

# Back To School Vaccines... Don't Forget HPV



Maine Immunization Program  
August 10, 2022

# Objectives

## HPV Overview

- Schedule and Dosing
- Decision Tree

## HPV Vaccine Safety and Effectiveness

- Vaccine Safety and Monitoring Systems (CISA, VSD, VAERS)
- Vaccine Side Effects
- Vaccine Adverse Event Reporting System (VAERS)

## Talking to Parent about HPV Vaccines

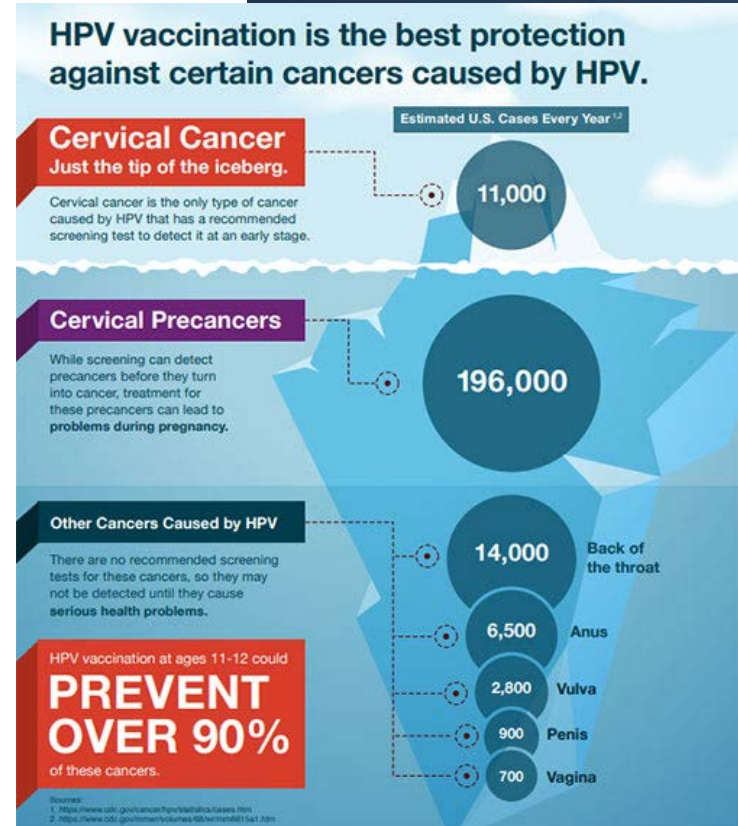
## Infographics and Resources

## Q&A

HPV can cause cancers of the cervix, vagina, and vulva in women; penis in men and anus in both men and women. It can also cause cancer in the back of the throat, including the base of the tongue and tonsils (oropharynx), in both men and women.

HPV vaccination can prevent over 90% of cancers caused by HPV, as well as anal, vaginal, cervical, and vulvar precancers (abnormal cells that can lead to cancer).

[HPV Vaccine \(Shot\) for Preteens and Teens | CDC](https://www.cdc.gov/ncidod/diseases/zoonotic/diseases/hpv/vaccine.htm)




There is one HPV vaccine Available in the U.S. Gardasil® 9 HPV vaccine protects against 9 types of HPV. Two of the strains in Gardasil® are responsible for 90% of genital warts. HPV vaccine does not cause HPV Infection or cancer. HPV vaccine is made using one protein from each of the types of the virus included in the vaccine and is not infectious, meaning that HPV vaccine can not cause HPV infection or cancer.

[Cancers Caused by HPV | Human Papillomavirus \(HPV\) | CDC](#)

# HPV CANCER PREVENTION


**1 HPV VACCINE IS CANCER PREVENTION**  
HPV vaccine protects against HPV types that most commonly cause anal, cervical, oropharyngeal, penile, vaginal, and vulvar cancers.

Every year in the U.S., 27,000 people get cancer caused by HPV.  That's 1 person every 20 minutes of every day, all year long.

Most of these cancers can be prevented by HPV vaccine.


