Supplemental Guide for Pathology

Supplemental Guide: Pathology

ACGME

October 2018
Milestones Supplemental Guide

This document provides additional guidance and examples for the Pathology 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.
Patient Care:

<table>
<thead>
<tr>
<th>Patient Care 1</th>
<th>Reporting (Anatomic Pathology/Clinical Pathology [AP/CP])</th>
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<tbody>
<tr>
<td>Overall Intent</td>
<td>• To ensure resident can generate effective pathology reports for both simple and complex cases, while using nuanced language and providing appropriate recommendations</td>
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</table>
| Level 1 Examples | • Lists the key elements of a surgical pathology report: clinical history, source of specimen, surgical procedure, gross description, microscopic description, and diagnosis (AP)  
• Engages with pathology attending to promote timely turnaround time |
| Level 2 Examples | • Develops a report for simple surgical pathology case, such as a tubular adenoma (AP), or a peripheral blood smear showing acute blood loss anemia (CP) |
| Level 3 Examples | • Develops a surgical pathology report for a more complex specimen such as a colon resection for cancer, including College of American Pathologists (CAP) synoptic templates (AP)  
• Generates a transfusion reaction report for suspected transfusion-related acute lung injury (TRALI) (CP) with assistance; includes language of uncertainty if case was probable but not definitive TRALI |
| Level 4 Examples | • Independently develops a surgical pathology report for complex case of colon cancer in Lynch syndrome, including microsatellite instability genetic testing (AP)  
• Documents discussion of complex transfusion reaction with clinical providers (CP)  
• Generates complex interpretations for coagulation studies, integrating multiple test results, and providing recommendations for any follow-up testing (CP) |
| Level 5 Examples | • Consistently generates complex reports, incorporating biomarkers with therapeutic implications, Her2/Neu testing for breast cancer, and Nottingham scores (AP) or complex hematopathology reports incorporating flow cytometry, fluorescence in situ hybridization (FISH), and molecular studies (CP) |
| Assessment Models or Tools | • Review of reports at sign out (real-time or retrospective)  
• Prospective review of reports  
• Attending evaluation during daily sign out |
| Notes or Resources | • Cancer Protocol Templates- College of American Pathologists  
• www.cap.org/cancerprotocols  
<table>
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<tr>
<th>Patient Care 2</th>
<th>Grossing (AP)</th>
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<td><strong>Overall Intent</strong></td>
<td>• To ensure the resident can skillfully perform tissue triage, gross examination, dissection, sectioning, section selection, and documentation (grossing) for any and all specimen types in a timely manner while assuring specimen integrity</td>
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| **Level 1 Examples** | • Refers to appropriate anatomy textbooks, grossing aids  
• Rinses utensils between cases; one specimen on grossing bench at a time; triages cases  
• Confirms labeling on requisition, sample, and gross report in laboratory information system (LIS)  
• Discusses impact of breast fixation time on subsequent testing integrity |
| **Level 2 Examples** | • Grosses gallbladder, appendix, skin shaves, and/or benign uterus  
• Takes care not to blend inks on breast specimens  
• Appropriately triages to optimize fixation  
• Recognizes need to replace formalin in cassette container at specified intervals |
| **Level 3 Examples** | • Grosses a colon resection for carcinoma or pancreaticoduodenectomy specimen  
• Triages soft tissue for cytogenetics or lymph node for flow cytometry  
• Submits tumor for tissue banking using departmental protocols  
• Manages tissue to minimize contamination from other samples  
• Proactively submits additional tissue when needed |
| **Level 4 Examples** | • Grosses hemipelvectomy, complex head and neck specimens  
• Identifies specimen mix-up and resolves with histology laboratory |
| **Level 5 Examples** | • Is the person the department turns to for advice about unique and difficult cases that need grossing  
• Grosses explants from congenital heart disease with markedly distorted anatomy |
| **Assessment Models or Tools** | • Direct observation  
• Assessment from pathology assistants  
• Portfolio  
• Competency assessment  
• Surgical pathology report (and/or gross specimen review) to determine accuracy of dictation and gross description  
• Grossing laboratory metrics review (number of cases/blocks grossed by a resident on a given day)  
• Surgical pathology metrics and quality review (number of floaters, number of poorly fixed specimens and quality trends, by resident) |
| **Notes or Resources** | • Departmental protocols  
• CAP Cancer Protocols - www.cap.org/cancerprotocols  
<p>| • Practical A Proposed Set of Metrics to Reduce Patient Safety Risk From Within the Anatomic Pathology Laboratory, Banks, P., Brown, R., Laslowski, A., Daniels, Y., et al. Lab Medicine 2017; 48; 195-201 |</p>
<table>
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<tr>
<th>Patient Care 3</th>
<th>Clinical Consultation, including on-call interactions (AP/CP)</th>
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<tr>
<td>Overall Intent</td>
<td>To provide a high-quality clinical consultation, including intra- and inter-departmental, formal, and informal.</td>
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</table>
| Level 1 Examples | • Refers to testing algorithm to identify best test to diagnose Lyme disease  
• Refers to test directory to identify procedure to have tissue sent out for karyotyping or sequencing |
| Level 2 Examples | • Recommends performance of enzyme-linked immunosorbent assay testing to diagnose Lyme disease and if recommends performance of Western Blot; understands false positives and next steps; shares the published research and data with clinician after review with attending  
• Clarifies need for cytogenetic testing on resected surgical specimen, recommends fresh tissue, and knows that frozen tissue is unacceptable |
| Level 3 Examples | • Explains discrepant test result for Hepatitis B core antibody by clarifying clinical question, gathering and reviewing history and data, reviewing literature, developing a list of possible explanations for discrepant results, and recommends next steps to clinician (after review with attending)  
• Recommends type and size of specimen for best test on tissue to determine v-Ki-ras2 Kirsten rat sarcoma mutation, considers other tests, scope of mutations needed, and current published guidelines; shares the published research and data with clinician after review with attending |
| Level 4 Examples | • Gathers and reviews history and data of patient with apparent blood transfusion reaction; recommends testing and evaluation; recommends management and subsequent transfusion plan to the clinician  
• Attends and appropriately participates in a rapid onsite evaluation of patient with apparently transfusion reaction, reviews clinical history; evaluates adequacy of sample collected; generates differential diagnosis based on morphology; triages sample appropriately for ancillary testing |
| Level 5 Examples | • Sought out by attending faculty members and/or clinicians for consultative expertise |
| Assessment Models or Tools | • Direct observation  
• Portfolio  
• Chart review  
• Review of on-call logs  
• Simulation |
| Notes and Resources | • Consultation can include a variety of interactions:  
  o Clinician to Resident  
  o Resident to Resident  
  o Student to Resident  
  o Nursing, PA, or other health professional to Resident  
  o On-call, outpatient, and inpatient  
  o Formal reports  
  o Written or verbal advice and guidance |
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<th>Patient Care 4</th>
