HPV: DON’T WAIT. VACCINATE!
A SHOT AT CANCER PREVENTION

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Give a strong recommendation for HPV vaccine to increase uptake!

Dear Colleague:

The American Academy of Family Physicians (AAFP), American Academy of Pediatrics (AAP), American College of Obstetricians and Gynecologists (ACOG), American College of Physicians (ACP), the Centers for Disease Control and Prevention (CDC), and the Immunization Action Coalition (IAC) are asking you to urge your patients to get vaccinated against human papillomavirus (HPV).

HPV vaccine is cancer prevention. However, HPV vaccine is underutilized in our country, despite the overwhelming evidence of its safety and effectiveness. While vaccination rates continue to improve for the other adolescent vaccines, HPV vaccination rates have not. Missed opportunities data suggest that providers are not giving strong recommendations for HPV vaccine when patients are 11 or 12 years old. The healthcare provider recommendation is the single best predictor of vaccination. Recent studies show that a patient who receives a provider recommendation is 4–5 times more likely to receive the HPV vaccine.¹,²

What you say, and how you say it, matters. A half-hearted recommendation to a patient may not only result in the patient leaving your practice unvaccinated, but may lead the patient to believe that HPV vaccine is not as important as the other adolescent vaccines. The undersigned organizations hope that this letter, which provides key facts about HPV vaccine safety and effectiveness, will lead you to recommend HPV vaccination – firmly and strongly – to your patients. Your recommendation will reflect your commitment to prevent HPV-associated cancers and disease in the United States.

HPV-associated disease³

- Approximately 79 million persons in the United States are infected with HPV, and approximately 14 million people in the United States will become newly infected with HPV each year.
- Each year, an estimated 26,000 cancers are attributable to HPV; about 17,000 in women and 9,000 in men.
- Cervical cancer is the most common HPV-associated cancer among women, and oropharyngeal cancers are the most common among men.

▶ Despite these statistics, the use of HPV vaccination to prevent HPV infection is limited and immunization rates remain low.

Prevention of HPV-associated disease by vaccination

- Two vaccines (bivalent/HPV2 and quadrivalent/HPV4) are available to protect against HPV 16 and 18, the types that cause most cervical and other anogenital cancers, as well as some oropharyngeal cancers.

Note recent ACIP changes related to HPV vaccination (HPV 9 and 2 dose schedule) as described in MMWR / Dec 16, 2016 / Vol.65 / No.49
The Advisory Committee on Immunization Practices (ACIP) recommends routine vaccination of girls age 11 or 12 years with the 3-dose series of either HPV vaccine and routine vaccination of boys age 11 or 12 years with the 3-dose series of HPV4.

Vaccination is recommended for females through age 26 years and for males through age 21 years who were not vaccinated when they were younger.

In 2012, only 33% of teenage girls ages 13–17 years had received 3 doses of HPV vaccine. This was the first year in which HPV vaccination coverage rates did not increase from the prior year.

Safety of HPV vaccine

More than 175 million doses of HPV vaccine have been distributed worldwide and 57 million doses have been distributed in the United States.

More than 7 years of post-licensure vaccine safety monitoring in the United States provide continued evidence of the safety of HPV4. Data on safety are also available from post-licensure monitoring in other countries for both vaccines and provide continued evidence of the safety of HPV2 and HPV4.

Syncope can occur among adolescents who receive any vaccines, including HPV vaccine. ACIP recommends that clinicians consider observing patients for 15 minutes after vaccination.

Regardless of a safety profile that is similar to the other adolescent vaccines, parents cite safety concerns as one of the top five reasons they do not intend to vaccinate daughters against HPV.

Efficacy of HPV vaccines

Among women who have not been previously infected with a targeted HPV type, both vaccines have over 95% efficacy in preventing cervical precancers caused by HPV 16 or 18.

HPV4 also demonstrated nearly 100% vaccine efficacy in preventing vulvar and vaginal precancers, and genital warts in women caused by the vaccine types.

In males, HPV4 demonstrated 90% vaccine efficacy in preventing genital warts and 75% vaccine efficacy in preventing anal precancers caused by vaccine types.

Since the vaccine does not protect against all HPV types, it does not replace other prevention strategies, such as regular cervical cancer screening.

What you say matters; how you say it matters even more.

Based on research conducted with parents and physicians, CDC suggests recommending the HPV vaccine series the same way you recommend the other adolescent vaccines.

Parents may be interested in vaccinating, yet still have questions. Taking the time to listen to parents’ questions helps you save time and give an effective response. CDC has created an excellent tip...
sheet to assist you in answering questions parents may have about HPV vaccines. This tip sheet and many other tools on the HPV vaccine are available at www.cdc.gov/vaccines/youarethekey.

As a healthcare provider, we urge you to improve the strength and consistency of your recommendation for HPV vaccination to your patients. Your recommendation is the number one reason why someone will get the HPV vaccine and be protected from HPV-associated cancers and disease.

Signed:

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REFERENCES


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www.vaccinateindiana.org
Pediatricians can lay out evidence to allay fears over HPV vaccine

by Michael T. Brady, M.D., FAAP

Recent media attention has some adolescents and parents wondering whether the human papillomavirus (HPV) vaccine is safe and effective. The discussions that have prompted all of this chatter are not based on available evidence. Unfortunately, a lack of validity does not prevent rapid transmission of rumors and innuendo, especially on television and the Internet.

Pediatricians can allay fears of patients and families and improve HPV vaccination rates if they are aware of the evidence and respond effectively to patient and parental questions. They also need to be as committed to HPV immunization as they are to all of the other AAP-recommended vaccines.

Following are some talking points that pediatricians can use to answer questions about effectiveness and safety of HPV vaccine.

Effectiveness

Clinical trials performed to achieve Food and Drug Administration approval showed the following:

• HPV 16/18-related cervical intraepithelial neoplasia grade 2/3 or adenocarcinoma in situ were reduced by 100%.
• Genital warts in females were reduced by 97%.
• Genital warts in males were reduced by 89% after three doses and 67% after one dose.

Post-marketing surveillance in “real world” settings showed dramatic benefit:

• 56% reduction in prevalence of HPV strains 6, 11, 16 and 18 in adolescent girls in the United States (National Health and Nutrition Examination Survey) despite the fact that only 33% of girls received three doses.
• 77% reduction in prevalence of HPV strains 6, 11, 16 and 18 in adolescent girls in Australia within three years of vaccine introduction (three-dose immunization rates of 70%).
• 75% reduction in low-grade cervical abnormalities in Australian girls younger than 18 years of age within three years of vaccine introduction.
• 45% reduction in genital warts in girls 16-17 years of age in Denmark.
• 36% reduction in genital warts in U.S. girls 15-19 years of age despite low HPV immunization rates.
• 88% reduction in genital warts in Australian females younger than 21 years of age.
• Data on cervical cancer reduction will take longer to obtain due to the time between HPV infection and development of cancer. But data on prevention of pre-cancerous lesions make it clear that the HPV vaccine is having its desired effect.

While it is important to administer the HPV vaccine prior to sexual debut, there is an additional advantage to providing HPV vaccine at the recommended age of 11 to 12 years. The antibody response is more robust, with higher levels of antibodies achieved when given at 11 to 12 years compared to after age 16 years. Data on persistence of antibody are optimistic, with high antibody levels maintained beyond seven years post-immunization. Continued follow-up is needed to determine how long the antibody persists at “protective” levels. However, it doesn’t appear that a booster will be needed.

Safety

• Nearly 60 million doses of HPV vaccine have been given in the United States through 2013.
• Post-marketing surveillance has not identified any new safety concerns in female or male HPV vaccine recipients.
• Injection site discomfort is the most common adverse event.
• Syncope is the most common safety concern. Adherence to a 15-minute observation period after vaccination should prevent significant adverse consequences due to syncope.
• Reports to the Vaccine Adverse Event Reporting System have declined dramatically since 2008 with no serious adverse events reported in 2013.
• Post-marketing surveillance has not shown any increased risk following HPV vaccine for the following conditions: Guillain-Barré syndrome, seizures, stroke, venous thromboembolism, appendicitis, anaphylaxis or other allergic reactions.
• While not approved to be given during pregnancy, no safety concerns have been identified in the HPV pregnancy registry, which includes reports of girls who have been immunized with HPV vaccine while pregnant.
• There is no evidence to suggest that HPV vaccine is responsible for ovarian failure. Genetic, infectious, inflammatory, autoimmune and toxin-related conditions are most likely responsible for ovarian failure in adolescent girls who have received HPV vaccine. (The relationship between ovarian failure and HPV vaccine is temporal but not causal.)
• As of June 2013, 85 deaths had been reported to the Vaccine Adverse Event Reporting System in individuals who have received HPV vaccine. (The relationship between ovarian failure and HPV vaccine is temporal but not causal.)
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The HPV vaccine has the potential to prevent tens of thousands of cases of cervical cancer. It truly is a cancer vaccine. Initial information strongly suggests efficacy and good safety. Acceptance of HPV vaccination can be enhanced by a strong recommendation from the health care professional.

Dr. Brady is chair of the AAP Committee on Infectious Diseases.
Use of a 2-Dose Schedule for Human Papillomavirus Vaccination — Updated Recommendations of the Advisory Committee on Immunization Practices

Elissa Meites, MD1; Allison Kempe, MD2,3; Lauri E. Markowitz, MD1

Introduction

Vaccination against human papillomavirus (HPV) is recommended to prevent HPV infections and HPV-associated diseases, including cancers. Routine vaccination at age 11 or 12 years has been recommended by the Advisory Committee on Immunization Practices (ACIP) since 2006 for females and since 2011 for males (1,2). This report provides recommendations and guidance regarding use of HPV vaccines and updates ACIP HPV vaccination recommendations previously published in 2014 and 2015 (1,2). This report includes new recommendations for use of a 2-dose schedule for girls and boys who initiate the vaccination series at ages 9 through 14 years. Three doses remain recommended for persons who initiate the vaccination series at ages 15 through 26 years and for immunocompromised persons.

Background

HPV infection causes cervical, vaginal, and vulvar cancers in women; penile cancers in men; and oropharyngeal and anal cancers as well as genital warts in both men and women (3).

