<ul style="list-style-type: none"> <li>•</li> </ul>
<p>Notes or Resources</p>	<ul style="list-style-type: none"> <li>• New York School of Regional Anesthesia (NYSORA) <a href="http://www.nysora.com/">http://www.nysora.com/</a> <ul style="list-style-type: none"> <li>○ American Society of Regional Anesthesia and Pain Medicine (ASRA) <a href="https://www.asra.com/">https://www.asra.com/</a></li> </ul> </li> </ul>

**Patient Care 2: Acute Pain Management**

**Overall Intent:** Formulates and implements acute pain management plan for surgical and non-surgical indications and manages complications.

Milestones	Examples
<p><b>Level 1</b> <i>Formulates and implements multimodal acute pain management plans for healthy patients undergoing routine procedures</i></p> <p><i>Performs a comprehensive evaluation and assessment of patients with acute non-surgical pain</i></p> <p><i>Identifies common side effects associated with acute pain interventions (procedural and nonprocedural)</i></p>	<ul style="list-style-type: none"> <li>• Selects multimodal pain management plan for colectomy</li> <li>• Evaluates and assesses patient with rib fractures</li> <li>• Identifies respiratory depression in a patient on opioids</li> </ul>
<p><b>Level 2</b> <i>Formulates and implements multimodal acute pain management plans for patients with moderately complex comorbidities (e.g., chronic pain, opioid tolerance, opioid sensitive) undergoing routine procedures</i></p> <p><i>Formulates a plan to manage patients with acute non-surgical pain</i></p> <p><i>Identifies and manages common side effects associated with acute pain interventions (e.g., opioid-induced nausea, nerve block-associated motor weakness), with direct supervision</i></p>	<ul style="list-style-type: none"> <li>• Tailors multimodal pain management plan for laparoscopic cholecystectomy in a patient with opioid tolerance</li> <li>• Formulates a plan for a patient with rib fractures</li> <li>• Alters opioid dosing and monitors patient for respiratory depression</li> </ul>
<p><b>Level 3</b> <i>Formulates and implements multimodal acute pain management plans for patients with moderately complex comorbidities undergoing major procedures</i></p> <p><i>Implements a plan to manage patients with acute non-surgical pain, with direct supervision</i></p> <p><i>Identifies and manages less common complications associated with acute pain</i></p>	<ul style="list-style-type: none"> <li>• Selects multimodal pain management plan for pancreatectomy in a patient with chronic abdominal pain already taking opioid and non-opioid pain medications</li> <li>• Implements plan for multimodal medication regiment and intercostal blocks for a patient with rib fractures, with direct supervision</li> <li>• Identifies and manages delirium in response to combination of medications, with supervision</li> </ul>

<p><i>interventions (e.g., failed block, epidural hematoma or abscess), with direct supervision</i></p>	
<p><b>Level 4</b> <i>Formulates and implements multimodal acute pain management plans for patients with highly complex comorbidities (e.g., patient with substance abuse, opioid dependence) undergoing major procedures</i></p> <p><i>Implements a plan to manage patients with acute non-surgical pain, with oversight</i></p> <p><i>Identifies and manages complications associated with acute pain interventions, with oversight</i></p>	<ul style="list-style-type: none"> <li>● Selects multimodal pain management plan for emergent pancreatectomy patient with active heroin abuse</li> <li>● Implements plan for multimodal medication regiment and intercostal blocks for a patient with rib fractures, with oversight</li> <li>● Identifies and manages delirium in response to combination of medications, with oversight</li> </ul>
<p><b>Level 5</b> <i>Is recognized as an expert resource for multimodal acute perioperative pain management</i></p> <p><i>Is recognized as an expert resource for acute non-surgical pain management</i></p> <p><i>Identifies and manages rare complications associated with acute pain interventions</i></p>	<ul style="list-style-type: none"> <li>● Participates in developing Enhanced Recovery after Surgery and Anesthesia (ERAS)</li> <li>● Participates in developing ERAS for patient with rib fracture</li> <li>● Identifies and manages Stevens Johnson Syndrome in response to combination of medications</li> </ul>
<p>Assessment Models or Tools</p>	<ul style="list-style-type: none"> <li>● Direct observation</li> <li>● Faculty evaluations</li> <li>● Sim Lab performance</li> <li>● OSCE</li> </ul>
<p>Curriculum Mapping</p>	<ul style="list-style-type: none"> <li>●</li> </ul>
<p>Notes or Resources</p>	<ul style="list-style-type: none"> <li>● Anesthesia Toolbox has resources available</li> <li>● NYSORA <a href="http://www.nysora.com/">http://www.nysora.com/</a></li> <li>● ASRA <a href="https://www.asra.com/">https://www.asra.com/</a> <ul style="list-style-type: none"> <li>○ Up To Date</li> </ul> </li> </ul>

### Patient Care 3: Technical/Procedural Skills

**Overall Intent:** Demonstrates the ability to perform a wide range of peripheral and neuraxial blocks under various localization methods. Demonstrates the ability to use ultrasound.

Milestones	Examples
<p><b>Level 1</b> <i>Performs routine nerve blocks, with direct supervision</i></p> <p><i>Performs routine neuraxial blocks, with direct supervision</i></p> <p><i>Applies knowledge of ultrasonography to acquire images of basic anatomy</i></p>	<ul style="list-style-type: none"> <li>• Performs popliteal-sciatic nerve block with direct supervision</li> <li>• Performs lumbar spinal with direct supervision</li> <li>• Acquires ultrasound images to identify relevant anatomic structures for routine popliteal block</li> </ul>
<p><b>Level 2</b> <i>Performs complex nerve blocks, with direct supervision</i></p> <p><i>Performs neuraxial blocks for patients with complex anatomy, with direct supervision</i></p> <p><i>Applies knowledge of ultrasonography to optimize images of basic anatomy</i></p>	<ul style="list-style-type: none"> <li>• Performs paravertebral block in a patient with direct supervision</li> <li>• Performs lumbar spinal anesthesia in a patient with prior spine fusion with direct supervision</li> <li>• Adjusts ultrasound time gain compensation to optimize nerve image</li> </ul>
<p><b>Level 3</b> <i>Performs routine nerve blocks, with oversight</i></p> <p><i>Performs routine neuraxial blocks, with oversight</i></p> <p><i>Uses ultrasound to identify complex anatomy</i></p>	<ul style="list-style-type: none"> <li>• Performs popliteal-sciatic nerve block with oversight</li> <li>• Performs lumbar spinal with oversight</li> <li>• Using ultrasound, identifies relevant anatomic structures in a patient with morbid obesity for a popliteal block</li> </ul>
<p><b>Level 4</b> <i>Performs complex nerve blocks, with oversight</i></p> <p><i>Performs neuraxial blocks for patients with complex anatomy, with oversight</i></p> <p><i>Uses ultrasound to identify complex anatomy and alter patient management appropriately</i></p>	<ul style="list-style-type: none"> <li>• Performs paravertebral block in a patient with oversight</li> <li>• Performs lumbar spinal anesthesia in a patient with prior spine fusion with direct oversight</li> <li>• Using ultrasound, identifies existing bypass graft and alters popliteal block location</li> </ul>
<p><b>Level 5</b> <i>Is recognized as an expert resource in performing peripheral nerve blocks</i></p>	<ul style="list-style-type: none"> <li>• Performs paravertebral block in a patient with severe scoliosis</li> <li>• Performs lumbar spinal anesthesia in a patient with juvenile rheumatoid arthritis</li> </ul>



<p><i>Is recognized as an expert resource in performing neuraxial blocks</i></p> <p><i>Is recognized as an expert institutional resource for using ultrasound to identify complex anatomy</i></p>	<ul style="list-style-type: none"> <li>● Assists hand surgeon to identify aberrant radial nerve prior to surgery</li> </ul>
<p>Assessment Models or Tools</p>	<ul style="list-style-type: none"> <li>● Direct observation</li> <li>● Faculty evaluations</li> <li>● Task training</li> <li>● OSCE</li> <li>● Checklists</li> </ul>
<p>Curriculum Mapping</p>	<ul style="list-style-type: none"> <li>●</li> </ul>
<p>Notes or Resources</p>	<ul style="list-style-type: none"> <li>● Anesthesia Toolbox has resources available</li> <li>● NYSORA <a href="http://www.nysora.com/">http://www.nysora.com/</a></li> <li>● ASRA <a href="https://www.asra.com/">https://www.asra.com/</a> <ul style="list-style-type: none"> <li>○ Up To Date</li> </ul> </li> </ul>

### Medical Knowledge 1: Anatomy, Physiology, and Pharmacology

**Overall Intent:** Learns and applies anatomy, physiology, and pharmacology as they relate to regional anesthesia and acute pain management.

