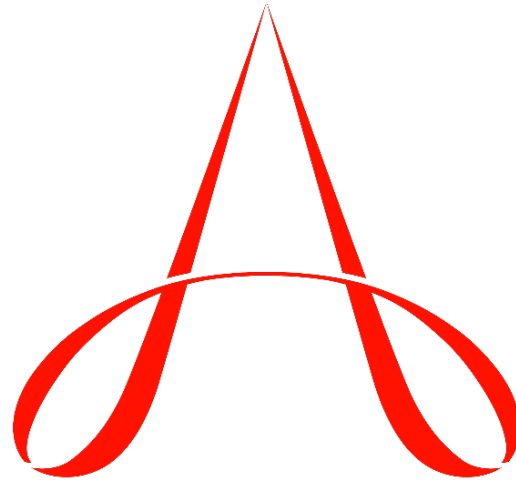




# Supplemental Guide: Dermatopathology



A C G M E

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## **Milestones Supplemental Guide**

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

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

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

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

| <b>Patient Care 1: Visual Recognition – Neoplastic Dermatopathology</b><br><b>Overall Intent:</b> To recognize and diagnose tumors   |  |
|--|--|
| Milestones   | Examples   |
| <b>Level 1</b> <i>Identifies basic categories of cutaneous neoplasms</i><br><br><i>Recognizes and differentiates normal and abnormal histology relevant to neoplastic dermatopathology</i> | <ul style="list-style-type: none"> <li>● Differentiates normal structures (e.g., adnexae) from neoplasms</li> <li>● Identifies origin of well differentiated neoplasms (e.g., keratinocytic, melanocytic, sebaceous, adnexal, neural, adipocytic, etc.)</li> <li>● Identifies cytologic atypia</li> <li>● Identifies tumor necrosis</li> </ul>   |
| <b>Level 2</b> <i>Diagnoses common presentations of common cutaneous neoplasms</i><br><br><i>Forms a histopathologic differential diagnosis for most common cutaneous neoplasms</i>        | <ul style="list-style-type: none"> <li>● Categorizes neoplasms as likely benign or likely malignant</li> <li>● Diagnoses straightforward examples of cysts, basal cell carcinomas, squamous cell carcinomas, seborrheic keratoses, nevi, atypical nevi, melanomas, etc.</li> <li>● For neoplasms with a “paisley tie” appearance, forms a differential diagnosis that includes syringoma, microcystic adnexal carcinoma, desmoplastic trichoepithelioma, and morpheaform basal cell carcinoma</li> <li>● For a dermal spindle cell neoplasm, forms a differential diagnosis that includes spindled squamous cell carcinoma, desmoplastic melanoma, atypical fibroxanthoma, and leiomyosarcoma</li> </ul> |
| <b>Level 3</b> <i>Diagnoses uncommon presentations of common cutaneous neoplasms</i><br><br><i>Develops a differential diagnosis for uncommon neoplasms</i>                                | <ul style="list-style-type: none"> <li>● Diagnoses uncommon variants of melanocytic neoplasms (e.g., angiomatoid Spitz nevus, epithelioid blue nevus, desmoplastic melanoma)</li> <li>● For a dermal neoplasm with hemorrhage, spindle cells, and vascular spaces, forms a differential diagnosis that includes angiosarcoma, Kaposi sarcoma, spindle cell hemangioma, and aneurysmal dermatofibroma</li> </ul>  |
| <b>Level 4</b> <i>Diagnoses uncommon cutaneous neoplasms</i><br><br><i>Identifies subtle clues in the diagnosis of cutaneous neoplasms</i>   | <ul style="list-style-type: none"> <li>● Diagnoses endocrine mucin producing sweat gland carcinoma, porocarcinoma, lymphoepithelioma-like carcinoma, cellular neurothekeoma, epithelioid sarcoma, and pleomorphic lipoma</li> <li>● Identifies “ropey” collagen of a spindle cell lipoma, hyalinized stroma of a hidradenoma, “poroid” cytology of a poroma, and intranuclear pseudoinclusions in a poorly differentiated metastatic melanoma</li> </ul>   |
| <b>Level 5</b> <i>Serves as a role model in the practice of neoplastic dermatopathology; sought out by other health care providers as a consultant</i>                                     | <ul style="list-style-type: none"> <li>● Is sought for expertise on melanomas, soft tissue tumors, lymphoma, etc. by other dermatopathologists</li> </ul>  |

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|                            |  |
|----------------------------|--|
|                            | <ul style="list-style-type: none"> <li>● Consistently asked for consultation, lectures, and/or teaching on neoplastic (or specific category within) dermatopathology</li> </ul>  |
| Assessment Models or Tools | <ul style="list-style-type: none"> <li>● American Society of Dermatopathology (ASDP) Fellowship In-Service Assessment</li> <li>● Direct observation</li> <li>● Unknown slide exams</li> </ul>  |
| Curriculum Mapping         | <ul style="list-style-type: none"> <li>●</li> </ul>  |
| Notes or Resources         | <ul style="list-style-type: none"> <li>● This milestone is intended to measure the fellow's ability to visually recognize tumors and visually recognize histologic features. It does <b>not</b> measure book knowledge of diagnostic criteria or understanding of disease pathogenesis.</li> <li>● The American Society of Dermatopathology (ASDP). Case Study Archives. <a href="https://www.asdp.org/education/case-study-of-the-month/case-archive/">https://www.asdp.org/education/case-study-of-the-month/case-archive/</a>. 2021.</li> <li>● ASDP. Education. <a href="https://www.asdp.org/education/">https://www.asdp.org/education/</a>. 2021.</li> <li>● Jerad Gardner Youtube Videos. <a href="https://www.youtube.com/channel/UCfW2GM4Yqqg1pScI-2clhYQ">https://www.youtube.com/channel/UCfW2GM4Yqqg1pScI-2clhYQ</a>. 2021.</li> <li>● PathPresenter. <a href="https://pathpresenter.net">https://pathpresenter.net</a>. 2021.</li> <li>● University of Michigan. University of Michigan Virtual Slide Box. <a href="https://www.pathology.med.umich.edu/slides/index.php">https://www.pathology.med.umich.edu/slides/index.php</a>. 2021.</li> </ul> |

| <b>Patient Care 2: Visual Recognition – Inflammatory and Non-Neoplastic Dermatopathology</b><br><b>Overall Intent:</b> To visually recognize histologic features and inflammatory and non-neoplastic processes   |   |
|--|---|
| Milestones   | Examples  |
| <p><b>Level 1</b> <i>Identifies basic histopathologic inflammatory patterns and non-neoplastic processes</i></p> <p><i>Differentiates between normal histology and abnormal histopathology relevant to inflammatory and non-neoplastic skin diseases</i></p> | <ul style="list-style-type: none"> <li>● Categorizes straightforward cases into the appropriate reaction pattern (e.g., spongiotic, interface, blistering, vasculitic)</li> <li>● Identifies spongiosis, apoptotic keratinocytes, parakeratosis, eosinophils, red blood cell extravasation, and mucin</li> </ul>  |
| <p><b>Level 2</b> <i>Diagnoses common presentations of common inflammatory and non-neoplastic skin diseases</i></p> <p><i>Forms a histopathologic differential diagnosis for most common inflammatory and non-neoplastic skin diseases</i></p>               | <ul style="list-style-type: none"> <li>● Diagnoses psoriasis, lichen planus, bullous pemphigoid, small-vessel vasculitis, arthropod assault, epidermal nevus, and spongiotic dermatitis</li> <li>● For psoriasiform dermatitis with neutrophils in the stratum corneum, forms a differential diagnosis that includes psoriasis, tinea, impetigo, candida, syphilis, and seborrheic dermatitis</li> </ul>  |
| <p><b>Level 3</b> <i>Diagnoses uncommon presentations of common inflammatory and non-neoplastic skin diseases</i></p> <p><i>Develops a differential diagnosis and work-up plan for uncommon inflammatory and non-neoplastic skin diseases</i></p>            | <ul style="list-style-type: none"> <li>● Diagnoses spongiotic manifestation of psoriasis, granulomatous syphilis, and psoriatic alopecia</li> <li>● Differentiates mycosis fungoides from spongiotic dermatitis</li> <li>● When encountering a combined reaction pattern, such as lichenoid and granulomatous dermatitis, considers syphilis, drug eruption, and mycobacterial infection, recommending T. pallidum immunostain, Fite or Ziehl-Neelsen stains, and obtains medication history</li> </ul> |
| <p><b>Level 4</b> <i>Diagnoses uncommon inflammatory and non-neoplastic skin diseases</i></p> <p><i>Identifies subtle clues in the diagnosis of inflammatory and non-neoplastic skin diseases</i></p>  | <ul style="list-style-type: none"> <li>● Diagnoses Flegel’s disease (hyperkeratosis lenticularis perstans), incontinentia pigmenti, Still’s disease, and tumor necrosis factor-associated alopecia</li> <li>● Recognizes pseudovacuolar change in bullous pemphigoid</li> </ul>   |
| <p><b>Level 5</b> <i>Serves as a role model in practice of inflammatory and non-neoplastic dermatopathology; sought out by other health care providers as a consultant</i></p>   | <ul style="list-style-type: none"> <li>● Sought for expertise on inflammatory dermatopathology by other dermatopathologists</li> <li>● Consistently asked to consult, lecture, and/or teach on inflammatory and non-neoplastic dermatopathology</li> </ul>  |
| <p>Assessment Models or Tools</p>  | <ul style="list-style-type: none"> <li>● ASDP Fellowship In-Service Assessment</li> <li>● Direct observation</li> <li>● Unknown slide exams</li> </ul>  |

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|                    |   |
|--------------------|---|
| Curriculum Mapping | •   |
| Notes or Resources | <ul style="list-style-type: none"><li>• This milestone is intended to measure the fellow's ability to visually recognize inflammatory processes and visually recognize histologic features. This milestone does <b>not</b> measure book knowledge of diagnostic criteria or understanding of disease pathogenesis.</li><li>• The American Society of Dermatopathology (ASDP). Case Study Archives. <a href="https://www.asdp.org/education/case-study-of-the-month/case-archive/">https://www.asdp.org/education/case-study-of-the-month/case-archive/</a>. 2021.</li><li>• ASDP. Education. <a href="https://www.asdp.org/education/">https://www.asdp.org/education/</a>. 2021.</li><li>• Jerad Gardner Youtube Videos. <a href="https://www.youtube.com/channel/UCfW2GM4Yqqg1pScl-2clhYQ">https://www.youtube.com/channel/UCfW2GM4Yqqg1pScl-2clhYQ</a>. 2021.</li><li>• PathPresenter. <a href="https://pathpresenter.net">https://pathpresenter.net</a>. 2021.</li><li>• University of Michigan. University of Michigan Virtual Slide Box. <a href="https://www.pathology.med.umich.edu/slides/index.php">https://www.pathology.med.umich.edu/slides/index.php</a>. 2021.</li></ul> |

