

# Dermatopathology Training Standards



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I do not have any relevant relationships with industry

# Training

1. What are our goals?
2. How do we achieve these goals?
3. How do we evaluate attainment of these goals?

# Dermpath Training

## (1) What are our goals?

- Pass the boards
- Read own dermpath slides and know limitations
- “Clinical dermatology is learned best through dermatopathology”



# Goals in DP

- 13% of PD report no specific DP objectives

- Accurately identify common and uncommon entities
- Correlate with clinical findings
- Know ancillary tests
- Understand process and limitations
- Know when to refer

## EDUCATIONAL GOALS DERMATOPATHOLOGY TRAINING IN DERMATOLOGY

During their dermatopathology rotation, the resident participates in the daily sign-out of the dermatopathology cases by examining the cases in concert at a multi-headed microscope where each case is discussed and signed out. Special stains, immunohistochemistry, and direct immunofluorescence studies are reviewed concurrently and discussed in the formulation of the report. Correlation with the clinical description is emphasized.

In all three years of residency, the dermatopathology rotation is to ensure exposure to a wide variety of common histopathologic entities as they are signed out in a busy practice setting. The emphasis is on rapid pattern recognition at scanning magnification. Exposure to daily case material will build on the skills they acquire during the structured chapter by chapter dermatopathology curriculum. Residents are expected to gain skill in the diagnosis of pigmented lesions, non-melanoma cutaneous neoplasms, alopecia, infectious and inflammatory dermatoses. Residents are to become familiar with laboratory methods and procedures, in addition to rendering diagnoses and coding. They will be exposed to the process from biopsy to sign-out.

Residents at all levels attend weekly dermatopathology conference. A standard textbook(s) of dermatopathology is systematically assigned in preparation for the weekly sessions with concurrent study and review of signed slides. Prior to this conference, "unknown slides" in the topic of interest are provided for pre-view. Dermatopathology fellows are involved in helping the residents prepare for the weekly conference. The "unknown" cases are then reviewed and discussed using either a multi-headed microscope or video monitor that is attached to a microscope that is equipped with a video camera at the weekly conference. Additional cases, in the topic of interest and also cases of any topic are reviewed and discussed in a similar format at the conclusion of the weekly session. Residents are asked to describe the histopathologic findings and provide a diagnosis or differential diagnosis. Key features of the particular case are reviewed, illustrated and discussed. A timed quarterly case consisting of 10 cases is used for evaluation of all residents. This experience will provide exposure to common and less common diagnoses.

The goal of the dermatopathology training is to provide exposure to, and experience with, a broad variety of dermatopathology specimens and the processing, examination, and analysis of them. The exposure progresses throughout the three years of training. Competence is assessed through direct observation of diagnostic skills, participation in lab quality activities and coordination of care, and quarterly time examinations. Objectives are listed below with specific expectations noted for each year of training. Patient care, communication skills, learning, professionalism and systems-based practice are evaluated by the dermatopathology staff as part of the overall resident evaluation. A separate form is used to evaluate competence in the diagnosis of inflammatory lesions, neoplasms (including melanocytic lesions), and alopecia.

**Patient Care**  
Accurately identify and describe the histologic features of common dermatologic conditions  
Formulate an appropriate differential diagnosis based on these histologic features  
Know what ancillary tests are available and when they are appropriate

**Medical Knowledge**  
Recall and demonstrate knowledge of clinical dermatology and relate those to the histopathologic features of each specimen  
Demonstrate skill in the diagnosis of inflammatory lesions, neoplasms (including melanocytic lesions), and alopecia  
Recognize and demonstrate fundamental knowledge of dermatologic therapy as it relates to each histologic diagnosis

**PEL and Improvement**  
Critically read and review research literature and show its application to the diagnosis of skin specimens  
Incorporate formative evaluation feedback about performance into daily practice

Recognize the value of and become facile in using information technology in patient care  
Interpersonal and communication skills  
Demonstrate communication skills that allow effective information exchange between the pathologist and the clinician

**Professionalism**  
Understand and apply basic principles of biomedical ethics and confidentiality

**Systems-Based Practice**  
Acquire and apply basic principles of electronic charting and patient information systems

### First year residents

During the first year, residents will be expected to gain familiarity with histologic terminology, inflammatory patterns, common tumors and clinicopathologic correlation.

**Objectives**  
Gain familiarity with pattern diagnosis and histologic descriptions for inflammatory dermatoses, non-melanocytic neoplasms, melanocytic tumors and alopecia.

