Strategies in Cytotechnology Education: Session #1

State of OUR Union: The Cytology Party Platform

Stephanie Hamilton, EdD, MB, SCT(ASCP)CM: CellNetix Pathology & Laboratories

Jennifer A. Brainard, MD: Cleveland Clinic
The speakers have no relationships that represent possible conflicts of interest with the content of this presentation.
Educational Objectives

• Share current status of cytotechnology programs

• Explore perspectives of new cytotechnology program officials

• Share educational experiences of student interactions and program administration

• Review updates of the student workload project and the future of cytology training
CPRC Committee Members

• Stephanie Hamilton, EdD, MB, SCT(ASCP), Chair
• Jennifer A. Brainard, MD, Vice Chair
• Amber Donnelly, PhD, MPH, SCT(ASCP), ASCP Commissioner to CAAHEP
• David C. Wilbur, MD, CAP Commissioner to CAAHEP
• Karen M. Atkison, MPA, CT(ASCP)IAC
• R. Marshall Austin, MD, PhD
• Robert L. Hutton, MD
• Larry W. List, MS, PA, CT(ASCP)
• Kalyani Naik, MS, SCT(ASCP), CPRC Commissioner to CAAHEP
• Robert A. Goulart, MD, ASC Commissioner to CAAHEP
• Maria Friedlander, CT(ASCP), ASCT Commissioner to CAAHEP
• Donald Schnitzler, CT(ASCP), Alternate ASC Commissioner to CAAHEP
• Kerry E. Weinberg, MA, MPA, RT(R), CAAHEP Liaison
• Deborah MacIntyre Sheldon, CPRC Cytology Education Coordinator
CPRC Membership Changes

• Chair and Vice Chair:
  • Dr. Jennifer Brainard, current Vice Chair, will become Chair
  • Ms. Karen Atkison will become Vice Chair

• ASCT Member:
  • Dr. Stephanie Hamilton will rotate off
  • Ms. Catherine Smith will become ASCT member

• ASC Member:
  • Dr. Robert Hutton will rotate off
  • Dr. Gregory Freund will become ASC member
2015-2016 School Status

24 Total number of accredited Cytotechnology Programs in United States and Puerto Rico

24 Active programs

4 Closed programs:
- University of Kansas Medical Center (8/1/16)
- University of North Dakota (8/15/16)
- University of Mississippi Medical Center (5/27/16)
- University of Vermont (2/16/16)

1 New program that received Initial Accreditation:
- Roswell Park Cancer Institute/Daemen College, Buffalo, NY (9/15/16)
Program Types

• 8 Certificate-only programs

• 8 Offer both Certificate program and Degree program (BS & MS)

• 8 Degree-only programs (a total of 16 offer a Degree program, 4 offer a Masters level program + 1 more in 2017)
State of the Union

Outcomes Data are based on % for three-year average, 2013-2015

- Attrition ***
  - Average: 6.60%
- Student Retention (80% threshold)
  - Average: 93.40%
- Positive Placement (75% threshold)
  - Average: 93.27%
- ASCP-BOC-% Graduates Attempting (80% threshold)
  - Average: 93.20%
- ASCP-BOC Pass Rate/Success (80% threshold)
  - Average: 93.24%
- Employer Survey Return Rate (50% threshold)
  - Average: 71.52%
- Graduate Survey Return Rate (50% threshold)
  - Average: 74.13%

***Attrition: Of 22 active programs responding, 12 had students who withdrew.
Questions or comments?
Methods for Assessing Student Learning

Jessie Bower, MBA, CT, MB (ASCP)CM
Education Coordinator
Roswell Park Cancer Institute and Daemen College School of Cytotechnology
What is Assessment?

“Assessment is simply looking at what one does and how well one is doing it.”

- Peggy S. Lowry, Director, Office of Sponsored Programs and Research Compliance, Oregon State University
Why Assess?

- We learn about how well we are doing to and use this to:
  - Adjust our approach as needed
  - Celebrate what’s working
  - Plan and allocate resources accordingly
What is Assessment of Student Learning?

“Deciding what we want our students to learn. Making sure they learned it.”

- Jane Wolfson, Director, Environmental Science & Studies Program, Towson University
A Focused Five Step Assessment Process for Academic Programs

- Articulate learning objectives.
  - As a result of this program/course, students should be able to...

