

What You Need to Know About Immunizations

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Objectives

- Review the compulsory immunizations for West Virginia school-aged children
- Review and summarize the medical exemption process
- Highlight efforts to increase 19-35 month-old immunization rates in West Virginia
- Efforts to increase Human Papillomavirus (HPV) vaccination rates in West Virginia

Recommended Childhood Vaccine Schedule

Figure 1. Recommended Immunization schedule for persons aged 0 through 18 years – United States, 2016.

(FOR THOSE WHO FALL BEHIND OR START LATE, SEE THE CATCH-UP SCHEDULE [FIGURE 2]).

These recommendations must be read with the footnotes that follow. For those who fall behind or start late, provide catch-up vaccination at the earliest opportunity as indicated by the green bars in Figure 1. To determine minimum intervals between doses, see the catch-up schedule (Figure 2). School entry and adolescent vaccine age groups are shaded.

Vaccine	Birth	1 mo	2 mos	4 mos	6 mos	9 mos	12 mos	15 mos	18 mos	19–23 mos	2-3 yrs	4-6 yrs	7-10 yrs	11-12 yrs	13–15 yrs	16–18 yrs
Hepatitis B ¹ (HepB)	1 st dose	← 2 nd dose →			← 3 rd dose →											
Rotavirus ² (RV) RV1 (2-dose series); RVS (3-dose series)			1 st dose	2 nd dose	See footnote 2											
Diphtheria, tetanus, & acellular pertussis ³ (DTaP; <7 yrs)			1 st dose	2 nd dose	3 rd dose			← 4 th dose →				5 th dose				
Haemophilus influenzae type b ⁴ (Hib)			1 st dose	2 nd dose	See footnote 4			← 3 rd or 4 th dose → See footnote 4								
Pneumococcal conjugate ⁵ (PCV13)			1 st dose	2 nd dose	3 rd dose			← 4 th dose →								
Inactivated poliovirus ⁶ (IPV; <18 yrs)			1 st dose	2 nd dose	← 3 rd dose →							4 th dose				
Influenza ⁷ (IV; LAIV)					Annual vaccination (IV only) 1 or 2 doses							Annual vaccination (LAIV or IV) 1 or 2 doses		Annual vaccination (LAIV or IV) 1 dose only		
Measles, mumps, rubella ⁸ (MMR)					See footnote 8		← 1 st dose →					2 nd dose				
Varicella ⁹ (VAR)							← 1 st dose →					2 nd dose				
Hepatitis A ¹⁰ (HepA)							← 2-dose series, See footnote 10 →									
Meningococcal ¹¹ (Hib-MenCY ≥ 6 weeks; MenACWY-D ≥ 9 mos; MenACWY-CRM ≥ 2 mos)			See footnote 11											1 st dose		Booster
Tetanus, diphtheria, & acellular pertussis ¹² (Tdap; ≥ 7 yrs)														(Tdap)		
Human papillomavirus ¹³ (2vHPV: females only; 4vHPV, 9vHPV: males and females)														(3-dose series)		
Meningococcal B ¹¹														See footnote 11		
Pneumococcal polysaccharide ⁵ (PPSV23)												See footnote 5				

Range of recommended ages for all children
 Range of recommended ages for catch-up immunization
 Range of recommended ages for certain high-risk groups
 Range of recommended ages for non-high-risk groups that may receive vaccine, subject to individual clinical decision making
 No recommendation

This schedule includes recommendations in effect as of January 1, 2016. Any dose not administered at the recommended age should be administered at a subsequent visit, when indicated and feasible. The use of a combination vaccine generally is preferred over separate injections of its equivalent component vaccines. Vaccination providers should consult the relevant Advisory Committee on Immunization Practices (ACIP) statement for detailed recommendations, available online at <http://www.cdc.gov/vaccines/hcp/acip-recs/index.html>. Clinically significant adverse events that follow vaccination should be reported to the Vaccine Adverse Event Reporting System (VAERS) online (<http://www.vaers.hhs.gov>) or by telephone (800-822-7967). Suspected cases of vaccine-preventable diseases should be reported to the state or local health department. Additional information, including precautions and contraindications for vaccination, is available from CDC online (<http://www.cdc.gov/vaccines/recs/vac-admin/contraindications.htm>) or by telephone (800-CDC-INFO [800-232-4636]).

