Supplemental Guide:
Cytopathology
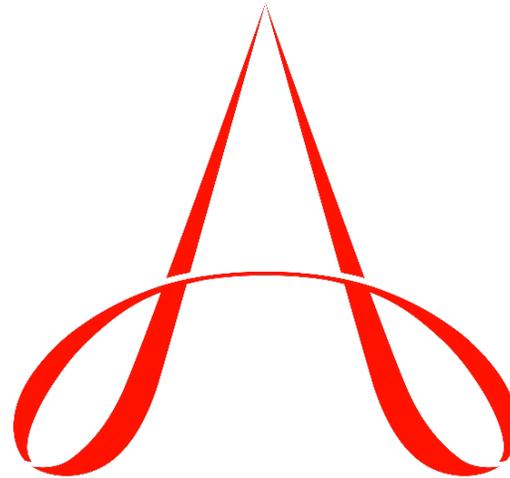
ACGME

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Milestones Supplemental Guide

This document provides additional guidance and examples for the Cytopathology 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.

Patient Care 1: Reporting	
Overall Intent: To generate effective cytopathology reports for both simple and complex cases, while using nuanced language and providing appropriate recommendations	
Milestones	**Examples**
Level 1 *Identifies the key elements of a report and demonstrates understanding of timely reporting* *Identifies the importance of a complete pathology report for optimal patient care*	● During fellowship orientation, reviews a diverse sample of completed cytopathology reports with the fellow to show the minimum required elements ● Orientation includes workflow discussion to promote timely turnaround time
Level 2 *Generates a timely report for a simple case, with assistance, using current reporting/ classification systems* *Identifies implications of the diagnosis in the report and makes simple recommendations*	● Produces a report on a fine needle aspiration (FNA) of thyroid signed out as "consistent with a benign follicular/colloid nodule;" however, the attending must modify the microscopic description to fit what is seen on slides ● Understands that a repeat atypia of undetermined significance/follicular lesion of undetermined significance interpretation will likely lead to surgery or molecular testing
Level 3 *Generates a timely report with or without ancillary testing for a complex case, with assistance; independently generates reports for a simple case* *Generates an amended/addended report that includes updated information, with assistance* *Generates a report that includes the language of uncertainty, as appropriate, with assistance*	● Generates a report on an FNA of liver using a panel of immunostains to narrow the diagnosis; the attending suggests a few additional immunostains ● Discusses the difference between an addendum and an amendment and composes an amended report or an addended report; the attending must re-word the report ● With assistance developing nuanced wording, appropriately characterizes uncertainty in the comment section when the immunostains of a FNA of the liver are non-specific but have narrowed the diagnosis to pancreaticobiliary in origin, although it is not known if it is a primary liver tumor or a metastasis
Level 4 *Independently generates timely integrated reports for complex cases* *Generates an amended/addended report and documents communication with the clinical team, as appropriate*	● Selects a reasonable and complete immunostain panel and flow cytometry on a lymphoma work-up and writes a cytopathology report with a correct diagnosis that does not need the attending's edits ● Prepares an addendum or amended cytopathology report without assistance and documents communication about the change with the clinical team as needed

Independently generates a report that includes the language of uncertainty and complex recommendations	● A patient with a history of malignant melanoma from an outside hospital in another country has an FNA of a regional lymph node away from the area of the primary malignant melanoma which is a spindle cell lesion that is negative for HMB-45, MART-1, MITF-1 but is positive for S100. The morphology of the original tumor is not known. The fellow writes up the report with the comment describing the limitations of not having the original material, the atypical location of the metastasis, the non-specific morphology taking into consideration the immunophenotype and provides a list of differential diagnoses; the attending does not need to edit the report
Level 5 *Independently generates and signs out a cytopathology report*	● With oversight supervision, composes and verifies a report containing appropriate differential diagnoses, limitations of the specificity of the immunophenotype of the tumor cells, and possible next steps on a patient with a history of breast and lung adenocarcinoma with a pleural effusion that has abnormal cells that are CK7 positive, CK20 negative and do not express GATA3, TTF1, and Napsin-A but the immunophenotype and previous cytomorphology of the adenocarcinomas are unknown.
Assessment Models or Tools	● Cytology-histology correlation ● Review of reports (real-time, under oversight supervision, or retrospective)
Curriculum Mapping	●
Notes or Resources	● Ali SZ, Cibas ES. *The Bethesda System for Reporting Thyroid Cytopathology: Definitions, Criteria, and Explanatory Notes*. 2nd ed. Switzerland: Springer International Publishing; 2018. ● College of American Pathologists. Accreditation Checklist. https://www.cap.org/laboratory-improvement/accreditation/accreditation-checklists. 2020. ● Faquin WC, Rossi ED, Baloch Z, et al. T*he Milan System for Reporting Salivary Gland Cytopathology*. Switzerland: Springer International Publishing; 2018. ● Field A, Raymond W, Schmitt F. *The International Academy of Cytology Yokohama System for Reporting Breast Fine Needle Aspiration Biopsy Cytopathology*. 1st ed. Switzerland: Springer International Publishing; 2020. ● Layfield L, Baloch Z. *The Papanicolaou Society of Cytopathology System for Reporting Respiratory Cytology*. Switzerland: Springer International Publishing; 2019. ● Nayar R, Wilbur D. *The Bethesda System for Reporting Cervical Cytology: Definitions, Criteria, and Explanatory Notes*. 3rd ed. Switzerland: Springer International Publishing; 2015. ● Pitman MB, Layfield L. *The Papanicolaou Society of Cytopathology System for Reporting Pancreaticobiliary Cytology: Definitions, Criteria and Explanatory Notes*. Switzerland: Springer International Publishing; 2015. ● Rosenthal DL, Wojcik EM, Kurtycz DFI. *The Paris System for Reporting Urinary Cytology*. Switzerland: Springer International Publishing; 2016.

Patient Care 2: Consultation	
Overall Intent: To ensure high-quality clinical case consultation, including intra- and inter-departmental, formal, and informal consultations	

Milestones	Examples
Level 1 *Describes the use of a consultation and refers to useful resources*	● Refers to testing algorithms and National Comprehensive Cancer Network (NCCN) guidelines to identify best tests to diagnose a hematolymphoid proliferative process in a 3 cm lymph node FNA from a human immunodeficiency virus (HIV) positive patient ● Shares a challenging case with intradepartmental experts
Level 2 *For simple consultations, delineates the clinical question, obtains additional information, accesses available resources, recommends next steps, and documents with assistance*	● On a pleural effusion shared by the hematopathology fellow, reviews the laboratory information system (LIS) for any previous pathology, reviews the patient history in the electronic health record (EHR) and recommends immunostains; the attending reviews concurrent outside pathology revealing a non-Hodgkin lymphoma not mentioned in the patient history and recommends a different panel of immunostains
Level 3 *For complex consultations, delineates the clinical question, obtains additional information, applies relevant resources, and recommends next steps with assistance; manages simple consultations independently*	● Triages some of the aspirate for flow cytometry and places the remainder in formalin for cell block preparation when an FNA of a 3 cm lymph node in a patient with generalized lymphadenopathy reveals a monomorphous population of atypical small lymphoid cells, but does not consult with hematopathology
Level 4 *Manages complex consultations independently*	● Consults with hematopathology upon their independent review of the cytomorphology and flow cytometry results prior to sign-out with the attending when an FNA of a 3 cm lymph node in a patient with generalized lymphadenopathy reveals a monomorphous population of atypical small lymphoid cells
Level 5 *Demonstrates expertise in providing comprehensive consultations*	● Comfortably handles "drop-in" visits by clinical teams to review cases and discusses the findings with them ● Independently prepares and conducts conferences with clinicians to review a series of cases, such as thyroid conference with the endocrinologists and surgeons
Assessment Models or Tools	● Direct observation ● Multisource evaluations ● Portfolio ● Review of on-call logs ● Simulation
Curriculum Mapping	●

Notes or Resources	● Consultation can include a variety of interactions:
	  o Clinician to fellow
	  o Fellow to attending
	  o Formal reports
	  o Nursing, physician assistant, or other health professional to fellow

	o On-call, outpatient, and inpatient o Resident to fellow o Student to fellow o Written or verbal advice and guidance ● Gupta PK, Baloch ZW. Intraoperative and on-site cytopathology consultation: utilization, limitations, and value. *Semin Diagn Pathol*. 2002;19(4):227–236. https://www.researchgate.net/publication/11001557_Intraoperative_and_on-Site_cytopathology_consultaiton_Utilization_Limitation_and_Value. 2020. ● Heher YK, Chen Y, VanderLaan PA. Measuring and assuring quality performance in cytology: A toolkit. *Cancer Cytopathol*. 2017;125(S6):502-507. https://acsjournals.onlinelibrary.wiley.com/doi/full/10.1002/cncy.21831. 2020.

