Strategies in Cytopathology Education

Conflict of Interest

• Dr. Staats has no conflicts of interest to report.

Program Directors Update

• Incoming Fellow Milestone Verification: “Educational Hand-off” (Effective 7/1/2016)
  • III.A.2.a) Fellowship programs must receive verification of each entering fellow’s level of competency in the required field using ACGME or CanMEDS Milestones assessments from the core residency program.

Program Directors Update

• Program Requirement Updates 7/1/2017
  https://www.acgme.org/Specialties/Program-Requirements-and-FAQs-and-Applications/pfcatid/18/Pathology
  • A few items changed from detail to core
  • Some minor wording changes
  • Need 2 faculty members with cytology experience
  • Evaluation of fellow must be at least semi-annual
  • And…
**Levels of Oversight**

- **Direct Supervision** – the supervising physician is physically present with the resident and patient.
- **Indirect Supervision:**
  - 1) with direct supervision immediately available – the supervising physician is physically within the hospital or other site of patient care, and is immediately available to provide Direct Supervision.
  - 2) with direct supervision available – the supervising physician is not physically present within the hospital or other site of patient care, but is immediately available by means of telephonic and/or electronic modalities, and is available to provide Direct Supervision.
- **Oversight** – The supervising physician is available to provide review of procedures/encounters with feedback provided after care is delivered.

**Program Directors Update**

- Hot off the presses!!!
- ACGME Common Program Requirements Section VI Draft is open for comment
  - Section VI: Professionalism, Personal Responsibility, and Patient Safety; Transitions of Care, Awareness Management/Fatigue Mitigation; Supervision of Residents; and Clinical Responsibilities in areas of Teamwork and Resident Duty Hours
- Comments due December 19
  - http://www.acgme.org/What-We-Do/Accreditation/Review-and-Comment

**Program Directors Update**

- Strategies in Cytopathology Education is now free with meeting registration!

**Innovative Approaches to Teaching Systems-Based Practice Milestones**

**Milestones**

- Still required (next report due January 13!)
- Still challenging
1. How are you teaching fellows budgeting and finance (SBP3)?
   - The fellow works closely with the division chief and is involved with budgeting and finance as issues arise.
   - Billing department gives a yearly in-service didactic and through weekly faculty/lab meetings.
   - Didactic lecture.
   - Not part of curriculum yet.

2. How are you teaching fellows personnel management (SBP3)?
   - The fellow meets with the head CT and goes over case studies.
   - Our residency program coordinates a lecture by the hospital liaison overseeing contracts and job offers, and weekly faculty/lab meetings.
   - Didactic lecture; self-study (reading textbook).
   - Not part of curriculum yet.

3. How are you teaching fellows quality improvement, risk management, and/or safety (SBPS)?
   - Case studies; review of CAP checklist; mock inspection; root cause analysis; use of safety reporting system.
   - Didactic lecture and assigned reading (chapter 18 in Cibas and Ducatman).
   - Complete QI project; didactic lectures, daily clinical work.
   - We have our hospital lawyers that deal with malpractice cases come to give a yearly didactic, and they have to do a QA project each year.

4. Please share with us any other curriculum changes you have made in preparation for the milestones.
   - Increased didactics by non-MD hospital staff-lawyers, personnel managers, budget/finance committee.
   - Quality project.
   - Added ASC Practice-Based Learning package, will likely consider adding Cell Talks to curriculum.
   - None yet - working on it.

5. Please share with us any creative approaches you have developed for teaching milestones.
   - Study set.
   - Asked fellows to create PORTFOLIO.
   - Mock CAP inspections.
2016 ASC Program Directors Survey

6. If resources were made available through the ASC to teach fellows on SBP3 (billing/finance and personnel management) would you be interested in using it?

Q6

Yes No

Educational Objectives

• Develop strategies to better teach and evaluate Systems-Based Practice (SBP) milestones.