This schedule is approved by the Advisory Committee on Immunization Practices (<http://www.cdc.gov/vaccines/acip>), the American Academy of Pediatrics (<http://www.aap.org>), the American Academy of Family Physicians (<http://www.aafp.org>), and the American College of Obstetricians and Gynecologists (<http://www.acog.org>).

NOTE: The above recommendations must be read along with the footnotes of this schedule.

WV Vaccine Requirements for New School Enterers

<u>Vaccine</u>	<u>Requirement</u>	<u>Provisional Enrollment</u>	<u>Additional Information</u>
DTaP/DTP Td/Tdap	Before admission, four doses required, (one dose must be after the 4 th birthday)	After one dose, student may be allowed up to 8 months to complete the series.	<ul style="list-style-type: none"> • Three doses only for children completing primary series at age 7 years and older. • Children exempted from the pertussis component of DTaP vaccine should receive DT vaccine instead, or if past 7th birthday, Td / Tdap vaccine, as applicable.
Polio (IPV)	Before admission, three doses required, (one dose must be after the 4 th birthday)	After one dose, student may be allowed up to 90 days to complete the series.	<ul style="list-style-type: none"> • If polio immunization series included both OPV and IPV, then a total of 4 doses are required.
Measles, Mumps & Rubella (MMR)	Before admission, two doses required, (first dose must be after the 1 st birthday)	After one dose, student may be allowed up to 30 days to complete the series.	<ul style="list-style-type: none"> • Doses should be a minimum of 28 days apart.
Varicella	Before admission, two doses required, (first dose must be after the 1 st birthday)	After one dose, children less than 13 years of age may be allowed up to 90 days to obtain 2 nd dose; children aged 13 years and older may be allowed up to 30 days to obtain the 2 nd dose.	<ul style="list-style-type: none"> • Children less than 13 years of age must have a minimum interval of 12 weeks between the 1st and 2nd doses. • Children aged 13 years and older may receive the 2nd dose 28 days after the first dose. • Immunity may also be demonstrated through the legal guardian's written or verbal attestation of varicella (chickenpox) disease.
Hepatitis B	Before admission, three doses required, (last dose must be after the age of 6 months)	After one dose, student may be allowed up to 4 months to complete the series.	<ul style="list-style-type: none"> • Final dose is not valid if administered before 24 weeks / 6 months of age.

WV Vaccine Requirements for 7th and 12th Graders

7th Grade School Entry Requirement

Vaccine	Requirement	Provisional Enrollment
Tdap (tetanus, diphtheria, acellular pertussis)	Proof of booster dose of Tdap vaccine	No provisional enrollment permitted
MCV4 (meningococcal)	Proof of 1 st dose of MCV4 vaccine	No provisional enrollment permitted

12th Grade School Entry Requirement

Vaccine	Requirement	Provisional Enrollment
Tdap (tetanus, diphtheria, acellular pertussis)	Proof of booster dose of Tdap vaccine	No provisional enrollment permitted
MCV4 (meningococcal)	One or two doses required One dose of MCV4 is required if received <u>after</u> the 16 th birthday. Second dose is required if first dose was before 16 th birthday	No provisional enrollment permitted

WV Compulsory Immunization Information

Websites

Minimum Immunizations for Pre-Kindergarten Program Entry

www.wvdhhr.org/immunizations/pdf/pre-k_vacc_chart_final.pdf

WV Immunization Requirements For 7th & 12th Graders

www.dhhr.wv.gov/oeps/immunization/providers/Documents/7th%2012th%20Requirements/Final_012013-%207th_12th_%20School_Entry_Chart%202013.pdf

1987: WV State Code § 16-3-4

- Required the following vaccines for all children entering school for the first time: diphtheria, polio, rubeola (measles), rubella, tetanus and pertussis

2008: WV Code of State Rule 64CSR95

- Added three vaccines for school entry: varicella, mumps, and hepatitis B

2011: WV Code of State Rule 64CSR95

- Added two adolescent vaccines for entry into 7th and 12th grades: tetanus, diphtheria and acellular pertussis (Tdap) and quadrivalent meningococcal vaccine (MCV4)

