



EPIC® Immunization Update Education for Women's Health Care Providers

Making a Strong Recommendation for Vaccines in your Practice

Clinical, Operational, & Financial Issues

September 2023



Acknowledgements

EPIC[®] is presented by:

Georgia OB/Gyn Society

Georgia Chapter – American Academy of Pediatrics

Ga. Dept. of Public Health/Immunization Program

EPIC[®] (Educating Physicians & Practices In their Communities) is a registered trademark of the Georgia Chapter of the American Academy of Pediatrics. All rights reserved.



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, attendees will be able to:

- Discuss three reasons why it is important to provide vaccines at women's health practices
- Interpret the Adult Immunization Schedule
- Make a strong recommendation for vaccines in pregnant women
- Summarize the most recent CDC recommendations for storage and handling of vaccines
- State a plan to incorporate vaccines into the workflow of the practice
- Assess an immunization financial analysis

Why is it important for a women's health practice to provide vaccines?

- ACOG and ACNM recommends assessments of immunization status as part of the routine screening recommendations*
- Your practice may be the only source of health care for many of your patients
- You have an opportunity to decrease the likelihood of influenza during pregnancy (**Influenza vaccine**)
- You can protect pregnant women and newborns against pertussis (**Tdap vaccine**)
- You can offer a vaccine to prevent infection with 9 types of HPV for women and men through 45 years of age (**HPV vaccine**)**
- You can protect women at risk for hepatitis B infection (**Hepatitis B vaccine**)
- **You can prevent COVID in your patients & their newborns**

*ACOG Committee Opinion 558 April 2013

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

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



2023 Recommended Immunization Schedule for Adults Aged ≥19 Years*

- Recommended adult schedule by age group
- Recommended immunization schedule for adults aged 19 years or older by medical condition and other indications

Changes

- Clarification of the charts
- Additional information in the Notes section

READ THE FOOTNOTES TO ACCESS SPECIFIC VACCINE ADMINISTRATION DETAILS!

Table 1 Recommended Adult Immunization Schedule by Age Group, United States, 2023

Vaccine	19–26 years	27–49 years	50–64 years	≥65 years
COVID-19	2- or 3- dose primary series and booster (See Notes)			
Influenza inactivated (IIV4) or Influenza recombinant (RIV4)	1 dose annually			
Influenza live, attenuated (LAIV4)	1 dose annually			
Tetanus, diphtheria, pertussis (Tdap or Td)	1 dose Tdap each pregnancy; 1 dose Td/Tdap for wound management (see notes) 1 dose Tdap, then Td or Tdap booster every 10 years			
Measles, mumps, rubella (MMR)	1 or 2 doses depending on indication (if born in 1957 or later)			
Varicella (VAR)	2 doses (if born in 1980 or later)			
Zoster recombinant (ZCV)	2 doses for immunocompromising conditions (see notes)			
Human papillomavirus (HPV)	2 or 3 doses depending on age at initial vaccination or condition			
Pneumococcal (PCV15, PCV20, PPSV23)	1 dose PCV15 followed by PPSV23 OR 1 dose PCV20 (see notes)			
Hepatitis A (HepA)	2, 3, or 4 doses depending on vaccine			
Hepatitis B (HepB)	2, 3, or 4 doses depending on vaccine or condition			
Meningococcal A, C, W, Y (MenACWY)	1 or 2 doses depending on indication, see notes for booster recommendations			
Meningococcal B (MenB)	19 through 23 years			
Haemophilus influenzae type b (Hib)	1 or 3 doses depending on indication			

 Recommended vaccination for adults who meet age requirement, lack documentation of vaccination, or lack evidence of past infection.
 Recommended vaccination for adults with an additional risk factor or another indication.
 Recommended vaccination based on shared clinical decision making.
 Contraindicated or not recommended based on shared clinical decision making.
 No recommendation/Not applicable.

Table 2 Recommended Adult Immunization Schedule by Medical Condition or Other Indication, United States, 2023										
Vaccine	Pregnancy	Immunocompromised (excluding HIV infection)	HIV infection CD4 percentage and count	Asplenia, complement deficiencies	End-stage renal disease, or on hemodialysis	Heart or lung disease, alcoholism*	Chronic liver disease	Diabetes	Health care personnel†	Men who have sex with men
COVID-19		See Notes								
IIV4 or RIV4 or LAIV4	1 dose annually									1 dose annually
Tdap or Td	1 dose Tdap each pregnancy	1 dose Tdap, then Td or Tdap booster every 10 years								
MMR	Contraindicated*	Contraindicated	1 or 2 doses depending on indication							
VAR	Contraindicated*	Contraindicated	2 doses							
RZV		2 doses at age ≥19 years				2 doses at age ≥50 years				
HPV	Not Recommended‡	3 doses through age 26 years		2 or 3 doses through age 26 years depending on age at initial vaccination or condition						
Pneumococcal (PCV15, PCV20, PPSV23)		1 dose PCV15 followed by PPSV23 OR 1 dose PCV20 (see notes)								
HepA				2, 3, or 4 doses depending on vaccine						
HepB	3 doses (see notes)	2, 3, or 4 doses depending on vaccine or condition								
MenACWY	1 or 2 doses depending on indication, see notes for booster recommendations									
MenB	Precaution‡	2 or 3 doses depending on vaccine and indication, see notes for booster recommendations								
Hib		3 doses HibT: recipients only		1 dose						

Recommended vaccination for adults who meet age requirement, lack documentation of vaccination, or lack evidence of past infection

Recommended vaccination for adults with an additional risk factor or another indication

Recommended vaccination based on shared clinical decision making

Precaution—vaccination might be indicated if benefit of protection outweighs risk of adverse reaction

Contraindicated or not recommended—vaccine should not be administered

No recommendation/Not applicable

*Vaccinate after pregnancy. †Vaccinate after pregnancy. ‡Precaution for LAIV4 does not apply to alcoholism. See notes for influenza, hepatitis B, measles, mumps, and rubella, and varicella vaccinations. c. Hematopoietic stem cell transplant.

