

Supplemental Guide:

Micrographic Surgery and

Dermatologic Oncology

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**Milestones Supplemental Guide**

This document provides additional guidance and examples for the Micrographic Surgery and Dermatologic Oncology 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](https://www.acgme.org/milestones/resources/) page of the Milestones section of the ACGME website.

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| **Patient Care 1: Mohs Surgery**  **Overall Intent:** To demonstrate comprehension of treatment options for skin cancer, to select appropriate patient candidates for Mohs surgery, and to execute the procedure | |
| **Milestones** | **Examples** |
| **Level 1** *Identifies appropriate use criteria for selecting cases*  *Identifies steps and instrumentation used in Mohs surgery*  *Draws a map for the first layer of Mohs surgery* | * Describes relevant zones under appropriate-use criteria * Identifies tissue forceps, scalpel, and tissue scissors as instruments included in the Mohs tray * Identifies biopsy site and describes the steps needed to perform Mohs surgery * Accurately draws circle and appropriate hashmarks on the Mohs map |
| **Level 2** *Evaluates patients according to appropriate use criteria*  *Performs first and subsequent layers of Mohs surgery of low complexity*  *Maintains orientation of tissue on a two-dimensional surface for low-complexity specimens* | * Determines appropriateness of Mohs for a focal squamous cell carcinoma in situ arising in an actinic keratosis * Performs Mohs for a nodular basal cell carcinoma on the cheek |
| **Level 3** *Considers alternative treatments*  *Performs first and subsequent layers of Mohs surgery of moderate complexity*  *Maintains orientation of tissue on three-dimensional surface for moderate-complexity specimens* | * Decides to use a hedgehog inhibitor instead of Mohs for a basal cell nevus patient * Elects a non-surgical therapy in an elderly patient * Performs all three stages of Mohs surgery for basal cell carcinoma of the nasal tip * Performs Mohs surgery for basal cell carcinoma of the conchal bowl |
| **Level 4** *Counsels patients and their families on the breadth of treatment options*  *Performs first and subsequent layers of Mohs surgery of high complexity*  *Consistently maintains orientation of tissue for high-complexity specimens* | * Discusses options with a 90-year-old female and family regarding treatment of multiple recurring bleeding basal cell carcinoma on the nasal tip * Performs Mohs surgery for sebaceous carcinoma of the eyelid margin * Maintains tissue orientation for all three stages including nasal cartilage and nasal mucosa through and through defects |
| **Level 5** *Performs Mohs surgery for extremely complex cases or special sites* | * Performs Mohs surgery for a multiply recurrent squamous cell carcinoma involving bone * Performs Mohs surgery for a basal cell carcinoma down the external auditory canal |
| Assessment Models or Tools | * Chart review * Direct observation * Evaluations * Multisource feedback * Procedure logs |
| Curriculum Mapping |  |
| Notes or Resources | * American Academy of Dermatology (AAD). Clinical Guidelines. [https://www.aad.org/member/clinical-quality/guidelines#](https://www.aad.org/member/clinical-quality/guidelines). 2020. * Appropriate use criteria * American College of Mohs Surgery. Bibliography. <https://acms.execinc.com/edibo/Login?ReturnUrl=https%3A%2F%2Fwww.mohscollege.org%2Fforms%2Fbibliography.php&LoginMessage=You%20must%20be%20a%20member%20to%20view%20this%20page>.. 2020. * American Society for Dermatologic Surgery Bibliography <https://www.asds.net/> 2020. * Mohs College Curriculum. <https://www.mohscollege.org/sisrb/ACMSCoreCurriculum.pdf>. 2020. * National Comprehensive Cancer Network (NCCN). NCCN Guidelines. <https://www.nccn.org/professionals/physician_gls/default.aspx>. 2020. |

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| **Patient Care 2: Reconstruction**  **Overall Intent:** To demonstrate ability to design and perform a variety of reconstructive techniques to repair defects while optimizing cosmesis and minimizing surgical complications | |
| **Milestones** | **Examples** |
| **Level 1** *Identifies categories of reconstruction options*  *Performs linear closures*  *Manages complications from linear closures* | * Discusses reconstructive options including second intent, primary closure, flaps, and skin grafts * Performs primary closure of a defect on the cheek * Manages acute post-operative bleeding episode and/or wound dehiscence after primary closure |
| **Level 2** *Selects reconstruction options*  *Performs low-complexity reconstruction*  *Manages acute complications from low-complexity reconstruction* | * Identifies a linear closure will be inadequate for a large Mohs defect on the cheek and selects a flap for reconstruction * Performs an A-to-T reconstruction on the forehead * Manages a post-operative wound infection after repairing a conchal bowl defect with a full-thickness skin graft |
| **Level 3** *Selects and designs low-complexity reconstruction options*  *Performs high-complexity reconstruction*  *Manages acute complications from high-complexity reconstruction and long-term complications with non-surgical treatments* | * Selects and designs a full-thickness skin graft reconstruction on the nose * Performs O-to-Z bilateral rotation flaps reconstruction on the scalp * Manages a hypertrophic surgical scar with intralesional Kenalog and/or pulsed dye laser * Manages an atrophic surgical scar with dermabrasion and/or carbon dioxide (CO2) laser and/or dermal filler |
| **Level 4** *Selects and designs high-complexity reconstruction options*  *Performs high-complexity, multi-staged reconstruction*  *Assists with management of long-term complications with surgical treatments* | * Selects and designs a dorsal nasal rotation, Banner transposition, or bilobed transposition flap on the nose * Designs and performs multi-staged reconstruction (e.g., nasolabial, postauricular to auricular, or paramedian forehead interpolation flaps) for a defect * Identifies need for referral to oculoplastic surgery for reconstruction of the lacrimal system * Assists with scar revision to address webbing by performing Z-plasty |
| **Level 5** *Designs a novel reconstruction*  *Efficiently performs high-complexity, multi-staged reconstruction*  *Manages long-term complications with surgical treatments* | * Independently designs a novel transposition flap to repair a large scalp defect * Designs a unique combination repair using two distinct flaps to reconstruct a multisubunit defect * Identifies webbing in the medial canthal area and performs a Z-plasty surgical revision |
| Assessment Models or Tools | * Chart review * Direct observation * Evaluations * Multisource feedback * Procedure logs |
| Curriculum Mapping |  |
| Notes or Resources | * Baker SR. *Local Flaps in Facial Reconstruction*. 3rd ed. Philadelphia, PA: Elsevier Sanders; 2014. ISBN:978-1455753161. * Goldman G, Dzubow L, Yelverton C. *Facial Flaps Surgery*. 1st ed. China: McGraw-Hill; 2013. ISBN:978-0071749251. * Jiang SB, Ortiz AE. *Reconstructive Dermatologic Surgery*. 1st ed. New Delhi, India: Jaypee Brothers Medical Publishers (P) Ltd; 2017. ISBN:978-9351529415. * Kaufman A. *Practical Facial Reconstruction*. China: Wolters Kluwer; 2016. ISBN:978-1496300942. * Mohs College Curriculum. <https://www.mohscollege.org/sisrb/ACMSCoreCurriculum.pdf>. 2020. * Paver R, Stanford D, Storey L. *Dermatologic Surgery: A Manual of Defect Repair Options*. Australia: McGraw-Hill Book Company Australia; 2010. ISBN:978-0070285392. * Robinson JK, Hanke CW, Siegel DM, Fratila A. *Surgery of the Skin: Procedural Dermatology*. 2nd ed. China: Elsevier; 2010. ISBN:978-0323065757. * Rohrer TE, Cook JL, Kaufman A. *Flaps and Grafts in Dermatologic Surgery*. 2nd ed. Philadelphia, PA: Elsevier; 2017. ISBN:978-0323476621. |