### Second year residents

During the second year, residents will be expected to expand their knowledge of histologic terminology, inflammatory patterns, common tumors and clinicopathologic correlation.

**Objectives**  
Demonstrate consistency in discussions of pattern diagnosis and histologic descriptions for inflammatory dermatoses, non-melanocytic neoplasms, melanocytic tumors and alopecia.

### Third year residents

During the third year, residents will be expected to become proficient with histologic terminology, inflammatory patterns, common tumors and clinicopathologic correlation with goal of competent and independent analysis of common and basic entities in dermatopathology. Graduates should have a similar level of skill in the diagnosis of skin biopsies as a graduating general pathologist. The benchmark for this measure will be faculty experience with the skills of graduating pathology residents and those of practicing pathologists.

**Objectives**  
Demonstrate proficiency with pattern diagnosis and histologic descriptions for common and basic inflammatory dermatoses, non-melanocytic neoplasms, melanocytic tumors and alopecia. The resident should also demonstrate an understanding of diagnostic limitations and when a specimen should be referred for analysis by a dermatopathologist.

| Beginning Resident   | Junior Resident   | Senior Resident   |
|--|---|---|
| <ul style="list-style-type: none"> <li>•Identify basic histology of skin and inflammatory cells</li> </ul> | <ul style="list-style-type: none"> <li>•Recognizes patterns of inflammatory and common neoplastic conditions</li> <li>•Often correctly identifies common skin disorders</li> <li>•Has a limited DDX of pathologic findings</li> <li>•Knowledge of DIF and IIF and correct location for biopsies</li> <li>•Knowledge of relevant special stains</li> </ul> | <ul style="list-style-type: none"> <li>•Correctly identifies findings of common skin disorders; often correctly identifies less common disorders</li> <li>•Has expanded DDX</li> <li>•Recognizes histologic features of most skin tumors</li> <li>•Knowledge of indications and cost of IF and IHC</li> </ul> |

## Graduating Resident

- Correctly identifies histopathologic findings of uncommon skin disorders
- Has exhaustive DDX
- Correctly identifies histologic features of skin tumors and disorders

## Advanced

- Derms interpreting own biopsies:
- Maintain ability to correctly diagnose most skin tumors and inflammatory disorders
  - Fulfill CLIA requirements
  - Knows when to obtain special stains and/or send for consultation
- Derms sending out biopsies:
- Understands limitations of laboratory processes and qualifications of physician signing out cases

# Medical Knowledge

| Beginning Resident  | Junior Resident  | Senior Resident  |
|---|--|--|
| <ul style="list-style-type: none"> <li>• Understands need for cpc</li> <li>• Completes pathology requisition forms</li> </ul> | <ul style="list-style-type: none"> <li>• Sometimes interprets and applies findings to clinical care, particularly common neoplasms</li> <li>• Understands value of special stains</li> <li>• Reviews own biopsy slides as appropriate</li> </ul> | <ul style="list-style-type: none"> <li>• Usually able to interpret and apply findings to clinical care, including uncommon neoplasms and common inflammatory dermatoses</li> <li>• Usually interprets the results of special stains</li> </ul> |

## Patient Care

### Graduating Resident

- Accurately interprets and correlates all specimens to patient care
- Recognizes limitations and challenges of dermpath interpretation

### Advanced

- May have obtained advanced training in dermpath and teaches cpc

# Dermpath Training

## (2) How do we achieve these goals?

- ACGME guidance
- Program specific curriculum

# ACGME Dermatology Program Requirements

- “Residents will examine routinely stained histologic sections from the full spectrum of dermatologic disease. A significant portion of this exposure must occur in an active faculty-run sign-out setting, but the use of conferences and study sets are necessary to complete resident education and are critical in the curriculum. Training must include education relating to interpretation of direct immunofluorescence specimens, appropriate use and interpretation of immunohistochemistry (special stains, including immunoperoxidase) and electron microscopy.”