**2 HPV VACCINE IS RECOMMENDED AT THE SAME TIME AS OTHER TEEN VACCINES**

Preteens need three vaccines at 11 or 12. They protect against whooping cough, cancers caused by HPV, and meningitis.

 Vaccines for your 11-12 year old:  
✓ Tdap  
✓ HPV  
✓ Meningococcal

**3 HPV VACCINE IS BEST AT 11-12 YEARS**

Preteens have a higher immune response to HPV vaccine than older teens.

9 10 11 12 13 14 15 16 17 18 19 26  


While there is very little risk of exposure to HPV before age 13, the risk of exposure increases thereafter.

**Parents and healthcare professionals are the key to protecting adolescents from HPV cancers.**

# HPV Vaccination is Safe and Effective

HPV vaccine (Gardasil® 9), went through strict safety testing before the U.S. Food and Drug Administration (FDA) licensed them. Over 15 years of monitoring and research during the vaccination program have continued to show that HPV vaccination is safe and effective.



Gardasil® 9 was studied in  
Clinical trials with more than  
15,000 females and males.

 **88%**

Infections with HPV types that cause most HPV cancers and genital warts have dropped **88%** among teen girls and 81% among young adult women.

Among vaccinated women, the percentage of cervical precancers caused by the HPV types most often linked to cervical cancer have dropped by 40 percent. [HPV Vaccine Safety | CDC](#)



# Possible side Effects

[Vaccine Adverse Event Reporting System \(VAERS\) \(hhs.gov\)](https://www.hhs.gov/vaccine-adverse-event-reporting-system-vaers/)

Vaccines, like any medicine, can have side effects. Common side effects from HPV shots are mild and get better within a day or two.

## **These include:**

- Pain, redness, or swelling in the arm where the shot was given
- Fever
- Dizziness or fainting (fainting after any vaccine, including HPV vaccine, is more common among adolescents than others)
- Nausea
- Headache or feeling tired
- Muscle or joint pain

If you experience serious or life threatening after receiving the shot, known as an adverse event, report this to VAERS (Vaccine Adverse Event Reporting system) [Vaccine Adverse Event Reporting System \(VAERS\) \(hhs.gov\)](https://www.hhs.gov/vaccine-adverse-event-reporting-system-vaers/)

Tell the doctor or nurse if your child has any severe allergies, like an allergy to latex or yeast.

[HPV Vaccine Safety and Effectiveness Data | CDC](https://www.cdc.gov/vaccines/imz/downloads/p/12-1317-HPV-Vaccine-Safety-and-Effectiveness-Data.pdf)

# Vaccine Safety Monitoring

- The United States monitors safety of all vaccines through several systems:
  - [Vaccine Safety Datalink \(VSD\)](#) is a collaborative project between CDC and eight healthcare organizations that monitors the safety of vaccines and conducts rigorous vaccine safety assessments.
  - [Vaccine Safety Datalink \(VSD\) | VSD | Monitoring | Ensuring Safety | Vaccine Safety | CDC](#)
  - [Clinical Immunization Safety Assessment Project \(CISA\)](#) conducts vaccine safety clinical research and assesses complex clinical adverse events following vaccination.
  - [Clinical Immunization Safety Assessment \(CISA\) Project | CISA | Monitoring | Ensuring Safety | Vaccine Safety | CDC](#)
  - [Vaccine Adverse Events Reporting System \(VAERS\)](#) is a reporting system that serves as an early warning system to detect possible safety problems that may be related to vaccination. Anyone can submit a report to VAERS. However, it is generally not possible to find out from VAERS data if a vaccine caused the adverse event, and the reports often lack details and sometimes contain errors.



# HPV Vaccine Schedule and Dosing

## HPV Vaccine Schedule and Dosing

Routine vaccination	Age 11–12 years; can be started at age 9 years
Catch-up Vaccination*	Age 13–26 years, if not adequately vaccinated
Shared clinical decision-making*	Some adults age 27–45 years, if not adequately vaccinated

[HPV Vaccine Schedule and Dosing | CDC](#)

CDC recommends routine vaccination of preteens at ages 11 or 12 years. The vaccination series can be started at age 9 years. HPV vaccine may be given at the same time as other vaccines.