<th>Interpretation and Diagnosis (AP/CP)</th>
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<td><strong>Overall Intent</strong></td>
<td>To appropriately use laboratory data to make correct diagnoses to direct effective patient care</td>
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| **Level 1 Examples** | • Correctly uses and interprets basic chemistry and hematology tests, culture, and tissue-based approaches  
• Appreciates normal histology and basic histologic patterns |
| **Level 2 Examples** | • Correctly interprets hepatitis serology, discerns normal from infection from vaccination  
• Correlates radiologic findings to guide tissue sampling in anatomic pathology  
• Correctly interprets hyperplasia, neoplasia, metaplasia, and infectious processes |
| **Level 3 Examples** | • Correlates clinical impression and laboratory results to generate and focus a differential diagnosis  
• Identifies hemolysis leading to elevated potassium in blood samples or underfixed sections in surgical pathology |
| **Level 4 Examples** | • Correctly interprets culture, matrix-assisted laser desorption/ionization, and molecular methods to detect/characterize a microbe, recommends use of appropriate antibiotic  
• Histologically diagnoses cancer, recommends molecular studies needed, and selects an appropriate tissue sample  
• Identifies heterophile antibody or tumor regression following neoadjuvant chemotherapy |
| **Level 5 Examples** | • Manages complex cases and diagnoses correctly  
• Sought by attending faculty and/or clinicians for diagnostic expertise |
| **Assessment Models or Tools** | • Attending assessment of daily work encounters  
• Standardized assessments and practical exams  
• Structured case discussions, unknown conferences  
• Clinical management conferences |
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<th>Patient Care 5</th>
<th>Intra-Operative Consultation (IOC), including Frozen Section (AP)</th>
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<tr>
<td>Overall Intent</td>
<td>To provide efficient, high quality intraoperative consultations for both simple and complex cases, which are tailored to the individual clinical situation and patient</td>
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<tr>
<td>Level 1 Examples</td>
<td>• Recognizes the need for timely communication with the surgeon and the implications of the information communicated</td>
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| Level 2 Examples | • Recognizes the difference between specimens sent for margins to guide intraoperative strategy versus specimens sent for diagnosis  
• Assesses request for IOC with communication with clinical team for clarification as needed  
• Identifies lesional tissue before sampling  
• Prepares frozen section on straightforward specimen (e.g., margin) with assistance |
| Level 3 Examples | • Prepares frozen section on pancreatic-duodenectomy resection with assistance  
• Prepares frozen section on straightforward specimen (e.g., margins) without assistance  
• Communicates interpretation of IOC to surgeon with faculty assistance  
• Prepares appropriate slides for squash preps for neurosurgical cases, touch preps to compare cytology, choosing an en face margin versus a perpendicular margin  
• Appropriately prioritizes tissue allocation in specimens with limited amount (e.g., submitting tissue for flow cytometry versus permanent versus saving for tissue banking) |
| Level 4 Examples | • Prepares frozen section on complex pancreatic-duodenectomy without assistance  
• Communicates interpretation of IOC to surgeon with faculty backup as needed  
• Appropriately triages intraoperative consultations when multiple cases are occurring simultaneously |
| Level 5 Examples | • Serves as a resource to others in the gross room in orienting complex specimens and identifying optimal sections for intraoperative consultation  
• Independently interprets all IOC (simple and complex) without backup |
| Assessment Models or Tools | • Direct observation in gross room and review of quality of prepared slides for sign out (real time)  
• Correlation of IOC with final diagnoses (real-time)  
• Portfolio review for a range of IOC specimens (retrospective) |
| Notes or Resources | • Powell SZ. Intraoperative consultation, cytologic preparations, and frozen section in the central nervous system. Arch Pathol Lab Med. 2005; 129(12): 1635-52.  
• Intraoperative Consultation, A Volume in the Series: Foundations in Diagnostic Pathology by Alberto Marchevsky and Bonnie Balzer  
• Biopsy Interpretation: The Frozen Section by Jerome B. Taxy MD |
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<th>Patient Care 6</th>
<th>Autopsy (AP)</th>
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<tr>
<td><strong>Overall Intent</strong></td>
<td>To perform complete (routine, complex, unique) autopsies (including autopsy pre-work, gross dissection, preparation of preliminary and final reports, selection of appropriate ancillary studies as needed, and formulation of clinicopathologic correlations) in a timely manner, while adhering to institutional and regulatory guidelines; use aggregated autopsy data to inform ongoing patient care and advance medical knowledge.</td>
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| **Level 1 Examples** | • Concisely summarizes the relevant medical record, presents clinical information on an autopsy case to the faculty members, communicates with the clinical team, and formulates the question(s) to be answered by the autopsy  
• Understands and clearly articulates the value of the autopsy for clinicians and family members  
• Reviews the autopsy consent form prior to starting the case and verifies that autopsy consent form is signed by the legal next of kin (as defined by state law), recognizes limitations to the extent of autopsy and proceeds accordingly (adheres to autopsy limitations), and is able to properly identify the decedent and recognize discrepancies in decedent identity |
| **Level 2 Examples** | • Plans for any special techniques or ancillary studies (e.g., cultures) needed for routine autopsy  
• With assistance, performs all aspects of a routine autopsy for sudden death due to myocardial infarction in previously healthy individual, including autopsy pre-work, gross dissection, tissues/block selection, microscopic evaluation, and preparation of preliminary and final reports in a timely manner  
• Consistently meets institutional and regulatory guidelines for expected autopsy turnaround times, including preliminary and final reports  
• Identifies cases that need to be reported to Medical Examiner or Coroner, including risk management, patient safety, etc., in which legal or institutional processes and/or specific documentation must be implemented, such as reporting of previously undiagnosed communicable disease, device use, and discusses appropriate steps with faculty members |
| **Level 3 Examples** | • Performs all aspects of a routine autopsy for sepsis due to gangrenous cholecystitis in previously healthy individual, including autopsy pre-work, gross dissection, tissue/block selection, microscopic evaluation, preparation of preliminary and final reports, and formulation of clinicopathologic correlations independently and in a timely manner  
• With some assistance from an autopsy technician and/or senior level resident and/or faculty member, performs all aspects of a complex autopsy for a patient with previously undiagnosed metastatic disease and multiple tumors in multiple organs, including autopsy pre-work, gross dissection, tissue/block selection, microscopic evaluation, preparation of preliminary and final reports, selection of appropriate ancillary studies (immunohistochemistry on
tumor samples), and formulation of clinicopathologic correlations, in a timely manner
- With guidance from faculty members, consistently follows institutional guidelines and regulations regarding all aspects of autopsy performance and reporting