- Collect information/evidence.
  - Using direct and indirect methods

- Review/analyze data and reflect on findings

- Report results

- Use information for decision making and improvement

Repeat!
Direct and Indirect Methods of Evaluating Learning

Direct Methods + Indirect Methods = Actual Learning
Student Learning Example

- Direct Learning:
  - Student completes a calculus problem correctly

- Indirect Learning:
  - Student describes her own calculus abilities as excellent
  - OR
  - Student perceives she is doing poorly in calculus

- Important information to student and professor
# Direct and Indirect Measures of Student Learning: Course

<table>
<thead>
<tr>
<th>COURSE</th>
<th>DIRECT MEASURES</th>
<th>INDIRECT MEASURES</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>• Course and homework assignments</td>
<td>• Course evaluations</td>
</tr>
<tr>
<td></td>
<td>• Examinations and quizzes</td>
<td>• Percent of class time spent in active learning</td>
</tr>
<tr>
<td></td>
<td>• Observations of field work: i.e. clinical expertise</td>
<td>• Number of student hours spent on:</td>
</tr>
<tr>
<td></td>
<td>• Research projects</td>
<td>• service learning</td>
</tr>
<tr>
<td></td>
<td>• Class discussion participation</td>
<td>• homework</td>
</tr>
<tr>
<td></td>
<td>• Grades based on explicit criteria related to clear learning goals</td>
<td>• intellectual activities related to the course</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Grade that are not based on explicit criteria related to clear learning goals</td>
</tr>
</tbody>
</table>
# Direct and Indirect Measures of Student Learning: Program

<table>
<thead>
<tr>
<th>DIRECT MEASURES</th>
<th>INDIRECT MEASURES</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Pass rates or score on licensure, certification, or subject area tests</td>
<td>• Registration or course enrollment information</td>
</tr>
<tr>
<td>• Board of Registry Exam</td>
<td>• Job placement</td>
</tr>
<tr>
<td>• Student publications or conference presentations</td>
<td>• Employer or alumni surveys</td>
</tr>
<tr>
<td>• Employer and rotation supervisor ratings of students’ performance</td>
<td>• Student perception surveys</td>
</tr>
</tbody>
</table>

## PROGRAM

- Pass rates or score on licensure, certification, or subject area tests
  - Board of Registry Exam
- Student publications or conference presentations
- Employer and rotation supervisor ratings of students’ performance

- Registration or course enrollment information
- Job placement
- Employer or alumni surveys
- Student perception surveys
Direct Methods of Evaluating Student Learning

- Provide evidence of whether or not a student:
  - Has command of a specific subject or content area
  - Can perform a certain task
  - Exhibits a particular skill
  - Demonstrates a certain quality in his/her work (ex. creativity, analysis, objectivity)
  - Holds a particular value

- Course and program level
Direct Methods: Course Level
Direct Methods: Program Level

Providing excellence in certification of laboratory professionals on behalf of patients worldwide.
Fundamental Importance of Direct Forms of Evaluation

- What did the students learn as a result of an educational experience?
- To what degree did students learn?
- What did students not learn?
Limitations and Considerations to Direct Forms of Evaluation

- Do NOT tell the whole story of student learning

- Tell us *WHAT* but not *WHY*

- Why is “*why*” important?
  - Need to make future learning experiences more effective
Limitations: Direct Forms

Poor Performance on Calculus Exam

Student has not learned the material

Student learned the material but had anxiety during the examination
“Value-Added” Learning

Course Level

Value-Added Levels of Student Learning

Absolute Levels of Student Learning
Value-Added Gains

- Do not focus *too* much on value-added gains
- Course and program level → program community and public

Higher Education

- Cognitive Growth
- Affective Growth
- Social Growth
Indirect Methods of Evaluating Student Learning

- *Related to* the act of learning
  - Perceptions about learning but do not reflect learning itself

- Change in faculty offerings
- Better test scores (direct evidence)
- Passed BOR exam and CT employments opportunities (indirect evidence)
Limitations: Indirect Forms

- DO NOT use indirect methods alone

- Indirect methods do not evaluate student learning *per se*
  - Therefore should not be the only means of assessing outcomes
“Not everything that can be counted counts, and not everything that counts can be counted.”

- Albert Einstein
“The aim of assessment is primarily to educate and improve student performance, not merely to audit it.”

Advice From Ground Level

“Aim for an assessment process that is scholarly and professionally engaging, rather than tedious and time consuming...

- Mimi Steadman, Daemen College Assessment Officer
Advice From Ground Level

…Keep your plans lean, focused, and useful so that the assessment process is sustainable and supports, rather than detracts from, the work that matters most.”

