What Parents Should Know About HPV Vaccine Safety and Effectiveness

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.
**Indiana: Human Papillomavirus Cancer & Prevention Profile**

**HPV Vaccination Rates & Missed Opportunities (13-17 yrs; NIS-Teen 2013)**

- **Percent of Unvaccinated Girls with Missed Opportunities**
  - IN Girls: 34.6%
  - US Girls: 67.9%
  - IN Boys: 8.1%
  - US Boys: 41.6%

- **Prevalence of Provider Recommendation (13-17 yrs; NIS-Teen 2013)**
  - IN Boys: 30.6%
  - US Girls: 64.4%
  - IN Girls: 67.9%

**Cervical Cancer – New Cases per Year (USCS 2007-2011)**

- **Cervical Cancer Incidence Rate by Race/Ethnicity**
  - Non-Hispanic White: 9.9
  - Hispanic: 9.3
  - Non-Hispanic Black: 7.2
  - Overall: 7.5

**Oropharyngeal Cancer – New Cases per Year (USCS 2007-2011)**

- **Oropharyngeal Cancer Incidence Rate by Race/Ethnicity**
  - Hispanic: 2.3
  - Non-Hispanic Black: 2.4
  - Non-Hispanic White: 4.2
  - Overall: 4.1

**Healthy People 2020:**
- **Goal is 80% HPV vaccine (3 shots) coverage for boys and girls by age 13-15 years**

**A strong provider recommendation is the most effective method for encouraging HPV vaccination**

81% of new cases of cervical cancer could be prevented by HPV vaccination

**Racial/Ethnic minorities and low-income individuals suffer poorer HPV cancer outcomes**

Contact your Area Health Education Center HPV Ambassador for information on professional education opportunities about HPV Vaccination.
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This work was supported by Cooperative Agreement #1H23IP000960 from the Centers for Disease Control and Prevention.

*Human Papillomavirus Vaccination is Cancer Prevention.*
HPV Vaccination Rates & Missed Opportunities

- Human papillomavirus (HPV) vaccination rates presented on the dashboard are state data for adolescents aged 13-17 years who have received all three doses in the HPV series according to the National Immunization Survey-Teen (NIS-Teen) from 2013.
- The bar chart data indicate the percent of unvaccinated state and national girls who had a missed opportunity. According to the CDC, a missed opportunity includes a health care encounter on or after 11th birthday, and on or after the publication of the ACIP recommendation for HPV vaccine (March 23, 2007 for girls; December 23, 2011 for boys) during which ≥ 1 vaccine was administered but not the 1st dose of the HPV vaccine series.
- Healthy People 2020 includes objectives for both male and females which read: “Increase the vaccination coverage level of 3 doses of human papillomavirus (HPV) vaccine for [females/males] by age 13 to 15 years.” For US girls, the 2008 baseline was 16.6% and for US boys the 2012 baseline was 6.9%. The target for both boys and girls is 80% and data are from the NIS-Teen.

Prevalence of Provider Recommendations

- Data on the dashboard represent the percent of state (solid line) and US (dashed line) boys (in blue) and girls (in red) who received a provider recommendation. According to the CDC, a provider recommendation is when a parent/guardian reported receiving recommendation for HPV vaccine from their teen’s clinician according to the NIS-Teen from 2013.
- The bar chart shows vaccine coverage by receipt of provider recommendation for boys and girls 13-17 years old, when data was available from the NIS-Teen, 2013. For those who did not have a provider recommendation, light gray bars show the percent of boys and girls who received ≥1 dose of the HPV vaccine. For those who did receive a provider recommendation, dark gray bars show the percent of boys and girls who received ≥1 dose of the HPV vaccine. In most states, the bar graph shows that provider recommendation results in a greater percent of boys and girls vaccinated than when a provider does not recommend the vaccine.
- A strong provider recommendation is the most effective method for encouraging HPV vaccination – See references 4-6 below.

Cervical Cancer – New Cases per Year

- Data on the dashboard represents the state cervical cancer incidence rate (solid line), or number of new cases per year per 100,000 persons according to the 2007-2011 data in the US Cancer Statistics (USCS) database. For comparison, the Healthy People 2020 goal of 7.2 cases/100,000 females is also shown (dashed line). The baseline for the U.S. from 2007 was 8.0/100,000 (USCS).
- The bar chart comes from the same source but breaks the cervical cancer incidence down by race and ethnicity. Subgroups shown vary by state based on the data available. Hispanic ethnicity includes all races.
- 81% of new cases of cervical cancer could be prevented by HPV vaccination. This statement is based on very recent research on the new 9-valent HPV vaccine (Gardasil®9) – See Saraiya et al. reference below for more information.