Milestones	Examples
<p><b>Level 1</b> <i>Demonstrates basic knowledge of anatomy relevant to common regional anesthesia procedures</i></p> <p><i>Demonstrates basic knowledge of nerve function and physiologic implications of acute pain management</i></p> <p><i>Demonstrates basic knowledge of local anesthetic, adjuvant, opioid, and anticoagulant pharmacology</i></p>	<ul style="list-style-type: none"> <li>• Identifies the sciatic nerve and surrounding structures</li> </ul>
<p><b>Level 2</b> <i>Demonstrates advanced knowledge of applied anatomy relevant to regional anesthesia Procedures</i></p> <p><i>Demonstrates advanced knowledge of nerve function and physiology, including common patient-related factors relevant to assessment and functional application</i></p> <p><i>Demonstrates advanced knowledge of local anesthetic, adjuvant, opioid, non-opioid analgesic, and anticoagulant pharmacology</i></p>	<ul style="list-style-type: none"> <li>• Identifies the individual branches of the sciatic nerve</li> </ul>
<p><b>Level 3</b> <i>Demonstrates functional application of anatomic knowledge (e.g., microanatomy and common anatomic variations relevant to complex regional anesthesia procedures)</i></p> <p><i>Demonstrates functional application of advanced physiologic knowledge in the care of patients with complex comorbid disease(s)</i></p>	<ul style="list-style-type: none"> <li>• Identifies the microanatomy of the sciatic nerve</li> </ul>

<p><i>Demonstrates advanced knowledge of pharmacology, including drug choice, dosing, side effects, and potential drugdrug interactions</i></p>	
<p><b>Level 4</b> <i>Demonstrates functional application of advanced anatomic knowledge (e.g., recognition of aberrant anatomy, complex degenerative and post-surgical or traumatic changes)</i></p> <p><i>Demonstrates functional application of advanced physiology, including recognition of rare physiologic responses and effects on organ systems</i></p> <p><i>Demonstrates advanced knowledge of pharmacology in patients with complex comorbid diseases and/or inherited disorders of metabolism</i></p>	<ul style="list-style-type: none"> <li>● Demonstrates an anatomic approach to blockade of the sciatic nerve for various procedures in the lower extremities</li> </ul>
<p><b>Level 5</b> <i>Is recognized as an expert resource in applied anatomy</i></p> <p><i>Is recognized as an expert resource in applied physiology</i></p> <p><i>Is recognized as an expert resource in applied pharmacology</i></p>	<ul style="list-style-type: none"> <li>● Recognizes and teaches blockade of the sciatic nerve at all levels and for all procedures</li> </ul>
<p>Assessment Models or Tools</p>	<ul style="list-style-type: none"> <li>● Direct observation</li> <li>● Faculty evaluation</li> <li>● Sim Lab</li> <li>● OSCE</li> </ul>
<p>Curriculum Mapping</p>	<ul style="list-style-type: none"> <li>●</li> </ul>
<p>Notes or Resources</p>	<ul style="list-style-type: none"> <li>● Workshops <ul style="list-style-type: none"> <li>○ Cadaver Lab</li> </ul> </li> </ul>

**Medical Knowledge 2: Procedures and Techniques (includes indications and contraindications, ultrasound, and nerve stimulation)**

**Overall Intent:** Demonstrates versatility in performing neuraxial techniques, using landmarks or image guidance and peripheral nerve blocks, and image guidance and nerve stimulation..

Milestones	Examples
<p><b>Level 1</b> <i>Demonstrates knowledge of the technical approaches, indications, and contraindications for common neuraxial and peripheral nerve blocks</i></p> <p><i>Demonstrates a fundamental understanding of ultrasound localization techniques</i></p>	<ul style="list-style-type: none"> <li>• Knows how to perform spinal or lumbar epidural and basic peripheral nerve blocks including interscalene and supraclavicular brachial plexus block, femoral nerve block, popliteal sciatic nerve block, and transverse abdominis plane (TAP) block</li> </ul>
<p><b>Level 2</b> <i>Demonstrates and applies knowledge to advanced neuraxial and peripheral nerve blocks</i></p> <p><i>Integrates knowledge of peripheral nerve stimulation techniques with ultrasound guidance, recognizing appropriate motor response for basic peripheral nerve blocks</i></p>	<ul style="list-style-type: none"> <li>• Knows how to perform thoracic epidural, and more complex peripheral nerve blocks including transgluteal sciatic block, rectus sheath block, and quadratus lumborum block</li> </ul>
<p><b>Level 3</b> <i>Demonstrates knowledge of a range of procedural alternatives (e.g., approach, technique, equipment, or drugs) for individual blocks</i></p> <p><i>Integrates knowledge of peripheral nerve stimulation techniques with ultrasound guidance, recognizing appropriate motor response for advanced peripheral nerve blocks</i></p>	<ul style="list-style-type: none"> <li>• Knows how to choose between thoracic epidural and paravertebral block, and performs advanced peripheral nerve block, including paravertebral block, lumbar plexus block, and suprascapular nerve block</li> </ul>
<p><b>Level 4</b> <i>Demonstrates and applies a knowledge of procedural alternatives to choose individual blocks and formulate a patient specific plan</i></p> <p><i>Integrates knowledge of alternative approaches to nerve and plexus localization (e.g., paresthesia, perivascular, fascial plane, loss of resistance [LOR], field blocks)</i></p>	<ul style="list-style-type: none"> <li>• Chooses regional anesthetic technique in an anticoagulated patient</li> </ul>
<p><b>Level 5</b> <i>Generates new knowledge related to procedures and techniques related to acute pain management and regional anesthesia</i></p>	<ul style="list-style-type: none"> <li>• Demonstrates knowledge of newer techniques (e.g., serratus anterior block)</li> </ul>

<p><i>Applies knowledge of the full range of nerve localization techniques and the limitations associated with individual and combined techniques</i></p>	
<p>Assessment Models or Tools</p>	<ul style="list-style-type: none"> <li>• Direct observation</li> <li>• Faculty evaluation</li> <li>• Sim Lab</li> <li>• OSCE</li> </ul>
<p>Curriculum Mapping</p>	<ul style="list-style-type: none"> <li>•</li> </ul>
<p>Notes or Resources</p>	<ul style="list-style-type: none"> <li>• Workshops</li> <li>• NYSORA <a href="http://www.nysora.com/">http://www.nysora.com/</a> <ul style="list-style-type: none"> <li>○ ASRA <a href="https://www.asra.com/">https://www.asra.com/</a></li> </ul> </li> </ul>

### Medical Knowledge 3: Assessment of Acute Pain

**Overall Intent:** Demonstrates knowledge of the validated acute pain assessment tools.

Milestones	Examples
<p><b>Level 1</b> <i>Performs targeted history and physical examination for routine surgical and nonsurgical patients with acute pain, including the use of common pain scales, detailed medication history, and motor and sensory exam, with direct supervision</i></p>	<ul style="list-style-type: none"> <li>• Assesses pain in a patient who has had knee arthroplasty with direct supervision</li> <li>• Assesses pain in a patient who has had sickle cell crisis with direct supervision</li> </ul>
<p><b>Level 2</b> <i>Performs targeted history and physical examination for routine surgical and non-surgical patients with acute pain, with oversight</i></p>	<ul style="list-style-type: none"> <li>• Assesses pain in a patient who has had knee arthroplasty with oversight</li> <li>• Assesses pain in a patient who has had sickle cell crisis with oversight</li> </ul>
<p><b>Level 3</b> <i>With direct supervision, performs targeted history and physical examination for surgical and nonsurgical patients with complex co-morbidities, preexisting psychosocial risk factors, chronic pain, and/or extremes of age, who are experiencing acute pain</i></p>	<ul style="list-style-type: none"> <li>• Assesses pain in a patient with opioid dependence who had knee arthroplasty with direct supervision</li> <li>• Assesses pain in a patient with opioid dependence who had sickle cell crisis with direct supervision</li> </ul>
<p><b>Level 4</b> <i>With oversight, performs targeted history and physical examination for surgical and non-surgical patients with complex comorbidities, preexisting psychosocial risk factors, chronic pain, and/or extremes of age, who are experiencing acute pain</i></p>	<ul style="list-style-type: none"> <li>• Assesses pain in a patient with opioid dependence who had knee arthroplasty with oversight</li> <li>• Assesses pain in a patient with opioid dependence who had sickle cell crisis with oversight</li> </ul>
<p><b>Level 5</b> <i>Is recognized as an expert resource for the assessment of, and consultative services for, acute pain in surgical and nonsurgical patients</i></p>	<ul style="list-style-type: none"> <li>• Provides expert consultation for patient with opioid dependence who had knee arthroplasty</li> <li>• Provides expert consultation for patient with opioid dependence who had sickle cell crisis (e.g., use of continuous ketamine)</li> </ul>
<p>Assessment Models or Tools</p>	<ul style="list-style-type: none"> <li>• Direct observation</li> <li>• Faculty evaluation</li> <li>• Sim Lab</li> </ul>

	<ul style="list-style-type: none"><li>• OSCE</li></ul>
Curriculum Mapping	<ul style="list-style-type: none"><li>•</li></ul>
Notes or Resources	<ul style="list-style-type: none"><li>• NYSORA <a href="http://www.nysora.com/">http://www.nysora.com/</a></li><li>• ASRA <a href="https://www.asra.com/">https://www.asra.com/</a></li><li>• Textbooks (e.g., Bonica's Management of Pain)<ul style="list-style-type: none"><li>○ American Board of Anesthesiology's digital library</li></ul></li></ul>

### Systems-based Practice 1: Patient Safety and Quality Improvement

**Overall Intent:** To engage in the analysis and management of patient safety events, including relevant communication with patients, families, and health care professionals; to conduct a QI project

Milestones	Examples
<p><b>Level 1</b> <i>Demonstrates knowledge of common patient safety events</i></p> <p><i>Demonstrates knowledge of how to report patient safety events</i></p> <p><i>Demonstrates knowledge of basic quality improvement methodologies and metrics</i></p>	<ul style="list-style-type: none"> <li>● Washes hands prior to examining a patient</li> <li>● Lists types of healthcare-associated infections and common causes</li> <li>● Describes how to report errors in at local institution</li>   <li>● Describes quality improvement tools such as the Fishbone Diagram, 5 Whys and Plan-Do-Study-Act (PDSA) Cycles</li> </ul>
<p><b>Level 2</b> <i>Identifies system factors that lead to patient safety events</i></p> <p><i>Reports patient safety events through institutional reporting systems (actual or simulated)</i></p> <p><i>Describes local quality improvement initiatives (e.g., community vaccination rate, infection rate, smoking cessation)</i></p>	<ul style="list-style-type: none"> <li>● Identifies lack of hand sanitizer dispenser at each clinical exam room may lead to increased infection rates</li> <li>● Applies Swiss Cheese Model of Accident Causation to patient safety events</li>   <li>● Reports lack of hand sanitizer dispenser at each clinical exam room to the medical director</li> <li>● Reports near miss of wrong medication administration due to similar looking container/labeling through institutional reporting system</li>   <li>● Summarizes protocols and initiatives aimed at reducing surgical site infections</li> </ul>
<p><b>Level 3</b> <i>Participates in analysis of patient safety events (actual or simulated)</i></p> <p><i>Participates in disclosure of patient safety events to patients and families (actual or simulated)</i></p> <p><i>Participates in local quality improvement initiatives</i></p>	<ul style="list-style-type: none"> <li>● Evaluates and presents patient case at patient safety/quality improvement conference (i.e. M&amp;M conference)</li>   <li>● Through simulation, communicates with patients/families about an insulin administration error</li>   <li>● Follows pre-op and post-op protocols designed to prevent surgical site infections</li> </ul>
<p><b>Level 4</b> <i>Conducts analysis of patient safety events and offers error prevention strategies (actual or simulated)</i></p>	<ul style="list-style-type: none"> <li>● Categorizes the frequency of surgical site infections by hospital unit using a Pareto chart to focus on the most significant problems or causes, followed by one or more PDSA</li> </ul>