Three HPV vaccines are licensed for use in the United States. All are noninfectious. Quadrivalent and 9-valent HPV vaccines (4vHPV and 9vHPV, Gardasil and Gardasil 9, Merck and Co, Inc., Whitehouse Station, New Jersey) are licensed for use in females and males aged 9 through 26 years (1). Bivalent HPV vaccine (2vHPV, Cervarix, GlaxoSmithKline, Rixensart, Belgium) is licensed for use in females aged 9 through 25 years (1). As of late 2016, only 9vHPV is being distributed in the United States. The majority of all HPV-associated cancers are caused by HPV 16 or 18, types targeted by all three vaccines. In addition, 4vHPV targets HPV 6 and 11, types that cause genital warts. 9vHPV protects against these and five additional types: HPV 31, 33, 45, 52, and 58. All three vaccines have been approved for administration in a 3-dose series at intervals of 0, 1 or 2, and 6 months. In October 2016, after considering new clinical trial results (4), the Food and Drug Administration (FDA) also approved 9vHPV for use in a 2-dose series for girls and boys aged 9 through 14 years (5). In October 2016, ACIP recommended a 2-dose schedule for adolescents initiating HPV vaccination in this age range. This report provides recommendations for use of 2-dose and 3-dose schedules for HPV vaccination.

Methods

During November 2015–October 2016, the ACIP HPV Vaccines Work Group held monthly telephone conferences to 1) review and evaluate the quality of the evidence assessing immunogenicity, efficacy, and cost-effectiveness of a 2-dose schedule; 2) consider benefits and harms of a 2-dose schedule; 3) weigh the variability in the values and preferences of patients and providers for a 2-dose schedule; and 4) examine health economic analyses. During teleconferences, summaries of findings were presented for Work Group discussion.

A systematic review was conducted to identify studies involving human subjects* that reported primary data on any important or critical health outcomes related to HPV vaccination† after 2 doses of 9vHPV, 4vHPV, or 2vHPV, administered at an interval of 0 and ≥6 months (±4 weeks) to
persons aged 9 through 14 years. The review focused on this age group given available 2-dose trial data for 9vHPV (4). Immunogenicity outcomes of interest were seroconversion, geometric mean titers (GMTs), or antibody avidity. Studies were excluded if they lacked a comparison group in which efficacy of 3 doses of HPV vaccine against clinical endpoints was demonstrated in clinical trials (e.g., females aged 15 through 26 years).\(^5\) Evidence regarding a 3-dose schedule for HPV vaccine was reviewed previously (1,2).

Quality of evidence was evaluated using the Grading of Recommendations Assessment, Development and Evaluation (GRADE) approach. Detailed methods and GRADE tables can be found online (6). Other studies from the search and from the broader literature informed additional expert guidance that extended beyond the research question addressed formally via GRADE analysis (7). Evidence was reviewed by the Work Group, summarized, and publicly presented at the February and June 2016 ACIP meetings. CDC vaccine recommendations are developed using the GRADE framework (8). Proposed recommendations were presented, and after a public comment period, were approved unanimously\(^6\) by the voting ACIP members at the October 2016 ACIP meeting.

**Summary of Key Findings**

**Immunogenicity.** In the 9vHPV clinical trial that was the basis for FDA approval of a 2-dose series, participants were girls and boys aged 9 through 14 years, compared with young females aged 16 through 26 years (4). Among 1,377 participants, ≥97.9% seroconverted to all nine vaccine-preventable HPV types by 4 weeks after the last dose. For girls and boys who received 2 doses of 9vHPV 6 months apart (0, 6 month schedule) or 12 months apart (0, 12 month schedule), non-inferiority criteria were met for seroconversion and GMTs. Furthermore, GMTs were significantly higher for all 9vHPV types among persons aged 9 through 14 years who received 2 doses compared with females aged 16–26 years who received 3 doses (0, 2, 6 month schedule). Six additional studies found similar results for 4vHPV and 2vHPV (6). Immunogenicity was found to be noninferior with 2 doses in persons aged 9 through 14 years compared with 3 doses in a group in which clinical efficacy was demonstrated (GRADE evidence type 3).

**Efficacy and effectiveness.** Although efficacy and postlicensure effectiveness studies were reviewed, none met the inclusion criteria detailed above. The prelicensure HPV vaccine efficacy trials were conducted with 3-dose series; post hoc analyses conducted with data from some of these trials found high efficacy against infection among vaccinees who received 2 doses and those who received 3 doses (9,10). A large study comparing 2 doses with 3 doses also suggested similar efficacy against infection (11). Postlicensure effectiveness studies have found lower effectiveness against various HPV-associated outcomes among vaccinees who received 2 doses compared with those who received 3 doses, but methodologic challenges with these studies limit interpretation of the findings.**

**Duration of protection.** Through 10 years of follow-up from clinical trials, no evidence of waning protection after a 3-dose series of HPV vaccine has been found (7). Because antibody kinetics are similar with 2-dose and 3-dose series, duration of protection is also expected to be long-lasting after a 2-dose series (12,13).

**Health impact and cost-effectiveness modeling.** Population-level effectiveness and cost-effectiveness of 2-dose and 3-dose schedules of 9vHPV in the United States have been modeled (14). Assuming both efficacy and duration of protection are similar with either schedule, a 2-dose series would be cost-saving and have similar population impact to a 3-dose series. Even if duration of protection is 20 years for a 2-dose series and lifelong for a 3-dose series, additional benefits of a 3-dose series would be relatively small, and a 2-dose series would be more cost-effective (14).

**Rationale**

HPV vaccines are highly effective and safe, and a powerful prevention tool for reducing HPV infections and HPV-associated cancers (1,2). Based on the available immunogenicity evidence, a 2-dose schedule (0, 6–12 months) will have efficacy equivalent to a 3-dose schedule (0, 1–2, 6 months) if the HPV vaccination series is initiated before the 15th birthday (GRADE evidence type 3) (6). ACIP recommends a 2-dose schedule for HPV vaccination of girls and boys who initiate the vaccination series at ages 9 through 14 years (Category A recommendation).

**Recommendations**

**Routine and catch-up age groups.** ACIP recommends routine HPV vaccination at age 11 or 12 years. Vaccination can be given starting at age 9 years. ACIP also recommends vaccination for females through age 26 years and for males through age 21 years who were not adequately vaccinated previously. Males aged 22 through 26 years may be vaccinated. (See also: Special populations, Medical conditions)

**Dosing schedules.** For persons initiating vaccination before their 15th birthday, the recommended immunization schedule is 2 doses of HPV vaccine. The second dose should be **

\(^{5}\) Studies were excluded when 2-dose interval was not ≥5 months. 

\(^{6}\) Twelve votes to none, with one recusal. ** In studies conducted in the setting of a 3-dose HPV vaccine recommendation or policy, many 2-dose recipients received HPV vaccine doses at a 1–2 month interval; in addition, 2-dose recipients differed from 3-dose recipients in ways that suggested differences in HPV exposure.
TABLE. Recommended number of doses and intervals for human papillomavirus (HPV) vaccine, by age at series initiation and medical conditions — United States, 2016

<table>
<thead>
<tr>
<th>Population</th>
<th>Recommended number of HPV vaccine doses</th>
<th>Recommended interval between doses</th>
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</thead>
<tbody>
<tr>
<td>Persons initiating HPV vaccination at ages 9 through 14 years,* except immunocompromised persons†</td>
<td>2</td>
<td>0, 6–12 months§</td>
</tr>
<tr>
<td>Persons initiating HPV vaccination at ages 15 through 26 years§ and immunocompromised persons‡ initiating HPV vaccination at ages 9 through 26 years</td>
<td>3</td>
<td>0, 1–2, 6 months**</td>
</tr>
</tbody>
</table>

* ACIP recommends routine HPV vaccination for adolescents at age 11 or 12 years; vaccination may be given starting at age 9 years.
† Persons with primary or secondary immunocompromising conditions that might reduce cell-mediated or humoral immunity (see also: Medical conditions)
‡ For persons who were not adequately vaccinated previously, ACIP recommends vaccination for females through age 26 years and for males through age 21 years; males ages 22 through 26 years may be vaccinated. Vaccination is recommended for some persons aged 22 through 26 years; see Medical conditions and Special populations.
§ In a 2-dose schedule of HPV vaccine, the minimum interval between the first and second doses is 5 months.
** In a 3-dose schedule of HPV vaccine, the minimum intervals are 4 weeks between the first and second doses, 12 weeks between the second and third doses, and 5 months between the first and third doses.

For persons initiating vaccination on or after their 15th birthday, the recommended immunization schedule is 3 doses of HPV vaccine. The 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)†† (Table).

For persons initiating vaccination before their 15th birthday, the recommended schedule is 3 doses of HPV vaccine. The 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)†† (Table).

Persons vaccinated previously. Persons who initiated vaccination with 9vHPV, 4vHPV, or 2vHPV before their 15th birthday, and received 2 doses of any HPV vaccine at the recommended dosing schedule (0, 6–12 months), or 3 doses of any HPV vaccine at the recommended dosing schedule (0, 1–2, 6 months), are considered adequately vaccinated.

Persons who initiated vaccination with 9vHPV, 4vHPV, or 2vHPV on or after their 15th birthday, and received 3 doses of any HPV vaccine at the recommended dosing schedule, are considered adequately vaccinated.

9vHPV may be used to continue or complete a vaccination series started with 4vHPV or 2vHPV.

For persons who have been adequately vaccinated with 2vHPV or 4vHPV, there is no ACIP recommendation regarding additional vaccination with 9vHPV.

Interrupted schedules. If the vaccination schedule is interrupted, the series does not need to be restarted. The number of recommended doses is based on age at administration of the first dose.

