

EPIC® Immunization Update Immunizing Adolescents

September 2020

EPIC® is presented by:

Georgia Chapter - American Academy of Pediatrics
Ga. Dept. of Public Health/Immunization Program

In Cooperation with:

Georgia Academy of Family Physicians
Georgia Chapter - American College of Physicians
Georgia OB/Gyn Society

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Faculty Disclosure Information

- In accordance with ACCME* and ANCC-COA** Standards, all faculty members are required to disclose to the program audience any real or apparent conflict of interest to the content of their presentation.
- This presentation will include the most current ACIP recommendations for frequently used vaccines but is not a comprehensive review of all available vaccines.
- Some ACIP recommendations for the use of vaccines have not currently been approved by the FDA.
- Detailed information regarding all ACIP Recommendations is available at www.cdc.gov/vaccines/acip/recs/index.html

*Accreditation Council for Continuing Medical Education

**American Nurses Credentialing Center Commission on Accreditation

Objectives

At the end of this presentation, you will be able to:

- Name four vaccines recommended for adolescents
- Explain the importance of preventing these diseases in adolescents
- Discuss strategies practitioners can use to increase immunization rates in adolescents
- Examine parental hesitation regarding HPV vaccine for young adolescents
- List at least 2 reliable sources for immunization information

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Advisory Committee on Immunization Practices (ACIP)

- 15 voting members with expertise in one or more of the following:
 - Vaccinology
 - Immunology
 - Infectious diseases
 - Pediatrics
 - Internal Medicine
 - Preventive medicine
 - Public health
 - Consumer perspectives and/or social and community aspects of immunization programs
- ACIP develops recommendations and schedules for the use of licensed vaccines



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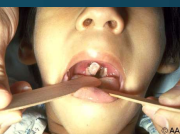
Four Vaccines Are Recommended for ALL Adolescents

- Tetanus-diphtheria-acellular pertussis vaccine (Tdap)
- Influenza (flu) vaccine---every year
- Meningococcal conjugate vaccine (MCV4)
- Human papillomavirus vaccine (HPV)

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Tetanus



Diphtheria



Pertussis

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Pertussis in Adolescents*

- Prolonged cough (3 months or longer)
 - Complications (pneumonia, rib fractures)
 - Hospitalization
 - Missed school and work
 - Impact on public health system
- Vomiting after prolonged coughing
- Weight loss
- Multiple medical visits and extensive medical evaluations
- Loss of sleep
- Transmission to infants

*Ohio Chapter, American Academy of Pediatrics. TIES: Teen Education Immunization Sessions

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Why Do Adolescents Need Pertussis Vaccine?

- Pertussis is endemic in the United States*
Reported cases in U.S. **
 - 2013: 28,639 – 317 in Georgia
 - 2014: 32,118 – 407 in Georgia
 - 2015: 20,762 -- 244 in Georgia
 - 2016: 15,737 – 170 in Georgia
 - 2017: 15,808 -- 163 in Georgia
 - 2018: 13,439 – 134 in Georgia
- Protection provided by the DTaP vaccine series wanes, so adolescents need Tdap as a booster
- Increasing Tdap immunization rates among adolescents is an important strategy for reducing pertussis among adolescents and infants too young to be fully immunized.

*Summary of Notifiable Infectious Diseases

**http://www.cdc.gov/mmwr/mmwr_nd/index.html

**https://www.cdc.gov/mmwr/volumes/65/wr/mm6552md.htm?s_cid=mm6552md_w

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Diphtheria, Tetanus and Pertussis Vaccines for Children and Adolescents

ACIP Recommendations:

Tdap---can now be used any time Td is indicated

- Children and adolescents starting at 11 or 12 years of age
- Routine decennial booster
- Tetanus prophylaxis for wound management
- Unvaccinated persons 7-18 yrs. of age
 - 3 doses of Td or Tdap given at appropriate intervals—see Catch-up Schedule*

2020 Childhood Schedule: Children 7-10 years of age who receive Tdap as part of the catch-up series should be given Tdap again at ages 11-12 years.*

No minimum interval between doses of Td and Tdap**

*MMWR, January 24, 2020/ Vol.69/No. 3

**<https://www.immunize.org/catg.d/p2055.pdf>

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Tdap for Pregnant Women*

ACIP recommends:

One dose of Tdap during each pregnancy, regardless of a prior history of receiving Tdap.

Optimal timing:

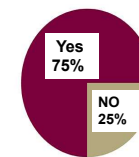
- Between 27 and 36 weeks gestation.
- Vaccinating earlier in the 27 through 36 week window will maximize passive antibody transfer to the infant.
- This has been shown to be 80%-91% effective.
- If Tdap is not given during pregnancy, administer Tdap immediately postpartum.