Table 1 Recommended Adult Immunization Schedule by Age Group, United States, 2023

Vaccine	19–26 years	27–49 years	50–64 years	≥65 years
COVID-19	2- or 3- dose primary series and booster (See Notes)			
Influenza inactivated (IIV4) or Influenza recombinant (RIV4)	1 dose annually			
Influenza live, attenuated (LAIV4)	1 dose annually			
Tetanus, diphtheria, pertussis (Tdap or Td)	1 dose Tdap each pregnancy; 1 dose Td/Tdap for wound management (see notes)			
	1 dose Tdap, then Td or Tdap booster every 10 years			
Measles, mumps, rubella (MMR)	1 or 2 doses depending on indication (if born in 1957 or later)			For healthcare personnel, see notes
Varicella (VAR)	2 doses (if born in 1980 or later)		2 doses	
Zoster recombinant (RZV)	2 doses for immunocompromising conditions (see notes)		2 doses	
Human papillomavirus (HPV)	2 or 3 doses depending on age at initial vaccination or condition	27 through 45 years		
Pneumococcal (PCV15, PCV20, PPSV23)	1 dose PCV15 followed by PPSV23 OR 1 dose PCV20 (see notes)			See Notes
				See Notes
Hepatitis A (HepA)	2, 3, or 4 doses depending on vaccine			
Hepatitis B (HepB)	2, 3, or 4 doses depending on vaccine or condition			
Meningococcal A, C, W, Y (MenACWY)	1 or 2 doses depending on indication, see notes for booster recommendations			
Meningococcal B (MenB)	2 or 3 doses depending on vaccine and indication, see notes for booster recommendations			
	19 through 23 years			
<i>Haemophilus influenzae</i> type b (Hib)	1 or 3 doses depending on indication			

Recommended vaccination for adults who meet age requirement, lack documentation of vaccination, or lack evidence of past infection

Recommended vaccination for adults with an additional risk factor or another indication

Recommended vaccination based on shared clinical decision-making

No recommendation/Not applicable

Table 2 Recommended Adult Immunization Schedule by Medical Condition or Other Indication, United States, 2023

Vaccine	Pregnancy	Immuno-compromised (excluding HIV infection)	HIV infection CD4 percentage and count		Asplenia, complement deficiencies	End-stage renal disease, or on hemodialysis	Heart or lung disease; alcoholism ^a	Chronic liver disease	Diabetes	Health care personnel ^b	Men who have sex with men	
			<15% or <200 mm ³	≥15% and ≥200 mm ³								
COVID-19		See Notes										
IIV4 or RIV4 or LAIV4	1 dose annually											
	Contraindicated					Precaution				or 1 dose annually		
Tdap or Td	1 dose Tdap each pregnancy	1 dose Tdap, then Td or Tdap booster every 10 years										
MMR	Contraindicated ⁴⁶	Contraindicated	1 or 2 doses depending on indication									
VAR	Contraindicated ⁴⁶	Contraindicated		2 doses								
RZV		2 doses at age ≥19 years				2 doses at age ≥50 years						
HPV	Not Recommended ⁴⁶	3 doses through age 26 years				2 or 3 doses through age 26 years depending on age at initial vaccination or condition						
Pneumococcal (PCV15, PCV20, PPSV23)		1 dose PCV15 followed by PPSV23 OR 1 dose PCV20 (see notes)										
HepA				2, 3, or 4 doses depending on vaccine								
HepB	3 doses (see notes)	2, 3, or 4 doses depending on vaccine or condition										
MenACWY	1 or 2 doses depending on indication, see notes for booster recommendations											
MenB	Precaution	2 or 3 doses depending on vaccine and indication, see notes for booster recommendations										
Hib		3 doses HSCT ^c recipients only			1 dose							

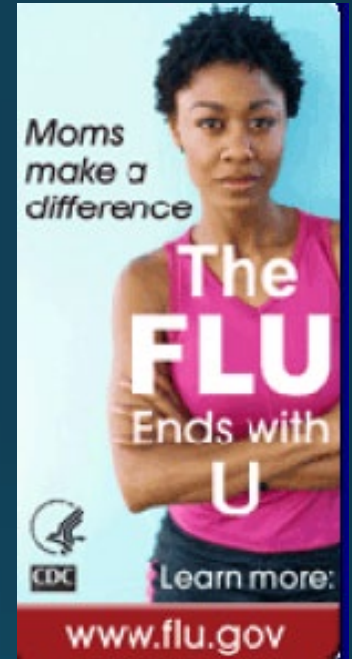
Recommended vaccination for adults who meet age requirement, lack documentation of vaccination, or lack evidence of past infection
 Recommended vaccination for adults with an additional risk factor or another indication
 Recommended vaccination based on shared clinical decision-making
 Precaution—vaccination might be indicated if benefit of protection outweighs risk of adverse reaction
 Contraindicated or not recommended—vaccine should not be administered.
 No recommendation/Not applicable

^{*}Vaccinate after pregnancy.

a. Precaution for LAIV4 does not apply to alcoholism. b. See notes for influenza; hepatitis B; measles, mumps, and rubella; and varicella vaccinations. c. Hematopoietic stem cell transplant.