** Including men who identify as gay or bisexual, or who intend to have sex with men.
*** The recommendation for a 3-dose schedule of HPV vaccine does not apply to children aged <15 years with asplenia, asthma, chronic granulomatous disease, chronic liver disease, chronic lung disease, chronic renal disease, central nervous system anatomic barrier defects (e.g., cochlear implant), complement deficiency, diabetes, heart disease, or sickle cell disease.
Acknowledgments

Members of the Advisory Committee on Immunization Practices (ACIP) (member roster for July 2016–June 2017 is available online at https://www.cdc.gov/vaccines/acip/committee/members-archive.html); ACIP HPV Vaccines Work Group: Jorge E. Arana, MD, Atlanta, Georgia; Joseph Bocchini, MD, Shreveport, Louisiana; Harrell Chesson, PhD, Atlanta, Georgia; Tâmera Coyne-Beasley, MD, Chapel Hill, North Carolina; C. Robinette Curtis, MD, Atlanta, Georgia; Carolyn D. Deal, PhD, Bethesda, Maryland; Shelley Deeks, MD, Toronto, Ontario, Canada; John Douglas, MD, Greenwood Village, Colorado; Linda Eckert, MD, Seattle, Washington; Sandra Adamson Fyrhofer, MD, Atlanta, Georgia; Julianeek Gee, MPH, Atlanta, Georgia; Bruce G. Gellin, MD, Washington, DC; Samuel Katz, MD, Durham, North Carolina; Alison Kempe, MD, Denver, Colorado (Chair); Aimée R. Kreimer, PhD, Bethesda, Maryland; Joohee Lee, MD, Silver Spring, Maryland; Lauri E. Markowitz, MD, Colorado; C. Robinette Curtis, MD, Atlanta, Georgia; Alison Kempe, MD, Denver, Colorado; Bruce G. Gellin, MD, Washington, DC; Samuel Katz, MD, Durham, North Carolina; Alison Kempe, MD, Denver, Colorado; C. Robinette Curtis, MD, Atlanta, Georgia; Linda Eckert, MD, Seattle, Washington; Sandra Adamson Fyrhofer, MD, Atlanta, Georgia; Julianneek Gee, MPH, Atlanta, Georgia; Bruce G. Gellin, MD, Washington, DC; Samuel Katz, MD, Durham, North Carolina; Alison Kempe, MD, Denver, Colorado; C. Robinette Curtis, MD, Atlanta, Georgia; Joohee Lee, MD, Silver Spring, Maryland; Lauri E. Markowitz, MD, Atlanta, Georgia (CDC Lead); Aimée R. Kreimer, PhD, Bethesda, Maryland; Joohee Lee, MD, Silver Spring, Maryland; Laurie E. Markowitz, MD, Atlanta, Georgia; Cynthia Pellegrini, MD, Atlanta, Georgia; Sara E. Oliver, MD, Atlanta, Georgia; Amy B. Miller, MD, Oklahoma City, Oklahoma; Chris Nyquist, MD, Denver, Colorado; Sean O’Leary, MD, Aurora, Colorado; Sara E. Oliver, MD, Atlanta, Georgia; Cynthia Pellegrini, Washington, DC; Jeff Roberts, MD, Rockville, Maryland; José R. Romero, MD, Little Rock, Arkansas; Jeanne Santolii, MD, Atlanta, Georgia; Mona Saraiya, MD, Atlanta, Georgia; Debbie Saslow, PhD, Atlanta, Georgia; Elizabeth R. Unger, PhD, MD, Atlanta, Georgia; Waves Phillips, DrPH, Atlanta, Georgia; Lakshmi Sukumaran, MD, Atlanta, Georgia; Patricia Whitley-Williams, MD, New Brunswick, New Jersey; Rodney Willoughby, MD, Wauwatosa, Wisconsin; JoanEllen Wolicki, Atlanta, Georgia; Sixun Yang, MD, Rockville, Maryland; Jane Zucker, MD, New York, New York.

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References

9-Valent HPV Vaccine FAQs

<table>
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<td>16, 18</td>
<td>16, 18, 31, 33, 45, 52, 58</td>
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<tr>
<td>Low risk HPV strains covered</td>
<td>N/A</td>
<td>6, 11</td>
<td>6, 11</td>
</tr>
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**What is the difference between the 9-valent HPV vaccine and the other HPV vaccines?**

2-valent (2v), 4-valent (4v) and 9-valent (9v) vaccines all protect against HPV strains 16 and 18, the types that cause about 66% of cervical cancers and the majority of other HPV-attributable cancers in the United States. 9v HPV targets five additional cancer causing types, which account for about 15% of cervical cancers. 4v and 9v HPV vaccines also protect against HPV 6 and 11, the types that cause genital warts.

**What are the ACIP recommendations for the 9-valent HPV vaccine?**

In February 2015 the ACIP voted to add the 9v vaccine to the current HPV vaccine recommendations. They did not express a preference for one HPV vaccine product over another. ([http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6411a3.htm](http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6411a3.htm))

**What should I do with patients who started the HPV vaccine series with 2-valent HPV or 4-valent HPV vaccine?**

ACIP recommends that any appropriate HPV vaccine (2v, 4v or 9v for females and 4v or 9v for males) can be used to continue or complete the HPV vaccine series.

**What should I do with patients who have already completed the HPV vaccine series with the 4-valent or 2-valent HPV vaccine?**

The ACIP did not address revaccination with 9v vaccine in patients who have completed the series in their February meeting. This will likely be discussed at their next meeting in June 2015.

**Why is the use of 9-valent HPV vaccine off-label in males over the age of 15?**

Merck sought and received FDA approval for 9v vaccine for females ages 9–25 and males ages 9–15. They have since submitted additional data on males ages 16–26, and are also seeking FDA approval for this age group. The ACIP has reviewed this data and has recommended off-label use for males ages 16–26.

**Should I wait to vaccinate with 9-valent HPV vaccine?**

No. Practices should continue to vaccinate patients age 11–12 with any appropriate HPV vaccine (2v, 4v or 9v for females and 4v or 9v for males). It is important to initiate and complete the HPV vaccine series using any available HPV vaccine because more than half of vaccine-eligible children are not being protected against HPV-associated cancers.
The AAP and HPV Vaccine Safety: Frequently Asked Questions
2/8/2016

HPV vaccine is a chance to prevent cancer. The vaccine is safe and effective, and studies show it offers long-lasting protection against several common cancers. The AAP recommends the HPV vaccine for all children at age 11 or 12 as part of the adolescent immunization platform.

- The vaccination series can be started as young as 9 years of age, and in the case of sexual abuse, HPV vaccination is recommended beginning at 9 years of age.
- 9-valent HPV (9vHPV), 4-valent HPV (4vHPV) (as supplies last), and 2-valent HPV (2vHPV) vaccines are also recommended for females 13 through 26 years of age not previously immunized. 9vHPV and 4vHPV (as supplies last) are also recommended for males 13 through 21 years of age not previously immunized.
- Males 22 through 26 years of age may be immunized with 9vHPV or 4vHPV, and either is recommended for men who have sex with men.
- Either (9vHPV or 4vHPV) is recommended for people who are immunocompromised (including those with HIV infection) through 26 years of age.
- HPV vaccines are not licensed for use in people older than 26 years of age.

Are HPV vaccines safe?
The HPV vaccines are safe. About 79 million doses of HPV vaccine have been distributed in the U.S. since June 2006 when HPV vaccine was first licensed by the Food and Drug Administration (FDA). On July 25, 2014, the CDC published data confirming the safety and efficacy of 2vHPV and 4vHPV vaccines. Additionally, on March 27, 2015 the CDC published data and recommendations of the Advisory Committee on Immunization Practices for the use of 9vHPV vaccine. All vaccines in the U.S. are required to go through years of extensive safety testing before they are licensed by the FDA.

- During pre-licensure clinical trials:
  - 9vHPV vaccine (Gardasil 9) was studied in more than 13,000 males and females
  - 4vHPV vaccine (Gardasil) was studied in more than 29,000 males and females
  - 2vHPV vaccine (Cervarix) was studied in more than 30,000 females

- Each vaccine was found to be safe and effective.

What are the common side effects of HPV vaccination?
The most commonly reported side effects following 2vHPV and 4vHPV for males and females include redness and soreness at the injection site, dizziness, syncope, nausea, and headache. Overall, reporting of adverse events to the national Vaccine Adverse Event Reporting System (VAERS) is consistent with pre-licensure clinical trial data. The most commonly reported side effects following 9vHPV for males and females include moderate site related pain, swelling and erythema. Rates of injection-side swelling and erythema both increased with successive doses of 9vHPV.

Do HPV vaccines cause autoimmune disorders?
HPV vaccines do not cause autoimmune disorders. Data suggests that those who receive the HPV vaccine have the same likelihood of developing autoimmune disorders as those who are unvaccinated. Studies have looked at a range of autoimmune disorders, including Guillan-Barré syndrome, multiple sclerosis and lupus, and found there is no relationship between HPV vaccines and autoimmune disorders.

Are HPV vaccines related to premature ovarian failure?
HPV vaccine does not cause premature ovarian failure. There are many causes of premature ovarian failure, a condition in which a woman's ovaries no longer function as they should. There have been six reports to VAERS related to ovarian complications, which have been investigated. CDC and FDA have found no evidence that Gardasil may be causing premature ovarian failure, and continue to monitor for vaccine safety.

Have HPV vaccines been linked to death?
Some deaths have been reported to VAERS among persons who received HPV vaccine. Though a death might occur after a person receives a vaccine or medication, this does not mean that the vaccine or medication caused the death. All reports of death are reviewed by medical doctors at CDC or FDA.

- Detailed review of every report of death following a person's receipt of the HPV vaccine has shown:
  - There is no pattern of death occurring with respect to time after vaccination
  - There is no consistent vaccine dose number or combination of vaccines given
  - There is no diagnosis at death that would suggest that the HPV vaccine caused the death
ACIP updates recommendations on HPV, HepB, MenB vaccines

by Melissa Jenko, News Content Editor

Adolescents under age 15 years need only two doses of human papillomavirus (HPV) vaccine instead of three under a new recommendation from a Centers for Disease Control and Prevention (CDC) committee.

The CDC’s Advisory Committee on Immunization Practices (ACIP) said a two-dose schedule could improve lagging completion rates, while still providing protection against the infection.

The group also made changes to hepatitis B and meningococcal B (MenB) vaccine recommendations during Wednesday's meeting.

ACIP’s recommendations will be reviewed by the CDC director. Those that are approved will be published as official recommendations in the *Morbidity and Mortality Weekly Report (MMWR)*. The Academy will review the CDC's changes and make official policy recommendations of its own. Yvonne A. Maldonado, M.D., FAAP, vice chair of the AAP Committee on Infectious Diseases who represented the Academy at the meeting, recommends pediatricians follow existing AAP guidance for now but prepare for the potential changes.

**HPV**

To protect against HPV-related cancers, the Academy and CDC recommend HPV vaccine as part of routine immunization for males and females at age 11 or 12 years, although it can be started as early as 9 years.

The vaccine, now available as the 9-valent Gardasil 9, traditionally has been given in a three-dose series, but the Food and Drug Administration (FDA) recently approved a two-dose series for children ages 9-14.

After reviewing the data, ACIP members followed suit. They recommended a two-dose schedule for children younger than 15 years of age who are starting vaccination, with the second dose administered six to 12 months after the first dose. Those starting vaccination at age 15-26 should receive three doses. ACIP continues to recommend routine vaccination at age 11-12, though the vaccine can be given as early as 9 years of age.

Dr. Maldonado applauded the change.

"We want to make sure children are up to date on their vaccines and ... the two-dose HPV schedule is certainly much easier and should hopefully lead to more compliance," she said.

Only about 42% of teen girls and 28% of teen boys receive all three doses, according to the CDC.

Adolescents under 15 who have received two doses that were less than six months apart will need a third dose.