*MMWR, January 24, 2020/ Vol.69/No. 3

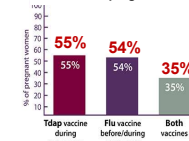
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Vaccines often offered, but many pregnant women and babies left unprotected

Women who report provider offer or referral for flu and Tdap vaccine



Flu and Tdap vaccination coverage for pregnant women



SOURCE: CDC Internet Panel Survey 2019

Vitalsigns™
newborn, postnatal, maternal, vaccine



<https://www.cdc.gov/media/releases/2019/p1008-vaccination-moms-babies-unprotected.html>

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Influenza and Adolescents*

- Flu spreads when infected people cough or sneeze. Flu can cause mild to severe illness, and in some cases it can cause death.
- Most preteens and teens who get sick with the flu recover within a couple of weeks, some will get complications like sinus infections, or pneumonia.
- Preteens and teens who have chronic health problems like diabetes (type 1 and 2) or asthma, are at a greater risk for complications from the flu, but even healthy adolescents can get very sick from the flu.

*U.S. Department of Health and Human Services Centers for Disease Control and Prevention: Flu Vaccines for Preteens and Teens

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Influenza Vaccine Coverage 2018-2019 Season*

Influenza vaccine coverage among children and adolescents 6 months through 17 years increased overall from 2017-2018, but rates traditionally have decreased with increasing age:

	U.S.
6 mos. - 4 years	73.4%
5 -12 years	63.6%
13-17 years	52.2%
Overall Coverage in U.S.	62.6%
Overall Coverage in Georgia	55.5%

*<https://www.cdc.gov/flu/fluview/coverage-1819estimates.htm>

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FDA Recommended Influenza Antigens for 2020-2021 Season in the U.S.*

Trivalent Vaccines (IIV3):

A/Guangdong-Maonan/SWL1536/2019 (H1N1)
A/Hong Kong/2671/2019AHawaii/70/2019 (H1N1)
B/Washington/02/2019

Or A/Hawaii/70/2019 (H1N1)

A/Hong Kong/45/2019
B/Washington/02/2019

Quadrivalent Vaccines

(IIV4 & LAIV4) also include:

B/Phuket/3073/2013-like virus

Information below pertains
to children
6 mos. through 8 yrs. of age

- If the child has received a total of ≥2 doses of vaccine in any prior flu season(s), even if not consecutive:
Give 1 dose this season
- If they have not or it's not known:
Give 2 doses, administered ≥ 4 wks. apart

ACIP recommends annual influenza vaccine for all persons 6 months of age and older who do not have contraindications.

*MMWR Recommendations and Reports Vol. 69 / No. 8 August 21, 2020

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Influenza Vaccines for 2020-2021 Season*

≥ 6 months	≥ 4 years	≥ 18 years	≥ 65 years
Fluzone (IIV4)* 0.25 ml (≥6 thru 35 mos.) Above not available for 2020-2021 0.5 ml (≥6 mos.)	Flucelvax** (ccIIV4) 0.5 ml	FluBlok*** (RIV4) 0.5 ml	Fluzone High-Dose* (HD-IIV4) 0.5 ml
Afluria (IIV4) * 0.25 ml (≥6 thru 35 mos.) 0.5 ml (≥ 3 years)			Fludac* (allIIV3) 0.5 ml
FluLaval (IIV4) * 0.5 ml dose (≥6 mos.)			Fludac* (allIIV4) 0.5 ml
Fluarix (IIV4) * 0.5 ml. dose (≥6 mos.)			

Egg allergy is no longer a contraindication for receiving influenza vaccine.

* Egg-based
** Cell-cultured
*** Recombinant

* MMWR Recommendation & Reports/Vol. 69/No. 38 August 21, 2020

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Live, Attenuated Influenza Vaccine (LAIV4)*

FluMist® MedImmune (Nasal Spray)
Licensed for healthy persons 2 through 49 years of age

LAIV4 MAY be used in the current season.

Contraindications to LAIV:

- Children 2-4 yrs. of age with a diagnosis of asthma
- Persons receiving aspirin-containing medications
- Persons who are immunocompromised, by medication or disease, have a CSF leak or cochlear implant, or asplenia
- Close contacts and caregivers of severely immunosuppressed persons
- Pregnant women
- Persons who have received influenza antiviral medications **before or after receiving LAIV should consult their provider regarding the appropriate delay before vaccination or the need for revaccination.**

*MMWR Recommendations & Reports/Vol. 67/No. 3 August 24, 2018

Meningococcal Disease (caused by *N. meningitidis*)*

Meningitis

~50% of cases **9-10% fatality rate**

- Sudden high fever
- Severe headache, nausea and vomiting
- Stiff neck



Photo courtesy CDC, Dr. Brodsky & Mr. Gust

Meningococcemia

5%-20% of cases **Up to 40% fatality rate**

- Rash
- Vascular damage
- Disseminated intravascular coagulation
- Multi-organ failure
- Shock
- Death can occur in 24 hours



11-19% of survivors have permanent sequelae

*Epidemiology and Prevention of Vaccine-Preventable Diseases, 13th Edition, 2015.