- Mimi Steadman, Daemen College Assessment Officer
Questions?
Photo Credits

- ASCP: https://www.ascp.org
- The University of Iowa: http://research.uiowa.edu
“Multistage Multi-head Microscopy (MMM) in the Student Cytotechnology Laboratory: Developing the Psychomotor Domain Skills Utilizing Problem Based Learning”
Profile of a New Educator

- I had never thought about being a Teacher

- Education Found Me
  Interacting with Students in the Gross Pathology Lab
  Enjoy sharing Knowledge, Training and Experience
  Discovered a Desire to Invest into People via mentoring

- Entered Education Late In Career after military service and 15 years at bench

- A Training Program to Make You Ready?

- On the Job Training: Just Do It!
My Cytotechnology Training Experience

- No Multihead Microscopy in training
- No Utilization of computers or modern technology
- No Powerpoints or Organized Notes/Handouts = Handwritten Notes as lecture proceeds
- Kodachrome Slides + Glass Slide Boxes + Textbooks = Students work hard to Figure it all Out…it is all on you, sink or swim
- The learning process was tedious, stressful and inefficient…we all struggled to get everything needed
The Reality of Generational Differences

Generation Differences shape **Individual Perceptions** and **Value Systems** in the classroom and work environment

- The Traditionalists “Greatest Generation” : Born Before 1945
- The Baby Boomers : Born 1946–1964
## Generational Differences

<table>
<thead>
<tr>
<th>Differences</th>
<th>Traditionalist</th>
<th>Boomers</th>
<th>Generation X</th>
<th>Millennials</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Communication</strong></td>
<td>Formal</td>
<td>Structured</td>
<td>Casual</td>
<td>Fast</td>
</tr>
<tr>
<td><strong>Work Ethic</strong></td>
<td>By the Book</td>
<td>Whatever it Takes</td>
<td>Efficient</td>
<td>Goal Directed</td>
</tr>
<tr>
<td><strong>Work Life Balance</strong></td>
<td>Separate from Family</td>
<td>Work Comes 1st</td>
<td>Must Have Balance</td>
<td>Blended Lifestyle</td>
</tr>
<tr>
<td><strong>Etiquette Grooming</strong></td>
<td>Formal</td>
<td>Professional</td>
<td>Casual</td>
<td>Relaxed</td>
</tr>
<tr>
<td><strong>Motivation Rewards</strong></td>
<td>Self Motivated</td>
<td>Career Driven</td>
<td>Time Off</td>
<td>Public Praise</td>
</tr>
<tr>
<td><strong>Respect Loyalty</strong></td>
<td>To the Organization</td>
<td>To the Profession</td>
<td>To the Individual</td>
<td>To Co-Workers</td>
</tr>
<tr>
<td><strong>Leadership</strong></td>
<td>Ultimate Respect for Authority</td>
<td>Respect for Power</td>
<td>Collaboration is the Key</td>
<td>Freedom is the Key</td>
</tr>
<tr>
<td><strong>Technology</strong></td>
<td>“If it is not broken, don’t fix it”</td>
<td>It is Necessary Progress</td>
<td>It is Practical?</td>
<td>“Is there Anything Else?”</td>
</tr>
</tbody>
</table>
The Usual Situation for a Gen X Latch-Key Kid

The Environment of My Upbringing

Mirrors the development of rookie PDs and ECs in many ways

There is no way to avoid surprises, especially from unrealistic assumptions
Rookie Assumption #1

- Student directed “Free Time” in Class = Well Spent Productive Time?

- Too Many competing distractions including the students distracting each other

- Ready Access to Information

- Technology: I-phones, I-pads, I-Watches, Laptops, Fitbits....
Classroom Management Questions for Developing Millennial Students

- How do you generate student **Interest** in the educational process?

- How do you encourage students to **Invest** in and take **Ownership** of their learning?

- How do you create an **Environment** which stimulates student learning and **Engagement**?

- What **Methods** or approaches can be used to **Develop** Psychomotor Skills?
The Gen X Professor and the Millennial Students

- My upbringing and experiences vs My Students’ upbringing and experiences

- Being an effective teacher and mentor…?