Program

• Leveraging Resources and Technologies in Systems-Based Practice (SBP) Education
  Roseann Wu, MD, MPH
  University of Pennsylvania
• What are Portfolios, and How Can They Help With Assessing Milestones
  Edmund Cibas
  Brigham and Women’s Hospital
• Administrative and Regulatory Training at Mayo Clinic
  Michael Henry
  Mayo Clinic
• Share your experiences
  Audience
  ASC Strategies in Cytopathology Education Session
• Q&A

Cell Talks

• 10-15 minute recorded talks available on ASC website (members only)
• 3-5 assessment questions
• Topics organized around milestones
• Made by fellows (with faculty mentor)
• 10 Cell Talks now available!
  • http://www.cytopathology.org/cell-talk-presentations/

Cell Talks

• Now accepting applications for new Cell Talks!
• Cash prize $125 for accepted talks!!
• Put your fellow to work today!!
• Deadline is December 5, 2016

http://www.cytopathology.org/cell-talks/
Leveraging Resources and Technologies in Systems-Based Practice (SBP) Education

Roseann I. Wu, MD, MPH
Assistant Professor of Clinical Pathology & Laboratory Medicine
University of Pennsylvania Health System

Conflict of Interest

• No financial relationships to disclosures

Educational Objectives

• Review available resources for a laboratory management curriculum.

• "Integrate" systems-based practice into a Cytopathology fellowship program.

• Apply technologic solutions to education in systems-based practice.

Systems-based Practice

• “Demonstrate an awareness of and responsiveness to the larger context and system of health care and the ability to effectively call on system resources to provide care that is of optimal value.”

• “It takes a village...”


Educational Modalities

• Didactic lectures
• Small group sessions
  • Case-based discussions, journal clubs
• Role playing
• Video vignettes
• Simulations
• Quality projects in AP/CP
• Patient safety and quality conferences
• Working committees i.e. root cause analysis teams
• Online training
• National conferences

Lab Management Elective

• Managers’ Meeting
• Clinical Effectiveness and Quality Improvement (CEQI) Meeting
• Administrative Leadership Team (ALT) Meeting
• Risk Management Meetings
• Quality Assurance Meetings
Lab Management Resources

- ASCP Laboratory Management University (LMU) Fundamentals - Certificate of completion
  - Leadership
  - Personnel Management
  - Operations
  - Financial Management
  - Compliance
- CAP Inspector Training - Certification as CAP inspector
  - Participate in mock or real inspections

Lab Management Resources

- University of Pathology Informatics (API/ASCP)
  - Assigned during genomics rotation
  - https://www.ascp.org/content/functional-nav/upi
- Lab Management Reading List on ASC Website

Lab Management Resources

- American Society for Cytotechnology (ASCT)
- Cytology Education Learning Lab (CELL)
  - http://cytologyedlab.org/
- MOC Patient Safety Courses (NPSF, ASCP, CAP)
- Crucial Conversations
- Journal articles/Journal club

Budget/Personnel Activities

- Create an organizational chart
- Develop a job description
- Write appropriate interview questions
- Participate in employee interviews
- Participate in budget exercise

Teaching Patient Safety

- Model patient safety practices
- Verify specimen identity and integrity
  - Identifying and resolving errors i.e. specimen waiver
  - Problem solving and exercising clinical judgement
- Standardize handoffs, understand inherent risks
  - Situation-Background-Analysis-Recommendation (SBAR) for concise communication
- Tie to situational learning (active engagement)

Sesok-Pizzini D. "Developing a patient safety curriculum", in press.
Communication Checklist

- Handoffs should be written and verbal for important info i.e. critical value


Fostering Patient Safety Environment

- Fair and Just Culture
  - Tools to participate in error disclosure (Safety Net)
  - Safe environment to address concerns—open conversation
- Respectful communication modeled by faculty
  - Professional behavior expectations
- Poor communication → safety errors
  - Feedback regarding progress

Sesok-Pizzini D. "Developing a patient safety curriculum", in press.

Curriculum Strategies for Trainees

- Write/implement policies on patient safety i.e. handoffs
- Join hospital quality and patient safety councils
- Serve as quality patient safety officer
- Join national organizations i.e. CAP committees that review proficiency testing
- Participate in root cause analysis, failure mode effects analysis, quality improvement initiatives, patient safety committees
- Publish papers related to patient safety


Patient Safety Activities

- Write/implement policies on patient safety i.e. handoffs
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Patient Safety Recognition

- If error discovered + fixed before impacting patient, celebrate through department newsletter, website, or other communication
- Give award at end of the year for best "good catch"
- Give leadership award recognizing individual that contributed most to advancing culture of patient safety

Sesok-Pizzini D. "Developing a patient safety curriculum", in press.