| Patient Care 3: Ancillary Studies   |   |
|---|---|
| Overall Intent: To select and correctly interpret the relevant ancillary studies  |   |
| Milestones  | Examples  |
| <b>Level 1</b> Identifies types of ancillary studies (e.g., special stains, immunohistochemistry, immunofluorescence, molecular testing) used in establishing histopathologic diagnoses                         | <ul style="list-style-type: none"> <li>Explains the limitations of hematoxylin and eosin interpretation, and when ancillary studies would be helpful</li> </ul>   |
| <b>Level 2</b> Selects routine ancillary studies (e.g., special stains, immunohistochemistry, molecular testing) in the context of the histopathologic findings   | <ul style="list-style-type: none"> <li>Explains the advantages and limitations of nuclear versus cytoplasmic markers (e.g., Sox10 and Melan-A) in the evaluation of melanocytic neoplasms</li> <li>Orders an appropriate panel of immunostains for atypical fibroxanthoma</li> </ul>  |
| <b>Level 3</b> Interprets routine ancillary studies (e.g., special stains, immunohistochemistry, immunofluorescence, molecular testing) in the context of the clinical and histopathologic findings             | <ul style="list-style-type: none"> <li>Recognizes potential pitfalls in the selection and interpretation of immunostains, such as a lack of specificity of BerEP4 for basal cell carcinoma or partial CD34 (a membrane protein) expression in a cellular dermatofibroma</li> <li>Interprets routine direct immunofluorescence studies in context of clinical and histopathologic findings</li> </ul>  |
| <b>Level 4</b> Selects and interprets complex ancillary studies (e.g., special stains, immunohistochemistry, immunofluorescence, molecular testing) in the context of the clinical and histopathologic findings | <ul style="list-style-type: none"> <li>Orders and interprets complex batteries of immunostains and molecular testing for melanocytic lesions, or work-up of cutaneous lymphomas</li> <li>Interprets complex direct immunofluorescence studies in context of clinical and histopathologic findings</li> </ul>  |
| <b>Level 5</b> Serves as role model in the selection, interpretation, and teaching of ancillary studies, including cost-effective utilization   | <ul style="list-style-type: none"> <li>Validates a new immunostain for clinical use</li> <li>Consistently asked for to consult, lecture, and/or teach on ancillary studies in dermatopathology</li> </ul>   |
| Assessment Models or Tools  | <ul style="list-style-type: none"> <li>Direct observation</li> <li>Evaluation of reports</li> </ul>   |
| Curriculum Mapping  | <ul style="list-style-type: none"> <li></li> </ul>  |
| Notes or Resources  | <ul style="list-style-type: none"> <li>Chatterjee D, Bhattacharjee R. Immunohistochemistry in dermatopathology and its relevance in clinical practice. <i>Indian Dermatol Online J.</i> 2018;9(4):234-244. <a href="https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6042184/">https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6042184/</a>. 2021.</li> <li>Dadzie OE, Neat M, Emley A, Bhawan J, Mahalingam M. Molecular diagnostics – An emerging frontier in dermatopathology. <i>Am J Dermatopathol.</i> 2011;33(1):1-13. <a href="https://journals.lww.com/amjdermatopathology/Abstract/2011/02000/Molecular_Diagnostics_An_Emerging_Frontier_in.1.aspx">https://journals.lww.com/amjdermatopathology/Abstract/2011/02000/Molecular_Diagnostics_An_Emerging_Frontier_in.1.aspx</a>. 2021.</li> <li>Dewar R, Andea AA, Guitart J, Arber DA, Weiss LM. Best practices in diagnostic immunohistochemistry: workup of cutaneous lymphoid lesions in the diagnosis of primary</li> </ul> |

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[https://journals.lww.com/amjdermatopathology/Abstract/2015/08000/A\\_Dermatopathologist\\_s\\_Guide\\_to\\_Troubleshooting.1.aspx](https://journals.lww.com/amjdermatopathology/Abstract/2015/08000/A_Dermatopathologist_s_Guide_to_Troubleshooting.1.aspx). 2021.
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*Frequently Asked Questions*. 2nd ed. New York, NY: Springer; 2015. ISBN:978-1493915774.

**Patient Care 4: Reporting**

**Overall Intent:** To generate effective pathology reports for simple and complex cases while using nuanced language and providing appropriate recommendations

| Milestones  | Examples  |
|---|---|
| <p><b>Level 1</b> <i>Identifies the key elements of a report and demonstrates understanding of timely reporting</i></p> <p><i>Identifies the importance of a complete pathology report for optimal patient care</i></p>   | <ul style="list-style-type: none"> <li>● Engages with attending physician to promote timely turnaround time</li> <li>● Ensures the key elements of a surgical pathology report are present including clinical history, source of specimen, surgical procedure, ancillary study results, gross description, microscopic description, and diagnosis</li> </ul>  |
| <p><b>Level 2</b> <i>With assistance, generates a timely report for a simple case</i></p> <p><i>Identifies implications of the diagnosis in the report and makes simple recommendations</i></p>   | <ul style="list-style-type: none"> <li>● Develops a report for simple cases such as basal cell carcinoma, banal nevus, and granuloma annulare</li> <li>● Recognizes and reports margin status and implications of a biopsy scar extending to the margin of a melanoma excision</li> </ul>   |
| <p><b>Level 3</b> <i>With assistance, generates a timely report that includes synoptic templates and/or ancillary testing for a complex case; independently generates reports for a simple case</i></p> <p><i>With assistance, generates an amended/addended report that includes updated information</i></p> <p><i>With assistance, generates a report that includes the language of uncertainty, as appropriate</i></p> | <ul style="list-style-type: none"> <li>● Develops a report for a more complex specimen such as a melanoma, including College of American Pathologists (CAP) synoptic template</li> <li>● Reports amendments and addendums for simple cases such as special stains for infectious work-up, with assistance</li> <li>● Generates a report with assistance including language of uncertainty, such as in atypical squamous proliferations</li> </ul> |
| <p><b>Level 4</b> <i>Independently generates timely integrated reports for complex cases</i></p> <p><i>Generates an amended/addended report and documents communication with the clinical team, as appropriate</i></p>  | <ul style="list-style-type: none"> <li>● Independently develops a surgical pathology report for complex cases with potential systemic association or cancer predisposition including microsatellite instability in relevant sebaceous tumors</li> <li>● Incorporates clinical findings in interpretation and recommendations</li> </ul>   |

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| <p><i>Independently generates a report that includes the language of uncertainty and complex recommendations</i></p>                  | <ul style="list-style-type: none"> <li>• Generates reports, amendments, or addendums with complex interpretations integrating multiple test results including molecular, and provides recommendations for any follow-up management</li> </ul>  |
| <p><b>Level 5</b> <i>Serves as a role model in creating reports that express the ambiguity and uncertainty for a complex case</i></p> | <ul style="list-style-type: none"> <li>• Consistently generates complex consultation reports incorporating therapeutic implications</li> </ul>   |
| <p>Assessment Models or Tools</p>   | <ul style="list-style-type: none"> <li>• Direct observation</li> <li>• Evaluation of reports</li> </ul>  |
| <p>Curriculum Mapping</p>   | <ul style="list-style-type: none"> <li>•</li> </ul>  |
| <p>Notes or Resources</p>   | <ul style="list-style-type: none"> <li>• American Joint Committee on Cancer. Cancer Staging Manual. <a href="https://cancerstaging.org/Pages/default.aspx">https://cancerstaging.org/Pages/default.aspx</a>. 2021.</li> <li>• College of American Pathologists (CAP). Cancer Protocol Templates <a href="http://www.cap.org/cancerprotocols">www.cap.org/cancerprotocols</a>. 2021.</li> <li>• LeBoit PE. You mean it, but do you say it? <i>Am J Dermatopathol</i>. 1998;20(4):329-331. <a href="https://journals.lww.com/amjdermatopathology/Fulltext/1998/08000/You_Mean_It_But_Do_You_Say_It_.1.aspx">https://journals.lww.com/amjdermatopathology/Fulltext/1998/08000/You_Mean_It_But_Do_You_Say_It_.1.aspx</a>. 2021.</li> <li>• Nakhleh RE, Myers JL, Allen TC, et al. Consensus statement on effective communication of urgent diagnoses and significant, unexpected diagnoses in surgical pathology and cytopathology from the College of American Pathologists and Association of Directors of Anatomic and Surgical Pathology. <i>Arch Pathol Lab Med</i>. 2012;136(2):148-154. <a href="https://meridian.allenpress.com/aplm/article/136/2/148/64793/Consensus-Statement-on-Effective-Communication-of">https://meridian.allenpress.com/aplm/article/136/2/148/64793/Consensus-Statement-on-Effective-Communication-of</a>. 2021.</li> <li>• National Comprehensive Cancer Network. NCCN Guidelines. <a href="https://www.nccn.org/professionals/physician_gls/default.aspx">https://www.nccn.org/professionals/physician_gls/default.aspx</a>. 2021.</li> <li>• Payette MJ, Katz M 3rd, Grant-Kels JM. Melanoma prognostic factors found in the dermatopathology report. <i>Clin Dermatol</i>. 2009;27(1):53-74. <a href="https://www.sciencedirect.com/science/article/abs/pii/S0738081X08001831?via%3Dihub">https://www.sciencedirect.com/science/article/abs/pii/S0738081X08001831?via%3Dihub</a>. 2021.</li> <li>• Rosai J, Bonfiglio TA, Carson JM, et. al. Standardization of the surgical pathology report. <i>Mod Pathol</i>. 1992;5(2):197-199. <a href="https://pubmed.ncbi.nlm.nih.gov/7878300/">https://pubmed.ncbi.nlm.nih.gov/7878300/</a>. 2021.</li> <li>• Smith SM, Yearsley M. Constructing comments in a pathology report: advice for the pathology resident. <i>Arch Pathol Lab Med</i>. 2016; 140(10): 1023-1024. <a href="https://meridian.allenpress.com/aplm/article/140/10/1023/65247/Constructing-Comments-in-a-Pathology-Report-Advice">https://meridian.allenpress.com/aplm/article/140/10/1023/65247/Constructing-Comments-in-a-Pathology-Report-Advice</a>. 2021.</li> <li>• Trotter MJ, Au S, Naert KA. Practical strategies to improve the clinical utility of the dermatopathology report. <i>Arch Pathol Lab Med</i>. 2016;140(8):759-765.</li> </ul> |

<https://meridian.allenpress.com/aplm/article/140/8/759/194327/Practical-Strategies-to-Improve-the-Clinical>. 2021.

| <b>Medical Knowledge 1: Neoplastic Dermatopathology</b>  |  |
|--|--|
| <b>Overall Intent:</b> To possess knowledge of the clinical presentation, histopathologic features, and relevant pathogenesis of cutaneous neoplasms                                       |  |
| <b>Milestones</b>  | <b>Examples</b>  |
| <b>Level 1</b> <i>Demonstrates knowledge of the differences between benign and malignant skin neoplasms</i>  | <ul style="list-style-type: none"> <li>● Describes specific histopathologic features that help differentiate benign and malignant neoplasms including cytomorphology, differentiation, and growth pattern</li> <li>● Discusses the basic features that differentiate seborrheic keratosis from squamous cell carcinoma</li> </ul>  |
| <b>Level 2</b> <i>Demonstrates knowledge of the clinical presentation and histopathologic features of common skin neoplasms</i>  | <ul style="list-style-type: none"> <li>● Describes clinical and diagnostic histopathologic features that distinguish basal cell carcinoma from squamous cell carcinoma of common skin neoplasms including dermatofibroma, neurofibroma, basal cell carcinoma, squamous cell carcinoma, melanocytic nevi, and melanoma</li> <li>● Discusses the clinical and histopathologic features that distinguish, conventional nevi from unequivocal melanoma</li> </ul>  |
| <b>Level 3</b> <i>Demonstrates knowledge of the clinical presentation and histopathologic features of uncommon skin neoplasms</i>  | <ul style="list-style-type: none"> <li>● Describes the clinical features and histopathologic features that distinguish desmoplastic melanoma from dermatofibrosarcoma</li> <li>● Discusses the clinical and histopathologic features that distinguish nodular fasciitis from a sarcoma</li> </ul>  |
| <b>Level 4</b> <i>Demonstrates an in-depth knowledge of the pathogenesis, clinical presentation, histopathologic features, and biologic behavior of common and uncommon skin neoplasms</i> | <ul style="list-style-type: none"> <li>● Discusses etiologies of idiopathic versus post-radiation angiosarcoma</li> <li>● Explains the sequential genetic aberrations in Spitz tumors leading from Spitz nevus to atypical Spitz tumor and Spitz melanoma</li> </ul>   |
| <b>Level 5</b> <i>Serves as a consultant for pathogenesis, clinical presentation, histopathologic features, and biologic behavior of uncommon and rare skin neoplasms</i>                  | <ul style="list-style-type: none"> <li>● Provides expert-level knowledge of the risk factors, molecular/genetic pathogenesis, clinical features, diagnostic histopathologic features, and clinical outcomes of uncommon and rare skin neoplasms including adnexal tumors, cutaneous lymphomas, soft tissue neoplasms, and neoplastic syndromic associations; is sought out by other dermatopathologists</li> <li>● Identified as a cutaneous lymphoma specialist, soft tissue pathologist, or specialist in inherited skin disease-associated neoplasms</li> </ul> |
| Assessment Models or Tools   | <ul style="list-style-type: none"> <li>● ASDP Fellowship In-Service Assessment</li> <li>● Direct observation</li> <li>● Discussions at multidisciplinary conferences</li> <li>● Participation in didactic conferences</li> <li>● Written examinations</li> </ul>   |
| Curriculum Mapping   | <ul style="list-style-type: none"> <li>●</li> </ul>  |
| Notes or Resources   | <ul style="list-style-type: none"> <li>● Calonje JE, Lazar AJ, Brenn T, Billings SD. Chapters 24-35. In: <i>McKee's Pathology of the Skin</i>. 5th ed. Amsterdam, The Netherlands: Elsevier; 2019. ISBN:9780702069833.</li> </ul>  |

