



Human Papillomavirus (HPV)

James R. Ginder, MS, WEMT, PI, CHES
Health Education Specialist
Hamilton County Health Department
www.co.hamilton.in.us

The student will be able to...

- **define how HPV is transmitted**
- **list two signs and symptoms of HPV**
- **identify three ways to prevent HPV**
- **recall the difference between low and high risk HPV**
- **explain the importance of HPV vaccinations**



What Is HPV?

- It is a virus that includes at least 100 different types
- Over 30 of these types are transmitted sexually
- Most sexually active people have HPV sometime in their life
- Some people will **never** know they have HPV
- The **most common** STI in the U.S.



Source: www.hopkinsmedicine.org

How Common is HPV?

- **Approximately 20 million Americans, ages 15 to 49, are infected with HPV**
- **About half that are infected are between the ages of 15 and 24 years old**
- **Between 5% and 30% of people infected with HPV have more than one type**
- **Between 10 and 15 million people in the U.S. have the high-risk HPV, which can develop into cervical cancer**



Types of HPV (HIGH-RISK)

- **Common high-risk types for cancer: (16 & 18)**
- **Have been found to cause cancer of the cervix, vulva, penis, or anus**
- **HPV 16 is the most common high-risk type, it is found in almost half of all cervical cancers**
 - **It is also one of the most common types found in women without cancer**
- **HPV 18 is also a common high-risk virus. HPV 18 accounts for 10% to 12% of cervical cancers**



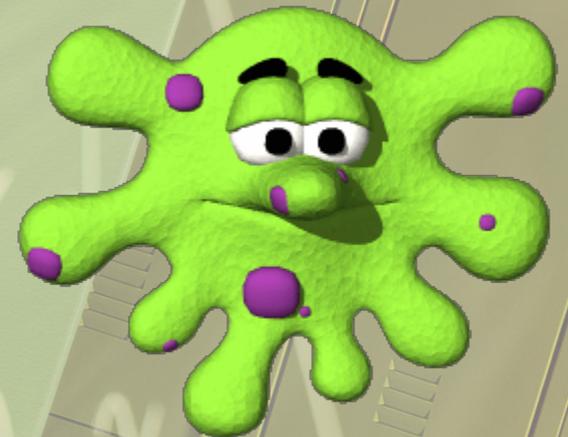
Types of HPV (LOW RISK)

- **Common types for cancer:
(6 & 11)**
- **These can cause benign or low-grade cervical cell changes**
- **Can develop into genital warts, but are rarely associated with invasive cancer**
- **HPV 6 & 11 are the most common types found in genital warts**



Transmission of HPV

- **Direct skin-to-skin contact**
- **Sexual activity (Oral, Vaginal & Anal sex)**
- **Sexual history is a leading predictor of developing HPV**
- **The number of sex partners is an important risk factor that has been linked to HPV**



Transmission of HPV

- **Having sexual activities with a new partner may be a stronger risk factor than having sex with a steady partner**
- **For adolescents, females and college students, the risk of developing HPV increases if a woman's had or currently has other partners**
- **HPV is common in men who have sex with other men and women who have sex with other women**



HPV Has Been Linked To:

- **Having sex at a young age (16 years or younger)**
- **Number of sex partners your partner had has**
- **Smoking**
- **Birth Control Pills**
- **Poor nutrition**
- **Uncircumcised male partners for women**
- **Having a Sexually Transmitted Infection (STI's)**
- **Weak immune system**



