Supplemental Guide:

Endocrinology, Diabetes, and Metabolism

ACGME

April 2021

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Milestones Supplemental Guide

This document provides additional guidance and examples for the Endocrinology, Diabetes, and Metabolism Fellowship 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: History and Physical Examination **Overall Intent:** To evaluate all the elements relevant to an endocrine history and physical examination	
Milestones	**Examples**
Level 1 *Elicits and reports the basic elements of an endocrine-specific history for common presentations*	● Obtains history from patient with diabetes, including duration of disease and current medication regimen ● Obtains information regarding frequency of hypoglycemia and results of fingerstick glucose testing ● Determines if patient has difficult paying for test strips
Performs and reports the basic elements of an endocrine-specific physical exam for common presentations	● Calculates body mass index (BMI)
Level 2 *Elicits and concisely reports a thorough endocrine-specific history for common presentations*	● Identifies factors that contribute to fluctuations in blood sugar including cost of medications and patient's insurance status ● Asks patients about the effect of exercise on their blood sugar levels ● Asks patients if they are rationing their insulin due to costs ● Appreciates the distance a patient must travel for diabetes education when living in a rural location ● Identifies whether patients' hypoglycemic events are severe by identifying whether they need assistance to treat the hypoglycemia
Performs and concisely reports an endocrine-specific physical exam for common presentations	● Performs a full foot examination, including monofilament and vibratory sense testing
Level 3 *Efficiently elicits and concisely reports an endocrine-specific history for complex presentations*	● Asks patient using insulin pump about changes in pump settings and infusion set failures; asks questions to correlate pattern of glucose with frequency and intensity of physical activity ● Determines needs for changes in insulin pump settings in patients observing a religious fast
Performs and concisely reports an endocrine-specific physical exam for complex presentations	● Examines patient's infusion sites for signs of lipohypertrophy ● Able to perform a simple undilated direct retinal exam

Level 4 *Efficiently elicits and concisely reports an endocrine-specific history for rare endocrine presentations* *Performs and concisely reports an endocrine-specific exam for rare endocrine presentations*	● Asks patient pertinent questions about family history that might suggest a diagnosis of monogenic diabetes ● Asks patient questions specific to a secondary cause of diabetes (e.g., hemochromatosis) ● Asks about features specific to congenital generalized lipodystrophy, including presence of severe insulin resistance and polycystic ovary syndrome ● Evaluates patient for signs of skin bronzing and hepatomegaly ● Recognizes loss of subcutaneous fat in a patient with congenital generalized lipodystrophy
Level 5 *Elicits and reports atypical history or physical exam findings which deviate from usual presentations of common, complex, and rare endocrine disorders*	● Recognizes and asks questions specific to uncommon neuropathies related to diabetes, including diabetic amyotrophy ● Identifies insulin resistance-syndromes based on history features (i.e., identifying presence of other autoimmune conditions) ● Recognizes atypical skin findings in patients with diabetes (e.g., necrobiosis lipoidica and insulin-derived amyloidosis)
Assessment Models or Tools	● Direct observation ● End-of-rotation evaluations ● Evaluation of conference presentations ● Medical record (chart) audit ● Multisource feedback ● Simulations/Mini-CEX
Curriculum Mapping	●
Notes or Resources	● ABIM. Mini-CEX: Direct Observation Assessment Tool. https://www.abim.org/~/media/ABIM%20Public/Files/pdf/paper-tools/mini-cex.pdf. 2020. ● Bickley L, Szilagyi PG. *Bates' Guide to Physical Examination and History-Taking*. 11th ed. Philadelphia, PA: Wolters Kluwer Health; 2012.

Patient Care 2: Diagnostic Testing including Labs, Imaging, and Dynamic Testing **Overall Intent:** To perform and interpret appropriate laboratory, radiology, and dynamic testing to inform the differential diagnosis	
Milestones	**Examples**
Level 1 *Orders basic tests for patients with common endocrine conditions*	● Orders a thyroid-stimulating hormone level to screen for suspected thyroid disorders ● Orders A1C or fasting glucose to diagnose diabetes ● Orders thyroid uptake and scan to evaluate etiology for thyrotoxicosis ● Orders a dexamethasone suppression test in a patient with suspected Cushing's disease
Interprets basic endocrine test results	● Recognizes suppressed thyroid-stimulating hormone level as a finding in thyrotoxicosis ● Interprets A1C levels to diagnose diabetes and pre-diabetes ● Interprets thyroid uptake and scan results with attending support ● Interprets dexamethasone suppression testing and adrenocorticotropic hormone (ACTH) stimulation testing to rule out Cushing's disease and adrenal insufficiency, respectively
Level 2 *Orders targeted tests for patients with common endocrine conditions using medical evidence*	● Orders free thyroxine level to monitor replacement for a patient with central hypothyroidism ● Orders glutamic acid decarboxylase (GAD) antibody or C-peptide/glucose test to identify etiology of diabetes ● Orders lab, imaging, and dynamic tests to differentiate etiology of Cushing's or adrenal insufficiency with attending support
Independently interprets targeted tests for common endocrine conditions	● Interprets test results recognizing the impact of age and ethnicity; recognizes the differences in the normal range for thyroid-stimulating hormone between a younger and an older patient ● Appreciates differences in hemoglobin A1C between White and Black individuals ● Evaluates results from a thyroid uptake and scan to determine etiology of thyrotoxicosis ● Interprets common dynamic testing such as dexamethasone suppression testing and adrenocorticotropic hormone stimulation testing to diagnose Cushing's disease and adrenal insufficiency respectively ● Reviews the adrenocorticotropic hormone levels from an inferior petrosal sinus sampling and calculates the appropriate ratios of peripheral and central adrenocorticotropic hormone levels, with attending direction
Level 3 *Orders targeted tests for patients with complex endocrine conditions*	● Recommends ordering anti- thyroid-stimulating hormone receptor antibodies during second trimester of pregnancy in patient with Graves' disease ● Orders alpha subunit to assess a patient with thyrotoxicosis associated with non-suppressed thyroid-stimulating hormone