- Developing reasonable expectations, order and discipline given the influence of generational differences and culture
## Cytotechnology Program

Problem Based Learning Session:  
Multi-Stage Review Microscopy

<table>
<thead>
<tr>
<th>Case Number</th>
<th>Stage 1: Individual Student Screening</th>
<th>Stage 2: Student Group Multi-head Review</th>
<th>Stage 3: Multihead Group Review with Instructor</th>
<th>Stage 4: Microscopic Criteria and Approach to Final Diagnosis</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Complete Bethesda Adequacy Diagnosis Organisms Comments</td>
<td>Agree or Disagree with Group; Provide Explanation</td>
<td>Final Status of Student Diagnosis Concordant or Discordant</td>
<td>Provide Explanation</td>
</tr>
<tr>
<td>2</td>
<td></td>
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<td>3</td>
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<tr>
<td>5</td>
<td></td>
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</tr>
</tbody>
</table>
Psychomotor Domain

Bloom's Taxonomy

- **Remember**
  - Define, duplicate, list, memorize, repeat, state

- **Understand**
  - Classify, describe, discuss, explain, identify, locate, recognize, report, select, translate

- **Apply**
  - Execute, implement, solve, use, demonstrate, interpret, operate, schedule, sketch

- **Analyze**
  - Differentiate, organize, relate, compare, contrast, distinguish, examine, experiment, question, test

- **Evaluate**
  - Appraise, argue, defend, judge, select, support, value, critique, weigh

- **Create**
  - Produce new or original work: design, assemble, construct, conjecture, develop, formulate, author, investigate

- Draw connections among ideas
  - Differentiate, organize, relate, compare, contrast, distinguish, examine, experiment, question, test

- Use information in new situations
  - Execute, implement, solve, use, demonstrate, interpret, operate, schedule, sketch

- Explain ideas or concepts
  - Classify, describe, discuss, explain, identify, locate, recognize, report, select, translate
### Stage 1

- Student Screens alone without discussing with classmates
- History provided
- No dotting
- Hand in answers before proceeding to Stage 2

<table>
<thead>
<tr>
<th>Case Number</th>
<th>Stage 1: Individual Student Screening</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>SAT, ECC+, ECA-LGSIL, Trichomonas</td>
</tr>
<tr>
<td>2</td>
<td>SAT, ECC+ NILM Reactive Cell Changes of Repair Severe Acute Inflammation</td>
</tr>
<tr>
<td>3</td>
<td>SAT, ECC+, ECA - ASC-H, Herpes</td>
</tr>
<tr>
<td>4</td>
<td>SAT, ECC+, NILM BV</td>
</tr>
<tr>
<td>5</td>
<td>SAT, ECC+, ECA-Endocervical AIS</td>
</tr>
</tbody>
</table>
Stage 2

- Student work together screening slides at multihead
- Group dotting
- Record agree or disagree
- Note reasons for either
### Stage 3

- **Record observations**
- **Why right or wrong**
- **What are you discovering or confirming?**

<table>
<thead>
<tr>
<th>Case Number</th>
<th>Stage 2: Student Group Multihead Review</th>
<th>Stage 3: Multihead Group Review with Instructor</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1</strong></td>
<td>SAT, ECC+, ECA-LGSIL Trichomonas</td>
<td>Agree: Koilocytes and Large Dysplastic Cells with Nuclei 4-6x IC Nuclei, abundant cytoplasm, Trichomonas</td>
</tr>
<tr>
<td></td>
<td></td>
<td>LGSIL Trichomonas – with degenerating PMNs and cytoplasmic blue fragments</td>
</tr>
<tr>
<td><strong>2</strong></td>
<td>SAT, ECC+ NILM Reactive Cell Changes of Repair, streaming cytoplasm Severe Acute Inflammation</td>
<td>Disagree: ECA-ASCUS Atypical Repair, 3 dimensional groups, Hyperchromatic Nuclei, suspicious for Dysplasia</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ECA-ASCUS Atypical Repair, Streaming Cytoplasm, Hyperchromasia, 3 dimensional HCGs also present</td>
</tr>
<tr>
<td><strong>3</strong></td>
<td>SAT, ECC+, ECA-ASC-H Herpes</td>
<td>Disagree: HGSIL, Immature Squamous Metaplastic Dysplasia with High NC Ratios, sufficient numbers of abnormal cells</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ECA HGSIL Severe Dysplasia, Diffuse Hyperchromasia, 3 dimensional HCGs also present</td>
</tr>
<tr>
<td><strong>4</strong></td>
<td>SAT, ECC+, NILM BV</td>
<td>Agree, Clue Cells Present over 30% of Cells with cocci on cells c/w Bacterial Vaginosis</td>
</tr>
<tr>
<td></td>
<td></td>
<td>NILM Bacterial Vaginosis</td>
</tr>
<tr>
<td><strong>5</strong></td>
<td>SAT, ECC+, ECA-Endocervical AIS</td>
<td>Disagree: ECA-Endocervical Adenocarcinoma, Macronucleoli, Clinging Tumor Diathesis, many single abnormal cells, Rounded Nuclei with marked crowding and acinar structures</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ECA Endocervical Adenocarcinoma</td>
</tr>
<tr>
<td>Case Number</td>
<td>Stage 1: Individual Student Screening</td>
<td>Stage 2: Student Group Multihead Review</td>
</tr>
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</table>
Where are the students in their training?