Patient Care 3: Performance of Fine Needle Aspirations	
Overall Intent: To perform FNAs	

Milestones	**Examples**
Level 1 *Recognizes indications for fine needle aspirations; properly identifies patient and describes the anatomy of the area*	● When reviewing the radiologic findings of the lesion, points out and correctly identifies landmarks and vital structures to the attending
Describes potential adverse patient events of various superficial fine needle aspiration procedures	● Describes potential vasovagal reaction during FNA procedures
Level 2 *Performs a simple fine needle aspiration with appropriate patient consent and time-out with assistance (actual or simulated)*	● With an attending present, obtains informed consent and correctly performs the time-out, and then performs the FNA on a large, palpable, superficial subcutaneous abdominal mass lesion
Describes potential adverse events for specific clinical scenarios	● Following the procedure, informs the patient that although the risks are minimal, to watch out for signs of fever, pain, bleeding, and if those occur to go to an emergency room; instructs the patient not to take anti-inflammatory medications that inhibit platelets ● Describes pneumothorax as a potential complication of FNA of a supraclavicular lymph node
Level 3 *Independently performs a simple fine needle aspiration; performs a complex fine needle aspiration with assistance*	● Independently obtains informed consent and correctly performs the time-out, and then performs the FNA on a large, palpable, superficial subcutaneous abdominal mass lesion
Manages adverse patient events, with assistance (actual or simulated)	● On a 1 cm thyroid nodule, reviews the anatomy of the area surrounding the lesion from radiologic studies with the attending; with assistance and ultrasound guidance, performs the FNA on the thyroid nodule, being mindful of vascular structures nearby ● When the jugular vein is punctured while performing a thyroid FNA, applies prolonged pressure to the area to stop the bleeding, with the support of a nurse or attending
Level 4 *Independently performs a complex fine needle aspiration*	● For a patient on rivaroxaban with a TIRADS 4, 1.5 cm thyroid nodule, independently reviews radiology for the anatomy of the area surrounding the nodule and discusses the approach with the attending; aspirates the nodule without ultrasound guidance ● Performs a thyroid FNA independently using ultrasound guidance
Independently manages adverse patient events (actual or simulated)	● When a patient develops a large hematoma following a thyroid FNA procedure, provides ice and prolonged pressure, and advises patient to avoid aspirin and visit the emergency room if symptoms worsen

	● When the jugular vein is punctured performing a thyroid FNA, independently applies prolonged pressure to the area to stop the bleeding
Level 5 *Teaches/consults in the performance of fine needle aspirations*	● Teaches residents new to cytopathology about proper consenting procedures, time-out, different techniques of FNA, decision on gauge and size of needle for different sites, how to inform the patient on after care precautions, and how to handle adverse outcomes
Assessment Models or Tools	● Case logs ● Direct observation ● Multisource evaluation (including patient evaluation) ● Simulation on a phantom specimen
Curriculum Mapping	●
Notes or Resources	● American Association of Clinical Endocrinologists. Certification in Neck Ultrasound. https://www.aace.com/education/certification-neck-ultrasound. 2020. ● Benedict C, Rollins S. *Ultrasound Features of Superficial and Palpable Lesions*. Northfield, IL: College of American Pathologists; 2018. ● Cibas ES, Ducatman BS. *Cytology: Diagnostic Principles and Clinical Correlates*. 4th ed. Philadelphia, PA: Saunders; 2014. ● College of American Pathologists. Ultrasound-Guided Fine-Needle Aspiration Advanced Practical Pathology Program (USFNA AP3). https://learn.cap.org/activity/3371965/detail.aspx. 2020. ● Papanicolaou Society of Cytopathology. http://www.papsociety.org/. 2020. ● Pathology Outlines. Superficial FNA Procedure: Contraindications and Complications. https://www.pathologyoutlines.com/topic/cytopathologypgfnacontraindications.html. 2020. ● Rollins SD. Teaching FNA techniques and ultrasounds guided FNA. *Cancer Cytopathol*. 2019;127(1):7-8. https://acsjournals.onlinelibrary.wiley.com/doi/full/10.1002/cncy.22064. 2020. ● USCAP Your Academy. Fine Needle Aspiration Biopsy (FNA) Techniques - Dr. Britt Marie Ljung. https://www.youtube.com/watch?v=mXh9en_nCBU. 2020. ● USCAP Your Academy. Dr. Britt Marie Ljung Videos. https://www.youtube.com/playlist?list=PLaWBzZZDQvpecETKjD7_gupwB34tlcOWZ. 2020. ● VanderLaan PA. Fine-needle aspiration and core needle biopsy: An update on 2 common minimally invasive tissue sampling modalities. *Cancer Cytopathol*. 2016;124(12):862-870. https://acsjournals.onlinelibrary.wiley.com/doi/full/10.1002/cncy.21742. 2020.

Patient Care 4: Adequacy (Rapid On-Site Evaluation (ROSE)) and Triage	
Overall Intent: To review cytologic specimens for adequacy and triage	
Milestones	**Examples**
Level 1 *Describes adequacy criteria for different specimen types* *Describes options for specimen triage*	● Describes adequacy criteria of cytology specimens commonly receiving ROSE in terms of cellularity, preservation, and visualization ● Describes the utility of collection in formalin for cell blocks, in Roswell Park Memorial Institute for flow cytometry or in culture medium for microbiology, as indicated
Level 2 *Provides appropriate assessment of adequacy interpretations and communicates results, with assistance* *Suggests appropriate specimen triage*	● When an FNA of a fluctuant, tender, and warm mass lesion, yields numerous neutrophils, discusses this with the attending and tells the clinician the aspirate is adequate and most likely represents an abscess formation ● Decides to make a cell block to do stains for acid-fast bacilli and fungi and sends material to the microbiology laboratory
Level 3 *Independently provides appropriate assessment of adequacy interpretations and communicates results for simple cases* *Independently triages simple cases*	● When an FNA of a fluctuant, tender, and warm mass lesion yields numerous neutrophils, tells the clinician the aspirate is adequate and most likely represents an abscess formation, decides to make a cell block to do stains for acid-fast bacilli and fungi, and sends material to the microbiology laboratory ● Under supervision, performs a ROSE procedure on a spinal cord compression and makes a diagnosis of malignancy, enabling the clinician to appropriately triage the patient for treatment
Level 4 *Independently provides appropriate assessment and communicates results for simple and complex cases* *Independently triages simple and complex cases*	● During a ROSE procedure, reviews the first FNA smear, recognizes a small round blue cell tumor, and from the clinical history, suspects a non-Hodgkin lymphoma; requests additional aspirations for flow cytometry and cell block for potential immunostains and/or molecular studies
Level 5 *Teaches/consults in assessment of adequacy interpretations* *Teaches/consults in specimen triage*	● Instructs other learners on adequacy and triage of an endobronchial ultrasound-guided mediastinal lymph node FNA
Assessment Models or Tools	● Case Logs ● Correlation of on-site adequacy and triage with final diagnosis at case sign-out ● Direct observation ● Multisource evaluation

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Curriculum Mapping	●
Notes or Resources	● Cai G, Adeniran AJ. *Rapid On-site Evaluation (ROSE) A Practical Guide*. Switzerland: Springer International Publishing; 2019. ● Jain D, Allen TC, Aisner DL, et al. Rapid on-site evaluation of endobronchial ultrasound-guided transbronchial needle aspirations for the diagnosis of lung cancer: A perspective from members of the Pulmonary Pathology Society. *Arch Pathol Lab Med*. 2018;142(2):253-262. https://www.archivesofpathology.org/doi/10.5858/arpa.2017-0114-SA?url_ver=Z39.88-2003&rfr_id=ori:rid:crossref.org&rfr_dat=cr_pub%3dpubmed. 2020. ● Santos GC, Ko HM, Saieg MA, Geddie WR. "The petals and thorns" of ROSE (rapid on-site evaluation). *Cancer Cytopathology*. 2013;121(1):4-8. https://acsjournals.onlinelibrary.wiley.com/doi/full/10.1002/cncy.21215. 2020.

Patient Care 5: FNA Slide and Core Biopsy Touch Preparations	
Overall Intent: To prepare, fix, and stain thin and even smears and touch preparations	

Milestones	Examples
Level 1 *Describes methods and importance of fine needle aspiration, smears, touch preparations, and staining techniques*	● Describes how to prepare, fix, and stain a specimen obtained from an FNA ● Describes how to prepare and stain a touch preparation from a core biopsy obtained during an image-guided biopsy
Level 2 *Prepares a touch/smear and stains a slide for a simple specimen (simulated or actual)*	● Simulates smearing technique by using hand cream on glass slides ● Smears, fixes, and stains FNA from a thyroid aspirate, with guidance
Level 3 *Independently prepares touch/smear and stains slides for a simple specimen*	● Smears, fixes, and stains FNA from a thyroid aspirate ● Prepares an adequate, well-stained touch preparation from an image-guided core biopsy of a 2.5 cm spiculated lung mass, without introducing crush artifact on the core biopsy
Level 4 *Independently prepares touch/smear and stains slides for a complex specimen*	● Makes adequate smears during an endobronchial ultrasound procedure when multiple aspirations come rapidly ● Divides abundant or bloody sample across multiple slides ● Handles multiple touch preparations from core biopsies of a 2.5 cm spiculated lung mass, previously diagnosed as adenocarcinoma for molecular testing and/or clinical trial collection
Level 5 *Teaches/consults on techniques for touch preparations, smearing, and staining*	● Provides consultation to cytotechnologist in complex specimen preparation ● Troubleshoots issues with touch preparations and gives guidance on technique to individual preparing the slide
Assessment Models or Tools	● Direct observation ● Multisource evaluation ● Simulation ● Slide review at sign-out
Curriculum Mapping	●
Notes or Resources	● Dey P. *Basic and Advanced Laboratory Techniques in Histopathology and Cytology*. Singapore: Springer; 2018. ● USCAP Your Academy. Fine Needle Aspiration Biopsy (FNA) Techniques - Rapid On Site Evaluation (Rose) Youtube Video. https://www.youtube.com/watch?v=MW1eEiwe60A&list=PLaWBzZZDQvpecETKjD7_qupwB34tlcOWZ&index=6&t=0s. 2020.