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| **Patient Care 3: Mohs Histopathology**  **Overall Intent:** To prepare, accurately interpret, and troubleshoot errors on Mohs frozen section histopathology slides | |
| **Milestones** | **Examples** |
| **Level 1** *Discusses en face sectioning and the process for preparing tissue for frozen section*  *Identifies straightforward tumors on frozen section* | * Distinguishes Mohs section from routine histopathology section * Identify basal cell carcinoma; squamous cell carcinoma |
| **Level 2** *Assesses a Mohs slide competently for the presence/absence of tumor*  *Identifies artifacts on frozen section* | * Identifies if a tumor is present on true margin * Recognizes when epidermis is missing * Identifies excessive hematoxylin staining |
| **Level 3** *Identifies when a recut is needed*  *Identifies normal variants, less common tumors, and high-risk features on frozen section* | * If fat is missing on the slide, asks technician for a recut * Identifies pagetoid spread in sebaceous carcinoma * Identifies basal cell mimicker basaloid follicular hamartoma |
| **Level 4** *Troubleshoots slides and suggests technical solutions*  *Identifies unexpected findings, and rare and unusual tumors on frozen section* | * Recognizes washboarding/chatter artifact and suggests to the technician to tighten the blade on the cryomicrotome * Identifies microcystic adenexal carcinoma * Identifies perineural invasion and measures with micrometer |
| **Level 5** *Prepares frozen section slides*  *Interprets frozen immunohistochemistry stains* | * Accurately captures complete epidermal edges when preparing slides * Distinguishes between melanoma in-situ and normal epidermis |
| Assessment Models or Tools | * Direct observation * Formal review of Mohs frozen section slide collections |
| Curriculum Mapping |  |
| Notes or Resources | * Aasi SZ, Leffell DJ, Lazova RZ. *Atlas of Practical Mohs Histopathology*. 2013th edition. New York, NY: Springer; 2012. ISBN:978-1461451600. * Association of Professors of Dermatology (APD). Simple Excision & Repair Assessment Tool: Expert rater checklist/scale for assessing technical skills during a simple excision. <https://www.dermatologyprofessors.org/files/2013%20Annual%20Meeting/ExcisionToolChecklist_Alam_9-24%20v2.pdf>. 2020. * Gross K. *Mohs Surgery and Histopathology (Beyond the Fundamentals)*. 1st ed. New York, NY: Cambridge University Press; 2009. ISBN:978-0521888042. * Morgan MB, Spencer JM, Hamill Jr JR, Thornhill R. *Atlas of Mohs and Frozen Section Cutaneous Pathology*. 2nd ed. Cham, Switzerland: Springer; 2018. ISBN:978-3319748467. |

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| **Patient Care 4: Diagnosis and Management**  **Overall Intent:** To accurately diagnose stage of and treat cutaneous malignancies | |
| **Milestones** | **Examples** |
| **Level 1** *Diagnoses and manages common malignant lesions and discusses current staging systems*  *Discusses risks and benefits of non-surgical management options* | * Discusses current American Joint Committee on Cancer (AJCC) staging system when managing squamous cell carcinoma * Succinctly explains to a patient that a large squamous cell carcinoma of the head and neck, with poorly differentiated histology, and a history of immunosuppression puts the patient at much higher risk for disease progression compared to otherwise healthy patients * Discusses the intention and benefits of Mohs micrographic surgery and identifies scenarios where simpler options (e.g., standard excision, electrodesiccation and curettage, intralesional chemotherapy) are more appropriate or more desirable |
| **Level 2** *Orders additional diagnostic testing to narrow the differential diagnosis or for staging*  *Identifies patients who would benefit from non-surgical management* | * Identifies a high-risk squamous cell carcinoma and recommends nodal evaluation of the head and neck * Discovers a palpable node in the region of a large head and neck squamous cell carcinoma and recommends guided core biopsy * Recognizes large caliber perineural invasion on pathology report and recommends radiation oncology consultation * Recognizes Breslow depth (greater than 0.8mm) with ulceration on a melanoma referred for standard excision and instead refers to surgical oncology for sentinel lymph node biopsy at time of excision |
| **Level 3** *Diagnoses and manages complex malignant lesions and stages tumor*  *Selects and manages alternative treatment and/or adjuvant therapy or work-up in addition to or in place of surgery* | * When intra-operative staging, identifies perineural invasion on Mohs sections for squamous cell carcinoma, depth of invasion beyond subcutaneous fat, and clinical bony erosion following resection of galea * Arranges for colonoscopy in a patient with perianal extramammary Paget’s disease * Recognizes that, even in the setting of clear surgical margins, Merkel cell carcinoma requires a multidisciplinary approach for disease control |
| **Level 4** *Diagnoses and manages rare and unusual malignant lesions*  *Coordinates multidisciplinary care for non-surgical management* | * Diagnoses and manages sweat gland carcinoma of nasal tip * Organizes and presents case at tumor board |
| **Level 5** *Prescribes novel non-surgical treatment options* | * Enrolls patient in university-sponsored immunotherapy trial for advanced cutaneous squamous cell carcinoma * Prescribes and manages Vismodegib for patient with basal cell naevus syndrome |
| Assessment Models or Tools | * Attendance at and participation in multidisciplinary tumor board * Direct observation |
| Curriculum Mapping |  |
| Notes or Resources | * American Joint Committee on Cancer. *AJCC Cancer Staging Manual.* 8th edition. Springer International Publishing. 2017. <https://www.springer.com/us/book/9783319406176> * National Comprehensive Cancer Network (NCCN). NCCN Guidelines. <https://www.nccn.org/professionals/physician_gls/default.aspx>. 2020. * Que SKT, Zwald FO, Schmults CD. Cutaneous squamous cell carcinoma: Incidence, risk factors, diagnosis, and staging. *J Am Acad Dermatol*. 2018;78(2):237-247. <https://pubmed.ncbi.nlm.nih.gov/29332704/>. 2020. * Que SKT, Zwald FO, Schmults CD. Cutaneous squamous cell carcinoma: Management of advanced and high-stage tumors. *J Am Acad Dermatol*. 2018;78(2):249-261. <https://pubmed.ncbi.nlm.nih.gov/29332705/>. 2020. |