**Level 4 Examples**
- Independently performs all aspects of a routine autopsy for a patient with pulmonary embolus due to recent long flight, no inherited conditions, including autopsy pre-work, gross dissection, tissue/block selection, microscopic evaluation, preparation of preliminary and final reports, and formulation of clinicopathologic correlations, in a timely manner
- Independently performs all aspects of a complex autopsy for a patient with multiple organ failure and sepsis after a long-standing hospital course, multiple medical interventions, and with multiple pre-existing medical problems, including autopsy pre-work, gross dissection, tissue/block selection, microscopic evaluation, preparation of preliminary and final reports, selection of appropriate ancillary studies, as needed, and formulation of clinicopathologic correlations, in a timely manner
- Consistently follows institutional guidelines and regulations regarding all aspects of autopsy performance and reporting, without guidance (independently)

**Level 5 Examples**
- Serves as a reliable departmental resource for complicated and unique autopsies by using advanced knowledge and skills in autopsy pathology (e.g., neonate with multiple congenital malformations, genetic testing required, consultation with outside agencies)
- Regularly reviews own and/or institutional autopsy data to evaluate for trends, and contributes to new discoveries and/or implications to patient care

**Assessment Models or Tools**
- Direct observation
- Portfolio
- Autopsy Case Log review
- Autopsy pathology report review (includes gross and microscopic specimen review to determine accuracy of dictation and descriptions)
- Written assessments (to evaluate for knowledge about legal and institutional guidelines and processes)
- Autopsy pathology metrics and quality review (number of floaters, adequacy of fixation, turnaround time for reports, correlation statistics, adequacy of reporting “reportable” incidents, by resident)
## Notes or Resources

- **CAP Accreditation Checklists** - [www.cap.org/web/oracle/webcenter/pagehierarchy/accreditation_checklists.jsp](http://www.cap.org/web/oracle/webcenter/pagehierarchy/accreditation_checklists.jsp)
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Medical Knowledge:

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<th>Medical Knowledge 1</th>
<th>Diagnostic Knowledge (AP/CP)</th>
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<tr>
<td><strong>Overall Intent</strong></td>
<td>To understand the vast body of knowledge required to practice pathology including cellular biology, pathophysiology, normal histology, abnormal histology, and both old and new testing methodologies</td>
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</table>
| **Level 1 Examples** | • Identifies human papillomavirus (HPV) as a risk factor for cervical squamous cell carcinoma (AP)  
• Identifies common causes of microcytic, hypochromic anemia |
| **Level 2 Examples** | • Identifies high risk HPV serotypes and can begin to explain the cellular biology behind its tumorigenesis (AP)  
• Describes pathophysiologic basis of microcytic, hypochromic anemia, and discusses differential diagnosis thereof |
| **Level 3 Examples** | • Explains HPV-driven tumorigenesis independently and recognizes that other pathways can lead to carcinoma as well (AP) |
| **Level 4 Examples** | • Describes other non-HPV driven pathways (AP) |
| **Level 5 Examples** | • Uses knowledge of molecular pathways to help guide clinicians with secondary testing for therapeutic options (AP) |
| **Assessment Models or Tools** | • Direct observation  
• Presentations  
• Teaching evaluations  
• Resident In-Service Examination (RISE) |
| **Notes or Resources** | • Robbins & Cotran Pathologic Basis of Disease (Robbins Pathology) 9th Edition by Vinay Kumar MBBS MD FRCPath, Abul K. Abbas MBBS , Jon C. Aster MD PhD, ISBN-13: 978-1455726134  
<table>
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<th>Medical Knowledge 2</th>
<th>Clinical Reasoning (AP/CP)</th>
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<tr>
<td><strong>Overall Intent</strong></td>
<td>To approach a diagnostic workup in an informed and logical manner using appropriate resources to guide decisions</td>
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<tr>
<td><strong>Level 1 Examples</strong></td>
<td>• Navigates electronic medical record, LIS, Internet, and literature to locate necessary information and assess validity of information for a surgical pathology case (e.g., eosinophilic esophagitis (AP)) or clinical pathology case (e.g., acute leukemia (CP))</td>
</tr>
</tbody>
</table>
| **Level 2 Examples**| • Extracts pertinent clinical findings from the patient’s medical record and distinguishes between relevant and extraneous data  
• Is aware of and uses appropriate algorithms, consensus guidelines, and published literature |
| **Level 3 Examples**| • Employs consensus guideline data to appropriately order PDL1 stain by immunohistochemistry for case of lung cancer  
• Understands and can describe scientific basis for current screening recommendations for cervical cancer  
• Uses published literature and recommendations to correctly direct workup of patient who traveled to a Zika-endemic area |
| **Level 4 Examples**| • Utilizes histopathologic and molecular data to diagnose central nervous system tumors, myeloid leukemia, or follicular thyroid neoplasms  
• Uses clinical, laboratory, and epidemiologic data to guide workup of a patient with infectious encephalitis |
| **Level 5 Examples**| • Sought by attending faculty members and/or clinicians for expertise |
| **Assessment Models or Tools**| • Review of daily case reports  
• Clinical management conferences  
• Unknown slide conferences  
• Case Logs  
• Presentations |
| **Notes or Resources**| • Clinical reasoning relies on appropriate foundational knowledge that requires the trainee to apply that knowledge in a thoughtful, deliberate and logical fashion to clinical cases to inform clinical care  
Systems-Based Practice:

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<tr>
<th>Systems-Based Practice 1</th>
<th>Patient Safety and Quality Improvement (QI) (AP/CP)</th>
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<tr>
<td>Overall Intent</td>
<td>To engage in the analysis and management of patient safety events, including relevant communication with patients, families, and healthcare professionals; to conduct a QI project</td>
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<tr>
<td>Level 1 Examples</td>
<td>• Has basic knowledge of patient safety events, reporting pathways, and QI strategies, but has not yet participated in such activities</td>
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| Level 2 Examples        | • Identifies and reports a patient safety issue (real or simulated), along with system factors contributing to that issue  
                         | • Is aware of improvement initiatives within their scope of practice |
| Level 3 Examples        | • Reviews a patient safety event (e.g., preparing for morbidity and mortality presentations, joining a Root Cause Analysis group) and has communicated with patients/families about such an event  
                         | • Participates in a QI project, though they may not have yet designed a QI project |
| Level 4 Examples        | • Collaborates with a team to lead the analysis of a patient safety event and can competently communicate with patients/families about those events  
                         | • Initiates and completes a QI project, including communication with stakeholders |
| Level 5 Examples        | • Competently assumes a leadership role at the departmental or institutional level for patient safety and/or QI initiatives, possibly even being the person to initiate action or call attention to the need for action |

Assessment Models or Tools

- Simulation
- Reflection
- Direct observation at bedside or in meetings
- E-module multiple choice tests
- Chart or other system documentation by fellow
- Documentation of QI or patient safety project processes or outcomes
- 360-degree evaluations
- Portfolio

Notes or Resources

- Institute of Healthcare Improvement website (http://www.ihi.org/Pages/default.aspx) which includes multiple choice tests, reflective writing samples, and more
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<th>Systems-Based Practice 2</th>
<th>System Navigation for Patient-Centered Care (AP/CP)</th>
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<tr>
<td><strong>Overall Intent</strong></td>
<td>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.</td>
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</tbody>
</table>
| **Level 1 Examples** | • Identifies the members of the interprofessional team, including histotechnologists, laboratory technicians, pathologist assistants, consultants, other specialty physicians, nurses, and consultants, and describes their roles but is not yet routinely using team members or accessing all available resources  
• Lists the essential components of an effective sign out and care transition including sharing information necessary for successful on-call/off-call transitions for blood banking apheresis procedure and ongoing surgical case in operating room requiring frozen sections  
• Identifies components of social determinants of health and how they impact the delivery of patient care |
| **Level 2 Examples** | • Contacts interprofessional team members for routine cases, but requires supervision to ensure all necessary referrals, testing, and care transitions are made and resource needs are arranged for limited platelets available (CP) or limited tissue available for testing (AP)  
• Performs a routine case sign out but still needs direct supervision to identify and appropriately triage cases or calls (priority versus non-priority case or call) and anticipatory guidance  
• Identifies different populations within own panel of patients, cases, and/or the local community  
• Knows which patients are at high risk for specific health outcomes related to health literacy concerns, cost of testing or therapy, LGBTQ status, etc. |
| **Level 3 Examples** | • At interdisciplinary tumor boards (e.g., solid organ or hematopoietic malignancies), engages in appropriate discussion of patient care testing options and impact on therapy for complex pathologic cases (AP/CP)  
• For a patient undergoing apheresis in the intensive care unit (ICU) with pulmonary and renal failure, performs safe and effective transitions of care with pathology transfusion medicine service, blood bank staff, and/or clinical service at shift change (CP)  
• Appreciates the need for and uses clinic or local resources, such as when coordinating pathology case handling from an outside clinic to the hospital setting for a patient with acute leukemia identified at clinic laboratories who is being transferred to hospital; coordinates specimen handling, ordering of needed tests, and courier schedules (CP)  
• Appreciates the need for and uses clinic or local resources, such as when platelets or red blood cell products are in short supply, and calls upon available interprofessional team members to optimize care for multiple patients in need, noting this may require coordination with outside blood product suppliers as well as in-house physicians and blood bank personnel (CP) |
### Level 4 Examples

- Role models and educates students and junior team members regarding the engagement of appropriate interprofessional team members, as needed for each patient and/or case, and ensures the necessary resources have been arranged (AP/CP)
- Proactively calls the outpatient doctor to ensure a discharged patient will be followed for their international normalized ratio checks, provides efficient handoff to the ICU team at the end of an apheresis or critical transfusion event investigation, coordinates and prioritizes consultant input for a new high risk diagnosis (such as malignancy or thrombotic thrombocytopenic purpura) to ensure the patient gets appropriate follow up (CP)
- Performs quality reviews and correlations between Pap smears and cervical biopsy results to assure appropriate follow up
- Identifies patient populations at high risk for poor healthcare outcomes related to hemoglobin A1c or lipids due to health disparities and inequities in screening and implements strategies to improve care (AP/CP)