Influenza*

- Influenza affects about 10-20% of the population every year (spreads easily).
- Responsible for significant illness, hospitalizations and deaths every year.
- In the United States, the influenza season typically occurs from October through May with peak activity occurring December to March.



*ACOG Committee Opinion number 608: Influenza Vaccination During Pregnancy, September 2014

*ACOG Committee Opinion number 558: Integrating Immunizations into Practice. April 2013

Influenza*

- Influenza begins with the abrupt onset of fever, headache, myalgia, and malaise accompanied by non-productive cough, sore throat, and nasal discharge.
- Pregnant women disproportionately experience severe sequelae including pneumonia, cardiopulmonary complications, preterm birth and death.
- This risk increases with each trimester.
- ACIP recommends that all persons 6 months and older, including pregnant women, receive the influenza vaccine starting in the fall of each year.
- Only about 54% of pregnant women receive the influenza vaccine.**



*ACOG Committee Opinion 558 April 2013

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

Reasons why pregnant women do not receive influenza vaccine*

- Lack of knowledge about seriousness of influenza
- Never have received influenza vaccine in the past
- Safety concerns about the vaccine
- Fear of needles
- Lack of insurance or access to care
- General mistrust of medical profession
- **Medical provider did not recommend influenza vaccine**

Benefits of Influenza Vaccination during Pregnancy*

- Reduces influenza related complications in pregnant women and their infants
- Vaccinating the mother protects newborns against influenza. This is the only way of providing antibody to the newborn.
- No evidence of teratogenicity
- No evidence of harm to pregnant women or their infants even with vaccines containing thimerosal



Frequently Asked Questions About Influenza Vaccine During Pregnancy*

Why should pregnant women get a flu shot?

Changes in the immune system, heart, and lungs during pregnancy make pregnant women more prone to severe illness from flu and raises the risk for complications.

Is it safe for pregnant women and their unborn babies to get a flu shot?

YES

What side effects have pregnant women experienced from flu shots?

The most common side effects are the same as other vaccine recipients (soreness, redness, swelling at injection site), fainting, headache, fever, muscle aches, nausea, fatigue.

Can pregnant women with egg allergies get vaccinated?**

YES

More Frequently Asked Questions About Influenza Vaccine During Pregnancy*

How is the safety of influenza vaccination of pregnant women monitored?

The CDC and FDA conduct ongoing safety monitoring of all vaccines licensed for use in the United States using two monitoring systems:

- The Vaccine Adverse Event Reporting System (**VAERS**) monitors reported problems following vaccination.
- Vaccine Safety Data Link (**VSD**) is a collaboration between CDC and nine healthcare organizations that allows ongoing monitoring and proactive searches of vaccine related data .

The Vaccine and Medications in Pregnancy System (VAMPSS):

This is a national surveillance system designed to monitor the use and safety of vaccines and asthma medications during pregnancy, and uses two data collection approaches to get information about how vaccines and medications might affect your baby.

FDA Recommended Influenza Antigens for 2023-2024 Season in the U.S.

• Egg-based influenza vaccines	Cell culture–based inactivated (ccIIV4) and recombinant (RIV4) influenza vaccines
<ul style="list-style-type: none">• influenza A/Victoria/4897/2022 (H1N1)pdm09-like virus• an influenza A/Darwin/9/2021 (H3N2)-like virus• an influenza B/Austria/1359417/2021 (Victoria lineage)-like virus• an influenza B/Phuket/3073/2013 (Yamagata lineage)-like virus	<ul style="list-style-type: none">• influenza A/Wisconsin/67/2022 (H1N1)pdm09-like virus• an influenza A/Darwin/6/2021 (H3N2)-like virus• an influenza B/Austria/1359417/2021 (Victoria lineage)-like virus• an influenza B/Phuket/3073/2013 (Yamagata lineage)-like virus

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

Influenza Vaccine Products for the 2023–2024 Influenza Season

Manufacturer	Trade Name (vaccine abbreviation) ¹	How Supplied	Mercury Content (mcg Hg/0.5mL)	Age Range	CVX Code	Vaccine Product Billing Code ² CPT
AstraZeneca	FluMist (LAIV4)	0.2 mL (single-use nasal spray)	0	2 through 49 years	149	90672
GSK	Fluarix (IIV4)	0.5 mL (single-dose syringe)	0	6 months & older ³	150	90686
	FluLaval (IIV4)	0.5 mL (single-dose syringe)	0	6 months & older ³	150	90686
Sanofi	Flublok (RIV4)	0.5 mL (single-dose syringe)	0	18 years & older	185	90682
	Fluzone (IIV4)	0.5 mL (single-dose syringe)	0	6 months & older ³	150	90686
		0.5 mL (single-dose vial)	0	6 months & older ³	150	90686
		5.0 mL multi-dose vial (0.25 mL dose)	25	6 through 35 months ³	158	90687
		5.0 mL multi-dose vial (0.5 mL dose)	25	6 months & older	158	90688
	Fluzone High-Dose (IIV4-HD)	0.7 mL (single-dose syringe)	0	65 years & older	197	90662
Seqirus	Afluria (IIV4)	5.0 mL multi-dose vial (0.25 mL dose)	24.5	6 through 35 months ³	158	90687
		5.0 mL multi-dose vial (0.5 mL dose)	24.5	3 years & older	158	90688
		0.5 mL (single-dose syringe)	0	3 years & older ³	150	90686
	Fluad (aIIV4)	0.5 mL (single-dose syringe)	0	65 years & older	205	90694
	Flucelvax (ccIIV4)	0.5 mL (single-dose syringe)	0	6 months & older ³	171	90674
		5.0 mL multi-dose vial (0.5 mL dose)	25	6 months & older ³	186	90756

NOTES

1. IIV4 = egg-based quadrivalent inactivated influenza vaccine (injectable); where necessary to refer to cell culture-based vaccine, the prefix "cc" is used (e.g., ccIIV4); RIV4 = quadrivalent recombinant hemagglutinin influenza vaccine (injectable); aIIV4 = adjuvanted quadrivalent inactivated influenza vaccine.