The 9-valent vaccine may be used to complete a series started with a quadrivalent or bivalent vaccine, and a schedule that has been interrupted does not need to be restarted. ACIP currently does not have a recommendation as to whether those who were fully vaccinated with one of those two types should receive additional vaccination with the 9-valent vaccine, and the Academy will work closely with the CDC to determine if such guidance can be forthcoming.

CDC Director Tom Frieden, M.D., M.P.H., quickly approved ACIP's HPV recommendations.

"Safe, effective, and long-lasting protection against HPV cancers with two visits instead of three means more Americans will be protected from cancer," Dr. Frieden said in a news release. "This recommendation will make it simpler for parents to get their children protected in time."
Hepatitis B

ACIP also took steps Wednesday to stress the importance of vaccinating infants against hepatitis B as soon as possible after birth.

Hepatitis B is a liver infection transmitted through blood or body fluids and can be passed from a mother to her infant. The CDC estimates 90% of infected infants develop chronic infection.

ACIP recommended Wednesday that infants be immunized within 24 hours of birth and removed policy language allowing a delay in some circumstances.

"The earlier the better," Dr. Maldonado said. "Once infants are discharged home after birth, there is a risk they might miss their first well-child appointment and their first hepatitis B vaccine dose. If the infant’s mother is infected with hepatitis B, there would be a very high risk of becoming infected themselves."

Pediatricians should continue to be vigilant about vaccinating infants who did not receive a dose at birth.

MenB

The Academy and CDC currently recommend routine MenB vaccination for those 10 and older who are at increased risk of MenB, including those with persistent complement component deficiencies, anatomic or functional asplenia, and people living in an outbreak area. They do not express a preference for the two licensed vaccines - MenB-4C (Bexsero) and MenB-FHbp (Trumenba) - but the same product must be used for the entire series.

In April, the FDA approved a label change giving MenB-FHbp a flexible three-dose schedule of zero, one to two months and six months and a two-dose schedule of zero and six months. ACIP members on Wednesday recommended when using MenB-FHbp to vaccinate people at increased risk of MenB, the three-dose schedule should be used.

That schedule will "provide early protection and maximize immune response," said Jessica MacNeil, M.P.H., a CDC epidemiologist.

For healthy people ages 16-23 years who are not at increased risk of MenB disease, ACIP has a permissive recommendation that allows use of one of the MenB vaccines should the patient desire to be immunized. If an adolescent so chooses and MenB-FHbp is selected, ACIP recommended a two-dose schedule.

If a patient receives a second dose of MenB-FHbp less than six months after the first dose, a third dose should be given at least six months after the first.

Pertussis

Experts also reviewed new research regarding the safety of tetanus diphtheria acellular pertussis (Tdap) vaccine during pregnancy.

CDC epidemiologist Jennifer Liang, D.V.M., M.P.V.M., said data "continue to be reassuring."

"Studies of over 50,000 women receiving Tdap during pregnancy ... show no increased risk of adverse maternal or infant health outcomes," she said.

In 2012, ACIP began recommending Tdap during every pregnancy. While it can be given at any time, the CDC
News Articles, Infectious Diseases, Sexually Transmitted Infections, Vaccine/Immunization

considers 27-36 weeks' gestation to be optimal. The CDC now is working on new language to emphasize vaccination in the early part of that window when it is believed to be most beneficial.

Next steps

AAP News will continue to update members when recommendations have been approved by the CDC director and published in the *MMWR*, as well as when the Academy makes official policy recommendations on these vaccinations.

The CDC will hold webinar on the HPV recommendations from 12 p.m. to 1 p.m. Eastern on Oct. 26. To register, visit https://www2.cdc.gov/vaccines/ed/hpvreg/. After the event, the presentation will be posted at https://www.cdc.gov/vaccines/ed/ciinc/index.html.
Clinician FAQ: CDC Recommendations for HPV Vaccine 2-Dose Schedules

After the October 2016 ACIP meeting, CDC now recommends that 11 or 12 year olds receive 2 doses of HPV vaccine instead of 3. Parents may have questions about this change. This resource helps explain the reasons for changing the HPV vaccine recommendation, and provides tips for talking with the parents of your patients about the change.

What has changed in the new HPV vaccine recommendations?
In October 2016, CDC updated HPV vaccination recommendations regarding dosing schedules. CDC now recommends 2 doses of HPV vaccine for people starting the vaccination series before the 15th birthday. Three doses of HPV vaccine are recommended for people starting the vaccination series on or after the 15th birthday and for people with certain immunocompromising conditions.

CDC continues to recommend routine vaccination for girls and boys at age 11 or 12 years. The vaccination series can be started at age 9 years. CDC also recommends vaccination through age 26 years for females and through age 21 years for males. Males age 22–26 years may be vaccinated.

What is the recommended 2-dose HPV vaccination schedule?
For girls and boys starting the vaccination series before the 15th birthday, the recommended schedule is 2 doses of HPV vaccine. The second dose should be given 6–12 months after the first dose (0, 6–12 month schedule).

Answering parents’ questions: We now recommend 2 doses of HPV vaccine for your son or daughter, instead of 3, if your child starts the series before their 15th birthday. I still recommend your child start the vaccination series by age 11 or 12 years for best protection against HPV. He or she will need a second dose 6-12 months after the first dose.

Who should still receive a 3-dose schedule?
CDC continues to recommend a 3-dose schedule for persons starting the HPV vaccination series on or after the 15th birthday, and for persons with certain immunocompromising conditions. The second dose should be given 1–2 months after the first dose, and the third dose should be given 6 months after the first dose (0, 1–2, 6 month schedule).

Answering parents’ questions: If your child starts the series after his or her 15th birthday or has certain health problems that weaken his or her immune system, he or she will still need the 3-dose series. We will give the second dose 1–2 months after the first, and the last dose 6 months after the first dose.

Why did CDC make the recommendation change to a 2-dose schedule?
Over the past year, CDC and the Advisory Committee on Immunization Practices (ACIP) have been reviewing data on 2-dose schedules, including results from studies of HPV vaccines that compared the antibody responses after 2 doses and 3 doses. These studies showed that the antibody response after 2 doses given at least 6 months apart to 9–14 year-olds was as good or better than the antibody response after 3 doses given to older adolescents and young adults, the age group in which efficacy was demonstrated in clinical trials.

Answering parents’ questions: CDC and ACIP (a group of experts that make vaccine recommendations) have been reviewing data on 2-dose HPV vaccination schedules for several months. The evidence showed that 2 doses of HPV vaccine given at least 6 months apart in younger adolescents were as good or better than 3 doses. These updated recommendations are an example of using the latest available evidence to provide your child with the best possible protection against serious diseases.

Answering parents’ questions: Since your child received his/her first dose of the HPV vaccine before he/she was 15 years old, we’ll only need to give 1 more dose.
Why is the 2-dose schedule change recommended only for girls and boys age 9–14 years?

ACIP makes recommendations based on the best available scientific evidence. Immunogenicity studies have shown that 2 doses of HPV vaccine given to 9–14 year-olds at least 6 months apart were as good, or better, than 3 doses given to older adolescents and young adults. Studies have not been done to show this in adolescents age 15 years or older.

Answering parents’ questions: The data we currently have from scientific studies (clinical trials) showed that 2 doses of HPV vaccine given at least 6 months apart were as good or better than 3 doses in children 9–14 years of age. Older adolescents haven’t been studied in the same way, so we don’t have information available for that age group. For that reason, the recommendation for number of doses has not been changed for older adolescents.

What is the recommendation for persons with immunocompromising conditions?

CDC recommends 3 doses of HPV vaccine (0, 1–2, 6 months) for immunocompromised people age 9 through 26 years. People whose immune responses might be lower, for example due to HIV infection, cancer, autoimmune disease, or taking immunosuppressant medications, should receive 3 doses to make sure they get the most benefit. However, children with asthma, diabetes, and other conditions that would not suppress immune response to HPV vaccination can receive a 2-dose schedule.

Answering parents’ questions: Even though CDC has recommended just 2 doses of HPV for kids under 15 years, we’ll need to give your child 3 doses because he/she has a health problem that weakens his or her immune system.

If a HPV vaccine series was started with quadrivalent HPV vaccine or bivalent HPV vaccine and will be completed with 9-valent HPV vaccine, what are the intervals for the remaining doses in a 3-dose or 2-dose series?

If the first dose of any vaccine was given before the 15th birthday, vaccination should be completed according to a 2-dose schedule. In a 2-dose series, the second dose is recommended 6–12 months after the first dose (0, 6–12 month schedule).

If the first dose of any vaccine was given on or after the 15th birthday, vaccination should be completed according to a 3-dose schedule. In a 3-dose series, the second dose is recommended 1–2 months after the first dose, and the third dose is recommended 6 months after the first dose (0, 1–2, 6 month schedule)

If a vaccination schedule is interrupted, vaccine doses do not need to be repeated.

If a girl or boy received 2 doses of HPV vaccine less than 5 months apart, do they need a third HPV vaccine dose?

Yes. In a 2-dose schedule of HPV vaccine, the recommended interval is 6–12 months, and the minimum interval is 5 months between the first and second dose. If the second dose is given earlier than 5 months, a third dose should be administered.

Answering parents’ questions: The recommended schedule is 2 doses given 6 to 12 months apart. The minimum amount of time between those doses is 5 months. Because your child received 2 doses less than 5 months apart, we’ll need to give your child a third dose.

If someone is age 15 years or older and started the vaccination series at age 11 but only received 1 dose, how many more doses do they need?

This person needs 1 more dose to complete a 2-dose series, which is recommended because the vaccination was started before turning 15 years old. In a 2-dose series, the second dose is recommended 6–12 months after the first dose. In this case, the first dose was given several years ago, so the second dose can be given right away.

Is the 9-valent HPV vaccine approved by FDA for use as a 2-dose schedule?

Yes, in October 2016, FDA approved a 2-dose schedule (0, 6–12 months) of 9-valent HPV vaccine for use in girls and boys age 9–14 years in the United States.

What HPV vaccines are currently available in the United States?

Three HPV vaccines are licensed for use in the United States: 9-valent HPV vaccine, quadrivalent HPV vaccine, and bivalent HPV vaccine. However, after the end of 2016, only 9-valent HPV vaccine will be sold in the United States.
HPV Facts and Highlights

• HPV is spread through skin-to-skin contact during any type of intimate sexual activity.
• HPV can infect anyone who has ever had a sexual encounter, and can occur with the first intimate encounter.
• HPV transmission can be reduced but not eliminated by condoms.
• 1/3 of 9th graders and 2/3 of 12th graders have engaged in sexual intercourse in the U.S.
• HPV infection is most common in people in their teens and early 20s.
• HPV strains 6 and 11 account for 90% of genital warts, while strains 16 and 18 account for 70% of cervical cancer.
• HPV-associated oropharyngeal cancers in males are a growing problem – prevalence of this cancer increased from 16.3% (1984-89) to 71.7% (2000-04); anal and penile cancer also occur related to HPV infection.
• HPV accounts for 14 million new cases of STIs that will be diagnosed in 2014 in the U.S.
• HPV-associated disease and screening costs over $8 billion annually.