# DP Education Survey

- Objective:
  - Current curriculum
  - Barriers
  - Opportunities for improvement
- All derm programs listed on ACGME
  - 55 residents replied
  - 14 PD replied

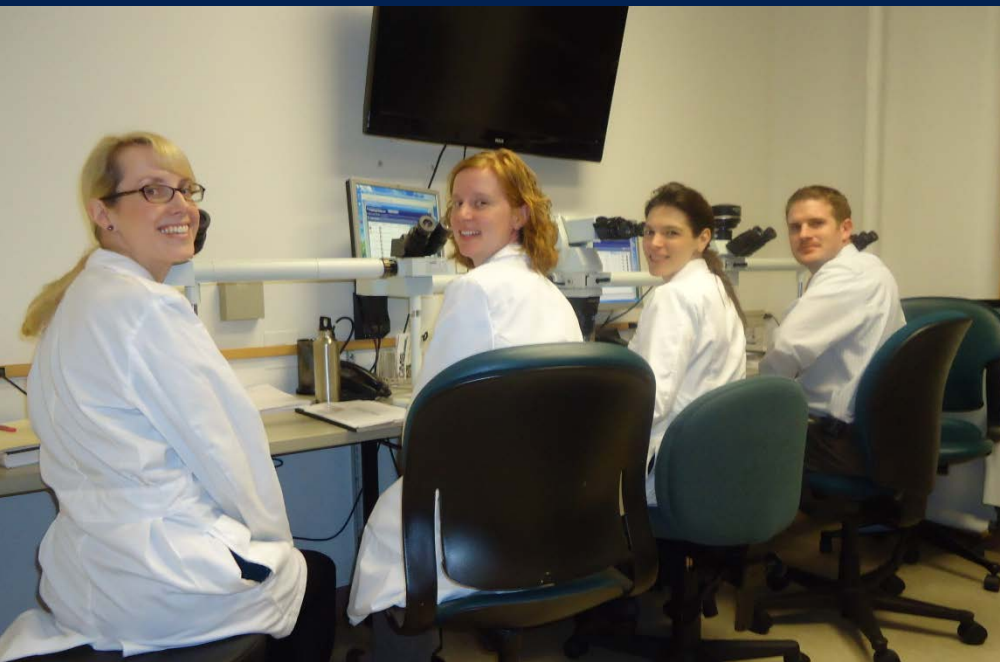
# Results-Curriculum

- 77% of programs require a DP rotation of at least 3 months total during training
- Only 20% reported a DP rotation in the first year

| DERMPATH   | RESIDENTS         |
|------------|-------------------|
| 7/2-8/3    | Hall              |
| 8/6-8/31   | Lopez             |
| 9/3-9/28   | <u>Stigall</u>    |
| 10/1-11/2  | Noble             |
| 11/5-11/30 | <u>Fussell</u>    |
| 12/3-12/28 | <u>Sivendran</u>  |
| 12/31-1/25 | <u>Prickett</u>   |
| 2/4-3/1    | <u>Pfingstler</u> |
| 3/4-3/29   | Butler            |
| 4/1-4/26   | <u>Taglia</u>     |
| 4/29-5/31  | Whalen            |
| 6/3-6/28   | Palmer            |

# Geisinger DP Rotation

- Daily sign-out (half day continuity clinic)
- 4 weeks in all three years of training



# Results-Curriculum

- 93% of programs have at least weekly DP conferences
  - Two-thirds with:
    - Reading assignments
    - Pre-view of unknown slides
    - Glass slide review at multi-head scope



# Geisinger DP Conference

- 2 hours weekly
- Reading assignment
- 20 unknowns
- Rapid fire in chapter
- Rapid fire outside the box



# Results-Curriculum

- Exposure to specimen grossing, tissue processing, DP billing, and lab management are not part of the great majority of programs
- 40% of residents never see their own biopsies histologically

# Results-Barriers

- Limited resident time for DP rotations due to other service commitments
- Inadequate DP faculty or time for teaching
- Inadequate glass slide study sets



# Dermpath Training

## (3) How do we evaluate attainment of these goals?

- Certifying exam
- In service exam
- Program exam
- Faculty evaluation





# ABD Certifying Exam

- “Examination in Dermatopathology: Candidates are questioned on **36 glass** histopathologic slides that they examine on microscopes provided by the Board. This section of the examination encompasses the entire spectrum of dermatopathology.”
- 1.5 hours (20% of 8 hour exam)

# ABD In Service Exam

- No glass slides
- Approximately 25 of 220 questions (10%)

# Program Exams

- Other than ITEs, nearly half of programs do not formally examine the residents' DP skills