2. An administration code should always be reported in addition to the vaccine product code. Note: Third party payers may have specific policies and guidelines that might require providing additional information on their claim forms.

3. Dosing for infants and children age 6 through 35 months:

- Afluria 0.25 mL
- Fluarix 0.5 mL
- Flucelvax 0.5 mL
- FluLaval 0.5 mL
- Fluzone 0.25 mL or 0.5 mL

4. Afluria is approved by the Food and Drug Administration for intramuscular administration with the PharmaJet Stratis Needle-Free Injection System for persons age 18 through 64 years.



FOR PROFESSIONALS www.immunize.org / FOR THE PUBLIC www.vaccineinformation.org

www.immunize.org/catg.d/p4072.pdf
Item #P4072 (8/5/2023)



Scan for PDF

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 2022-2023 season.

Contraindications to LAIV include:

- Children 2-4 yrs. of age with a diagnosis of asthma
- Persons receiving aspirin-containing medications – potential risk for Reye syndrome
- 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
- Persons who have received influenza antiviral medications within the previous days (dependent on antiviral)
- Persons with a cranial CSF leak; people with cochlear implants
- Persons with a severe allergic reaction to any component of the vaccine or to a previous dose of any influenza vaccine (exception for allergy to egg)
- Pregnancy

Co-administration

- Inactivated influenza vaccines (IIV4s) may be administered simultaneously or sequentially with other inactivated vaccines or live vaccines. Injectable vaccines that are given concomitantly should be administered at separate anatomic sites.
- LAIV4 can be administered simultaneously with other live or inactivated vaccines. However, if two live vaccines are not given simultaneously, then after administration of one live vaccine (such as LAIV4), at least 4 weeks should pass before another live vaccine is administered.
- Guidance concerning administration of COVID-19 vaccines with other vaccines indicates that these vaccines may be given with other vaccines, including influenza vaccines.
- Providers should be aware of the potential for increased reactogenicity with coadministration and should consult the CDC guidance as more information becomes available. (This is more likely with the adjuvanted or high dose IIV4s which are recommended in persons 65 years and older.)



Timing of Influenza Vaccination

- Influenza vaccines might be available as early as August; however, vaccination during these months is not recommended for most groups because of the possible waning of immunity over the course of the influenza season
- For most persons who need only 1 dose of influenza vaccine for the season, vaccination should ideally be offered during September or October.
- However, vaccination should continue after October and throughout the influenza season as long as influenza viruses are circulating and unexpired vaccine is available.

Making a strong recommendation

- Making a Strong Flu Vaccine Recommendation (SHARE)
- **S- SHARE**
- **H- HIGHLIGHT**
- **A- ADDRESS**
- **R- REMIND**
- **E- EXPLAIN**



S- Share

- **S- SHARE the reasons** why the influenza vaccine is right for the patient given his or her age, health status, lifestyle, occupation, or other risk factors.
 - “This vaccine can protect you and your family from getting sick from flu. By getting the shot today, you’ll be protecting yourself and the people around you who are more vulnerable to serious flu illness, like your children and parents.”

H- Highlight

- **H - HIGHLIGHT positive experiences** with influenza vaccines (personal or in your practice), as appropriate, to reinforce the benefits and strengthen confidence in flu vaccination.
- Tell your patients that CDC and ***you*** recommend they get the influenza vaccine each year.

A- Address

- **A - ADDRESS** patient questions and any concerns about the influenza vaccine, including side effects, safety, and vaccine effectiveness in plain and understandable language.
 - “A flu shot cannot cause flu illness. Flu shots are made either with flu vaccine viruses that have been ‘inactivated’, making them not infectious or with no flu vaccine viruses at all. The most common side effects of an influenza vaccine are mild, like redness, swelling, or pain in your arm where the shot was given. This should go away within a few days.”

R-Remind

- **R - REMIND** patients that influenza vaccines protect them and their loved **ones** from serious flu illness and flu-related complications.
 - “Flu activity is going to start to pick up, and CDC says to expect more cases in the coming months. That is why I want to make sure I help protect you and your loved ones.”

E- Explain

- **E - EXPLAIN** the potential costs of getting the flu, including serious health effects, time lost (such as missing work or family obligations), and financial costs.
 - “It’s important to get vaccinated this season because flu vaccination can reduce potential flu illnesses, doctor visits, and missed work and school due to flu.”