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| **Medical Knowledge 1: Micrographic Surgery**  **Overall Intent:** To demonstrate knowledge necessary to perform Mohs Micrographic surgery | |
| **Milestones** | **Examples** |
| **Level 1** *Demonstrates knowledge of surgically relevant normal anatomy and physiology, and principles of wound healing* | * Identifies the temporal nerve danger zone * Describes the phases of second intent wound healing * Describes the stages of healing for a full-thickness skin graft * Identifies collagen xenograft as a skin substitute |
| **Level 2** *Demonstrates knowledge of surgically relevant anatomic variations and peri-operative considerations* | * Discusses the importance of avoiding damage to the temporal nerve when operating on the temple and counsels patient of risk when appropriate * Identifies the need for pre-operative antibiotic prophylaxis for a patient with a recent total knee replacement and a mucosal squamous cell carcinoma * Counsels patient preoperatively with regards to anticoagulation |
| **Level 3** *With assistance, identifies surgically relevant anatomic variations and perioperative considerations and alters patient management accordingly* | * With prompting, changes to blunt-tipped undermining scissors and careful dissection for reconstruction of a deep defect on the temple * With assistance, identifies frontal branch of superficial temporal artery and performs figure-of-eight stitch for hemostasis, if needed |
| **Level 4** *Independently identifies surgically relevant anatomic considerations and peri-operative considerations, and alters patient management accordingly* | * Uses blunt-tipped undermining scissors and careful dissection for reconstruction of a deep defect on the temple * Uses bipolar forceps or heat cautery for treating surgical site on the chest of a patient with a defibrillator |
| **Level 5** *Significantly contributes to the surgical curriculum for a dermatology residency program or micrographic surgery and dermatologic oncology fellowship* | * Organizes and leads a cadaver lab to teach anatomy and reconstructive techniques |
| Assessment Models or Tools | * Direct observation * Evaluations * E-module multiple choice test * Multisource feedback |
| Curriculum Mapping |  |
| Notes or Resources | * American College of Mohs Surgery Board Review Materials <https://www.mohscollege.org/>. 2020 * American Society of Dermatologic Surgery. Primer in Dermatologic Surgery. <https://www.asds.net/medical-professionals/members-resources/product-details/productname/primer>. 2020. * Mohs College Curriculum. <https://www.mohscollege.org/sisrb/ACMSCoreCurriculum.pdf>. 2020. * Robinson JK, Hanke CW, Siegel DM, Fratila A. *Surgery of the Skin: Procedural Dermatology*. 2nd ed. China: Elsevier; 2010. ISBN:978-0323065757. |

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| **Medical Knowledge 2: Cutaneous Oncology**  **Overall Intent:** To demonstrate knowledge of cutaneous oncology | |
| **Milestones** | **Examples** |
| **Level 1** *Demonstrates basic*  *knowledge of cutaneous oncology* | * Recognizes common tumors occurring in skin * Discusses association of ultraviolet radiation with tumor incidence and recommends sunscreen and sun barrier and sun avoidance behaviors |
| **Level 2** *Demonstrates comprehensive knowledge of cutaneous oncology and clinical implications* | * Aware of differential risks associated with squamous cell carcinoma in high-risk locations; poorly differ histologic subtype; large clinical size; recurrent nature, etc. * Staging squamous cell carcinoma melanoma staging, basal cell carcinoma tumor subtypes, differences in outcomes between in situ invasive squamous cell carcinoma * Stages Merkel cell carcinoma, sebaceous carcinoma * Understands locally aggressive nature of dermatofibrosarcoma protuberans and scope of procedure to remove it |
| **Level 3** *With assistance, applies knowledge of common cutaneous oncology into medical decision making* | * Makes basic recommendations regarding adjuvant therapies for high-risk squamous cell carcinoma * Recognizes patients who can benefit from pre-operative imaging * Identifies most patients who may benefit from inter-specialty treatment |
| **Level 4** *Independently incorporates knowledge of complex cutaneous oncology into medical decision making* | * Advises patients without supervision on potential benefits and risks of adjuvant therapy * Discusses the need for follow-up with patients with high-risk tumor characteristics * Develops treatment plans for patients with both common and rare types of cutaneous neoplasms * Recommends nicotinomide to patients with frequent skin cancers * Discusses treatment options for patients with metastatic Merkel cell carcinoma; unresectable cutaneous neoplasms |
| **Level 5** *Recommends novel investigations based on knowledge of cutaneous oncology and clinical trials* | * In transplant patients with multiple or single aggressive cutaneous tumors, discusses option of immunosuppression change to siroliumus with transplant team |
| Assessment Models or Tools | * Direct observation * Evaluations * E-module multiple choice test * Multisource feedback |
| Curriculum Mapping |  |
| Notes or Resources | * Textbooks |
| **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 conduct a QI project | |
| **Milestones** | **Examples** |
| **Level 1** *Demonstrates knowledge of common safety events*  *Demonstrates knowledge of how to report patient safety events*  *Demonstrates knowledge of basic quality improvement methodologies and metrics* | * Lists patient misidentification or medication errors as common patient safety events * Identifies use of personal protective equipment as a safety precaution * Describes how to report errors or near misses in your environment * Describes fishbone tool |
| **Level 2** *Identifies system factors that lead to safety events*  *Reports patient safety events through institutional reporting systems*  *Describes local quality improvement initiatives* | * Identifies lack of hand sanitizer dispenser at each clinical exam room may lead to increased infection rates * Reports lack of hand sanitizer dispenser at each clinical exam room to the medical director * Summarizes protocols to decrease needle sticks |
| **Level 3** *Participates in analysis of safety events (simulated or actual)*  *Participates in disclosure of patient safety events to patients and their families (simulated or actual)*  *Participates in local quality improvement initiatives* | * Prepares for morbidity and mortality (M and M) presentations * During a standardized patient encounter, communicates with patients/families about a lost specimen error * Participates in project identifying root cause of rooming inefficiency |
| **Level 4** *Conducts analysis of safety events and offers error prevention strategies (simulated or actual)*  *Discloses patient safety events to patients and their families (simulated or actual)*  *Demonstrates the skills required to identify, develop, implement, and analyze a quality improvement project* | * Collaborates with a team to conduct the analysis of a lost specimen error and can effectively communicate with patients/families about those events * Participates in the completion of a QI project to improve hand hygiene within the practice, including assessing the problem, articulating a broad goal, developing a SMART (Specific, Measurable, Attainable, Realistic, Timely) objective plan, and monitoring progress and challenges |
| **Level 5** *Actively engages teams and processes to modify systems to prevent safety events*  *Mentors others in the disclosure of patient safety events*  *Creates, implements, and assesses quality improvement initiatives at the institutional or community level* | * Assumes a leadership role at the departmental or institutional level for patient safety * Conducts a simulation for disclosing patient safety events * Initiates and completes a QI project to improve institution hand hygiene rates in collaboration with the medical center and shares results with stakeholders |
| Assessment Models or Tools | * Direct observation * E-module multiple choice tests * Medical record (chart) audit * Multisource feedback * Portfolio * Reflection * Simulation |
| Curriculum Mapping |  |
| Notes or Resources | * Hansen TJ, Lolis M, Goldberg DJ, MacFarlane DF. Patient safety in dermatologic surgery: Part I. Safety related to surgical procedures. *J Am Acad Dermatol*. 2015;73(1):1-12. <https://pubmed.ncbi.nlm.nih.gov/26089045/>. 2020. * Institute of Healthcare Improvement. <http://www.ihi.org/Pages/default.aspx>. 2020. * Lolis M, Dunbar SW, Goldberg DJ, Hansen TJ, MacFarlane DF. Patient safety in procedural dermatology: part II. Safety related to cosmetic procedures. *Journal of the American Academy of Dermatology*. 2015;73(1):15-24. <https://pubmed.ncbi.nlm.nih.gov/26089046/>. 2020. |