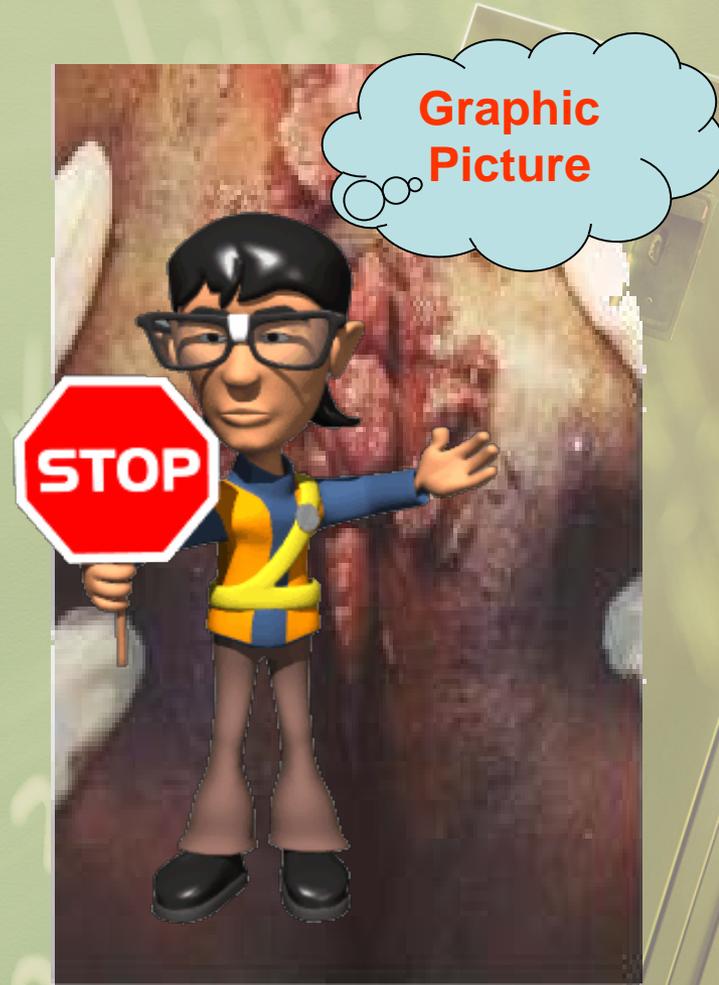
Genital Warts

- **Genital warts are the most common sign of genital HPV disease**
- **Many people have HPV and do not develop genital warts**
- **Some HPV can cause single or multiple bumps that appear in the genital areas of men and women including the vagina, cervix, vulva, penis and rectum**
- **Many people infected with HPV have no symptoms**
- **Some types of HPV can cause common skin warts, found on the hands and soles of the feet. This type does not cause genital warts**



Genital Warts

- **Are soft, moist, or flesh colored that appear in the genital area within weeks to months after infection**
- **Can appear in clusters that look like cauliflower-like bumps and are either raised or flat, small or large**
- **Are highly contagious**
- **About 2/3 of people who have sexual contact with a partner who had genital warts will develop warts in about 3 months of contact**



HPV And Cervical Cancer

- **HPV can cause an infection of the cervix**
- **A women's immune system is usually able to fight the infection**
- **If the body cannot fight off HPV, the virus can cause the cells in the cervix to change and become precancerous cells**



HPV And Cervical Cancer

- **Precancerous cells are not cancer**
- **Most cells with early changes return to normal on their own**
- **Sometimes, the precancerous cells may turn into cancer if they are not found and treated**



Who Can Develop Cervical Cancer?

- **Any female who has had sex can develop cervical cancer**
- **Most women who develop HVP do not develop cervical cancer**
- **Women who have a Pap test regularly are less likely to develop cervical cancer**



Anal Cancer:

- **HPV is linked to approximately 90 % of anal cancers**
- **Anal cancer is more common to develop in women than in men**
- **Women who have a higher risk for anal cancers have cervical lesions and cervical and vulvar cancer**
- **Men who have sex with men and who are HIV + have an increased risk of developing anal cancer**