Diphtheria



Tetanus



Pertussis
Whooping Cough





Tdap Vaccines

- **Boostrix[®]** 10 years and older
- **ADACEL[®]** 10 through 64 years

Tdap may be used for decennial booster or
for wound prophylaxis

Both safe for pregnant women



Tdap for Pregnant Women*

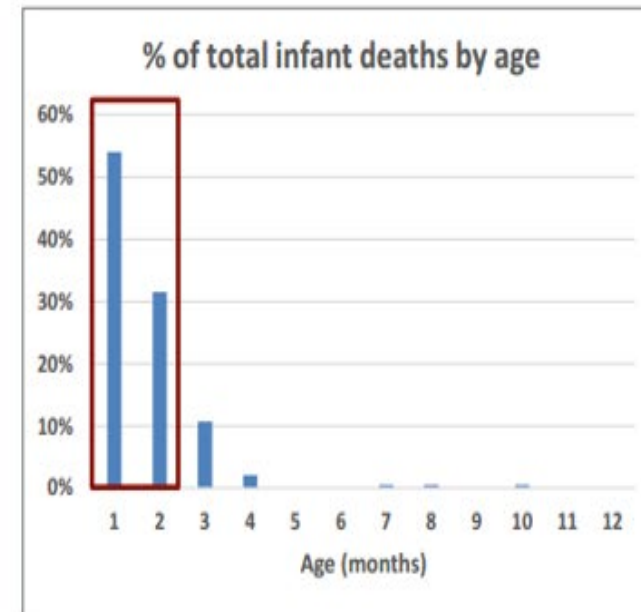
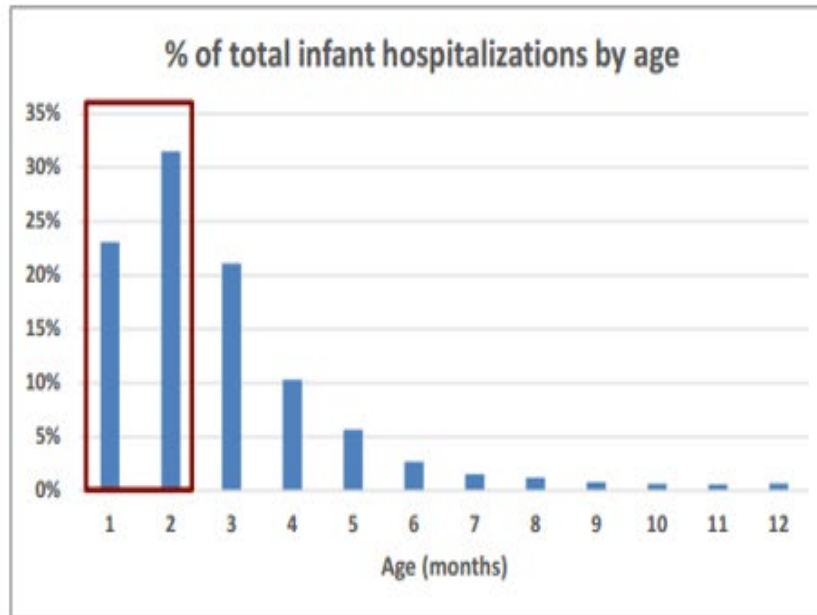
ACIP recommends:

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.

Hospitalizations and deaths in infants <12 months of age, % of total pertussis cases, 2004-2015*



*2015 data are provisional

SOURCE: CDC, National Notifiable Diseases Surveillance System and Supplemental Pertussis Surveillance System

6

Making the Referral for Tdap

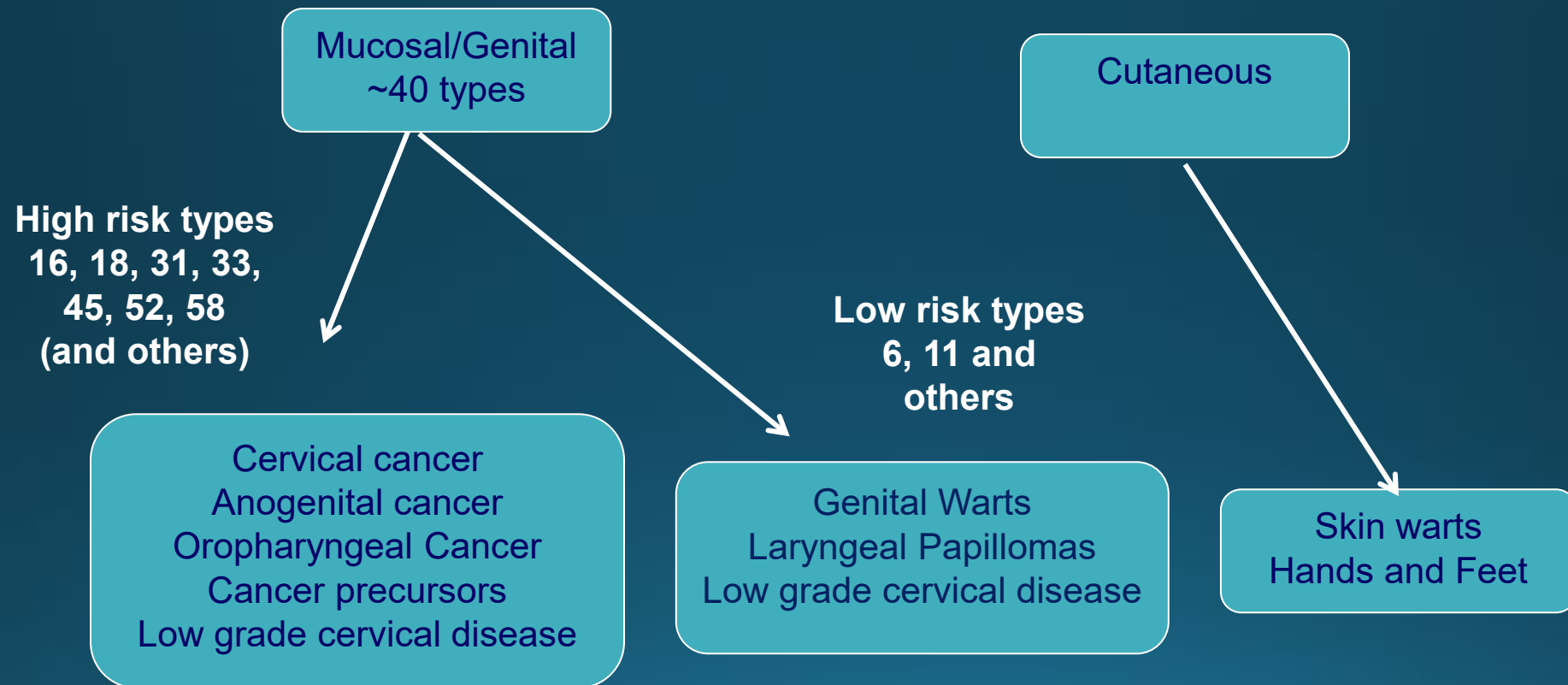
- Begin each referral with a vaccine recommendation that includes information on why the vaccine is beneficial and safe for mother and baby.
 - Tailor your message with scientific data or personal anecdotes
 - Convey the vaccine's importance to individual patients.
- Always write a patient-specific prescription. This will help your patients obtain the vaccine at another location where a prescription may be required.
- Anticipate questions on why patients cannot get vaccinated in your office.
- Plan to answer questions from other immunization providers who are concerned with vaccinating your pregnant patients.