Patient Care 6: Cytoprepatory Techniques	
Overall Intent: To ensure competence in technical aspects of cytopathology laboratory management	

Milestones	Examples
Level 1 *Demonstrates knowledge of cytopreparatory techniques*	● Describes technique for making a cytospin preparation and a liquid based cervical cytology ● Describes difference between progressive and regressive Pap staining
Level 2 *Performs cytopreparatory techniques, with assistance (actual or simulated)*	● Prepares cell blocks, cytospins, and liquid-based preparations, and performs staining with supervision
Level 3 *Independently performs multiple cytopreparatory techniques; troubleshoots technical issues with assistance*	● Independently performs two or more different cytopreparatory techniques ● Works with laboratory personnel to develop a pre-aliquot protocol to validate glacial acetic acid reprocessing for unsatisfactory cervical cytology tests caused by excess blood
Level 4 *Independently troubleshoots technical issues*	● Independently performs glacial acetic acid validation for unsatisfactory cervical cytology tests caused by excess blood ● Independently identifies the source of fungal contaminants on cytology slides
Level 5 *Provides consultation and support to supervisory cytotechnologist on technical issues*	● Supervising cytotechnologist consults the fellow on specimen received for flow cytometry in inappropriate medium
Assessment Models or Tools	● Direct observation ● Laboratory quality assurance logs ● Multisource evaluation ● Portfolio
Curriculum Mapping	●
Notes or Resources	● Bibbo M, Willbur D. *Comprehensive Cytopathology*. 4th ed. China: Saunders Elsevier; 2014. ● Gill GW. *Cytopreparation Principles & Practice*. New York, NY: Springer; 2012. ● Mais DD. *Quick Compendium of Clinical Pathology*. 4th ed. Chicago, IL: The American Society for Clinical Pathology; 2018.

Medical Knowledge 1: Diagnosis	
Overall Intent: To diagnose cytopathology specimens	

Milestones	Examples
Level 1 *Correctly describes cytomorphology* *Describes applicable ancillary studies*	● Provides a complete microscopic description ● Identifies next steps in work-up of the case
Level 2 *Provides differential diagnosis; locates and categorizes cells as normal, reactive, or neoplastic* *Suggests ancillary studies*	● Reviews an ascitic fluid from a woman with a history of ovarian serous carcinoma and recognizes sheets of cells with bland chromatin and clusters of atypical hyperchromatic cells; offers a differential diagnosis ● Suggests immunostains to differentiate Müllerian origin from mesothelial cells
Level 3 *Independently diagnoses simple cytologic cases* *Independently orders and interprets ancillary studies in simple cases*	● Reviews an ascitic fluid from a woman with a history of ovarian serous carcinoma, recognizes sheets likely to be markedly reactive mesothelial cells, and identifies clusters of malignant epithelial cells ● Orders and reviews appropriate immunostains on the cell block to differentiate Müllerian origin from mesothelial cells prior to sign-out with attending
Level 4 *Independently diagnoses simple and complex cytologic cases* *Independently orders and interprets ancillary studies in simple and complex cases*	● Reviews an ascitic fluid from a woman with a history of ovarian serous carcinoma and breast cancer, writes a microscopic description and final diagnosis that does not need editing by the attending ● Orders and reviews the minimum immunostains necessary to differentiate cells of Müllerian, breast, or mesothelial origin and writes up results that do not require editing by the attending
Level 5 *Teaches other experienced learners about cytopathology including how to select and interpret ancillary studies*	● Presents a lecture to gastroenterology clinical fellows about ROSE and cytologic diagnosis on FNA and core biopsy of pancreatic lesions ● Conducts cytopathology review sessions with pathology residents ● Serves as co-faculty at a national specialty meeting
Assessment Models or Tools	● Direct observation ● Multisource evaluation ● Portfolio ● Results of examination/testing (example ASC-PEC) ● Review and discussion of case findings and reports (real-time, sign-out, or retrospective)
Curriculum Mapping	●
Notes or Resources	● American Society of Cytopathology Progressive Evaluation of Competency Examination ● Cytopathology Journals:

<table>
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o Acta Cytologica. The Journal of Clinical Cytology and Cytopathology. https://www.karger.com/Journal/Home/254338. 2020.

o Cancer Cytopathology. https://acsjournals.onlinelibrary.wiley.com/journal/19346638. 2020.

o Cytopathology. https://onlinelibrary.wiley.com/journal/13652303. 2020.

o Diagnostic Cytopathology. https://onlinelibrary.wiley.com/journal/10970339. 2020.

o Journal of the American Society of Cytopathology. https://cytopathology.org/page/JASC. 2020.

● Cytopathology Text Books

o Bibbo M, Wilbur D. *Comprehensive Cytopathology*. 4th ed. New York, NY: Elsevier; 2014.

o Cibas ES, Ducatman BS. *Cytology: Diagnostic Principles and Clinical Correlates*. 4th ed. New York, NY: Elsevier; 2014.

o DeMay RM. *The Art and Science of Cytopathology*. Chicago, IL: American Society of Clinical Pathologists; 2012.

● Davey DD, Kaplan DR, Michael CW. Strong performance on the Progressive Evaluation of Competency fellowship final examination predicts American Board of Pathology Certification. *J Am Soc Cytopathol*. 2014;3(5):269-273. https://www.sciencedirect.com/science/article/abs/pii/S221329451400163X?via%3Dihub. 2020.

● Teaching and learning both locator and diagnostic skills is essential in attaining diagnostic expertise in cytopathology

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Medical Knowledge 2: Clinical Reasoning	
Overall Intent: To approach diagnostic work-up of cases in an informed and logical manner using appropriate resources to guide decisions	

Milestones	Examples
Level 1 *Demonstrates a basic framework for clinical reasoning* *Identifies appropriate resources to inform clinical reasoning*	● Navigates the EHR, LIS, internet, and literature to locate necessary information and assess the validity of information for cytopathology cases ● Uses the EHR to obtain clinical information to build a differential diagnosis of an FNA from a liver lesion, including medical history, radiology, viral serologies, alpha-fetoprotein levels, etc.
Level 2 *Demonstrates clinical reasoning to determine relevant information* *Selects relevant resources based on scenario to inform decisions*	● 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, textbooks, web resources, and published literature
Level 3 *Synthesizes information to inform clinical reasoning, with assistance* *Seeks and integrates evidence-based information to inform diagnostic decision making in complex cases, with assistance*	● Employs consensus guidelines data to order ancillary testing in a newly diagnosed lung adenocarcinoma ● Understands and describes the scientific basis for current screening and management guidelines for cervical cancer prevention, when interpreting a cervical cytology preparation as atypical glandular cells, favor neoplasia
Level 4 *Independently synthesizes information to inform clinical reasoning in complex cases* *Independently seeks out, analyzes, and applies relevant original research to diagnostic decision making in complex clinical cases*	● Integrates cytopathologic and molecular data to diagnose follicular patterned thyroid neoplasms ● Proactively reviews the literature and finds recent publications of a newly described entity that is a relevant differential diagnostic consideration in a current complex case and incorporates it in further work-up and reporting of the case
Level 5 *Demonstrates intuitive approach to clinical reasoning for complex cases*	● Consulted by non-cytopathology attending faculty members and/or clinicians for cytopathology expertise
Assessment Models or Tools	● Multidisciplinary conference presentations ● Multisource evaluations ● Other presentations ● Review of daily case reports ● Unknown slide conferences
Curriculum Mapping	●

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 ● Delany C, Golding C. Teaching clinical reasoning by making thinking visible: an action research project with allied health clinical educators. *BMC Med Educ*. 2014;14(20). https://bmcmededuc.biomedcentral.com/articles/10.1186/1472-6920-14-20. 2020. ● Iobst WF, Trowbride R, Philibert I. Teaching and assessing clinical reasoning through the use of entrustment. *J Grad Med Educ*. 2013;5(3):517-518. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3771188/. 2020. ● Thampy H, Willert E, Ramani S. Assessing clinical reasoning: Targeting the higher levels of the pyramid. *J Gen Intern Med*. 2019;34(8):1631–1636. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6667400/. 2020.