### Level 5 Examples

- Works with hospital or ambulatory site team members or leadership to analyze care coordination and laboratory services in that setting, and takes a leadership role in designing and implementing changes to improve the care coordination and laboratory workflow/menu process and design (CP)
- Works with a QI mentor to identify better hand-off tools for on-call pathology services or to improve teaching sessions (AP/CP)
- Designs a social determinants of health curriculum to help others learn to identify local resources and barriers to care and laboratory testing; effectively uses resources, such as telehealth and telepathology for proactive outreach to prevent diagnostic errors in peripheral blood smear review (CP) at outlying clinics

### Assessment Models or Tools

- Direct observation (including discussion during rounds, case workup and case presentations)
- OSCE
- Chart review
- Pathology report review
- Review of sign out tools, utilization and review of checklists between pathology services
- 360-degree feedback from the interprofessional team
- Case management quality metrics and goals mined from Electronic Health Records (EHR), AP or CP laboratory informatics systems
- Lectures/workshops on social determinants of health or population health with identification of local resources
- Interdisciplinary rounds for high-risk patients/cases

### Notes or Resources

- [https://learn.cap.org/content/cap/pdfs/Competency_Model.pdf](https://learn.cap.org/content/cap/pdfs/Competency_Model.pdf)
- [https://www.cdc.gov/pophealthtraining/whatis.html](https://www.cdc.gov/pophealthtraining/whatis.html)
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<tr>
<th>Systems-Based Practice 3</th>
<th>Physician Role in Health Care Systems (AP/CP)</th>
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<tr>
<td>Overall Intent</td>
<td>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</td>
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<tr>
<td>Level 1 Examples</td>
<td>• Recognizes the multiple, often competing forces, in the health care system (e.g., names systems and providers involved test ordering and payment)</td>
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<td>• Recognizes there are different 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 and health maintenance organization</td>
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<td>• With direct supervision, completes a report following a routine patient specimen and apply appropriate coding in compliance with regulations</td>
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<tr>
<td>Level 2 Examples</td>
<td>• Understands the impact of health plans on testing workflow and reimbursement; demonstrates knowledge that is theoretical, but is not yet able to apply this knowledge to the care of patients without some direct attending input and/or prompting</td>
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<td>• Does not consistently think through clinical redesign to improve quality; does not yet modify personal practice to enhance outcomes</td>
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<td>• Completes a report following a routine patient specimen and applies appropriate coding in compliance with regulations, with oversight</td>
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<td>Level 3 Examples</td>
<td>• Understands, accesses, and analyzes his/her own individual performance data; relevant data may include:</td>
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<td>o Autopsy Case Log</td>
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<td>o Consultation logs (e.g., on call cases)</td>
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<td>o Grossing log</td>
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<td>• Uses shared decision and adapts the choice of the most cost-effective testing depending on the relevant clinical needs</td>
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<tr>
<td>Level 4 Examples</td>
<td>• Works collaboratively with the institution to improve patient resources or design the institution’s testing needs assessment, or develop/implement/assess the resulting action plans</td>
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<tr>
<td>Level 5 Examples</td>
<td>• Performs a LEAN analysis of laboratory practices to identify and modify areas of improvement to make laboratory testing more efficient</td>
</tr>
<tr>
<td>Assessment Models or Tools</td>
<td>• Direct observation</td>
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<td></td>
<td>• Audit of testing usage</td>
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<td></td>
<td>• QI project (perhaps as part of a portfolio): The resident’s QI project may serve as an excellent assessment model/tool to assess this subcompetency. The program can develop criteria to ensure the resident 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).</td>
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<tr>
<td>Notes or Resources</td>
<td>• 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></td>
</tr>
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</table>

• **Center for Medicare and Medicaid Services:** MIPS and MACRA [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)


• **The Kaiser Family Foundation:** Topics include health reform, health costs, Medicare, Medicare, private insurance, uninsured: [www.kff.org](http://www.kff.org) and [http://kff.org/health-reform/](http://kff.org/health-reform/)


• **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)


<table>
<thead>
<tr>
<th><strong>Systems-Based Practice 4</strong></th>
<th><strong>Informatics (AP/CP)</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Overall Intent</strong></td>
<td>To acquire the knowledge, skills, and tools that will enable collection, management, use, and sharing of data and information to support the delivery of accurate, high-quality health care and promote optimal patient outcomes</td>
</tr>
</tbody>
</table>
| **Level 1 Examples** | • Explains the salient differences and similarities among pathology informatics, bioinformatics, public health informatics, health care information technology, and health knowledge informatics  
• Describes the major types and components of computer hardware, software, and computer networks  
• Defines the types and roles of standards used in pathology informatics  
• Understands the fundamentals of databases and how data storage affects data retrieval |
| **Level 2 Examples** | • Describes LISs and other major systems to which they are connected and the role they play in laboratory operations and health care delivery  
• Describes patient and asset identification standards and tracking systems and how they are used to maximize patient safety and laboratory workflow  
• Discusses potential roles, uses, and limitations of whole slide imaging (WSI) in the laboratory setting |
| **Level 3 Examples** | • Explains the role and responsibility of pathologists with regard to selection, oversight, and use of informatics systems in the laboratory |
| **Level 4 Examples** | • Contributes to analysis and interpretation of integrated pathology and enterprise data sets for improving care, quality, and increasing the efficiency of care delivery |
| **Level 5 Examples** | • Identifies and resolve issues, potential problems, and challenges in EHR handling of laboratory test results.  
• Identifies opportunities to modify the LIS to improve operations |
| **Assessment Models or Tools** | • Completion of University of Pathology Informatics (UPI) or Pathology Informatics Essentials for Residents (PIER) Assessment tools.  
• Direct observation: how residents reflect their knowledge of LIS components in the health care system in the care of patients  
• Portfolio of completed projects |
| **Notes or Resources** | • ASCP University of Pathology Informatics (UPI): https://www.ascp.org/store/productlisting/productdetail?productId=59699545  
• Pathology Informatics Essentials for Residents (PIER): https://www.apcprods.org/pier  
### Systems-Based Practice 5: Accreditation, Compliance, and Quality (AP/CP)