Interprets targeted tests for patients with complex endocrine conditions, with assistance, and identifies incongruencies	● Orders fructosamine for patient with history of hyperglycemia but normal HbA1C and sickle cell anemia ● Orders lab, imaging, and dynamic tests sequentially to differentiate etiology of Cushing's or adrenal insufficiency (i.e., adrenocorticotropic hormone /cortisol level, high/low dose dexamethasone suppression testing, role of metyrapone stimulation test and pituitary/adrenal imaging) ● Interprets the adrenocorticotropic hormone levels from an inferior petrosal sinus sampling, calculates the appropriate ratios of peripheral and central adrenocorticotropic hormone levels, and presents results to the attending ● Interprets dexamethasone suppression testing with the attending for a patient with cortisol binding globulin abnormalities ● Recognizes physiologic thyroid function test changes in the setting of critical illness and distinguishes from true thyroid dysfunction ●
Level 4 *Develops individualized cost-effective testing strategies to evaluate patients with complex endocrine conditions and avoids unnecessary testing* *Independently interprets targeted tests for patients with complex endocrine conditions and resolves incongruencies*	● Recognizes limitations of thyroid uptake and scan in patients who take amiodarone and pursues alternative diagnostic modalities ● Does not order thyroid-stimulating hormone in patients with known central hypothyroidism ● Interprets the adrenocorticotropic hormone levels from an inferior petrosal sinus sampling, calculates the appropriate ratios of peripheral and central adrenocorticotropic hormone levels, and recommends surgical intervention ● Recognizes when thyroid function tests do not align with the clinical presentation and considers biotin or other assay interference
Level 5 *Identifies, critically evaluates, and selectively uses emerging and investigational tests or procedures; questions and reports unknown and unexplained discrepancies*	● Suggests measurement of molecular markers in patient with thyroid carcinoma to identify targeted treatment options, while considering potential costs of such tests for patients that are underinsured ● Identifies Macro-thyroid-stimulating hormone in patient with clinically inconsistent thyroid-stimulating hormone results by ordering dilution and other studies (gel electrophoresis) ● Critically evaluates the results of an inferior petrosal sinus sampling where the clinical presentation is inconsistent with the findings of the inferior petrosal sinus sampling ● Uses free cortisol assay in assessment of adrenal function in patients with cirrhosis
Assessment Models or Tools	● Direct observation ● End-of-rotation evaluations ● Evaluation of conference presentations ● Medical record (chart) audit

	● Multisource feedback ● Simulations/Mini-CEX
Curriculum Mapping	●
Notes or Resources	● American College of Physicians. Controlling Health Care Costs While Promoting the Best Possible Health Outcomes. https://www.acponline.org/acp_policy/policies/controlling_healthcare_costs_2009.pdf. 2020. ● Sluss PM, Hayes FJ. Laboratory techniques for recognition of endocrine disorders. In: Melmed S, Koenig R, Rosen C, Auchus R, Goldfine A. *Williams Textbook of Endocrinology*. 14th ed. Elsevier; 2019. ● Ergin AB, Kennedy AL, Gupta MK, Hamrahian A. *The Cleveland Clinic Manual of Dynamic Endocrine Testing.* 2015th ed. Switzerland: Springer; 2015. ● Yeo KTJ, Babic N, Hannoush ZC, Weiss RE. *Endocrine testing protocols: Hypothalamic pituitary adrenal axis*. 2000. https://www.ncbi.nlm.nih.gov/books/NBK278940/. 2020. ● Soh SB, Aw TC. Laboratory testing in thyroid conditions - pitfalls and clinical utility. *Ann Lab Med*. 2019 Jan;39(1):3-14. doi: 10.3343/alm.2019.39.1.3. PMID: 30215224; PMCID: PMC6143469.

Patient Care 3: Therapeutics (Behavioral, Medications, Technology, Radiopharmaceuticals) **Overall Intent:** To prescribe and manage therapeutics for endocrine conditions	
Milestones	**Examples**
Level 1 *Prescribes basic endocrine therapeutics and describes their indications and adverse effects or reactions*	● Recommends oral bisphosphonate in patient with osteoporosis, with awareness of potential for esophagitis ● Considers how culture and/or religious belief may impact a patient's diet when managing obesity ● Considers and incorporates where patient lives (urban versus rural) when making recommendations regarding physical activity
Level 2 *Prescribes and monitors therapeutics used in patients with common endocrine conditions, based on patient factors*	● Recommends treatment with intravenous (IV) bisphosphonate in osteoporotic patient with Barrett's esophagus and prepares patient for and monitors for acute phase reaction ● Corrects secondary hyperparathyroidism before starting bisphosphonates
Level 3 *Prescribes and monitors the response to pharmacotherapy used in the management of patients with complex endocrine conditions*	● Chooses alternative osteoporosis-specific therapies in patient that develops chronic kidney disease during management of osteoporosis ● Initiates correct therapy for osteoporosis, monitoring with serial bone densitometry and assessing response based on least significant change
Level 4 *Integrates the best available evidence to prescribe, monitor, and assess the response to pharmacotherapy used in the management of patients with common, complex, and rare endocrine conditions*	● Determines when to change or discontinue osteoporosis therapy based upon patient response to current therapy and rationally chooses a sequential therapy ● Determines when to treat an adult patient with osteogenesis imperfecta ● Considers an elderly patient's long-term goals and wishes when discussing therapeutic options for metastatic thyroid cancer
Level 5 *Identifies targeted or experimental therapies for complex and rare clinical scenarios*	● Recommends treatment with asfotase alfa for patient with hypophosphatasia ● Recommends treatment with burosumab for X-linked hypophosphatasia
Assessment Models or Tools	● Direct observation ● End-of-rotation evaluations ● Evaluation of conference presentations ● Medical record (chart) audit ● Multisource feedback ● Simulations/Mini-CEX
Curriculum Mapping	●
Notes or Resources	● The American Association of Clinical Endocrinology (AACE). Disease State Resource Centers. https://pro.aace.com/resources. 2020. ● Endocrine Society. Clinical Practice Guidelines. https://www.endocrine.org/clinical-practice-guidelines. 2020.

	● Ospina NS, Maraka S, Rodriguez-Gutierrez R, Brito JP, Montori V. Navigating through clinical practice guidelines in endocrinology. In: Melmed S, Koenig R, Rosen C, Auchus R, Goldfine A. *Williams Textbook of Endocrinology*. 14th ed. Elsevier; 2019. ● Whittier D, Boyd S, Burghardt A, Paccou J, Ghasem-Zadeh A, Chapurlat R, Engelke K, Bouxsein ML. Guidelines for the assessment of bone density and microarchitecture in vivo using high-resolution peripheral quantitative computed tomography. *Osteoporos Int*. 2020;31(9):1607-1627. https://pubmed.ncbi.nlm.nih.gov/32458029/. 2020.

