



Maryland Chapter

The HPV Series: Introduction to the Human Papillomavirus (HPV)

Issue 1: March 21, 2014

Through a grant from The Department of Health and Mental Health (DHMH) it is our pleasure to share with you a series dedicated to the HPV vaccine in the pediatric setting. Each issue will present a literature review for the provider with questions and answers on key issues for parents and caretakers. The AAP and CDC have both recommended vaccination starting at eleven to twelve years of age for both boys and girls; however, the vaccine still remains poorly utilized.¹

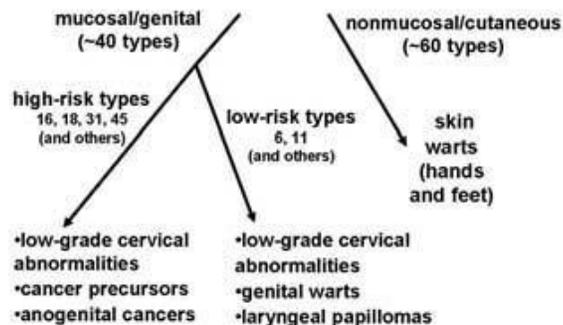
In 2006 the vaccine against HPV was approved for use in young women age 9-26, and in 2012 AAP recommendations were expanded to include young men of the same age. Since that time the vaccine has been well demonstrated to be safe and effective at protecting against genital warts, early and late cervical changes and likely decreases the risk of many other cancers.(1) Research from 2012 into the adoption of the vaccine finds that only 54% of eligible females across the nation received one dose and only 34% of eligible females have completed the series. Of the same population 84% had at least one health care visit with a missed opportunity to give the vaccine.(2)

The same survey also assessed parents' reasons why their teen was not vaccinated and found that 23% of parents wanted their children to remain unvaccinated for the next twelve months. When parents were asked why the top reasons included "Vaccine not needed (19.1%), vaccine not recommended (14.2%), vaccine safety concerns (13.1%), lack of knowledge about the vaccine or the disease (12.6%), and daughter is not sexually active (10.1%)" (2) . Other studies that have looked at the adoption of the HPV vaccine have stressed the profound role of the pediatrician's recommendation. They found that adoption increased from 21% to 62% if the pediatrician recommended the vaccine. Other than health care providers, school requirements (46.1%), news coverage (31.2%), and family (31.0%) were most frequently reported influences on parental vaccination decisions.(3)

The human papillomavirus has been well studied. It is a small double stranded DNA virus that can be easily spread. The incidence of HPV infection is very high, fortunately most infections clear spontaneously. HPV is classified into several groups based on site of infection and oncogenic risk. The cutaneous form causes skin warts on the hands and feet. The non-cutaneous form infects mucosa including the cervix and is divided into strains that are low risk versus high risk for developing cancer. There are many high risk strains (16, 18, 31, 33, 35, 39, 45, 51, 52, 56, 58, 59, 68, 69, 73, 82). For cervical cancer a high risk strain can be found in almost 99% of cases, however only two strains, 16 and 18, are responsible for 70% of these cancers.(4)

About 4 billion dollars are spent annually on management of sequelae of HPV infections, primarily for the management of abnormal cervical cytology and treatment of cervical neoplasia. This exceeds the economic burden of any other sexually transmitted infection except HIV.(4)

The HPV Series continues in the next issue with virus life cycle and the demographics of HPV infection.



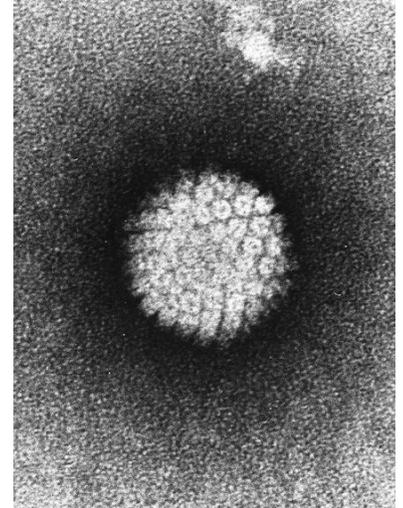
¹ The Author: Theodore Wilson MD is working with the Maryland AAP chapter. He has no financial conflicts of interest or investments in any products discussed. Reproduction is permitted.