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| **Systems-Based Practice 2: System Navigation for Patient-Centered Care**  **Overall Intent:** To effectively navigate the health care system, including the interdisciplinary team and other care providers, to adapt care to a specific patient population to ensure high-quality patient outcomes | |
| **Milestones** | **Examples** |
| **Level 1** *Demonstrates knowledge of care coordination*  *Identifies key elements for safe and effective transitions of care and hand-offs*  *Demonstrates knowledge of population and community health needs and disparities* | * For a patient with metastatic melanoma identifies the oncologist, home health nurse, and social workers as members of the team * Lists the essential components of a hand-off tool and care transition and hand-offs * Identifies that patients in rural areas may have different needs than urban patients |
| **Level 2** *Coordinates care of patients in routine clinical situations, effectively using the roles of the interprofessional team members*  *Performs safe and effective transitions of care/hand-offs in routine clinical situations*  *Identifies specific population and community health needs and inequities for the local population* | * Coordinates care with the wound care clinic at the time of discharge from the hospital * Provides sign-out on a stable patient with a wound infection, including illness severity, patient summary, action list, and contingency plans * Identifies that limited transportation options may be a factor in rural patients getting to multiple Mohs surgery appointments |
| **Level 3** *Coordinates care of patients in complex clinical situations, effectively using the roles of the interprofessional team members*  *Performs safe and effective transitions of care/hand-offs in complex clinical situations*  *Uses local resources effectively to meet the needs of a patient population and community* | * Works with the social worker to coordinate care for a homeless patient with wound dehiscence that will require financial assistance to complete treatment * Provides sign-out on a stable patient with flap necrosis, including illness severity, patient summary, action list, and contingency plans * Refers patients to a local clinic and prints pharmacy coupons for patients in need * Identifies that limited transportation and out-of-pocket costs may be a factor for a patient getting multiple dermatology appointments |
| **Level 4** *Leads effective coordination of patient-centered care among different disciplines and specialties*  *Advocates for safe and effective transitions of care/hand-offs within and across health care delivery systems including outpatient settings*  *Participates in changing and adapting practice to provide for the needs of specific populations* | * Leads team members in approaching consultants to review cases/recommendations and arranges tumor board for the team * Prior to going on vacation, proactively informs the covering physician about a plan of care for a transplant patient with an enlarging tumor with a pending skin biopsy result * Assists to design protocols for clinic check-in of transgender patients |
| **Level 5** *Analyzes the process of care coordination and leads in the design and implementation of improvements*  *Improves quality of transitions of care within and across health care delivery systems to optimize patient outcomes*  *Leads innovations and advocates for populations and communities with health care inequities* | * Leads a program to ensure appropriate follow-up for melanoma patients who need surveillance skin checks * Develops a protocol to improve transition to home health care dermatology for a patient with a large lower extremity wound healing by second intent * Leads development of teledermatology services for a rural site |
| Assessment Models or Tools | * Direct observation * Medical record (chart) audit * Multisource feedback * Objective structured clinical examination (OSCE) * Quality metrics and goals mined from electronic health record (EHR) * Review of sign-out tools, use and review of checklists |
| Curriculum Mapping |  |
| Notes or Resources | * 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. * Skochelak SE, Hawkins RE, Lawson LE, Starr S, Borkan J, Gonzalo J. *Health Systems Science*. 1st ed. Philadelphia, PA: Elsevier; 2016. * Starmer, AJ, et al. I-pass, a mnemonic to standardize verbal handoffs. *Pediatrics*. 2012;129(2):201-204. <https://pubmed.ncbi.nlm.nih.gov/22232313/>. 2020. |

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| **Systems-Based Practice 3: Physician Role in Health Care Systems**  **Overall Intent:** To understand the role in the complex health care system and how to work within and 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*  *Describes basic health payment systems and practice models*  *Identifies basic practice management knowledge domains for effective transition to practice* | * Articulates the roles of primary care providers and dermatology specialists in the management of skin disease * Understands the impact of health plan coverage on prescription drugs for individual patients * Identifies that notes must meet coding requirements |
| **Level 2** *Describes how components of a complex health care system are interrelated, and how this impacts patient care*  *Delivers care with consideration of each patient’s payment models*  *Describes core administrative knowledge needed for transition to practice* | * Aware that a patient needs prior authorization for flaps and grafts * Takes into consideration patient’s prescription drug coverage when choosing a treatment for actinic keratoses * Describes the elements required for proper evaluation and management coding in the EHR |
| **Level 3** *Discusses how individual practice affects the broader system*  *Engages with patients in shared decision making, informed by each patient’s payment models*  *Demonstrates use of information technology required for medical practice* | * Provides post-operative counseling and sets follow-up appointments to avoid patients seeking non-urgent care in the emergency department * Discusses risks and benefits of surgical treatment of an asymptomatic lipoma when a patient has a high out-of-pocket deductible * Communicates patient laboratory results through online patient portal |
| **Level 4** *Manages various components of the complex health care system to provide efficient and effective patient care*  *Advocates for patient care needs with consideration of the limitations of each patient’s payment models*  *Analyzes individual practice patterns and professional requirements in preparation for practice* | * Ensures proper EHR documentation for a prior authorization for a patient with basal cell nevus syndrome patient on vismodegib including pertinent comorbidities and contraindications * Applies for patient assistance programs for prescription drugs on behalf of a patient with basal cell nevus syndrome and limited resources * Proactively compiles and reviews procedure log in anticipation of applying for hospital privileges * Tracks average stage count |
| **Level 5** *Advocates for or leads systems change that enhances high-value, efficient, and effective patient care*  *Participates in health policy advocacy activities*  *Educates others to prepare them for transition to practice* | * Works with community or professional organizations to advocate for restrictions on indoor tanning * Improves informed consent process for non-English-speaking patients requiring interpreter services |
| Assessment Models or Tools | * Direct observation * Medical record (chart) audit * Patient satisfaction data * Portfolio |
| Curriculum Mapping |  |
| Notes or Resources | * Agency for Healthcare Research and Quality (AHRQ).Measuring the Quality of Physician Care. <https://www.ahrq.gov/professionals/quality-patient-safety/talkingquality/create/physician/challenges.html>. 2020. * American Board of Dermatology. Focused Practice Improvement Modules. <https://secure.dataharborsolutions.com/ABDermOrg/Default.aspx>. 2020. * American Board of Internal Medicine. QI/PI activities. <http://www.abim.org/maintenance-of-certification/earning-points/practice-assessment.aspx>. 2020. * AHRQ. Major Physician Measurement Sets. <https://www.ahrq.gov/professionals/quality-patient-safety/talkingquality/create/physician/measurementsets.html>. 2020. * The Commonwealth Fund.Health System Data Center.<http://datacenter.commonwealthfund.org/?_ga=2.110888517.1505146611.1495417431-1811932185.1495417431#ind=1/sc=1>. 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://jamanetwork.com/journals/jama/fullarticle/2612013>. 2020. * The Kaiser Family Foundation. [www.kff.org](http://www.kff.org). 2020. * The Kaiser Family Foundation: Topic: Health Reform. <https://www.kff.org/topic/health-reform/>. 2020. |

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| **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*  *Discusses the need for quality control and proficiency testing* | * Attends departmental quality assurance /quality control meetings, M and M conferences and accreditation/regulatory summation meetings * Is aware of College of American Pathologists (CAP) and Clinical Laboratory Improvement Amendments (CLIA) regulations * Discusses the need for alternative proficiency testing when commercial material is unavailable |
| **Level 2** *Demonstrates knowledge of the components of laboratory accreditation and regulatory compliance, either through training or experience*  *Interprets quality data, charts, and trends, including proficiency testing results, with supervision* | * Can explain the difference between quality control and quality assay verification and validation in context of CLIA regulations * Interprets daily quality control and proficiency test reports |
| ***Level 3*** *Identifies the differences between accreditation and regulatory compliance; discusses the process for achieving accreditation and maintaining regulatory compliance*  *Discusses implications of proficiency testing failures* | * Identifies the need and assists with an application to add a new test to an existing CLIA certificate * Reviews evaluation forms of CAP Surveys, identifying additional actions to take based on the results |
| **Level 4** *Participates in an internal or external laboratory inspection (actual or simulated)*  *Performs analysis and review of proficiency testing failures and recommends a course of action, with oversight* | * Performs a self-inspection using the Common CAP/CLIA checklists * Assists in developing a strategy for handling quality control or proficiency testing failures |
| **Level 5** *Independently formulates a response for proficiency testing failures* | * Develops strategies for quality control or proficiency testing failures |
| Assessment Models or Tools | * Assignment of duties for departmental or hospital quality assurance/quality control committees * Direct observation * Documentation of inspector training and participation in resident portfolio * Multisource evaluation * Planning and completion of QI projects * Presentation at M and M conferences * Rotation evaluations * Simulation |
| Curriculum Mapping |  |
| Notes or Resources | * College of American Pathologists. Laboratory Accreditation Program. <https://www.cap.org/laboratory-improvement/accreditation/laboratory-accreditation-program>. 2020. * Electronic Code of Federal Regulations. <https://www.ecfr.gov/cgi-bin/text-idx?SID=1248e3189da5e5f936e55315402bc38b&node=pt42.5.493&rgn=div5#se42.5.493_11>. 2020. |