ASC Cell Talks

- 15-minute videos on a cytopathology topic with accompanying questions
  - Selecting a General Supervisor
  - Coding and Billing in Cytology
  - Meet the Organizations
  - Trainee opportunity to learn by teaching
  - Growing series available on ASC website, free to members!

http://www.cytopathology.org/cell-talks/
Technologies to Support Education

- Lecture recording
- Course management software
- Computerized examinations and assessments
- Audience response systems
- Online textbooks and journals
- Educational games i.e. Jeopardy
- Simulation with feedback
- Social media

Online Self-Study: Flashcards

- Anki
- Brainscape
- Cerego
- Cram
- Cobocards
- Course Hero
- Cram
- Fresh Memory
- Mnemosyne
- OpenCards
- Pleco
- Quizlet
- SuperMemo
- StudyStack
- Synap


Online Self-Study: Matching

![Hungry Bug]

Online Self-Study: Games

- Bug Match
**Adaptive eLearning**

- Online, cloud-based authoring platform
- Interactive components
  - Audio, video, virtual slides, assessments, simulations
- Personalized educational paths
- Documentation of student performance
- Crowdsourced and shared lessons
- Dynamic and ever-improving lessons
- Required investment of time, $$$, and effort

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**Summary/Conclusions**

- Strengthening the laboratory management curriculum benefits everyone.
- Many resources are available for Cytopathology fellowship programs to advance systems-based practice Milestones.
- Leveraging technologic advances can enhance education in systems-based practice.

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**Acknowledgements**

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- Rosemary Tambouret, MD
- ASC CPDC and staff

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**References**

Strategies in Cytopathology Education:
What are “Portfolios,” and How Can They Help With Assessing Milestones?

Edmund S. Cibas, M.D.
Brigham and Women’s Hospital and
Harvard Medical School

Conflict of Interest

• Dr. Cibas has no conflict of interest

What Are Portfolios?

<table>
<thead>
<tr>
<th>PCI - Pathological specimen procedures</th>
<th>SBP4 - (Level 4) Advise on specimen collection and preparation techniques</th>
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<tbody>
<tr>
<td>Evaluation</td>
<td>Level 2, 3, 4</td>
</tr>
<tr>
<td>Patient safety</td>
<td>Troubleshooting specimen submission and report generation</td>
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<td>Patient safety</td>
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</table>

Some Milestones Are Hard To Evaluate

• PCI (level 3) Trouble-shoots pre-analytic and post-analytic problems, including deviations from policies (waivers) with minimal supervision
• SBP4 (level 4) Advises staff on collection and preparation techniques

Why not ask the fellows to document their milestone achievement?

Which Milestones?

• Trouble-shoots specimen submission and report problems (PC1, level 3).
• Error recognition (PC1, level 4).
• Managing FNA complications (PC2, level 4).
• Consultation to providers — advises on screening guidelines (MK2, level 3).
• General consultation, test selection guidance (SBP2, levels 2-5).
• Employee interviews/performance evaluations (SBP3, level 4).
• Advises on specimen collection and proper techniques (SBP4, level 4).
• Uses LIS for data management and QC (SBP5, level 4).
• Summary of Journal Club presentations (PB1, level 4).
• Examples of personal errors and solutions (PRD1, level 4).
Email to Fellows:

Fellows:
For our Clinical Competency Committee (CCC) to evaluate your mastering of many of the core competencies, I suggest that you create a portfolio: an electronic file with multiple folders, each folder corresponding to a particular milestone that can benefit from this kind of documentation. I've drafted a list of suggested folders (attached). As you can see, each folder corresponds not just to a milestone, but also to the level (often level 4) achieved by this activity.

I suggest you create such a portfolio and use it as a repository for documentation of your activities with regard to these milestone levels. The more you can document, the more data our CCC will have to examine and justify assigning you to the corresponding level. Before our next meeting in May, I'll ask you to download your portfolio for review by the CCC.

I hope this makes sense! Let me know if you have any questions.

Ed Cibas

Results

Found it easier just to create a Word document:
• Fellow 1: 1 ½ pages
• Fellow 2: 2 ½ pages
• Fellow 3: 3 ½ pages

Results

FOLLOW 3 MILESTONES

<table>
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<tr>
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</tbody>
</table>

Personnel and finance

Knows the personnel and lines of reporting in the laboratory

Describes the elements of a budget (e.g., personnel, capital equipment) (SBP3, level 2)

Trouble-shooting specimen submission and report problems (PCI, level 3).