* www.legis.state.wv.us/legisdocs/code/16/WVC%2016%20-%20209%20-%20204%20.htm

2015: Senate Bill (SB) 286

- Attempted to change the immunization laws for school-aged children to include religious, personal and philosophical exemptions. These provisions did not pass. Law enacted on March 18, 2015. A State Immunization Officer was added for determinations of medical exemptions.
- The timing of SB 286 coincided with the Disneyland measles outbreak
- SB 286 was debated and passed with amendments
- Amended WV Code § 16-3-4 and 16-3-5

- A Request for Medical Exemption from Compulsory Immunization may be initiated on a behalf of a child by his/her legal guardian or a licensed physician who has treated or examined the child to the Bureau for Public Health via the **West Virginia Statewide Immunization Information System (WVSIIS)**

WVSIIS-Web Main Page: www.wvimm.org

Requesting Medical Exemptions in WV (Cont.)

- Physicians may download the Request for Medical Exemption form located on the West Virginia Department of Health and Human Resources (WVDHHR) website
- The requesting physician will then submit the request form, with supporting medical documentation, to validate the request

Timeline

- 20-day period for determination by Immunization Officer
- This 20-day period begins after all information to support the request has been provided to the Immunization Officer
- The Immunization Officer will make every reasonable effort to obtain relevant medical evidence from the requesting physician
- A request that remains incomplete after 45 days will result in denial of the request

* 64 CSR95-17.4a; 64 CSR95-17.5

West Virginia Statistics for 2015

- Kindergarten vaccination rate:
 - West Virginia rate was 97.6%
 - Mississippi was highest at 99.2%
 - U.S. median was 94%

- Children age 19-35 months:
 - West Virginia 63.4%
 - U.S. average 71.6%

- U.S. Department of Health and Human Services goal to ensure herd immunity: 95%

* CDC: 2014-2015 School Year Vaccination Coverage Trend Report

* Estimated Vaccine Coverage with Individual Vaccines Series Among Children Age 19 -35 Months by State/Selected Area (NIS- US 2014)

Challenges to improving vaccination rates

- Lack of well-child visits during this age
- 16% of children 12-23 months of age did not have single well-child visit (four well-child visits are on the schedule at this age)
- Some providers do not carry private stock of vaccines
- Limited access to primary and specialty care
- Socioeconomic factors

Plans for Improvement

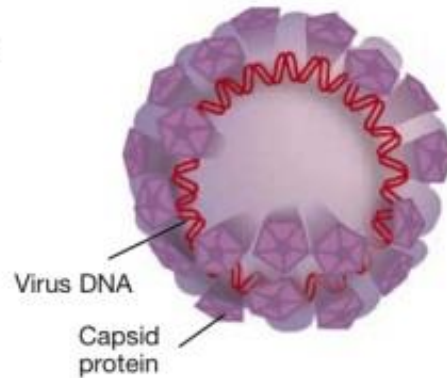
- Working with the Well Child Initiative to develop strategies to improve rates of well-child visits with improved vaccination rates
- Meeting with Medicaid MCOs to discuss plans for improvement
- Working with Child Care Center licensing unit to assess and enforce immunization compliance
- Meeting with WV WIC and local WIC directors to promote immunization screening
- Provider and parent education
- Local Health Department (LHD) support

Human Papillomavirus (HPV) Replication

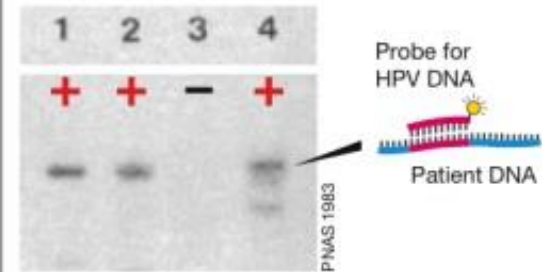
HPV – human papilloma virus

HPV has a circular, double stranded DNA, protected by capsid proteins.