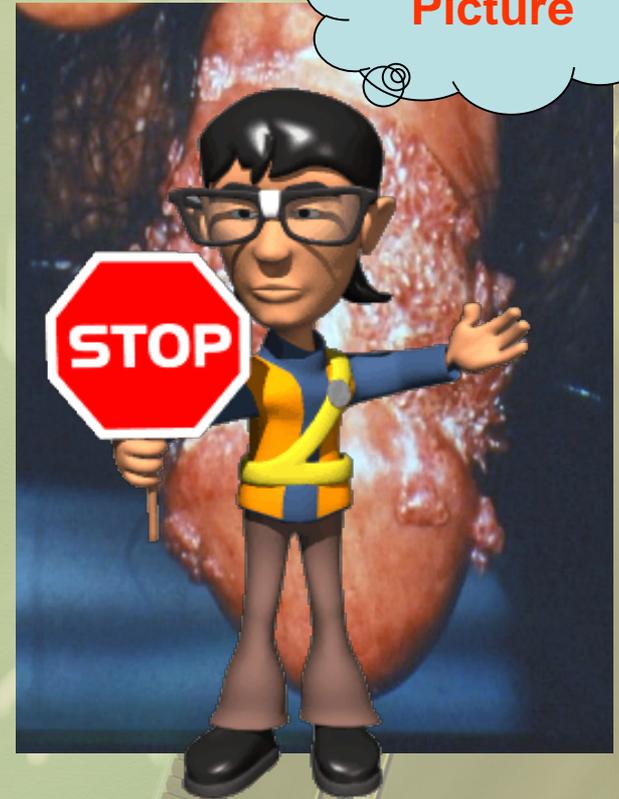
HPV in Men

- **Many men who develop HPV do not have any symptoms**
- **Some types of HPV can cause warts to develop on the genital area**
- **Genital warts on men develop around the anus or on the penis, scrotum, groin or thighs**
- **Warts may develop within weeks or months after sexual contact with the person who had a HPV strain that causes warts**



- **Men develop HPV by oral, vaginal and anal sex**
- **HPV can be passed from person to person without any visual warts**
- **Certain types of HPV have been linked to anal and penile cancer in men**

**Graphic
Picture**



Source: www2.hu-berlin.de/sexology

HPV and Children

- **Very rarely, genital HPV can be transmitted from a mother to her infant during delivery (CDC)**
- **Parentally transmitted infection with low-risk HPV can result in respiratory tract warts in children known as recurrent respiratory papillomatosis (RRP) (CDC)**
- **RRP is very rare, and is estimated at 1.1 cases per 100,000 live births to women with a history of genital warts (CDC)**



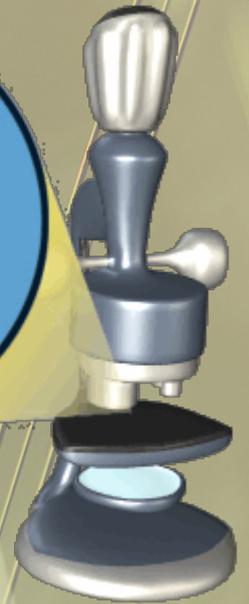
HPV in Delivery

- **It is unclear whether cesarean deliver prevents RRP in infants and children**
- **Cesarean should not be performed solely to prevent HPV infection to the infant**
- **Cesarean delivery may be indicated for women with genital warts if the pelvic and vaginal cavity are obstructed with warts**