<p><i>Discloses patient safety events to patients and families (actual or simulated)</i></p> <p><i>Demonstrates the skills required to identify, develop, implement, and analyze a quality improvement project</i></p>	<p>cycles and tracks progress using a run chart to document success and maintenance of success</p> <ul style="list-style-type: none"> <li>● Collaborates with a multidisciplinary and interprofessional team to conduct the analysis of insulin administration errors</li> </ul> <p>In collaboration with team, discusses how a missed antibiotic dose contributed to development of a surgical site infection</p> <ul style="list-style-type: none"> <li>● Develops and tracks quality improvement project progress using the IHI Model for Improvement</li> </ul>
<p><b>Level 5</b> <i>Actively engages teams and processes to modify systems to prevent patient safety events</i></p> <p><i>Role models or mentors others in the disclosure of patient safety events</i></p> <p><i>Creates, implements, and assesses quality improvement initiatives at the institutional or community level</i></p>	<ul style="list-style-type: none"> <li>● Collaborates with IT department to build peri-op order set to reduce surgical site infections</li> <li>● Designs and conducts a simulation for disclosing patient safety events</li> <li>● Initiates and completes a QI project to reduce insulin administration errors in collaboration with the Nursing and Pharmacy leadership</li> </ul>
<p>Assessment Models or Tools</p>	<ul style="list-style-type: none"> <li>● Simulation</li> <li>● Reflection</li> <li>● Direct observation</li> <li>● E-module multiple choice tests</li> <li>● Medical record (chart) audit</li> <li>● Multisource feedback</li> <li>● Portfolio</li> <li>● Dashboards on quality and safety metrics</li> </ul>
<p>Curriculum Mapping</p>	<ul style="list-style-type: none"> <li>●</li> </ul>
<p>Notes or Resources</p>	<ul style="list-style-type: none"> <li>● Institute of Healthcare Improvement website (<a href="http://www.ihl.org/Pages/default.aspx">http://www.ihl.org/Pages/default.aspx</a>) which includes multiple choice tests, reflective writing samples, and more) <ul style="list-style-type: none"> <li>○ IHI Open School online modules: Improvement Capability &amp; Patient Safety</li> </ul> </li> <li>● Quorum Quality Improvement Guide (<a href="http://www.hqontario.ca/portals/0/Documents/qi/qi-quality-improve-guide-2012-en.pdf">http://www.hqontario.ca/portals/0/Documents/qi/qi-quality-improve-guide-2012-en.pdf</a>) and Quorum QI Tools &amp; Resources website (<a href="https://quorum.hqontario.ca/en/Home/QI-Tools-Resources/QI-Essentials">https://quorum.hqontario.ca/en/Home/QI-Tools-Resources/QI-Essentials</a>)</li> <li>● AMA STEPSforward PDSA website (<a href="https://edhub.ama-assn.org/steps-forward/module/2702507?resultClick=1&amp;bypassSolrId=J_2702507">https://edhub.ama-assn.org/steps-forward/module/2702507?resultClick=1&amp;bypassSolrId=J_2702507</a>)</li> <li>● CMS's PDSA Cycle Template (<a href="https://www.cms.gov/Medicare/Provider-Enrollment-and-Certification/QAPI/downloads/PDSACycledebedits.pdf">https://www.cms.gov/Medicare/Provider-Enrollment-and-Certification/QAPI/downloads/PDSACycledebedits.pdf</a>)</li> </ul>

- Washington Manual of Patient Safety and Quality Improvement
- CLER: Health Care Quality
  - Wagner, R, Koh, N, Bagian, JP, Weiss, KB, for the CLER Program. CLER 2016 National Report of Findings. Issue Brief #3: Health Care Quality. Accreditation Council for Graduate Medical Education, Chicago, Illinois USA
- CLER: Patient Safety
  - Wagner, R, Koh, N, Bagian, JP, Weiss, KB, for the CLER Program. CLER 2016 National Report of Findings. Issue Brief #2: Patient Safety. Accreditation Council for Graduate Medical Education, Chicago, Illinois USA

### Systems-Based Practice 2: System Navigation for Patient-Centered Care

**Overall Intent:** To effectively navigate the health care system, including the interdisciplinary team and other care providers, to adapt care to a specific patient population to ensure high-quality patient outcomes.

Milestones	Examples
<p><b>Level 1</b> <i>Demonstrates knowledge of care coordination</i></p> <p><i>Identifies key elements for safe and effective transitions of care and handoffs</i></p> <p><i>Demonstrates knowledge of population and community health needs and disparities</i></p>	<ul style="list-style-type: none"> <li>● For a patient with prostate cancer, identifies the urologist, oncologist, radiation oncologist, home health nurse, and social workers as members of the team</li> <li>● Lists the essential components of oral and written signout at change-of-shift handoff</li> <li>● Defines necessary elements handoff to another care team (i.e. post-op to inpatient floor) or when covering a colleague (i.e. vacation)</li> <li>● Identifies that patients in rural areas may have different needs than urban patients</li> </ul>
<p><b>Level 2</b> <i>Coordinates care of patients in routine clinical situations effectively utilizing the roles of the interprofessional teams</i></p> <p><i>Performs safe and effective transitions of care/handoffs in routine clinical situations</i></p> <p><i>Identifies specific population and community health needs and inequities for their local population</i></p>	<ul style="list-style-type: none"> <li>● Coordinates care with the Urology clinic at the time of discharge from the hospital</li> <li>● Routinely utilizes I-PASS for a stable patient during night float sign-out</li> <li>● Completes a brief post-operative note on patients prior to transferring to next level of care</li> <li>● Attaches in-basket to another colleague prior to going on vacation</li> <li>● Identifies that limited transportation options may be a factor in rural patients attending multiple chemotherapy appointments</li> <li>● Participate in a cultural competency training session/workshop relevant to patients at institution</li> </ul>
<p><b>Level 3</b> <i>Coordinates care of patients in complex clinical situations effectively utilizing the roles of their interprofessional teams</i></p> <p><i>Performs safe and effective transitions of care/handoffs in complex clinical situations</i></p> <p><i>Uses local resources effectively to meet the needs of a patient population and community</i></p>	<ul style="list-style-type: none"> <li>● Works with the social worker to coordinate care for a homeless patient that will ensure follow-up to a Urology clinic after discharge from the hospital</li> <li>● Routinely uses I-PASS when transferring a patient to the ICU.</li> <li>● Writes an effective transfer note for a patient with a long, complicated ICU stay</li> <li>● Coordinates with rural hospital to order blood work on patient to prevent long drives to hospital</li> </ul>

	<ul style="list-style-type: none"> <li>● Participates in a local quality improvement project targeted to address health care disparities (e.g. working with local public transportation to expand services to medical facilities that lower socio-economic patients may not be able to easily access without walking a long distance)</li> </ul>
<p><b>Level 4</b> <i>Role models effective coordination of patient-centered care among different disciplines and specialties</i></p> <p><i>Role models and advocates for safe and effective transitions of care/handoffs within and across healthcare delivery systems including outpatient settings</i></p> <p><i>Participates in changing and adapting practice to provide for the needs of specific populations</i></p>	<ul style="list-style-type: none"> <li>● During inpatient rotations, leads team members in approaching consultants to review cases/recommendations and arranges pathology rounds for the team</li> <li>● Prior to going on vacation, proactively informs the covering resident about a plan of care for a pregnant patient who has elevated blood pressure at 36 weeks and has outpatient labs pending</li> <li>● Coaches junior team members on summarizing and communicating events in a complicated post-operative patient with a long hospitalization</li> <li>● Analyzes care gaps for rural patients with cancer</li> </ul>
<p><b>Level 5</b> <i>Analyses the process of care coordination and leads in the design and implementation of improvements</i></p> <p><i>Improves quality of transitions of care within and across healthcare delivery systems to optimize patient outcomes</i></p> <p><i>Leads innovations and advocates for populations and communities with health care inequities</i></p>	<ul style="list-style-type: none"> <li>● Leads a program to arrange for improved care coordination for homeless patients with cancer</li> <li>● Develops a protocol to improve transitions to long term care facilities</li> <li>● In collaboration with an interdisciplinary team, implements training for post-operative handoffs between procedural team and inpatient team</li> <li>● Leads development of telehealth diagnostic services for a rural clinic site</li> </ul>
Assessment Models or Tools	<ul style="list-style-type: none"> <li>● Direct observation</li> <li>● OSCE</li> <li>● Medical record (chart) audit</li> <li>● Review of sign out tools, utilization and review of checklists</li> <li>● Multisource feedback</li> <li>● Quality metrics and goals mined from Electronic Health Records (EHR)</li> </ul>
Curriculum Mapping	<ul style="list-style-type: none"> <li>●</li> </ul>
Notes or Resources	<ul style="list-style-type: none"> <li>● CDC. Population Health Training in Place Program (PH-TIPP)  <a href="https://www.cdc.gov/pophealthtraining/whatis.html">https://www.cdc.gov/pophealthtraining/whatis.html</a></li> </ul>

