You are the Key to HPV Cancer Prevention

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Objectives

1. Define the importance of HPV vaccination for cancer prevention and the rationale for vaccinating at ages 11 or 12.

2. List the recommendations for HPV vaccine for girls and for boys.

3. Provide useful and compelling information about HPV vaccine to parents to aid in making the decision to vaccinate.

4. Locate resources relevant to current immunization practice.
HPV Infection

Most females and males will be infected with at least one type of mucosal HPV at some point in their lives

- Estimated 79 million Americans currently infected
- 14 million new infections/year in the US
- HPV infection is most common in people in their teens and early 20s

Most people will never know that they have been infected
## Cancers Caused by HPV per Year, U.S., 2009-2013

<table>
<thead>
<tr>
<th>Cancer site</th>
<th>Number probably caused by any HPV type</th>
<th>Percentage probably caused by any HPV type</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Male</td>
<td>Female</td>
</tr>
<tr>
<td>Anus</td>
<td>1,600</td>
<td>3,200</td>
</tr>
<tr>
<td>Cervix</td>
<td>0</td>
<td>10,600</td>
</tr>
<tr>
<td>Oropharynx</td>
<td>9,600</td>
<td>2,000</td>
</tr>
<tr>
<td>Penis</td>
<td>700</td>
<td>0</td>
</tr>
<tr>
<td>Rectum</td>
<td>200</td>
<td>500</td>
</tr>
<tr>
<td>Vagina</td>
<td>0</td>
<td>600</td>
</tr>
<tr>
<td>Vulva</td>
<td>0</td>
<td>2,500</td>
</tr>
<tr>
<td>TOTAL</td>
<td><strong>12,100</strong></td>
<td><strong>19,400</strong></td>
</tr>
</tbody>
</table>

Based on Viens et al. MMWR 2016.
HPV-Associated Oropharyngeal Cancer Rates by Sex, Race and Ethnicity, United States, 2009–2013

Based on Viens et al. MMWR 2016.
Cervical Cancer

- Cervical cancer is the most common HPV-associated cancer among women
  - 500,000+ new cases and 275,000 attributable deaths world-wide in 2008
  - ~11,000 new cases and 4,000 attributable deaths in 2012 in the U.S.

- 25% cervical cancers occur in women who are between the ages of 20 and 39

Based on Viens et al. MMWR 2016.
Cervical pre-cancer in U.S. females

- 1.4 million new cases of low grade cervical dysplasia
- 330,000 new cases of high grade cervical dysplasia

Perianal Warts

Source: Seattle STD/HIV Prevention Training Center at the University of Washington/ UW HSCER Slide Bank
<table>
<thead>
<tr>
<th>POPULATION</th>
<th>PAGE NUMBER</th>
<th>RECOMMENDED SCREENING METHOD</th>
<th>MANAGEMENT OF SCREEN RESULTS</th>
<th>COMMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aged &lt; 21 y</td>
<td>153</td>
<td>No screening</td>
<td></td>
<td>HPV testing should not be used for screening or management of ASC-US in this age group</td>
</tr>
<tr>
<td>Aged 21-29 y</td>
<td>154-155</td>
<td>Cytology alone every 3 y</td>
<td>HPV-positive ASC-US(^b) or cytology of LSIL or more severe: Refer to ASCCP guidelines(^2)</td>
<td>HPV testing should not be used for screening in this age group</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Cytology negative or HPV-negative ASC-US(^b): Rescreen with cytology in 3 y</td>
<td></td>
</tr>
<tr>
<td>Aged 30-65 y</td>
<td>155-162</td>
<td>HPV and cytology “cotesting” every 5 y (preferred)</td>
<td>HPV-positive ASC-US(^b) or cytology of LSIL or more severe: Refer to ASCCP guidelines(^2)</td>
<td>Screening by HPV testing alone is not recommended for most clinical settings</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>HPV positive, cytology negative:</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Option 1: 12-mo follow-up with cotesting</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Option 2: Test for HPV16 or HPV16/18 genotypes</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>• If HPV16 or HPV16/18 positive: refer to colposcopy</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• If HPV16 or HPV16/18 negative:</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>12-mo follow-up with cotesting</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>Cotest negative or HPV-negative ASC-US:</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Rescreen with cotesting in 5 y</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Cytology alone every 3 y (acceptable)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>HPV-positive ASC-US(^b) or cytology of LSIL or more severe: Refer to ASCCP guidelines(^2)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Cytology negative or HPV-negative ASC-US(^b): Rescreen with cytology in 3 y</td>
<td></td>
</tr>
<tr>
<td>Aged &gt; 65 y</td>
<td>162-163</td>
<td>No screening following adequate negative prior screening</td>
<td></td>
<td>Women with a history of CIN2 or a more severe diagnosis should continue routine screening for at least 20 y</td>
</tr>
<tr>
<td>After hysterectomy</td>
<td>163-164</td>
<td>No screening</td>
<td></td>
<td>Applies to women without a cervix and without a history of CIN2 or a more severe diagnosis in the past 20 y or cervical cancer ever</td>
</tr>
<tr>
<td>HPV vaccinated</td>
<td>164-165</td>
<td>Follow age-specific recommendations (same as unvaccinated women)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