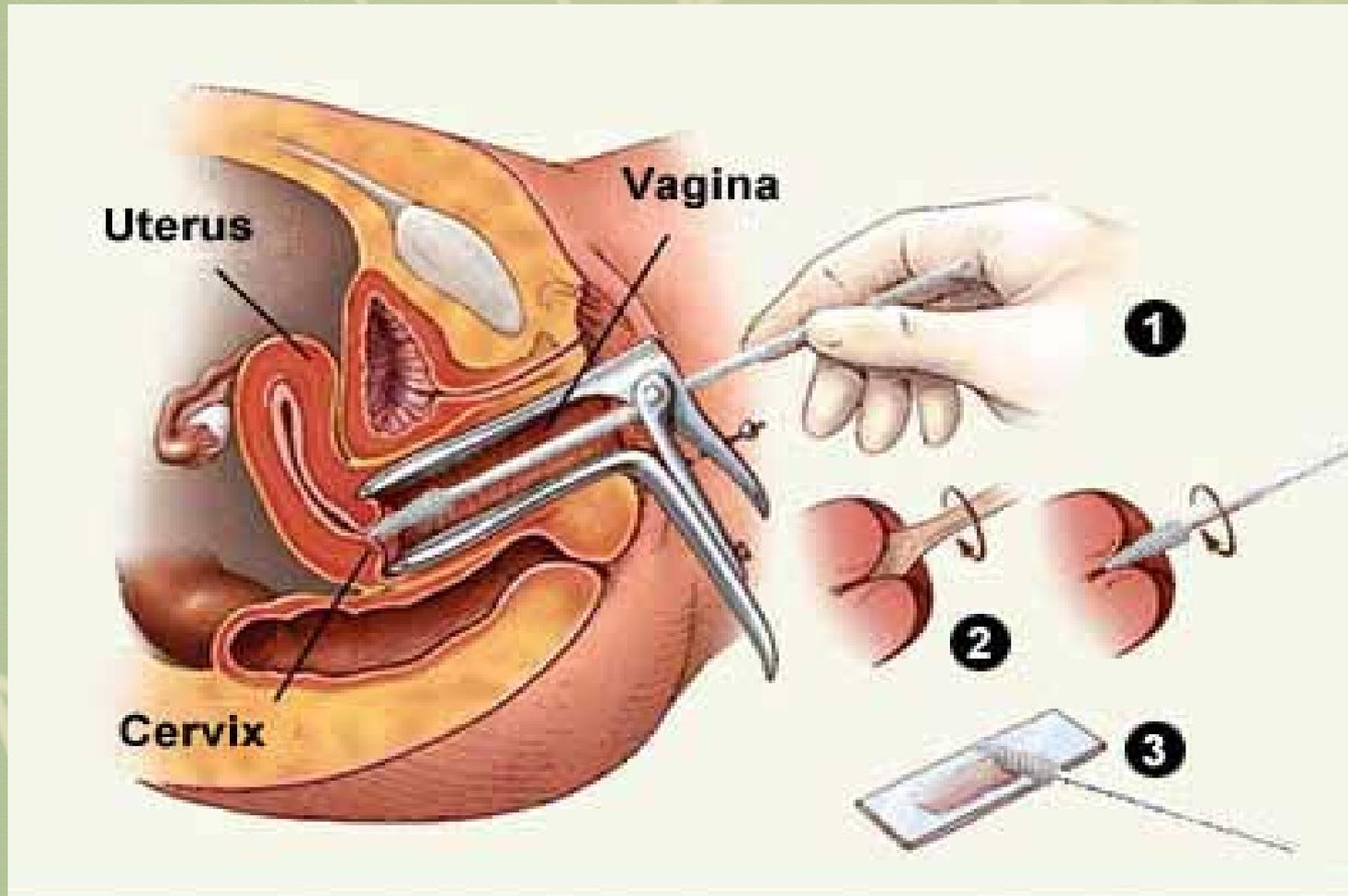


Diagnosis Of HPV

- **Abnormal Pap smear**
- **HPV DNA Lab test**
- **Health care provider sees the warts**
- **Examining infected tissue under a microscope**



Pap Test



© Mayo Foundation for Medical Education and Research. All rights reserved.

Treatment For HPV

- **HPV infections are not curable**
- **They can appear and disappear anytime**
- **Treatment is directed at the lesion**
- **Treatment options for genital warts of the cervix ,vagina, vulva and penis include:**

Cryotherapy

Electrocautery

Laser Therapy

Surgical removal

Medications



Pap Recommendations

Guidelines	American Cancer Society	American College of Obstetrician and Gynecologists
When To Start	Approximately 3 years after onset of vaginal intercourse, but no later than age 21 years	Approximately 3 years after onset of sexual intercourse, but no later than age 21 years
Conventional Pap test	Annually, every 2-3 years for women ages >30 years with three negative tests	Annually, every 2-3 years for women ages >30 years with three negative tests
Liquid Base Pap test	Every 2-3 years for women ages >30 years with three negative tests	Annually, every 2-3 years for women ages >30 years with three negative testsw

SENATE BILL No. 327

- **SENATE BILL No. 327**

Citations Affected: IC 20-34.

Synopsis: Immunization for school age girls. Requires a school to: (1) provide information to each parent of a female child entering grade 6 concerning the link between cervical cancer and the human papillomavirus (HPV) infection and of the availability of an immunization; (2) collect written statements from the parent indicating whether the child received the immunization; and (3) file a written report with the state department of health (state department) stating the number of required female students who have received the immunization and the number of female students who have not received the immunization. Requires the state department to provide a school with the information on cervical cancer and HPV and prescribe the format for the written statement.

Effective: July 1, 2007.