	<ul style="list-style-type: none"> <li>● Kaplan KJ. In pursuit of patient-centered care. March 2016. <a href="http://tissuepathology.com/2016/03/29/in-pursuit-of-patient-centered-care/#axzz5e7nSsAns">http://tissuepathology.com/2016/03/29/in-pursuit-of-patient-centered-care/#axzz5e7nSsAns</a></li> <li>● Skochelak SE, Hawkins RE, Lawson LE, etc. al; AMA Education Consortium: Health Systems Science. 1<sup>st</sup> ed. Elsevier. 2016.</li> <li>● I-PASS (<a href="http://www.ipassstudygroup.com/">http://www.ipassstudygroup.com/</a>) Handoff Study -- Faculty Observation Tools (<a href="http://www.ipasshandoffstudy.com/materialsrequest">http://www.ipasshandoffstudy.com/materialsrequest</a>)</li> <li>● American College of Surgeons: Health Care Disparities Resources (<a href="https://www.facs.org/health-care-disparities/resources">https://www.facs.org/health-care-disparities/resources</a>)</li> <li>● Institute of Healthcare Improvement website (<a href="http://www.ihl.org/Pages/default.aspx">http://www.ihl.org/Pages/default.aspx</a>) <ul style="list-style-type: none"> <li>● IHI Open School online modules: Triple Aim for Populations</li> </ul> </li> <li>● CLER: Care Transitions <ul style="list-style-type: none"> <li>● Wagner, R, Koh, N, Bagian, JP, Weiss, KB, for the CLER Program. CLER 2016 National Report of Findings. Issue Brief #5: Care Transitions. Accreditation Council for Graduate Medical Education, Chicago, Illinois USA. ISBN-13: 978-1-945365 -10-2</li> </ul> </li> <li>● CLER: Health Care Disparities <ul style="list-style-type: none"> <li>● Wagner, R, Koh, N, Bagian, JP, Weiss, KB, for the CLER Program. CLER 2016 National Report of Findings. Issue Brief #4: Health Care Disparities. Accreditation Council for Graduate Medical Education, Chicago, Illinois USA. ISBN-13: 978-1-945365-07-2</li> </ul> </li> </ul>

### Systems-Based Practice 3: Physician Role in Health Care Systems

**Overall Intent:** To understand his/her role in the complex health care system and how to optimize the system to improve patient care and the health system's performance

Milestones	Examples
<p><b>Level 1</b> <i>Identifies components of the complex health care system</i></p> <p><i>Describes basic health payment systems, including government, private, public, and uninsured care and different practice models</i></p> <p><i>Applies resources for daily practice (e.g., information technology, documentation compliance, billing and coding), with direct supervision</i></p>	<ul style="list-style-type: none"> <li>• Recognizes the multiple, often competing forces, in the health care system (e.g., name all the providers and systems involved in discharging a patient on ambulatory perineural infusion)</li> <li>• Compares payment systems, such as Medicare, Medicaid, the VA, and commercial third party payers, and contrast practice models, such as a patient-centered medical home and an Accountable Care Organization; compares and contrasts types of health benefit plans, including preferred provider organization (PPO) and health maintenance organization (HMO)</li> <li>• Understands the impact of health plan features, including formularies and network requirements; demonstrates knowledge that is theoretical, and is unable to apply this knowledge to the care of patients without a great direct attending input and prompting</li> <li>• Completes a note template following a routine patient encounter and apply appropriate coding in compliance with regulations with direct supervision</li> </ul>
<p><b>Level 2</b> <i>Describes the physician's role and how the interrelated components of complex health care system impact patient care</i></p> <p><i>Delivers care informed by patient-specific payment model</i></p> <p><i>Applies knowledge of information technology, documentation compliance, billing, and coding to daily practice, with oversight</i></p>	<ul style="list-style-type: none"> <li>• Understands how improving patient satisfaction improves patient adherence and remuneration to the health system; is not yet able to consistently think through clinical redesign to improve quality; does not yet modify personal practice to enhance outcomes</li> <li>• Applies knowledge of health plan features, including formularies and network requirements in patient care situations</li> <li>• Completes a note template following a routine patient encounter and apply appropriate coding in compliance with regulations, with oversight</li> </ul>
<p><b>Level 3</b> <i>Analyzes how personal practice affects the system (e.g., length of stay, readmission rates, clinical efficiency)</i></p>	<ul style="list-style-type: none"> <li>• Understands, accesses, and analyzes his/her own individual performance data; relevant data may include:             <ul style="list-style-type: none"> <li>○ vaccination rates of infants in a fellow's clinic practice; surgical site infection rate of the fellow's post-op patients;</li> <li>○ central line-associated bloodstream infections (CLABSI) in patients in whom the fellow has placed central lines;</li> <li>○ A1c of the fellow's patients with diabetes;</li> </ul> </li> </ul>

<p><i>Utilizes shared decision making in patient care taking into consideration payment models</i></p> <p><i>Demonstrates basic knowledge of contract negotiations, malpractice insurance, government regulation, compliance, Medicare Access and CHIP Reauthorization Act (MACRA), and Multidirectional Impact Protection Program (MIPS)</i></p>	<ul style="list-style-type: none"> <li>○ percentage of patients the fellow intubated had an appropriate “ventilator bundle” implemented;</li> <li>○ receives data related to readmission rates and begin working on improving transitions of care for his/her patients</li> </ul> <ul style="list-style-type: none"> <li>● Uses shared decision and adapts the choice of the most cost-effective medications depending on the relevant formulary</li> <li>● Understands process of contract negotiations, choosing malpractice insurance carriers and features, and reporting requirements for MACRA/MIPS</li> </ul>
<p><b>Level 4</b> <i>Manages the interrelated components of the complex health care system for efficient and effective patient care</i></p> <p><i>Advocates for patient care, understanding the limitations of patient specific payment models (e.g., community resources, patient assistance resources)</i></p> <p><i>Applies knowledge of contract negotiations, malpractice insurance, government regulation, compliance, MACRA, and MIPS to the transition to independent practice</i></p>	<ul style="list-style-type: none"> <li>● Works collaboratively with pertinent stakeholders to increase community influenza vaccination rates to decrease ED overcrowding during influenza season, improves surgical start times, increasing the percentage of procedures that include a “time out” or improve informed consent for non-English speaking patients requiring interpreter services</li> <li>● Works collaboratively with the institution to improve patient assistance resources or design the institution’s community health needs assessment, or develop/implement/assess the resulting action plans;</li> <li>● Applies knowledge of contract negotiations, choosing malpractice insurance carriers and features, and reporting requirements for MACRA/MIPS</li> </ul>
<p><b>Level 5</b> <i>Advocates for or leads change to enhance systems for high-value, efficient, and effective patient care</i></p> <p><i>Participates in advocacy activities for health policy to better align payment systems with high-value care</i></p>	<ul style="list-style-type: none"> <li>● Decreases opioid prescribing on one or more clinical services, incorporates e-consults into the electronic health record, publishes original research in a peer reviewed journal</li> <li>● Works with community or professional organizations to advocate for no smoking ordinances</li> </ul>
<p>Assessment Models or Tools</p>	<ul style="list-style-type: none"> <li>● <b>Direct observation:</b> how fellows reflect their knowledge of components in the health care system in their care of patients (e.g., understanding the requirements of Medicare prior to transfer to a skilled nursing facility, or the requirements for home oxygen in order for it to be reimbursed)</li> <li>● <b>Chart review/audit of patient care:</b> The fellow’s individual performance data should be benchmarked to aggregate at institutional, regional, and national level. Fellows could complete a chart review or audit as part of a quality improvement project.</li> </ul>

	<ul style="list-style-type: none"> <li>• <b>OSCE:</b> A Systems-based Practice observational record of the caregiving environment (ORCE) could be specifically developed for the fellow to demonstrate knowledge of health care systems as both a formative and summative activity. It should include a checklist of explicit behaviors the fellow is expected to develop. Ideally, this would be developed by the specialty.</li> <li>• <b>Quality Improvement project (perhaps as part of a portfolio):</b> The fellow's quality improvement project may serve as an excellent assessment model/tool to assess this subcompetency. The program can develop criteria to ensure the fellow is able to access and analyze personal practice data, and work with others to design and implement action plans, and subsequently evaluate the outcome and the impact of the plan(s). Examples include receiving clinical performance data such as readmission rates, number of patients seen in clinic, or quality metrics for patients with diabetes.</li> <li>• <b>Multiple choice test:</b> The specialty (and/or the institution) may develop a multiple choice test to evaluate basic fellow knowledge of focused content such as government regulation, MACRA, malpractice insurance.</li> </ul>
Curriculum Mapping	<ul style="list-style-type: none"> <li>•</li> </ul>
Notes or Resources	<ul style="list-style-type: none"> <li>• Physician Performance Measurement and Reporting Introduction (content and case studies): <a href="http://www.nationalalliancehealth.org/Physician-Performance-Measurement-Reporting-Introduction">http://www.nationalalliancehealth.org/Physician-Performance-Measurement-Reporting-Introduction</a></li> <li>• <b>The Merit-based Incentive Payment System:</b> Advancing Care Information and Improvement Activities Performance Categories. December 2016 <a href="https://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/Value-Based-Programs/MACRA-MIPS-and-APMs/MIPS-ACI-and-IA-presentation.pdf">https://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/Value-Based-Programs/MACRA-MIPS-and-APMs/MIPS-ACI-and-IA-presentation.pdf</a></li> <li>• <b>Center for Medicare and Medicaid Services:</b> MIPS and MACRA <a href="https://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/Value-Based-Programs/MACRA-MIPS-and-APMs/MACRA-MIPS-and-APMs.html">https://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/Value-Based-Programs/MACRA-MIPS-and-APMs/MACRA-MIPS-and-APMs.html</a></li> <li>• <b>Agency for Healthcare Research and Quality (AHRQ):</b> The Challenges of Measuring Physician Quality <a href="https://www.ahrq.gov/professionals/quality-patient-safety/talkingquality/create/physician/challenges.html">https://www.ahrq.gov/professionals/quality-patient-safety/talkingquality/create/physician/challenges.html</a></li> <li>• Major physician performance sets: <a href="https://www.ahrq.gov/professionals/quality-patient-safety/talkingquality/create/physician/measurementsets.html">https://www.ahrq.gov/professionals/quality-patient-safety/talkingquality/create/physician/measurementsets.html</a></li> <li>• <b>The Kaiser Family Foundation:</b> Topics include health reform, health costs, Medicare, Medicare, private insurance, uninsured: <a href="http://www.kff.org">www.kff.org</a> and <a href="http://kff.org/health-reform/">http://kff.org/health-reform/</a></li> <li>• <b>The National Academy for Medicine (formerly the Institute of Medicine):</b> Dzau VJ McClellan M Burke S Coye MJH Daschle TA Diaz A Frist WH Gaines ME Hamburg MA Henney JE Kumanyika S Leavitt MO McGinnis M Parker R Sandy LG Schaeffer LD Steele GD Thompson P Zherhouni E. <i>Vital Directions for Health and Health Care: A Policy Initiative of the National Academy of Medicine.</i> March 21, 2017: <a href="https://nam.edu/initiatives/vital-directions-">https://nam.edu/initiatives/vital-directions-</a></li> </ul>