This can be printed as a hand-out for parents to answer their questions.

The HPV Series: Family questions about the human papillomavirus (HPV) and Cervical Cancer

What is human papillomavirus?

The human papillomavirus is a common virus that affects many parts of the body. When your pediatrician discusses the human papillomavirus they are most commonly referring to four strains (6, 11, 16, and 18). 16 and 18 have been shown to cause cancers in the cervix, head, neck and GI tract and 6 and 11 cause genital warts. All four are covered by the HPV vaccine Gardasil. 16 and 18 are covered by the vaccine Cervarix.



Is the HPV vaccine recommended for both boys and girls?

Absolutely, the Centers for Disease Control, American Academy of Pediatrics and Advisory Committee on Immunization Practices all recommend vaccination. It has been well validated in multiple studies to be safe and effective at preventing the spread of HPV.

Isn't my child too young to receive the HPV vaccine?

The vaccination has been licensed and has been shown to be safe for children as young as nine years old. The American Academy of Pediatrics recommends that the three dose series be started at the eleven to twelve year old annual visit and finished in the next six months.

If my child is not yet having sex do they need to be vaccinated?

Human papillomavirus can be spread by sexual activities besides intercourse, and the vaccine is best for patients who have not yet been exposed to HPV. In addition the series takes six months to complete before being fully effective. It is normal for teenagers to quickly develop emotions and form new relationships; therefore, it is recommended to start the series between eleven and twelve years old.

If my teen has already had sex do they still need to be vaccinated?

Yes, even though it may be less effective it is still highly recommended for protecting against the virus that causes genital warts and cervical cancer. Vaccine catch up should occur as soon as possible between the ages of 13-26.

References:

- 1) Advisory Committee on Immunization practices. "Recommendations on the Use of Quadrivalent Human Papillomavirus Vaccine in Males — Advisory Committee on Immunization Practices (ACIP), 2011" CDC MMRW December 23, 2011 60(50);1705-1708
<http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6050a3.htm>
- 2) CDC "Human Papillomavirus Vaccination Coverage Among Adolescent Girls, 2007–2012, and Postlicensure Vaccine Safety Monitoring, 2006–2013 " CDC MMWR July 26, 2013 Vol. 62 No. 29
<http://www2.aap.org/immunization/illnesses/hpv/HPV2013MMWR.pdf>
- 3) Dorrell, Christina et al. "Factors That Influence Parental Vaccination Decisions for Adolescents, 13 to 17 Years Old National Immunization Survey–Teen, 2010" Clinical Pediatrics February 2013 vol. 52 no. 2 162-170 <http://cpj.sagepub.com/content/52/2/162.short>
- 4) CDC Pink Book "Human Papillomavirus Epidemiology and Prevention of Vaccine-Preventable Diseases" The Pink Book: - 12th Edition Second Printing (May 2012) (Additionally, source of image 1 CDC Public Domain) <http://www.cdc.gov/vaccines/pubs/pinkbook/hpv.html>
- 5) Markowitz, Lauri: "Quadrivalent Human Papillomavirus Vaccine: Recommendations of the Advisory Committee on Immunization Practices (ACIP)" MMWR March 23, 2007, in Vol. 56, No. RR-2
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- 6) AAP "Policy Statement HPV Vaccine Recommendations" Pediatrics; Vol. 129 No. 3 March 1, 2012 pp. 602 -605 <http://pediatrics.aappublications.org/content/129/3/602>
- 7) (Image 2) Photographer Unknown, Source: Laboratory of Tumor Virus Biology: National Cancer Institute Visuals Online, Public Domain <https://visualsonline.cancer.gov/details.cfm?imageid=2255>