Systems-Based Practice 1: Patient Safety and Quality Improvement (QI)	
Overall Intent: To engage in the analysis and management of patient safety events, including relevant communication with patients, families, and health care professionals; and to conduct a QI project	
Milestones	**Examples**
Level 1 *Demonstrates knowledge of common patient safety events* *Demonstrates knowledge of how to report patient safety events* *Demonstrates knowledge of basic QI methodologies and metrics*	● Has basic knowledge of patient and laboratory safety events, reporting pathways, and QI strategies, but has not yet participated in such activities ● Differentiates between quality improvement, quality assurance, and quality control
Level 2 *Identifies system factors that lead to patient safety events* *Reports patient safety events through institutional reporting systems (simulated or actual)* *Describes departmental and institutional QI initiatives*	● Identifies and reports a patient or laboratory safety issue (simulated or actual), along with system factors contributing to that issue ● Describes improvement initiatives within their scope of practice ● Is aware of the department and institutions quality committees/ resources
Level 3 *Participates in analysis of patient safety events (simulated or actual)* *Participates in disclosure of patient safety events to clinicians and/or patients and families, as appropriate (simulated or actual)* *Participates in departmental and institutional QI initiatives*	● Reviews a patient or laboratory safety event (e.g., preparing for morbidity and mortality presentations, joining a root cause analysis group) and communicates with relevant parties ● Participates in a QI activity, though they may not have yet designed a QI project ● Participates in departmental/institutional quality committee
Level 4 *Conducts analysis of patient safety events and offers error prevention strategies (simulated or actual)*	● Collaborates with a team to lead the analysis of a patient or laboratory safety event and can competently communicate with relevant parties about those events

Discloses patient safety events to clinicians and/or patients and families, as appropriate (simulated or actual) *Demonstrates the skills required to identify, develop, implement, and analyze a QI project*	● Initiates, plans, and completes a QI project, including communication with stakeholders
Level 5 *Actively engages teams and processes to modify systems to prevent patient safety events* *Role models or mentors others in the disclosure of patient safety events* *Creates, implements, and assesses QI initiatives at the institutional or community level*	● Competently assumes a leadership role at the departmental or institutional level for patient or laboratory 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	● Chart or other system documentation by fellow ● Direct observation at bedside, in laboratory, or in meetings ● Documentation of QI or patient safety project processes or outcomes ● E-module multiple choice tests ● Multisource evaluations ● Portfolio ● Simulation
Curriculum Mapping	●
Notes or Resources	● Banks P, Brown R, Laslowski A, et al. A proposed set of metrics to reduce patient safety risk from within the anatomic pathology laboratory. *Lab Med*. 2017;48(2):195-201. https://academic.oup.com/labmed/article/48/2/195/3074797. 2020. ● Heher YK, Chen Y, VanderLaan PA. Measuring and assuring quality performance in cytology: A toolkit. *Cancer Cytopathology*. 2017;125(S6):502-507. https://acsjournals.onlinelibrary.wiley.com/doi/full/10.1002/cncy.21831. 2020. ● Institute of Healthcare Improvement. http://www.ihi.org/Pages/default.aspx. 2020.

Systems-Based Practice 2: Systems 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**
Level 1 *Demonstrates knowledge of case coordination*	● Identifies the members of the interprofessional team, including histotechnologists, cytotechnologists, laboratory technicians, pathologist assistants, other specialty physicians, nurses, and consultants, and describes each role but is not yet routinely using team members or accessing all available resources
Identifies key elements for safe and effective transitions of care and hand-offs	● Lists the essential components of an effective sign-out and care transition, including sharing information necessary for successful transitions
Demonstrates knowledge of population and community health needs and disparities	● Identifies the difference in health care disparities for a patient with a cervical cytology from a low-income free clinic versus private care
Level 2 *Coordinates care of patients in routine cases effectively using interprofessional teams*	● Contacts interprofessional team members to communicate a diagnosis of zygomycetes in a bronchoalveolar lavage specimen from a diabetic patient so therapy can be initiated
Performs safe and effective transitions of care/hand-offs in routine situations	● Provides relevant and complete information to faculty member or co-fellow/resident on pending cases before going off service
Identifies pathology's role in population and community health needs and inequities for the local population	● Describes the use of anal screening Pap tests in men who have sex with men
Level 3 *Coordinates care of patients in complex cases effectively using interprofessional teams*	● At multidisciplinary conferences, engages in appropriate discussion of patient care testing options and impact on therapy for complex pathologic cases ● Contacts interprofessional team members to discuss utility of repeat next-generation sequencing testing in a patient with progressive lung cancer
Performs safe and effective transitions of care/hand-offs in complex situations	● Before going off service, provides relevant and complete information to faculty member or co-fellow/resident on pending cases with multiple ancillary studies involving intra-departmental consultants
Identifies opportunities for pathology to participate in community and population health	● Participates in community health "See, Test, and Treat" program
Level 4 *Models effective coordination of patient-centered care among different disciplines and specialties*	● Involved in coordination of molecular testing of abnormal thyroid FNAs ● Proactively informs physician of notifiable results

Models and advocates for safe and effective transitions of care/hand-offs within and across health care delivery systems	● Performs quality reviews and correlations between cytology and biopsy results to assure appropriate follow-up ● Identifies patient populations at high risk for poor health care outcomes related to abnormal cervical cytology findings due to health care disparities and inequities in screening and implements strategies to improve care
Recommends and/or participates in changing and adapting practice to provide for the needs of communities and populations	● Volunteers to do an elective rotation at a cervical cancer screening program in a rural area of a developing country, through a global health initiative of a professional pathology organization
Level 5 *Analyzes the process of care coordination and leads in the design and implementation of improvements*	● Works with hospital or ambulatory site team members or leadership to create an ultrasound-guided fine needle aspiration clinic in a large rural community
Improves quality of transitions of care within and across health care delivery systems to optimize patient outcomes	● Identifies and implements better transitions of care/hand-off tools for cytopathology services across an integrated health care system
Leads innovations and advocates for populations and communities with health care inequities	● Designs a social determinants of health curriculum to help others learn to identify local resources and barriers to care and cytopathology test utilization
Assessment Models or Tools	● Case management quality metrics and goals mined from EHRs, LISs ● Direct observation ● Multidisciplinary conferences for complex patients/cases ● Multisource evaluation
Curriculum Mapping	●
Notes or Resources	● Aller RD. Pathology's contributions to disease surveillance: sending our data to public health officials and encouraging our clinical colleagues to do so. *Archives of Path Lab Med*. 2009;133(6):926-932. https://www.archivesofpathology.org/doi/10.1043/1543-2165-133.6.926?url_ver=Z39.88-2003&rfr_id=ori:rid:crossref.org&rfr_dat=cr_pub%3dpubmed. 2020. ● College of American Pathologists. Competency Model for Pathologists. https://learn.cap.org/content/cap/pdfs/Competency_Model.pdf. 2020. ● CAP Foundation. See, Test & Treat Program. https://foundation.cap.org/get-involved/see-test-treat-program/. 2020. ● Centers for Disease Control and Prevention (CDC). Population Health Training in Place Program (PH-TIPP). https://www.cdc.gov/pophealthtraining/whatis.html. 2020.

	● Kaplan KJ. In pursuit of patient-centered care. http://tissuepathology.com/2016/03/29/in-pursuit-of-patient-centered-care/#axzz5e7nSsAns. 2020. ● Lectures/workshops on social determinants of health or population health with identification of local resources ● Magnani B, Harubin B, Katz JF, et al. See, Test & Treat: A 5-year experience of pathologists driving cervical and breast cancer screening to undeserved and underinsured populations. *Arch Pathol Lab Med*. 2016;140(12):1411-1422. https://www.archivesofpathology.org/doi/10.5858/arpa.2016-0094-SA?url_ver=Z39.88-2003&rfr_id=ori:rid:crossref.org&rfr_dat=cr_pub%3dpubmed. 2020.

Systems-Based Practice 3: Physician Role in Health Care System	
Overall Intent: To understand the physician 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**
Level 1 *Identifies key components of the complex health care system (e.g., hospital, skilled nursing facility, finance, personnel, technology)*	● Is aware of the organizational chart of the laboratory and hospital system ● Recognizes the different payment systems (Medicare, Medicaid, the VA, and commercial third-party payers)
Describes basic health payment systems (e.g., government, private, public, uninsured care) and practice models	● Is aware of cytopathology current procedural terminology (CPT) codes
Level 2 *Describes how components of a complex health care system are interrelated, and how this impacts patient care*	● Understands the impact of health plans on testing workflow and reimbursement ● Understands the relationship between International Classification of Diseases-10 codes and cytopathology CPT codes and billing
Documents testing detail and explains the impact of documentation on billing and reimbursement	● Completes a report for a routine patient specimen and applies appropriate CPT coding in compliance with regulations
Level 3 *Discusses how individual practice affects the broader system (e.g., test use, turnaround time)*	● Understands, accesses, and analyzes own individual performance data ● Analyzes personal FNA logs for specimen adequacy and diversity
Engages with clinicians and/or patients in shared decision making, such as use of preauthorization for complex testing	● Contacts clinician to add on or cancel test orders as appropriate
Level 4 *Manages various components of the complex health care system to provide efficient and effective patient care and transitions of care*	● Works collaboratively within the laboratory to improve testing algorithms across the health care system
Practices and advocates for cost effective patient care with consideration of the limitations of each patient's payment model	● Advises when testing is appropriate in the inpatient versus outpatient setting in the context of the patient's clinical scenario
Level 5 *Advocates for or leads systems change that enhances high-value, efficient, and effective patient care and transitions of care*	● Performs a LEAN analysis of laboratory practices to identify and modify areas of improvement to make laboratory testing more efficient

Participates in health policy advocacy activities	● Attends or speaks at a legislative or other session on health care policy
Assessment Models or Tools	● Audit of test utilization ● Comparison of fellow performance to national data ● Direct observation ● Multisource evaluation ● QI project
Curriculum Mapping	●
Notes or Resources	● Agency for Healthcare Research and Quality. Measuring the Quality of Physician Care. https://www.ahrq.gov/talkingquality/measures/setting/physician/index.html. 2020. ● AHRQ. Major Physician Measurement Sets. https://www.ahrq.gov/talkingquality/measures/setting/physician/measurement-sets.html. 2020. ● American Board of Internal Medicine. QI/PI Activities. https://www.abim.org/maintenance-of-certification/earning-points/qi-pi-activities.aspx. 2020. ● The Commonwealth Fund. Health System Data Center. http://datacenter.commonwealthfund.org/?_ga=2.110888517.1505146611.1495417431-1811932185.1495417431#ind=1/sc=1. 2020. ● The Commonwealth Fund. Health Reform Resource Center. http://www.commonwealthfund.org/interactives-and-data/health-reform-resource-center#f:@facasubcategoriesfacet63677=[Individual%20and%20Employer%20Responsibility. 2020. ● Dzau VJ, McClellan M, Burke S, et al. Vital directions for health and health care: priorities from a National Academy of Medicine Initiative. *NAM Perspectives*. Discussion Paper, National Academy of Medicine, Washington, DC. https://nam.edu/vital-directions-for-health-health-care-priorities-from-a-national-academy-of-medicine-initiative/. 2020. ● The Kaiser Family Foundation. www.kff.org. 2020. ● The Kaiser Family Foundation: Topic: health reform. https://www.kff.org/topic/health-reform/. 2020.