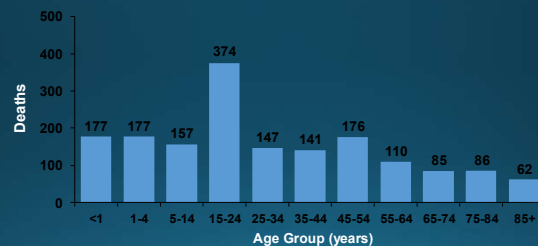
*AAP Red Book 2018

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Age-specific Fatalities From Meningococcal Disease*

U.S. 1999-2010



*Hoyert DL, et al. *Natl Vital Stat Rep.* 2001;49(8):1-116. *Minino AM, et al. *Natl Vital Stat Rep.* 2002;50(15):1-120. *Arias E, et al. *Natl Vital Stat Rep.* 2003;52(3):1-116. *Kochanek KD, et al. *Natl Vital Stat Rep.* 2004;53(5):1-116. *Hoyert DL, et al. *Natl Vital Stat Rep.* 2006;54(13):1-120. *Minino AM, et al. *Natl Vital Stat Rep.* 2007;55(19):1-120. *Kung H-C, et al. *Natl Vital Stat Rep.* 2008;56(10):1-124. *Heron M, et al. *Natl Vital Stat Rep.* 2009;57(14):1-136. *Xue J, et al. *Natl Vital Stat Rep.* 2010;59(19):1-136. Minino AM, et al. *Natl Vital Stat Rep.* 2011;59(10):1-126. *Kochanek KD, et al. *Natl Vital Stat Rep.* 2011;60(3):1-166. *Murphy SL, et al. *Natl Vital Stat Rep.* 2013;61(4):1-117.

Neisseria meningitidis

Risk Factors for Invasive Disease*

- Immunodeficient persons (e.g., no spleen)
- HIV infection
- Family members of an infected person
- Smoking
- Passive exposure to smoke
- Upper respiratory tract infection
- Crowding
- College students (living in dormitories)

*Epidemiology and Prevention of Vaccine-Preventable Diseases (The Pink Book), 13th Edition, (2015)

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Vulnerability of Adolescents and Young Adults to Meningococcal Disease*

- Spread through respiratory and throat secretions
 - Coughing, sneezing
 - Kissing
 - Sharing eating utensils, water bottles, etc.
- Crowded settings facilitate transmission
 - College dormitory
 - Crowded household
 - Military barracks
 - Nightclubs, bars

*Give2MCV4 project: www.Give2MCV4.org

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Meningococcal Conjugate Vaccine (MCV4)*

(Men A,C,Y, W-135)

Menactra™ licensed for 9 mos. through 55 years

Menveo® licensed for ages 2 mos. through 55 years

MenQuadfi (A, C, W, Y) licensed for ages ≥ 2 yrs. ---- 1 dose

ACIP recommends:

- Dose 1---age 11-12 years preferred
- Booster dose---age 16 years
- Minimum interval between doses---8 weeks
- If 1st dose is received ≥16 years of age, a 2nd dose is not needed
- College students ≤21 years of age need 1 dose of MCV4 ≤5 years before enrollment.

Beginning July 1, 2021, a meningococcal conjugate (MCV4/MenACWY) booster will be required for all high school students entering the 11th grade and who are 16 years of age or older.**

Persons aged ≥56 years who are recommended meningococcal vaccination because they are at increased risk for meningococcal disease should receive MenACWY conjugate vaccine.

*MMWR, March 22, 2013, Vol 62, #RR02

**<https://dph.georgia.gov/immunization-section>

**<https://dph.georgia.gov/public-health-regulations/regulationsrule-making>

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Why Boost at 16 Years of Age?

- Studies indicate that protective levels of circulating antibody decline 3 to 5 years after a single MCV4 dose.
- Vaccine effectiveness case-control study suggests that many adolescents are not protected 5 years after vaccination.
- According to ACIP a single dose of meningococcal conjugate vaccine administered at age 11 or 12 years is unlikely to protect most adolescents through the period of increased risk at ages 16 through 21 years.

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Meningococcal Conjugate Vaccine (MCV4) For Adolescents with Certain Medical Conditions*

Two-dose primary series in adolescents with

- HIV infection
- Asplenia
- Complement component deficiency

Minimal interval of 8 weeks between Dose 1 and 2

Persons Who Have Persistent Complement Component Deficiencies (C3, C5-9, Properdin, Factor D, and Factor H) and Anatomic or Functional Asplenia should receive a booster dose every 5 years.

*MMWR / March 22, 2013 / Vol. 62 / No. 2

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Meningococcal Incidence by Serogroup and Age-Group, United States, 2005-2013



SOURCE: CDC, National Notifiable Diseases Surveillance System with additional serogroup data from Active Bacterial Core surveillance and state health departments.
Unknown serogroup (25%) and other serogroups (8%) excluded

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Serogroup B Meningococcal Vaccine

Bexsero® licensed for ages 10 through 25 years (2 dose)
Trumenba® licensed for ages 10 through 25 years (2 or 3 dose)

ACIP recommends serogroup B meningococcal vaccine for*:

- Persons with persistent complement component deficiencies
- Persons with anatomic or functional asplenia
- Microbiologists routinely exposed to isolates of *Neisseria meningitidis*
- Persons identified to be at increased risk because of a serogroup B meningococcal disease outbreak**
- The 2 vaccine products are not interchangeable.

Based on shared clinical decision making:

A Men B vaccine series may be administered to adolescents and young adults 16 through 23 years of age to provide short-term protection against most strains of Men B. Preferred age is 16-18 years.