- Cerroni L. *Skin Lymphoma: The Illustrated Guide*. 5th ed. West Sussex, UK: John Wiley and Sons; 2020. ISBN:9781119485902.
- Elder DE, Massi D, Scolyer RA, Willemize R. *WHO Classification of Skin Tumors*. 4th ed. IARC Publications; 2018. ISBN:978-92-832-2440-2.
- Goldblum J, Weiss S, Folpe AL. *Enzinger and Weiss's Soft Tissue Tumors*. 7th ed. Amsterdam, The Netherlands: Elsevier; 2019. ISBN:9780323610964.
- Patterson JW. Chapters 32-42. In: *Weedon's Skin Pathology*. 5th ed. Amsterdam, The Netherlands: Elsevier; 2020. ISBN:9780702075827.

| <b>Medical Knowledge 2: Inflammatory and Non-Neoplastic Dermatopathology</b>   |   |
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| <b>Overall Intent:</b> To possess knowledge of the clinical presentation, histopathologic features, and relevant pathogenesis of inflammatory and non-neoplastic skin diseases   |   |
| <b>Milestones</b>  | <b>Examples</b>   |
| <p><b>Level 1</b> <i>Demonstrates knowledge of the basic histopathologic patterns of inflammatory skin diseases and non-neoplastic processes</i></p> <p><i>Recognizes the importance of the clinical presentation in diagnosing inflammatory and non-neoplastic skin diseases</i></p>  | <ul style="list-style-type: none"> <li>● Describes major histopathologic patterns of inflammation in the skin including spongiotic, psoriasiform, lichenoid/interface, perivascular, interstitial, periadnexal, vesiculobullous, granulomatous, vasculitic/vasculopathic, and panniculitic</li> <li>● Recognizes the presence of deposited materials, such as amyloid, cosmetic fillers and tattoo pigment, within the skin</li> </ul>  |
| <p><b>Level 2</b> <i>Demonstrates knowledge of common skin diseases that correspond to inflammatory and non-neoplastic patterns and ability to develop a limited differential diagnosis</i></p> <p><i>Demonstrates knowledge of the clinical presentation of common inflammatory and non-neoplastic skin diseases</i></p>    | <ul style="list-style-type: none"> <li>● Describes specific histopathologic features of psoriasis and distinguishes psoriasis from eczematous dermatitis</li> <li>● Generates a limited differential diagnosis for vacuolar interface dermatitis</li> <li>● Distinguishes lichen planus from lichen drug eruption</li> <li>● Discusses the clinical and histopathologic features that differentiate granuloma annulare from sarcoidosis</li> </ul>  |
| <p><b>Level 3</b> <i>Demonstrates knowledge of uncommon skin diseases that correspond to inflammatory and non-neoplastic patterns and able to develop an expanded differential diagnosis</i></p> <p><i>Demonstrates knowledge of the clinical presentation of uncommon inflammatory and non-neoplastic skin diseases</i></p> | <ul style="list-style-type: none"> <li>● Describes clinical and histopathologic features of malignant atrophic papulosis</li> <li>● Generates an expanded differential diagnosis for epidermal acantholysis based on a specific pattern of inflammation that includes both common and uncommon inflammatory skin diseases</li> <li>● Discusses the clinical, histopathologic, and immunofluorescence features of paraneoplastic pemphigus</li> <li>● Discusses the clinical and histopathologic features that distinguish dermatitis herpetiformis from bullous pemphigoid, pityriasis rubra pilaris from psoriasis, and leukemia cutis from a benign inflammatory infiltrate</li> <li>● Develops an expanded differential diagnosis for a subepidermal bulla, superficial and deep inflammatory infiltrate, psoriasiform changes and epidermal interface alteration</li> <li>● Distinguishes lichen planopilaris from alopecia areata</li> </ul> |
| <p><b>Level 4</b> <i>Demonstrates an in-depth knowledge of the pathogenesis, histopathologic features of common and uncommon inflammatory and non-neoplastic skin diseases</i></p>   | <ul style="list-style-type: none"> <li>● Discusses the molecular/genetic abnormalities in epidermolysis bullosa</li> <li>● Discusses the clinical presentation, laboratory findings and histopathologic features that distinguish eosinophilic granulomatosis with polyangiitis from granulomatosis with polyangiitis</li> </ul>  |

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| <p><i>Correlates the clinical presentation of inflammatory and non-neoplastic skin diseases with the histopathologic patterns</i></p>  | <ul style="list-style-type: none"> <li>• Discusses the clinical and histopathologic features that differentiate methotrexate toxicity from erythema multiforme</li> </ul>  |
| <p><b>Level 5</b> <i>Serves as a consultant for the pathogenesis, clinical presentation, and histopathologic features of uncommon and rare inflammatory and non-neoplastic skin diseases</i></p> | <ul style="list-style-type: none"> <li>• Provides expert-level knowledge of the molecular/genetic abnormalities, pathogenesis, various clinical presentations, diagnostic histopathologic features, and clinical course of uncommon and rare inflammatory skin diseases; is sought out by other dermatopathologists</li> <li>• Serves as an expert in inherited skin diseases with inflammatory skin lesions, paraneoplastic skin diseases, and drug associated side effects/toxicities</li> </ul>   |
| <p>Assessment Models or Tools</p>  | <ul style="list-style-type: none"> <li>• ASDP Fellowship In-Service Assessment</li> <li>• Direct observation</li> <li>• Discussions at multidisciplinary conferences</li> <li>• Participation in didactic conferences</li> <li>• Written examinations</li> </ul>   |
| <p>Curriculum Mapping</p>  | <ul style="list-style-type: none"> <li>•</li> </ul>  |
| <p>Notes or Resources</p>  | <ul style="list-style-type: none"> <li>• Billings S, Cotton J. <i>Inflammatory Dermatopathology: A Pathologist's Survival Guide</i>. 2nd ed. Switzerland: Springer International Publishing; 2016. ISBN:978319418957.</li> <li>• Calonje JE, Lazar AJ, Brenn T, Billings S. <i>McKee's Pathology of the Skin</i>. 5th ed. Amsterdam, The Netherlands: Elsevier; 2019. ISBN:9780702069833.</li> <li>• Murphy GF, Saaverda AP, Mihm MC. <i>Inflammatory Disorders of the Skin (Atlas of Nontumor Pathology)</i>. 1st ed. Arlington, VA: American Registry of Pathology; 2012. ISBN:9781933477244.</li> <li>• Patterson JW. <i>Weedon's Skin Pathology</i>. 5th ed. Amsterdam, The Netherlands: Elsevier; 2020. ISBN:9780702075827.</li> <li>• Sperling LC, Cowper SE, Knopp EA. <i>An Atlas of Hair Pathology with Clinical Correlations</i>. 2nd ed. Boca Raton, FL: Taylor and Francis Group; 2012. ISBN:9781841847337.</li> </ul> |

| <b>Medical Knowledge 3: Ancillary Studies</b>  |   |
|--|---|
| <b>Overall Intent:</b> To possess knowledge of the indications, limitations, and methodology of ancillary tests in dermatopathology  |   |
| <b>Milestones</b>  | <b>Examples</b>   |
| <b>Level 1</b> <i>Understands available ancillary studies (e.g., special histochemical stains, immunohistochemistry, immunofluorescence, molecular testing) and basics of tissue processing</i>  | <ul style="list-style-type: none"> <li>• Identifies distinctions between classes of ancillary studies, such as special versus immunohistochemical stains versus immunofluorescence versus molecular diagnostic studies</li> <li>• Describes the sequence of steps in routine histology, including fixation, processing, embedding, and microtomy</li> </ul>   |
| <b>Level 2</b> <i>Demonstrates knowledge of the appropriate use for ancillary studies (e.g., special histochemical stains, immunohistochemistry, immunofluorescence, molecular testing)</i><br><br><i>Demonstrates knowledge of expected ancillary study results in common skin diseases</i> | <ul style="list-style-type: none"> <li>• Discusses the indications for using common histochemical stains, immunohistochemistry, and immunofluorescence in the diagnosis of common skin diseases</li> <li>• Discusses the general appropriate use of molecular testing</li> <li>• Describes common immunohistochemical stains of each cell lineage (e.g., S100 and Sox-10 in neural lesions, Mart-1 in melanocytic lesions, keratins in carcinomas, CD31 and erg in vascular lesions)</li> </ul>   |
| <b>Level 3</b> <i>Demonstrates knowledge of the fundamental techniques, pitfalls, and artifacts in routine ancillary studies</i><br><br><i>Demonstrates knowledge of appropriate use and expected ancillary study results in uncommon skin diseases</i>                                      | <ul style="list-style-type: none"> <li>• Describes the fundamental techniques and steps involved in histochemical stains, immunohistochemistry, and immunofluorescence</li> <li>• Discusses the indications for using uncommon histochemical stains and panels of immunohistochemistry and appropriate scenarios of when to use testing methodologies (e.g., LNA in Kaposi sarcoma, MUM-1 in diffuse large C-cell lymphoma, c-Myc in post-radiation angiosarcoma)</li> <li>• Describes technical errors and artifacts in histochemical stains and technical and potential interpretive errors in evaluating immunohistochemistry</li> <li>• Discusses the indication for using specific molecular tests in diagnosing skin diseases and appropriate scenarios of when to use testing methodologies</li> <li>• Recognizes regularly identified molecular events in benign and malignant lesions</li> </ul> |
| <b>Level 4</b> <i>Demonstrates knowledge of the interpretation and troubleshooting of complex ancillary studies</i>  | <ul style="list-style-type: none"> <li>• Describes technical errors and artifacts of molecular tests as applied to individual cases</li> <li>• Describes the fundamental techniques of molecular tests, including genetics studies, polymerase chain reaction, and fluorescence in situ hybridization (FISH)</li> <li>• Describes the appropriate use of immunohistochemical and molecular techniques when applied to ambiguous spitzoid neoplasms</li> </ul>   |