Vaccines in Pregnancy

- CDC ACOG and ACNM recommend that pregnant women are vaccinated against flu and pertussis in **each** pregnancy
- If you do not stock them
 - Provide information on where patients can get the vaccine(s) you recommend.
 - Re-emphasize the fact that just because you do not stock a specific vaccine in your office does not mean it is not important, is less important than other vaccines you do stock, or that you have concerns about its safety.
- For help locating vaccines in your area, the HealthMap Vaccine Finder is available at: <http://vaccine.healthmap.org>

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, Vo1 68, No. 32

ACIP Recommendations and Schedule*

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



ACOG Recommendations*

- Sexually active women and women with previous abnormal cervical cytology or genital warts can receive the HPV vaccine
- These women should be counseled that the vaccine may be less effective in women who have been exposed to HPV before vaccination than in women who were HPV naive at the time of vaccination
- Women with previous HPV infection will benefit from protection against disease caused by the HPV vaccine types with which they have not been infected

*ACOG Committee Opinion 641 September 2015

American College of Obstetricians and Gynecologists (ACOG). *Obstet Gynecol.* 2015;126:e38-43.

Hepatitis B Virus*

- Acute hepatitis B can lead to chronic hepatitis B or rarely to liver failure
- Chronic hepatitis B can lead to:
 - Cirrhosis
 - Hepatic decompensation
 - Hepatocellular carcinoma
 - Extra-hepatic manifestations and death
- Transmission:
 - Percutaneous or mucosal exposure to blood or body fluids of infected person including contaminated surfaces
 - Perinatal infection from HBsAg + mother to fetus

*Lok AS. Clinical manifestations and natural history of hepatitis B virus infection. Post TW (Ed), UpToDate, Waltham, MA. (Accessed on March 6, 2014.)

Hepatitis B

Hepatitis B is an infectious liver disease caused by the hepatitis B virus (HBV) that can lead to cirrhosis, liver cancer, and premature death.

Transmission: percutaneous or mucosal exposure to infectious blood or body fluids (e.g., skin puncture, sexual contact, contaminated surfaces)

- Vertical transmission from a HBsAg-positive mother to her newborn at birth
 - Infected infants have a 90% risk of developing chronic infection if not given HepB vaccine and HBIG at birth*

ACIP Recommendations for Hepatitis B Vaccination

- Administer hepatitis B vaccine to all newborns within **24 hours** of birth;
- Dose 2 at 1-2 months of age and Dose 3 at 6-18 months of age
- Unvaccinated children aged <19 years
- Persons at risk for infection by sexual exposure (e.g., HBV-infected partner, seeking evaluation or treatment for a sexually transmitted infection, men who have sex with men)**
- Persons at risk for infection by percutaneous or mucosal exposure to blood**
- Current or recent injection-drug users**

Hepatitis B Vaccine Recommendations (cont'd)*

- Household contacts of HBsAg-positive persons
- Residents and staff of facilities for developmentally disabled persons
- Health care and public safety personnel with reasonably anticipated risk for exposure to blood or blood-contaminated body fluids
- Hemodialysis patients and pre-dialysis, peritoneal dialysis, and home dialysis patients
- Persons with diabetes aged 19–59 years; persons with diabetes aged ≥ 60 years at the discretion of the treating clinician
- International travelers to countries with high or intermediate levels of endemic hepatitis B virus (HBV) infection
- Persons with hepatitis C virus infection or chronic liver disease
- Persons with HIV infection
- Incarcerated persons
- All other persons seeking protection from HBV infection



ACIP Vote 11/2021 Hepatitis B

- ACIP unanimously voted to recommend that hepatitis B vaccine should be given to:
 - all adults 19 through 59 years
 - All people aged 60 or older with any risk factor for hepatitis B infection.
- ACIP also voted that any person aged 60 and older with NO known risk factor may be vaccinated.

