PROFICIENCY TESTING FOR GYNECOLOGIC CYTOLOGY

George Birdsong, M.D.
American Society of Cytopathology

Director of Anatomic Pathology, Grady Health System, Atlanta, GA
CLIA ‘88

- Mandates periodic proficiency testing (PT) of individuals examining a gynecologic cytology specimens
- Not implemented nationally for past 16 years due to lack of an acceptable proposal
- CMS recently announced approval of PT administered by the Midwest Institute of Medical Education (MIME)
Proficiency testing: Gynecologic cytology

• Issues with PT as written in the regulations
  - Lack of field validation of slides in the initial round of testing
  - Scoring system inconsistent with 2001 practice guidelines issued by the American Society of Colposcopy and Cervical Pathology (ASCCP)
  - Currently available technologies such as computer assisted prescreening are not considered
Proficiency testing: Gynecologic cytology

• Field validation
  
  Perspective -
  – Cytologic screening is associated with a 70% decrease in the rate of cervical cancer
  – However, significant interobserver variability (lack of precision) in gynecologic cytology interpretations is well established
Gynecologic Cytology: Precision

Renshaw et al. 2003 - CAP Interlaboratory comparison program

Determined rates of exact match with reference interpretation for slides examined between 5 and 24 times

• Three expert cytopathologists at CAP had agreed that the cases were good examples and SILs were confirmed histologically

• 25745 responses on validated slides; 14353 on non validated slides
Gynecologic Cytology: Precision

- 29.7% of field validated and 28.6% of non-validated HSIL slides had a 100% exact match rate
- 11.8% of field validated and 18.3% of non-validated HSIL slides had <50% exact match rate
- HSIL was one the least reproducible/most difficult interpretations

Gynecologic Cytology: Precision

• Renshaw et al. 2005 - CAP Interlaboratory comparison program
  Determined rate of the field validation of slides selected as excellent examples of their diagnostic categories by three expert cytopathologists
• Overall, 19% of conventional smears and 15% of ThinPrep smears failed field validation
• >50% of unsatisfactory specimens failed to validate

Renshaw AA, et al Measuring the significance of field validation in the College of American Pathologists Interlaboratory Comparison Program in Cervicovaginal cytology: How good are the experts. *Arch Pathol Lab Med*. In press
Gynecologic Cytology: Precision

• Coleman, et al, 1997 – UK
Reviewed results of bi-annual PT. (7 cycles)
247 cytologists took the exam at least once
• Of 63 cytologists taking the exam 7 times, 7 failed
one round despite scoring highly on the remaining
rounds (6 had perfect scores in at least 5 rounds)
• 3 poor performers were identified


Proficiency testing: Gynecologic cytology

• Use of unvalidated slides
  – Decreases the certainty with which individuals needing remediation can be identified
  – Increases the risk of falsely labeling competent individuals as needing remediation
  – Poor performers will be more accurately identified if the slides are field validated.
Proficiency testing: Gynecologic cytology
Scoring system for Technical Supervisors

<table>
<thead>
<tr>
<th>Examinee's response:</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
</tr>
</thead>
<tbody>
<tr>
<td>Correct response category:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A</td>
<td>10</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>B</td>
<td>5</td>
<td>10</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>C</td>
<td>5</td>
<td>0</td>
<td>10</td>
<td>5</td>
</tr>
<tr>
<td>D</td>
<td>0</td>
<td>-5</td>
<td>5</td>
<td>10</td>
</tr>
</tbody>
</table>
Proficiency testing: Gynecologic cytology

• ~20% of LSILs are associated with high grade histologic lesions (ALTS, CAP)

• ASCCP Guidelines - 2001
  - Colposcopy is the next step in patient management for both LSIL and HSIL interpretations

CONSENSUS GUIDELINES: Guidelines on Management of Women with Cytological Abnormalities.
http://www.asccp.org/consensus/cytological.shtml
Proficiency testing: Gynecologic cytology

- New technologies: Not provided for in current schema
  - Computer assisted identification of fields which may contain abnormalities


Proficiency testing: Gynecologic cytology

SUMMARY

- Slides should be field validated
- Scoring system should correspond to contemporary practice guidelines
- Impact of new technologies should be taken into consideration
- Appropriate frequency of examination needs to be determined