You are the Key to HPV Cancer Prevention
Objectives

1. Describe why HPV vaccination is important for cancer prevention.
2. Identify the appropriate HPV vaccination schedule based on patient age.
3. Describe effective HPV vaccine recommendations for patients age 11 or 12 years, as well as for age 13 years and older.
4. Develop self-efficacy in delivering effective HPV vaccination recommendations.
5. Identify reassuring, confident, and concise responses to parental questions about HPV vaccination.
6. Implement disease detection and prevention health care services (e.g., smoking cessation, weight reduction, diabetes screening, blood pressure screening, immunization services) to prevent health problems and maintain health. (REQUIRED FOR PHARMACY CREDIT)
Understanding the Burden

HPV INFECTION & DISEASE
HPV Types Differ in Their Disease Associations

Mucosal sites of infection
- High risk (oncogenic)
  - HPV 16, 18 most common
- Low risk (non-oncogenic)
  - HPV 6, 11 most common

Cutaneous sites of infection
- "Common"
  - Hand and Foot Warts
- Low-Grade Cervical Disease
- Genital Warts
- Laryngeal Papillomas
- Oropharyngeal Cancer
- Anogenital Cancers
- Cervical Cancer
- Precursors

~40 Types

~ 80 Types
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

Satterwhite et al. Sex Transm Dis. 2013
<table>
<thead>
<tr>
<th>Cancer site</th>
<th>Percentage probably caused by any HPV type</th>
<th>Number probably caused by any HPV type</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Female</td>
<td>Male</td>
</tr>
<tr>
<td>Cervix</td>
<td>91%</td>
<td>10,600</td>
</tr>
<tr>
<td>Vagina</td>
<td>75%</td>
<td>600</td>
</tr>
<tr>
<td>Vulva</td>
<td>69%</td>
<td>2,600</td>
</tr>
<tr>
<td>Penis</td>
<td>63%</td>
<td>0</td>
</tr>
<tr>
<td>Anus*</td>
<td>91%</td>
<td>3,800</td>
</tr>
<tr>
<td>Oropharynx</td>
<td>70%</td>
<td>2,100</td>
</tr>
<tr>
<td>TOTAL</td>
<td>19,700</td>
<td>12,800</td>
</tr>
</tbody>
</table>

*Includes anal and rectal squamous cell carcinomas
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
Genital warts
63% of cancers in body parts where HPV DNA is often found
10% of cancers in body parts where HPV DNA is often found

Adapted from Petrosky et al. MMWR. 2015.
HPV Vaccine Recommendation

CDC recommends routine vaccination at age 11 or 12 years to prevent HPV cancers

• The vaccination series can be started at age 9 years.
• 2 doses of vaccine are recommended.
• The second dose of the vaccine should be administered 6 to 12 months after the first dose.

Meites et al. MMWR. 2016.
HPV Vaccine Recommendations: Catch-Up/Late

- Vaccination for females through age 26 years and for males through age 21 years who were not previously adequately vaccinated. Males aged 22 through 26 years may be vaccinated.
- Vaccination is also recommended through age 26 for gay, bisexual, and other men who have sex with men (MSM), transgender people, and people with certain immunocompromising conditions (including HIV infection).

Meites et al. MMWR. 2016.
# Dosing Schedules

### Starting the vaccine series before the 15\(^{th}\) 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 1 and dose 2 in a 2-dose schedule is 5 months

### Starting the vaccine series on or after the 15\(^{th}\) 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

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PREVENTING CANCER JUST GOT EASIER

HPV vaccine protects against cancers and other diseases caused by human papillomavirus (HPV). Follow the chart below to determine whether your patient needs two or three doses of HPV vaccine.

IS THE PATIENT AGE 11–12?

YES

Has the patient received any doses of HPV vaccine?

NO

See FAQs on reverse side for patients outside this age range.

YES

More than one?

NO

VACCINATE

CDC recommends 11- to 12-year-olds receive two doses of HPV vaccine 6–12 months apart.

YES

Two doses or three doses?

NO

VACCINATE

The patient should receive the second dose of HPV vaccine 6–12 months after the first dose to complete the series.

YES

Three doses?

NO

Administered at least 5 months apart?

