High Risk HPV Positivity and NILM Pap Tests in Women ≥ 30 Years of Age

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Can High Risk HPV in NILM Women ≥ 30 Years of Age be Used to Select Cases for Quality Control?

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SMW: No conflicts of interest to report
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This study aimed to evaluate if women aged 30 years or older who are Pap and HR HPV co-tested and are found to be Negative for Intraepithelial Lesion or Malignancy (NILM) and positive for HR HPV would benefit from QC re-screen prior to sign-out.
Abstract: Focused Rescreening of NILM Liquid Based Pap slides from Women 30 Years Old or Greater with Positive Screening High Risk HPV DNA HCII Results: An Enhanced Quality Control Measure

Charles Sturgis, MD, Michael Schaaf, CT(ASCP), Ronald Tickman, MD
CellNetix Pathology and Laboratories, Seattle and Everett, Washington


• 386 consecutive NILM liquid based Paps/ positive HR HPV DNA positive by HCII from women > 30 years old were re-screened by cytotechnologists

• All slides found to be ASC or higher by cytotechnologists were re-screened by a cytopathologist who assigned a final interpretation
Results and conclusions:

- Of the 386 re-screened cases
  - 50 (13%) cases were interpreted as ASC or higher
  - 11 (2.8%) cases were interpreted as LSIL or higher
- Comparison with prior year QC re-screen statistics

<table>
<thead>
<tr>
<th></th>
<th>2009</th>
<th>2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>Routine QC</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Upgraded to ASC or Higher</td>
<td>2.1%</td>
<td>13%</td>
</tr>
<tr>
<td>Upgraded to LSIL or Higher</td>
<td>0.25%</td>
<td>2.8%</td>
</tr>
</tbody>
</table>

- Focused re-screening of NILM/HR HPV DNA positive cases resulted in higher detection of SIL
Materials and Methods:

55975 total Pap tests in 2010

1706 (3%) patients ≥ 30 years (range 30-61) SurePath Pap plus Digene HR HPV DNA

72 (4%) NILM Pap +HR HPV DNA

2010 Pap and HPV DNA Co-tests

Cases selected for review.

- NILM/-HPV DNA, 1634
- NILM/+HPV DNA, 72
Pap and HPV DNA Co-test Data

Pap Test Totals

- Total Pap tests
- Total Co-tests, > 30 Years Old
- NILM/+ HR HPV, > 30 Years Old

<table>
<thead>
<tr>
<th>Year</th>
<th>NILM/+/HR HPV, &gt; 30 Years Old</th>
<th>Co-tests</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010</td>
<td>72</td>
<td>1706</td>
</tr>
<tr>
<td>2011 Jan-Oct</td>
<td>81</td>
<td>43986</td>
</tr>
</tbody>
</table>

- 2010
- 2011 (Through October)
Materials and Methods cont.

N=72
NILM/+HR HPV DNA Pap Tests

Cytotechnologist Re-screen
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HR HPV DNA Positivity Known  Abnormal

Cytopathologist
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Final Interpretation
Algorithm for QC Pap Tests

- **BD FocalPoint™**
  - No Further Review (Average 19%)
  - Review

- **Primary Cytotechnologist**
  - NILM, sign out
  - NILM, QC
  - Atypical

- **Secondary (QC) Cytotechnologist**
  - NILM, sign out
  - Atypical

  **Cytopathologist**
Memorial Medical Center QC Screening Criteria

• High Risk by clinical history as indicated on requisition or in anatomic history data base
  – Gynecological malignancy
  – Breast malignancy
  – Previous ASCH, HSIL, AGC, or LSIL Pap test result
  – ASCUS Pap test result within the past five years
  – Postmenopausal and/or abnormal vaginal bleeding
  – Early age of first sexual intercourse
  – Multiple sexual partners
  – Diethylstilbestrol (DES) in utero
  – Human immunodeficiency virus (HIV)

• High Rank selected by FocalPoint™ slide profiler
  – Primary screening mode
  – Top 20% of Pap tests most likely to contain an abnormality

• Randomly selected cases:
  – Laboratory LIS (Cerner) set at 15%

• No Prior Pap test in the laboratory database

Approximately 40% Of Pap Tests are sent to the QC Screening Queue
17% of Re-screened cases were determined to be ASC or higher on final interpretation.

- NILM, 60
- ASCUS, 6
- ASCH, 2
- LSIL, 2
- LSIL-H, 2
N=72
## Results: Comparison with 2010 Routine QC Statistics

### Results

<table>
<thead>
<tr>
<th></th>
<th>Routine QC</th>
<th>Study Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Upgraded to ASC or Higher</td>
<td>1.5%</td>
<td>17%</td>
</tr>
<tr>
<td>Upgraded to LSIL or Higher</td>
<td>0.26%</td>
<td>5.5%</td>
</tr>
</tbody>
</table>

- Focused re-screening detected
  - Greater than ten times more $\geq$ ASC
  - Greater than twenty times more $\geq$ LSIL

Compared to routine QC screening in 2010
Conclusions

Focused re-screening of NILM pap tests with positive HR HPV in women ≥ 30 years of age showed higher detection rates of ASC or higher compared to routine QC screening.
• Current ASCCP consensus guidelines recommend repeating both the Pap test and HR HPV test in one year if a woman aged 30 years or older has a NILM Pap and positive HR HPV test.
  – If the follow-up Pap test is again NILM and HR HPV positive, colposcopy is suggested.

• This algorithm may change in the future with HR HPV genotyping, but focused re-screening in this patient population may provide a useful QC measure in the interim.
Thank you. Questions?