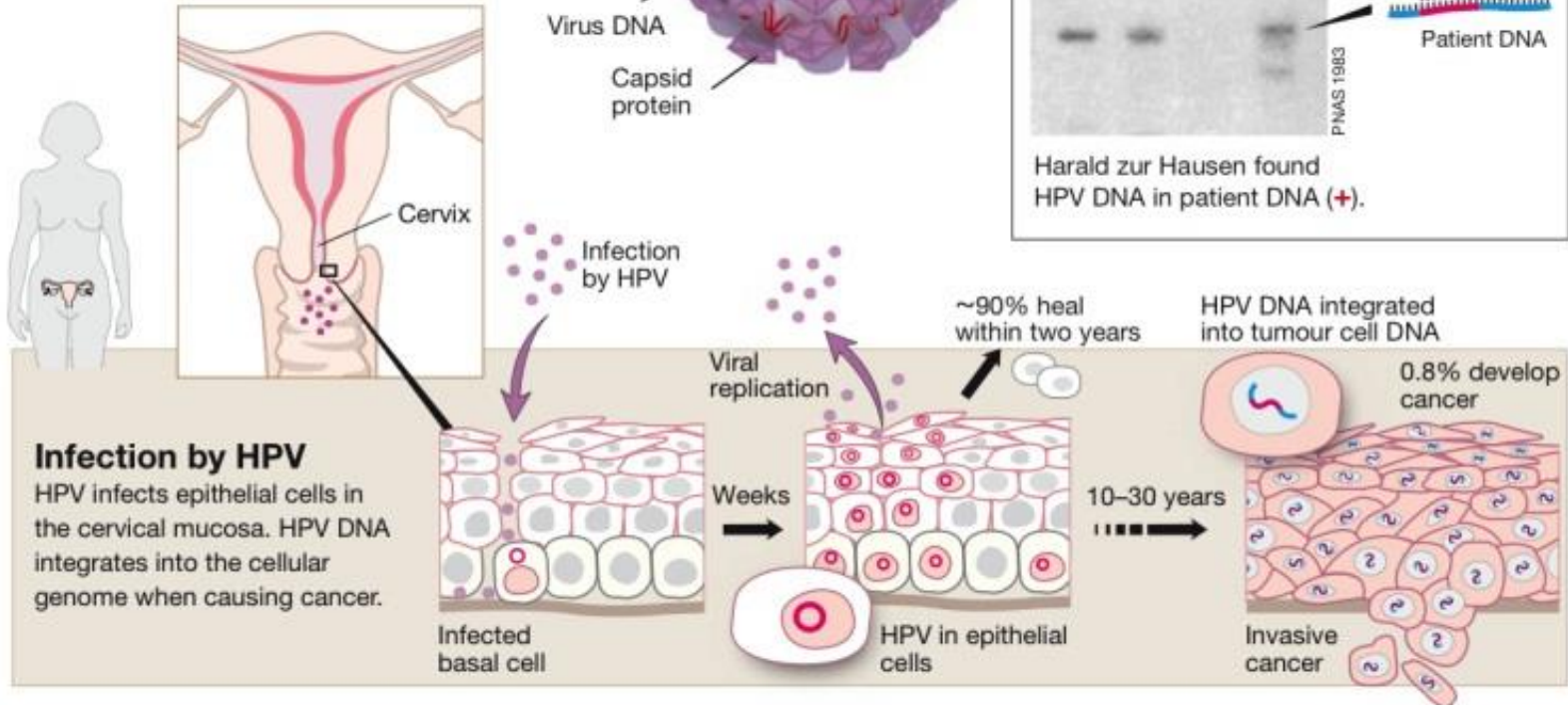
More than 100 HPV-types are known. HPV16 and 18 cause 70% of all cervix cancers.



Discovery of HPV DNA in cancer cells



Harald zur Hausen found HPV DNA in patient DNA (+).



© The Nobel Committee for Physiology or Medicine 2008 Illustration: Annika Röhl

- HPV is a virus and the most common sexually transmitted infection (STI)
- There are more than 100 strains of HPV and more than 40 associated with STIs
- Most commonly spread by oral, anal or vaginal intercourse with an infected person
- Condoms do not provide complete protection against HPV
- HPV can spread when the partner has no signs or symptoms
- 79 million Americans are currently infected with HPV
- 14 million are newly infected in the United States each year

* <http://www.cdc.gov/STD/HPV/STDFact-HPV.htm>

Cervical Cancers:

- Nearly all cervical cancers are related to HPV
- HPV types 16 and 18 are responsible for 70% of cervical cancers