HPV vaccination is administered as:

- A two-dose series (0, 6-12 months) for most persons who initiate vaccination at ages 9 through 14 years
- A three-dose series (0, 1-2, 6 months) for persons who initiate vaccination at ages 15 through 45 years, and for immunocompromised persons.

[HPV Vaccine Administration | CDC](#)



## Who Gets Two Doses?

A 2-dose schedule is recommended for **people who get the first dose before their 15<sup>th</sup> birthday.**

In a 2-dose series, the second dose should be given 6–12 months after the first dose (0, 6–12-month schedule).



- The minimum interval is 5 months between the first and second dose. If the second dose is administered after a shorter interval, a third dose should be administered a minimum of 5 months after the first dose and a minimum of 12 weeks after the second dose.
- If the vaccination schedule is interrupted, vaccine doses do not need to be repeated (no maximum interval).
- Immunogenicity studies have shown that two doses of HPV vaccine given to 9–14-year-olds at least 6 months apart provided as good or better protection than three doses given to older adolescents or young adults

[HPV Vaccine Schedule and Dosing | CDC](#)



## Who Gets Three Doses?

A 3-dose schedule is recommended for **people who get the first dose on or after their 15<sup>th</sup> birthday**, and for people with certain immunocompromising conditions.

- In a 3-dose series, 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).
- The minimum intervals are 4 weeks between the first and second dose, 12 weeks between the second and third doses, and 5 months between the first and third doses. If a vaccine dose is administered after a shorter interval, it should be re-administered after another minimum interval has elapsed since the most recent dose.
- If the vaccination schedule is interrupted, vaccine doses do not need to be repeated (no maximum interval).

[HPV Vaccine Schedule and Dosing | CDC](#)