Number of slides…# Slides and # Students Equal

GYN, NON-GYN, FNA Cases

Type(s) of slides: Smears, Cytospins, LB Preps, Cell Blocks, Histology

Time allowed for each stage

Amount of microscopic evidence
Advantages

- Group Synergy in Action
- Captures Students Attention in a structured “game” – Everyone wants to play
- Forces the quiet students out of their shell and comfort zone
- Balance between individual work and learning from classmates/instructor while not depending too much on others
- Each Student is blinded to other students’ Stage 1 diagnosis
- Students who are struggling with locator or identification skills can learn from classmates without fear of embarrassment
- Students develop communication skills through the practice of using descriptive language
- Majority of grade from Stage 1
- Earn limited points from mistakes via submitted comments in Stages 2, 3 and 4
- Students can Rise together or Fall together...process does encourage Individual Independent decision making
- Organized tracking of thoughts through each stage
Disadvantages

Large Class +/- Many Headed Microscope

Large Class +/- Long Stages with many participants

Students do not dot the slides in stage 1

May be difficult to find isolated small cells/groups on review by group

Managing Strong Dominant Personalities

Subjectivity can create Confusion
So No Dotting....?
Take Note of Your Coordinates
Conclusions

- MMM Challenges and Engages Students in many of the Psychomotor Domain Skills

- Personal Trainer: No Discipline is Pleasant but Painful. Later on, However, it bears fruit for those Trained by it

- We are developing practitioners who will:
  
  Think Critically and Carefully
  Exercise Excellent Judgment
  Extend Care and Compassion toward the sick

- Hand Eye Coordination whether screening, specimen processing or performing ROSE FNA Assistance
Determining Entry Level Work Load Guidelines for Automated Pap test Screening Devices for Cytotechnology Program Graduates

Centers for Disease Control and Prevention (CDC)

William N. Crabtree, Ph.D., SCT(ASCP)
Project Director
<table>
<thead>
<tr>
<th>Metric</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. schools</td>
<td>n = 6</td>
</tr>
<tr>
<td>No. students</td>
<td>n = 21</td>
</tr>
<tr>
<td>No. slides evaluated</td>
<td>n = 485</td>
</tr>
<tr>
<td>Schools</td>
<td>6/24</td>
</tr>
<tr>
<td>Students</td>
<td>21/108</td>
</tr>
<tr>
<td></td>
<td>= 25%</td>
</tr>
<tr>
<td></td>
<td>= 19.44%</td>
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</tbody>
</table>
Cytology Workload Measurement
Participant Screen

Indiana University School of Medicine
10/16/2015

Slide Number: 17

Case Setup Start: 10:51:12 AM
Case Setup End: 10:51:17 AM

FOV Start: 10:51:17 AM
FOV End: 10:51:21 AM

I will perform FMR
FMR Start: 10:51:21 AM
FMR End: 10:51:33 AM

Interpretation

- **UNSAT**: Unsatisfactory: include extremely scant cellularity, scant squamous component, obscuring inflammation, predominantly WBC’s, excessive blood.

- **NILM**: Negative for Intraepithelial Lesion or Malignancy: includes benign endometrial cells, reactive and reparative changes, organisms such as Candida, Trichomonas, Herpes, etc.