*MMWR, June 12, 2015, Vol. 64 #22; 608-611

** MMWR, October 23, 2015, Vol. 64 #41; 1171-1176

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Serogroup B Meningococcal Vaccine Administration

Bexsero® licensed for ages 10 through 25 years (2 dose)
Trumenba® licensed for ages 10 through 25 years (2 dose or 3 dose)

MenB-FHbp (Trumenba®)

- 2 dose schedule – administered at 0, 6 months
- Given to healthy adolescents who are not at increased risk for meningococcal disease
- 3 dose schedule – administered at 0, 1-2, 6 months
- Given to persons at increased risk for meningococcal disease and for use during serogroup B outbreaks

MenB-4C (Bexsero®)

- 2 dose schedule – 0, 1-2 months

Meningitis B Vaccine

Since licensed and designated a permissive recommendation for healthy adolescents and adults, some colleges and universities have added this vaccine to their list of optional vaccines. Families may inquire about this vaccine.

KEY POINTS

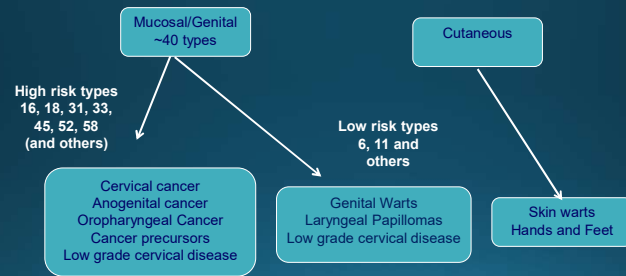
- It is not a replacement for the meningococcal conjugate vaccine.
- Insurance coverage has improved since the permissive designation and most plans that cover vaccines will cover this one.
- Consider discussing with your vaccine representative about purchasing requirements (ex. number of doses to be purchased).

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Types of Human Papilloma Virus (HPV)*

(More Than 200 Types Identified)



*Epidemiology and Prevention of Vaccine Preventable Diseases 13th Edition, 2015

*Red Book – AAP 2018 Report of the Committee on Infectious Diseases

* MMWR, August 29, 2014, RR Vol. 63, No. 5

HPV Vaccine*

Gardasil 9[®] (9vHPV) HPV types 6, 11, 16, 18, 31, 33, 45, 52, 58

ACIP recommends HPV vaccine starting at age 11 or 12 years for:

- All males and females through 26 years of age
- Catch-up vaccination for persons through age 26 who are not adequately vaccinated

Gardasil 9 is now also licensed for all persons 9 through 45 yrs. of age**

- Use the 3-dose schedule for persons 15-45 years of age
- Based on shared clinical decision making, the series may be given to persons ages 27-45.

*https://www.merck.com/product/usa/pi_circulars/g/gardasil_9/gardasil_9_pi.pdf

* MMWR, August 29, 2014, RR Vol. 63, No. 5

**MMWR, August 16, 2019, Vol 68, No. 32

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ACIP Recommendations and Schedule*

2 Dose Schedule:

HPV vaccine initiated between 9-14 years can be given in two doses: 0, 6-12 months.
(If the 2nd dose is administered at least 5 months after 1st dose, it can be counted).

3 Dose Schedule:

HPV vaccine initiated after the 15th birthday or certain immunocompromising conditions should be vaccinated with the 3 dose schedule: 0, 1-2, 6 months

Dose 2 should be given at least 1 to 2 months after first dose (1 month minimum); Dose 3 should be given at least 6 months after the first dose (minimum of 3 months between dose 2 and 3)

*MMWR, December 16, 2016, Vol 65, No. 49

Evidence of Reduction in HPV Prevalence*

National Health and Nutrition Examination Survey (NHANES) Data

Prevalence of HPV 6,11,16,18 in U.S. girls age 14-19

2003-2006: **11.5%**

HPV Vaccine
Licensed in 2006



2011-2014: **3.3%**

* Markowitz et al J Infectious Dis. 2013; 208: 385, Ohio Chapter, American Academy of Pediatrics. TIES: Teen Education Immunization Sessions *Markowitz, L. MD. Division of Viral Diseases. ACIP, June, 23, 2016. * <https://www.ncbi.nlm.nih.gov/pubmed/28931217>

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Reasons to Immunize Against HPV at 11-12 Years of Age*

- Higher antibody level attained when given to pre-teens rather than to older adolescents or women
- At this age, more likely to be administered before onset of sexual activity
- HPV can be transmitted by other skin-to-skin contact, not just sexual intercourse
- There is no link between vaccine and riskier sexual behavior
- Even those who abstain from sex until marriage can be infected by their marital partner
- Individuals need to complete the series for full protection
- This is an anti-cancer vaccine, and.....

Over 90% of HPV cancers are preventable through HPV vaccination.

*Presented by Anne Schuchat, MD, RADM US Public Health Service, Asst. Surgeon General, Director NCIRD at Immunize Georgia Conference, Atlanta, GA, 9-11-14
Increasing HPV Vaccination Rates Among Adolescents: Challenges and Opportunities. PolicyLab: The Children's Hospital of Philadelphia, 2016.