Systems-Based Practice 4: Accreditation, Compliance, and Quality
Overall Intent: To gain in-depth knowledge of the components of laboratory accreditation, regulatory compliance, and quality management

Milestones	Examples
Level 1 *Demonstrates knowledge that laboratories must be accredited*	● Attends departmental quality assurance/quality control meetings, and accreditation/regulatory summation meetings
Discusses the need for quality control and proficiency testing	● Names laboratory and hospital accreditation agencies
Level 2 *Demonstrates knowledge of the components of laboratory accreditation and regulatory compliance (Clinical Laboratory Improvement Amendments and others), either through training or experience*	● Assesses quality of quality control slides for immunostains ● Performs cytologic-histologic correlation, with assistance ● Reviews proficiency test results with cytotechnology supervisor
Interprets quality data and charts and trends, including proficiency testing results, with assistance	● Completes College of American Pathologists (CAP) inspector training
Level 3 *Identifies the differences between accreditation and regulatory compliance; discusses the process for achieving accreditation and maintaining regulatory compliance*	● Is familiar with the CAP Laboratory Accreditation Program checklist for cytopathology; knows the difference between a Phase I and Phase II citation
Demonstrates knowledge of the components of a laboratory quality management plan	● Begins to actively participate in regular laboratory quality management duties; performs cytologic-histologic correlation independently, and reviews workload logs for cytotechnologists
Discusses implications of proficiency testing failures	● Describes what is involved in the remediation of the cytotechnologist or pathologist who fails the national gynecologic cytology proficiency test
Level 4 *Participates in an internal or external laboratory inspection*	● Performs mock or actual cytopathology laboratory inspection using the applicable CAP checklists
Reviews the quality management plan to identify areas for improvement	● Identifies an improved workflow for handling, processing, and reporting cerebrospinal fluid specimens by cytopathology and hematopathology

Performs analysis and review of proficiency testing failures and recommends a course of action, with oversight	● Assists in developing a strategy for handling gynecologic cytology proficiency testing failures
Level 5 *Serves as a resource for accreditation at the regional or national level* *Creates and follows a comprehensive quality management plan* *Formulates a response for proficiency testing failures*	● Serves on a committee for a regional or national accreditation agency ● Works with cytopathology laboratory director on laboratory quality management initiatives
Assessment Models or Tools	● Departmental, hospital or national quality assurance/quality control committee participation ● Documentation of inspector training and participation in fellow portfolio ● Multisource evaluations ● Planning and completion of QI projects ● Rotation evaluations
Curriculum Mapping	●
Notes or Resources	● Cibas ES. Laboratory Management. In: Cibus Es, Ducatman B. *Cytology: Diagnostic Principles and Clinical Correlates.* 3rd ed. Philadelphia, PA: Saunders Elsevier; 2010. ● CAP. Inspector Training Options. https://www.cap.org/laboratory-improvement/accreditation/inspector-training. 2020. ● Nayar R, Barkan GA, Benedict C, et al. Laboratory management curriculum for cytopathology subspecialty training. *J Am Soc Cytopathol.* 2018;7(2):61-78. https://www.sciencedirect.com/science/article/pii/S2213294517303794?via%3Dihub. 2020.

Systems-Based Practice 5: Utilization	
Overall Intent: To gain in-depth knowledge of the cost-effectiveness, evidence-based justification for ordering appropriate ancillary tests in the work-up of cases	
Milestones	**Examples**
Level 1 *Identifies general pathology work practices and workflow (e.g., histology, immunohistochemistry stains, chemical tests)*	● Describes laboratory steps necessary to obtain a mucin stain on a Pap-stained liquid-based preparation
Level 2 *Explains rationale for optimizing utilization*	● Recognizes adequacy criteria for PDL-1 and identifies suboptimal cases that should not be sent for PDL-1 testing
Level 3 *Identifies opportunities to optimize utilization pathology resources*	● Reviews all results for PDL-1 to identify if there is a high proportion of inadequate samples ● Works with laboratory personnel reviewing utilization data for PDL-1 testing
Level 4 *Initiates efforts to optimize utilization*	● Meets with stakeholders to brainstorm improved utilization for PDL-1 testing
Level 5 *Completes a utilization review and implements change*	● Implements a process of cell block review for adequacy prior to PDL-1 test ordering/approval
Assessment Models or Tools	● Direct observation ● Multisource evaluation ● Portfolio ● Test Utilization Committee membership
Curriculum Mapping	●
Notes or Resources	● Hauser RG, Shirts BH. Do we now know what inappropriate laboratory utilization is? An expanded systematic review of laboratory clinical audits. *AJP*. 2014;141(6):774-783. https://academic.oup.com/ajcp/article/141/6/774/1766246. 2020. ● Lewandrowski K, Black-Shaffer S. Utilization management in anatomic pathology. *Clinica Chimica Acta*. 2014;427:183-187. https://www.sciencedirect.com/science/article/abs/pii/S000989811300380X?via%3Dihub. 2020. ● Lewandrowski K, Sluss PM. *Utilization Management in the Clinical Laboratory and Other Ancillary Services*. Switzerland: Springer International Publishing; 2017. ● National Comprehensive Cancer Network (NCCN) Guidelines ● Rubinstein M, Hirsch R, Bandyopadhyay K, et al. Effectiveness of practices to support appropriate laboratory test utilization: A laboratory medicine best practices systematic review and meta-analysis. AJCP. 2018;149(3):197-221. https://academic.oup.com/ajcp/article/149/3/197/4868610. 2020.

Practice-Based Learning and Improvement 1: Evidence-Based Practice and Scholarship
Overall Intent: To incorporate evidence into clinical practice and contribute to the body of knowledge in pathology

Milestones	Examples
Level 1 *Demonstrates how to access and select applicable evidence* *Is aware of the need for patient privacy, autonomy, and consent as applied to clinical research*	● Refers to Paris criteria and up-to-date literature to apply to interpretation of urine cytology cases ● Identifies the need for Institutional Review Board (IRB) approval when collecting cases for a possible research project
Level 2 *Identifies and applies the best available evidence to guide diagnostic work-up of simple cases* *Develops knowledge of the basic principles of research (e.g., demographics, Institutional Review Board, human subjects), including how research is evaluated, explained to patients, and applied to patient care*	● Orders TTF-1 and p40 for classification of non-small cell lung carcinoma based on current evidence-based guidelines ● Completes Collaborative Institutional Training Initiative training for compliance with research ethics ● Drafts a research protocol for IRB approval with attending guidance
Level 3 *Identifies and applies the best available evidence to guide diagnostic work-up of complex cases* *Applies knowledge of the basic principles of research such as informed consent and research protocols to clinical practice, with supervision*	● Orders appropriate next-generation sequencing), immunostains, and FISH (fluorescence in situ hybridization) testing to guide personalized therapy for adenocarcinoma of the lung ● Drafts a research protocol for IRB approval with minimal attending guidance ● Submits a scientific abstract for a national/international meeting
Level 4 *Critically appraises and applies evidence to guide care, even in the face of conflicting data* *Proactively and consistently applies knowledge of the basic principles of research such as informed consent and research protocols to clinical practice*	● Understands various molecular testing options for use following an abnormal thyroid FNA result and advises on the appropriate test selection based on individual patient characteristics and morphologic findings ● Submits a research paper for publication in a peer-reviewed journal

Level 5 *Teaches others to critically appraise and apply evidence for complex cases; and/or participates in the development of guidelines* *Suggests improvements to research regulations and/or substantially contributes to the primary literature through basic, translational, or clinical research*	● Facilitates a discussion with clinicians over disparate molecular, morphologic, and immunohistochemical findings in a thyroid aspirate to formulate the best management options based on current literature ● Obtains a National Institutes of Health Career Development (K) award ● Completes a clinical research project that changes laboratory/clinical practice ● Participates as a member of a national guideline development committee
Assessment Models or Tools	● Direct observation ● Multisource evaluations ● Presentations at national meetings ● Publication record ● Research portfolio
Curriculum Mapping	●
Notes or Resources	● Collaborative Institutional Training Initiative (CITI). https://about.citiprogram.org/en/homepage/. 2020. ● Institutional IRB guidelines ● National Institutes of Health. Write Your Application. https://grants.nih.gov/grants/how-to-apply-application-guide/format-and-write/write-your-application.htm. 2020. ● U.S. National Library of Medicine. PubMed Tutorial. https://www.nlm.nih.gov/bsd/disted/pubmedtutorial/cover.html. 2020. ● Various journal submission guidelines