*MMWR/April 1, 2022/Vol.1/No.13

Procedures to Prevent Perinatal Hepatitis B Virus Transmission at Delivery*

Woman presents for delivery - HBsAg Positive

- Alert Pediatric Primary Care Provider
- Give infant single antigen Hepatitis B vaccine and HBIG within 12 hours of birth

Woman presents for delivery – HBsAg Negative during prenatal care

- If she has risk factors for Hepatitis B – Retest for HBsAg at time of delivery

Woman presents for delivery - HBsAg Unknown

- Obtain HBsAg on mother
- Alert Pediatric Primary Care Provider
- Give infant single antigen Hepatitis B vaccine within 12 hours of birth
- If mother is HBsAg positive give infant HBIG as soon as possible – no later than 7 days after birth
- If infant weighs less than 2000 grams – give Hep B vaccine and HBIG within 12 hours of birth or
as soon as possible thereafter

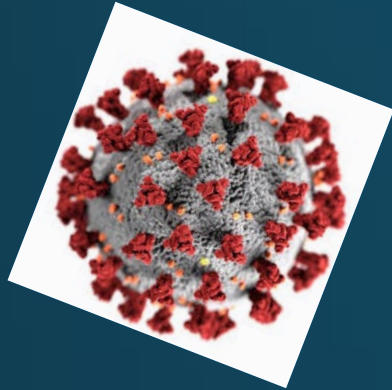
*<http://www.cdc.gov/hepatitis/hbv/pdfs/deliveryhospitalpreventperinatalhbvtransmission.pdf>

Post-vaccination serologic testing (PVST)*

ACIP Recommendations re: PVST

- PVST recommended for infants born to HBsAg-positive and HBsAg-unknown mothers
- Testing is recommended at 9-12 months of age (not recommended before 9 mos. of age)
- PVST must include hepatitis B surface antigen (HBsAg) **AND** hepatitis B surface antibody (anti-HBs) tests

*Prevention of Hepatitis B Virus Infection in the United States: Recommendations of the Advisory Committee on Immunization Practices. MMWR Recommendations and Reports 2018;67(No. RR-1):1–31.



SARS-CoV-2 virus (COVID-19 disease)*

SARS-CoV-2, the virus that causes COVID-19 disease affects the respiratory system primarily, but other organ systems may also be impacted

Transmission is through droplet and respiratory spread but may also include indirect contact with contaminated objects

Access current data on COVID-19 cases and deaths in Georgia** and nationally***

*Georgia data**Georgia data (2)

***National data

COVID-19 disease

Symptoms can be mild to severe and can develop 2-14 days after exposure

Fever or chills

Cough

Shortness of
breath

Fatigue

Myalgia

Headache

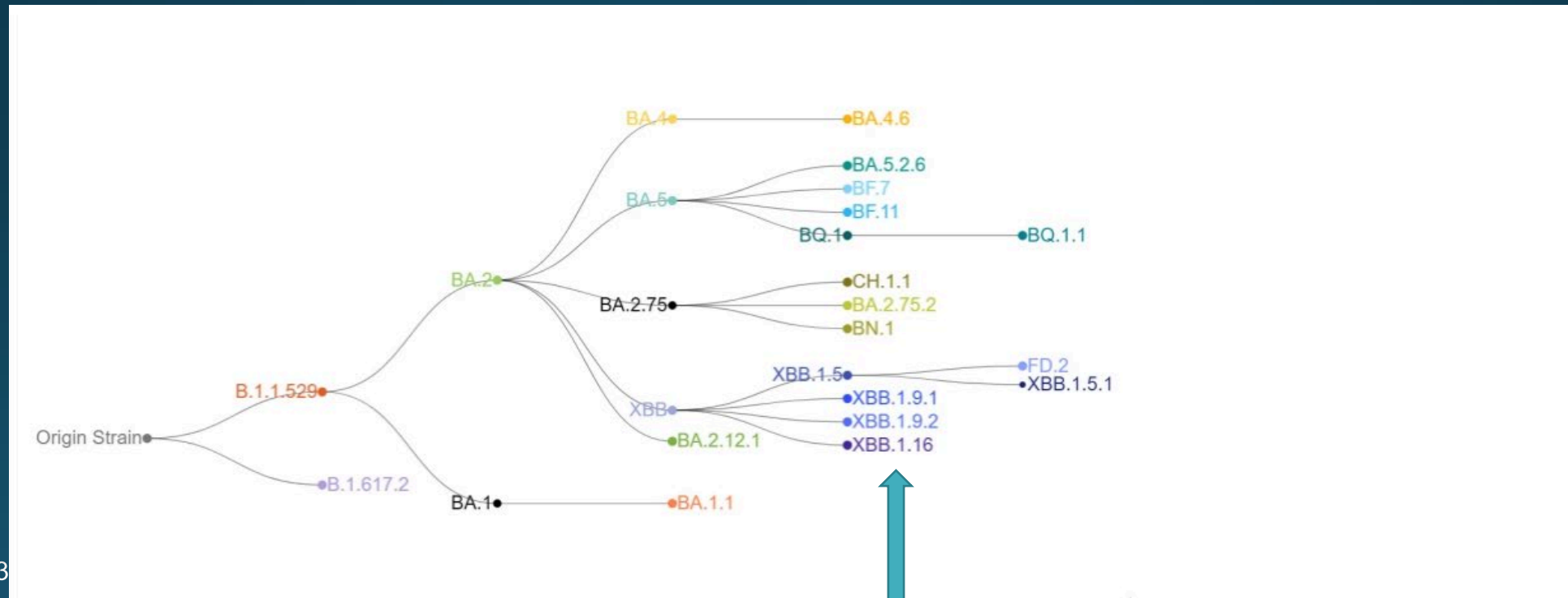
Loss of taste or
smell

Sore throat

GI symptoms
(nausea,
vomiting,
diarrhea)

Newest Variant

- XBB.1.16, Arcturus is a subvariant of Omicron and has been on the World Health Organization's watchlist since the end of March.
- The CDC's most recent update now lists Arcturus as causing 7% of U.S. coronavirus cases, landing it in second place behind the long-predominant Omicron XBB.1.5, which causes 78% of cases.
- Arcturus is more transmissible but not more dangerous than recent variants. Appears to cause conjunctivitis like symptoms in young patients.