VACCINATE

The patient should receive a third dose of HPV vaccine 6–12 months after the first dose to complete the series.*

TALKING TO PATIENTS AND THEIR PARENTS ABOUT 2-DOSE SCHEDULERS FOR HPV VACCINATION

With patients aged 11–12 years, start the vaccine discussion with their parents by making the following recommendation: "Now that your child is 11 (or 12) years old, they are due for three vaccines today to help protect them from the infections that cause meningitis, HPV cancers, and pertussis—or whooping cough."

Many parents are accepting of this bundled recommendation because it demonstrates that HPV vaccination is a normal part of adolescent vaccination. Parents may be interested in vaccinating, yet still have questions. Some parents might need additional information from you, the clinician they trust. Clarify the parent's question or what additional information they need.

For parents who have a question or need more information about "why now/why 11–12?" "As with all vaccine-preventable diseases, we want to protect your child early. If we start now, it's one less thing for you to worry about. Also, your child will only need two doses of HPV vaccine at this age. If you wait, your child may need three doses in order to get complete protection. We'll give the first dose today and then you'll need to bring your child back in 6 to 12 months from now for the second dose."

*All minimum intervals must be met: second dose at least 4 weeks after first dose; third dose at least 12 weeks after second dose and at least 5 months after first dose.

Cdc recommends two HPV doses for younger adolescents

The Centers for Disease Control and Prevention (CDC) now routinely recommends two doses of HPV vaccine for 11- or 12-year-olds to prevent HPV cancers. This recommendation makes it easier for parents to protect their children by reducing the number of doses and trips to the doctor. HPV vaccination is an important cancer prevention tool and two doses of HPV vaccine will provide safe, effective, and long-lasting protection.

Some specifics of the recommendation include:

- A two-dose schedule is recommended for adolescents starting the schedule at ages 9 through 14 years. For this age group, follow the decision tree on the reverse side.
- Adolescents aged 9 through 14 years who have already received two doses of HPV vaccine less than 5 months apart will require a third dose. The third dose should be given 6–12 months after the first dose to complete the series.
- A three-dose schedule is recommended for teens and young adults who start the series at ages 15 through 26 years. Under this schedule, the second dose of HPV vaccine should be given 1–2 months after the first dose, and the third dose should be given 6 months after the first dose.
- Three doses are recommended for people aged 9–26 years with certain immunocompromising conditions.

Read the full policy note:

www.cdc.gov/mmwr/volumes/65/wr/mm6549a5.htm

HPV Vaccination Is Recommended at Age 11 or 12 Years

Girls & Boys can start HPV vaccination at age 9

Preteens should finish the HPV vaccine series before their 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.
HPV Vaccination Is Safe, Effective, and Provides Lasting Protection

**HPV Vaccine Is SAFE**
- Benefits far outweigh any potential risks
- Safety studies findings for HPV vaccination are reassuring and similar to MenACWY and Tdap vaccine safety reviews

**HPV Vaccine WORKS**
- Population impact against early and mid outcomes has been reported in multiple countries

**HPV Vaccine Protection LASTS**
- Studies suggest that vaccine protection is long-lasting
- No evidence of waning protection
Talking About HPV Vaccine

FRAMING THE CONVERSATION
Adolescent Vaccination Coverage
United States, 2006-2016

*APD = Adequate provider data; †≥2 doses MenACWY among adolescents aged 17 years
Walker et al. MMWR 2017.
Impact of Eliminating Missed Opportunities by Age 13 Years in Girls Born in 2000

![Graph showing vaccination rates for HPV-1 (girls) vaccine. The actual vaccination rate is 47%, while the achievable rate is 91%.]
Parents of unvaccinated girls – top reasons for not starting HPV vaccine series

- Not sexually active
- Not recommended
- Safety concern/side effects
- Not needed or necessary
- Lack of knowledge

Stokley et al. MMWR. 2014.
What is an effective recommendation for HPV vaccination?
Now that Sophia is 11, she is due for three vaccines. These will help protect her from the infections that can cause meningitis, HPV cancers, and pertussis. We’ll give those shots today.
Now that Sophia is 11, she is due today for three important vaccines. The first is to help prevent an infection that can cause meningitis, which is very rare, but potentially deadly. The second is to prevent a very common infection, HPV, that can cause several kinds of cancer. The third is the tetanus booster which also protects against pertussis, so she doesn’t get whooping cough.