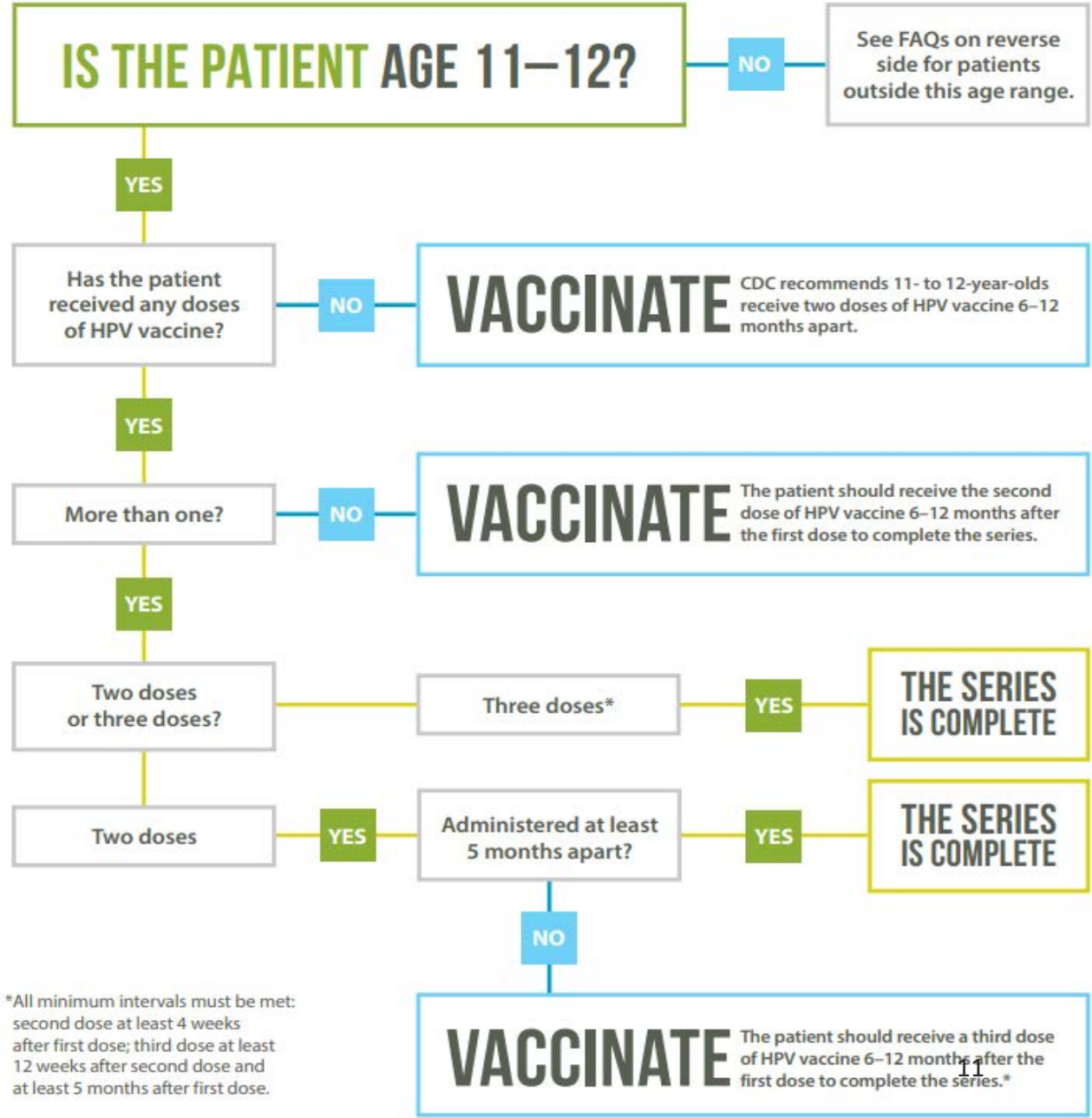


# Decision Tree

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

[HPV\\_decisiontree\\_v4 \(cdc.gov\)](http://www.cdc.gov/HPV_decisiontree_v4)

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



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

# Talking to Parents about HPV Vaccine

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.

How do you know the vaccine works?

Studies continue to prove HPV vaccination works extremely well, decreasing the number of infections and HPV precancers in young people since it has been available.

Why do they need HPV vaccine at such a young age?

Vaccines protect your child before they are exposed to a disease. That's why we give the HPV vaccine earlier rather than later, to protect them long before they are ever exposed. Also, if your child gets the shot now, they will only need two doses. If you wait until your child is older, they may end up needing three shots.

Why do boys need the HPV vaccine?

HPV vaccination can help prevent future infections that can lead to cancers of the penis, anus, and back of the throat in men.

Are all of these vaccines 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.

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 whooping cough. Do you have any questions?" Taking the time to listen and understand parents' concerns can help you respond to their concerns more effectively.

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.

What diseases are caused by 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.

Is my child really at risk for HPV?