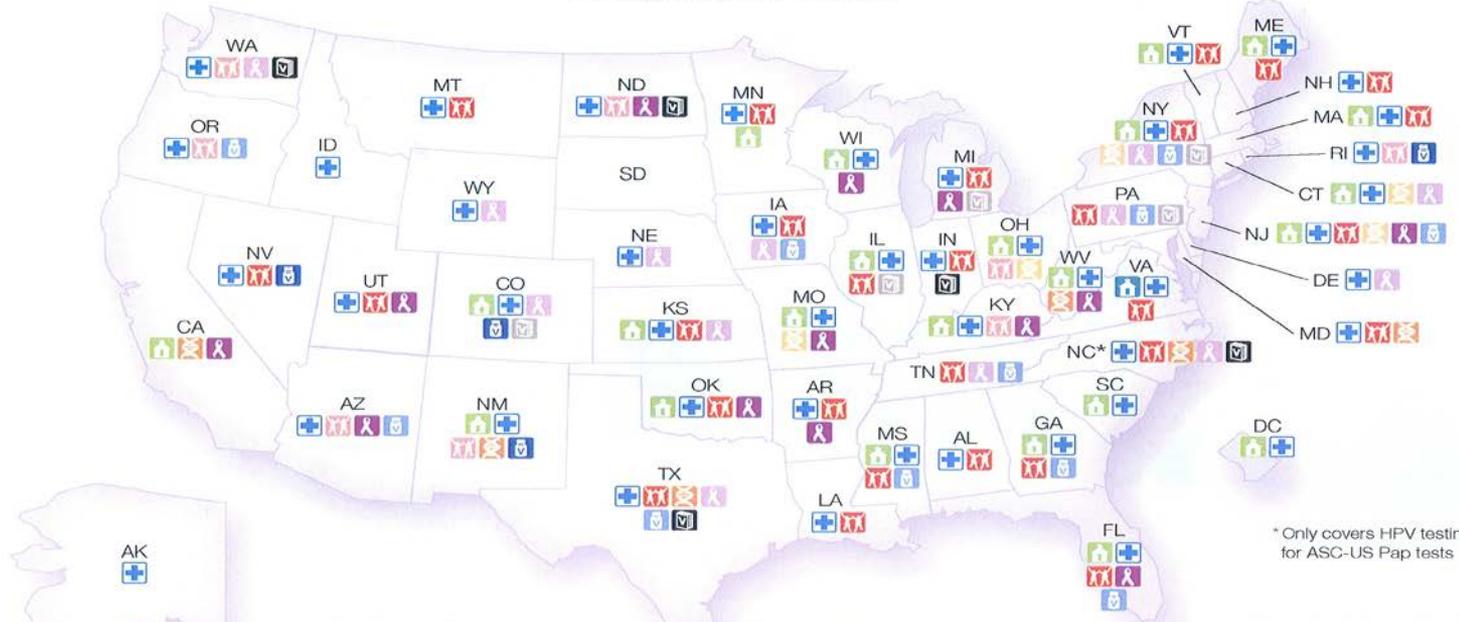
To see a copy of the letter:

www.in.gov/isdh/programs/immunization/immunization.htm



Other States and HPV

Activity as of July 16, 2007



* Only covers HPV testing for ASC-US Pap tests

- | | |
|---|---|
| HPV Vaccine School Requirement (Introduced) | Compulsory HPV Testing Insurance Reimbursement (Introduced) |
| HPV Vaccine School Requirement (Enacted) | Compulsory HPV Testing Insurance Reimbursement (Enacted) |
| Unrestricted Medicaid Coverage of HPV Testing | Cervical Cancer Prevention- Miscellaneous (Introduced) |
| Statewide Cervical Cancer Elimination Task Force/ Accountable Entity (Introduced) | Cervical Cancer Prevention- Miscellaneous (Enacted) |
| Statewide Cervical Cancer Elimination Task Force/ Accountable Entity (Enacted) | Compulsory HPV Vaccine Insurance Reimbursement (Introduced) |
| | Compulsory HPV Vaccine Insurance Reimbursement (Enacted) |
| | HPV Vaccine Information Program Introduced |
| | HPV Vaccine Information Program Enacted |

www.womeningovernment.org/prevention

HPV Vaccine

- **Gardasil® protects against four HPV types (6,11,16,18) which cause 70% of cervical cancer and 90% of genital warts**
- **Gardasil® is made from non-infectious HPV- like particles**
- **Gardasil® does not contain thimerosal or mercury**
- **In studies conducted, more than 99.5% of participants developed an antibody response to all four HPV types in the vaccine 1 month after receiving the three dose series (Pink Book)**



Source:ABCnews.org

HPV VIS Information

HPV (HUMAN PAPILLOMAVIRUS) VACCINE

WHAT YOU NEED TO KNOW

1 What is HPV?

Genital human papillomavirus (HPV) is the most common sexually transmitted virus in the United States.

There are about 40 types of HPV. About 20 million people in the U.S. are infected, and about 6.2 million more get infected each year. HPV is spread through sexual contact.