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| <p><i>Demonstrates knowledge of potentially conflicting ancillary study results</i></p>  | <ul style="list-style-type: none"> <li>• Describes suitable specimen adequacy for molecular and other ancillary studies</li> <li>• Discusses potentially confusing immunohistochemical results (e.g., Ber-EP4, B-cell lymphoma 2, Paired Box 5 (PAX5) in Merkel cell carcinoma)</li> </ul>  |
| <p><b>Level 5</b> <i>Teaches the principles, pitfalls, and expected disease-related results of ancillary studies (e.g., special histochemical stains, immunohistochemistry, immunofluorescence, molecular studies)</i></p> | <ul style="list-style-type: none"> <li>• Provides expert-level knowledge to other health care professionals in the use and interpretation of histochemical stains, immunohistochemistry, and molecular studies relevant to diagnosing skin diseases</li> <li>• Advises on immunohistochemistry panels, correlates ancillary test data for other health care professionals, and interprets molecular tests in the context of skin diseases</li> </ul>  |
| <p>Assessment Models or Tools</p>  | <ul style="list-style-type: none"> <li>• ASDP Fellowship In-Service Assessment</li> <li>• Direct observation</li> <li>• Written examinations</li> </ul>   |
| <p>Curriculum Mapping</p>  | <ul style="list-style-type: none"> <li>•</li> </ul>   |
| <p>Notes or Resources</p>  | <ul style="list-style-type: none"> <li>• Buckingham L. <i>Molecular Diagnostics: Fundamentals, Methods and Clinical Applications</i>. 3rd ed. Philadelphia, PA: FA Davis Company; 2019. ISBN:7780803668294.</li> <li>• Chatterjee S. Artefacts in histopathology. <i>J Oral and Maxillofac Pathol</i>. 2014;18(Suppl 1):S111-S116. <a href="https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4211218/">https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4211218/</a>. 2021.</li> <li>• Coleman W, Tsongalis G. <i>Diagnostic Molecular Pathology</i>. 1st ed. Amsterdam, The Netherlands: Elsevier; 2016. ISBN:9780128008867.</li> <li>• Dabs, DJ. <i>Diagnostic Immunohistochemistry</i>. 5th ed. Amsterdam, The Netherlands: Elsevier; 2018. ISBN:9780323477321.</li> <li>• Hoang M. <i>Immunohistochemistry in Diagnostic Dermatopathology</i>. 1st ed. Cambridge, United Kingdom: Cambridge University Press; 2017. ISBN:9781316576816.</li> <li>• Khan S, Tijare M, Jain M, Desai A. Artifacts in histopathology: A potential cause of misinterpretation. <i>Research and Reviews: Journal of Dental Sciences</i>. 2014;2(2):23-31. <a href="https://www.rroj.com/open-access/artifacts-in-histopathology-a-potential-cause-of-misinterpretation-.php?aid=34581">https://www.rroj.com/open-access/artifacts-in-histopathology-a-potential-cause-of-misinterpretation-.php?aid=34581</a>. 2021.</li> <li>• Ramdial PK, Bastian BC, North JP, et al. Specialized techniques in dermatopathology. In: Calonje JE, Lazar AJ, Brenn T, Billings S. <i>McKee's Pathology of the Skin</i>. 5th ed. Amsterdam, The Netherlands: Elsevier; 2019. ISBN:9780702069833.</li> <li>• Suvarna K, Layton C, Bancroft J. <i>Bancroft's Theory and Practice of Histological Techniques</i>. 8th ed. The Netherlands: Elsevier; 2018. ISBN:9780702068645.</li> <li>• Taqi SA, Sami SA, Sami LB, Zaki SA. A review of artifacts in histopathology. <i>J Oral Maxillofac Pathol</i>. 2018;22(2):279. <a href="https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6097380/">https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6097380/</a>. 2021.</li> <li>• Wick MR. <i>Diagnostic Histochemistry</i>. 1st ed. Cambridge, United Kingdom: Cambridge University Press; 2008. ISBN:9780521874106.</li> </ul> |

| <b>Systems-Based Practice 1: Patient Safety and Quality Improvement (QI)</b>   |   |
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| <b>Overall Intent:</b> 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   |   |
| <b>Milestones</b>  | <b>Examples</b>   |
| <p><b>Level 1</b> <i>Demonstrates knowledge of common patient safety events</i></p> <p><i>Demonstrates knowledge of how to report patient safety events</i></p> <p><i>Demonstrates knowledge of basic QI methodologies and metrics</i></p>   | <ul style="list-style-type: none"> <li>● Identifies patient safety events, reporting pathways, and QI strategies, but has not yet participated in such activities</li> <li>● Explains the differences between pre-analytic and analytic errors</li> <br/> <li>● Describes how to report errors or near misses in the local environment, but has not yet done it</li> <br/> <li>● Describes root cause analysis and the Swiss cheese model of errors</li> </ul>  |
| <p><b>Level 2</b> <i>Identifies system factors that lead to patient safety events</i></p> <p><i>Reports patient safety events through institutional reporting systems (simulated or actual)</i></p> <p><i>Describes departmental and institutional QI initiatives</i></p>                                  | <ul style="list-style-type: none"> <li>● Understands what system stressors are likely to increase chances of error including new employees, lack of adherence to protocols, understaffing, distracted employees, lack of appropriate supervision, and lack of sense of responsibility</li> <li>● Identifies pre-analytic errors including labeling in office, floaters, incomplete sections/misembedding, specimen being placed in incorrect collection bottle, mis-accessioning, specimen being placed in incorrect cassette, histotechnician placing wrong tissue on a given slide, matching the wrong slide with a patient’s paperwork, transcription, etc.</li> <br/> <li>● Identifies and reports a patient safety issue (real or simulated), along with system factors contributing to that issue</li> <br/> <li>● Identifies current improvement initiatives within their scope of practice</li> </ul> |
| <p><b>Level 3</b> <i>Participates in analysis of patient safety events to identify problem (simulated or actual)</i></p> <p><i>Participates in disclosure of patient safety events to clinicians (simulated or actual)</i></p> <p><i>Participates in departmental and institutional QI initiatives</i></p> | <ul style="list-style-type: none"> <li>● Reviews a patient safety event (e.g., preparing for morbidity and mortality presentations, joining a root cause analysis group) and communicates results to involved parties, supervisors, and or clinicians (as appropriate for the specific event)</li> <br/> <li>● Participates in a QI project, though they may not have yet designed a QI project</li> <br/> <li>● Communicates with clinicians regarding a lost or damaged specimen</li> </ul>   |

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| <p><b>Level 4</b> <i>Conducts analysis of patient safety events and offers error prevention strategies (simulated or actual)</i></p> <p><i>Discloses patient safety events to clinicians (simulated or actual)</i></p> <p><i>Identifies, develops, implements, and analyzes a QI project</i></p>                   | <ul style="list-style-type: none"> <li>• Collaborates with a team to lead the analysis of a patient safety event and can competently communicate with stakeholders about those events</li> <li>• Designs a quality improvement project to reduce turnaround time for patients receiving skin biopsies during inpatient consultation and communicates study results to stakeholders</li> </ul>   |
| <p><b>Level 5</b> <i>Actively engages teams and processes to modify systems to prevent patient safety events</i></p> <p><i>Role models or mentors others in the disclosure of patient safety events</i></p> <p><i>Creates, implements, and assesses QI initiatives at the institutional or community level</i></p> | <ul style="list-style-type: none"> <li>• Competently assumes a leadership role at the departmental or institutional level for patient safety and/or QI initiatives, and initiates action or call attention to the need for action</li> </ul>  |
| <p>Assessment Models or Tools</p>  | <ul style="list-style-type: none"> <li>• Direct observation</li> <li>• Documentation of QI or patient safety project processes or outcomes</li> <li>• E-module multiple choice tests</li> <li>• Multisource feedback</li> <li>• Portfolio</li> <li>• Reflection</li> <li>• Simulation</li> </ul>  |
| <p>Curriculum Mapping</p>  | <ul style="list-style-type: none"> <li>•</li> </ul>   |
| <p>Notes or Resources</p>  | <ul style="list-style-type: none"> <li>• Institute of Healthcare Improvement. <a href="http://www.ihl.org/Pages/default.aspx">http://www.ihl.org/Pages/default.aspx</a>. 2021.</li> <li>• Weyers W. Confusion-specimen mix-up in dermatopathology and measures to prevent and detect it. <i>Dermatol Pract Concept</i>. 2014;4(1):27-42.</li> <li>• <a href="https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3919837/">https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3919837/</a>. 2021.</li> </ul> |

| <b>Systems-Based Practice 2: Systems Navigation for Patient-Centered Care</b>  |   |
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| <b>Overall Intent:</b> 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 |   |
| <b>Milestones</b>  | <b>Examples</b>   |
| <p><b>Level 1</b> <i>Demonstrates knowledge of case coordination</i></p> <p><i>Identifies key elements for safe and effective transitions of care</i></p>  | <ul style="list-style-type: none"> <li>● Identifies the members of the interprofessional team, including transcriptionists, histotechnologists, laboratory technicians, pathologist assistants, consultants, other specialty physicians, nurses, and consultants, and describes their roles but is not yet routinely using team members or accessing all available resources</li> <li>● Lists the essential components of an effective sign-out and care transition including obtaining additional information from a clinician or the medical record, and handing off partially completed (“leftover”) cases when switching services or starting vacation</li> </ul>   |
| <p><b>Level 2</b> <i>Coordinates care of patients in routine cases effectively using interprofessional teams</i></p> <p><i>Performs safe and effective transitions of care in routine situations</i></p>                     | <ul style="list-style-type: none"> <li>● Works with transcriptionists, technologists, and pathologist assistants to effectively produce a timely and accurate report with appropriate gross description and sections</li> <li>● Obtains any additional necessary clinical history from the medical record or speaking to the clinicians</li> <li>● Performs a routine case sign-out but still needs direct supervision to identify and appropriately triage cases or calls (priority versus non-priority case or call)</li> <li>● Effectively communicates and prepares a routine “leftover” case for sign-out with special stains or immunohistochemistry from another dermatopathologist</li> </ul>   |
| <p><b>Level 3</b> <i>Coordinates care of patients in complex cases effectively using interprofessional teams</i></p> <p><i>Performs safe and effective transitions of care in complex situations</i></p>                     | <ul style="list-style-type: none"> <li>● At interdisciplinary tumor boards and patient grand rounds, engages in appropriate discussion of patient care testing options and impact on therapy for complex pathologic cases</li> <li>● Appreciates the utility, order, and synthesized results from multiple different testing modalities to reach an accurate diagnosis (e.g., a lymphoid infiltrate requiring immunohistochemical stains and gene rearrangement studies)</li> <li>● Shows a case to a consultant and accurately understands and conveys the consultant’s opinion to the faculty dermatopathologist responsible for the case, including a case requiring consultation by a hematopathologist</li> <li>● Effectively communicates and prepares a complex “leftover” case for sign-out with ancillary studies from another dermatopathologist</li> </ul> |
| <p><b>Level 4</b> <i>Models effective coordination of patient-centered care among different disciplines and specialties</i></p>  | <ul style="list-style-type: none"> <li>● Role models and educates residents and colleagues regarding the engagement of appropriate interprofessional team members, as needed for each patient and/or case, and ensures the necessary resources have been arranged</li> </ul>  |