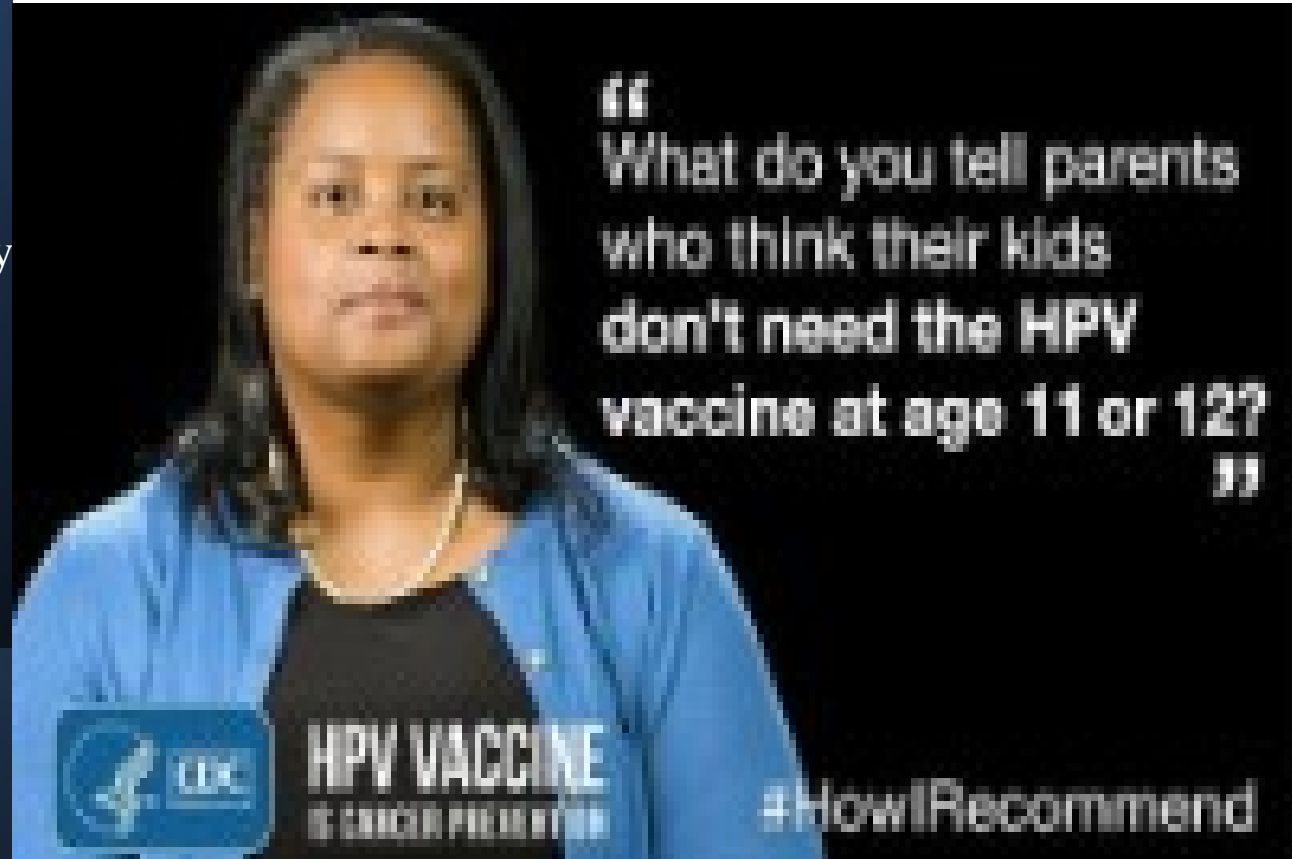
Studies tell us that getting HPV vaccine doesn't make kids more likely to start having sex. I made sure my child (or grandchild, etc.) got HPV vaccine, and I recommend we give your child her first HPV shot today.

I'm worried my child will think that getting this vaccine makes it OK to have sex.

[Talking to Parents About Infant Vaccines and HPV Vaccines-July 2019 \(cdc.gov\)](https://www.cdc.gov/od/oc/media/press/2019/s190701.htm)

[Talking to Parents Who Think Their Kids Don't Need HPV vaccine at Age 11 or 12: Dr. Savoy - YouTube](#)

In this video, Dr. Margot Savoy explains how she listens to parents' concerns and educates them about HPV vaccine and why vaccinating at ages 11 to 12 is critical.



[Videos About HPV and Cancers | CDC](#)



# Vaccine Adverse Event Reporting System (VAERS)

The United States monitors safety of all vaccines through several systems:

- [Vaccine Adverse Events Reporting System \(VAERS\)](#) is a reporting system that serves as an early warning system to detect possible safety problems that may be related to vaccination. Anyone can submit a report to VAERS. However, it is generally not possible to find out from VAERS data if a vaccine caused the adverse event, and the reports often lack details and sometimes contain errors. [VAERS | Vaccine Safety | CDC](#)

Anyone can submit a report to VAERS — healthcare professionals, vaccine manufacturers, and the general public. VAERS welcomes all reports, regardless of seriousness, and regardless of how likely the vaccine may have been to have caused the adverse event.