Oropharyngeal Cancer – New Cases per Year

- Data on the dashboard represents the state (solid line) and national (dashed line) oropharyngeal cancer incidence rates, or number of new cases per year per 100,000 persons according to the 2007-2011 data in the USCS database. When available, data for both men (blue) and women (red) are shown.
- The bar chart comes from the same source but breaks the oropharyngeal cancer incidence down by race and ethnicity. Subgroups shown vary by state based on the data available. All bars include male and female data. Hispanic ethnicity includes all races.
- Racial/ethnic minorities and low-income individuals suffer poorer HPV cancer outcomes. There are a number of factors that impact this statistic, but the data are clear that racial/ethnic minority women and men living below the poverty line are more likely to become infected with HPV and get cervical cancer compared to Whites and higher income individuals. – See Hariri et al. reference and USCS below for more information.

References
Tips and Time-savers for Talking with Parents about HPV Vaccine

Recommend the HPV vaccine series the same way you recommend the other adolescent vaccines. For example, you can say “Your child needs these shots today,” and name all of the vaccines recommended for the child’s age.

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 research shows these straightforward messages work with parents when discussing HPV vaccine—and are easy for you or your staff to deliver.

**CDC RESEARCH SHOWS:** The “HPV vaccine is cancer prevention” message resonates strongly with parents. In addition, studies show that a strong recommendation from you is the single best predictor of vaccination.

**TRY SAYING:** HPV vaccine is very important because it prevents cancer. I want your child to be protected from cancer. That’s why I’m recommending that your daughter/son receive the first dose of HPV vaccine today.

**CDC RESEARCH SHOWS:** Disease prevalence is not understood, and parents are unclear about what the vaccine actually protects against.

**TRY SAYING:** HPV can cause cancers of the cervix, vagina, and vulva in women, cancer of the penis in men, and cancers of the anus and the mouth or throat in both women and men. There are about 26,000 of these cancers each year—and most could be prevented with HPV vaccine. There are also many more precancerous conditions requiring treatment that can have lasting effects.

**CDC RESEARCH SHOWS:** Parents want a concrete reason to understand the recommendation that 11–12 year olds receive HPV vaccine.

**TRY SAYING:** We’re vaccinating today so your child will have the best protection possible long before the start of any kind of sexual activity. We vaccinate people well before they are exposed to an infection, as is the case with measles and the other recommended childhood vaccines. Similarly, we want to vaccinate children well before they get exposed to HPV.

**CDC RESEARCH SHOWS:** Parents may be concerned that vaccinating may be perceived by the child as permission to have sex.

**TRY SAYING:** Research has shown that getting the HPV vaccine does not make kids more likely to be sexually active or start having sex at a younger age.

**CDC RESEARCH SHOWS:** Parents might believe their child won’t be exposed to HPV because they aren’t sexually active or may not be for a long time.

**TRY SAYING:** HPV is so common that almost everyone will be infected at some point. It is estimated that 79 million Americans are currently infected with 14 million new HPV infections each year. Most people infected will never know. So even if your son/daughter waits until marriage to have sex, or only has one partner in the future, he/she could still be exposed if their partner has been exposed.

**CDC RESEARCH SHOWS:** Emphasizing your personal belief in the importance of HPV vaccine helps parents feel secure in their decision.

**TRY SAYING:** I strongly believe in the importance of this cancer-preventing vaccine, and I have given HPV vaccine to my son/daughter/grandchild/niece/nephew/friend’s children. Experts (like the American Academy of Pediatrics, cancer doctors, and the CDC) also agree that this vaccine is very important for your child.

**CDC RESEARCH SHOWS:** Understanding that the side effects are minor and emphasizing the extensive research that vaccines must undergo can help parents feel reassured.

**TRY SAYING:** HPV vaccine has been carefully studied by medical and scientific experts. HPV vaccine has been shown to be very effective and very safe. Like other shots, most side effects are mild, primarily pain or redness in the arm. This should go away quickly, and HPV vaccine has not been associated with any long-term side effects. Since 2006, about 57 million doses of HPV vaccine have been distributed in the U.S., and in the years of HPV vaccine safety studies and monitoring, no serious safety concerns have been identified.

**CDC RESEARCH SHOWS:** Parents want to know that HPV vaccine is effective.

**TRY SAYING:** In clinical trials of boys and girls, the vaccine was shown to be extremely effective. In addition, studies in the U.S. and other countries that have introduced HPV vaccine have shown a significant reduction in infections caused by the HPV types targeted by the vaccine.

**CDC RESEARCH SHOWS:** Many parents do not know that the full vaccine series requires 3 shots. Your reminder will help them to complete the series.

**TRY SAYING:** I want to make sure that your son/daughter receives all 3 shots of HPV vaccine to give them the best possible protection from cancer caused by HPV. Please make sure to make appointments on the way out, and put those appointments on your calendar before you leave the office today!