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| <p><i>Models and advocates for safe and effective transitions of care within and across health care delivery systems</i></p>  | <ul style="list-style-type: none"> <li>● Consistently relays any pertinent information (at an advanced level) during the hand-off of any “leftover” case, regardless whether that information is clinical or histologic in nature</li> </ul>  |
| <p><b>Level 5</b> <i>Analyzes the process of care coordination and leads in the design and implementation of improvements</i></p> <p><i>Improves quality of transitions of care within and across health care delivery systems to optimize patient outcomes</i></p> | <ul style="list-style-type: none"> <li>● Works with all members of the clinical and laboratory team to deliver excellent patient care on cases of any level of complexity, and works with the team to drive advancements in testing modalities offered as well as to drive improved efficiency and accuracy</li> <li>● Works with a QI mentor to identify better hand-off tools for “leftover” cases and more effective protocols for tumor boards and grand rounds</li> </ul>  |
| <p>Assessment Models or Tools</p>   | <ul style="list-style-type: none"> <li>● Case management quality metrics and goals mined from electronic health records (EHR), anatomical pathology or clinical pathology laboratory informatics systems</li> <li>● Chart review</li> <li>● Direct observation (including discussion during rounds, tumor boards, case work-up and case presentations)</li> <li>● Multisource feedback</li> <li>● Report review</li> </ul>  |
| <p>Curriculum Mapping</p>   | <ul style="list-style-type: none"> <li>●</li> </ul>   |
| <p>Notes or Resources</p>   | <ul style="list-style-type: none"> <li>● Aller RD. Pathology's contributions to disease surveillance: Sending our data to public health officials and encouraging our clinical colleagues to do so. <i>Archives of Path Lab Med.</i> 2009;133(6):926-932. <a href="https://pubmed.ncbi.nlm.nih.gov/19492885/">https://pubmed.ncbi.nlm.nih.gov/19492885/</a>. 2021.</li> <li>● Centers for Disease Control and Prevention (CDC). Population Health Training. <a href="https://www.cdc.gov/pophealthtraining/whatis.html">https://www.cdc.gov/pophealthtraining/whatis.html</a>. 2021.</li> <li>● College of American Pathologists (CAP). Competency Model for Pathologists. <a href="https://learn.cap.org/content/cap/pdfs/Competency_Model.pdf">https://learn.cap.org/content/cap/pdfs/Competency_Model.pdf</a>. 2021.</li> <li>● Fogelberg A, Ioffreda M, Helm KF. The utility of digital clinical photographs in dermatopathology. <i>J Cutan Med Surg.</i> 2004;8(2):116-121. <a href="https://journals.sagepub.com/doi/10.1177/120347540400800207#articleCitationDownloadContainer">https://journals.sagepub.com/doi/10.1177/120347540400800207#articleCitationDownloadContainer</a>. 2021.</li> <li>● Kaplan KJ. In Pursuit of Patient-Centered Care. <a href="https://tissuepathology.com/2016/03/29/in-pursuit-of-patient-centered-care/#axzz5e7nSsAns">https://tissuepathology.com/2016/03/29/in-pursuit-of-patient-centered-care/#axzz5e7nSsAns</a>. 2021.</li> </ul> |

| <b>Systems-Based Practice 3: Physician Role in Health Care System</b>   |   |
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| <b>Overall Intent:</b> To understand the physician’s role in the complex health care system and how to optimize the system to improve patient care and the health system’s performance  |   |
| <b>Milestones</b>   | <b>Examples</b>   |
| <p><b>Level 1</b> <i>Identifies key components of the complex health care system</i></p> <p><i>Describes basic health payment systems and practice models</i></p>   | <ul style="list-style-type: none"> <li>● Recognizes the multiple, often competing forces, in the health care system (e.g., names systems and providers involved in test ordering)</li> <li>● Recognizes there are different payment systems, such as Medicare, Medicaid, Veterans Affairs (the VA), and commercial third-party payors</li> <li>● With direct supervision, completes a report following a routine patient specimen and applies appropriate coding in compliance with regulations</li> </ul>  |
| <p><b>Level 2</b> <i>Describes how components of a complex health care system are interrelated, and how this impacts patient care</i></p> <p><i>Documents testing details and explains the impact of documentation on billing and reimbursement</i></p>   | <ul style="list-style-type: none"> <li>● Understands the impact of health plans on testing workflow and reimbursement</li> <li>● Occasionally thinks through clinical redesign to improve quality; does not yet modify personal practice to enhance outcomes</li> <li>● Completes a report following a routine patient specimen and applies appropriate coding in compliance with regulations, with oversight</li> </ul>  |
| <p><b>Level 3</b> <i>Discusses how individual practice affects the broader system (e.g., test utilization, turnaround time)</i></p> <p><i>Engages with clinicians in shared decision making, such as preauthorization for complex testing; has a working knowledge and application of appropriate use criteria within the field of dermatopathology</i></p> | <ul style="list-style-type: none"> <li>● Shepherds cases through to completion in a timely manner, with understanding of effect of timing of ordering ancillary studies on total turnaround time</li> <li>● Understands, accesses, and analyzes personal performance; relevant data may include:                             <ul style="list-style-type: none"> <li>○ Cases prepared</li> <li>○ Cases with stains ordered</li> <li>○ Surgical pathology or clinical case logs</li> </ul> </li> <li>● Uses shared decision making and adapts the choice of the most cost-effective testing depending on the relevant clinical needs and follows appropriate use criteria guidelines</li> </ul> |
| <p><b>Level 4</b> <i>Manages various components of the complex health care system to provide efficient and effective patient care and transition of care</i></p> <p><i>Practices and advocates for cost-effective patient care</i></p>  | <ul style="list-style-type: none"> <li>● Works collaboratively with the department on a QI project</li> <li>● Identifies when a stain should or should not be ordered based on overall patient care</li> </ul>  |

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| <p><b>Level 5</b> <i>Advocates for or leads systems change that enhances high-value, efficient, and effective patient care and transition of care</i></p> <p><i>Participates in health policy advocacy activities</i></p> | <ul style="list-style-type: none"> <li>● Performs an analysis of laboratory practices to identify and modify areas of improvement to make laboratory testing more efficient</li> </ul>   |
| <p>Assessment Models or Tools</p>   | <ul style="list-style-type: none"> <li>● Audit of test usage</li> <li>● Direct observation</li> <li>● QI project</li> </ul>  |
| <p>Curriculum Mapping</p>   | <ul style="list-style-type: none"> <li>●</li> </ul>  |
| <p>Notes or Resources</p>   | <ul style="list-style-type: none"> <li>● Agency for Healthcare Research and Quality (AHRQ). Measuring the Quality of Physician Care. <a href="https://www.ahrq.gov/professionals/quality-patient-safety/talkingquality/create/physician/challenges.html">https://www.ahrq.gov/professionals/quality-patient-safety/talkingquality/create/physician/challenges.html</a>. 2021.</li> <li>● AHRQ. Major Physician Measurement Sets. <a href="https://www.ahrq.gov/professionals/quality-patient-safety/talkingquality/create/physician/measurementsets.html">https://www.ahrq.gov/professionals/quality-patient-safety/talkingquality/create/physician/measurementsets.html</a>. 2021.</li> <li>● American Board of Internal Medicine (ABIM). QI/PI Activities. <a href="https://www.abim.org/maintenance-of-certification/earning-points/qi-pi-activities.aspx">https://www.abim.org/maintenance-of-certification/earning-points/qi-pi-activities.aspx</a>. 2021.</li> <li>● The Commonwealth Fund. Health System Data Center. <a href="https://datacenter.commonwealthfund.org/#ind=1/sc=1">https://datacenter.commonwealthfund.org/#ind=1/sc=1</a>. 2021.</li> <li>● Dzau VJ, McClellan M, Burke S, et al. Vital directions for health and health care: priorities form a national academy of medicine initiative. <i>JAMA</i>. 2017;317(14):1461-1470. <a href="https://nam.edu/vital-directions-for-health-health-care-priorities-from-a-national-academy-of-medicine-initiative/">https://nam.edu/vital-directions-for-health-health-care-priorities-from-a-national-academy-of-medicine-initiative/</a>. 2021.</li> <li>● The Kaiser Family Foundation. <a href="http://www.kff.org">www.kff.org</a>. 2021.</li> <li>● The Kaiser Family Foundation. Topic: Health Reform. <a href="http://kff.org/health-reform/">http://kff.org/health-reform/</a>. 2021.</li> <li>● Vidal CI, Armbrect EA, Andea AA, et al. Appropriate use criteria in dermatopathology: Initial recommendations from the American Society of Dermatopathology. <i>J Cutan Pathol</i>. 2018;45(8):563-580. <a href="https://onlinelibrary.wiley.com/doi/full/10.1111/cup.13142">https://onlinelibrary.wiley.com/doi/full/10.1111/cup.13142</a>. 2021.</li> </ul> |

| <b>Systems-Based Practice 4: Accreditation, Compliance, and Quality</b><br><b>Overall Intent:</b> To gain in-depth knowledge of the components of laboratory accreditation, regulatory compliance, and quality management                                  |   |
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| Milestones   | Examples  |
| <b>Level 1</b> <i>Discusses various laboratory accreditation agencies</i><br><br><i>Discusses the need for quality control</i>   | <ul style="list-style-type: none"> <li>● Recognizes external versus internal control tissue for daily quality control</li> <li>● Appreciates clinical significance of control measures</li> <li>● Understands the clinical significance and distinction between regulation and accreditation</li> </ul>   |
| <b>Level 2</b> <i>Understands the importance of ongoing laboratory accreditation and regulatory compliance</i><br><br><i>Participates in daily quality control</i>   | <ul style="list-style-type: none"> <li>● Assesses tissue controls on immunohistochemical and special stains</li> </ul>  |
| <b>Level 3</b> <i>Demonstrates knowledge of the components of laboratory accreditation and regulatory compliance, either through training or experience</i><br><br><i>Demonstrates knowledge of the components of a laboratory quality management plan</i> | <ul style="list-style-type: none"> <li>● Attends departmental quality assurance/quality control meetings including tumor boards, morbidity and mortality (M and M) conferences, and/or accreditation/regulatory summation meetings</li> </ul>   |
| <b>Level 4</b> <i>Identifies the process for achieving accreditation and maintaining regulatory compliance</i><br><br><i>Reviews the quality management plan to identify areas for improvement</i>   | <ul style="list-style-type: none"> <li>● Completes QI project</li> <li>● Actively participates in departmental quality assurance/quality control meetings including tumor boards, M and M conferences, and/or accreditation/regulatory summation meetings</li> </ul>  |
| <b>Level 5</b> <i>Participates in an internal or external laboratory inspection</i><br><br><i>Creates and follows a comprehensive quality management plan</i>  | <ul style="list-style-type: none"> <li>● Completes inspector training for accreditation agency (e.g., College of American Pathologists [CAP]) to understand process for achieving/maintaining regulatory/accreditation compliance</li> <li>● Serves on a committee for an institutional, regional, or national accreditation or quality control agency</li> <li>● Performs mock or self-inspection using a CAP checklist</li> </ul> |
| <b>Assessment Models or Tools</b>  | <ul style="list-style-type: none"> <li>● Assignment of duties for departmental or hospital quality assurance/quality control committees</li> </ul>  |