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HPV Vaccine: Special Situations*

Vaccine can still be given, even if

- History of genital warts
- History of abnormal Pap test result
- Patient is immunocompromised
- Female patient is breastfeeding

*Ohio Chapter, American Academy of Pediatrics. TIES: Teen Education Immunization Sessions

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Types of Vaccine-Hesitant Parents*

- **Uninformed but educable**
Want education to counter anti-vaccine information
- **Misinformed but correctable**
Need information about vaccine benefits
- **Well-read and open-minded**
Want to intelligently discuss pros and cons
- **Strongly vaccine-hesitant**
Willing to listen but not likely to change their mind right away
- **Strong-willed and committed against vaccines**
Want to sway the health care provider to their line of thinking

*Halperin SA. *Canadian J CME*. 2000;12(1):62-74. * Harrington JW. *Consultant Ped*. 2011;10(11):S17-S21.

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Provider Strategies to Improve Vaccination Rates*

- **Strengthening vaccination recommendations**
 - Increased emphasis in the practice on training re: vaccine safety and efficacy for ALL employees having patient contact
 - Having OB doctors begin the promotion of vaccines with expectant mothers, for themselves and for their newborn
 - Be alert to avoid missed opportunities
 - Decrease acceptance of alternative schedules
- **Strengthening vaccine mandates**
 - Eliminating nonmedical exemptions
 - Increased enforcement of state mandates by schools and childcare facilities

*Children's Hospital of Philadelphia, Vaccine Update for Healthcare Providers, "News & Views: Addressing Vaccine Hesitancy," March 21, 2017

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Provider Strategies* (cont'd)

- **Attention to requirements of “informed refusal”*****
 - Explain basic facts/uses of proposed vaccine
 - Review risks of refusing the vaccine(s)
 - Discuss anticipated outcomes with and without vaccination
 - Parental/patient completion of Refusal to Vaccinate form each visit
- **Importance of documenting informed refusal to vaccinate****
 - Claims of failure to warn of consequences of failing to vaccinate have resulted in successful lawsuits
 - Documented informed refusal creates a record of interaction between parents/patients and providers

*Children's Hospital of Philadelphia, Vaccine Update for Healthcare Providers, “News & Views: Addressing Vaccine Hesitancy,” March 21, 2017
 **AAP Publications, “Document informed refusal just as you would informed consent,” James P. Scibilia, M.D. FAAP, October 30, 2018

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Adolescent Vaccine Safety

Fainting—or syncope—can occur after any medical procedure, including vaccination

- Adolescents should be seated or lying down during vaccination
- Providers should consider observing patients in seated or lying positions for 15 minutes after vaccination
- Concern: risk for serious secondary injuries

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Examples of Effective Messaging For Providers*

- **CDC Research shows:** The “HPV vaccination is cancer prevention” message resonates strongly with parents. Studies show that a strong provider recommendation is the best predictor of vaccination.
- **Sample Dialogue:** HPV vaccination is very important because it prevents cancer. I want your child to be protected. That is why I am recommending that your son/daughter receive their first HPV vaccine today.

*Gable, J., Eder, J., Noonan, K. and Feemstar, K. Increasing HPV Vaccination Rates Among Adolescents: Challenges and Opportunities. PolicyLab: The Children's Hospital of Philadelphia, 2016.

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Examples of Effective Messaging For Providers* (cont'd)

- **CDC Research Shows:** Providers who emphasize their personal belief in the importance of HPV vaccines help parents feel secure in their decision.
- **Sample Dialogue:** I strongly believe in the importance of this cancer-preventing vaccine. My son/daughter has received it. Experts agree that this vaccine is very important for your child.

*Gable, J., Eder, J., Noonan, K. and Feemstar, K. Increasing HPV Vaccination Rates Among Adolescents: Challenges and Opportunities. PolicyLab: The Children's Hospital of Philadelphia, 2016.

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Critical Elements for Immunization Services



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Recommended Healthcare Personnel Vaccinations

- Hepatitis B (exposure risk) check immunity
- Influenza (annual)
- Measles, Mumps, Rubella (MMR)
- Varicella (Chickenpox)
- Tetanus, Diphtheria, Pertussis (Tdap)
- Meningococcal (recommended for microbiologists who are routinely exposed to isolates of *N. meningitidis*).

Are **YOU** up to date?