[for-health-and-health-care/ https://nam.edu/vital-directions-for-health-health-care-priorities-from-a-national-academy-of-medicine-initiative/](https://nam.edu/vital-directions-for-health-health-care-priorities-from-a-national-academy-of-medicine-initiative/)

- **The Commonwealth Fund** Health System Data Center: [http://datacenter.commonwealthfund.org/?\\_ga=2.110888517.1505146611.1495417431-1811932185.1495417431#ind=1/sc=1](http://datacenter.commonwealthfund.org/?_ga=2.110888517.1505146611.1495417431-1811932185.1495417431#ind=1/sc=1)
- Health Reform Resource Center: [http://www.commonwealthfund.org/interactives-and-data/health-reform-resource-center#/f:@facasubcategoriesfacet63677=\[Individual%20and%20Employer%20Responsibility\]](http://www.commonwealthfund.org/interactives-and-data/health-reform-resource-center#/f:@facasubcategoriesfacet63677=[Individual%20and%20Employer%20Responsibility])
- **ABIM Practice Assessment:** Modules that physicians can use to assess clinical practice practice: <http://www.abim.org/maintenance-of-certification/earning-points/practice-assessment.aspx>
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**Practice-Based Learning and Improvement 1: Evidence-Based and Informed Practice**

**Overall Intent:** To incorporate evidence and patient values into clinical practice

Milestones	Examples
<b>Level 1</b> <i>Accesses available evidence for care of a routine patient</i>	<ul style="list-style-type: none"> <li>• Identifies evidence for neuraxial anesthesia in the setting of joint arthroplasty</li> </ul>
<b>Level 2</b> <i>Accesses available evidence for care of a complex patient (e.g., coexisting cardiac or cerebral vascular disease)</i>	<ul style="list-style-type: none"> <li>• Identifies evidence for neuraxial anesthesia in a patient with aortic stenosis undergoing joint arthroplasty</li> </ul>
<b>Level 3</b> <i>Applies knowledge of available evidence for care of patients (e.g., balancing competing risks anti-coagulated cardiac patients and risks for bleeding complications)</i>	<ul style="list-style-type: none"> <li>• Applies available evidence for anesthetic options in a patients with aortic stenosis and decides between general and neuraxial anesthesia</li> </ul>
<b>Level 4</b> <i>Critically appraises the evidentiary basis for patient care and identifies gaps in existing evidence</i>	<ul style="list-style-type: none"> <li>• Identifies lack of evidence related to continuous spinal anesthesia in patients with aortic stenosis undergoing joint arthroplasty</li> </ul>
<b>Level 5</b> <i>Serves as a local expert for implementation of evidence based practice and clinical guidelines</i>	<ul style="list-style-type: none"> <li>• Creates a local hospital guideline to aid decision making related to anesthesia options for patients with aortic stenosis</li> </ul>
Assessment Models or Tools	<ul style="list-style-type: none"> <li>• Direct observation</li> <li>• Fellow portfolio</li> <li>• Simulation (OSCE)</li> <li>• Oral or written examination</li> </ul>
Curriculum Mapping	<ul style="list-style-type: none"> <li>•</li> </ul>
Notes or Resources	<ul style="list-style-type: none"> <li>• National Institutes of Health. Write Your Application. <a href="https://grants.nih.gov/grants/how-to-apply-application-guide/format-and-write/write-your-application.htm">https://grants.nih.gov/grants/how-to-apply-application-guide/format-and-write/write-your-application.htm</a></li> <li>• U.S. National Library of Medicine. PubMed Tutorial. 2018. <a href="https://www.nlm.nih.gov/bsd/disted/pubmedtutorial/cover.html">https://www.nlm.nih.gov/bsd/disted/pubmedtutorial/cover.html</a></li> <li>• Institutional IRB guidelines</li> <li>• Choosing Wisely <a href="https://www.choosingwisely.org/">https://www.choosingwisely.org/</a></li> <li>• Improving Wisely <a href="https://www.improvingwisely.org/">https://www.improvingwisely.org/</a></li> <li>• JMAEvidence <a href="https://jamaevidence.mhmedical.com/">https://jamaevidence.mhmedical.com/</a></li> </ul>

**Practice-Based Learning and Improvement 2: Reflective Practice and Commitment to Personal Growth**

**Overall Intent:** To seek clinical performance information with the intent to improve care; reflects on all domains of practice, personal interactions, and behaviors, and their impact on colleagues and patients (reflective mindfulness); develop clear objectives and goals for improvement in some form of a learning plan

Milestones	Examples
<p><b>Level 1</b> <i>Accepts responsibility for personal and professional development and demonstrates openness to performance data</i></p> <p><i>Identifies the factors that contribute to gap(s) between expectations and actual performance</i></p>	<ul style="list-style-type: none"> <li>• Is aware of need to improve</li> <li>• Is beginning to seek ways to figure out what to work on to improve and make some non-specific goals that may be difficult to execute and achieve</li> </ul>
<p><b>Level 2</b> <i>Seeks performance data episodically, with adaptability and humility, and formulates a learning plan</i></p> <p><i>Analyzes and reflects on the factors that contribute to gap(s) between expectations and actual performance</i></p>	<ul style="list-style-type: none"> <li>• Increasingly able to identify what to work on in terms of patient care; uses feedback from others</li> <li>• After working on wards with him/her for a week, asks attending about ways to talk with patients that is easier to understand</li> <li>• Uses feedback with a goal of improving communication skills with patients the following week</li> </ul>
<p><b>Level 3</b> <i>Consistently seeks performance data and implements a learning plan</i></p> <p><i>Analyzes, reflects on, and institutes behavioral change(s) to narrow the gap(s) between expectations and actual performance</i></p>	<ul style="list-style-type: none"> <li>• Takes input from nursing staff, peers, and supervisors to gain complex insight into personal strengths and areas to improve</li> <li>• Humbly acts on input and is appreciative and not defensive</li> <li>• May be beginning to document goals in a more specific and achievable manner, such that attaining them is measureable</li> </ul>
<p><b>Level 4</b> <i>Uses performance data to measure the effectiveness of the learning plan and when necessary, improves it</i></p> <p><i>Challenges assumptions and considers alternatives in narrowing the gap(s) between expectations and actual performance</i></p>	<ul style="list-style-type: none"> <li>• Is clearly in the habit of making a learning plan for each rotation</li> <li>• Consistently identifies ongoing gaps and chooses areas to work on</li> </ul>
<p><b>Level 5</b> <i>Role models consistently seeking performance data with adaptability and humility</i></p> <p><i>Analyzes and reflects on how one's own behavior and practice impacts others</i></p>	<ul style="list-style-type: none"> <li>• Actively discusses learning goals with supervisors and colleagues; may encourage other learners on the team to consider how their behavior affects the rest of the team</li> </ul>

Assessment Models or Tools	<ul style="list-style-type: none"> <li>• Direct observation</li> <li>• Review of learning plan</li> <li>•</li> </ul>
Curriculum Mapping	<ul style="list-style-type: none"> <li>•</li> </ul>
Notes or Resources	<ul style="list-style-type: none"> <li>• Hojat M, Veloski JJ, Gonnella JS. Measurement and correlates of physicians' lifelong learning. <i>Academic Medicine</i> 2009. Aug;84(8):1066-74. doi: 10.1097 /ACM. 0b013e3181acf25f. <i>Contains a validated questionnaire about physician lifelong learning.</i></li> <li>• Lockspeiser TM, Schmitter PA, Lane JL et al. Assessing Fellows' Written Learning Goals and Goal Writing Skill: Validity Evidence for the Learning Goal Scoring Rubric. <i>Academic Medicine</i> 2013. 88 (10)</li> <li>• Burke AE, Benson B, Englander R, Carraccio C, Hicks PJ. Domain of competence: practice-based learning and improvement. <i>Academic Pediatrics</i> 2014. 14: S38-S54.</li> </ul>

## Professionalism 1: Professional Behavior and Ethical Principles

**Overall Intent:** To recognize and address lapses in ethical and professional behavior, demonstrates ethical and professional behaviors, and use appropriate resources for managing ethical and professional dilemmas