We’ll give those shots at the end of the visit. Do you have any questions for me?
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.
Is my child really at risk for HPV?
HPV is a very common virus that infects both females and males. We can help protect your child from the cancers and diseases caused by the virus by starting HPV vaccination today.
Why at 11 or 12 years old?
When should the bike helmet go on?

A. Before they get on their bike
B. When they are riding their bike in the street
C. When they see the car heading directly at them
D. After the car hits them
As with all vaccine-preventable diseases, we want to protect your child early. If we start now, it’s one less thing for you to worry about.

Also, your child will only need 2 shots of HPV vaccine at this age. If you wait until 15, your child will need three shots.

We’ll give the first shot today and then you’ll bring your child back in 6 to 12 months for the second shot.
I’m just worried that my child will perceive this as a green light to have S-E-X.
Numerous research studies have shown that getting the HPV vaccine does NOT make kids more likely to be sexually active or start having sex at a younger age.

Starting the HPV vaccine series today will give your child the best possible protection for the future.
How long can we wait and still give just two doses?
The two-dose schedule is recommended if the series is started before the 15th birthday. However, I don’t recommend waiting to give this cancer-preventing vaccine. Older teens have busier schedules and it becomes more difficult to schedule an appointment.

It’s best to start the series today so your child is protected as soon as possible.
I’m concerned about the safety of the vaccine—I read things online that say HPV vaccine isn’t safe.

Do you really know if it’s safe?
It sounds like you want what’s best for your child and have concerns about the safety of HPV vaccine. Is that right? We both want what’s best for your child. Can you tell me more about your concerns? I have researched HPV vaccine including safety. Can I share with you what I have learned?
I know there are stories in both the media and online about vaccines. However, I want you to know that HPV vaccine has been carefully studied for many years by medical and scientific experts. Based on all these studies, I believe HPV vaccine is very safe.
Vaccines, like any medication, can cause side effects. With HPV vaccination, this could include pain, swelling, and/or redness where the shot is given, or possibly a headache. No serious side effects have been associated with HPV vaccine.
Can HPV vaccine cause future fertility problems?
There is no evidence available to suggest that HPV vaccine will affect future fertility. However, women who develop cervical cancer could require treatment that would limit their ability to have children. Starting the HPV vaccine series today could prevent that from happening and protect your daughter’s ability to bear children.
How do you know if the vaccine works?
Ongoing studies continue to show that HPV vaccination works very well. HPV infections, genital warts, and cervical precancers in young people have all decreased in the years since the vaccine has been available. Starting the vaccine series today will help ensure your child gets the best protection possible.
Why do boys need to be vaccinated?
HPV infection can cause cancers of the penis, anus, and throat in men. HPV infection can also cause genital warts.

Getting HPV vaccine today for your son can help prevent the infection that can lead to these diseases.
We only want the vaccines needed for school.
School-entry requirements don’t always reflect the current recommendations to keep your child healthy.

HPV vaccine, along with other adolescent vaccines, will provide your child with the best protection.
Would you give HPV vaccine to your kids?
Yes, I have given HPV vaccine to my child. I believe strongly in the importance of this cancer-preventing vaccine.

Also, the American Academy of Pediatrics, the American Academy of Family Physicians, NIH cancer centers, and CDC agree that HPV vaccination is very important for your child.
When do we need to come back?
Since your child is younger than 15, she will need a second shot in 6 months to a year.

When you check out, please make sure to make an appointment for the second shot and put that appointment on your calendar before you leave today!
Since your child is already 15, she will need a second shot in 1-2 months. The third shot is due 6 months from today.

When you check out, please make sure to make an appointment for about 1-2 months from now and 6 months from now, and put those appointments on your calendar before you leave today!
My child is less than 15 years old, so why does she need a third shot?
The recommended schedule is 2 shots given 6 to 12 months apart. The minimum amount of time between those shots is five months. Because your child received two shots less than five months apart, we’ll need to give your child a third shot.
HPV VACCINE IS CANCER PREVENTION
And YOU are the key!

#WeCanStopHPV
References


• Petrofsky 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-