How to Report an Adverse Event to VAERS?

- [Reporting Adverse Events to VAERS | Vaccine Safety | CDC](#)



# Infographics

# HPV\* Vaccine

**A Guide for Adults  
Ages 18–26 Years**

\* human papillomavirus



HPV is a very common virus that can lead to:

- ▶ Cancers of the back of the throat, including the base of the tongue and tonsils
- ▶ Cancer of the cervix
- ▶ Cancer of the penis, vagina, vulva, or anus
- ▶ Genital warts

*HPV vaccine can prevent these!*

## Do I really need HPV vaccine? **Yes!**

You should get HPV vaccine because it can prevent some types of cancer and genital warts.

## Do I need it if I haven't had sex yet? **Yes!**

- You don't have to have sex to catch HPV, but sex increases your risk.
- You can get HPV by skin-to-skin intimate contact.
- People can get and spread HPV without knowing it.
- It's best to get vaccinated before you ever have sex.

## Should I get HPV vaccine if I've already had sex? **Yes!**

You still need to get vaccinated even if you have had sex. The vaccine provides protection against many HPV types.

## Why do I need more than 1 shot?

You need a series of HPV shots to be fully protected.

## I didn't get the vaccine at age 11 or 12. Should I get it now? **Yes!**

HPV vaccination is recommended for people ages 9 through 26. Even though it is ideal to get HPV vaccine at age 11–12, it is still highly effective in teens and young adults.

## Is HPV vaccine safe? **Yes!**

- Millions of doses of HPV vaccine have been given without any problem.
- You may get a sore arm.
- Occasionally, a few people faint, so sit for 15 minutes after getting the vaccine.

Make sure you get **all** your HPV shots. Complete your series!

For more information on vaccines for teens and young adults, visit [www.vaccineinformation.org/teens](http://www.vaccineinformation.org/teens) or [www.vaccineinformation.org/adults](http://www.vaccineinformation.org/adults)

Adapted with permission from the Academic Pediatric Association

## When Should I Get HPV Vaccine?

*Make sure your healthcare provider reviews with you when you should be vaccinated.*

AGE AT FIRST DOSE	DOSE #2	DOSE #3
9 years until 15th birthday	6–12 months after dose #1	Not needed
15 years or older	1–2 months after dose #1	Approximately 4 months after dose #2

**NOTE:** If you have problems with your immune system, you will need to receive 3 doses of HPV vaccine.

[Immunization Handouts: For Patients \(immunize.org\)](http://immunize.org)

Maine Department of Health and Human Services

Center for Disease Control and Prevention

# Human Papillomavirus

## A Parent's Guide to Preteen and Teen HPV Vaccination



# HPV

### Why vaccinate preteens and teens against HPV?

- ▶ The vaccine produces better immunity to fight infection when given at younger ages compared with older ages.
- ▶ Vaccination for HPV is much more effective if all doses in the series are given before the first sexual contact.
- ▶ Most American men and women will contract at least one type of HPV virus in their lifetime. Vaccination can reduce their risk of HPV infection.
- ▶ Most people who become infected with HPV do not even know it.
- ▶ HPV is easily spread by skin-to-skin contact during sexual activity. Even if someone does not have sexual intercourse, they can still get HPV.
- ▶ People who have only one lifetime sex partner can still get HPV if their partner had intimate contact with an infected person even once.
- ▶ The vaccine has been tested in tens of thousands of people around the world and has been proven to have no serious side effects except fainting, which is more likely to occur in adolescents after any vaccination.
- ▶ HPV vaccination can prevent more than 90% of HPV-attributable cancers in men and women in the future.

### What is HPV?

Human papillomavirus (HPV) is a common family of viruses. There are more than 100 types of HPV viruses. Some cause infection of the skin and others infect mucous membranes of various areas of the body. Different types of HPV infection affect the body in different ways. For instance, some types of HPV can lead to cancer of the tongue, tonsils, anus, cervix, vulva, and penis, and others cause warts in the genital area.