HPV Vaccination

• HPV vaccine has been available since 2006, with nearly 60 million doses administered through 2013. No safety concerns have been found in female or male vaccine recipients.
• Among young women not previously infected with an HPV-vaccine strain, vaccination provides over 95% efficacy in preventing cervical precancers. Likewise, the quadrivalent vaccine has 90-100% efficacy in preventing genital warts.
• HPV vaccination is MOST effective when given before the onset of sexual activity.
• The highest antibody levels from HPV vaccination occur in the youngest people, i.e., preteens (11 to 12 year-olds as compared to 16 year-olds).
• The HPV vaccine is given in 2 doses to girls and boys starting the series before their 15th birthday. The second dose is given 6 to 12 months after the first dose. For those starting the series after their 15th birthday, 3 doses are needed. The second dose is given 1 to 2 months after the first, and the third dose is given 6 months after the first dose.
• Indiana ranks among one of the lowest states for HPV vaccination of pre-teens; only 1/3 of Hoosier girls and even fewer boys have completed the 3-dose series.
• Missed opportunities to vaccinate abound – 78% of teen girls vaccinated for Tdap and MCV4 had a situation where HPV vaccination could have taken place.
• Several studies have shown that HPV vaccination does NOT increase sexual activity or lower the age of sexual debut.

Impact of HPV Vaccination

• 56% reduction in prevalence of HPV strains 6, 11, 16 and 18 in adolescent girls in the U.S. despite the fact that only 33% of girls received 3 doses. (NHANES data)
• 77% reduction in HPV strains 6, 11, 16 and 18 in adolescent girls in Australia within 3 years of vaccine introduction (3-dose vaccination rate of 70%).

www.vaccinateindiana.org

Remember, the health care provider’s recommendation to vaccinate is the SINGLE MOST influential factor in determining whether a parent gets their child vaccinated.
This award-winning documentary takes a look into the lives of five brave women affected by HPV. Their stories portray the misconceptions, stigma, shame, heartbreak, pain, and triumph that they experience while battling cervical cancer.

Indiana has recently purchased a statewide site license, which enables the Indiana Immunization Coalition to provide copies of the film at no cost to agencies/organizations within the state who would like to host film screenings.

To request your free copy of the film, email: hpvmovie@vaccinateindiana.org

In addition, continuing education credits* are offered free of charge to physicians, nurses, or pharmacists (from any state) who view the film live or online.

The film can be viewed online and CME, CNE, or Pharmacy CE credits can be obtained by visiting the following link: http://cme.medicine.iu.edu/hpvdocumentary

For nurses who view the film at a live event, and would like CNE, please complete the evaluation at: https://www.surveymonkey.com/r/5D6KCZN

For physicians or pharmacists who watch the film at a live event, and would like CME or Pharmacy CE, please follow the instructions at: http://cme.medicine.iu.edu/hpvdocumentary

For questions about continuing education, email: lori@vaccinateindiana.org

For additional Free HPV vaccine resources, please visit www.vaccinateindiana.org and login.

*This activity has been approved for AMA PRA Category 1.50 Credit(s)™ by Indiana University School of Medicine.

This free KNOWLEDGE BASED activity is accredited for 1.5 CE credit hour(s) (0.15 CEU) for pharmacists and pharmacy technicians by IU Health.

This continuing nursing education activity is approved by the Ohio Nurses Association (OBN-001-91), an accredited approver by the American Nurses Credentialing Center’s Commission on Accreditation for 1.91 Contact Hours (for live view). Approval valid through 2/16/18. ONA# 18755 and 1.3 Contact Hours (for online view). Approval valid through 12/5/18. ONA# 18889.
HPV: DON’T WAIT. VACCINATE!
Increasing First Dose HPV Vaccine for Teens
A PART 4 QUALITY IMPROVEMENT MOC PROJECT FOR
PEDIATRICIANS AND FAMILY PRACTICE PHYSICIANS

What is MOC?
Maintenance of Certification was designed by the American Board of Medical Specialties as a way to ensure a continuous cycle of lifelong learning for a physician’s professional development.

Who Can Participate in the HPV: Don’t Wait. Vaccinate! Project?
This Part IV, Performance in Practice Project has been approved by the American Board of Pediatrics and the American Board of Family Medicine for physicians throughout the country.

What is a Part 4 Quality Improvement Project?
Part 4 is a diverse requirement which recognizes the efforts of physicians who imbed quality improvement into their day-to-day practice of medicine. Pediatricians who complete this project will be awarded 25 Part 4 points toward their MOC. Family Medicine physicians will receive MC-FP credit for 1 Part IV module or 20 Part IV points, as appropriate.

What is the Aim of this Project?
The HPV: Don’t Wait. Vaccinate! Project is sponsored by the Indiana Immunization Coalition. Physicians who participate will aim to increase their 1st dose HPV vaccine rate for eligible females and males ages 11-21 by 25% during a 6 month period.

What is the Completion Criteria for the Project?
Participants will submit monthly data gleaned from a daily tracking log that indicates the number of patients ages 11-21 who visited their office that month and the number who received an HPV vaccine.

Is there a Cost for the Project?
The cost to participate in this MOC project is $50, which includes educational materials.

For more information or to participate in the project, please email: lori@vaccinateindiana.org
HPV: DON’T WAIT. VACCINATE!
A SHOT AT CANCER PREVENTION

www.vaccinateindiana.org
Talking to Parents about HPV Vaccine

Recommend HPV vaccination in the **same way** and on the **same day** as all adolescent vaccines. You can say, "Now that your son is 11, he is due for vaccinations today to help protect him from meningitis, HPV cancers, and pertussis." Remind parents of the follow-up shots their child will need and ask them to make appointments before they leave.

**Why does my child need HPV vaccine?**
HPV vaccine is important because it prevents infections that can cause cancer. That’s why we need to start the shot series today.

**Is my child really at risk for HPV?**
HPV is a very common infection in women and men that can cause cancer. Starting the vaccine series today will help protect your child from the cancers and diseases caused by HPV.

**Why do they need HPV vaccine at such a young age?**
Like all vaccines, we want to give HPV vaccine earlier rather than later. If you wait, your child may need three shots instead of two.

**I’m worried about the safety of HPV vaccine. Do you think it’s safe?**
Yes, HPV vaccination is very safe. Like any medication, vaccines can cause side effects, including pain, swelling, or redness where the shot was given. That’s normal for HPV vaccine too and should go away in a day or two.

**Would you get HPV vaccine for your kids?**
Yes, I gave HPV vaccine to my child (or grandchild, etc.) when he was 11, because it’s important for preventing cancer.

**Why do boys need HPV vaccine?**
HPV vaccination can help prevent future infection that can lead to cancers of the penis, anus, and back of the throat in men.

**What diseases are caused by HPV?**
Some HPV infections can cause cancer—like cancer of the cervix or in the back of the throat—but we can protect your child from these cancers in the future by getting the first HPV shot today.

**I’m worried my child will think that getting this vaccine makes it OK to have sex.**
Studies tell us that getting HPV vaccine doesn’t make kids more likely to start having sex. I recommend we give your child her first HPV shot today.

**Can HPV vaccine cause infertility in my child?**
There is no known link between HPV vaccination and the inability to have children in the future. However, women who develop an HPV precancer or cancer could require treatment that would limit their ability to have children.

**What vaccines are actually required?**
I strongly recommend each of these vaccines and so do experts at the CDC and major medical organizations. School entry requirements are developed for public health and safety, but don’t always reflect the most current medical recommendations for your child’s health.
Q: ANY OTHER WAYS I COULD IMPROVE HPV VACCINATION RATES?

A: YOU CAN SIGN UP FOR FREE PEDIA LINK AND EQIPP COURSES:

EQIPP: Immunizations—Improve Your Practice Rates
Cost: Free for AAP members (non-members $199)
This EQIPP course is designed to identify immunization rates in your practice, barriers to immunization delivery systems, and techniques to overcome those barriers through the use of clear aims that reflect expert principles and proven quality improvement methods and tools. Available at: http://eqipp.aap.org/

EQIPP Credit Information:
AMA PRA Category 1 Credit(s)™: 28.00
AAP Credit: 28.00
MOC Part 4: 25.00
NAPNAP Credit: 28.00
Performance Improvement: 20.00
Pharmacology Rx: 4.25

PediaLink: Adolescent Immunizations—Strongly Recommending the HPV Vaccine
Cost: Free
This course will discuss strategies for strongly recommending the HPV vaccine and will offer information to help pediatricians address their patients’ concerns about the vaccine. Available at: http://pedialink.aap.org/visitor (click the Continuing Education tab)

PediaLink: Adolescent Immunizations—Office Strategies
Cost: Free
This course provides strategies that pediatric offices can use to optimize their adolescent immunization efforts and improve their adolescent immunization rates. Available at: http://pedialink.aap.org/visitor (click the Continuing Education tab)

PediaLink Credit Information:
AMA PRA Category 1 Credit(s)™: 1.00
AAP Credit: 1.00
Contact Hour: 1.00
NAPNAP Credit: 1.00
Pharmacology Rx: 0.00

The Ask-Acknowledge-Advise communication model was developed and tested by Vax Northwest. This tip sheet was also guided by the research of Noel Brewer, Ph.D., chair of the American Cancer Society HPV Vaccination Round Table.

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HOW CAN I BEST RESPOND TO PARENTS’ QUESTIONS?

HOW CAN I IMPROVE HPV VACCINE RATES IN MY PRACTICE?

WHAT’S WORKING FOR OTHER PEDIATRICIANS?

I WANT 100% OF MY PATIENTS TO BE VACCINATED. ANY SUGGESTIONS?
**Q:** How can I best respond to parents’ questions?

**A:** The Ask, Acknowledge, Advise model may help:

- **Start the conversation with a strong, bundled recommendation by saying:** Today your child is due for three vaccines. They will protect him/her from the cancers caused by HPV, and infections causing meningitis, whooping cough, tetanus & diphtheria.

- **Ask**
  - Give parents a chance to ask questions and voice concerns.
  - SAY: What questions do you have for me?
  - Clarify and restate their concerns to make sure you understand.