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| **Practice-Based Learning and Improvement 1: Evidence-Based and Informed Practice**  **Overall Intent:** To incorporate evidence and patient values into clinical practice | |
| **Milestones** | **Examples** |
| **Level 1** *Demonstrates how to access and use available evidence, and incorporate patient preferences and values in order to take care of a routine patient* | * Identifies evidence-based guidelines for the management of Merkel cell carcinoma |
| **Level 2** *Articulates clinical questions and elicits patient preferences and values to guide evidence-based care* | * In a patient with Merkel cell carcinoma, solicits patient perspective |
| **Level 3** *Locates and applies the best available evidence, integrated with patient preference, to the care of complex patients* | * Obtains, discusses, and applies clinical practice guidelines for the treatment of a patient with Merkel cell carcinoma and metabolic syndrome while eliciting patient preferences |
| **Level 4** *Critically appraises and applies evidence even in the face of uncertainty and conflicting evidence to guide care, tailored to the individual patient* | * Accesses the primary literature to identify alternative treatments for patients with Merkel cell carcinoma with organ transplant |
| **Level 5** *Coaches others to critically appraise and apply evidence for complex patients; and/or participates in the development of guidelines* | * As part of a team, develops standardizing management protocol for melanoma surveillance program at the institution |
| Assessment Models or Tools | * Direct observation * Oral or written examinations * Presentation evaluation * Quality improvement project * Research portfolio |
| Curriculum Mapping |  |
| Notes or Resources | * Institutional IRB guidelines * National Institutes of Health. U.S. National Library of Medicine. PubMed Tutorial. <https://www.nlm.nih.gov/bsd/disted/pubmedtutorial/cover.html>. 2020. * National Institutes of Health. U.S. National Library of Medicine. Write Your Application. <https://grants.nih.gov/grants/how-to-apply-application-guide/format-and-write/write-your-application.htm>. 2020. * Patient Centered Outcomes Research Institute (PCORI). Funding Opportunities. <https://www.pcori.org/funding-opportunities>. 2020. * Silverberg JI. Study designs in dermatology: A review for the clinical dermatologist. *J Am Acad Dermatol*. 2015;73(5):721-31. <https://pubmed.ncbi.nlm.nih.gov/26475532/>. 2020. * Silverberg JI. Study designs in dermatology: Practical applications of study designs and their statistics in dermatology. *J Am Acad Dermatol*. 2015;73(5):733-40. <https://www.researchgate.net/publication/283781024_Study_designs_in_dermatology_Practical_applications_of_study_designs_and_their_statistics_in_dermatology>. 2020. * Various journal submission guidelines |

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| **Practice-Based Learning and Improvement 2: Reflective Practice and Commitment to Personal Growth**  **Overall Intent:** To seek clinical performance information to improve patient care; reflect on all domains of practice, personal interactions, and behaviors, and their impact on colleagues and patients (reflective mindfulness); develop clear objectives and goals for improvement | |
| **Milestones** | **Examples** |
| **Level 1** *Accepts responsibility for personal and professional development by establishing goals*  *Identifies the factors that contribute to gap(s) between expectations and actual performance*  *Actively seeks opportunities to improve* | * Sets a personal practice goal of learning and applying the necessary components of medical documentation required for coding and billing * Identifies gaps in knowledge of differentiating basal cell carcinoma from follicular structures * Asks for feedback from patients, families, and patient care team members |
| **Level 2** *Demonstrates openness to performance data (feedback and other input) to inform goals*  *Analyzes and reflects on the factors that contribute to gap(s) between expectations and actual performance*  *Designs and implements a learning plan, with prompting* | * Reviews patient satisfaction survey data and provider evaluations prior to semiannual performance review to develop plans for improvement * Assesses time management skills and how it impacts timely completion of clinic notes and literature reviews * When prompted, develops individual education plan to address identified gaps discussed at mid-year evaluation |
| **Level 3** *Seeks performance data episodically, with adaptability and humility*  *Analyzes, reflects on, and institutes behavioral change(s) to narrow the gap(s) between expectations and actual performance*  *Independently creates and implements a learning plan* | * Performs a chart audit to determine the rate of postoperative infections and formulates a practice improvement plan in collaboration with faculty and staff members * Completes a comprehensive literature review prior to a complex patient encounter in an unfamiliar diagnosis * Independently assesses performance to identify areas of focus for individualized learning plan and reports progress to program director * Independently develops learning plans for improving performance on difficult techniques or new conditions |
| **Level 4** *Intentionally and consistently seeks performance data with adaptability and humility*  *Challenges own assumptions and considers alternatives in narrowing the gap(s) between expectations and actual performance*  *Uses performance data to measure the effectiveness of the learning plan and when necessary, improves it* | * Completes a quarterly chart audit to ensure documentation of lymph node examination in patients with invasive melanoma * After identifying challenge in developing rapport with anxious patients, creates a plan for improving personal communication strategies * Reviews personal performance metrics from the EHR to track timeliness of completion of documentation and rectify deficiencies |
| **Level 5** *Role models consistently seeking performance data with adaptability and humility*  *Coaches others on reflective practice*  *Facilitates the design and implementing learning plans for others* | * Reflects on suboptimal patient communication scores and enrolls in a relationship centered communication course * Develops educational module for collaboration with other patient care team members * Assists upper level residents with a strong interest in Mohs surgery in developing their individualized learning plans |
| Assessment Models or Tools | * Chart audit * Direct observation * EHR reports * Multisource feedback * Patient feedback * Review of learning plan /individualized learning plan development |
| Curriculum Mapping |  |
| Notes or Resources | * Burke AE, Benson B, Englander R, Carraccio C, Hicks PJ. Domain of competence: Practice-based learning and improvement. *Acad Pediatr.* 2014;14(2 Suppl):S38-S54. <https://pubmed.ncbi.nlm.nih.gov/24602636/>. 2020. * [Hojat M](https://www-ncbi-nlm-nih-gov.ezproxy.libraries.wright.edu/pubmed/?term=Hojat%20M%5BAuthor%5D&cauthor=true&cauthor_uid=19638773), [Veloski JJ](https://www-ncbi-nlm-nih-gov.ezproxy.libraries.wright.edu/pubmed/?term=Veloski%20JJ%5BAuthor%5D&cauthor=true&cauthor_uid=19638773), [Gonnella JS](https://www-ncbi-nlm-nih-gov.ezproxy.libraries.wright.edu/pubmed/?term=Gonnella%20JS%5BAuthor%5D&cauthor=true&cauthor_uid=19638773). Measurement and correlates of physicians' lifelong learning. *Acad Med.* 2009;84(8):1066-74. <https://pubmed.ncbi.nlm.nih.gov/19638773/>. 2020. * Lockspeiser TM, Schmitter PA, Lane JL, et al. Assessing residents’ written learning goals and goal writing skill: validity evidence for the learning goal scoring rubric. *Acad Med.* 2013;88(10):1558-1563. <https://pubmed.ncbi.nlm.nih.gov/23969364/>. 2020. |