### How common is HPV?

HPV is very common. According to the Centers for Disease Control and Prevention (CDC), most American men and women will contract at least one type of HPV virus during their lifetime. Approximately 79 million Americans are currently infected with HPV, and about 14 million more become infected each year. HPV is the cause of almost all cervical cancers in women and recent studies show that HPV is associated with the majority (70%) of oropharyngeal cancers (cancer of the tongue or tonsils), which occur primarily in men, in the United States.

### How serious is HPV?

HPV is extremely serious. In the United States, there are 34,800 new cancer cases caused by HPV each year, of which about 4 out of 10 are in men. Each year there are 10,900 new HPV-attributable cervical cancer cases, and more than 4,000 women die from cervical cancer. Cancer of the oropharynx (tongue, tonsils) due to HPV is even more common with 13,500 new cases each year, 11,300 of which are in men. Treatment may involve surgery, chemotherapy, and/or radiation.

### How is HPV spread?

The most common ways to get an HPV infection is from oral, vaginal, or anal sex with an infected person. Infection can also be acquired from skin-to-skin contact with areas infected by HPV. It is possible to have HPV and not know it, so a person can unknowingly spread HPV to another person.

CONTINUED ON NEXT PAGE ▶

### Resources for more information

- ▶ Your healthcare provider or local health department
- ▶ CDC's information on vaccines and immunization: [www.cdc.gov/vaccines](http://www.cdc.gov/vaccines)
- ▶ Immunize.org's vaccine information website: [www.vaccineinformation.org](http://www.vaccineinformation.org)
- ▶ Vaccine Education Center at the Children's Hospital of Philadelphia: [www.chop.edu/centers-programs/vaccine-education-center](http://www.chop.edu/centers-programs/vaccine-education-center)
- ▶ CDC's Vaccines For Children (VFC) program: [www.cdc.gov/vaccines/programs/vfc/index.html](http://www.cdc.gov/vaccines/programs/vfc/index.html)

### SOURCES

American College of Obstetricians and Gynecologists (ACOG) Committee on Adolescent Health Care. Fact Sheet: Human Papillomavirus. [www.acog.org/womens-health/faqs/hpv-vaccination](http://www.acog.org/womens-health/faqs/hpv-vaccination)

Centers for Disease Control and Prevention (CDC). National Center for Chronic Disease Prevention and Health Promotion. HPV and Cancer. [www.cdc.gov/hpv/parents/cancer.html](http://www.cdc.gov/hpv/parents/cancer.html)

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CDC. National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention. Genital HPV Infection Fact Sheet. [www.cdc.gov/std/HPV/STDFact-HPV.htm](http://www.cdc.gov/std/HPV/STDFact-HPV.htm)

CDC. National Center for Immunization and Respiratory Diseases. HPV Vaccine-Questions and Answers. [www.cdc.gov/hpv/parents/questions-answers.html](http://www.cdc.gov/hpv/parents/questions-answers.html)

CDC. National Center for Immunization and Respiratory Diseases. Vaccines by Age: 11-12 Years [www.cdc.gov/vaccines/parents/by-age/years-11-12.html](http://www.cdc.gov/vaccines/parents/by-age/years-11-12.html) and 13-18 Years [www.cdc.gov/vaccines/parents/by-age/years-13-18.html](http://www.cdc.gov/vaccines/parents/by-age/years-13-18.html)

Reduction in human papillomavirus (HPV) prevalence among young women following HPV vaccine introduction in the United States. National Health and Nutrition Examination Surveys, 2003-2010. *J Infect Dis.* 2013 Aug 1; 208(3):385-93 <http://pubmed.ncbi.nlm.nih.gov/23785124>

Talk to your health-care provider today about protecting your son or daughter from HPV infection!