## DERMATOPATHOLOGY SCHEDULE McKee (4<sup>th</sup> ed)

| SESSION | READING ASSIGNMENT                      | TOPIC  |
|---------|---|--|
| 1       | McKee Ch1 and 2                         | Normal Histo and Techniques in DP            |
| 2       | Ch24 (p1076-1087) and Ch34              | Benign epidermal tumors/cysts                |
| 3       | Ch24 (p1088-1147)                       | Malignant epidermal tumors                   |
| 4       | Ch31 and 32                             | Pilar/sebaceous tumors                       |
| 5       | Ch33 and Ch30 (p1439-1444)              | Sweat gland tumors                           |
| 6       | Ch25 (p1130-1192)                       | Benign melanocytic                           |
| 7       | Ch25 (p1192-1220) and Ch26              | Dysplastic nevi, melanoma                    |
| 8       | REVIEW                                  |  |
| 9       | TEST                                    |  |
| 10      | Ch7, Ch8, Ch17, Ch29                    | Interface/ Superficial and deep perivascular |
| 11      | Ch6                                     | Psoriasisiform spongiotic                    |
| 12      | Ch4 and 5                               | Bullous                                      |
| 13      | Ch9, Ch13, Ch29                         | Granulomatous/histiocytic                    |
| 14      | Ch15 and 16                             | Vasculopathic d6                             |
| 15      | REVIEW                                  |  |
| 16      | TEST                                    |  |
| 17      | Ch3                                     | Genoderm and d6 of keratinization            |
| 18      | Ch9, Ch17 (p734-739), Ch21              | Collagen/elastin                             |
| 19      | Ch13 (p530-589)                         | Metabolic/Mucin/Deposits/Porphyrin           |
| 20      | Ch22                                    | Alopecia and hair d/o                        |
| 21      | Ch10                                    | Panniculitis                                 |
| 22      | Ch18 (p790-849)                         | Bacteria/Spirochetes/Protozoa/Parasite       |
| 23      | Ch18 (p850-887)                         | Fungal                                       |
| 24      | Ch18 (p761-790, 888-894)                | Viral/Helminth/Arthropod                     |
| 25      | REVIEW                                  |  |
| 26      | TEST                                    |  |
| 27      | Ch35 (p1604-1665)                       | Fibrous                                      |
| 28      | Ch35 (p1589-1604, 1695-1704, 1751-1754) | Fat/Muscle/Bone                              |
| 29      | Ch35 (p1665-1694)                       | Neural                                       |
| 30      | Ch35 (p1705-1750)                       | Vascular                                     |
| 31      | Ch30 (p1421-1439)                       | Metastases                                   |
| 32      | Ch29 (p1312-1390, p1413-1418)           | Lymphoma/Leukemia                            |
| 33      | REVIEW                                  |  |
| 34      | TEST                                    |  |

# What about evaluation of our other goals?

- Faculty evaluation
  - Recognize diagnosis of classic cases
  - Use DP knowledge to plan biopsies and communicate key information
    - Judge thickness of anatomic site
    - Select location, size and depth based on DDx
  - Integrate DP with clinical scenario for best Dx and Tx plan
  - Able to sign-out their own slides and know their limits

# Food for Thought

- Goals
- Curriculum
- Outcome Measurement



# Food for Thought

- More dedicated DP faculty
- More protected time on sign-out
- Include DP early in residency
  - Basis for understanding pathophysiology
  - Improves biopsy technique
  - Provides exposure prior to fellowship applications

# Food for Thought

- Provide exposure to specimen grossing, processing, and lab management
  - Troubleshoot their own lab
  - Understand the limitations
- Periodically examine DP knowledge
  - Decrease “test anxiety”
  - Identify deficiencies early

# Food for Thought

- Optimize glass slide based conferences and study collections

## Alternatives?

- Online image libraries
- Virtual microscopy

| <b>Advantages</b>            | <b>Disadvantages</b>            |
|------------------------------|---------------------------------|
| Doesn't require scopes       | Costs                           |
| Doesn't deteriorate          | Technology                      |
| Access to uncommon diagnoses | Not in clinical use or on exams |



# Food for Thought

- Integration with clinical derm
  - Enhance CPC with review of own biopsies
  - Structure of DP rotation: single days vs block
  - Correlate clinical conference topics with DP conference topics
  - Clinical photos available at sign-out

# Sources of DP Education

- <http://www.dermpathmd.com/prog.htm>
- <http://www.mydermpath.com/>
- <http://www.virtualdermpath.com/index.aspx>
- <http://www.derm-oid.com/>
- <http://derm101.com/start.aspx>
- <http://www.healthcare.uiowa.edu/dermatology/DPT/Path-Index.htm>
- <http://slidetutor.upmc.edu/>