ASCCP indicates American Society for Colposcopy and Cervical Pathology; ASC-US, atypical squamous cells of undetermined significance; CIN2, cervical intraepithelial neoplasia grade 2; HPV, human papillomavirus; LSIL, low-grade squamous intraepithelial lesion.

\(^a\)Women should not be screened annually at any age by any method.

\(^b\)ASC-US cytology with secondary HPV testing for management decisions.

"HPV vaccine is cancer prevention."

Talk to the doctor about vaccinating your 11–12 year old sons and daughters against HPV.

#UCanStopHPV

Evidence-Based HPV Disease Prevention

HPV VACCINE
HPV Prophylactic Vaccines

- Recombinant L1 capsid proteins that form “virus-like” particles (VLP)
- Non-infectious and non-oncogenic
- Produce higher levels of neutralizing antibody than natural infection
Dosing Schedules

Starting the vaccine series before the 15th birthday

Recommended schedule is **2 doses** of HPV vaccine.

- Second dose should be administered 6–12 months after the first dose (0, 6–12 month schedule).
- Minimum interval between dose one and dose two in a 2-dose schedule is 5 months.

Starting the vaccine series on or after the 15th birthday*

Recommended schedule is **3 doses** of HPV vaccine.

- Second dose should be administered 1–2 months after the first dose, and the third dose should be administered 6 months after the first dose (0, 1–2, 6 month schedule).
- Minimum interval between dose one and dose three in a 3-dose schedule is 5 months.

*and immunocompromised persons 9-26 years

Meites et al. MMWR. 2016.
HPV Vaccination is Recommended at Age 11 or 12 Years

Girls & Boys can start HPV vaccination at age 9
Preteens should finish HPV vaccine series by 13th birthday

Plus girls 13-26 years old who haven’t started or finished HPV vaccine series

Plus boys 13-21 years old who haven’t started or finished HPV vaccine series

Meites et al. MMWR. 2016.
Monitoring Impact of HPV Vaccine Programs on HPV-Associated Outcomes

**HPV VACCINE IMPACT**
Prevalence of HPV before & after introduction of HPV vaccination in the United States

HPV Vaccine
Duration of Immunity

▸ Studies suggest that vaccine protection is long-lasting; no evidence of waning immunity
  ➤ Available evidence indicates protection for at least 10 years
  ➤ Multiple studies are in progress to monitor the duration of immunity

Talking about HPV vaccine

FRAMING THE CONVERSATION
Adolescent Vaccination Coverage
United States, 2006-2015

Revised APD* definition

≥1 Tdap
≥1 MenACWY
≥1 HPV (F)
≥1 HPV (M)
≥3 HPV (F)
≥2 MenACWY†
≥3 HPV (M)

Reagan-Steiner et al. MMWR 2016.
What is an **EFFECTIVE** recommendation for HPV vaccination?
Make an Effective Recommendation

**Same way: Effective recommendations group all of the adolescent vaccines**
Recommend HPV vaccination the **same way** you recommend Tdap & meningococcal vaccines.

