Colposcopy Issues in the HPV Era

Colposcopy in the United States: Changes for the 21st Century?

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Faculty Disclosure

• In the past 12 months...

• Hologic: Research supplies for anal cytology

• Roche: Honorarium and travel expenses
Objectives

• Current state of cervical cancer prevention in U.S.
• Key Challenges
• ASCCP Colposcopy Standards Project
Cervical Cancer Screening in U.S.

• Pap test
  – Best cancer screening test in medicine in 20th century

• In U.S.
  – Opportunistic screening
  – No national registry
  – Single state screening registry
    • The New Mexico HPV Pap Registry

• Screening coverage ~80%

• Adherence to guidelines → poor
## What are the current US standards?

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<thead>
<tr>
<th></th>
<th>USPSTF</th>
<th>ACS/ASCCP/ASCP</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>When to start?</strong></td>
<td>21yo</td>
<td>21yo</td>
</tr>
<tr>
<td><strong>How often?</strong></td>
<td>Q3y</td>
<td>Q3y Paps ages 21-29 Q5y co-testing ages 30-65 Q3y Paps remain an option</td>
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<tr>
<td></td>
<td>Insufficient data on HPV tests &lt; 30 yrs but recs co-testing &gt; 30 yrs</td>
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<tr>
<td><strong>When to stop?</strong></td>
<td>65 if adequate prior screens</td>
<td>Age 65 if 3 negative Paps or 2 negative co-tests after hysterectomy for benign disease</td>
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</tbody>
</table>
### Current options for cervical cancer screening

<table>
<thead>
<tr>
<th>Sensitivity for precancer</th>
<th>Cytology</th>
<th>HPV</th>
<th>Cotesting (Cytology and HPV)</th>
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<tbody>
<tr>
<td>Lowest</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Shortest (lowest NPV)</td>
<td></td>
<td></td>
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<tr>
<td>Highest</td>
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<td></td>
<td></td>
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<tr>
<td>Longest (greatest NPV)</td>
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<table>
<thead>
<tr>
<th>Repeat interval for negative screen</th>
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<tbody>
<tr>
<td>Shortest (lowest NPV)</td>
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<tr>
<td>Longer (greater NPV)</td>
</tr>
<tr>
<td>Longest (greatest NPV)</td>
</tr>
</tbody>
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<table>
<thead>
<tr>
<th>Triage test required</th>
</tr>
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<tbody>
<tr>
<td>For equivocal cytology results</td>
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<tr>
<td>For all positive results</td>
</tr>
<tr>
<td>For HPV-positive, cytology-negative results</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Diagnostic test</th>
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<tbody>
<tr>
<td>Colposcopic biopsy</td>
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</tbody>
</table>
Cervical Cancer Screening

20th Century
Morphology Model
Cytology

21st century
Hybrid model
HPV + Pap
U.S.

21st century
Molecular model
HPV only
Australia
HPV Vaccination rates in U.S.

- 3 doses: ~40% girls
- Received at least one dose of HPV vaccine
  - Six out of 10 teen girls (63 percent)
  - five out of 10 teen boys (50 percent)

Key Challenges in the USA

• **Opportunistic screening program**
  – Compliance: Healthy People 2020 Target of 93%

• **Multiple screening options to choose from**
  – No “winning strategy” yet; cotesting is “preferred”

• **Low HPV vaccination uptake**
  – Multiple steps being taken to improve this

• **Expectations and Litigation**
  – Perfection expected from screening
  – High profile area for medicolegal issues
Key Challenges in the USA

• **Workforce shortage**
  – Negative press regarding “demise of the Pap Test”
  – 24 active CT schools, only filled at 60% of capacity
  – Potential change in cytotechnologists scope of practice (Mid Level Pathology Practitioner)

• **Colposcopy**
  – No required formal training/ quality assurance

• **Access**
  – 50% of cervical cancers diagnosed in women who were never screened, an additional 10% among those not screened in the past 5 years.
Colposcopy Challenges

• Since the new screening guidelines, we’re doing fewer colposcopies.