<table>
<thead>
<tr>
<th>Overall Intent</th>
<th>To gain in-depth knowledge of the components of laboratory accreditation, regulatory compliance, and quality management</th>
</tr>
</thead>
<tbody>
<tr>
<td>Level 1 Examples</td>
<td>• Attends Departmental quality assurance (QA)/quality control (QC) meetings, morbidity and mortality conferences and accreditation/regulatory summation meetings (AP/CP)</td>
</tr>
</tbody>
</table>
| Level 2 Examples | • Assesses quality of QC slides for immunohistochemical stains (AP)  
• Compares frozen section to final diagnosis for own cases (AP)  
• Interprets Levy-Jennings curves on Clinical Chemistry rotation (CP)  
• Interprets daily instrument QC and proficiency test reports (CP) |
| Level 3 Examples | • Understands that a Food and Drug Administration (FDA) inspection for blood bank is regulatory whereas an American Association of Blood Banks (AABB) inspection is for accreditation; knows that citations found on an FDA inspection carry greater consequences than deficiencies found in an accreditation inspection  
• Completes inspector training for accreditation agency (e.g., College of American Pathologists [CAP]) to understand process for achieving/maintaining regulatory/accreditation compliance  
• Begins to actively participate in regular laboratory quality management duties; compares frozen section to final diagnosis log for department, slide limit regulations for cytology, blood utilization reports (AP/CP) |
| Level 4 Examples | • Performs mock or self-inspection utilizing a CAP checklist (AP/CP)  
• Assists in developing a strategy for handling QC or proficiency testing failures |
| Level 5 Examples | • Serves on a committee for a regional or national accreditation agency (AP/CP)  
• Oversees laboratory quality management as part of duties as a Medical Director (AP/CP) |

### Assessment Models or Tools
- Rotation evaluations
- Assignment of duties for Departmental or Hospital QA/QC committees
- Presentation at morbidity and mortality conferences
- Documentation of inspector training and participation in resident portfolio
- Planning and completion of QI projects

### Notes or Resources
- CAP Inspector Training  
http://www.cap.org/web/home/lab/accreditation/become-inspector?_afrLoop=218065692663920#!/%40%40%3F_afrLoop%3D218065692663920%26_adf.ctrl-state%3Ditpjf9sqr_4
### Supplemental Guide for Pathology

#### Practice-Based Learning and Improvement:

<table>
<thead>
<tr>
<th>Practice-Based Learning and Improvement 1</th>
<th>Evidence-Based Practice and Scholarship (AP/CP)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall Intent</td>
<td>To incorporate evidence into clinical practice and is involved in contributing to the body of knowledge in pathology</td>
</tr>
</tbody>
</table>
| Level 1 Examples                        | • Recognizes that molecular testing is useful in the workup for gliomas  
|                                          | • Identifies the need for an Institutional Review Board (IRB) when collecting cases for a possible research project |
| Level 2 Examples                        | • Orders a 1p-19q codeletion FISH on a glioma to look for the molecular signature of oligodendroglioma  
|                                          | • Drafts an IRB protocol with attending oversight |
| Level 3 Examples                        | • Orders newer molecular testing (isocitrate dehydrogenase [IDH] and alpha-thalassamesia/mental retardation syndrome X-linked [ATRX] studies) to further classify gliomas based on the new World Health Organization criteria  
|                                          | • Drafts an IRB protocol with minimal oversight or submits an abstract for a national meeting |
| Level 4 Examples                        | • Appropriately researches the primary literature to explain rare molecular findings that surface from additional molecular testing (e.g. FoundationOne)  
|                                          | • Submits a paper for publication |
| Level 5 Examples                        | • Moderates a discussion with clinicians over disparate molecular, morphologic, and immunohistochemical findings of a tumor to formulate the best course forward based on the primary literature  
|                                          | • Submits a grant proposal |
| Assessment Models or Tools               | • Direct observation  
|                                          | • Research portfolio  
|                                          | • Presentation  
|                                          | • Oral or written examination |
| Notes or Resources                      | • [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)  
|                                          | • Institutional IRB guidelines  
<p>|                                          | • Various journal submission guidelines |</p>
<table>
<thead>
<tr>
<th>Practice-Based Learning and Improvement 2</th>
<th>Reflective Practice and Commitment to Personal Growth (AP/CP)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall Intent</td>
<td>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 technologists, colleagues and patients (if applicable) (reflective mindfulness); develop clear objectives and goals for improvement in some form of a learning plan.</td>
</tr>
</tbody>
</table>
| Level 1 Examples                        | • Is aware of need to improve  
• Is beginning to seek ways to determine where improvements are needed and makes some specific goals that are reasonable to execute and achieve |
| Level 2 Examples                        | • Increasingly able to identify performance gaps in terms of diagnostic skills and daily work; uses feedback from others  
• After working with an attending for a week, asks him/her about performance and opportunities for improvement  
• Uses feedback with a goal of improving communication skills with technologists, peers/colleagues, staff, and patients (if applicable) the following week |
| Level 3 Examples                        | • Takes input from technologists, peers/colleagues, and supervisors to gain complex insight into personal strengths and areas to improve  
• Humbly acts on input and is appreciative and not defensive  
• Documents goals in a more specific and achievable manner, such that attaining them is reasonable and measureable |
| Level 4 Examples                        | • Is clearly in the habit of making a learning plan for each rotation  
• Consistently identifies ongoing gaps and chooses areas for further development |
| Level 5 Examples                        | • 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 |
| Assessment Models or Tools              | • Direct observation  
• Review of learning plan |
Professionalism:

<table>
<thead>
<tr>
<th>Professionalism 1</th>
<th>Professional Behavior and Ethical Principles</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall Intent</td>
<td>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</td>
</tr>
</tbody>
</table>
| Level 1 Examples  | • 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  

• 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)  

• Obtains informed consent for procedures |
| Level 2 Examples  | • Demonstrates professional behavior in routine situations and uses ethical principles to analyze straightforward situations, and can acknowledge a lapse without becoming defensive, making excuses, or blaming others  

• Apologizes for the lapse when appropriate and taking steps to make amends if needed  