Patient Care 4: Procedures **Overall Intent:** To perform and interpret procedures relevant to clinical care in endocrinology, diabetes, and metabolism conditions	
Milestones	**Examples**
Level 1 *Observes and describes endocrine procedures*	● Observes attending physician perform ultrasound of the neck and identifies anatomic landmarks and needle placement in a nodule
Level 2 *Performs procedures, with significant supervision*	● Performs the complete ultrasound of the neck, identifying all anatomic landmarks and nodule characteristics with prompting; places biopsy needle in the nodule with attending physical assistance
Level 3 *Performs more complex procedures, with moderate supervision*	● Performs the complete ultrasound of the neck, identifying all anatomic landmarks and nodule characteristics without prompting; completes biopsy of nodules with some verbal guidance from attending
Level 4 *Independently performs procedures*	● Performs the complete ultrasound of the neck, identifying all anatomic landmarks and nodule characteristics without prompting; completes biopsy of nodules with adequate samples
Level 5 *Independently performs complex procedures*	● Performs the complete ultrasound of a structurally abnormal neck after surgery, identifying all anatomic landmarks and nodule characteristics without prompting; completes biopsy of masses with adequate samples
Assessment Models or Tools	● Direct observation ● Multisource feedback ● Simulation of ultrasound and fine needle aspiration (FNA) ● Training modules
Curriculum Mapping	●
Notes or Resources	● Lewiecki EM, Binkley N, Morgan SL, et al. Best practices for dual-energey x-ray absorptiometry measurement and reporting: International society for clinical densitometry guidance. *J Clin Densitom*. 2016;19(2):127-140. https://pubmed.ncbi.nlm.nih.gov/27020004/. 2020. ● Xie C, Cox P, Taylor N, LaPorte S. Ultrasonography of thyroid nodules: a pictorial review. *Insights Imaging*. 2016;7(1):77-86. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4729706/. 2020. ● Haugen BR, Alexander EK, Bible K, et al. 2015 American Thyroid Association management guidelines for adult patients with thyroid nodules and differentiated thyroid cancer. *Thyroid*. 2016;26(1):1-133. https://pubmed.ncbi.nlm.nih.gov/26462967/. 2020. ● 7. Diabetes Technology: Standards of medical care in diabetes – 2020. *Diabetes Care*. 2020;43(Suppl 1):S77-S88. https://pubmed.ncbi.nlm.nih.gov/31862750/. 2020. ● International Society for Clinical Densitometry (ISCD). https://iscd.org/. 2020. ● Endocrine Society Fellows Training Series

	● https://www.iscd.org/certification/certified-clinical-densitometrist-ccd/ ● AACE Endocrine University for Procedures

Patient Care 5: Provides Clinical Consultation **Overall Intent:** To provide integrate and comprehensive consultative care for patients in the inpatient and outpatient settings	
Milestones	**Examples**
Level 1 *Respectfully receives consultation requests and responds with assistance* *Recognizes disease acuity, with supervision*	● Responds to requests in a timely and courteous manner; offers to assist the referring provider ● Confirms with attending that an emergency department consult for possible thyroid storm should be seen promptly
Level 2 *Clearly and concisely provides consultation* *Independently recognizes disease acuity*	● Politely asks clarifying questions during a consult request call from an inpatient service and advises the team when the patient will be seen ● Independently returns to hospital after hours to evaluate a patient with suspected thyroid storm
Level 3 *Verifies understanding of recommendations with the primary team when providing consultation* *Recognizes disease acuity and prioritizes management steps*	● After first reviewing with the attending physician, conveys immediate medical management recommendations to the emergency department provider including initiation of beta blocker, antithyroid medications, steroids and possibly high-dose iodine (if appropriate), including timing and dosing of these treatments ● Considers costs of studies and therapies to patients with limited means ● For a patient with suspected thyroid storm, presents case to the attending and recommends patient be admitted to the intensive care unit (ICU)
Level 4 *Effectively conveys consultative assessment, rationale, and contingency plans to all health care team members* *Mobilizes resources to provide care in high-acuity situations*	● Monitors patient progress closely and modifies treatment plan as indicated, including heart rate and blood pressure monitoring with beta blocker; assesses need for more aggressive thyroid management, including plasmapheresis or emergent thyroidectomy ● Requests appropriate supportive consultation, including endocrine surgeon or cardiology
Level 5 *Is identified as a role model for the provision of consultative care across the spectrum of disease complexity and acuity*	● Provides education to the emergency department and intensive care teams regarding the diagnosis and management of thyroid storm
Assessment Models or Tools	● Direct observation ● Evaluation of case-based discussion or conference presentation ● Medical record (chart) audit ● Multisource feedback

Curriculum Mapping	●
Notes or Resources	● Endocrine Society. Clinical Practice Guidelines. https://www.endocrine.org/clinical-practice-guidelines. 2020. ● Sluss PM, Hayes FJ. Laboratory techniques for recognition of endocrine disorders. In: Melmed S, Koenig R, Rosen C, Auchus R, Goldfine A. *Williams Textbook of Endocrinology*. 14th ed. Elsevier; 2019.

Patient Care 6: Requests Clinical Consultation **Overall Intent:** To effectively communicate with the health care team, including consultants, in both straightforward and complex situations	
Milestones	**Examples**
Level 1 *Identifies the need to request a consultation*	● Recognizes that a patient meets criteria for parathyroidectomy
Level 2 *Clearly articulates the reason for requesting a consultation*	● Communicates diagnostic evaluation meeting surgical criteria for parathyroidectomy clearly and concisely in an organized and timely manner
Level 3 *Checks one's own understanding of recommendations when receiving consultation*	● Discusses with surgical team the plan for four-gland exploration versus minimally invasive parathyroidectomy
Level 4 *Coordinates recommendations from different consultants to optimize patient care*	● For a high-risk cardiac patient, consults cardiology to minimize surgical risk
Level 5 *Facilitates conflict resolution between and among consultants when disagreement exists*	● Resolves conflict between cardiology and surgery regarding timing of surgery
Assessment Models or Tools	● Direct observation ● Evaluation of case-based discussion or conference presentation ● Medical record (chart) audit ● Multisource feedback
Curriculum Mapping	●
Notes or Resources	● Green M, Parrott T, Cook G., Improving your communication skills. *BMJ*. 2012;344:e357. https://www.bmj.com/content/344/bmj.e357. 2020. ● François J. Tool to assess the quality of consultation and referral request letters in family medicine. *Can Fam Physician*. 2011;57(5):574–575. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3093595/. 2020. ● American Medical Association. Consultation, Referral, and Second Opinions. https://www.ama-assn.org/delivering-care/ethics/consultation-referral-second-opinions. 2020. ● American College of Obstetrics and Gynecology (ACOG). Seeking and Giving Consultation. https://www.acog.org/clinical/clinical-guidance/committee-opinion/articles/2007/05/seeking-and-giving-consultation. 2020. ● Podolsky A, Stern DT, Peccoralo L. The courteous consult: A CONSULT card and training to improve resident consults. *J Grad Med Educ*. 2015;7(1):113-117. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4507900/. 2020.