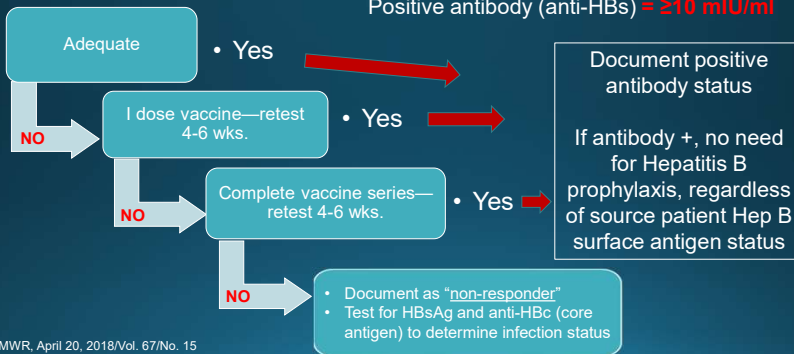


Available at www.immunize.org, P#2017

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Hepatitis B Immunization Status for Previously Vaccinated HCP with No Post-vaccination Testing*

Positive antibody (anti-HBs) = ≥ 10 mIU/ml



*MMWR, April 20, 2018/Vol. 67/No. 15

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2020 Childhood and Adolescent Immunization Schedules*

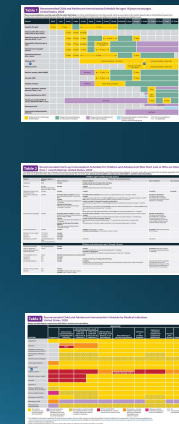
- Recommended Schedule for Children Ages 0-18 Years
- Catch-up Schedule
- Vaccines that might be indicated for children and adolescents aged 18 years or younger based on medical indications

Changes

- Gray boxes indicate "no recommendation/not applicable"
- Blue boxes added to indicate "shared clinical decision making"

READ THE FOOTNOTES TO ACCESS SPECIFIC VACCINE ADMINISTRATION DETAILS!

*CDC Recommended Child and Adolescent Immunization Schedule, United States, 2020



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Indications Recommendations Requirements



Indication

- Information about the appropriate use of the vaccine

Recommendation

- ACIP statement that broadens and further delineates the Indication found in the package insert
- Basis for standards for best practice
- All ACIP Recommendations can be found at:
<https://www.cdc.gov/vaccines/hcp/acip-recs/index.html>

Requirement

- Mandate by a state that a particular vaccine must be administered and documented before entrance to child care and/or school

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Updated Vaccine Storage and Handling Recommendations*

- Use stand-alone refrigerator and stand-alone freezer units. If combined, use only refrigerator part.
- Do not store any vaccine in a dormitory-style or bar-style combined refrigerator/freezer unit.
- Use a bio-safe glycol-encased probe or a similar temperature buffered probe
- Probes should be calibrated every 1-2 yrs. or according to manufacturers' guidelines
- Use digital data loggers.
- Do not store ANYTHING ELSE in refrigerator.
- Review vaccine expiration dates and rotate vaccine stock weekly.



*Vaccine Storage and Handling Toolkit, January, 2020

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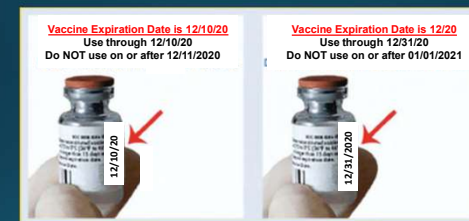
Maintaining Appropriate Vaccine Storage & Handling*

- Assign a primary and alternate vaccine coordinator.
 - Store all vaccines as recommended by manufacturer and IN ORIGINAL PACKAGING, WITH THE LID CLOSED.
 - Monitor and record temperatures of refrigerator and freezer twice daily.
 - Correct ranges: refrigerator 36° F to 46° F; freezer -58° F to +5° F
 - Maintain temperature log records for 3 years.
 - Take immediate action for all out-of-range temps.
 - Implement a vaccine emergency system.
 - If it is necessary to transport vaccine, do NOT use dry ice.
- See Vaccine Storage and Handling Toolkit, Section 6 for Transport System Recommendations.

*Vaccine Storage and Handling Toolkit, January 2020

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Check Expiration Date of Vaccines and Diluents



Note: Some multidose vials have a **beyond use date (BUD)** that becomes effective once the vial is entered with a needle. This date may vary from the expiration date printed on the vial. Consult package insert, but be sure to indicate this BUD date change on the vial.

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Improper Immunization Administration Practices*

DO NOT re-use needles or syringes, due to the possibility of:

- Transmission of blood-borne viruses (HCV, HBV, HIV)
- Referral of providers to licensing boards for disciplinary action
- Malpractice suits filed by patients

Never use partial doses from 2 or more vials to obtain a dose of vaccine.**

Per OSHA and the CDC, you MAY use the same needle to withdraw a diluent, inject this into a lyophilized vaccine vial, and then administer to a patient, providing the needle or syringe has not otherwise been contaminated.**

*CDC, NCEIZ, DHQP. Injection Safety Information for Providers: www.cdc.gov/injectionsafety/providers.html

**<http://www.immunize.org/askexperts/administering-vaccines.asp>

**Vaccine Storage and Handling Toolkit, January, 2020

Always Document...

- Accept only written documentation of prior immunizations
- Provide VIS prior to administration of vaccine
- After vaccine administration, document:
 - ✓ Publication date of VIS & date VIS given
 - ✓ Date, site, route, antigen(s), manufacturer, lot #
 - ✓ Person administering vaccine, practice name and address
 - ✓ Vaccine refusals with a signed "Refusal to Vaccinate Form"—see [Online Resources slide for link to this form](#)
 - ✓ GA law does not require signed consent for immunizations



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A 'Birth to Death' Immunization Registry

- Providers administering vaccines in Georgia must provide appropriate information to GRITS.
- GRITS personnel can work with your EHR/EMR vendor to create an interface between your system and GRITS.
- Use GRITS to generate reminders on medical records and/or notify patients when vaccines are needed.
- Assess your immunization rates using GRITS to improve patient care, HEDIS scores, and identify problem areas.