• As more teens are vaccinated against HPV:
  – We will see fewer high grade lesions.
  – Anticipate smaller, less clinically obvious lesions

• Our challenge will be to maintain expertise in the face of the decreasing colposcopy caseload.
ASCCP: Colposcopy Standards Project

Developing evidence-based colposcopy standards for the United States
Colposcopy in the US

- Thousands of procedures performed every year
- Performed by Ob/Gyn, Family Practice, Internists, NPs, PAs
- Training is obtained from residency, courses (like ASCCP courses), mentorship type training, and self-education

- Unclear exactly how many are being done/year? Trends?
- Unclear exactly who is doing them
- Unclear how often clinicians are doing colposcopy
- Training is uneven and inconsistent and difficult to measure
Why Now?

• Previous teaching and education was largely based on expert opinion and experience

• Accumulation of peer-reviewed data that are central to the practice and performance of colposcopy
  – More biopsies, increased detection of disease (Gage et al, Pretorius et al)
  – Disease detection with random biopsies (Huh et al, Pretorius et al, Song et al)
  – Evaluation of colposcopic scoring and grading systems (Massad et al, Hong et al, Bowring et al)
  – Adjuncts to colposcopy (Alvarez et al, Twiggs et al, Tidy et al, Richards-Kortum et al)
  – Training and Quality (Murphy et al, Sideri M et al, Leeson et al)
Some important topics that will be covered

- Colposcopy terminology
- Colposcopic biopsies: When, where, how many?
- Role of endocervical sampling
- Impact of HPV screening on colposcopy
- The role of colposcopy adjuncts
- Quality assurance measures, quality control indicators
Evidence-based approach

• Literature search terms have been provided centrally for all working groups
• Each working group is organizing review and data abstraction for their charges

• Some areas have very limited data, we will need to rely on expert opinion
• For some charges, systematic reviews and meta-analyses are being conducted (e.g. risk-based colposcopy-biopsy)
Focus on implementation

• Need to balance precision and complexity
• Approaches need to be robust and reproducible
• As much as possible, try to harmonize with other programs

• Dynamic process:
  – Some recommendations may need to be updated when screening practice, vaccination coverage change
  – Additional topics will be addressed in the future
Interaction with other societies

• National and international
• We do not want to ‘reinvent the wheel’
• But there is no ‘one-size-fits-all’ international standard for colposcopy
• US situation
  – No organized screening
  – No national integrated health system
  – Wide range of providers performing colposcopy
  – Wide range of number of annual colposcopies performed
  – No colposcopy certification
Risk thresholds in screening and management

- **High risk:** Treatment
- **Medium risk:** Colposcopy
- **Low risk:** Triage or repeat testing
- **Minimal risk:** Regular screening interval

<table>
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<tr>
<th>Population risk</th>
<th>Primary screen</th>
<th>Triage</th>
<th>Colposcopy</th>
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Absolute risk of precancer
Risk-based approach to colposcopy

Two-Year Risk of CIN2+ (%)

- 100
- 90
- 80
- 70
- 60
- 50
- 40
- 30
- 20
- 10
- 0

Colposcopy
Colposcopy+Cytology
Colposcopy+ HPV typing
Colposcopy+Cytology+HPV typing

High-grade + HSIL
High-grade+HPV16+
High-grade+ <HSIL+HPV16+
High-grade+ <HSIL+HPV16+

Low-grade + HSIL
Low-grade+HPV16+
Low-grade+ <HSIL+HPV16+
Low-grade+ <HSIL+HPV16+

Low-grade+ <HSIL
Low-grade+ HPV16-
Low-grade+ <HSIL+HPV16-
Low-grade+ <HSIL+HPV16-

Normal +<HSIL/HSIL
Normal+ HPV16-/
Normal+ <HSIL+HPV16+/
Normal +<HSIL+HPV16+/

Normal
Low-grade + <HSIL
Low-grade+ HPV16-
Low-grade+ <HSIL+HPV16-

Low-grade
High-grade + HSIL
High-grade+HPV16+
High-grade+ <HSIL+HPV16+

High-grade
Underlying principles:
Cervical Cancer Screening & Management

Similar management for similar risk
You are invited!

Save the date!

Orlando, Florida | April 2–7, 2017

http://www.ifcpc2017.com/