- **Acknowledge**
  - Emphasize it is the parents’ decision.
  - SAY: I know you want to make the right decision for your child. We both want [him/her] to stay safe and healthy.
  - Acknowledge risks and conflicting information sources.
  - SAY: There is a lot of information out there; what have you heard?
  - Applaud them for wanting what is best for their child and be clear that you are concerned for the health of their child, not just public health safety.
  - SAY: Of course, you want to do everything you can to keep [child’s name] safe, and so do I.

- **Advise**
  - Clarify their concerns to make sure you understand and are answering the question they actually care about.
  - Be willing to discuss parents’ ideas.
  - • Offer written resources for parents.
  - • Tailor your advice using the Centers for Disease Control and Prevention’s (CDC) Tips and Time-savers. (http://www.cdc.gov/vaccines/who/teens/for-hcp-tipsheet-hpv.pdf)

**Remember**

- Delay is more common than refusal and declination is not an automatic stand.
- • End the visit with at least one action you both agree on.
  - SAY: I’d like to keep this conversation open. Is it okay if we talk again at the next visit?
  - • Because waiting to vaccinate is the risky choice, many pediatricians ask the parent to sign a Declination Form.
  - • QUICK TIP: have a Declination Form that you can use.

**Q:** What information will help me be prepared to discuss HPV vaccine with parents?

**A:** You can start with these FAQ responses:

- **Is HPV vaccine really necessary?**
  - Definitely. There are about 26,000 cases of cancers caused by HPV each year—and most could be prevented with HPV vaccine. These are cancers of the throat and anus, as well as cancer of the penis in men and cancers of the cervix, vagina, and vulva in women. HPV vaccine can also prevent many more pre-cancers of the cervix which require treatments that can have lasting effects on fertility.

- **Why should 11–12-year-olds get HPV vaccine?**
  - Vaccinating at age 11–12 provides the best protection possible. Studies show that HPV vaccination provides a better immune response in preteens. HPV vaccine prevents more disease when given at the recommended age.

- **This child is not sexually active. Why should he or she get HPV vaccine?**
  - We vaccinate people well before they are exposed to an infection, just like with measles and the other recommend childhood vaccines. If you vaccinate after someone is infected, the vaccine does not work. HPV is so common that almost everyone will be infected at some point. Most people infected will never know. So even if someone waits until marriage to have sex, or only has one partner in their entire life, they could still be exposed if their partner has been exposed.

- **Does this vaccine work?**
  - Yes! In studies of males and females, the vaccine was shown to prevent almost 100% of warts and pre-cancers caused by the HPV types in the vaccine.

- **Today your child is due for three vaccines. They will protect him/her from the cancers caused by HPV, and infections causing meningitis, whooping cough, tetanus & diphtheria.**

- **I strongly believe in the importance of this cancer-preventing vaccine for all my patients.**

- **Experts including the American Academy of Pediatrics and the American Cancer Society agree that this vaccine is very important for 11- and 12-year-olds.**

- **Today your child is due for three vaccines. They will protect him/her from the cancers caused by HPV, and infections causing meningitis, whooping cough, tetanus & diphtheria.**

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**Q:** Any additional thoughts for improving HPV vaccination rates in my practice?

**A:**

- **You can actively participate in AFIX visits:**
  - If your VFC-enrolled practice is due for an AFIX visit, the AAP strongly encourages pediatricians to participate in the visit. Practices participating in AFIX adolescent visits will receive a thank you package which will include a limited-edition AAP “Guide to Adolescent Immunizations” flip chart, CME and MOC opportunities, along with other AAP and CDC informational resources.

  - CDC’s AFIX is a research-supported continuous quality improvement process. CDC’s AFIX Program works collaboratively with providers to increase and sustain high immunization coverage and incorporates evidence-based immunization practices at the immunization provider level.

  - **Assessment:** a standardized method for collecting and analyzing quantitative and qualitative vaccination coverage data and information. The assessment provides the opportunity to understand practice patterns that may affect the delivery of immunizations to the provider’s patient population.

  - **Feedback:** informs provider and staff about assessment observations and results while encouraging discussion around ways to improve immunization rates, reduce missed opportunities, and improve the immunization delivery system. Feedback results in the development of clear and achievable quality improvement activities.

  - **Incentives:** recognition of improved performance quality for providers and staff making practice-based changes, developing more effective immunization delivery systems, and ultimately improving immunization coverage. Incentives are used in combination with immunization educational aspects covered during feedback.

  - **Exchange:** follow-up with providers used to monitor and support progress towards implementing quality improvement strategies discussed during feedback. The exchange ensures providers have the necessary resources and information to improve the quality of their immunization services.

  - AFIX is widely supported as an effective and recommended strategy for improving immunization rates and practices in both public and private provider settings. The Task Force on Community Preventive Services and CDC’s Advisory Committee on Immunization Practices (ACIP) respectively recommend and endorse Assessment and Feedback “based on strong evidence of its effectiveness across a range of settings and populations.”

For more information about AFIX, please contact your state health department.

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**FAQ responses:**

- • "Today your child is due for three vaccines. They will protect him/her from the cancers caused by HPV, and infections causing meningitis, whooping cough, tetanus & diphtheria.”

- • "I strongly believe in the importance of this cancer-preventing vaccine for all my patients.”

- • "Experts including the American Academy of Pediatrics and the American Cancer Society agree that this vaccine is very important for 11- and 12-year-olds.”
HPV: DON'T WAIT. VACCINATE!
A SHOT AT CANCER PREVENTION

www.vaccinateindiana.org
**Human Papillomavirus (HPV) Vaccine for Boys and Young Men**

**Why should males get the HPV vaccine?**

HPV is spread through skin-to-skin contact in the genital area and can be transmitted through oral sex. There have been some cases of non-sexual transmission. Someone without any symptoms can still spread HPV. In addition, throat cancer and cancers of the genital area in men are linked to HPV. The vaccine protects against the types of HPV responsible for most genital warts, throat and genital cancers. It can also help prevent the spread of the virus to others.

**Does condom use prevent HPV?**

Correct and consistent condom use may lower the chances of giving or getting HPV infection. However; it is not fully protective because HPV can infect areas that are not covered by a condom.

**Can males be tested for HPV?**

There are no tests available for screening males for HPV. A male could be infected with HPV, and not know it.

**How is HPV treated?**

There is no treatment for HPV infection. Treatments exist only for removing the warts or treating the cancers.

**How common is HPV?**

Most people will get HPV infection at some point in their lives, but will never know it. HPV infection usually has no signs or symptoms. Most HPV infections do not lead to warts or cancer. However, the infection can progress to warts or cancer in some people. About 1 in 25 males report having had genital warts.

**Is the HPV vaccine recommended for all boys and young men?**

Yes. Both girls and boys should get the shots starting at age 11 or 12, and it can be given as early as 9 years of age. The vaccine is given in 2 shots to teens starting the series before their 15th birthday. For those starting the series after their 15th birthday, 3 shots are needed for best protection. While it is most effective to give the shots at a younger age, they can be given up to the age of 26.

**If HPV is sexually transmitted, why is the shot recommended at younger ages?**

It is best for girls and boys to receive protection from the vaccine before sexual activity begins. Also, the shot provokes the best immune response at younger ages. This means that the shot will be more effective at preventing infection in the future if it is given at a younger age.

**How can I get the HPV shot?**

Ask your doctor or county health department about getting the HPV shots.

www.vaccinateindiana.org

These materials were created by the Indiana Immunization Coalition, Inc. and were funded by the Indiana State Department of Health through a grant from the Centers for Disease Control and Prevention (Award No: SH511F0000723). MARCH2017
What is HPV?
Human papillomavirus (also called HPV) is the most common sexually transmitted disease (STD) in the U.S. There are over 40 different types of the HPV virus. HPV can cause infections, like genital warts, but can also lead to many different cancers in both men and women.

How do you get HPV?
You can get HPV during sex acts. HPV is so common that most people who have sex will get HPV and may not even know it.

Is HPV serious?
Yes, HPV is very serious. HPV is the main cause of cervical cancer in women. In the U.S., about 12,000 women will get cervical cancer each year, and as many as 4,000 will die from it. HPV can also lead to other cancers, like cancer of the mouth, throat, sex organs (vagina and penis), and rectum.

How can I protect my child from HPV?
Vaccination (shots) is the best way to protect against HPV.

Why should I vaccinate my young child against HPV?
The vaccine works best if the shots are given before a person ever starts to have sex (that is, when they are young). However, even if a person has already started having sex, the vaccine can still give protection against HPV.

Is the HPV vaccine safe?
Yes – the FDA has approved the vaccine as safe. As of July 2012, over 46 million doses of the vaccine had already been given in the United States. The FDA continues to watch the vaccine for safety.

At what age should my child get the HPV vaccine?
Both girls and boys should get the shot starting when they are 11 or 12 years old. It can be given as early as 9 years of age. The vaccine is given in 2 doses to teens starting the series before their 15th birthday. The second dose is given 6 to 12 months after the first dose. For those starting the series after their 15th birthday, 3 doses are needed. The second dose is given 1 to 2 months after the first, and the third dose is given 6 months after the first dose. The HPV vaccine is recommended for older teens and young adults up to the age of 26.

How can I get my child the HPV vaccine?
Ask your child’s doctor for the HPV vaccine or go to your local health department.
If there were a vaccine against cancer, wouldn’t you get it for your kids?

HPV vaccine is cancer prevention.

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

www.cdc.gov/vaccines/teens
HPV Vaccine for Preteens and Teens

Why does my child need HPV vaccine?
This vaccine is for protection from most of the cancers caused by human papillomavirus (HPV) infection. HPV is a very common virus that spreads between people when they have sexual contact with another person. About 14 million people, including teens, become infected with HPV each year. HPV infection can cause cervical, vaginal, and vulvar cancers in women and penile cancer in men. HPV can also cause anal cancer, throat cancer, and genital warts in both men and women.

When should my child be vaccinated?
The HPV vaccine is recommended for preteen boys and girls at age 11 or 12 so they are protected before ever being exposed to the virus. HPV vaccine also produces a higher immune response in preteens than in older adolescents. If your teen hasn’t gotten the vaccine yet, talk to their doctor about getting it for them as soon as possible.

HPV vaccination is a series of shots given over several months. The best way to remember to get your child all of the shots they need is to make an appointment for the remaining shots before you leave the doctor’s office or clinic.

What else should I know about HPV vaccine?
Girls need HPV vaccination to prevent HPV infections that can cause cancers of the anus, cervix, vagina, vulva, and the mouth/throat area. Boys need HPV vaccination to prevent HPV infections that can cause cancers of the anus, penis, and the mouth/throat area. HPV vaccination can also prevent genital warts.