Call the GRITS Training Coordinator (404) 463-0807 or e-mail : <https://dph.georgia.gov/georgia-immunization-registry-grits>

Exemptions From School/Day Care Requirements

Medical Exemption O.C.G.A. §20-2-771(d)

- Used when a physical disability or medical condition contraindicates a particular vaccine.
- Requires an annual review.
- The medical exemption is documented in GRITS.

Religious Exemption O.C.G.A. §20-2-771(e)

- Parent or guardian must be directed to <http://dph.georgia.gov/immunization-section> to obtain an Affidavit of Religious Objection to Immunization form.
- This form must be signed and notarized and provided to the school.
- Must be kept on file at school/facility in lieu of an immunization certificate.
- Affidavit does not expire.

Georgia does NOT have a philosophical exemption.

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Monitoring Vaccine Safety



• VAERS—Vaccine Adverse Event Reporting System

Option 1 - Report Online to VAERS (Preferred)

Submit a VAERS report online. The report must be completed online and submitted in one sitting and cannot be saved and returned to at a later time. Your information will be erased if you are inactive for 20 minutes; you will receive a warning after 15 minutes.

Option 2 - Report using a Writable PDF Form

Download the Writable PDF Form to a computer. Complete the VAERS report offline if you do not have time to complete it all at once. Return to this page to upload the completed Writable PDF form by clicking here. If you need further assistance with reporting to VAERS, please email info@VAERS.org or call 1-800-822-7967.

- FDA and Vaccine Data Link Safety Project
- VERP: **V**ACCINE **E**RROR **R**EPORTING **S**YSTEM
 - ✓ On line reporting at <http://verp.ismp.org/>
 - ✓ Report even if no adverse events associated with incident
 - ✓ Will help identify sources of errors to help develop prevention strategies

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Why do we miss opportunities to immunize?

- Physician or patient unaware of the need
- Visits for mild illness, injury, or follow-up
- Need for multiple vaccines
- Invalid contraindications
- Inappropriate clinic policies
- Reimbursement deficiencies



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Invalid Contraindications to Vaccine*

- | | |
|---|--|
| • Mild illness or injury | • Breastfeeding |
| • Antibiotic therapy | • Prematurity |
| • Disease exposure or convalescence | • Allergies to products not in vaccine |
| • Pregnancy or immunosuppression in household | • Need for TB skin testing |
| • Family history of an adverse event to a vaccine | • Need for multiple vaccines |

*General Recommendations on Immunization - MMWR January 28, 2011, Vol 60 # RR02

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Vaccine Risk Perception

Many parents are not familiar with vaccine-preventable diseases and perceive the risks of vaccines outweigh the benefits.

Concerns

- Immune system overload
- Children get too many shots at one visit
- Vaccines have side effects (adverse reactions)
- Immunity from the disease is better than immunity from a vaccine (i.e. chicken pox)
- Vaccines cause autism

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Anti-Vaccine Movement

- Promotes the idea that there is less evidence of disease today and immunizations are no longer needed
- Sends confusing & conflicting information
- Uses stories, personal statements, and books to play on the emotional side of concerned parents

Encourage parents/patients to:

- Get the facts
- Consider the source
- Discuss their concerns with you



Global Vaccine Awareness League



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Resources for Factual & Responsible Vaccine Information



www.vaccinesafetynet.org



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Be sure everyone in the office understands the mission!*



- Human stories often influence people more than statistics
- To understand the human stories behind HPV, listen to survivors
 - Shot By Shot
 - Unprotected People at www.immunize.org

*Presentation by Jill Roark and Allison Fisher Health Communication Science Office, National Center for Immunization and Respiratory Diseases, Centers for Disease Control and Prevention from GA AAP Webinar, Atlanta, GA March 16, 2016.

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Stay Current!



- Sign up for listserv sites which provide timely information pertinent to your practice
www.immunize.org/resources/emailnews.asp
- AAP Newsletter
- CDC immunization websites (32 in all)
- CHOP Parents Pack Newsletter
- IAC Express, Needle Tips and Vaccinate Adults
- Websites specific to particular vaccines

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**YOU ARE ALL PART OF THE TEAM THAT CAN
MAKE SURE YOUR PATIENTS RECEIVE THE
IMMUNIZATIONS THEY NEED!**

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Online Resources*

Current Childhood and Adult Immunization Schedules –
www.cdc.gov/vaccines/schedules/index.html

Parent's Guide to Childhood Immunizations –
www.cdc.gov/vaccines/parents/tools/parents-guide/index.html

Order Information for Free CDC Immunization Materials for Providers and Patients – wwwn.cdc.gov/pubs/CDCInfoOnDemand.aspx

Vaccine Labels to Organize a Storage Unit –
www.cdc.gov/vaccines/hcp/admin/storage/guide/vaccine-storage-labels.pdf

*Course Resource—Epidemiology & Prevention of Vaccine-Preventable Diseases—C296544-E

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Vaccine Information Statements (VISs) –
www.cdc.gov/vaccines/hcp/vis/current-vis.html

Refusal to Vaccinate Form –
https://dph.georgia.gov/search?search=refusal+to+vaccinate+form&sm_site_name=dph

Standing Orders (Explanation and Templates) –
www.immunize.org/standing-orders/

Ask the Experts – www.immunize.org/askexperts/

General Best Practice Guidelines for Immunization –
<https://www.cdc.gov/vaccines/hcp/acip-recs/general-recs/index.html>

*Course Resource—Epidemiology & Prevention of Vaccine-Preventable Diseases—C296544-E

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Questions?