1-20-16 Joyce came to me and asked whether a specimen labeled "exudate" should go for cytology or anatomic pathology - found pieces of tissue wrapped in gauze, sent for surgical pathology work up.

3-4-16 Natalie approached me about a specimen labeled "left neck" that actually looked like a Pap (with endometrial cells present). According to Epic, the order was released by a phlebotomy lab technician. I e-mailed the technician and confirmed that the specimen was a urine.

Portfolio Samples

Error recognition (PC1, level 4).

1-7-2016 Contacted by Etwin and informed there may be a specimen mix-up for cell blocks (BC-16-xxx and BC-16-yyyy). Slides reviewed with attending, who agreed that mix-up occurred. Informed lab to re-label blocks and slides and filled out incident report with histology.

On several occasions I noticed that the laterality of the specimen was incorrect on outside consult cases and contacted the referring institution to fix this mistake.

Summary

• It can be very useful to have fellows document their milestone achievement with portfolios
• Advantage: streamlines discussion and assessment by CCC
• Disadvantages
  • honor system
  • compliance
MAYO CLINIC CYTOPATHOLOGY FELLOWSHIP PROGRAM

Administrative and Regulatory Training

**LEADERSHIP AND MANAGEMENT COURSE**
- Required for all trainees: Fellows and residents
- Includes basics in laboratory management and quality training.
- A quality project is suggested for all participants

**LECTURES**
- CLIA
- CPT coding for cytology specimens
- Other regulatory areas
- CAP checklist requirements

**TRAINING**
- Formal Didactic
  - Leadership and management course
  - Lectures on Cytology specific regulatory and billing issues
- Practical
  - Attendance at Quality and management meetings
  - Validation Project
  - Quality Project
  - CAP Inspection
  - Laboratory Director practice

**REQUIRED MEETINGS**
- Quarterly QA Conference
- Cytology – Histology Quality Conference
- Cytopathology Working Group Conference
- Cytotechnologist Staff Meetings (as appropriate with laboratory director)
- Cytology Development Meetings

**VALIDATION AND QUALITY PROJECT**
- Development of a validation plan and completion of the plan with implementation of a new test or equipment is required.
- Either a quality project or follow-up of a quality issue is required
LABORATORY CERTIFICATION

- Cap Inspection: Either self inspection or inspection of another laboratory
- Understanding of CLIA requirements for certification

MEDICAL DIRECTOR

- Involvement with the medical director in laboratory issues
- “Assistant” medical director in final months of fellowship
SAMPLE CYTOPATHOLOGY FELLOW PORTFOLIO (redacted)

1. Trouble-shooting specimen submission and report problems (PC1, level 3).

12-30-15 Advised Nick and cytology accessioning staff about the correct labeling and type of specimen for an outside consult (NG-15-1006); called OSH to confirm the specimen site, which was not labeled adequately.

1-20-16 Joyce came to me and asked whether a specimen labeled "exudate" should go for cytology or anatomic pathology - found pieces of tissue wrapped in gauze, sent for surgical pathology work up.

2-8-16 Joyce received sputum sample with "Indications: Other Infectious Agents" written on the form - asked me if we should process specimen. In Epic, clinicians are concerned about cancer and sent samples for non-gyn cytology in addition to respiratory culture, therefore we processed it correctly.

2-29-16 Joyce received a CSF in ETOH - per requisition, there is a suspicion for lymphoma. Called hematology, and they have some specimen left which we obtained and triaged for flow cytometry.

2-29-16 Filled out safety report for a specimen (jaw abscess contents) that was never received by cytology, although the clinicians requested the order via Epic. (MRN 19445949) Most likely, the paper requisition for Non-Gyn Cytology was not included with paperwork for concurrent microbiology.

3-1-16 Received two pericardial fluids without requisitions - they were in fact samples for the clinical labs. Epic noted two pericardial taps took place, 1 at 10:33 and another at 10:53, the latter was to be sent for cytology.

3-2-16 Janet asked me to track down a lost "peritoneal washing" for a hysterectomy. The item was mentioned in an Op note that she found on Epic, but we had received no paper requisition or specimen container. Turns out the specimen had already been delivered to the cytology laboratory a day earlier.

3-4-16 Natalie approached me about a specimen labeled "left neck" that actually looked like a Pap (with endometrial cells present). According to Epic, the order was released by a phlebotomy lab technician. I e-mailed the technician and confirmed that the specimen was a urine.
2. Error recognition (PC1, level 4).