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|                    | <ul style="list-style-type: none"><li>• Evaluations</li><li>• Planning and completion of QI projects</li><li>• Presentation at tumor boards and or M and M conferences</li></ul>  |
| Curriculum Mapping | <ul style="list-style-type: none"><li>•</li></ul>   |
| Notes or Resources | <ul style="list-style-type: none"><li>• CAP. Inspector Training Options. <a href="https://www.cap.org/laboratory-improvement/accreditation/inspector-training">https://www.cap.org/laboratory-improvement/accreditation/inspector-training</a>. 2021.</li></ul> |

| Practice-Based Learning and Improvement 1: Evidence-Based Practice  |  |
|---|--|
| Overall Intent: To incorporate evidence into clinical practice  |  |
| Milestones  | Examples   |
| <b>Level 1</b> <i>Demonstrates how to locate evidence applicable to the diagnostic work-up of routine cases</i>   | <ul style="list-style-type: none"> <li>• Completes assigned readings on common diagnostic dilemmas and algorithms from assigned reference book chapters</li> </ul>   |
| <b>Level 2</b> <i>When prompted, locates and applies evidence to guide the diagnostic work-up of complex cases</i>  | <ul style="list-style-type: none"> <li>• After encountering a novel diagnostic dilemma at sign-out, completes assigned readings from reference books and journals, and applies this knowledge when subsequently encountering a similar dilemma</li> </ul>  |
| <b>Level 3</b> <i>Proactively locates and applies evidence to guide the diagnostic work-up of complex cases</i>   | <ul style="list-style-type: none"> <li>• Independently locates relevant material from reference books and journals to help establish a differential diagnosis in cases with unusual or ambiguous clinical, histopathologic, or molecular findings, and brings this material to sign-out</li> </ul> |
| <b>Level 4</b> <i>Consistently locates and applies the best available evidence to guide the diagnostic work-up of complex cases</i>   | <ul style="list-style-type: none"> <li>• Independently locates relevant material from reference books and journals, selecting only the most pertinent information to present at sign-out along with an accurate diagnosis based on the material</li> </ul>   |
| <b>Level 5</b> <i>Consistently and critically appraises and applies evidence, even in the face of uncertainty and/or conflicting evidence, to guide the diagnostic work-up of complex cases</i> | <ul style="list-style-type: none"> <li>• Appreciates the limitations of evidence-based literature and conducts a thorough literature review, evaluating the comparative merits of conflicting data, and arrives at a reasonable diagnosis</li> </ul>   |
| Assessment Models or Tools  | <ul style="list-style-type: none"> <li>• Direct observation</li> <li>• Evaluation of drafted preliminary and final reports</li> <li>• Evaluation of presentations</li> </ul>   |
| Curriculum Mapping  | <ul style="list-style-type: none"> <li>•</li> </ul>  |
| Notes or Resources  | <ul style="list-style-type: none"> <li>• U.S. National Library of Medicine. PubMed Tutorial. <a href="https://www.nlm.nih.gov/bsd/disted/pubmedtutorial/cover.html">https://www.nlm.nih.gov/bsd/disted/pubmedtutorial/cover.html</a>. 2021.</li> </ul>   |

| <b>Practice-based Learning and Improvement 2: Reflective Practice and Commitment to Personal Growth</b><br><b>Overall Intent:</b> 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   |
| <b>Level 1</b> <i>Demonstrates openness to receiving performance data</i><br><br><i>Identifies the gap(s) between expectations and actual performance</i>  | <ul style="list-style-type: none"> <li>• Respectfully accepts written and verbal feedback, acknowledging gaps between program expectations and actual performance</li> </ul>   |
| <b>Level 2</b> <i>Accepts feedback with humility</i><br><br><i>Designs a learning plan to address the gap(s) between expectations and actual performance</i>   | <ul style="list-style-type: none"> <li>• Respectfully accepts written and verbal feedback and takes responsibility for narrowing performance gaps by establishing an educational plan</li> </ul>   |
| <b>Level 3</b> <i>Seeks performance data episodically</i><br><br><i>Implements a learning plan to narrow the gap(s) between expectations and actual performance</i>  | <ul style="list-style-type: none"> <li>• Establishes an educational plan and shows gradual improvement (narrowing of performance gaps)</li> <li>• Asks for feedback on drafted preliminary and final reports and clarifications on any modifications or corrections made by the faculty</li> <li>• Asks for feedback on verbal presentations at tumor boards and grand rounds</li> </ul> |
| <b>Level 4</b> <i>Seeks performance data regularly and adapts performance based on feedback</i><br><br><i>Measures effectiveness of a learning plan using performance feedback data and narrows the gap(s) between expectations and actual performance</i>   | <ul style="list-style-type: none"> <li>• Uses data from fellow in service examinations, slide quizzes provided by the fellowship program, and feedback from online assessments to gauge the success of the reading plan, making necessary adjustments</li> </ul>   |
| <b>Level 5</b> <i>Role models seeking and adapting to feedback</i><br><br><i>Coaches others on designing and implementing an effective learning plan</i>   | <ul style="list-style-type: none"> <li>• Mentors more junior residents on the dermatopathology service by identifying gaps in their knowledge and/or performance and helps them address those gaps</li> </ul>  |
| Assessment Models or Tools   | <ul style="list-style-type: none"> <li>• Direct observation</li> <li>• Multisource feedback</li> <li>• Review of learning plan</li> <li>• Self-assessments</li> </ul>  |
| Curriculum Mapping   | <ul style="list-style-type: none"> <li>•</li> </ul>  |

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| Notes or Resources | <ul style="list-style-type: none"><li>● Burke AE, Benson B, Englander R, Carraccio C, Hicks PJ. Domain of competence: practice-based learning and improvement. <i>Academic Pediatrics</i>. 2014;14(2 Suppl):S38-S54. <a href="https://www.academicpedsjnl.net/article/S1876-2859(13)00333-1/pdf">https://www.academicpedsjnl.net/article/S1876-2859(13)00333-1/pdf</a>. 2021.</li><li>● Hojat M, Veloski JJ, Gonnella JS. Measurement and correlates of physicians' lifelong learning. <i>Academic Medicine</i>. 2009;84(8):1066-1074. <a href="https://journals.lww.com/academicmedicine/fulltext/2009/08000/Measurement_and_Correlates_of_Physicians_Lifelong.21.aspx">https://journals.lww.com/academicmedicine/fulltext/2009/08000/Measurement_and_Correlates_of_Physicians_Lifelong.21.aspx</a>. 2021.</li><li>● Lockspeiser TM, Schmitter PA, Lane JL, Hanson JL, Rosenberg AA, Park YS. Assessing residents' written learning goals and goal writing skill: validity evidence for the learning goal scoring rubric. <i>Academic Medicine</i>. 2013;88(10):1558-1563. <a href="https://journals.lww.com/academicmedicine/fulltext/2013/10000/Assessing_Residents_Written_Learning_Goals_and.39.aspx">https://journals.lww.com/academicmedicine/fulltext/2013/10000/Assessing_Residents_Written_Learning_Goals_and.39.aspx</a>. 2021.</li></ul> |
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| <b>Professionalism 1: Professional Behavior and Ethical Principles</b><br><b>Overall Intent:</b> 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  |
| <b>Level 1</b> <i>Identifies and describes potential triggers for professionalism lapses</i><br><br><i>Demonstrates knowledge of medical ethical principles</i>   | <ul style="list-style-type: none"> <li>● Identifies that being tired can cause a lapse in professionalism</li> <li>● Identifies that not answering emails has adverse effects on patient care and on professional relationships</li> <li>● Articulates the principle of “do no harm”</li> </ul>   |
| <b>Level 2</b> <i>Demonstrates professional behavior in routine situations</i><br><br><i>Analyzes straightforward situations using ethical principles</i>   | <ul style="list-style-type: none"> <li>● Informs faculty members of late arrival due to delay from inpatient consultation</li> <li>● Articulates recommending excisions in a dermatopathology report may represent a conflict of interest</li> <li>● Accepts responsibility for being late to teaching conference without making excuses or blaming others</li> </ul> |
| <b>Level 3</b> <i>Demonstrates professional behavior in complex or stressful situations; takes responsibility for own professionalism lapses</i><br><br><i>Analyzes complex situations using ethical principles</i>   | <ul style="list-style-type: none"> <li>● Appropriately responds to a diagnostic discrepancy in internal and external review of cases</li> <li>● Recognizes conflict of interest inherent to overutilization</li> <li>● Appropriately responds to identified diagnostic errors and applies appropriate corrective action</li> </ul>                                    |
| <b>Level 4</b> <i>Recognizes situations that may trigger professionalism lapses and intervenes to prevent lapses in self and others</i><br><br><i>Recognizes and uses appropriate resources for managing and resolving ethical dilemmas</i>   | <ul style="list-style-type: none"> <li>● Recognizes own frustration but models composure and humility when a colleague or supervisor challenges the fellow’s opinion and shares the experience with peers</li> <li>● Recognizes and uses ethics consults, literature, risk-management/legal counsel to resolve ethical dilemmas</li> </ul>                            |
| <b>Level 5</b> <i>Coaches others when their behavior fails to meet professional expectations</i><br><br><i>Serves as resource for colleagues who face ethical dilemmas</i>  | <ul style="list-style-type: none"> <li>● Identifies colleagues’ failure to sign out cases in a timely manner and helps create a performance improvement plan</li> <li>● Engages stakeholders to address excessive turnaround times to decrease patient and provider frustrations that lead to unprofessional behavior</li> </ul>                                      |
| <b>Assessment Models or Tools</b>   | <ul style="list-style-type: none"> <li>● Direct observation</li> <li>● Global evaluation</li> <li>● Multisource feedback</li> </ul>   |

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|                    | <ul style="list-style-type: none"> <li>● Oral or written self-reflection</li> <li>● Simulation</li> </ul>  |
| Curriculum Mapping | <ul style="list-style-type: none"> <li>●</li> </ul>  |
| Notes or Resources | <ul style="list-style-type: none"> <li>● American Medical Association (AMA). Ethics. <a href="https://www.ama-assn.org/delivering-care/ama-code-medical-ethics">https://www.ama-assn.org/delivering-care/ama-code-medical-ethics</a>. 2021.</li> <li>● 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. <i>Ann Intern Med</i>. 2002;136:243-246. <a href="http://abimfoundation.org/wp-content/uploads/2015/12/Medical-Professionalism-in-the-New-Millenium-A-Physician-Charter.pdf">http://abimfoundation.org/wp-content/uploads/2015/12/Medical-Professionalism-in-the-New-Millenium-A-Physician-Charter.pdf</a>. 2021.</li> <li>● APD. Journal Entry Competency Assessment. <a href="https://www.dermatologyprofessors.org/files/2013%20Annual%20Meeting/Pr oCom%20JECA_modified%20092413%20v3.pdf">https://www.dermatologyprofessors.org/files/2013%20Annual%20Meeting/Pr oCom%20JECA_modified%20092413%20v3.pdf</a>. 2021.</li> <li>● Bynny RL, Paauw DS, Papadakis MA, Pfeil S. <i>Medical Professionalism. Best Practices: Professionalism in the Modern Era</i>. Menlo Park, CA: Alpha Omega Alpha Medical Society; 2017. ISBN:978-1-5323-6516-4.</li> <li>● Levinson W, Ginsburg S, Hafferty FW, Lucey CR. <i>Understanding Medical Professionalism</i>. 1st ed. New York, NY: McGraw-Hill Education; 2014. <a href="https://accessmedicine.mhmedical.com/book.aspx?bookID=1058">https://accessmedicine.mhmedical.com/book.aspx?bookID=1058</a>. 2021.</li> </ul> |

| <b>Professionalism 2: Accountability and Conscientiousness</b>   |   |
|--|---|
| <b>Overall Intent:</b> To take responsibility for one’s own actions and the impact on patients and other members of the health care team                                 |   |
| <b>Milestones</b>  | <b>Examples</b>   |
| <b>Level 1</b> <i>Responds promptly to instructions, requests, or reminders to complete tasks and responsibilities</i>   | <ul style="list-style-type: none"> <li>• Responds promptly to reminders from program administrator</li> <li>• Timely attendance at conferences</li> </ul>   |
| <b>Level 2</b> <i>Takes appropriate ownership and performs tasks and responsibilities in a timely manner with attention to detail</i>                                    | <ul style="list-style-type: none"> <li>• Completes tasks in a timely manner with attention to detail, including reporting of all relevant ancillary studies</li> </ul>  |
| <b>Level 3</b> <i>Recognizes situations that may impact one’s own ability to complete tasks and responsibilities in a timely manner and describes the impact on team</i> | <ul style="list-style-type: none"> <li>• Recognizes when completing a task will be challenging (e.g., when going out of town) and knows deadline for completing during vacation time</li> <li>• Completes tasks in stressful situations and preempts issues that would impede completion of tasks (e.g., notifies attending of multiple competing demands, appropriately triages tasks, and asks for assistance from other residents or faculty members, if needed)</li> <li>• Reviews Case Logs, Fellow In-Service Assessment (FISA) scores, evaluations, and portfolio and develops a learning plan to address gaps/weakness in knowledge, case exposure, and skills</li> </ul> |
| <b>Level 4</b> <i>Anticipates and intervenes in situations that may impact others’ ability to complete tasks and responsibilities in a timely manner</i>                 | <ul style="list-style-type: none"> <li>• Identifies issues that could impede other learners from completing tasks and provides leadership to address those issues</li> <li>• Escalates to communicating with program director if problem requires a system-based approach and needs addressing at a higher administrative level</li> <li>• Takes responsibility for potential adverse outcomes from mishandled specimen and professionally discusses with the interprofessional team</li> </ul>   |
| <b>Level 5</b> <i>Designs new strategies to ensure the needs of patients, teams, and systems are met</i>   | <ul style="list-style-type: none"> <li>• Recognizes need for addition of ancillary test to test menu and meets with stakeholders to implement</li> </ul>  |
| Assessment Models or Tools   | <ul style="list-style-type: none"> <li>• Compliance with deadlines and timelines</li> <li>• Direct observation</li> <li>• Multisource feedback</li> <li>• Self-evaluations and reflective tools</li> <li>• Simulation</li> </ul>  |
| Curriculum Mapping   | <ul style="list-style-type: none"> <li>•</li> </ul>   |
| Notes or Resources   | <ul style="list-style-type: none"> <li>• Code of conduct from fellow/resident institutional manual</li> <li>• Expectations of residency program regarding accountability and professionalism</li> </ul>   |