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| **Professionalism 1: Professional Behavior and Ethical Principles**  **Overall Intent:** To recognize and address lapses in ethical and professional behavior, demonstrate ethical and professional behaviors, and use appropriate resources for managing ethical and professional dilemmas | |
| **Milestones** | **Examples** |
| **Level 1** *Identifies and describes potential triggers for professionalism lapses*  *Describes when and how to appropriately report professionalism lapses, including strategies for addressing common barriers*  *Demonstrates knowledge of medical ethical principles* | * Identifies that being tired can cause a lapse in professionalism * Identifies that not answering pages has adverse effects on patient care and on professional relationships * Articulates how the principle of “do no harm” applies to a patient who may not need a surgical flap closure even though the training opportunity exists * Identifies that being late to clinic demonstrates a lapse in professionalism |
| **Level 2** *Demonstrates insight into professional behavior in routine situations*  *Takes responsibility for one’s own professionalism lapses*  *Analyzes straightforward situations using ethical principles* | * Informs faculty members when they will be arriving late to clinic due to delay from inpatient consultation * Accepts responsibility for being late to teaching conference, without making excuses or blaming others * Postpones non-emergent skin cancer surgery in an elderly patient with altered mental status/not competent to make medical decisions |
| **Level 3** *Demonstrates professional behavior in complex or stressful situations*  *Recognizes the need to seek help in managing and resolving complex ethical situations*  *Analyzes complex situations using ethical principles* | * Appropriately responds to a distraught family member, following an adverse surgical complication * Requests ethics committee involvement regarding decisions to withhold care in terminal hospitalized patient with metastatic Merkel cell carcinoma * Offers treatment options for a 3.0cm asymptomatic basal cell of the forehead in a terminally ill patient, free of personal bias, while honoring the patient’s choice |
| **Level 4** *Recognizes situations that may trigger professionalism lapses and intervenes to prevent lapses in oneself and others*  *Recognizes and uses appropriate resources for managing and resolving ethical dilemmas* | * Recognizes own frustration but models composure and humility when a patient challenges the resident’s opinion and shares the experience with peers * Recognizes and uses ethics consults, literature, risk-management/legal counsel to resolve ethical dilemmas |
| **Level 5** *Coaches others when their behavior fails to meet professional expectations*  *Identifies and seeks to address system-level factors that induce or exacerbate ethical problems or impede their resolution*  *Serves as resource for colleagues who face ethical dilemmas* | * Identifies a resident who fails to complete documentation in a timely manner, and helps to create a performance improvement plan * Engages stakeholders to address excessive wait times in the dermatology clinic to decrease patient and provider frustrations that lead to unprofessional behavior |
| Assessment Models or Tools | * Direct observation * Global evaluation * Multisource feedback * Oral or written self-reflection * Simulation |
| Curriculum Mapping |  |
| Notes or Resources | * American Medical Association. Ethics. <https://www.ama-assn.org/delivering-care/ama-code-medical-ethics>. 2020. * ABIM Foundation; American Board of Internal Medicine, ACP-ASIM Foundation, American College of Physicians-American Society of Internal Medicine, European Federation of Internal Medicine. Medical professionalism in the new millennium: a physician charter. *Ann Intern Med*. 2002;136:243-246. <http://abimfoundation.org/wp-content/uploads/2015/12/Medical-Professionalism-in-the-New-Millenium-A-Physician-Charter.pdf>. 2020. * APD. Journal Entry Competency Assessment. <https://www.dermatologyprofessors.org/files/2013%20Annual%20Meeting/ProCom%20JECA_modified%20092413%20v3.pdf>. 2020. * 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. * Levinson W, Ginsburg S, Hafferty FW, Lucey CR. *Understanding Medical Professionalism*. 1st ed. New York, NY: McGraw-Hill Education; 2014. |

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| **Professionalism 2: Accountability/Conscientiousness**  **Overall Intent:** To take responsibility for one’s own actions and the impact on patients and other members of the health care team | |
| **Milestones** | **Examples** |
| **Level 1** *Responds promptly to requests or reminders to complete tasks*  *Proactively ensures that the needs of patients are met* | * Responds promptly to reminders from program administrator to complete ACGME Case Logs and work hour logs * Demonstrates timely attendance at conferences * In preparation for being out of the office, notifies a patient with a pending melanoma biopsy that the report is not yet available and arrange for a colleague to discuss the results with the patient during absence |
| **Level 2** *Performs routine tasks and responsibilities in a timely manner with appropriate attention to detail*  *Takes responsibility for failure to complete tasks and responsibilities* | * Completes administrative tasks, safety modules, procedure log, work hours, and licensing requirements by specified due date * Completes end-of-rotation evaluations |
| **Level 3** *Performs tasks and responsibilities in a timely manner with appropriate attention to detail in complex or stressful situations*  *Recognizes situations that may impact one’s own ability to complete tasks and responsibilities in a timely manner* | * Notifies attending of multiple competing demands while on call, appropriately triages tasks, and asks for assistance from other residents or faculty members as needed * Before going on leave, completes tasks in anticipation of lack of computer access while traveling |
| **Level 4** *Mitigates situations that may impact others’ ability to complete tasks and responsibilities in a timely manner*  *Implements strategies to enhance accountability of team members involved in patient care* | * Takes responsibility for inadvertently omitting key patient information during sign-out and proposes a plan for standardized hand-offs with the interprofessional team * Completes notes and care plan promptly, recognizing that others in the team need to carry on their tasks |
| **Level 5** *Takes ownership of system outcomes and suggests revisions to the systems to enhance accountability* | * Sets up a meeting with the nurse manager to streamline referrals and scheduling for high-risk tumors and leads team to find solutions to the problem |
| Assessment Models or Tools | * Compliance with deadlines and timelines * Direct observation * Global evaluations * Multisource feedback * Self-evaluations and reflective tools * Simulation |
| Curriculum Mapping |  |
| Notes or Resources | * AAD. Code of Medical Ethics. <https://server.aad.org/Forms/Policies/Uploads/AR/AR%20Code%20of%20Medical%20Ethics%20for%20Dermatologists.pdf>. 2020. * APD. Journal Entry Competency Assessment. <https://www.dermatologyprofessors.org/files/2013%20Annual%20Meeting/ProCom%20JECA_modified%20092413%20v3.pdf>. 2020. * Code of conduct from fellow institutional manual * Expectations of fellowship program regarding accountability and professionalism |