HPV vaccines have been studied very carefully. These studies showed no serious safety concerns. Common, mild adverse events (side effects) reported during these studies include pain in the arm where the shot was given, fever, dizziness and nausea.

Some preteens and teens might faint after getting the HPV vaccine or any shot. Preteens and teens should sit or lie down when they get a shot and stay like that for about 15 minutes after the shot. This can help prevent fainting and any injury that could happen while fainting.

Serious side effects from the HPV vaccine are rare. It is important to tell the doctor or nurse if your child has any severe allergies, including an allergy to latex or yeast. HPV vaccine is not recommended for anyone who is pregnant.

HPV vaccination is recommended by the Centers for Disease Control and Prevention (CDC), the American Academy of Family Physicians, the American Academy of Pediatrics, and the Society for Adolescent Health and Medicine.

How can I get help paying for these vaccines?
The Vaccines for Children (VFC) program provides vaccines for children ages 18 years and younger, who are not insured, Medicaid-eligible, American Indian or Alaska Native. You can find out more about the VFC program by going online to www.cdc.gov and typing VFC in the search box.

Where can I learn more?
For more information about HPV vaccines and the other vaccines for preteens and teens, talk to your child’s doctor or nurse. More information is also available on CDC’s Vaccines for Preteens and Teens website at www.cdc.gov/vaccines/teens.
HPV is short for Human Papillomavirus, a common virus. In the United States each year, there are about 17,500 women and 9,300 men affected by HPV-related cancers. Many of these cancers could be prevented with vaccination. In both women and men, HPV can cause anal cancer and mouth/throat (oropharyngeal) cancer. It can also cause cancers of the cervix, vulva and vagina in women; and cancer of the penis in men.

For women, screening is available to detect most cases of cervical cancer with a Pap smear. Unfortunately, there is no routine screening for other HPV-related cancers for women or men, and these cancers can cause pain, suffering, or even death. That is why a vaccine that prevents most of these types of cancers is so important.

HPV and Cancer

HPV is a virus passed from one person to another during skin-to-skin sexual contact, including vaginal, oral, and anal sex. HPV is most common in people in their late teens and early 20s. Almost all sexually active people will get HPV at some time in their lives, though most will never even know it.

Most of the time, the body naturally fights off HPV, before HPV causes any health problems. But in some cases, the body does not fight off HPV, and HPV can cause health problems, like cancer and genital warts. Genital warts are not a life-threatening disease, but they can cause emotional stress, and their treatment can be very uncomfortable. About 1 in 100 sexually active adults in the United States have genital warts at any given time.

Why does my child need this now?

HPV vaccines offer the best protection to girls and boys who complete the series and have time to develop an immune response before they begin sexual activity with another person. This is not to say that your preteen is ready to have sex. In fact, it’s just the opposite—it’s important to get your child protected before you or your child have to think about this issue. The immune response to this vaccine is better in preteens, and this could mean better protection for your child.
Serious side effects from HPV vaccination are rare. Children with severe allergies to yeast or latex shouldn’t get certain HPV vaccines. Be sure to tell the doctor or nurse if your child has any severe allergies.

Help paying for vaccines
The Vaccines for Children (VFC) program provides vaccines for children ages 18 years and younger who are uninsured, Medicaid-eligible, or American Indian/Alaska Native. Learn more about the VFC program at [www.cdc.gov/Features/VFCprogram/](http://www.cdc.gov/Features/VFCprogram/)

Whether you have insurance, or your child is VFC-eligible, some doctors’ offices may also charge a fee to give the vaccines.

Jacquelyn’s story: “I was healthy—and got cervical cancer.”

When I was in my late 20’s and early 30’s, in the years before my daughter was born, I had some abnormal Pap smears and had to have further testing. I was told I had the kind of HPV that can cause cancer and mild dysplasia.

For three more years, I had normal tests. But when I got my first Pap test after my son was born, they told me I needed a biopsy. The results came back as cancer, and my doctor sent me to an oncologist. Fortunately, the cancer was at an early stage. My lymph nodes were clear, and I didn’t need radiation. But I did need to have a total hysterectomy.

My husband and I have been together for 15 years, and we were planning to have more children. We are so grateful for our two wonderful children, but we were hoping for more—which is not going to happen now.

The bottom line is they caught the cancer early, but the complications continue to impact my life and my family. For the next few years, I have to get pelvic exams and Pap smears every few months, the doctors measure tumor markers, and I have to have regular x-rays and ultrasounds, just in case. I have so many medical appointments that are taking time away from my family, my friends, and my job.

Worse, every time the phone rings, and I know it’s my oncologist calling, I hold my breath until I get the results. I’m hopeful I can live a full and healthy life, but cancer is always in the back of my mind.

In a short period of time, I went from being healthy and planning more children to all of a sudden having a radical hysterectomy and trying to make sure I don’t have cancer again. It’s kind of overwhelming. And I am one of the lucky ones!

Ultimately I need to make sure I’m healthy and there for my children. I want to be around to see their children grow up.

I will do everything to keep my son and daughter from going through this. I will get them both the HPV vaccine as soon as they turn 11. I tell everyone—my friends, my family—to get their children the HPV vaccine series to protect them from this kind of cancer.

What about boys?
HPV vaccine is for boys too! This vaccine can help prevent boys from getting infected with the types of HPV that can cause cancers of the mouth/throat, penis and anus. The vaccine can also help prevent genital warts. HPV vaccination of males is also likely to benefit females by reducing the spread of HPV viruses.

Learn more about HPV and HPV vaccine at [www.cdc.gov/hpv](http://www.cdc.gov/hpv)

For more information about the vaccines recommended for preteens and teens:

800-CDC-INFO (800-232-4636)
[www.cdc.gov/vaccines/teens](http://www.cdc.gov/vaccines/teens)
What Parents Should Know About HPV Vaccine Safety and Effectiveness

Last updated JUNE 2014

HPV vaccines prevent cancer
About 14 million people, including teens, become infected with human papillomavirus (HPV) each year. When HPV infections persist, people are at risk for cancer. Every year, approximately 17,600 women and 9,300 men are affected by cancers caused by HPV. HPV vaccination could prevent many of these cancers.

HPV vaccines are safe
There are two vaccines licensed by the Food and Drug Administration (FDA) and recommended by CDC to protect against HPV-related illness. All vaccines used in the United States are required to go through extensive safety testing before they are licensed by FDA. Once in use, they are continually monitored for safety and effectiveness.

Numerous research studies have been conducted to make sure HPV vaccines were safe both before and after the vaccines were licensed. No serious safety concerns have been confirmed in the large safety studies that have been done since HPV vaccine became available in 2006. CDC and FDA have reviewed the safety information available to them for both HPV vaccines and have determined that they are both safe.

The HPV vaccine is made from one protein from the HPV virus that is not infectious (cannot cause HPV infection) and non-oncogenic (does not cause cancer).

HPV vaccines work
The HPV vaccine works extremely well. In the four years after the vaccine was recommended in 2006, the amount of HPV infections in teen girls decreased by 56%. Research has also shown that fewer teens are getting genital warts since HPV vaccines have been in use. In other countries such as Australia, research shows that HPV vaccine has already decreased the amount of pre-cancer of the cervix in women, and genital warts have decreased dramatically in both young women and men.

HPV vaccines provide long-lasting protection
Data from clinical trials and ongoing research tell us that the protection provided by HPV vaccine is long-lasting. Currently, it is known that HPV vaccine works in the body for at least 10 years without becoming less effective. Data suggest that the protection provided by the vaccine will continue beyond 10 years.

HPV vaccine is recommended and safe for boys
One HPV vaccine (Gardasil) is recommended for boys. This vaccine can help prevent boys from getting infected with the HPV-types that can cause cancers of the mouth/throat, penis and anus as well as genital warts.

Like any vaccine or medicine, HPV vaccines might cause side effects
HPV vaccines occasionally cause adverse reactions. The most commonly reported symptoms among females and males are similar, including injection-site reactions (such as pain, redness, or swelling in the area of the upper arm where the vaccine is given), dizziness, fainting, nausea, and headache.

Brief fainting spells and related symptoms can happen after many medical procedures, including vaccination. Fainting after getting a shot is more common among adolescents. Sitting or lying down for about 15 minutes after a vaccination can help prevent fainting and injuries that can be caused by falls.

When fainting was found to happen after vaccination, FDA changed prescribing information to include information about preventing falls and possible injuries from fainting after vaccination. CDC consistently reminds doctors and nurses to share this information with all their patients. Tell the doctor or nurse if your child feels dizzy, faint, or light-headed.

HPV vaccines don’t negatively affect fertility
There is no evidence to suggest that HPV vaccine causes fertility problems. However, not getting HPV vaccine leaves people vulnerable to HPV cancers. If persistent high-risk HPV infection in a woman leads to cervical cancer, the treatment of cervical cancer (hysterectomy, chemotherapy, or radiation, for example) could leave a woman unable to have children. Treatment for cervical pre-cancer could put a woman at risk for problems with her cervix, which could cause preterm delivery or other problems.

How can I get help paying for these vaccines?
The Vaccines for Children (VFC) program provides vaccines for children ages 18 years and younger, who are not insured, Medicaid-eligible, American Indian or Alaska Native. You can find out more about the VFC program by going online to www.cdc.gov and typing VFC in the search box.
Human papillomavirus (HPV) can cause serious health problems, including genital warts and certain cancers. However, in most cases HPV goes away on its own before causing any health problems.

What is genital HPV?
Genital human papillomavirus (also called HPV) is the most common sexually transmitted infection (STI) in the U.S. Most types of HPV are not harmful to people. There are more than 40 types of HPV that can infect the genital areas as well as the mouth and throat. Most people who become infected with HPV do not know that they are infected.

What is oral HPV?
The same types of HPV that infect the genital areas can infect the mouth and throat. HPV found in the mouth and throat is called “oral HPV.” Some types of oral HPV (known as “high risk types”) can cause cancers of the head and neck area. Other types of oral HPV (known as “low risk types”) can cause warts in the mouth or throat. In most cases, HPV infections of all types go away before they cause any health problems.

What head and neck cancers can be caused by HPV?
HPV can cause cancers in the back of the throat, most commonly in the base of the tongue and tonsils, in an area known as the “oropharynx.” These cancers are called “oropharyngeal cancers.”

How does HPV cause cancer?
HPV can cause normal cells in infected skin to turn abnormal. Most of the time, you cannot see or feel these cell changes. In most cases, the body fights off the HPV infection naturally and infected cells then go back to normal. But in cases when the body does not fight off this virus, HPV can cause visible changes and certain types of HPV can cause an oropharyngeal cancer. Cancer caused by HPV often takes years to develop after initially getting an HPV infection. It is unclear if having HPV alone is sufficient to cause oropharyngeal cancers, or if other factors (such as smoking or chewing tobacco) interact with HPV to cause these cancers. More research is needed to understand all the factors leading to oropharyngeal cancers.