Medical Knowledge 1: Integration of Pathophysiology and Clinical Reasoning **Overall Intent:** To acquire and apply knowledge of endocrine pathophysiology to the understanding of endocrine clinical presentations and therapeutic options	
Milestones	**Examples**
Level 1 *Demonstrates knowledge of pathophysiology of common endocrine conditions and develops a differential diagnosis*	● Describes the pituitary-gonadal axis and hormonal disturbances that lead to amenorrhea
Level 2 *Applies knowledge of pathophysiology to explain common presentations and prioritizes the differential diagnoses and therapeutic options*	● Orders pregnancy test, followed by appropriate step-wise hormonal and radiographic testing (including luteinizing hormone, follicle stimulating hormone, thyroid-stimulating hormone, and/or prolactin) for evaluation of amenorrhea
Level 3 *Applies knowledge of pathophysiology to explain complex presentations and critically assesses diagnostic assumptions and therapeutic options*	● Recognizes hypothyroidism as a cause of hyperprolactinemia and pituitary pseudo-mass
Level 4 *Integrates advanced knowledge of pathophysiology to recognize and explain the clinical presentations of and therapeutic options for a rare condition*	● Recognizes that elevated thyroid-stimulating hormone with high free thyroxine in a patient with a pituitary adenoma could indicate a thyroid-stimulating hormone-producing adenoma causing hyperprolactinemia by stalk compression
Level 5 *Integrates knowledge of nuanced aspects of pathophysiology toward individualized diagnostic and therapeutic approaches, while challenging conventional ideas*	● When a pituitary magnetic resonance imaging (MRI) shows small lesion unlikely to cause stalk effect, recognizes that 10 percent of thyroid-stimulating hormone-producing adenoma co-secrete prolactin and the differential diagnosis of high thyroid-stimulating hormone and high free thyroxine can include thyroid hormone resistance
Assessment Models or Tools	● Conference presentations ● Direct observation ● Medical record (chart) audit ● Multisource feedback
Curriculum Mapping	●
Notes or Resources	● Endotext. https://www.endotext.org/. 2020. ● Jameson JL. *Harrison's Endocrinology*. 4th ed.China: McGraw-Hill; 2016. ● Melmed S, Koenig R, Rosen C, Auchus R, Goldfine A. *Williams Textbook of Endocrinology*. 14th ed. Elsevier; 2019.

Medical Knowledge 2: Scholarly Activity **Overall Intent:** To produce scholarly work suitable for dissemination	
Milestones	**Examples**
Level 1 *Identifies areas worthy of scholarly investigation, with supervision*	● With the assistance of a mentor, reviews the scientific literature and develops a research question related to post-gastric bypass hypoglycemia ● With the assistance of a mentor, recognizes that unnecessary laboratory tests are ordered frequently in clinic ● With assistance of a mentor, recognizes that bias may affect a provider's propensity to refer a Black patient who is obese to the weight management clinic
Level 2 *Designs a scholarly project, with supervision*	● Designs a study to evaluate their research question ● Performs an electronic health record (EHR) review that identifies frequent orders for unnecessary thyroid function tests
Level 3 *Implements a scholarly project, with supervision*	● Organizes and implements the project, appropriately records the relevant findings into a data set, and analyzes the data with assistance of relevant support staff (e.g., research assistant, statistician) ● Designs an educational intervention to reduce orders for unnecessary thyroid function tests ● Gives a lecture to internal medicine residents on management of hypothyroidism ● Designs an educational intervention to educate providers on the role that bias plays in the referral practices to the weight management clinic
Level 4 *Produces scholarly work suitable for dissemination*	● Synthesizes the relevant findings and develops an abstract suitable for presentation at a local, regional, or national meeting ● Serves on a regional or national continuing medical education meeting planning committee as a fellow representative ● Presents poster of patient safety data at the Housestaff Quality Improvement symposium ● Writes a case report for publication in a peer-reviewed journal
Level 5 *Publishes original scholarly work that has generated new medical knowledge, enduring educational materials, or process improvement*	● Presents a research project with original findings at a local, regional, or national meeting as an oral presentation ● Composes the first draft of a comprehensive chapter on an endocrine disease for a textbook ● Writes a review article for publication in a peer-reviewed journal ● Applies for a research grant ● Creates and publishes a comprehensive curriculum for the endocrinology training for internal medicine residents
Assessment Models or Tools	● Documentation of research processes or outcomes ● Peer-reviewed scholarly work

	● Presentation evaluation ● Research mentor and research staff member evaluation
Curriculum Mapping	●
Notes or Resources	● Scholarly work is demonstrated as defined in the program requirements: IV.D.3. Fellow Scholarly Activity and can include participation in grand rounds, posters, workshops, quality improvement presentations, podium presentations, grant leadership, non-peer-reviewed print/electronic resources, articles or publications, book chapters, textbooks, webinars, service on professional committees, or serving as a journal reviewer, journal editorial board member, or editor. ● Textbooks ● Workshops ● Online resources ● Mentorship ● Human Subject Protection Certification Course (e.g., CITI) ● Local Institutional Review Board (IRB) training