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| **Professionalism 3: Self-Awareness and Help-Seeking**  **Overall Intent:** To identify, use, manage, improve, and seek help for personal and professional well-being for self and others | |
| **Milestones** | **Examples** |
| **Level 1** *Recognizes status of personal and professional well-being, with assistance*  *Recognizes limits in one’s own knowledge/ skills, with assistance* | * Acknowledges own response to patient’s diagnosis of metastatic melanoma * Recognizes that they missed emotional cues during a Mohs stage with a patient experiencing anxiety |
| **Level 2** *Independently recognizes status of personal and professional well-being*  *Independently recognizes limits in own knowledge/skills and seeks help when appropriate* | * Independently identifies and communicates impact of a personal family tragedy on ability to provide patient care * After receiving notice of knowledge deficits during routine discussion of cases after clinic, identifies barriers to effective study habits |
| **Level 3** *Proposes a plan to optimize personal and professional well-being*  *Proposes a plan to remediate or improve limits in one’s own knowledge/skills* | * Works with program director to develop a strategy to support breast feeding after returning from maternity leave * Develops a plan with program director to improve study habits |
| **Level 4** *Independently develops and implements a plan to optimize personal and professional well-being*  *Independently develops and implements a plan to remediate or improve limits in one’s own knowledge/skills* | * Independently identifies ways to manage personal stress * Attends a hands-on surgical course after identifying weakness in complex suturing technique and flap design |
| **Level 5** *Coaches others to optimize personal and professional well-being* | * Assists in organizational efforts to address resident and fellow well-being |
| Assessment Models or Tools | * Direct observation * Group interview or discussions for team activities * Individual interview * Institutional online training modules * Self-assessment and personal learning 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. * AAIM. Annotated Bibliography of Evidence Based Well-Being Interventions. <https://www.im.org/resources/wellness-resiliency/charm/best-practice-group>. 2020. * APD. Journal Entry Competency Assessment. <https://www.dermatologyprofessors.org/files/2013%20Annual%20Meeting/ProCom%20JECA_modified%20092413%20v3.pdf>. 2020. * 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>. * Local resources, including Employee Assistance programs |

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| **Interpersonal and Communication Skills 1: Patient- and Family-Centered Communication**  **Overall Intent:** To deliberately use language and behaviors to form constructive relationships with patients, to identify communication barriers including self-reflection on personal biases, and minimize them in the doctor-patient relationships; organize and lead communication around shared decision making | |
| **Milestones** | **Examples** |
| **Level 1** *Uses language and non-verbal behavior to demonstrate respect and establish rapport with patients of different socioeconomic and cultural backgrounds*  *Identifies common barriers (e.g., language, disability/hearing) to effective communication*  *Identifies elements of shared decision making* | * Introduces self and faculty member, identifies patient and others in the room, and engages all parties in health care discussion * Requests trained interpreter with non-English-speaking patients prior to obtaining informed consent for shave biopsy * Uses trained interpreter beyond the consent for interacting with patient for longer procedures * Acknowledges the importance of including a family member or health care proxy when discussing treatment for skin cancer in a patient with dementia |
| **Level 2** *Establishes a therapeutic relationship in straightforward encounters using active listening and clear language*  *Identifies complex barriers (e.g., health literacy, cultural differences) to effective communication*  *Identifies the importance of engaging in shared decision making* | * Avoids medical jargon and restates patient perspective when discussing treatment for basal cell carcinoma * Explains importance of skin cancer prevention and detections in people of color * Understands therapeutic outcome advantages when using trained interpreter instead of family members * Works with elderly patient and their care team to identify barriers to topical treatment for actinic keratoses |
| **Level 3** *Establishes a therapeutic relationship in challenging patient encounters, with guidance*  *When prompted, reflects on conscious and unconscious biases while attempting to minimize communication barriers*  *Uses shared decision making to make a personalized care plan, with guidance* | * Acknowledges patient’s request for Mohs surgery for low-risk basal cell carcinoma and explains the rationale for stepwise therapy while maintaining patient rapport * In a discussion with the faculty member, acknowledges discomfort in caring for a patient with skin cancer who continues to tan * Conducts a family meeting to determine goals of care for a 96-year-old patient with dementia and a basal cell carcinoma on the nose |
| **Level 4** *Independently establishes a therapeutic relationship in challenging patient encounters*  *Independently recognizes conscious and unconscious biases while attempting to proactively minimize communication barriers*  *Independently uses shared decision making to make a personalized care plan* | * Schedules ongoing follow-ups to support a contentious patient with multiple skin cancers and procedural fatigue * Recognizes personal frustration when using an interpreter during a patient encounter and accounts for a longer visit time to accommodate communication * Reflects on implicit bias after a challenging patient encounter * Uses input from an elderly patient’s power of attorney who insists on Mohs surgery for a low-risk basal cell carcinoma |
| **Level 5** *Mentors others in situational awareness and critical self-reflection to consistently develop positive therapeutic relationships*  *Independently uses shared decision making to make a personalized care plan when there is a high degree of uncertainty* | * Develops a residency curriculum on implicit bias * Leads a discussion with patient and family members regarding treatment strategies for a young man with a rare adnexal tumor without clear guidelines for standard of care |
| Assessment Models or Tools | * Direct observation * OSCE * Self-assessment including self-reflection exercises * Standardized patients |
| Curriculum Mapping |  |
| Notes or Resources | * AAD. Simulated Patient Encounters. <https://store.aad.org/products/12923>. 2020. * Hong J, Nguyen TV, Prose NS. Compassionate care: enhancing physician-patient communication and education in dermatology: Part II: Patient education. *J Am Acad Dermatol*. 2013;68(3):364.e1-10. <https://pubmed.ncbi.nlm.nih.gov/23394924/>. 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://pubmed.ncbi.nlm.nih.gov/21182378/>. 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://pubmed.ncbi.nlm.nih.gov/11602365/>. 2020. * Nguyen TV, Hong J, Prose NS. Compassionate care: enhancing physician-patient communication and education in dermatology: Part I: Patient-centered communication. *J Am Acad Dermatol*. 2013;68(3):353.e1-8. <https://pubmed.ncbi.nlm.nih.gov/23394923/>. 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://www.ncbi.nlm.nih.gov/pmc/articles/PMC2631014/>. 2020. |

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| **Interpersonal and Communication Skills 2: Interprofessional and Team Communication**  **Overall Intent:** To effectively communicate with the health care team, including consultants, in both straightforward and complex situations | |
| **Milestones** | **Examples** |
| **Level 1** *Recognizes when a consultation is needed*  *Respectfully receives a consultation request*  *Uses language that demonstrates that one values all members of the health care team* | * Requests consultation with radiation oncology for squamous cell carcinoma with perineural spread * Accepts consult request from the transplant surgery team for ongoing screening of solid organ transplant patient * Acknowledges the contribution of each member of support staff in clinic |
| **Level 2** *Clearly communicates key reasons for a requested consultation*  *Clearly and concisely responds to a consultation request*  *Solicits feedback on performance as a member of the health care team* | * Explains to radiation oncology the reason for adjuvant post-operative radiation therapy based on Mohs section findings * Listens carefully to requesting provider, confirms clinical question, and affirms that request will be addressed promptly * Contacts the Mohs nurse and histotechnician to elicit feedback |
| **Level 3** *Confirms comprehension of consultant recommendations*  *Checks understanding of recommendations when providing consultation*  *Communicates concerns and provides feedback to peers and learners* | * When receiving treatment recommendations from an attending physician, repeats back the plan to ensure understanding * After a consultation has been completed, communicates with the primary care team to verify they have received and understand the recommendations * Discusses opportunities for improvement on quality of in clinic presentation to rotating medical student |
| **Level 4** *Coordinates recommendations from different members of the health care team to optimize patient care*  *Communicates feedback and constructive criticism to superiors* | * Participates in a multidisciplinary tumor board to develop a shared care plan for a patient with advanced squamous cell carcinoma with lymph node metastasis * After an attending recommends vismodegib for a newly diagnosed patient with advanced basal cell carcinoma, the fellow discusses the rationale for first line use of this medication class |
| **Level 5** *Role models flexible communication strategies that demonstrate one values input from all health care team members, resolving conflict when needed*  *Facilitates regular health care team-based feedback in complex situations* | * When faced with discordant treatment recommendations for Merkel cell carcinoma from multiple consultation services, coordinates and helps lead a multidisciplinary meeting to clarify and align clinical decision making * Creates a monthly meeting for providers and staff members in the resident-run county clinic to improve workflow and safety |
| Assessment Models or Tools | * Direct observation * Global assessment * Medical record (chart) audit * Multisource feedback * Simulation * Self-reflection |
| Curriculum Mapping |  |
| Notes or Resources | * Afifi L, Shinkai K. Communication strategies for a successful inpatient dermatology consultative service: A narrative review. *Semin Cutan Med Surg*. 2017;36(1):23-27. <https://pubmed.ncbi.nlm.nih.gov/28247872/>. 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. * Dehon E, Simpson K, Fowler D, Jones A. Development of the faculty 360. *MedEdPORTAL*. 2015;11:10174. <https://www.researchgate.net/publication/282533153_Development_of_the_Faculty_360>. 2020. * Fay D, Mazzone M, Douglas L, Ambuel B. A validated, behavior-based evaluation instrument for family medicine residents. *MedEdPORTAL*. 2007;3:622. <https://www.mededportal.org/doi/10.15766/mep_2374-8265.622>. 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. * Green M, Parrott T, Cook G. Improving your communication skills. *BMJ*. 2012;344:e357. <https://www.bmj.com/content/344/bmj.e357.full.print>. 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://pubmed.ncbi.nlm.nih.gov/23444891/>. 2020. * Lane JL, Gottlieb RP. Structured clinical observations: a method to teach clinical skills with limited time and financial resources. *Pediatrics*. 2000;105(4):973-7. <https://pdfs.semanticscholar.org/8a78/600986dc5cffcab89146df67fe81aebeaecc.pdf>. 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):746-749. <https://medicine.hofstra.edu/pdf/faculty/facdev/facdev-twelve-tips-emotional-intelligence.pdf>. 2020. |