What are the signs and symptoms of oropharyngeal cancer?
Signs and symptoms may include persistent sore throat, earaches, hoarseness, enlarged lymph nodes, pain when swallowing, and unexplained weight loss. Some persons have no signs or symptoms.
How common is oral HPV?
Studies in the U.S. have found that about 7% of people have oral HPV. But only 1% of people have the type of oral HPV that is found in oropharyngeal cancers (HPV type 16). Oral HPV is about three times more common in men than in women.

How common are cancers of the oropharynx?
Each year, in the U.S., about 9,000 people are diagnosed with cancers of the oropharynx that may be caused by HPV. Cancers of the oropharynx are about four times more common in men than women.

How do people get oral HPV?
Only a few studies have looked at how people get oral HPV, and some of these studies show conflicting results. Some studies suggest that oral HPV may be passed on during oral sex (from mouth-to-genital or mouth-to-anus contact) or open-mouthed (“French”) kissing, others have not. The likelihood of getting HPV from kissing or having oral sex with someone who has HPV is not known. We do know that partners who have been together a long time tend to share genital HPV—meaning they both may have it. More research is needed to understand exactly how people get and give oral HPV infections.

How can I lower my risk of giving or getting oral HPV?
At this time no studies have explored how oral HPV can be prevented. However, it is likely that condoms and dental dams, when used consistently and correctly, will lower the chances of giving or getting oral HPV during oral sex, since they serve as barriers, and can stop the transmission of HPV from person to person. More research is needed to understand how oral HPV is passed on, how it can be prevented, and who is most likely to develop health problems from an oral HPV infection.

Is there a test for me to find out if I have oral HPV?
There is no FDA-approved test to diagnose HPV in the mouth or throat. Medical and dental organizations do not recommend screening for oral HPV. More research is needed to find out if screening for oropharyngeal cancers will have health benefits. Talk to your dentist about any symptoms that could suggest early signs of oropharyngeal cancer.

Can HPV vaccines prevent oral HPV and oropharyngeal cancers?
HPV vaccines that are now on the market were developed to prevent cervical and other less common genital cancers. It is possible that HPV vaccines might also prevent oropharyngeal cancers, since the vaccines prevent an initial infection with HPV types that can cause oropharyngeal cancers, but studies have not yet been done to determine if HPV vaccines will prevent oropharyngeal cancers.

Where can I get more information?
STD information
https://www.cdc.gov/std/
HPV Information
https://www.cdc.gov/hpv/
HPV Vaccination
https://www.cdc.gov/vaccines/vpd-vac/hpv/
Cancer Information
https://www.cdc.gov/cancer/
Cervical Cancer Screening
https://www.cdc.gov/cancer/cervical/basic_info/screening.htm
CDC’s National Breast and Cervical Cancer Early Detection Program
https://www.cdc.gov/cancer/nbcedp/
CDC National Prevention Information Network (NPIN)
https://npin.cdc.gov/disease/stds
P.O. Box 6003
Rockville, MD 20849-6003
E-mail: npin-info@cdc.gov
National HPV and Cervical Cancer Prevention Resource Center
American Sexual Health Association (ASHA)
http://www.ashasexualhealth.org/stdsstis/hpv/
P.O. Box 13827
Research Triangle Park, NC
27709-3827
1-800-783-9877
CDC-INFO Contact Center
1-800-CDC-INFO (1-800-232-4636)
TTY: (888) 232-6348
Contact CDC-INFO
https://www.cdc.gov/dcs/ContactUs/Form
**VACCINES FOR TEENS**

Keep your adolescent vaccinations up to date

Kids grow out of many things, but vaccines aren’t one of them. Every year in the U.S., 2.5 million people die from vaccine-preventable diseases. Because adolescents are at risk for many of these serious diseases, immunization is especially important. Ask your healthcare professional about all recommended vaccines to protect your child.

**Did you know that in the U.S.:**

- **14 million people** are infected with human papillomavirus (HPV)—mostly teens and young adults—leaving them vulnerable to associated cancers later in life?
- **21%** of all meningococcal disease cases are in preteens, teens, and young adults, ages 11–24?
- **Up to 200,000 people** are hospitalized annually due to flu-related complications?
- **There were an average of 200,000 cases** of pertussis each year before the Tdap vaccine was available, and since then, cases of the disease have decreased more than 80%?

**CDC-recommended vaccinations for adolescents:**

- **Every year**
  - Flu vaccine

- **AGES**
  - 11-12 years
    - HPV (2 doses)
    - Meningococcal ACWY
    - Tdap
  - 13-15 years
    - Meningococcal ACWY (if not previously vaccinated)
  - 16-18 years
    - Meningococcal B*
    - Meningococcal ACWY booster
  - 18-25 years
    - Td booster every 10 years

*Recommended for certain high-risk groups.*

**Remember the 4**

- **HPV (Human papillomavirus)**—The vaccine is most effective at preventing associated cancers for both boys and girls when given during preteen years.
- **Meningococcal**—Two types of meningococcal disease vaccines protect against the most common serogroups. Teens should start the ACWY vaccine at 11–15 years old, with a booster dose between 16 and 18 years. They may also get the serogroup B vaccine at 18-19 years of age.
- **Tdap (Tetanus, Diphtheria, and Pertussis [whooping cough]) and Td Booster (Tetanus and Diphtheria):** Adolescents should receive a Tdap vaccine between the ages of 11-12. Regular boosters of Td vaccine are recommended every 10 years to protect those at risk.
- **Flu**—Flu season typically starts in October, and the virus can mutate each year. Annual vaccination is recommended.

**ASK YOUR HEALTHCARE PROVIDER** if your adolescent needs a catch-up vaccine to protect them from

- Hepatitis A
- Hepatitis B
- Chickenpox
- Polio
- Measles, mumps, rubella (MMR)
- Pneumococcal disease*

For more information, visit www.unity4teenvax.org
PROTECT & CONNECT WITH YOUR TEEN

AS A PARENT, WHAT YOU SAY MATTERS TO YOUR TEEN OR YOUNG ADULT.
From staying up-to-date on vaccinations to preparing your adolescent for conversations with his or her healthcare provider, you can help protect your child by influencing important health decisions and behaviors.

YOUR ROLE AS PARENT
A study from Northwestern University shows that you remain your adolescent’s #1 source of health information. This means you can guide your child in forming important health habits, such as scheduling annual well visits and staying informed about vaccines.

THE RISKS ARE REAL
Your teen or young adult may encounter different health concerns or conditions than when he or she was younger. Adolescents are more likely to catch and/or spread diseases from common adolescent activities and other risk factors, including:
- Sharing drinks, cups, and utensils
- Poor hygiene
- Sexual behavior
- Close-quartered living
- Group hangouts

EMPOWER YOUR TEEN OR YOUNG ADULT
Talking to your teen or young adult about certain health topics can be difficult. To engage in an open conversation with your teen, Health & Human Services’ Office of Adolescent Health suggests using these tips:
- Be sympathetic
- Provide the facts
- Keep your composure
- Stress safety

Parents and teens both believe that a lack of knowledge about recommended vaccines is an underlying driver of low immunization rates.

For more information, visit www.unity4teenvax.org

KNOW THE FACTS
Parents and teens who have open communication about health are one step closer to developing important health habits. This includes open communication about vaccinations. Most adolescents and young adults are unaware of vaccines they may need, and often state that their parents were the ones who informed them about upcoming vaccines as necessary. It is up to you to stay educated and share health information with your teen or young adult.

Another tip is to encourage your teen or young adult to feel comfortable speaking with their healthcare professional. Privacy is a concern for many teens. Give your child the option to have 10 minutes to talk alone with his or her physician during appointments.

84% of physicians reported that when teens are joined by a parent in the exam room, it can restrict the conversation.

Remember the 4
The CDC recommends that adolescents receive four vaccines. It is important to ask a healthcare professional if your child is due for any vaccines or boosters.

- HPV (human papillomavirus)—The vaccine is most effective at preventing associated cancers in both boys and girls when given during preteen years. All teens should receive the vaccine series at the 11 or 12 year old visit.
- Meningococcal—Two types of meningococcal disease vaccines protect against the most common serogroups. Teens should start the ACWY vaccine between 11 and 12 years of age, with a booster dose between 16 and 18 years. They should also consider the serogroup B vaccine between 16 and 18 years of age.
- Tdap (tetanus, diphtheria, and pertussis [whooping cough]) and Td Booster (tetanus and diphtheria)—Adolescents should receive a Tdap vaccine between the ages of 11 and 12. Regular boosters of Td vaccine are recommended every 10 years to protect those at risk.
- Flu—Flu season typically starts in October, and the virus can mutate each year. All teens and young adults should receive an influenza vaccine each year as soon as the vaccine is available.

EVERY FALL: Flu Vaccine
All children 6 months to 18 years of age.
Note: Children 6 months through 8 years old need 2 doses, one month apart, in their first year of flu shots.

The provided vaccination schedules are compatible with recommendations of the Advisory Committee on Immunization Practices (ACIP), the US Center for Disease Control (CDC), the American Academy of Pediatrics (AAP) and the American Academy of Family Physicians (AAP) and endorsed by the Indiana State Department of Health.

Combined vaccines may decrease the number of shots.

www.vaccinateindiana.org

**GET THEM IN ON TIME**

**Vaccination Schedules — Birth–16 years**

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**Birth**
- Age: 2 months
- HepB
- RV (Rotavirus)
- DTaP
- Hib
- Polio
- PCV

**Age 4 months**
- Not earlier than 4 weeks of age
- HepB
- RV (Rotavirus)
- DTaP
- Hib
- Polio
- PCV

**Age 6 months**
- Interval from previous dose 1-2 months
- RV (Rotavirus)
- HepB
- DTaP
- Hib
- Polio
- PCV

**Age 12 months**
- Interval from previous dose 1-2 months
- RV (Rotavirus)
- HepB
- DTaP
- Hib
- Polio
- PCV

**Age 4-6 years**
- Before Kindergarten
- RV (Rotavirus)
- DTaP
- Hib
- Polio
- PCV

**Age 11-12 years**
- MMR
- Varicella
- DTaP
- 6 months after the third dose
- Tdap

**Age 16 years**
- MCV4
- HPV
- MenB

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Young adults aged 16 through 23 years (preferred age range is 16 through 18 years) may be vaccinated at clinician discretion.