Practice-Based Learning and Improvement 2: Reflective Practice and Commitment to Personal Growth	
Overall Intent: To reflect on personal interactions and behaviors and their impact on others; and develop a personal improvement plan	
Milestones	**Examples**
Level 1 *Accepts responsibility for personal and professional development by establishing goals* *Identifies the gap(s) between expectations and actual performance* *Actively seeks opportunities to improve*	● Is aware of need to continuously improve ● Performs critical self-evaluation to determine where improvements are needed ● Sets specific personal goals that are relevant, and reasonable to execute, measure, and achieve
Level 2 *Demonstrates openness to receiving performance data and feedback in order to inform goals* *Analyzes and reflects on the factors which contribute to gap(s) between expectations and actual performance* *Designs and implements a learning plan, with assistance*	● Identifies performance gaps in terms of locator and diagnostic skills and other fellow expectations ● Is receptive to performance feedback from others ● Makes goals and designs an individual development plan, with mentor
Level 3 *Seeks performance data and feedback with humility* *Institutes behavioral change(s) to narrow the gap(s) between expectations and actual performance* *Independently creates and implements a learning plan*	● Proactively seeks performance feedback and opportunities for improvement, humbly acts on input, and is appreciative and not defensive ● Uses feedback on poor communication and shows improvement in communication skills with technologists, peers/colleagues, staff members, and patients ● Documents goals during fellowship in a specific, measurable and achievable manner,
Level 4 *Actively and consistently seeks performance data and feedback with humility* *Critically evaluates the effectiveness of behavioral changes in narrowing the gap(s) between expectations and actual performance*	● Regularly seeks feedback for each rotation from faculty members as well as laboratory staff members ● Consistently identifies learning gaps in the six Core Competencies and develops a plan for focused improvement in these areas

Uses performance data to measure the effectiveness of the learning plan and improves it when necessary	● Demonstrates continuous improvement through a personal portfolio and self-assessment
Level 5 *Models seeking performance data and accepting feedback with humility* *Coaches others reflective practice* *Facilitates the design and implementing learning plans for others*	● Actively discusses learning goals with supervisors and colleagues; encourages other learners on the team to consider how their behavior affects the rest of the team ● Provides mentorship to peers on reflective mindfulness ● Gives departmental wellness grand rounds ● Mentors residents in developing goals and learning plans for their pathology program
Assessment Models or Tools	● Direct observation ● Multisource evaluation ● Portfolio review ● Review of personal improvement plan ● Wellness screening tools
Curriculum Mapping	●

Notes or Resources	● American Medical Association. Physician Well-Being. https://edhub.ama-assn.org/steps-forward/module/2702556. 2020.
	● Burke AE, Benson B, Englander R, Carraccio C, Hicks PJ. Domain of competence: practice-based learning and improvement. *Acad Pediatr.* 2014;14: S38-S54. https://www.academicpedsjnl.net/article/S1876-2859(13)00333-1/fulltext. 2020.
	● Books on giving and receiving feedback:
	    ○ Bock L. *Works Rules!: Insights from Inside Google That will Transform How You Live and Lead*. New York, NY: Twelve; 2015.
	    ○ Carroll A. *The Feedback Imperative: How to Give Everyday Feedback to Speed Up Your Team's Success*. Austin, TX: River Grove Books; 2014.
	    ○ Covey SR. *The 7 Habits of Highly Effective People*. New York, NY: Free Press; 2004.
	    ○ Harvard Business Review. Giving Feedback. https://hbr.org/topic/giving-feedback. 2020.
	    ○ Lahey LL, Kegan R. *How the Way We Talk Can Change the Way We Work*. San Francisco, CA: Jossey-Bass; 2001.
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- Lockspeiser TM, Schmitter PA, Lane JL, Hanson JL, Rosenberg AA, Park YS. Assessing residents' written learning goals and goal writing skill: validity evidence for the learning goal scoring rubric. *Academic Medicine*. 2013;88(10):1558-1563. https://journals.lww.com/academicmedicine/fulltext/2013/10000/Assessing_Residents__Written_Learning_Goals_and.39.aspx. 2020.
- Sternlieb JL. A guide to introducing and integrating reflective practices in medical education. *Int J Psychiatry Med*. 2015;49(1):95-105. https://journals.sagepub.com/doi/10.2190/PM.49.1.g. 2020.

Professionalism 1: Professional Behavior and Ethical Principles	
Overall Intent: To demonstrate ethical and professional behaviors, and recognize and address lapses using appropriate resources for managing ethical and professional dilemmas	
Milestones	**Examples**
Level 1 *Demonstrates knowledge of the ethical principles underlying informed consent, surrogate decision making, advance directives, confidentiality, error disclosure, stewardship of limited resources, and related topics* *Describes when and how to appropriately report professionalism lapses, including strategies for addressing common barriers; identifies and describes potential triggers for professionalism lapses*	● Is aware how stress and fatigue can negatively impact personal interactions ● Describes when and how to appropriately report professionalism lapses and outlines strategies for addressing common barriers to reporting ● Describes the principles and all aspects of informed consent for FNA procedures
Level 2 *Analyzes straightforward situations using ethical principles* *Demonstrates insight into professional behavior in routine situations; takes responsibility for one's own professionalism lapses*	● Demonstrates professional behavior in routine situations ● Acknowledges personal lapses in professionalism without becoming defensive, making excuses, or blaming others ● Apologizes for the lapse in professionalism when appropriate and takes steps to make amends ● Articulates strategies for preventing lapses in professionalism ● Recognizes and responds effectively to the emotions of colleagues and staff members
Level 3 *Recognizes the need and uses appropriate resources to seek help in managing and resolving complex ethical situations* *Demonstrates professional behavior in complex or stressful situations*	● Appropriately responds and reports inappropriate interaction with clinical provider ● Appropriately listens and responds to an emotional patient during FNA procedures ● Holds attending providers to professionalism standards and reports lapses as appropriate
Level 4 *Independently resolves and manages complex ethical situations* *Recognizes situations that may trigger professionalism lapses and intervenes to prevent lapses in self and others*	● Reports peer to American Board of Pathology for honor code violations ● Models respect for patients and expects the same from others ● Recognizes, supports, and suggests resources for a peer struggling with substance abuse ● Serves as a fellow member of the IRB or Ethics Committee

Level 5 *Identifies and seeks to address system-level factors that induce or exacerbate ethical problems or impede their resolution* *Coaches others when their behavior fails to meet professional expectations*	● Participates in system-wide efforts to promote a culture of ethical and professional behavior through participation in a work group, committee, or task force
Assessment Models or Tools	● Direct observation ● Multisource evaluation ● Oral or written self-evaluation ● Simulation
Curriculum Mapping	●
Notes or Resources	● American Board of Internal Medicine, ACP-ASIM Foundation, European Federation of Internal Medicine. Medical professionalism in the new millennium: a physician charter. *Ann Intern Med*. 2002;136:243-246. http://abimfoundation.org/wp-content/uploads/2015/12/Medical-Professionalism-in-the-New-Millenium-A-Physician-Charter.pdf. 2020. ● American Board of Pediatrics (ABP). ABP Corporate Policy: Honor Code: Professionalism, Moral and ethical Principles. https://www.abp.org/sites/abp/files/policy-honor-code-professionalism-moral-and-ethical-principles.pdf. 2020. ● American Medical Association. Ethics. https://www.ama-assn.org/delivering-care/ama-code-medical-ethics. 2020. ● Brissette MD, Johnson K, Raciti PM, et al. Perceptions of unprofessional attitudes and behaviors: implications for faculty role modeling and teaching professionalism during pathology residency. *Arch Pathol Lab Med.* 2017;141:1349-1401. https://www.archivesofpathology.org/doi/10.5858/arpa.2016-0477-CP. 2020. ● Byyny RL, Papadakis MA, Paauw DS. *Medical Professionalism Best Practices*. Menlo Park, CA: Alpha Omega Alpha Medical Society; 2015. https://alphaomegaalpha.org/pdfs/2015MedicalProfessionalism.pdf. 2019. ● Conran RM, Powell SZ, Domen RE, et al. Development of professionalism in graduate medical education: a case-based educational approach from the College of American Pathologists' Graduate Medical Education Committee. 2018;5: 2374289518773493. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6039899/. 2020. ● Domen RE, Johnson K, Conran RM, et al. Professionalism in pathology: a case-based approach as a potential education tool. *Arch Pathol Lab Med*. 2017;141:215-219. https://www.archivesofpathology.org/doi/10.5858/arpa.2016-0217-CP?url_ver=Z39.88-2003&rfr_id=ori:rid:crossref.org&rfr_dat=cr_pub%3dpubmed. 2020.