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; to develop and conduct a QI project	
Milestones	**Examples**
Level 1 *Identifies and reports patient safety events using the institutional reporting system and discloses them to leadership, patients, and patients' family members* *Demonstrates basic knowledge of quality improvement methodologies and metrics*	● Recognizes and reports an inpatient hypoglycemic event ● Describes fishbone tool in context of management of hip fracture patients
Level 2 *Analyzes the factors that contributed to a patient safety event* *Identifies opportunities for quality improvement projects*	● Recognizes that an inpatient hypoglycemic event is due to inappropriate timing of insulin administration ● Identifies lack of osteoporosis protocol in patients admitted for hip fracture
Level 3 *Offers prevention strategies to mitigate patient safety events* *Participates in quality improvement projects*	● Discusses barriers to appropriate timing of insulin administration and offers solutions ● Participates in project identifying root cause of missed osteoporosis treatment in post-hip fracture patients ● Participates in a QI project aimed at addressing needs in diabetes control between White and Latinx patients in the clinic
Level 4 *Participates in efforts to modify systems to prevent patient safety events* *Demonstrates the skills required to identify, develop, implement, and analyze a quality improvement project*	● Performs a root cause analysis for inappropriate timing of insulin administration ● Discusses at a clinical conference ● Works with the EHR to flag inappropriate insulin orders ● Participates in the completion of a QI project to improve post-hip fracture osteoporosis care
Level 5 *Leads efforts to modify systems to prevent patient safety events* *Leads quality improvement projects*	● Leads a hospital safety subcommittee on inpatient glycemic control ● Designs an educational program on preventing hypoglycemic events ● Designs and leads a Fracture Liaison Service ● Designs a project that addresses cultural and language barriers in the management of diabetes for Latinx population
Assessment Models or Tools	● Direct observation

	● E-module multiple choice tests ● Evaluation of case-based presentation (e.g., morbidity and mortality conference) ● Medical record (chart) audit ● Multisource feedback ● Training module (online) (e.g. Institute of Healthcare Improvement, American College of Medical Quality)
Curriculum Mapping	●
Notes or Resources	● Institute of Healthcare Improvement (IHI). http://www.ihi.org/Pages/default.aspx. 2020. ● Agency for Healthcare Research and Quality (AHRQ). Quality and Patient Safety Resources. https://www.ahrq.gov/patient-safety/resources/index.html. 2020. ● Endocrine Society. Practice and Quality Improvement. https://www.endocrine.org/improving-practice/practice-and-quality-improvements. 2020.

Systems-Based Practice 2: Coordination and Transitions of Care **Overall Intent:** To effectively navigate the health care system and collaborate with other care providers to ensure high-quality patient outcomes	
Milestones	**Examples**
Level 1 *Identifies the important elements of transitions and coordination of care*	● Explains medication changes to patients with diabetes before discharge from the hospital ● Communicates care changes to primary care provider or local outpatient endocrinologist (discharge summary) ● Lists the essential components of an I-PASS sign-out (or equivalent) and care transition hand-offs
Level 2 *Safely and effectively transitions and coordinates care of patients in routine clinical situations*	● Coordinates outpatient follow-up care with the endocrine clinic or primary care provider ● Coordinates outpatient follow-up with diabetes education and/or identifies local resources available to the patient ● Routinely uses I-PASS (or equivalent) during sign-out
Level 3 *Effectively transitions and coordinates care of patients utilizing interprofessional teams in complex clinical situations*	● Works with the social worker to coordinate care for a patient experiencing homelessness to ensure follow-up with an endocrine clinic after discharge ● Works with pharmacists, social workers, and other team members to help overcome financial barriers ● Establishes and communicates a contingency plan to the bedside health care worker and consulting team for care of an inpatient at risk for acute clinical deterioration
Level 4 *Role models effective coordination and transition of care*	● Before going on vacation, arranges patient coverage and addresses any outstanding issues ● Mentors other learners on proper use of I-PASS (or equivalent) for safe transitions of care ● Works with patients experiencing homelessness to put together the most reliable and efficient public bus route from the shelter to the clinic
Level 5 *Leads in the design and implementation of improvements to the care coordination process*	● Leads a program to arrange telemedicine follow-up for newly discharged patients with diabetes ● Develops a protocol to improve care of patients with Type 1 diabetes during pregnancy ● Develops a program for transition of care of diabetes management in the outpatient setting for undocumented population in a clinic
Assessment Models or Tools	● Direct observation ● Objective structured clinical examination (OSCE) ● Medical record (chart) audit ● Review of sign-out tools, use and review of checklists ● Multisource feedback ● Quality metrics and goals mined from EHRs

	● I-PASS hand-off curriculum
Curriculum Mapping	●
Notes or Resources	● CDC. Population Health Training in Place Program (PH-TIPP). https://www.cdc.gov/pophealthtraining/whatis.html. 2020. ● I-PASS Handoff Curriculum: Core Resident Workshop | MedEdPORTAL available at https://www.mededportal.org/doi/10.15766/mep_2374-8265.9311 ● Kaplan KJ. In pursuit of patient-centered care. http://tissuepathology.com/2016/03/29/in-pursuit-of-patient-centered-care/#axzz5e7nSsAns. 2020. ● Skochelak SE, Hawkins RE, Lawson LE, Starr SR, Borkan J, Gonzalo JD. *AMA Education Consortium: Health Systems Science*. Elsevier; 2016. ● Endocrine Society. Practice and Quality Improvement. https://www.endocrine.org/improving-practice/practice-and-quality-improvements. 2020.

Systems-Based Practice 3: Physician Role in Health Care Systems and Community Health **Overall Intent:** To understand the physician's role in the complex health care system and optimize use of the system to improve patient care	
Milestones	**Examples**
Level 1 *Identifies key components of the health care and payment systems; identifies health care needs in the community*	● Understands the impact of health plan coverage as a social determinant of patient access to prescription drugs ● Identifies that clinical documentation must include specific elements to meet coding requirements ● Recognizes bias as a contributor to health care barriers ● Identifies food insecurity as contributing to the obesity seen in the local clinic population
Level 2 *Describes how complex health care and payment systems impact patient care and contribute to health care barriers*	● Explains that improving patient satisfaction impacts patient adherence and payment to the health system ● Takes into consideration patient's prescription drug coverage when choosing an antihyperglycemic agent for treatment of diabetes ● Recognizes that appropriate documentation can influence the severity of illness determination upon discharge ● Recognizes that biases are contributing to a variation in referral for bariatric surgery in Black patients with obesity
Level 3 *Advocates within the health care system and payor to provide cost-effective, patient-centered care and reduce barriers*	● Ensures patient on prednisone undergoes bone mineral density screening ● Uses patient assistance programs to help patients obtain uncovered diabetes medications ● Completes Family Medical Leave Act (FMLA) paperwork to facilitate doctor visits ● In managing patients in continuity clinic provides information about resources for a local food bank near the patients' home
Level 4 *Advocates for adapting local practices to provide for the needs of specific populations and communities with health care needs*	● Advocates for evening or weekend clinics to provide health care access for working patients ● Advocates for consistent availability of interpreters to reduce health care barriers ● Orders local labs and provides advice via phone or video to a patient who cannot afford frequent visits to the clinic
Level 5 *Adapts local practices to provide for the needs of specific populations and communities with health care needs* *Advocates for health policy changes*	● Works with community or professional organizations to advocate for free diabetes education classes ● Improves informed consent process for non-English-speaking patients requiring interpreter services ● Advocates for health policy changes such as to lower the price of insulin ● Participates in the creation of a program that involve community health care workers to support patients with diabetes ● Designs a social and structural determinants of health curriculum to identify local resources and barriers to care