### Can HPV infection be treated?

There is no treatment for HPV infection. Fortunately, the body usually fights off the virus naturally; however, in cases where the virus cannot be fought off naturally, the person is at risk for serious complications, including cancer. There are treatments available for the health problems that HPV can cause, for example, removal of genital warts or pre-cancerous cervical cells, and chemotherapy, surgery, or radiation for cancer.

### What is HPV vaccine?

Gardasil 9 is the only HPV vaccine currently being distributed in the United States. Gardasil 9 protects against most HPV-attributable cancers in men and women. It also prevents most genital warts and cervical pre-cancers. For preteens, HPV vaccine is given in two shots, separated by 6 to 12 months. It is important to get all the recommended doses to get the best protection.

### At what age should my son or daughter get HPV vaccine?

Routine vaccination with HPV vaccine is recommended for all 11- and 12-year-old boys and girls. The vaccine can also be given beginning at age 9 or 10 years. If your son or daughter did not receive the two doses of vaccine at the recommended age, they should still start or complete their HPV vaccine series. Vaccination is routinely recommended through the age of 26 for all males and females, and can be given through age 45 years, if desired.

If the vaccine series is started before the 15th birthday, two doses are needed. If it's started at age 15 years or older or, if the person has problems with their immune system, three doses are necessary. Check with your healthcare provider to make sure your child has all the needed doses.

HPV vaccine works better when given on time. HPV vaccine produces better immunity to fight infection when given to preteens as compared to older adolescents and adults. For HPV vaccine to work best, it is very important for preteens to get all the recommended doses before any sexual activity begins. It is possible to get infected with HPV the very first time they have sexual contact with another person, even if they do not have intercourse.

### Are HPV vaccines safe?

HPV vaccine has been shown to be very safe. Every vaccine used in the United States is required to go through rigorous safety testing before licensure by the FDA. Before licensure, the HPV vaccine was extensively tested in clinical trials with more than 28,000 male and female participants. Since the first HPV vaccine was licensed for use in 2006, more than 120 million doses of HPV vaccine have been distributed in the United States. Now in routine use, the vaccine is continually monitored for safety.

In the years of HPV vaccine safety monitoring, no serious safety concerns have been identified except fainting after vaccination (a common occurrence for adolescents after any vaccination). Like other vaccinations, most side effects from HPV vaccination are mild (e.g., fever, headache, pain and redness in the arm where the shot was given).

### Is HPV vaccine effective?

The vaccine has been shown to be highly effective in protecting against the HPV types targeted by the vaccine. HPV vaccination has reduced the numbers of teen girls and young women with vaccine-type HPV infection. It also has reduced cases of genital warts, cervical pre-cancerous changes, and other complications of HPV infection.

[Immunization Handouts: For Patients \(immunize.org\)](http://immunize.org)

# Resources

- HPV Vaccine Safety | CDC
  - HPV Vaccine Safety and Effectiveness Data | CDC
  - VAERS | Vaccine Safety | CDC
  - Reporting Adverse Events to VAERS | Vaccine Safety | CDC
- Videos About HPV and Cancers | CDC
  - Talking to Parents Who Think Their Kids Don't Need HPV vaccine at Age 11 or 12: Dr. Savoy - YouTube
- Immunization | Maine CDC | DHHS
  - Child & Adolescent Immunization | Immunization | MeCDC | Maine DHHS
- Immunization Action Coalition (IAC): Vaccine Information for Health Care Professionals (immunize.org)
  - Immunization Handouts: For Patients (immunize.org)
  - Vaccine Information Statements - VISs - CDC information sheets for patients (immunize.org)
  - Vaccination handouts and educational materials for patients and healthcare professionals (immunize.org)
- HPV Vaccine (Shot) for Preteens and Teens | CDC
  - Cancers Caused by HPV | Human Papillomavirus (HPV) | CDC
  - HPV Vaccine Administration | CDC
- HPV Vaccine Schedule and Dosing | CDC
- How Many Cancers Are Linked with HPV Each Year? | CDC

# Maine Immunization Program Contacts

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**Website: [www.immunizeme.org](http://www.immunizeme.org)**  
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**Phone: 207-287-3746**