| <b>Professionalism 3: Self-Awareness and Help-Seeking</b><br><b>Overall Intent:</b> To identify, use, manage, improve, and seek help for personal and professional well-being for self and others                       |   |
|---|---|
| Milestones  | Examples  |
| <b>Level 1</b> <i>With assistance, recognizes status of personal and professional well-being</i><br><br><i>With assistance, recognizes limits in one's own knowledge/ skills</i>  | <ul style="list-style-type: none"> <li>● Acknowledges own response to patient's diagnosis of metastatic melanoma</li> <li>● Receives feedback on emotional response to a missed histopathologic feature</li> </ul>  |
| <b>Level 2</b> <i>Independently recognizes the status of one's own personal and professional well-being</i><br><br><i>Independently recognizes limits in one's own knowledge/skills and seeks help when appropriate</i> | <ul style="list-style-type: none"> <li>● Independently identifies and communicates impact of a personal family tragedy on ability to provide patient care</li> <li>● After receiving a low score on the FISA exam, identifies barriers to effective study habits</li> </ul> |
| <b>Level 3</b> <i>With assistance, proposes a plan to optimize personal and professional well-being</i><br><br><i>With assistance, proposes a plan to remediate or improve limits in one's own knowledge/skills</i>     | <ul style="list-style-type: none"> <li>● Works with program director to develop a strategy to support breast feeding after returning from maternity leave</li> <li>● Develops a plan with program director to improve study habits</li> </ul>                               |
| <b>Level 4</b> <i>Independently develops a plan to optimize one's own personal and professional well-being</i><br><br><i>Independently develops a plan to remediate or improve limits in one's own knowledge/skills</i> | <ul style="list-style-type: none"> <li>● Independently identifies ways to manage personal stress</li> <li>● Attends additional dermatopathology conferences after identifying weakness in specific tumors and inflammatory lesions</li> </ul>                               |
| <b>Level 5</b> <i>Coaches others to optimize their personal and professional well-being</i>   | <ul style="list-style-type: none"> <li>● Assists in organizational efforts to address resident well-being</li> </ul>  |
| <b>Assessment Models or Tools</b>   | <ul style="list-style-type: none"> <li>● Direct observation</li> <li>● Group interview or discussions for team activities</li> <li>● Individual interview</li> <li>● Institutional online training modules</li> <li>● Self-assessment and personal learning plan</li> </ul> |
| <b>Curriculum Mapping</b>   | <ul style="list-style-type: none"> <li>●</li> </ul>   |
| <b>Notes or Resources</b>   | <ul style="list-style-type: none"> <li>● This subcompetency is not intended to evaluate a fellow's well-being. Rather, the intent is to ensure that each fellow has the fundamental knowledge of factors that affect well-</li> </ul>                                       |

being, the mechanisms by which those factors affect well-being, and available resources and tools to improve well-being.

- ACGME. Tools and Resources. <https://www.acgme.org/What-We-Do/Initiatives/Physician-Well-Being/Resources>. 2021.
- AAIM. Annotated Bibliography of Evidence Based Well-Being Interventions. <https://www.im.org/resources/wellness-resiliency/charm/best-practice-group>. 2021.
- APD. Journal Entry Competency Assessment. [https://www.dermatologyprofessors.org/files/2013%20Annual%20Meeting/ProCom%20JECA\\_modified%20092413%20v3.pdf](https://www.dermatologyprofessors.org/files/2013%20Annual%20Meeting/ProCom%20JECA_modified%20092413%20v3.pdf). 2021.
- Hicks PJ, Schumacher D, Guralnick S, Carraccio C, Burke AE. Domain of competence: Personal and professional development. *Acad Pediatr*. 2014;14(2 Suppl):S80-97. [https://www.academicpedsjnl.net/article/S1876-2859\(13\)00332-X/fulltext](https://www.academicpedsjnl.net/article/S1876-2859(13)00332-X/fulltext). 2021.
- Local resources, including Employee Assistance

| <b>Interpersonal and Communication Skills 1: Patient- and Family-Centered Communication</b>  |   |
|--|---|
| <b>Overall Intent:</b> To deliberately use language and behaviors to form constructive relationships with patients, to identify communication barriers including self-reflection on biases, and minimize them in the doctor-patient relationships; organize and lead communication around shared decision making |   |
| <b>Milestones</b>  | <b>Examples</b>   |
| <p><b>Level 1</b> <i>Uses language and non-verbal behavior to demonstrate respect and establish rapport</i></p> <p><i>Identifies common barriers to effective communication (e.g., language, disability) while accurately communicating one's own role within the health care system</i></p>                     | <ul style="list-style-type: none"> <li>● Recognizes role of pathologist in patient- and family-centered communication</li> <li>● Self-monitors and controls tone, non-verbal responses, and language and asks questions to invite patient/family participation</li> <li>● Identifies common communication barriers in patient care</li> </ul> |
| <p><b>Level 2</b> <i>Establishes a relationship in straightforward encounters using active listening and clear language</i></p> <p><i>Identifies complex barriers to effective communication (e.g., health literacy, cultural differences)</i></p>   | <ul style="list-style-type: none"> <li>● Avoids pathology-specific jargon and restates patient perspective when discussing pathology results</li> <li>● Recognizes the need for diagrams and pictures to communicate information on the role of dermatopathology in care of patients</li> </ul>   |
| <p><b>Level 3</b> <i>With supervision, sensitively and compassionately delivers medical information</i></p> <p><i>When prompted, reflects on biases while attempting to minimize communication barriers</i></p>  | <ul style="list-style-type: none"> <li>● Acknowledges uncertainty in daily tasks</li> </ul>   |
| <p><b>Level 4</b> <i>Independently, sensitively, and compassionately delivers medical information and acknowledges uncertainty and conflict</i></p> <p><i>Independently recognizes biases while attempting to proactively minimize communication barriers</i></p>  | <ul style="list-style-type: none"> <li>● Recognizes difficulty in delivering pathology results for cases with uncertainty</li> <li>● Reflects on bias during patient care, whether in encounters with patients or surrounding patient care issues</li> </ul>  |
| <p><b>Level 5</b> <i>Mentors others in the sensitive and compassionate delivery of medical information</i></p>   | <ul style="list-style-type: none"> <li>● Develops a fellowship curriculum on bias</li> </ul>  |

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| <p><i>Models self-awareness while teaching a contextual approach to minimize communication barriers</i></p> |  |
| <p>Assessment Models or Tools</p>   | <ul style="list-style-type: none"> <li>● Direct observation</li> <li>● Self-assessment including self-reflection exercises</li> </ul>  |
| <p>Curriculum Mapping</p>   | <ul style="list-style-type: none"> <li>●</li> </ul>  |
| <p>Notes or Resources</p>   | <ul style="list-style-type: none"> <li>● AAD. Simulated Patient Encounters. <a href="https://store.aad.org/products/12923">https://store.aad.org/products/12923</a>. 2021.</li> <li>● Hong J, Nguyen TV, Prose NS. Compassionate care: Enhancing physician-patient communication and education in dermatology: Part II: Patient education. <i>J Am Acad Dermatol</i>. 2013;68(3):364.e1-10. <a href="https://linkinghub.elsevier.com/retrieve/pii/S0190-9622(12)01244-3">https://linkinghub.elsevier.com/retrieve/pii/S0190-9622(12)01244-3</a>. 2021.</li> <li>● Laidlaw A, Hart J. Communication skills: an essential component of medical curricula. Part I: Assessment of clinical communication: AMEE Guide No. 51. <i>Med Teach</i>. 2011;33(1):6-8. <a href="https://www.tandfonline.com/doi/full/10.3109/0142159X.2011.531170">https://www.tandfonline.com/doi/full/10.3109/0142159X.2011.531170</a>. 2021.</li> <li>● Makoul G. The SEGUE Framework for teaching and assessing communication skills. <i>Patient Educ Couns</i>. 2001;45(1):23-34. <a href="https://www.sciencedirect.com/science/article/abs/pii/S0738399101001367?via%3Dihub">https://www.sciencedirect.com/science/article/abs/pii/S0738399101001367?via%3Dihub</a>. 2021.</li> <li>● Makoul G. Essential elements of communication in medical encounters: The Kalamazoo consensus statement. <i>Acad Med</i>. 2001;76:390-393. <a href="https://pubmed.ncbi.nlm.nih.gov/11299158/">https://pubmed.ncbi.nlm.nih.gov/11299158/</a>. 2021.</li> <li>● Nguyen TV, Hong J, Prose NS. Compassionate care: Enhancing physician-patient communication and education in dermatology: Part I: Patient-centered communication. <i>J Am Acad Dermatol</i>. 2013;68(3):353.e1-8. <a href="https://www.jaad.org/article/S0190-9622(12)01243-1/fulltext">https://www.jaad.org/article/S0190-9622(12)01243-1/fulltext</a>. 2021.</li> <li>● Symons AB, Swanson A, McGuigan D, Orrange S, Akl EA. A tool for self-assessment of communication skills and professionalism in residents. <i>BMC Med Educ</i>. 2009;9:1. <a href="https://bmcmmededuc.biomedcentral.com/articles/10.1186/1472-6920-9-1">https://bmcmmededuc.biomedcentral.com/articles/10.1186/1472-6920-9-1</a>. 2021.</li> </ul> |

| <b>Interpersonal and Communication Skills 2: Interprofessional and Team Communication</b>   |  |
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| <b>Overall Intent:</b> To effectively communicate with the health care team (i.e., laboratory team, resident/fellow team, faculty/resident team, interdisciplinary care team, or other functioning team in the program), including both inter- and intra-departmental and consultants, in both straightforward and complex situations |  |
| Milestones  | Examples   |
| <p><b>Level 1</b> <i>Uses language that values all members of the health care team</i></p> <p><i>Describes the utility of constructive feedback</i></p>   | <ul style="list-style-type: none"> <li>● Shows respect in health care team communications through words and actions such as in requests for case re-review and urgent review of staged excisions</li> <li>● Uses respectful communication with laboratory and administrative staff members</li> <li>● Listens to and considers others' points of view, is non-judgmental and actively engaged, and demonstrates humility</li> </ul>  |
| <p><b>Level 2</b> <i>Communicates information effectively with all health care team members</i></p> <p><i>Solicits feedback on performance as a member of the health care team</i></p>  | <ul style="list-style-type: none"> <li>● Confirms receipt of critical diagnoses such as melanoma, unexpected diagnoses such as herpesvirus infections, and significant diagnostic addenda or amendments and follows up with laboratory and administrative staff to ensure task completion</li> <li>● Demonstrates active listening by fully focusing on the speaker (other health care provider, patient), actively showing verbal and non-verbal signs (eye contact, posture, reflection, questioning, summarization)</li> <li>● Communicates clearly and concisely in an organized and timely manner during and after sign-out, as well as with the health care team in general</li> <li>● Seeks feedback during and after sign-out to align performance with expectations</li> </ul>            |
| <p><b>Level 3</b> <i>Uses active listening to adapt communication style to fit team needs</i></p> <p><i>Integrates feedback from team members to improve communication</i></p>  | <ul style="list-style-type: none"> <li>● Verifies understanding of feedback from members of the health care team through closed-loop communication</li> <li>● Raises concerns or provides opinions and feedback when needed to others on the team</li> <li>● Respectfully provides feedback to more junior members of the medical team for the purposes of improvement or reinforcement of correct knowledge, skills, and attitudes, when appropriate</li> <li>● Uses in-basket communication in electronic health record for critical diagnoses after clinicians note that this method is more reliable than verbal communication</li> <li>● Acknowledges specific roles of administrative and laboratory team members so that communication and troubleshooting become more efficient</li> </ul> |
| <p><b>Level 4</b> <i>Coordinates recommendations from different members of the health care team to optimize patient care</i></p>  | <ul style="list-style-type: none"> <li>● Offers suggestions to negotiate or resolve conflicts among health care team members; raises concerns or provides opinions and feedback, when needed, to superiors on the team</li> </ul>  |