Assessment Models or Tools	● Direct observation ● Medical record (chart) audit ● Patient satisfaction data ● Multisource feedback
Curriculum Mapping	●
Notes or Resources	● Agency for Healthcare Research and Quality (AHRQ). The Challenges of Measuring Physician Quality. https://www.ahrq.gov/professionals/quality-patient-safety/talkingquality/create/physician/challenges.html. 2020. ● ● AHRQ. Major Physician Measurement Sets. https://www.ahrq.gov/professionals/quality-patient-safety/talkingquality/create/physician/measurementsets.html. 2020. ● The Kaiser Family Foundation. www.kff.org. 2020. ● The Kaiser Family Foundation. Topic: Health Reform. https://www.kff.org/topic/health-reform/. 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 Commonwealth Fund. Health System Data Center. https://datacenter.commonwealthfund.org/#ind=1/sc=1. 2020. ● American Board of Internal Medicine. QI/PI Activities. https://www.abim.org/maintenance-of-certification/earning-points/qi-pi-activities.aspx. 2020.

Practice-Based Learning and Improvement 1: Evidence-Based and Informed Practice **Overall Intent:** To incorporate evidence and patient values into clinical practice	
Milestones	**Examples**
Level 1 *Articulates clinical questions to guide evidence-based care*	● Contemplates best screening test for primary aldosteronism and uses evidence-based resources to identify the answer
Level 2 *Locates and applies the best available evidence, integrated with patient values and preferences, to the care of patients with common conditions*	● Identifies and discusses potential evidence-based treatment options for primary aldosteronism and solicits patient input
Level 3 *Locates and applies the best available evidence, integrated with patient values and preference, to the care of patients with complex and rare conditions*	● Obtains, discusses, and applies evidence for the medical treatment of a patient with primary aldosteronism who is a poor surgical candidate
Level 4 *Critically appraises conflicting or ambiguous evidence to guide individualized patient care*	● Compares and contrasts outcomes of medical versus surgical therapy for patient with primary aldosteronism to determine individualized management plan
Level 5 *Mentors others to critically appraise and apply evidence*	● Leads clinical teaching session on care for patients with primary aldosteronism, incorporating critical appraisal of available evidence
Assessment Models or Tools	● Direct observation ● Clinical conference evaluation ● Medical record (chart) audit
Curriculum Mapping	●
Notes or Resources	● U.S. National Library of Medicine. PubMed Tutorial. https://www.nlm.nih.gov/bsd/disted/pubmedtutorial/cover.html. 2020. ● Guyatt G, Rennie D, Meade MO, Cook DJ. *Users' Guides to the Medical Literature*. 3rd ed. New York, NY: Mcgraw-Hill Education; 2015. ● The Center for Evidence-Based Medicine. https://www.cebm.net/. 2020. ● Braddock CH, Edwards KA, Hasenberg NM, Laidley TL, Levinson W. Informed decision making in outpatient practice: time to get back to basics. *JAMA*. 1999;282(24):2313-2320. https://pubmed.ncbi.nlm.nih.gov/10612318/. 2020.

Practice-Based Learning and Improvement 2: Reflective Practice and Commitment to Personal Growth **Overall Intent:** To seek and accept feedback and engage in self-assessment with the goal of growth and improvement	
Milestones	**Examples**
Level 1 *Demonstrates receptiveness to feedback*	● During Diabetes Clinic was noted to have missed the foot exam and accepts that criticism
Level 2 *Modifies behavior based on feedback and establishes personal and professional goals based on gaps in knowledge and skills*	● Integrates feedback into a general study plan to improve knowledge of the management of diabetes and its complications ● Includes the foot exam on every Diabetes Clinic visit and reads about the diabetic foot exam ● Recognizes biases may have impacted care provided to patients of different social and cultural backgrounds
Level 3 *Seeks feedback; creates and implements an individualized learning plan*	● Actively solicits feedback and uses it to develop an in-depth, detailed study plan ● Seeks education on bias after noting variation in satisfaction metrics between White and Latinx patients
Level 4 *Uses performance data to assess the effectiveness of the learning plan, and improves it when necessary*	● Uses physician dashboard reports from EHR to monitor and optimize diabetes preventive care ● Audits charts to determine how often the foot exam is documented
Level 5 *Role models consistently seeking performance data with adaptability, and mentors others on reflective practice*	● Develops educational module for multidisciplinary diabetes case management ● Actively promotes comprehensive diabetes care at a community, system-wide level ●
Assessment Models or Tools	● Direct observation ● Review of learning plan ● Multisource evaluation ● Clinical care audit report ● Provide feedback to others
Curriculum Mapping	●
Notes or Resources	● EHR reports or dashboards ● Lockspeiser TM, Kaul P. Using individualized learning plans to facilitate learner-centered teaching. *J Pediatr Adolesc Gynecol*. 2016;29:214-217. https://pubmed.ncbi.nlm.nih.gov/26612117/. 2020. ● Li STT, Tancredi DJ, Co JPT, West DC. Factors associated with successful self-directed learning using individualized learning plans during pediatric residency. *Academic Pediatrics*. 2010;10:124–130. https://pubmed.ncbi.nlm.nih.gov/20206911/. 2020.