Milestones	Examples
<p><b>Level 1</b> <i>Identifies and describes potential triggers for lapses in professionalism and understands how to appropriately report them</i></p> <p><i>Demonstrates knowledge of the ethical principles underlying informed consent, surrogate decision making, advance directives, confidentiality, and error disclosure</i></p>	<ul style="list-style-type: none"> <li>● Identifies and describes potential triggers for professionalism lapses, describes when and how to appropriately report professionalism lapses, and outlines strategies for addressing common barriers to reporting</li> <li>● Discusses the basic principles underlying ethics (beneficence, nonmaleficence, justice, autonomy) and professionalism (professional values and commitments), and how they apply in various situations (e.g., informed consent process)</li> <li>● Obtains informed consent for procedures</li> </ul>
<p><b>Level 2</b> <i>Demonstrates insight and takes responsibility for professional behavior in routine situations</i></p> <p><i>Analyzes straightforward situations using ethical principles</i></p>	<ul style="list-style-type: none"> <li>● Acknowledges a lapse without becoming defensive, making excuses, or blaming others</li> <li>● Apologizes for the lapse when appropriate and taking steps to make amends if needed</li> <li>● Articulates strategies for preventing similar lapses in the future</li> <li>● Demonstrates professional behavior in routine situations and uses ethical principles to analyze straightforward situations, such as those where:                             <ul style="list-style-type: none"> <li>○ there are no or few conflicts (between values or patients)</li> <li>○ the fellow may be tired or hungry, but is not excessively fatigued, overwhelmed, or otherwise distressed</li> <li>○ workload is not unusually high, and there is no significant time pressure to make decisions</li> </ul> </li> </ul>
<p><b>Level 3</b> <i>Demonstrates professional behavior in complex or stressful situations</i></p> <p><i>Analyzes complex situations using ethical principles and recognizes the need to seek help in managing and resolving them</i></p>	<ul style="list-style-type: none"> <li>● Recognizes own limitations and seeks resources to help manage and resolve complex ethical situations</li> <li>● Analyzes complex situations, such as how the clinical situation evokes strong emotions, conflicts (or perceived conflicts) between patients or between professional values; the fellow navigates a situation while not at his/her personal best (due to fatigue, hunger, stress, etc.), or the system poses barriers to professional behavior (e.g., inefficient workflow, inadequate staffing, conflicting policies)</li> </ul>

	<ul style="list-style-type: none"> <li>Analyzes difficult real or hypothetical ethics and professionalism case scenarios or situations, recognizes own limitations, and consistently demonstrates professional behavior</li> </ul>
<p><b>Level 4</b> <i>Recognizes situations that may trigger professionalism lapses and intervenes to prevent lapses in self and others</i></p> <p><i>Recognizes and utilizes appropriate resources for managing and resolving ethical dilemmas as needed (e.g., ethics consultations, literature review, risk management/legal consultation, and stewardship of limited resources)</i></p>	<ul style="list-style-type: none"> <li>Monitors and responds to fatigue, hunger, stress, etc. in self and team members</li> <li>Recognizes and responds effectively to the emotions of others</li> <li>Actively seeks to consider the perspectives of others</li> <li>Models respect for patients and expects the same from others</li> <li>Recognizes and utilizes appropriate resources for managing and resolving ethical dilemmas (e.g., ethics consultations, literature review, risk management/legal consultation)</li> </ul>
<p><b>Level 5</b> <i>Coaches others when their behavior fails to meet professional expectations</i></p> <p><i>Identifies and seeks to address system-level factors that induce or exacerbate ethical problems or impede their resolution</i></p>	<ul style="list-style-type: none"> <li>Coaches others when their behavior fails to meet professional expectations, either in the moment (for minor or moderate single episodes of unprofessional behavior) or after the moment (for major single episodes or repeated minor to moderate episodes of unprofessional behavior)</li> <li>Identifies and seeks to address system-wide factors or barriers to promoting a culture of ethical and professional behavior through participation in a work group, committee, or taskforce (e.g., ethics committee or an ethics sub-committee, risk management committee, root cause analysis review, patient safety or satisfaction committee, professionalism work group, IRB, fellow grievance committee, etc.</li> </ul>
Assessment Models or Tools	<ul style="list-style-type: none"> <li>Direct observation</li> <li>Global evaluation</li> <li>Multisource feedback</li> <li>OSCE</li> <li>Mentor and program director observations</li> <li>Oral or written self-reflection (e.g., of a personal or observed lapse, ethical dilemma, or systems-level factors)</li> <li>Simulation</li> </ul>
Curriculum Mapping	<ul style="list-style-type: none"> <li></li> </ul>
Notes or Resources	<ul style="list-style-type: none"> <li>American Society of Anesthesiologist Code of Ethics Guidelines. (<a href="https://www.asahq.org/resources/ethics-and-professionalism">https://www.asahq.org/resources/ethics-and-professionalism</a> )</li> <li>American Medical Association Code of Ethics. <a href="https://www.ama-assn.org/delivering-care/ama-code-medical-ethics">https://www.ama-assn.org/delivering-care/ama-code-medical-ethics</a></li> </ul>

- American Board of Internal Medicine; American College of Physicians-American Society of Internal Medicine; European Federation of Internal Medicine. [Medical professionalism in the new millennium: a physician charter](#). Ann Intern Med. 2002;136:243-246.
- Byyny RL, Papadakis MA, Paauw DS. [Medical Professionalism Best Practices](#). 2015 by Alpha Omega Alpha Medical Society, Menlo Park, CA.
- Levinson W, Ginsburg S, Hafferty FW, Lucey CR. [Understanding Medical Professionalism](#). McGraw-Hill Education, 2014.

## Professionalism 2: Accountability/Conscientiousness

**Overall Intent:** To take responsibility for one's own actions and the impact on patients and other members of the health care team

Milestones	Examples
<p><b>Level 1</b> <i>Takes responsibility for failure to complete tasks and responsibilities, identifies potential contributing factors, and describes strategies for ensuring timely task completion in the future</i></p> <p><i>Responds promptly to requests or reminders to complete tasks and responsibilities</i></p>	<ul style="list-style-type: none"> <li>• Takes responsibility for not getting informed consent for performing peripheral nerve block</li> </ul>
<p><b>Level 2</b> <i>Performs tasks and responsibilities in a timely manner with appropriate attention to detail in routine situations</i></p> <p><i>Recognizes situations that may impact own ability to complete tasks and responsibilities in a timely manner</i></p>	<ul style="list-style-type: none"> <li>• Completes routine tasks and recognizes when he/she will have trouble completing a task (e.g., description of nerve block and its potential complication)</li> </ul>
<p><b>Level 3</b> <i>Performs tasks and responsibilities in a timely manner with appropriate attention to detail in complex or stressful situations</i></p> <p><i>Proactively implements strategies to ensure that the needs of patients, teams, and systems are met</i></p>	<ul style="list-style-type: none"> <li>• Completes tasks in stressful situations and preempts issues that would impede completion of tasks (e.g., recognition of intravascular injection of local anesthetic solution and ability to prevent cardiovascular collapse)</li> </ul>
<p><b>Level 4</b> <i>Takes ownership of system outcomes and recognizes situations that may impact others' ability to complete tasks and responsibilities in a timely manner</i></p>	<ul style="list-style-type: none"> <li>• Identifies issues that could impede others from completing tasks and provides leadership to address those issues (e.g., senior fellows advise interns how to manage their time in completing patient care tasks)</li> <li>• Follows current evidence-based guidelines for performance of central neuraxial blockade</li> </ul>



<b>Level 5</b> <i>Proactively develops and implements systematic strategies to improve accountability in health care systems</i>	<ul style="list-style-type: none"> <li>• Sets up a meeting with the nurse manager to streamline patient discharges</li> <li>• Takes responsibility for potential adverse outcomes from peripheral nerve block and professionally discusses this with the interprofessional team</li> </ul>
Assessment Models or Tools	<ul style="list-style-type: none"> <li>• Direct observation</li> <li>• Multisource global evaluations</li> <li>• Self-evaluations</li> <li>• Compliance with deadlines and timelines</li> <li>• Simulation</li> <li>• OSCE</li> <li>• Mentor and program director observations</li> </ul>
Curriculum Mapping	<ul style="list-style-type: none"> <li>•</li> </ul>
Notes or Resources	<ul style="list-style-type: none"> <li>• ASA Code of ethics (<a href="https://www.asahq.org/resources/ethics-and-professionalism">https://www.asahq.org/resources/ethics-and-professionalism</a> website insert)           <ul style="list-style-type: none"> <li>• Code of conduct from fellow institutional manual</li> </ul> </li> </ul>

### Professionalism 3: Self-Awareness and Help-Seeking

**Overall Intent:** To identify, use, manage, improve, and seek help for personal and professional well-being for self and others

Milestones	Examples
<p><b>Level 1</b> <i>Recognizes status of personal and professional well-being, with assistance</i></p> <p><i>Recognizes limits in the knowledge/skills of self or team, with assistance</i></p>	<ul style="list-style-type: none"> <li>● Acknowledges own response to patient’s fatal genetic diagnosis</li> <li>● Identifies personal values versus personal beliefs</li> <li>● Learner accepts and takes to heart feedback about their personal and professional well-being from others</li> <li>● Completes critical reflection assignment</li> <li>● Learner accepts input, direction, feedback from others re: their knowledge, attitude, and skill limitations</li> <li>● Receives feedback on missed emotional cues after a family meeting</li> </ul>
<p><b>Level 2</b> <i>Independently recognizes status of personal and professional well-being</i></p> <p><i>Independently recognizes limits in the knowledge/skills of self or team</i></p> <p><i>Demonstrates appropriate help-seeking behaviors</i></p>	<ul style="list-style-type: none"> <li>● Learner can articulate signs of distress (depression, anxiety, burnout, substance abuse, suicidal ideation, etc.)</li> <li>● Independently identifies and communicates impact of a personal family tragedy</li> <li>● Learner actively seeks out feedback on their performance to help identify their knowledge, attitude, and skill limitations and determine if they are commensurate with their stage of training</li> <li>● Learner reviews their plan with a more experienced colleague to make sure it’s appropriate</li> <li>● Learner recognizes when situations are more complex than anticipated (e.g., patient does not respond as expected to first-line treatment or new information is not consistent with working diagnosis)</li> <li>● Recognizes a pattern of missing emotional cues during family meetings and asks for feedback</li> </ul>
<p><b>Level 3</b> <i>With assistance, proposes a plan to optimize personal and professional well-being</i></p> <p><i>With assistance, proposes a plan to remediate or improve limits in the knowledge/ skills of self or team</i></p>	<ul style="list-style-type: none"> <li>● Develops a reflective response to deal with personal impact of difficult patient encounters</li> <li>● Integrates feedback from the multi-disciplinary team to develop a plan for identifying and responding to emotional cues during the next family meeting</li> </ul>