**Same day: Recommend HPV vaccine **today**
Recommend HPV vaccination the **same day** you recommend Tdap & meningococcal vaccines.

Your preteen needs three vaccines today to protect against meningitis, HPV cancers, and pertussis.

Now that Sophia is 11, she is due for three vaccines. These will help protect her from meningitis, HPV cancers, and pertussis. We’ll give those shots at the end of the visit.
Some Parents Need Reassurance

- Many parents simply accept this bundled recommendation.
- Some parents may be interested in vaccinating, yet still have questions. Interpret a question as they need additional reassurance from YOU, the clinician they trust with their child’s health care.
- Ask parents about their main concern (be sure you are addressing their real concern).

Unpublished CDC data, 2013.
Would you get HPV vaccine for your kids?
Yes, I have given HPV vaccine to my child because I believe in the importance of this cancer-preventing vaccine. The American Academy of Pediatrics, the American Academy of Family Physicians, NIH cancer centers, and the CDC, also agree that getting the HPV vaccine is very important for your child.
If a parent doesn’t say yes...

<table>
<thead>
<tr>
<th>Ask</th>
<th>Clarify &amp; restate their concerns to make sure you understand.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acknowledge</td>
<td>• Emphasize it is the parents’ decision.</td>
</tr>
<tr>
<td></td>
<td>• Acknowledge risks &amp; conflicting info sources.</td>
</tr>
<tr>
<td></td>
<td>• Applaud them for wanting what is best for their child.</td>
</tr>
<tr>
<td></td>
<td>• Be clear that you are concerned for the health of their child, not just public health safety.</td>
</tr>
<tr>
<td>Advise</td>
<td>• Clarify their concerns: make sure you understand &amp; are answering the question they actually care about.</td>
</tr>
<tr>
<td></td>
<td>• Allow time to discuss the pros &amp; cons of vaccines.</td>
</tr>
<tr>
<td></td>
<td>• Be willing to discuss parents’ ideas.</td>
</tr>
<tr>
<td></td>
<td>• Offer written resources for parents.</td>
</tr>
<tr>
<td></td>
<td>• Tailor your advice using this presentation.</td>
</tr>
</tbody>
</table>

Adapted from Henrickson Vax Northwest 2014.
How to increase the number of target patients who come in & leave vaccinated

Align communication with mission

- EVERYONE in the office needs to be saying the same thing
- Share talking points

http://go.usa.gov/x9MQy
Human Papillomavirus (HPV)

For Clinicians

Know the Facts
Get information on the burden of HPV cancers, the importance of HPV vaccination, and how to help parents overcome hesitancy about HPV vaccine.

Commit to the Cause
Find ways to help improve HPV vaccination rates by promoting vaccination in your offices. Get CDC resources to help raise awareness among parents about the importance of HPV vaccine for preventing cancer.

Lead the Conversation
Learn how to successfully communicate about HPV vaccine with the parents of your preteen patients, as well as how to become an HPV vaccination champion with your colleagues and in your community.
References

- Petrosky et al. Use of 9-Valent Human Papillomavirus (HPV) Vaccine: Updated HPV Vaccination Recommendations of the Advisory Committee on Immunization Practices. MMWR. 2015 64(11);300-304
- Temte JL. Comment: Timing of HPV Vaccine. Available at http://pediatrics.aappublications.org/content/early/2014/08/12/peds.2014-0442.comments#-timing-of-hpv-vaccine-