Professionalism 1: Professional Behavior and Ethical Principles **Overall Intent:** To demonstrate ethical and professional behaviors, and to effectively identify and remediate lapses	
Milestones	**Examples**
Level 1 *Demonstrates professional/ethical behavior in routine situations*	● Demonstrates respectful communication and behavior during an endocrine consult ● Is respectful of patients and peers by arriving to clinic on time
Level 2 *Demonstrates a pattern of professional/ethical behavior in routine situations and takes responsibility when there are lapses*	● When presented with a lapse in professionalism, responds appropriately and rectifies the situation ● Chooses appropriate words and actions to restore a professional relationship
Level 3 *Demonstrates a pattern of professional/ethical behavior in complex or stressful situations*	● Demonstrates professional behavior when criticized by other team members, patients, or family members ● Actively considers the perspectives of others
Level 4 *Recognizes situations that may cause professional/ethical lapses in others and intervenes to prevent lapses in oneself and others*	● Recognizes when a peer has an inappropriate post on social media and advises that it be removed ● Identifies biases and takes action to minimize them
Level 5 *Mentors others when their behavior fails to meet professional expectations*	● Mentors others when their behavior fails to meet professional expectations and creates a performance improvement plan to prevent recurrence ● Mentors others who demonstrate microaggressions towards patients or colleagues
Assessment Models or Tools	● Direct observation ● Multisource feedback ● Oral or written self-reflection ● Simulation and role playing
Curriculum Mapping	●
Notes or Resources	● American Medical Association. Ethics. https://www.ama-assn.org/delivering-care/ethics. 2020. ● 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. ● Levinson W, Ginsburg S, Hafferty FW, Lucey CR. *Understanding Medical Professionalism*. New York, NY: McGraw-Hill Education; 2014. ● Bynny RL, Paauw DS, Papadakis MA, Pfeil S. *Medical Professionalism. Best Practices: Professionalism in the Modern Era*. Menlo Park, CA: Alpha Omega Alpha Medical Society; 2017. ISBN: 978-1-5323-6516-4

	● Project Implicit. https://implicit.harvard.edu/implicit/. 2020. ● AMA. Code of Medical Ethics: Professional self-regulation. https://www.ama-assn.org/delivering-care/ethics/code-medical-ethics-professional-self-regulation. 2020. ● Moukaddam N, Flores A, Matorin A, Hayden N, Tucci VT. Difficult patients in the emergency department: Personality disorders and beyond. *Psychiatr Clin North Am*. 2017;40(3):379-395. https://pubmed.ncbi.nlm.nih.gov/28800796/. 2020.

Professionalism 2: Accountability/Conscientiousness **Overall Intent:** To take responsibility for one's own actions and their impact on patients and other members of the health care team	
Milestones	**Examples**
Level 1 *Performs tasks and responsibilities with prompting*	● Responds promptly to reminders from program administrator to complete work hour logs and evaluations; attends conferences on time
Level 2 *Performs tasks and responsibilities in a timely manner with attention to detail in routine situations*	● Independently completes administrative and clinical tasks (e.g., online learning modules, evaluations, following up on lab results in a timely fashion)
Level 3 *Performs tasks and responsibilities in a timely manner with attention to detail in complex or stressful situations*	● Notifies attending of multiple competing demands on-call, appropriately triages tasks, and asks for assistance from other learners or faculty members as needed ● Balances tasks and maintains professionalism when unexpected coverage situations occur
Level 4 *Proactively implements strategies to ensure that the needs of patients, teams, and systems are met*	● Prioritizes and reorganizes tasks based on clinical caseload and other duties to cover extended fellow absences
Level 5 *Creates strategies to enhance others' ability to efficiently complete tasks and responsibilities*	● Takes leadership role in improving the organization of complex schedules and educational sessions
Assessment Models or Tools	● Direct observation ● Multisource feedback ● Compliance with deadlines and timelines ● Attendance records ● Simulation
Curriculum Mapping	●
Notes or Resources	● Code of conduct from fellow/resident institutional manual ● AMA. Code of Medical Ethics: Professional self-regulation. https://www.ama-assn.org/delivering-care/ethics/code-medical-ethics-professional-self-regulation. 2020.

Professionalism 3: Personal and Professional Well-Being **Overall Intent:** To identify and effectively use resources for personal and professional well-being of self and others	
Milestones	**Examples**
Level 1 *Identifies elements of well-being*	● Completes training course on effects of sleep deprivation and well-being ● Completes self-assessment tools of burnout
Level 2 *Describes resources that are meant to promote well-being*	● Identifies institutional resources for assistance in wellness management
Level 3 *Recognizes status of well-being in oneself or peers and knows how to report concerns to appropriate personnel*	● Recognizes when assistance is needed and appropriately asks for help including how to handle microaggressions ● Approaches attending faculty member about a peer exhibiting signs of stress or burnout
Level 4 *Develops a plan to improve well-being of oneself or peers, including use of institutional or external resources*	● Identifies and implements a routine that promotes personal well-being (e.g., regular exercise, engaging with family and friends) ● Organizes a wellness-related event for peers
Level 5 *Creates institutional-level interventions that promote colleagues' well-being*	● Assists and participates in organizational efforts to address clinician well-being and burnout prevention ● Actively participates on the institutional well-being committee to address physician well-being
Assessment Models or Tools	● Direct observation ● Multisource evaluation ● Institutional online training modules
Curriculum Mapping	●
Notes or Resources	● This subcompetency is not intended to evaluate a resident's well-being. Rather, the intent is to ensure that each resident has the fundamental knowledge of factors that affect well-being, the mechanisms by which those factors affect well-being, and available resources and tools to improve well-being. ● Local resources, including Employee Assistance Programs ● Hicks, Patricia J., Daniel Schumacher, Susan Guralnick, Carol Carraccio, and Ann E. Burke. 2014. "Domain of Competence: Personal and Professional Development." Academic Pediatrics 14(2 Suppl): S80-97. https://www.sciencedirect.com/science/article/abs/pii/S187628591300332X. ● ACGME. "Well-Being Tools and Resources." https://dl.acgme.org/pages/well-being-tools-resources. Accessed 2022.