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| <p><i>Communicates feedback and constructive criticism to superiors</i></p>   | <ul style="list-style-type: none"> <li>● Following consensus conferences and interdisciplinary tumor boards, coordinates retrieval of tissue blocks for additional testing, prepares diagnostic addendums, or requests additional information from team members to ensure recommendations are carried out</li> <li>● After noting challenges in learning from select complex cases during sign out with residents, respectfully requests additional one-to-one clinical instruction from faculty after sign-out</li> <li>● Adapts communication strategies in handling complex situations</li> </ul>  |
| <p><b>Level 5 Models flexible communication strategies that value input from all health care team members, resolving conflict when needed</b></p> <p><i>Facilitates regular health care team-based feedback in complex situations</i></p> | <ul style="list-style-type: none"> <li>● Teaches more junior health care team members to resolve conflicts and provide effective feedback</li> <li>● Organizes a team meeting to discuss a new workflow for cases received from inpatient consultation that promotes prompt reporting and communication of preliminary findings to hospital services</li> </ul>   |
| <p>Assessment Models or Tools</p>   | <ul style="list-style-type: none"> <li>● Direct observation</li> <li>● Global assessment</li> <li>● Multisource feedback</li> <li>● Record or chart review for professionalism and accuracy in written communications</li> <li>● Simulation encounters</li> </ul>   |
| <p>Curriculum Mapping</p>   | <ul style="list-style-type: none"> <li>●</li> </ul>   |
| <p>Notes or Resources</p>   | <ul style="list-style-type: none"> <li>● Brissette MD, Johnson K, Raciti PM, et al. Perceptions of unprofessional attitudes and behaviors: Implications for faculty role modeling and teaching professionalism during pathology residency. <i>Arch Pathol Lab Med.</i> 2017;141:1394-1401. <a href="https://meridian.allenpress.com/aplm/article/141/10/1394/194229/Perceptions-of-Unprofessional-Attitudes-and">https://meridian.allenpress.com/aplm/article/141/10/1394/194229/Perceptions-of-Unprofessional-Attitudes-and</a>. 2021.</li> <li>● Conran RM, Zein-Eldin Powell S, Domen, RE, et al. Development of professionalism in graduate medical education: a case-based educational approach from the College of American Pathologists' graduate medical education committee. <i>Acad Pathol.</i> 2018;5:2374289518773493. <a href="https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6039899/">https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6039899/</a>. 2021.</li> <li>● Green M, Parrott T, Cook G., Improving your communication skills. <i>BMJ</i> 2012;344:e357. <a href="https://www.bmj.com/content/344/bmj.e357">https://www.bmj.com/content/344/bmj.e357</a>. 2021.</li> <li>● Henry SG, Holmboe ES, Frankel RM. Evidence-based competencies for improving communication skills in graduate medical education: A review with suggestions for implementation. <i>Med Teach.</i> 2013;35(5):395-403.</li> </ul> |

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- Nakhleh RE, Myers JL, Allen TC, et al. Consensus statement on effective communication of urgent diagnoses and significant, unexpected diagnoses in surgical pathology and cytopathology from the College of American Pathologists and Association of Directors of Anatomic and Surgical Pathology. *Arch Pathol Lab Med*. 2012;136(2):148-154. <https://meridian.allenpress.com/aplm/article/136/2/148/64793/Consensus-Statement-on-Effective-Communication-of>. 2021.
- Roth CG, Eldin KW, Padmanabhan V, Freidman EM. Twelve tips for the introduction of emotional intelligence in medical education. *Med Teach*. 2018;41(7):1-4. <https://www.tandfonline.com/doi/abs/10.1080/0142159X.2018.1481499?journalCode=imte20>. 2021.

| <b>Interpersonal and Communication Skills 3: Communication within Health Care Systems</b><br><b>Overall Intent:</b> To effectively communicate using a variety of methods  |  |
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| Milestones   | Examples   |
| <p><b>Level 1</b> <i>Understands institutional policy(ies) about communication involving protected health information (PHI)</i></p> <p><i>Identifies institutional and/or departmental structures to communicate concerns about the health care system</i></p> | <ul style="list-style-type: none"> <li>● Identifies when it is acceptable to include protected health information in communications, e.g., in emails or phone calls to referring physicians or other members of the health care team for a particular patient</li> <li>● Understands what patient information should be safeguarded while discussing cases for educational purposes with residents and students</li> <li>● Identifies institutional and departmental communication hierarchy for reporting concerns and patient safety issues</li> </ul> |
| <p><b>Level 2</b> <i>Appropriately selects forms of communication based on context and urgency of the situation</i></p> <p><i>Respectfully communicates concerns about the health care system</i></p>  | <ul style="list-style-type: none"> <li>● Identifies method for sharing results needing urgent attention in line with institutional and departmental policies</li> <li>● Uses appropriate technology for communicating results to inpatient team (secure emails or secure text messaging apps) per institutional and departmental policies</li> <li>● Recognizes that a communication breakdown has happened and respectfully brings the breakdown to the attention of the faculty member</li> </ul>  |
| <p><b>Level 3</b> <i>With guidance, communicates relevant information while safeguarding PHI</i></p> <p><i>Uses institutional and/or departmental structures to communicate constructive suggestions to improve the health care system</i></p>                 | <ul style="list-style-type: none"> <li>● Communicates opportunities for improvement in the laboratory information system (LIS)/EHR interface</li> <li>● Knows when to direct concerns locally, departmentally, or institutionally, i.e., appropriate escalation</li> <li>● Uses appropriate method when sharing results needing urgent attention in line with institutional and departmental policies</li> <li>● Participates in lab meetings to debrief breakdowns in communication</li> </ul>  |
| <p><b>Level 4</b> <i>Independently communicates relevant information while safeguarding PHI</i></p> <p><i>Independently raises concerns with appropriate stakeholders to improve the health care system</i></p>  | <ul style="list-style-type: none"> <li>● Talks directly to a colleague or faculty member about breakdowns in communication to prevent recurrence</li> <li>● Participates in task force to update policy for sharing critical or unexpected results</li> <li>● Safeguards protected health information during departmental conferences (tumor board, grand rounds) as appropriate, particularly in the setting of virtual conferences given potential for outside participants</li> </ul>   |

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| <p><b>Level 5</b> <i>Guides departmental or institutional policies and procedures regarding PHI in communications</i></p> <p><i>Leads discussions with community stakeholders to improve the health care system</i></p> | <ul style="list-style-type: none"> <li>● Leads a task force established by the hospital QI committee to develop a plan to improve house staff hand-offs</li> <li>● In lab meetings, offers solutions to breakdowns in communications</li> <li>● Participates in institutional or inter-department task force including community stakeholders to implement improvements in the LIS/EHR interface</li> </ul>   |
| <p>Assessment Models or Tools</p>   | <ul style="list-style-type: none"> <li>● Multisource feedback</li> <li>● Observation of communication of critical or unexpected results with referring providers, inpatient teams</li> <li>● Observation of presentation of cases during departmental/interdepartmental conferences</li> </ul>  |
| <p>Curriculum Mapping</p>   | <ul style="list-style-type: none"> <li>●</li> </ul>   |
| <p>Notes or Resources</p>   | <ul style="list-style-type: none"> <li>● Bierman JA, Hufmeyer KK, Liss DT, Weaver AC, Heiman HL. Promoting responsible electronic documentation: validity evidence for a checklist to assess progress notes in the electronic health record. <i>Teach Learn Med.</i> 2017;29(4):420-432. <a href="https://www.tandfonline.com/doi/abs/10.1080/10401334.2017.1303385?journalCode=html20">https://www.tandfonline.com/doi/abs/10.1080/10401334.2017.1303385?journalCode=html20</a>. 2021.</li> <li>● Haig, K.M., Sutton, S., Whittington, J. SBAR: A shared mental model for improving communications between clinicians. <i>Jt Comm J Qual Patient Saf.</i> 2006;32(3):167-75. <a href="https://www.sciencedirect.com/science/article/abs/pii/S1553725006320223?via%3Dihub">https://www.sciencedirect.com/science/article/abs/pii/S1553725006320223?via%3Dihub</a>. 2021.</li> </ul> |

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To help programs transition to the new version of the Milestones, the ACGME has mapped the original Milestones 1.0 to the new Milestones 2.0. Indicated below are where the subcompetencies are similar between versions. These are not exact matches, but are areas that include similar elements. Not all subcompetencies map between versions. Inclusion or exclusion of any subcompetency does not change the educational value or impact on curriculum or assessment.

| Milestones 1.0                                     | Milestones 2.0  |
|--|---|
| PC1: Dermatopathologic Diagnosis                   |   |
| PC2: Ancillary Testing                             | PC3: Ancillary Studies<br>MK3: Ancillary Studies  |
| MK1: Histopathologic Patterns                      | PC1: Visual Recognition – Neoplastic Dermatopathology<br>PC2: Visual Recognition – Inflammatory and Non-Neoplastic Dermatopathology<br>MK1: Neoplastic Dermatopathology<br>MK2: Inflammatory Dermatopathology |
| MK2: Immunohistochemistry                          | PC3: Ancillary Studies<br>MK3: Ancillary Studies  |
| SBP1: Health Care Teams                            | SBP3: Physician Role in Health Care System  |
| SBP2: Patient Safety                               | SBP1: Patient Safety and Quality Improvement<br>SBP2: Systems Navigation for Patient-Centered Care  |
|  | SBP4: Accreditation, Compliance, and Quality  |
| PBL1: Evidence-based Practice                      | PBL1: Evidence-Based Practice and Scholarship   |
| PBL2: Process Improvement and Patient Safety       | SBP1: Patient Safety and Quality Improvement  |
| PROF1: Accountability, Honesty, and Integrity      | PROF1: Professional Behavior and Ethical Principles<br>PROF2: Accountability and Conscientiousness  |
| PROF2: Giving and Receiving Feedback               | PBL1: Reflective Practice and Commitment to Personal Growth<br>PROF3: Self-Awareness and Help-Seeking   |
|  | ICS1: Patient- and Family-Centered Communication  |
| ICS1: Personnel Management and Conflict Management | ICS2: Interprofessional and Team Communication  |
|  | ICS3: Communication within Health Care Systems  |
| ICS2: Diagnostic Reporting                         | PC4: Reporting  |

### 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/>