<p><b>Level 4</b> <i>Independently develops a plan to optimize personal and professional well being</i></p> <p><i>Independently develops a plan to remediate or improve limits in the knowledge/skills of self or team</i></p>	<ul style="list-style-type: none"> <li>● Independently identifies ways to manage personal stress</li> <li>● Self-assesses and seeks additional feedback on skills responding to emotional cues during a family meeting</li> </ul>
<p><b>Level 5</b></p> <p><i>Coaches others when emotional responses or limitations in knowledge/skills do not meet professional expectations</i></p> <p><i>Develops or improves resources for assessing limits and remediating skills</i></p>	<ul style="list-style-type: none"> <li>● Assists in organizational efforts to address clinician well-being after patient diagnosis/prognosis/death</li> <li>● Works with multi-disciplinary team to develop a feedback framework for learners around family meetings</li> </ul>
<p>Assessment Models or Tools</p>	<ul style="list-style-type: none"> <li>● Direct observation</li> <li>● 360 degree evaluations</li> <li>● Self-assessment and personal learning plan</li> <li>● Individual interview</li> <li>● Group interview or discussions for team activities</li> <li>● Institutional online training modules</li> <li>● Duty Hour Logs</li> </ul>
<p>Curriculum Mapping</p>	<ul style="list-style-type: none"> <li>●</li> </ul>
<p>Notes or Resources</p>	<p>This subcompetency is not intended to evaluate a fellow’s well-being, but to ensure each fellow has the fundamental knowledge of factors that impact well-being, the mechanisms by which those factors impact well-being, and available resources and tools to improve well-being.</p> <ul style="list-style-type: none"> <li>● Local resources, including Employee Assistance Programs</li> <li>● Hicks PJ, Schumacher D, Guralnick S, Carraccio C, Burke AE. Domain of competence: personal and professional development. <i>Acad Pediatr.</i> 2014 Mar-Apr;14(2 Suppl):S80-97.</li> <li>● ACGME. “Well-Being Tools and Resources.” <a href="https://dl.acgme.org/pages/well-being-tools-resources">https://dl.acgme.org/pages/well-being-tools-resources</a>.</li> <li>● Self-awareness and professionalism. (Papanikitas, Self-awareness and professionalism, InnovAiT, 2017; 10(8): 452–45) <a href="https://ora.ox.ac.uk/objects/uuid:16ee6cd3-fca4-4e6c-b2c4-3497c4842457/download_file?file_format=pdf&amp;safe_filename=Papanikitas_2018_self_awareness_professionalism.pdf&amp;type_of_work=Journal+article">https://ora.ox.ac.uk/objects/uuid:16ee6cd3-fca4-4e6c-b2c4-3497c4842457/download_file?file_format=pdf&amp;safe_filename=Papanikitas_2018_self_awareness_professionalism.pdf&amp;type_of_work=Journal+article</a></li> <li>● AMA: Physician Well-being -- (<a href="https://www.ama-assn.org/topics/physician-well-being">https://www.ama-assn.org/topics/physician-well-being</a>)</li> <li>● AMA: 4 steps to creating an effective physician well-being program -- (<a href="https://www.ama-assn.org/practice-management/physician-health/4-steps-creating-effective-physician-well-being-program">https://www.ama-assn.org/practice-management/physician-health/4-steps-creating-effective-physician-well-being-program</a>)</li> </ul>

- ACP: Resources for Institutional Strategies to Promote Resilience and Reduce Burnout (<https://www.acponline.org/practice-resources/physician-well-being-and-professional-satisfaction/resources-for-institutional-strategies-to-promote-resilience-and-reduce-burnout>)

## Interpersonal and Communication Skills 1: Patient- and Family-Centered Communication

**Overall Intent:** To deliberately use language and behaviors to form constructive relationships with patients, to identify communication barriers including self-reflection on personal biases, and minimize them in the doctor-patient relationships; organize and lead communication around shared decision-making.

Milestones	Examples
<p><b>Level 1</b> <i>Uses language and nonverbal behavior to demonstrate respect and establish rapport</i></p> <p><i>Identifies common barriers to effective communication (e.g., language, disability) while accurately communicating own role within the healthcare system</i></p> <p><i>Identifies the need to adjust communication strategies based on assessment of patient/family expectations and understanding of their health status and treatment options</i></p>	<ul style="list-style-type: none"> <li>• Self-monitors and controls tone, non-verbal responses, and language and asks questions to invite the patient’s participation</li>   <li>• Accurately communicates the role of the health care system to patients, families, and colleagues and identifies common communication barriers (e.g., loss of hearing, language, aphasia) in patient and family encounters</li>   <li>• Identifies the need to communicate specifically about a patient’s pain trajectory after assessing that the patient and family are very anxious about time left and may be underestimating this</li> </ul>
<p><b>Level 2</b> <i>Establishes a therapeutic relationship in straightforward encounters using active listening and clear language</i></p> <p><i>Identifies complex barriers to effective communication (e.g. health literacy, cultural)</i></p> <p><i>Organizes and initiates communication with patient/family by introducing stakeholders, setting the agenda, clarifying expectations and verifying understanding of the clinical situation</i></p>	<ul style="list-style-type: none"> <li>• Establishes a developing, therapeutic relationship with a patient, reaching below the surface to know the patient (e.g., demonstrates patient-centeredness with active listening, attention to affect, and questions that explore the patient’s personhood)</li>   <li>• Identifies complex communication barriers (e.g., culture, religious beliefs, health literacy) in patient and family encounters</li>   <li>• Leads an agenda-driven discussion about acute pain management with the patient, family, and primary care team, reassessing the patient’s and family’s understanding and anxiety</li> </ul>

<p><b>Level 3</b> <i>Establishes a therapeutic relationship in challenging patient encounters</i></p> <p><i>When prompted, reflects on personal biases while attempting to minimize communication barriers</i></p> <p><i>With guidance, sensitively and compassionately delivers medical information, elicits patient/family values, goals and preferences, and acknowledges uncertainty and conflict</i></p>	<ul style="list-style-type: none"> <li>• Establishes and maintains a therapeutic relationship with a challenging patient (e.g., angry, non-adherent, substance seeking, mentally challenged, etc.), and articulates personal challenges in the relationship, how their personal biases may impact the relationship, and strategies to use going forward</li> <li>• Attempts to mitigate identified communication barriers, including reflection on implicit biases (e.g., preconceived ideas about patients of certain race or weight) when prompted</li> <li>• Moves beyond assessing the patient's/family's understanding to deliver meaningful information related to acute pain management and elicits what is most important to the patient and family going forward</li> <li>• Acknowledges uncertainty in a patient's medical complexity and prognosis</li> </ul>
<p><b>Level 4</b> <i>Easily establishes therapeutic relationships, with attention to patient/family concerns and context, regardless of complexity</i></p> <p><i>Independently recognizes personal biases while attempting to proactively minimize communication barriers</i></p> <p><i>Independently, uses shared decision making to align patient/family values, goals, and preferences with treatment options to make a personalized care plan</i></p>	<ul style="list-style-type: none"> <li>• Establishes a cordial relationship with the most challenging or complex patients/families with sensitivity to their specific concerns</li> <li>• Independently anticipates and proactively addresses communication barriers, including recognition of own implicit biases, and intuitively recognizes and controls these biases so they have less impact on a more complex physician-patient relationship</li> <li>• Independently engages in shared decision-making with the patient and family, including a recommended acute pain management plan to align a patient's unique goals with treatment options</li> </ul>
<p><b>Level 5</b> <i>Mentors others in situational awareness and critical self-reflection to consistently develop positive therapeutic relationships</i></p> <p><i>Role models self-awareness while identifying a contextual approach to minimize communication barriers</i></p> <p><i>Role models shared decision making in patient/family communication including those with a high degree of uncertainty/conflict</i></p>	<ul style="list-style-type: none"> <li>• Role models and supports colleagues in self-awareness and reflection to improve therapeutic relationships with patients, and demonstrates intuitive understanding of a patient's perspective; uses a contextualized approach to minimize barriers for patients and colleagues</li> <li>• Role models proactive self-awareness and reflection around explicit and implicit biases with a context-specific approach to mitigating communication barriers</li> <li>• Leads shared decision making with clear recommendations to patients and families even in more complex clinical situations</li> </ul>
<p><b>Assessment Models or Tools</b></p>	<ul style="list-style-type: none"> <li>• Attending assessment of patient/family encounters</li> <li>• Standardized patients or structured case discussions</li> </ul>

	<ul style="list-style-type: none"> <li>• Patient/family encounters</li> <li>• Self-assessment including self-reflection exercises</li> <li>• Mini-clinical evaluation exercise (CEX)</li> <li>• Kalamazoo Essential Elements Communication Checklist (Adapted)</li> <li>• Skills needed to set the state, Elicit information, Give information, Understand the patient, and End the encounter (SEGUE)</li> <li>• SECURE</li> </ul>
Curriculum Mapping	<ul style="list-style-type: none"> <li>•</li> </ul>
Notes or Resources	<ul style="list-style-type: none"> <li>• Laidlaw A, Hart J. Communication skills: an essential component of medical curricula. Part I: Assessment of clinical communication: AMEE Guide No. 51. Med Teach. 2011;33(1):6-8.</li> <li>• Makoul G. Essential Elements of Communication in Medical Encounters: The Kalamazoo Consensus Statement. Academic Medicine 2001;76:390-393.</li> <li>• Makoul G. The SEGUE Framework for teaching and assessing communication skills. Patient Educ Couns 2001;45(1):23-34.</li> <li>• O'Sullivan P, Chao S, Russell M, Levine S, Fabiny A. Development and implementation of an objective structured clinical examination to provide formative feedback on communication and interpersonal skills in geriatric training. J Am Geriatr Soc 2008;56(9):1730-5.</li> <li>• Symons AB, Swanson A, McGuigan D, Orrange S, Akl EA. A tool for self-assessment of communication skills and professionalism in fellows. BMC Med Educ 2009; 9:1.</li> <li>• American Academy of Hospice and Palliative Medicine: Hospice and Palliative Medicine Competencies Project. <a href="http://aahpm.org/fellowships/competencies#competencies-toolkit">http://aahpm.org/fellowships/competencies#competencies-toolkit</a> accessed June 6, 2017.</li> </ul>