Most HPV infections don't cause any symptoms, and go away on their own. But HPV is important mainly because it can cause **cervical cancer** in women. Every year in the U.S. about 10,000 women get cervical cancer and 3,700 die from it. It is the 2nd leading cause of cancer deaths among women around the world.

HPV is also associated with several less common types of cancer in both men and women. It can also cause genital warts and warts in the upper respiratory tract.

More than 50% of sexually active men and women are infected with HPV at sometime in their lives.

There is no treatment for HPV infection, but the conditions it causes can be treated.

2 HPV Vaccine - Why get vaccinated?

HPV vaccine is an inactivated (not live) vaccine which protects against 4 major types of HPV.

These include 2 types that cause about 70% of cervical cancer and 2 types that cause about 90% of genital warts. **HPV vaccine can prevent most genital warts and most cases of cervical cancer.**

Protection from HPV vaccine is expected to be long-lasting. But vaccinated women still need cervical cancer screening because the vaccine does not protect against all HPV types that cause cervical cancer.

3 Who should get HPV vaccine and when?

Routine Vaccination

- HPV vaccine is routinely recommended for girls **11-12 years of age**. Doctors may give it to girls as young as 9 years.

Why is HPV vaccine given to girls at this age?

It is important for girls to get HPV vaccine **before** their first sexual contact – because they have not been exposed to HPV. For these girls, the vaccine can prevent almost 100% of disease caused by the 4 types of HPV targeted by the vaccine.

However, if a girl or woman is already infected with a type of HPV, the vaccine will not prevent disease from that type.

Catch-Up Vaccination

- The vaccine is also recommended for girls and women **13-26 years of age** who did not receive it when they were younger.

HPV vaccine is given as a 3-dose series:

1st Dose:	Now
2nd Dose:	2 months after Dose 1
3rd Dose:	6 months after Dose 1

Additional (booster) doses are not recommended.

HPV vaccine may be given at the same time as other vaccines.

4 Some girls or women should not get HPV vaccine or should wait

- Anyone who has ever had a life-threatening **allergic reaction to yeast**, to **any other component of HPV vaccine**, or to a **previous dose of HPV vaccine** should not get the vaccine. Tell your doctor if the person getting the vaccine has any severe allergies.

HPV Vaccine

- **Advisory Committee on Immunizations Practices (ACIP) recommends the vaccine should be given to 11 to 12 years old, but it can be given to girls as young as 9 years old**
- **The vaccine is recommended for 13 to 26 year old females who have not received or completed the vaccine series**
- **The vaccine should be given before the onset of sexual activity**
- **Females who are sexually active may benefit from the vaccine. These females would only be protected from the vaccine types they have not developed**



Immunization Recommendations

FIGURE 2. Recommended immunization schedule for persons aged 7–18 years — United States, 2007

Vaccine ▼	Age ►	7–10 years	11–12 YEARS	13–14 years	15 years	16–18 years	
Tetanus, Diphtheria, Pertussis ¹	See footnote 1		Tdap		Tdap		Range of recommended ages
Human Papillomavirus ²	See footnote 2		HPV (3 doses)		HPV Series		
Meningococcal ³	MPSV4		MCV4		MCV4 ³	MCV4	
Pneumococcal ⁴			PPV				Catch-up immunization
Influenza ⁵			Influenza (Yearly)				
Hepatitis A ⁶			HepA Series				
Hepatitis B ⁷			HepB Series				Certain high-risk groups
Inactivated Poliovirus ⁸			IPV Series				
Measles, Mumps, Rubella ⁹			MMR Series				
Varicella ¹⁰			Varicella Series				

Source: www.cdc.gov

HPV Vaccine For Boys

- **Gardasil® is not licensed for use among males**
- **Studies are underway to license Gardasil® for boys**



Prevention

- **HPV Vaccine**
- **Have a regular Pap test**
- **Abstain from any genital contact**
- **Long-term mutual monogamous relationship with a single uninfected partner**
- **Condoms have been shown to lower the risk of HPV (condoms may not cover areas with genital warts)**
- **Reduce number of sex partners**



More Information

- **Advisory Committee on Immunization Practices**
www.cdc.gov/nip/acip
- **American Cancer Society**
www.cancer.org
- **American Social Health Association**
www.ashastd.org
- **Center for Disease and Control**
www.cdc.gov
- **National Cancer Institute**
www.cancer.gov
- **U.S. Department of Health & Human Services**
<http://www.hhs.gov>