Interpersonal and Communication Skills 1: Patient- and Family-Centered Communication **Overall Intent:** To effectively communicate with patients and their families, promoting rapport and elimination of communication barriers	
Milestones	**Examples**
Level 1 *Uses clear language and non-verbal behavior to demonstrate respect and establish rapport* *Recognizes common barriers to effective communication (e.g., language, disability)*	● Uses audience-appropriate language when discussing planned evaluation of a patient with secondary amenorrhea ● Identifies need for trained interpreter with non-English-speaking patients ● Recognizes the need to pronounce patients' names appropriately and if unsure to ask staff or patient directly
Level 2 *Establishes a therapeutic relationship with patients using active listening and clear language in straightforward encounters* *Recognizes complex barriers to effective communication (e.g., health literacy)*	● Restates patient perspective when discussing the planned evaluation of a patient with secondary amenorrhea ● Recognizes the need for handouts with diagrams and pictures to communicate information to a patient who is unable to read ●
Level 3 *Establishes a therapeutic relationship with patients' and their families in challenging patient encounters* *Adjusts communication strategies based on identified barriers, incorporating patient and caregiver expectations and goals of care*	● Acknowledges the grief experienced by a patient with a new diagnosis of primary ovarian insufficiency who desires pregnancy ● Investigates alternatives for patients who are facing difficulties in treatment due to socioeconomic issues or cultural differences ● Proactively informs clinic staff members on the pronunciation of new patients' name
Level 4 *Independently uses shared decision making to make a personalized care plan* *Proactively improves communication by addressing barriers, and biases*	● Engages in shared decision-making process with the patient about hormone replacement and fertility options ● Uses a medical interpreter to ensure accurate communication with a patient who speaks a different language, rather than relying on family members.
Level 5 *Serves as a role model in establishing respectful, culturally sensitive, therapeutic relationships while mitigating communication barriers*	● Develops a curriculum on bias ● Serves on a hospital bioethics committee
Assessment Models or Tools	● Direct observation ● Standardized patients

	● OSCE ● Self-assessment including self-reflection exercises
Curriculum Mapping	●
Notes or Resources	● 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. ● 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. ● BRIM Initiative. Bias Reduction in Internal Medicine. https://brim.medicine.wisc.edu/. 2020. ● Mayo Clinic. Mayo Clinic Shared Decision Making National Resource Center. https://shareddecisions.mayoclinic.org/. 2020.

Interpersonal and Communication Skills 2: Interprofessional and Team Communication **Overall Intent:** To effectively communicate with the health care team to optimize patient care and the work environment	
Milestones	**Examples**
Level 1 *Uses language that is respectful and values all members of the health care team*	● Acknowledges the contribution of each member of the diabetes care team
Level 2 *Communicates basic information and provides feedback to all health care team members*	● Sends a message in the EHR to the certified diabetes educator regarding a patient with newly diagnosed diabetes who requires insulin injection training, including information on patient resource, family members who will need to assist the patient, etc. ● Informs the patient's primary care clinician about a patient being discharged on insulin therapy
Level 3 *Communicates complex information and provides difficult feedback to all health care team members*	● Communicates with all team members when a patient with multiple diabetes-related complications requires a major change to the treatment regimen, and assesses their understanding
Level 4 *Optimizes communication strategies using input from all team members to build consensus and resolve conflicts as needed*	● Communicates directly with other providers when there is a disagreement in therapeutic plan ● Initiates a multidisciplinary meeting to develop a shared care plan for a patient with thyroid cancer
Level 5 *Demonstrates leadership in promoting open and safe communication within and between teams*	● Mediates a conflict resolution between different members of the health care team
Assessment Models or Tools	● Direct observation ● Global assessment ● Multisource feedback ● Simulation ● Medical record (chart) audit
Curriculum Mapping	●
Notes or Resources	● 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. ● Buljac-Samardzic M, Doekhie KD, van Wijngaarden JDH. Interventions to improve team effectiveness within health care: A systematic review of the past decade. *Hum Resour Health*. 2020;18(1):2. https://repub.eur.nl/pub/124098. 2020.

Interpersonal and Communication Skills 3: Communication within Health Care Systems **Overall Intent:** To effectively and accurately communicate within health care systems using a variety of methods	
Milestones	**Examples**
Level 1 *Verifies and accurately records current and relevant information in the patient's chart*	● Documents the history of a patient with a thyroid nodule accurately but may include extraneous information ● Avoids copying and forwarding inaccurate or old information from a previous note ● Documents barriers to treatment that patient is facing
Level 2 *Concisely documents diagnostic and therapeutic reasoning, accurately reflecting patient course for common conditions*	● Develops an organized, concise, and accurate document that outlines clinical reasoning and supports the treatment plan for a patient with thyroid cancer ● Updates documentation to reflect interval history since the thyroid nodule biopsy
Level 3 *Concisely documents diagnostic and therapeutic reasoning, accurately reflecting patient course for complex conditions*	● Efficiently documents a complicated postoperative course in a young female patient with thyroid cancer, including anticipatory guidance about levothyroxine dose increase in case of pregnancy
Level 4 *Concisely documents diagnostic and therapeutic reasoning, accurately reflecting patient course for all conditions while satisfying institutional billing needs and compliance*	● Succinctly outlines reasoning for omitting adjuvant radioactive iodine ablation, but includes scenarios that may lead to a modification in the plan ● Consistently includes necessary documentation to support level of billing
Level 5 *Mentors others in in documenting diagnostic and therapeutic reasoning, accurately reflecting patient course* *Guides departmental or institutional documentation policy and procedures*	● Spends time reviewing student and resident patient documentation and provides feedback ● Works with radiology to correct an error on an imaging report ● Participates in the hospital documentation committee ● Leads trainings on documentation so that communication is carried efficiently between care centers
Assessment Models or Tools	● Direct observation ● Multisource feedback ● Medical record (chart) audit ● Simulation
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 Oct-Dec;29(4):420-432. ● Weis JM, Levy PC. Copy, paste, and cloned notes in electronic health records: Prevalence, benefits, risks, and best practice recommendations. *Chest*. 2014;145(3):632-638. https://www.ncbi.nlm.nih.gov/pubmed/24590024. 2020.

	● Mathioudakis A, Rousalova I, Gagnat AA, Saad N, Hardavella G. How to keep good clinical records. *Breathe (Sheff)*. 2016;12(4):369–373. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5297955/. 2020. ● Kuhn T, Basch P, Barr M, Yackel T, for the Medical Informatics Committee of the American College of Physicians. Clinical Documentation in the 21st Century: Executive summary of a policy position paper from the American College of Physicians. *Ann Intern Med*. 2015;162:301–303. https://annals.org/aim/fullarticle/2089368/clinical-documentation-21st-century-executive-summary-policy-position-paper-from. 2020.

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/