## Interpersonal and Communication Skills 2: Interprofessional and Team Communication

**Overall Intent:** To effectively communicate with the health care team, including consultants, in both straightforward and complex situations

Milestones	Examples
<p><b>Level 1</b> <i>Uses language that values all health care team members</i></p>	<ul style="list-style-type: none"> <li>• Shows respect in health care team communications through words and actions</li> <li>• Listens to and considers others' points of view, is nonjudgmental and actively engaged, and demonstrates humility</li> </ul>
<p><b>Level 2</b> <i>Communicates information effectively with all health care team members</i></p> <p><i>Solicits feedback on performance as a member of the health care team</i></p>	<ul style="list-style-type: none"> <li>• Communicates clearly and concisely in an organized and timely manner during consultant encounters, as well as with the health care team in general</li> </ul>
<p><b>Level 3</b> <i>Uses active listening to adapt communication style to fit team needs</i></p> <p><i>Communicates concerns and provides feedback to peers and learners</i></p>	<ul style="list-style-type: none"> <li>• Verifies understanding of his/her communications within the health care team (i.e., closed loop communications, restating), and raises concerns or provides opinions and feedback when needed to others on the team</li> <li>• Uses teach-back or other strategies to assess receiver understanding during consultations</li> <li>• Demonstrates active listening by fully focusing on the patient or surrogate, actively showing verbal and non-verbal signs (eye contact, posture, reflection, questioning, or summarization)</li> <li>• Respectfully provides feedback for the purposes of improvement or reinforcement of correct knowledge, skills, and attitudes</li> <li>• Inconsistently provides feedback or constructive criticism to superiors; unable to consistently manage conflict between team members</li> </ul>
<p><b>Level 4</b> <i>Coordinates recommendations from different members of the healthcare team to optimize patient care</i></p> <p><i>Communicates feedback and constructive criticism to superiors</i></p>	<ul style="list-style-type: none"> <li>• Offers suggestions to negotiate or resolve conflicts related to patient care among health care team members; raises concerns or provides opinions and feedback, when needed, to superiors on the team</li> </ul>



<p><b>Level 5</b>  <i>Role models flexible communication strategies that value input from all healthcare team members, resolving conflict when needed</i></p> <p><i>Facilitates regular healthcare team-based feedback in complex situations</i></p>	<ul style="list-style-type: none"> <li>• Communicates with all health care team members, resolves conflicts, and provides feedback in any situation</li> <li>• Adapts communication strategies in handling complex situations</li> </ul>
<p>Assessment Models or Tools</p>	<ul style="list-style-type: none"> <li>• Direct observation</li> <li>• Global assessment</li> <li>• Multi-source assessment</li> <li>• Simulation encounters</li> <li>• Standardized patient encounters or OSCE</li> <li>• Checklists</li> <li>• Record or chart review</li> </ul>
<p>Curriculum Mapping</p>	<ul style="list-style-type: none"> <li>•</li> </ul>
<p>Notes or Resources</p>	<ul style="list-style-type: none"> <li>• François, J. (2011). Tool to assess the quality of consultation and referral request letters in family medicine. <i>Canadian Family Physician</i>, 57(5), 574–575.</li> <li>• Consultant Evaluation of Faculty form in Dehon E, Simpson K, Fowler D, Jones A. Development of the faculty 360. <i>MedEdPORTAL Publications</i>. 2015;11:10174. <a href="http://doi.org/10.15766/mep_2374-8265.10174">http://doi.org/10.15766/mep_2374-8265.10174</a>.</li> </ul>

### Interpersonal and Communication Skills 3: Communication within Health Care Systems

**Overall Intent:** To effectively communicate using a variety of methods

Milestones	Examples
<p><b>Level 1</b> <i>Safeguards patient personal health information (e.g., follows HIPAA regulations)</i></p> <p><i>Communicates through appropriate channels as required by institutional policy (e.g., patient safety reports, cell phone/pager use)</i></p>	<ul style="list-style-type: none"> <li>• Notes are accurate but include extraneous information</li> <li>• Identifies medical errors and near misses, but does not know how to use the reporting system</li> </ul>
<p><b>Level 2</b> <i>Uses documentation shortcuts accurately, and in a timely and appropriate manner</i></p> <p><i>Documents required data in formats specified by institutional policy</i></p>	<ul style="list-style-type: none"> <li>• Notes are organized and accurate but still contain extraneous information, such as all vital signs collected over the past 24 hours or irrelevant lab results</li> <li>• Recognizes that a communication breakdown has happened during sign-out and respectfully brings the breakdown to the attention of the chief fellow or faculty member</li> <li>• Unable to identify potential solutions to a system breakdown and is unable or uncomfortable raising concerns directly with colleagues</li> </ul>
<p><b>Level 3</b> <i>Appropriately selects direct (e.g., telephone, in-person) and indirect (e.g., progress notes, text messages) forms of communication based on context</i></p> <p><i>Participates in discussions related to improving system communications</i></p>	<ul style="list-style-type: none"> <li>• Documentation is accurate, organized, and concise with no extraneous information, but inconsistently contains anticipatory (if/then) guidance</li> <li>• Identifies an incident in which a communication breakdown occurred and offers constructive suggestions for how to improve the system; requires supervision or support to talk to a colleague about the incident</li> </ul>
<p><b>Level 4</b> <i>Uses written or verbal communication (patient notes, e-mail, etc.) that serves as an example for others to follow</i></p> <p><i>Initiates difficult conversations with appropriate stakeholders to improve system communications</i></p>	<ul style="list-style-type: none"> <li>• Notes are exemplary, but is not yet able to provide feedback to colleagues who are insufficiently documenting</li> <li>• Talks directly to a colleague about breakdowns in communication in order to prevent recurrence</li> </ul>

<p><b>Level 5</b> Guides departmental or institutional communication around policies and procedures</p> <p><i>Participates in dialogue regarding health care systems issues among larger community stakeholders (e.g., institution, practitioners, graduate medical education)</i></p>	<ul style="list-style-type: none"> <li>• Teaches colleagues how to improve clinical notes, including terminology, billing compliance, conciseness, and inclusion of all required elements</li> <li>• Leads a task force established by the hospital QI committee to develop a plan to improve housestaff hand-offs</li> </ul>
<p>Assessment Models or Tools</p>	<ul style="list-style-type: none"> <li>• Chart (HPI, progress notes, procedure notes, discharge summary) audit</li> <li>• Observation of sign-outs, observation of requests for consultations</li> <li>• 360 evaluation of chart documentation</li> <li>• Chart stimulated recall exercise addressing systems based practice</li> </ul>
<p>Curriculum Mapping</p>	<ul style="list-style-type: none"> <li>•</li> </ul>
<p>Notes or Resources</p>	<ul style="list-style-type: none"> <li>• Bierman JA, Hufmeyer KK, Liss DT, Weaver AC, Heiman HL. Promoting Responsible Electronic Documentation: Validity Evidence for a Checklist to Assess Progress Notes in the Electronic Health Record. <i>Teach Learn Med.</i> 2017 Oct-Dec;29(4):420-432. doi: 10.1080/10401334.2017.1303385. Epub 2017 May 12. PubMed PMID: 28497983.</li> <li>• Haig KM, Sutton S, Whittington J. SBAR: a shared mental model for improving communication between clinicians. <i>Jt Comm J Qual Patient Saf.</i> 2006 Mar;32(3):167-75. PubMed PMID: 16617948.</li> <li>• Starmer AJ, Spector ND, Srivastava R, Allen AD, Landrigan CP, Sectish TC; I-PASS Study Group. I-pass, a mnemonic to standardize verbal handoffs. <i>Pediatrics.</i> 2012 Feb;129(2):201-4. doi: 10.1542/peds.2011-2966. Epub 2012 Jan 9. PubMed PMID: 22232313.</li> </ul>

## Available Milestones Resources

*Milestones 2.0: Assessment, Implementation, and Clinical Competency Committees Supplement, 2021* - <https://meridian.allenpress.com/jgme/issue/13/2s>

*Milestones Guidebooks:* <https://www.acgme.org/milestones/resources/>

- *Assessment Guidebook*
- *Clinical Competency Committee Guidebook*
- *Clinical Competency Committee Guidebook Executive Summaries*
- *Implementation Guidebook*
- *Milestones Guidebook*

*Milestones Guidebook for Residents and Fellows:* <https://www.acgme.org/residents-and-fellows/the-acgme-for-residents-and-fellows/>

- *Milestones Guidebook for Residents and Fellows*
- *Milestones Guidebook for Residents and Fellows Presentation*
- *Milestones 2.0 Guide Sheet for Residents and Fellows*

*Milestones Research and Reports:* <https://www.acgme.org/milestones/research/>

- *Milestones National Report*, updated each fall
- *Milestones Predictive Probability Report*, updated each fall
- *Milestones Bibliography*, updated twice each year

*Developing Faculty Competencies in Assessment courses* - <https://www.acgme.org/meetings-and-educational-activities/courses-and-workshops/developing-faculty-competencies-in-assessment/>

Assessment Tool: Direct Observation of Clinical Care (DOCC) - <https://dl.acgme.org/pages/assessment>

Assessment Tool: Teamwork Effectiveness Assessment Module (TEAM) - <https://team.acgme.org/>

Improving Assessment Using Direct Observation Toolkit - <https://dl.acgme.org/pages/acgme-faculty-development-toolkit-improving-assessment-using-direct-observation>

Remediation Toolkit - <https://dl.acgme.org/courses/acgme-remediation-toolkit>

Learn at ACGME has several courses on Assessment and Milestones - <https://dl.acgme.org/>