• Articulates strategies for preventing similar lapses in the future |
| Level 3 Examples  | • Analyzes complex situations, such as how the clinical situation evokes strong emotions, conflicts (or perceived conflicts) between patients/providers/staff or between professional values; the resident 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)  

• Recognizes own limitations and seeks resources to help manage and resolve complex ethical situations such as:  

  o consulting with a genetic counselor about the implications of genetic testing  

  o requesting an ethics consult (e.g., Jehovah’s Witness patient with potential transfusion needs)  

  o submitting IRB review for a research project  

• Analyzes difficult real or hypothetical ethics and professionalism case scenarios or situations, recognizes own limitations, and consistently demonstrates professional behavior |
| Level 4 Examples  | • Monitors and responds to fatigue, hunger, stress, etc. in self and team members  

• Recognizes and responds effectively to the emotions of others  

• Actively seeks to consider the perspectives of others  

• Models respect for patients and expects the same from others  

• Recognizes and utilizes appropriate resources for managing and resolving ethical dilemmas (e.g., ethics consultations, literature review, risk management/legal consultation)  

• Serves as the resident member of the IRB or Ethics Committee |
## Level 5 Examples

- 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).
- 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 task force (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, trainee grievance committee, etc.).

## Assessment Models or Tools

- Direct observation
- Global evaluation
- Multisource feedback
- Mentor and program director observations
- Oral or written self-reflection (e.g., of a personal or observed lapse, ethical dilemma, or systems-level factors)
- Simulation

## Notes or Resources

- Byyny RL, Papadakis MA, Pauw DS. Medical Professionalism Best Practices. 2015 by Alpha Omega Alpha Medical Society, Menlo Park, CA.
<table>
<thead>
<tr>
<th><strong>Professionalism 2</strong></th>
<th><strong>Accountability/Conscientiousness</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Overall Intent</strong></td>
<td>To take responsibility for one’s own actions and the impact on patients and other members of the health care team</td>
</tr>
</tbody>
</table>
| **Level 1 Examples** | ● Responds promptly to reminders from program administrator to complete work hour logs  
● Timely attendance at conferences  
● Responds promptly to requests to complete preliminary anatomic diagnosis report on an autopsy (AP) |
| **Level 2 Examples** | ● Completes autopsy reports in a timely manner and recognizes when he/she will have trouble completing that task (e.g., going out of town, awaiting brain cutting) and knows deadline for autopsy completion during vacation time (AP)  
● Completes cases (any) in a timely manner, with attention to detail, including reporting of all immunohistochemical stains (AP/CP)  
● Completes routine transfusion reaction workup in advance of blood bank rounds with attending (CP)  
● Completes and documents safety modules, procedure review, and licensing requirements (e.g., administrative duties and tasks) |
| **Level 3 Examples** | ● Appropriately notifies resident on day service about overnight call events during transition of care or hand-off in order to avoid patient safety issues and compromise of patient care  
● Completes tasks in stressful situations and preempts issues that would impede completion of tasks (e.g., notifies attending of multiple competing demands on call, appropriately triages tasks, and asks for assistance from other residents or faculty members, if needed) |
| **Level 4 Examples** | ● Identifies issues that could impede other residents from completing tasks and provides leadership to address those issues (e.g., senior residents advise junior residents how to manage their time in completing patient care tasks); escalates to communicating with program director if problem requires a system-based approach and needs addressing at a higher administrative level  
● Takes responsibility for potential adverse outcomes from mishandled specimen and professionally discusses with the interprofessional team |
| **Level 5 Examples** | ● Sets up a meeting with the lead technologist to streamline a reflex testing algorithm and follows through with a system-based solution  
● Leads team to find solutions to problem |
| **Assessment Models or Tools** | ● Direct observation  
● Multisource global evaluations, including from program administrator  
● Self-evaluations and reflective tools  
● Compliance with deadlines and timelines  
● Simulation  
● Mentor and program director observations  
● Quality metrics of turnaround time on cases |
| **Notes or Resources** | ● ASA Code of ethics (https://www.asahq.org/resources/ethics-and-professionalism website insert)  
● Code of conduct from fellow/resident institutional manual  
● Expectations of residency program regarding accountability and professionalism |
<table>
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<tr>
<th>Professionalism 3</th>
<th>Self-Awareness and Help Seeking</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Overall Intent</strong></td>
<td>To identify, use, manage, improve, and seek help for personal and professional well-being for self and others</td>
</tr>
<tr>
<td><strong>Level 1 Examples</strong></td>
<td>• Accepts feedback and exhibits positive responses to criticism</td>
</tr>
<tr>
<td><strong>Level 2 Examples</strong></td>
<td>• Identifies possible sources of personal stress or lack of clinical knowledge and independently seeks help</td>
</tr>
<tr>
<td><strong>Level 3 Examples</strong></td>
<td>• With supervision, assists in developing a personal learning or action plan to address gaps in knowledge or stress and burnout for self or team</td>
</tr>
<tr>
<td><strong>Level 4 Examples</strong></td>
<td>• Independently develops personal learning or action plans for continued personal and professional growth, and limits stress and burnout for self or team</td>
</tr>
<tr>
<td><strong>Level 5 Examples</strong></td>
<td>• Mentors patients and colleagues in self-awareness and establishes health management plans to limit stress and burnout</td>
</tr>
</tbody>
</table>

**Assessment Models or Tools**
- Direct observation
- Self-assessment and personal learning plan
- Individual interview
- Group interview or discussions for team activities
- Participation in institutional well-being programs
- Mentor and program director observations
- Institutional online training modules

**Notes or Resources**
- Local resources, including Employee Assistance
- ACGME Tools and Resources on Physician Well-Being [https://www.acgme.org/What-We-Do/Initiatives/Physician-Well-Being/Resources](https://www.acgme.org/What-We-Do/Initiatives/Physician-Well-Being/Resources)
Interpersonal and Communication Skills:

<table>
<thead>
<tr>
<th>Interpersonal and Communication Skills 1</th>
<th>Practice and Patient-Centered Communication (AP/CP)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall Intent</td>
<td>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.</td>
</tr>
</tbody>
</table>
| Level 1 Examples                        | • Self-monitors and controls tone, non-verbal responses, and language and asks questions to invite patient/family participation  
• Accurately communicates their role in the health care system to patients/families  
• Identifies common communication barriers in patient care  
• Avoids medical jargon when talking to patients, makes sure communication is at the appropriate level to be understood by a lay-person |
| Level 2 Examples                        | • Establishes a developing, professional relationship with patients/families, with active listening, attention to affect, and questions that explore the optimal approach to daily tasks  
• Prior to an apheresis procedure, uses language to best explain what to expect with an understanding of the patients level of health literacy  
• Prior to an fine needle aspiration (FNA), organizes and initiates the informed consent process  
• Meets with blood donors who have been deferred from donation and explains the patient or donor safety issue  
• Understands that when sharing autopsy results that selected words may have a negative impact on family (e.g., cut-open) |
| Level 3 Examples                        | • Demonstrates respect for a Jehovah’s Witness who does not want to a transfusion with thorough explanation of the risks and alternatives  
• During an FNA, appropriately discusses the level of specimen adequacy with the patient  
• Shares autopsy findings with next of kin in a compassionate manner  
• Acknowledges uncertainty in daily tasks |
| Level 4 Examples                        | • Is an active member of patient care team in discussion with family regarding difficult to transfuse patients  
• Participates in the sharing of autopsy findings in face of family anger or medical error |
| Level 5 Examples                        | • Leads discussions related to end of life and comfort care  
• Leads the sharing of autopsy findings in face of family anger or medical error |
| Assessment Models or Tools              | • Direct observation  
• Standardized patients or structured case discussions  
• Self-assessment including self-reflection exercises  
• Kalamazoo Essential Elements Communication Checklist (Adapted)  
• Skills needed to set the state, Elicit information, Give information, Understand the patient, and End the encounter (SEGUE) |
Notes or Resources

<table>
<thead>
<tr>
<th>Interpersonal and Communication Skills 2</th>
<th>Interprofessional and Team Communication</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall Intent</td>
<td>To effectively communicate with the health care team, including both inter- and intra-departmental and consultants, in both straightforward and complex situations</td>
</tr>
</tbody>
</table>
| Level 1 Examples | • Shows respect in health care team communications through words and actions such as in requests for intraoperative consultation or clinical consultation for apheresis  
• Uses respectful communication to clerical and technical staff  
• Listens to and considers others' points of view, is nonjudgmental and actively engaged, and demonstrates humility |
| Level 2 Examples | • Verifies understanding of his/her communications within the health care team (i.e., closed loop communications, restating for critical values and unexpected diagnoses, follows up in laboratory with technologists) (AP/CP)  
• Demonstrates active listening by fully focusing on the speaker (other health care provider, patient), actively showing verbal and non-verbal signs (eye contact, posture, reflection, questioning, summarization)  
• Communicates clearly and concisely in an organized and timely manner during consultant encounters, as well as with the health care team in general  
• Seeks feedback at sign out (AP/CP) |
| Level 3 Examples | • Verifies understanding of his/her communications by restating critical values and unexpected diagnoses (AP/CP)  
• Raises concerns or provides opinions and feedback when needed to others on the team  
• Respectfully provides feedback to junior members of the medical team for the purposes of improvement or reinforcement of correct knowledge, skills, and attitudes, when appropriate |
| Level 4 Examples | • Offers suggestions to negotiate or resolve conflicts among health care team members; raises concerns or provides opinions and feedback, when needed, to superiors on the team  
• Adapts communication strategies in handling complex situations |
| Level 5 Examples | • Communicates with all health care team members, resolves conflicts, and provides feedback in any situation  
• Organizes a team meeting to discuss and resolve potentially conflicting points of view on a plan of care (e.g., therapeutic apheresis for rare neurological condition, use of rare resources) |
| Assessment Models or Tools | • Direct observation  
• Global assessment  
• Multi-source assessment  
• Simulation encounters  
• Record or chart review for professionalism and accuracy in written communications |
| Notes or Resources | • Nakhleh RE, Myers JL, Allen TC, et al. Consensus statement on effective communication of urgent diagnoses and significant, unexpected diagnoses in surgical pathology and cytopathology from... |


- Green M, Parrott T, Cook G., Improving your communication skills. BMJ 2012; 344 doi: https://doi.org/10.1136/bmj.e357

<table>
<thead>
<tr>
<th><strong>Interpersonal and Communication Skills 3</strong></th>
<th><strong>Communication within Health Care Systems</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Overall Intent</strong></td>
<td>To effectively communicate using a variety of methods</td>
</tr>
</tbody>
</table>
| **Level 1 Examples**                        | • Identifies when it is acceptable to include protected health information in various forms of communication  
• Identifies institutional and departmental communication hierarchy for concerns and safety issues |
| **Level 2 Examples**                        | • Identifies method for sharing results needing urgent attention  
• Recognizes that a communication breakdown has happened and respectfully brings the breakdown to the attention of the chief resident or faculty member  
• Reports a patient safety event |
| **Level 3 Examples**                        | • Communicates opportunities for improvement in the LIS/EHR interface  
• Knows when to direct concerns locally, departmentally, or institutionally – appropriate escalation  
• Uses appropriate method when sharing results needing urgent attention |
| **Level 4 Examples**                        | • Talks directly to a colleague about breakdowns in communication in order to prevent recurrence  
• Participates in task force to update policy for sharing abnormal results  
• Improves methods for communicating system-wide call schedules, conference scheduling, etc. |
| **Level 5 Examples**                        | • Leads a task force established by the hospital QI committee to develop a plan to improve house staff hand-offs  
• Works with Information Systems to implement improvements in the LIS/EHR interface |

**Assessment Models or Tools**  
• Observation of sign outs, observation of requests for consultations  
• 360-degree evaluation of verbal communications  
• Chart review for documented communications

**Notes or Resources**  