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Professionalism 2: Accountability and 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
Level 1 *Responds promptly to instructions, requests, or reminders to complete tasks and responsibilities*	● Completes and documents administrative and licensing requirements on time ● Logs clinical and educational work hours on time ● Meets attendance requirements for mandatory conferences ● Responds to telecommunications in a timely manner
Level 2 *Takes appropriate ownership and performs tasks and responsibilities in a timely manner with attention to detail*	● Prioritizes a rush case and brings it to the attention of the attending on service ● Accepts responsibility and follows through appropriately on cases received from fellows rotating off service
Level 3 *Recognizes situations that may impact own ability to complete tasks and responsibilities in a timely manner and describes the impact on team*	● Completes transition of care prior to time away ● Completes tasks in stressful situations and preempts issues that would impede completion of tasks
Level 4 *Anticipates and intervenes in situations that may impact others' ability to complete tasks and responsibilities in a timely manner*	● Identifies issues that could impede other fellows and residents from completing tasks and provides leadership to address those issues ● Communicates with program director if problems require a system-based approach and need to be addressed at a higher administrative level ● Takes ownership for potential adverse outcomes from a mishandled specimen and professionally discusses with the interprofessional team
Level 5 *Takes ownership of system outcomes* *Designs new strategies to ensure that the needs of patients, teams, and systems are met*	● Works collaboratively with administrative leadership to streamline a reflex testing algorithm and follows through with a system-based solution
Assessment Models or Tools	● Compliance with deadlines and timelines ● Direct observation ● Multisource evaluations ● Quality metrics of turnaround time on cases ● Self-evaluation tools
Curriculum Mapping	●
Notes or Resources	● AMA. Code of Conduct and Anti-Harassment Policy. https://www.ama-assn.org/general-information/general-information/code-conduct. 2020. ● Code of conduct from training program fellow/resident institutional manual ● Expectations of fellowship program regarding accountability and professionalism

Professionalism 3: Self-Awareness and Help-Seeking	
Overall Intent: To identify resources and seek help to improve personal and professional well-being for self and others	
Milestones	**Examples**
Level 1 *Recognizes limitations in the knowledge/skills/ behaviors of self or team, with assistance* *Recognizes status of personal and professional well-being, with assistance*	● Aware of departmental and institutional resources for well-being ● Receptive to feedback from others on signs of personal stress and fatigue
Level 2 *Independently recognizes limitations in the knowledge/skills/ behaviors of self or team and seeks help when needed* *Independently recognizes status of personal and professional well-being and seeks help when needed*	● Identifies possible sources of personal stress and independently seeks help ● Recognizes stress in peers and fellow team members
Level 3 *Proposes and implements a plan to remediate or improve the knowledge/ skills/behaviors of self or team, with assistance* *Proposes and implements a plan to optimize personal and professional well-being, with assistance*	● Develops an action plan to address stress and burnout for self or team, with assistance ● Participates in planning departmental activities to enhance well-being
Level 4 *Independently develops and implements a plan to remediate or improve the knowledge/skills/ behaviors of self or team* *Independently develops and implements a plan to optimize personal and professional well-being*	● Independently develops action plans for continued personal and professional growth, and limits stress and burnout for self or team ● Participates as a member of an institutional well-being committee
Level 5 *Serves as a resource or consultant for developing a plan to remediate or improve the knowledge/ skills/behaviors* *Coaches others when responses or limitations in knowledge/skills do not meet professional expectations*	● Mentors colleagues in self-awareness ● Establishes well-being plans at the health system level to limit stress and burnout among colleagues

Assessment Models or Tools	● Direct observation ● Group interview or discussions for team activities ● Institutional online training modules ● Multisource evaluation ● Participation in institutional well-being programs ● Self-assessment and personal improvement plan
Curriculum Mapping	●
Notes or Resources	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. ● ACGME. "Well-Being Tools and Resources." https://dl.acgme.org/pages/well-being-tools-resources. Accessed 2022. ● American Board of Pediatrics. "Entrustable Professional Activities for Subspecialties." https://www.abp.org/content/entrustable-professional-activities-subspecialties. Accessed 2022. ● American Board of Pediatrics. "Medical Professionalism." https://www.abp.org/content/medical-professionalism. Accessed 2020. ● AMA. Physician Health. https://www.ama-assn.org/practice-management/physician-health. 2020. ● Conran RM, Powell SZ, Domen RE, et al. Development of professionalism in graduate medical education: a case-based educational approach from the College of American Pathologists' Graduate Medical Education Committee. *Acad Pathol*. 2018;5:2374289518773493. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6039899/. 2020. ● Hicks PJ, Schumacher D, Guralnick S, Carraccio C, Burke AE. Domain of competence: personal and professional development. *Acad Pediatr*. 2014;14(2 Suppl):S80-97. https://linkinghub.elsevier.com/retrieve/pii/S1876-2859(13)00332-X. 2020. ● Joseph L, Shaw PF, Smoller BR. Perceptions of stress among pathology residents: survey results and some strategies to reduce them. *Am J Clin Pathol*. 2007;128(6):911-919. https://academic.oup.com/ajcp/article/128/6/911/1764982. 2020. ● Local resources, including Employee Assistance programs

Interpersonal and Communication Skills 1: Patient and Family-Centered Communication	
Overall Intent: To use language and behaviors to form constructive relationships with patients; to identify and minimize communication barriers; to organize and lead communication around shared decision making	
Milestones	**Examples**
Level 1 *Uses language and nonverbal behavior to demonstrate respect and establish rapport* *Identifies common barriers to effective communication (e.g., language, disability) while accurately communicating one's own role within the health care system*	● Self-monitors and controls tone, non-verbal responses, and language and asks questions to invite patient/family participation ● Avoids medical jargon when talking to patients, and makes sure communication is at the appropriate level to be understood by a layperson ● Accurately communicates own role in the health care system to patients/families ● Identifies when a need for a translator is indicated
Level 2 *Establishes a relationship in straightforward encounters using active listening and clear language* *Identifies complex barriers to effective communication (e.g., health literacy, cultural)*	● Establishes rapport with patients/families during FNA procedures through active listening and attention to affect ● Prior to an FNA procedure, uses language to best explain what to expect tailored to the patient's level of health literacy
Level 3 *Sensitively and compassionately delivers medical information, with assistance* *When prompted, reflects on personal biases while attempting to minimize communication barriers*	● Communicates effectively with patient to explain the need for multiple FNA passes based on adequacy evaluation ● Discusses the limitations and potential complications of the FNA procedure with the patient, with assistance
Level 4 *Independently, sensitively, and compassionately delivers medical information and acknowledges uncertainty and conflict* *Independently recognizes personal biases while attempting to proactively minimize communication barriers*	● Discusses limitations of FNA sampling of a difficult location or lesion with the patient and family ● Demonstrates cultural sensitivity when interacting with patients of different backgrounds, ethnicities, or belief systems ● Demonstrates emotional intelligence when interacting with difficult patients
Level 5 *Mentors others in the sensitive and compassionate delivery of medical information*	● Teaches/models emotional intelligence and cultural sensitivity when interacting with patients and families

Models self-awareness while teaching a contextual approach to minimize communication barriers	
Assessment Models or Tools	● Direct observation ● Kalamazoo Essential Elements Communication Checklist (Adapted) ● Multisource evaluation ● Self-assessment including self-reflection exercises ● Skills needed to Set the state, Elicit information, Give information, Understand the patient, and End the encounter (SEGUE) ● Standardized patients or structured case discussions
Curriculum Mapping	●
Notes or Resources	● Dintzis SM. Improving pathologist's communication skills. *AMA J Ethics*. 2016;18(8):802-808. https://journalofethics.ama-assn.org/article/improving-pathologists-communication-skills/2016-08. 2020. ● Dintzis SM, Stetsenko GY, Sitlani CM, et al. Communicating pathology and laboratory errors: anatomic pathologists' and laboratory medical directors' attitudes and experiences. *Am J Clin Pathol*. 2011;135(5):760-765. https://academic.oup.com/ajcp/article/135/5/760/1766306. 2020. ● 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. https://www.tandfonline.com/doi/full/10.3109/0142159X.2011.531170. 2020. ● Makoul G. Essential elements of communication in medical encounters: the Kalamazoo consensus statement. *Acad Med*. 2001;76(4):390-393. https://journals.lww.com/academicmedicine/Fulltext/2001/04000/Essential_Elements_of_Communication_in_Medical.21.aspx#pdf-link. 2020. ● Makoul G. The SEGUE Framework for teaching and assessing communication skills. *Patient Educ Couns*. 2001;45(1):23-34. https://www.sciencedirect.com/science/article/abs/pii/S0738399101001367?via%3Dihub. 2020. ● Roth CG, Eldin KW, Padmanabhan V, Freidman EM. Twelve tips for the introduction of emotional intelligence in medical education. *Med Teach*. 2019:41(7):1-4. https://www.tandfonline.com/doi/full/10.1080/0142159X.2018.1481499. 2020. ● Symons AB, Swanson A, McGuigan D, Orrange S, Akl EA. A tool for self-assessment of communication skills and professionalism in residents. *BMC Med Educ*. 2009;9:1. https://bmcmededuc.biomedcentral.com/articles/10.1186/1472-6920-9-1. 2020.