1-7-2016 Contacted by Etwin and informed there may be a specimen mix-up for cell blocks (BC-□□□□ and BC-□□□□). Slides reviewed with Non-Gyn attending, who agreed that mix-up occurred. Informed lab to re-label blocks and slides and filled out incident report with histology.

2-4-16 Took initiative and ordered a repeat ThinPrep after recognizing suboptimal processing of a thyroid FNA (BC-16-□□□□).

3-2-16 Nick asked me to investigate a specimen which looked more like a Pap but was labeled "enlarged lymph nodes" by Dr. X. After numerous e-mails to the clinicians involved and the clinical director of the ambulatory lab, it was discovered that the requisition for non-gyn cytology was printed in error. As a follow-up, the director re-iterated to her staff the directions for releasing these orders to minimize future mishaps. [I'm putting this down as a #2 because I had to discover what the error actually was - could also go under #4 below.]


1-20-16 Fielded phone call from clinician who wanted to know if a patient should be NPO before undergoing a palpable FNA procedure. (I'm putting this under #3 b/c eating before FNA will not cause complications, hence it is improper management to recommend that the patient be NPO in this setting - could also be under #4 below).

12-23-15 Spoke with patient over the telephone regarding the results of a fat pad biopsy. (Does anxiety count as an FNA complication? If you disagree, just ignore this one).

4. Consultation to providers

- advice on cervical screening guidelines (MK2, level 3).
- general consultation, test selection guidance (SBP2, levels 2-5).

12-21-15 Spoke with XXXXXXXX, M.D., QA director at OSH, concerning disagreement on a case (BC-15-□□□□). Patient diagnosed at OSH with mesothelioma on pleural fluid; subsequent biopsy negative. Patient had already been treated with chemotherapy.

12-31-15 Spoke with a breast imaging radiologist via telephone regarding the work-up of a breast FNA specimen for a mass that was not amenable to core biopsy - essentially, she wanted to know that would be able to do receptors on an FNA specimen.

1-4-2016 Spoke with XXX XXXX, PA, communicating that I was unsure of adequately sampling a palpable FNA lesion. Agreed that ultrasound guidance vs. excision may be a necessary next step.
1-5-2016 Fielded a request for an FNA from Dr. XXX specifically for the purpose of gathering material to run Oncopanel testing. Discussed preferred method of slide preparation. Contacted clinician to gather clinical information, discussed the plan and coordinated the FNA with patient appointment.

1-6-2016 Responded to a call about proper specimen labeling from an outside hospital sending samples to pathology.

1-21-16 Handled the scheduling of a patient who needed a palpable FNA but was incorrectly scheduled for an IR-guided FNA.

1-21-16 Discussed with medicine resident the case of a patient who needed a palpable FNA but was incorrectly scheduled for an IR-guided FNA. Performed palpable FNA instead.

5. Employee interviews/performance evaluations (SBP3, level 4).

3-21-16 Attended the quarterly lab meeting.

6. Advises on specimen collection and proper techniques (SBP4, level 4).

12-23-15 Conferred with surgeon performing carpal tunnel repair about how to best submit adipose tissue for amyloid rule-out. I discussed the utility of fat pad biopsy in this setting, but he was urged by patient to also obtain fibroadipose tissue during her outpatient surgery.

1-21-16 Performed an FNA of a chyle cyst, which required triaging of a portion of the specimen for triglyceride analysis through SUNQUEST. FOLLOWUP: Triglycerides elevated (464 mg/dl). Even though smear completely acellular, signed out as negative b/c of confirmatory chemistry.

7. Uses LIS for data management and QC (SBP5, level 4).

5-7-16 Performed QC project evaluating the rate of adequate/inadequate rapid evaluations for cytologists in the department. (Could also be included under # 5 above).

8. Summary of Journal Club presentations (PBL1 2, level 4).

9-15-15 "BAP1 is a highly specific marker for differentiating mesothelioma from reactive mesothelial proliferations."

10-6-15 "Impact of ThyroSeq on Cancer diagnosis in AUS/FLUS thyroid nodules."

2-18-16 Was asked by neurology resident about appropriate handling for IHC of a CSF cytospin. I mistakenly instructed the resident to place those slides in the IHC oven for antigen retrieval because unfixed cytospins are not useable for IHC. I reported the error to the attending and the resident and arranged for additional cytospin preparations to be made.