Contacts for more immunization information and resources!

National Center for Immunization and Respiratory Diseases, CDC

E-mail [▶ NIPInfo@cdc.gov](mailto:NIPInfo@cdc.gov)

Hotline 800.CDC.INFO

Website <http://www.cdc.gov/vaccines>

Georgia Immunization Program

E-mail DPH-Immunization@dph.ga.gov

Hotline 404-657-3158

Website <http://dph.georgia.gov/immunization-section>

Immunization Action Coalition

E-mail admin@immunize.org

Phone 651.647.9009

Website www.immunize.org

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Test Your Knowledge! EPIC 2020

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Test Your Knowledge!

Simon received MPSV4 at 5 years of age for international travel and a dose of MCV4 at age 11.

Does he need a booster dose of MCV4 vaccine at age 16?

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Test Your Knowledge!

Simon received MPSV4 at 5 years of age for international travel and a dose of MCV4 at age 11.

Does he need a booster dose of MCV4 vaccine at age 16?*

Yes. Any meningococcal vaccination given prior to the tenth birthday (either with MCV4 or MPSV4) does NOT count toward routinely recommended doses.

*Immunization Action Coalition, Ask the Experts - Reviewed September 2013

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Test Your Knowledge!

Ethan is 17 years old. After his second DTP vaccine at 4 months of age he cried persistently for 4 hours, had a fever of 104°F, and developed a severe local reaction at the injection site.

His pediatrician subsequently administered DT at 6 months, 18 months and 5 years of age. He received Td when he was 12 years old.

With this history of a severe reaction to pertussis vaccine, should he receive Tdap?

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Test Your Knowledge!

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His pediatrician subsequently administered DT at 6 months, 18 months and 5 years of age. He received Td when he was 12 years old.

With this history of a severe reaction to pertussis vaccine, should he receive Tdap?*

Yes, administer Tdap. These adverse reactions in infancy are not contraindications or precautions for Tdap vaccination in adolescents.

*Preventing Tetanus, Diphtheria, and Pertussis Among Adolescents: Use of Tetanus Toxoid, Reduced Diphtheria Toxoid and Acellular Pertussis Vaccines MMWR Recommendations and Reports March 24, 2006 / Vol. 55 / No. RR-3

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Test Your Knowledge!

Dakota is an 18 year girl who will be starting her first year of college in August. She had her first dose of HPV vaccine on April 5 and her second dose on May 8. She will not be coming home again until late November.

Should you give her the third dose of HPV vaccine before she leaves home in mid August?

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Test Your Knowledge!

Dakota is an 18 year girl who will be starting her first year of college in August. She had her first dose of HPV vaccine on April 5 and her second dose on May 8. She will not be coming home again until late November.

Should you give her the third dose of HPV vaccine before she leaves home in mid August?*

No! The minimum interval between the second and third doses of vaccine is 12 weeks. The minimum interval between the first and third doses is 24 weeks.

*Immunization Action Coalition, Ask the Experts, April 2012

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Test Your Knowledge!

If dose #1 of HPV vaccine was given before the 15th birthday and it has been more than a year since that dose was given, would the series be complete with just one additional dose?

Recommendation?

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Test Your Knowledge!

If dose #1 of HPV vaccine was given before the 15th birthday and it has been more than a year since that dose was given, would the series be complete with just one additional dose?

Recommendation?*

Yes. Adolescents and adults who started the HPV vaccine series prior to the 15th birthday and who are not immunocompromised are considered to be adequately vaccinated with just one additional dose of HPV vaccine.

*Immunization Action Coalition – Ask the Experts, #1283, January 2017

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Test Your Knowledge!

Which individuals who are not in risk groups are recommended to be vaccinated against meningococcal serogroup B disease?

Recommendation?

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Test Your Knowledge!

Which individuals who are not in risk groups are recommended to be vaccinated against meningococcal serogroup B disease?

Recommendation?*

ACIP recommends that a MenB vaccine series (Bexero, MenB-4C, GSK; Trumenba, MenB-FHbp, Pfizer) may be administered to people 16 through 23 years of age with a preferred age of vaccination of 16 through 18 years.

This permissive recommendation gives clinicians an opportunity to discuss the value of MenB vaccination with their patients and to make a shared clinical decision together about the individual's need or desire for the vaccine based on risks, benefits, and wish for protection from the disease.

*Immunization Action Coalition – Ask the Experts, #1283, January 2017

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