Interpersonal and Communication Skills 2: Interprofessional and Team Communication **Overall Intent:** To effectively communicate with the health care team (i.e., laboratory team or interdisciplinary care team)	
Milestones	**Examples**
Level 1 *Uses language that values all members of the health care team*	● Shows respect in health care team communications through words and actions such as in requests for FNA consultation ● Uses respectful communication with clerical and technical staff members
Describes the utility of constructive feedback	● Listens to and considers others' points of view, is nonjudgmental, actively engaged, and demonstrates humility
Level 2 *Communicates information effectively with all health care team members*	● Uses closed-loop communications for notifiable results and unexpected diagnoses ● Follows up with cytotechnologists using methods of clear communication
Solicits feedback on performance as a member of the health care team	● Requests feedback following an FNA procedure
Level 3 *Uses active listening to adapt communication style to fit team needs*	● Raises concerns or provides opinions and feedback when needed to others on the team
Integrates feedback from team members to improve communication	● After receiving feedback, speaks more clearly when communicating adequacy interpretations ● Does not use sarcastic comments following feedback from colleagues
Level 4 *Coordinates recommendations from different members of the health care team to optimize patient care*	● Offers suggestions to negotiate or resolve conflicts among health care team members
Communicates feedback and constructive criticism to superiors	● Discreetly points out when attending is using disrespectful language
Level 5 *Models flexible communication strategies that value input from all health care team members, resolving conflict when needed*	● Organizes a team meeting to discuss and resolve potentially conflicting points of view on a complex plan of care
Facilitates regular health care team-based feedback in complex situations	● Leads the development of a system-wide call center for communication of notifiable results
Assessment Models or Tools	● Direct observation ● Multisource evaluation ● Record or chart review for professionalism and accuracy in written communications ● Simulation encounters

Curriculum Mapping	●
Notes or Resources	● Brissette MD, Johnson K, Raciti PM, et al. Perceptions of unprofessional attitudes and behaviors: implications for faculty role modeling and teaching professionalism during pathology residency. *Arch Pathol Lab Med*. 2017;141:1394-1401. https://www.archivesofpathology.org/doi/10.5858/arpa.2016-0477-CP. 2020. ● Conran RM, Powell SZ, Domen RE, et al. Development of professionalism in graduate medical education: a case-based educational approach from the College of American Pathologists' Graduate Medical Education Committee. 2018;5: 2374289518773493. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6039899/. 2020. ● Green M, Parrott T, Cook G., Improving your communication skills. *BMJ*. 2012;344:e357. https://www.bmj.com/content/344/bmj.e357. 2020. ● Henry SG, Holmboe ES, Frankel RM. Evidence-based competencies for improving communication skills in graduate medical education: a review with suggestions for implementation. *Med Teach*. 2013;35(5):395-403. https://www.tandfonline.com/doi/full/10.3109/0142159X.2013.769677. 2020. ● Hickner J, Thompson PJ, Wilkinson T, et al. Primary care physicians' challenges in ordering clinical laboratory tests and interpreting results. *JABFM*. 2014;27(2):268-274. https://www.jabfm.org/content/27/2/268.long. 2020. ● 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 the College of American Pathologists and Association of Directors of Anatomic and Surgical Pathology. *Arch Pathol Lab Med*. 2012;136(2):148-154. https://www.archivesofpathology.org/doi/10.5858/arpa.2011-0400-SA?url_ver=Z39.88-2003&rfr_id=ori:rid:crossref.org&rfr_dat=cr_pub%3dpubmed. 2020. ● Roth CG, Eldin KW, Padmanabhan V, Freidman EM. Twelve tips for the introduction of emotional intelligence in medical education. *Med Teach*. 2019;41(7):1-4. https://www.tandfonline.com/doi/full/10.1080/0142159X.2018.1481499. 2020.

Interpersonal and Communication Skills 3: Communication within Health Care Systems	
Overall Intent: To effectively communicate at the health systems level using a variety of methods	

Milestones	Examples
Level 1 *Safeguards patient personal health information by communicating through appropriate means as required by institutional policy (e.g., patient safety reports, cell phone/pager usage)* *Identifies institutional and departmental structure for communication of issues*	● 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 *Appropriately selects forms of communication based on context and urgency of the situation* *Respectfully communicates concerns about the system*	● Uses appropriate method of communication when sharing results needing urgent attention ● Recognizes that a communication breakdown has happened and respectfully brings the breakdown to the attention of the chief fellows or faculty member
Level 3 *Communicates while ensuring security of personal health information, with guidance* *Uses institutional structure to effectively communicate clear and constructive suggestions to improve the system*	● Communicates opportunities for improvement in the LIS/EHR interface with attending assistance ● Knows appropriate escalation protocol (when to direct concerns locally, departmentally, or institutionally) ● Reports a patient safety event through applicable channels
Level 4 *Independently communicates while ensuring security of personal health information* *Initiates conversations on difficult subjects with appropriate stakeholders to improve the system*	● Talks directly to a colleague about breakdowns in communication in order to prevent recurrence ● Participates in laboratory task force to update policy for communicating cytopathology notifiable results ● Improves methods for system-wide communication of call schedules, conference scheduling, etc.
Level 5 *Guides departmental or institutional communication around policies and procedures regarding the security of personal health information*	● Participates in task force established by the hospital QI committee to develop a plan to improve communication of cytopathology notifiable results

Facilitates dialogue regarding systems issues among larger community stakeholders (e.g., institution, health care system, field)	● Works with information systems to design cytology order sets with clinical decision support in the LIS/EHR interface
Assessment Models or Tools	● Chart and pathology report review for documented communications ● Committee/taskforce participation ● Direct observation ● Multisource evaluations
Curriculum Mapping	●
Notes or Resources	● 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. *Teach Learn Med.* 2017;29(4):420-432. https://www.tandfonline.com/doi/full/10.1080/10401334.2017.1303385. 2020. ● Coiera E. Communication systems in healthcare. *Clin Biochem Rev.* 2006;27(2):89-98. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1579411/. 2020. ● Haig KM, Sutton S, Whittington J. SBAR: a shared mental model for improving communication between clinicians. *Jt Comm J Qual Patient Saf.* 2006;32(3):167-175. https://www.jointcommissionjournal.com/article/S1553-7250(06)32022-3/fulltext. 2020. ● LiVolsi VA, Leung S. Communicating critical values in anatomic pathology. *Arch Pathol Lab*. 2006;130(5):641-644. https://www.archivesofpathology.org/doi/full/10.1043/1543-2165%282006%29130%5B641%3ACCVIAP%5D2.0.CO%3B2. 2020. ● The Royal College of Pathologists. The communication of critical and unexpected pathology results. https://www.rcpath.org/uploads/assets/bb86b370-1545-4c5a-b5826a2c431934f5/The-communication-of-critical-and-unexpected-pathology-results.pdf. 2020. ● Starmer AJ, et al. I-pass, a mnemonic to standardize verbal handoffs. *Pediatrics*. 2012;129(2):201-204. https://pediatrics.aappublications.org/content/129/2/201?sso=1&sso_redirect_count=1&nfstatus=401&nftoken=00000000-0000-0000-0000-000000000000&nfstatusdescription=ERROR%3a+No+local+token. 2020.

In an effort to aid programs in the transition to using the new version of the Milestones, the original Milestones 1.0 have been mapped to the new Milestones 2.0. Below it is indicated where the subcompetencies are similar between versions. These are not exact matches but include some of the same elements. Not all subcompetencies map between versions. Inclusion or exclusion of any subcompetency does not change the educational value or impact on curriculum or assessment.

Milestones 1.0	Milestones 2.0
PC1: Patient Safety	None
PC2: Procedure	PC3: Performance of Fine Needle Aspirations PC4: Adequacy (Rapid On-Site Evaluation) and Triage
No match	PC2: Consultation
No match	PC5: Fine Needle Aspiration Slide and Core Biopsy Touch Preparations
No match	PC6: Cytopreparatory Techniques
MK1: Interpretation and Diagnosis	MK1: Diagnosis
MK2: Interpretation and Diagnosis (Cervical Cancer Screening)	MK1: Diagnosis
None	MK2: Clinical Reasoning
SBP1: Regulatory and Compliance	SBP4: Accreditation, Compliance and Quality
SBP2: Health Care Teams	SBP2: Systems Navigation for Patient-Centered Care ICS2: Interprofessional and Team communication
SBP3: Lab Management: Utilizes resources (personnel and finance)	SBP3: Physician Role in Health Care System SBP5: Utilization
SBP4: Lab Management (Technical Management)	No match
SBP5: Lab Management: Quality, Risk Management, Lab Safety	SBP4: Accreditation, Compliance, and Quality
PBLI1: Scholarly Activity	PBLI1: Evidence-Based Practice and Scholarship
PBLI2: Evidence-based Utilization	PBLI1: Evidence-Based Practice and Scholarship SBP5: Utilization
PROF1: Receives and provides feedback	PBLI2: Reflective Practice and Commitment to Personal Growth
PROF2: Demonstrates accountability, honesty, and integrity	PROF1: Professional Behavior and Ethical Principles PROF2: Accountability and Conscientiousness PROF3: Self-Awareness and Help-Seeking
PROF3: Demonstrates cultural competency	SBP2: Systems Navigation for Patient-Centered Care ICS1: Patient- and Family-Centered Communication
PROF4: Demonstrates personal responsibility to maintain emotional, physical, and mental health	PROF3: Self-Awareness and Help-Seeking
ICS1: Communicates with health care providers, families, and patients	PC1: Reporting

	ICS1: Patient- and Family-Centered Communication
	ICS2: Interprofessional and Team Communication
ICS2: Demonstrates personnel management and conflict resolution	ICS2: Interprofessional and Team Communication
ICS3: Intra- and Inter-departmental and Health Care Clinical Team Interactions	ICS2: Interprofessional and Team communication
No match	ICS3: Communication within Health Care Systems

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/