Squamous cell cervical cancer

- Comprises 80% of cervical cancers
- Most often associated with HPV 16

Adenocarcinoma of the cervix

- Comprises 15% of cervical cancers
- Most often associated with HPV 18

HPV associated cancers

- 91% anal cancer cases
- 85% vaginal cancer cases
- 69% vulvar cancer cases
- 72% oropharyngeal cancer cases

Non-cancer HPV associated diseases

- 90% genital warts cases

* <http://www.cdc.gov/hpv/parents/cancer>

HPV vaccine administration

- Food and Drug Administration (FDA) approved and indicated for ages 9-26 years old
- Advisory Committee on Immunization Practices (ACIP) recommendation for ages 11-12 years
- 2016 ACIP recommendation amended to include HPV vaccine for at-risk population ages 9-10 years
- Series of three injections given over six months

* ACIP – Recommended Immunization Schedule for Persons Age 0 – 18 years

West Virginia Statistics for HPV

- The majority of cancers caused by HPV can be prevented with HPV vaccination
- Only 24% of males 13-17 years of age are fully vaccinated against HPV in West Virginia
- Only 40% of females 13-17 years of age are fully vaccinated against HPV in West Virginia
- United States statistics indicate 50% of eligible female teens have received the first dose of HPV vaccine, and about 69% complete the HPV vaccine series
- In 2015, West Virginia had the highest incidence of cervical cancer in the U.S.

- Educate patients and providers on HPV facts and vaccine safety
- Immunize when appropriate
- Assure follow up for patients to receive the full vaccine series
- Continue cervical cancer screenings by pap smears
- Complete HPV testing by providers when appropriate

West Virginia Statewide Immunization Information System

(WVSIIS)

- Online, web-enabled immunization registry system
- Confidential and secure statewide immunization registry designed to receive accurate and timely information on all immunizations administered by all healthcare providers to ensure that all West Virginia residents are age appropriately immunized against vaccine preventable diseases

Methods of submission

- Electronic submission
 - Health Level Seven (HL7)
 - Data Translation Tool (DTT)

- Direct Data Entry (DDE)

- Paper submission

WVSIIS can be accessed by:

- Local Health Departments
- Community Health Centers/FQHCs
- Public and Private Providers
- Hospitals
- Day Care Centers
- WIC Clinics
- School Nurses

WVSIS Requirements and Benefits

- Vaccinations for children ages 0-18 are required by law to be reported to the registry within two weeks of administration
- Provides easy access to patients' immunization records
- Enables timely immunization for children whose families move or switch healthcare providers
- Prevents unnecessary (repeat) immunizations

- Reminder/Recall notices an important tool for notifying patients due or overdue for vaccinations
- Generates patient list, mailing labels, postcards, or form letters
- Vaccine forecasting feature displays vaccinations that are past due and past due for any patient.
- Can generate a patient detail report in which it lists all a patients within a selected time frame and displays each patient's name and past due immunizations.
- Vaccines for Children (VFC) providers are asked during Assessment Feedback Incentives eXchange (AFIX) visits if it is being utilized

Hepatitis B

Reporting

All hepatitis B acute, chronic, and perinatal cases must be reported by health care providers and facilities within 24 hours to the local health department

State Contacts

Acute/Chronic: Division of Infectious Disease Epidemiology
(800) 423-1271 or (304) 558-5358, Extension 1

Perinatal: Division of Immunization Services
(800) 642-3634 or (304) 558-2188

* (WV CODE 16-3-1; 64CSR7)

Objectives

- Identify infected HBsAg positive pregnant women
- Ensure post exposure prophylaxis (PEP) for infants by administering hepatitis B immune globulin (HBIG) and birth dose of HBV vaccine within 12 hours of delivery
- Ensure completion of HBV vaccine series, along with post vaccination serology testing PVST
- This approach has shown to be 85% – 95% effective in preventing mother to child transmission (MTCT)

Without Post Exposure Prophylaxis (PEP):

- Mother positive for hepatitis B surface antigen (HBsAg) and hepatitis B e antigen (HBeAg):
 - Infant has 70% – 90% chance of becoming infected
 - 90% of infected infants become chronically infected

- Mother positive for HBsAg only:
 - Infant has 10% chance of becoming infected
 - 90% of infected infants become chronically infected

- Prevention is our focus

* Epidemiology and Prevention of Vaccine-Preventable Diseases (The Pink book) Hepatitis B, page 155.

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