- **ASC-US**: Atypical Squamous Cells of Undetermined Significance: includes ASC-H

- **AGUS**: Atypical Glandular Cells of Undetermined Significance: includes atypical endocervical and endometrial cells, atypical endocervical cells suggestive of AIS

- **LSIL**: Low-grade Squamous Intraepithelial Lesion

- **HSIL**: High-grade Squamous Intraepithelial Lesion

- **MALIGNANT**: Squamous cell carcinoma, adenocarcinoma, other malignant neoplasms

Save / Continue  Close  Reset
<table>
<thead>
<tr>
<th></th>
<th>n=485</th>
<th>Mean</th>
<th>Median</th>
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<tbody>
<tr>
<td>Case Setup Time</td>
<td></td>
<td>3.09</td>
<td>1.95</td>
</tr>
<tr>
<td>Range</td>
<td></td>
<td>.36 – 6.65</td>
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</tr>
<tr>
<td>FOV Time</td>
<td></td>
<td>2.35</td>
<td>1.33</td>
</tr>
<tr>
<td>Range</td>
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<td>.07 – 18.75</td>
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<tr>
<td>FMR-Imaged Time</td>
<td></td>
<td>3.47</td>
<td>2.69</td>
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<tr>
<td>Range</td>
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<td>.85 – 8.40</td>
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<tr>
<td>FMR Time</td>
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<td></td>
<td></td>
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<tr>
<td>Range</td>
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<tr>
<td>Case Complete Time</td>
<td></td>
<td>3.10</td>
<td>.07</td>
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<td>Range</td>
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<td>.005 – 26.57</td>
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<td>SCREENING TYPE</td>
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<td>FDA/CMS</td>
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<tr>
<td>FOV ONLY</td>
<td>8.54</td>
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<td>FOV+FMR-Imaged</td>
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<td>FMR- Non-imaged</td>
<td></td>
<td>4.8</td>
<td></td>
</tr>
<tr>
<td>Range</td>
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<tr>
<td>SCREENING TYPE</td>
<td>TIS/TIS+</td>
<td>FDA/CMS</td>
<td></td>
</tr>
<tr>
<td>--------------------------------------</td>
<td>----------</td>
<td>---------</td>
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</tr>
<tr>
<td>FOV ONLY (8) Hour work Day (0.5 conversion)</td>
<td>112</td>
<td>200</td>
<td></td>
</tr>
<tr>
<td>FOV+FMR-Imaged (8) Hour work Day (1.5 conversion)</td>
<td>60</td>
<td>67</td>
<td></td>
</tr>
<tr>
<td>FMR- Non-imaged (8) Hour work Day</td>
<td></td>
<td>100</td>
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</tr>
<tr>
<td>SCREENING TYPE</td>
<td>TIS/TIS+</td>
<td>FDA/CMS</td>
<td></td>
</tr>
<tr>
<td>--------------------------------------</td>
<td>----------</td>
<td>---------</td>
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</tr>
<tr>
<td>FOV ONLY (75%) (8) Hour Work Day</td>
<td>84</td>
<td>150</td>
<td></td>
</tr>
<tr>
<td>FOV+FMR-Imaged (25%) (8) Hour Work Day</td>
<td>15</td>
<td>17</td>
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</tr>
<tr>
<td>Total Workload (8) Hour work Day</td>
<td>99</td>
<td>167</td>
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</tr>
<tr>
<td>% Difference</td>
<td>(60%)</td>
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</table>
**ASC Recommendations:**

1. Cytotechnologists’ workday should not include more than 7 hours of gynecologic (Pap test) screening in a 24 hour period, provided there are no additional duties or distractions. Based on the available evidence that fatigue and discomfort increase over time, it is considered good practice that the above time periods apply to a 24-hour period. These recommendations are applicable only to gynecologic screening, so do not necessarily apply to non-gynecologic cytology, including immediate evaluation of adequacy of fine needle aspirates. Non-screening time of gynecologic specimens must include at least two paid mini-breaks of 15 minutes each, and a 30 minute lunch break, in an 8-hour day. Breaks constitute a complete break from microscopy work, and may NOT include other activities such as data entry, quality assurance, and non-gynecologic specimen immediate evaluation and screening. Time allotted for breaks is intended for mental and muscular rest, so it can not be “worked through”.

2. The percentage of imaged slides that undergo full manual review should be at least either 15%, or twice (2x) the epithelial cell abnormality (ECA) rate, whichever is greater.
<table>
<thead>
<tr>
<th>SCREENING TYPE</th>
<th>TIS/TIS+</th>
<th>FDA/CMS</th>
</tr>
</thead>
<tbody>
<tr>
<td>FOV ONLY (75%) (7) Hour Work Day</td>
<td>74</td>
<td>131</td>
</tr>
<tr>
<td>FOV+FMR-Imaged (25%) (7) Hour Work Day</td>
<td>13</td>
<td>15</td>
</tr>
<tr>
<td>Total Workload (7) Hour work Day</td>
<td>87</td>
<td>146</td>
</tr>
<tr>
<td>% Difference</td>
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<td>(60%)</td>
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</table>
So What does this mean for us?