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| **Interpersonal and Communication Skills 3: Communication within Health Care Systems**  **Overall Intent:** To effectively communicate using a variety of methods | |
| **Milestones** | **Examples** |
| **Level 1** *Accurately records information in the electronic health record (EHR) in a timely manner*  *Safeguards protected health information by using appropriate communication channels* | * Documents in the medical record accurately*,* but documentation may include extraneous information * Shreds written documentation with patient identifiers after clinic * In the cafeteria, defers conversation with peer about a recent mutual patient in clinic |
| **Level 2** *Demonstrates organized diagnostic and therapeutic reasoning through notes in the EHR*  *Uses documentation tools and short cuts (e.g., copy/paste) accurately and appropriately, per institutional policy* | * Outlines clinical reasoning that supports the treatment plan in an organized and accurate document * Uses documentation templates appropriately for Mohs surgery procedure note * Writes a note for a patient on acetretin, copying forward last month’s visit and updating dose, current side effects, exam, and plan |
| **Level 3** *Concisely reports diagnostic and therapeutic reasoning in the EHR*  *Appropriately selects and uses direct (e.g., telephone, in-person) and indirect (e.g., progress notes, texts, and inbox messages) forms of communication based on context* | * Concisely documentscomplex clinical thinking, but may not contain anticipatory guidance * Calls patient in a timely manner about recent biopsy result of squamous cell carcinoma and documents telephone encounter |
| **Level 4** *Communicates clearly, concisely, and in an organized written form, including anticipatory guidance*  *Provides written or verbal communication (e.g., patient notes, email) that serves as an example for others to follow* | * Appropriately documents patient counseling for a woman of child-bearing age being treated with vismodegib, accurately documenting time frame for avoidance of pregnancy * Composes exemplary notes that are used to teach others |
| **Level 5** *Coaches others to improve written communication*  *Guides departmental or institutional communication around policies and procedures* | * Leads a work group established by the department to improve the quality of documentation in resident clinic notes * Leads a quality and patient safety committee to communicate biopsy results in a timely manner |
| Assessment Models or Tools | * Direct observation * Medical record (chart) audit * Multisource feedback |
| Curriculum Mapping |  |
| Notes or Resources | * American Academy of Dermatology (AAD). Simulated Patient Encounters. <https://store.aad.org/products/12923>. 2020. * 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.scholars.northwestern.edu/en/publications/promoting-responsible-electronic-documentation-validity-evidence->. 2020. * Haig KM, Sutton S, Whittington J. SBAR: a shares mental model for improving communications between clinicians. *Jt Comm J Qual Patient Saf*[.](https://www.ncbi.nlm.nih.gov/pubmed/16617948) 2006;32(3):167-75. <https://www.jointcommissionjournal.com/article/S1553-7250(06)32022-3/fulltext>. 2020. * Hong J, Nguyen TV, Prose NS. Compassionate care: enhancing physician-patient communication and education in dermatology: Part II: Patient education. J Am Acad Dermatol. 2013;68(3):364.e1-10. <https://pubmed.ncbi.nlm.nih.gov/23394924/>. 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. doi: 10.3109/0142159X.2011.531170.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://pubmed.ncbi.nlm.nih.gov/11602365/>. 2020. * Nguyen TV, Hong J, Prose NS. Compassionate care: enhancing physician-patient communication and education in dermatology: Part I: Patient-centered communication. J Am Acad Dermatol. 2013;68(3):353.e1-8. <https://pubmed.ncbi.nlm.nih.gov/23394923/>. 2020. * Starmer AJ, et al. I-pass, a mnemonic to standardize verbal handoffs. *Pediatrics*. 2012;129(2):201-204. <https://pubmed.ncbi.nlm.nih.gov/22232313/>. 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://www.ncbi.nlm.nih.gov/pmc/articles/PMC2631014/>. 2020. |

To help programs transition to the new version of the Milestones, the original Milestones 1.0 have been mapped to the new Milestones 2.0; it is indicated if 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.

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| --- | --- |
| **Milestones 1.0** | **Milestones 2.0** |
| PC1; Mohs Surgery | PC1: Mohs Surgery |
| PC2: Reconstruction | PC2: Reconstruction |
| PC3: Mohs Histopathology | PC3: Mohs Histopathology |
| PC4: Diagnosis and Management | PC4: Diagnosis and Management |
| MK1: Mastery of Dermatologic Surgical Curriculum | MK1: Micrographic Surgery |
| MK2: Mastery of Cutaneous Oncologic Curriculum | MK2: Cutaneous Oncology |
| SBP1: Practices Cost-Conscious Care (for Patients and Populations) | SBP3: Physician Role in Health Care Systems |
| SBP2: Works Effectively within an Inter-professional Team | SBP2: System Navigation for Patient Centered Care |
|  | SBP4: Accreditation, Compliance, and Quality |
| PBLI1: Appraises and Assimilates Scientific Evidence | PBLI1: Evidence-Based and Informed Practice |
| PBLI2: Integrates Quality Improvement Concepts and Activities in Practice | SBP1: Patient Safety and Quality Improvement |
| PROF1: Giving and Receiving Feedback | PBLI2: Reflective Practice and Commitment to Personal Growth |
| PROF2: Accountability, Honesty, and Integrity | PROF1: Professional Behavior and Ethical Principles  PROF2: Accountability/Conscientiousness |
|  | PROF3: Self-Awareness and Help-Seeking |
| ICS1: Personnel and Conflict Management | ICS2: Interprofessional and Team Communication |
| ICS2: Communicates with Patients, Families, and Health Care Providers | ICS1: Patient- and Family-Centered Communication  ICS2: Interprofessional and Team Communication  ICS3: Communication within the Health Care System |

**Available Milestones Resources**

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

*Milestones Guidebooks:* [*https://www.acgme.org/milestones/resources/*](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/*](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/>