COVID-19 vaccination schedule for most people

Ages 6 months–4 years

COVID-19 vaccination history	Bivalent vaccine	Number of bivalent doses indicated	Dosage (mL/ug)	Vaccine vial cap and label colors	Interval between doses*
Unvaccinated	Moderna ____or____ Pfizer BioNTech†				
1 dose monovalent Moderna	Moderna				
2 doses monovalent Moderna	Moderna				
2 doses monovalent Moderna and 1	NA; previously received 1				

Age 5 years

COVID-19 vaccination history	Bivalent vaccine	Number of bivalent doses indicated	Dosage (mL/ug)	Vaccine vial cap and label colors	Interval between doses*
Unvaccinated	Moderna ____or____ Pfizer BioNTech	2	0.25 mL/25 ug	Dark blue cap; gray label border	Dose 1 and Dose 2: 4–8 weeks
		1	0.2 mL/10 ug	Orange	
1 dose monovalent Moderna	Moderna ____or____ Pfizer BioNTech	1	0.25 mL/25 ug	Dark blue cap; gray label border	4–8 weeks after monovalent dose
		1	0.2 mL/10 ug	Orange	At least 8 weeks after monovalent dose
	Moderna ____or____	1	0.2 mL/10 ug	Dark pink cap; yellow label	At least 8 weeks after last monovalent dose


Ages 6–11 years

COVID-19 vaccination history	Bivalent vaccine	Number of bivalent doses indicated
Unvaccinated	Moderna ____or____ Pfizer BioNTech	1
		1
1 or more doses monovalent mRNA (no doses bivalent mRNA)	Moderna ____or____ Pfizer BioNTech	1
		1
2 or more doses monovalent mRNA and 1 dose bivalent mRNA	NA; previously received 1 bivalent vaccine dose	NA
Ever received 1 dose bivalent mRNA (regardless of monovalent vaccine history)	NA; previously received 1 bivalent vaccine dose	NA

Ages 12 years and older

COVID-19 vaccination history	Bivalent vaccine	Number of bivalent doses indicated	Dosage (mL/ug)	Vaccine vial cap and label colors	Interval between doses*
Unvaccinated	Moderna ____or____ Pfizer BioNTech	1	0.5 mL/50 ug	Dark blue cap; gray label border	—
		1	0.3 mL/30 ug	Gray	—
1 or more doses monovalent mRNA (no doses bivalent mRNA)	Moderna ____or____ Pfizer BioNTech	1	0.5 mL/50 ug	Dark blue cap; gray label border	At least 8 weeks after last monovalent dose
		1	0.3 mL/30 ug	Gray	At least 8 weeks after last monovalent dose
Ever received 1 dose bivalent mRNA (regardless of monovalent vaccine history)	NA; previously received 1 bivalent vaccine dose	NA	NA	NA	NA

People ages 65 years and older have the option to receive 1 additional bivalent mRNA vaccine dose at least 4 months after the first dose of a bivalent mRNA vaccine. If Moderna is used, administer 0.5 mL/50 ug (dark blue cap and label with a gray border); if Pfizer-BioNTech is used, administer 0.3 mL/30 ug (gray cap and label with a gray border).




COVID-19 in Pregnant Women or Lactating Women

- Pregnant and recently pregnant women with COVID-19 are at increased risk for severe illness when compared with non-pregnant women.
- Severe illness includes illness that requires hospitalization, intensive care unit admission, mechanical ventilation, or extracorporeal membrane oxygenation; or illness that results in death.
- Additionally, pregnant women with COVID-19 are at increased risk for preterm birth and might be at increased risk for other adverse pregnancy complications and outcomes, such as preeclampsia, coagulopathy, and stillbirth.

SOURCE: CDC

SOURCE: ACOG



COVID-19 Vaccination of Pregnant Women or Lactating Women

- COVID-19 vaccination is recommended for all people aged 5 years and older, including women who are pregnant, lactating, trying to get pregnant now, or might become pregnant in the future.
- There is no evidence that any of the COVID-19 vaccines affect current or future fertility.

SOURCE: CDC

SOURCE: ACOG

Key Messages to Promote During Pregnancy about Immunizations*

- Promote protection for the expectant mothers and improves the chances of having a healthy delivery and providing essential protection to babies during the first few months of life.
- The protective antibodies that babies receive from their mothers can be life-saving.
- Talking with the patient directly about the recommended vaccines during pregnancy could promote a positive foundation for the vaccine series recommended for the infant.
- Will help the transition from obstetrical to pediatric care and the acceptance of essential vaccines.

*Call to Action: Improving Vaccination Rates in Pregnant Women: Timely intervention-lasting Benefits. National Foundation for Infectious Diseases, March 2014.

Critical Elements for Immunization Services

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.





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.
- **For COVID-19 vaccine, see specific vaccine guidelines.**

Improper Immunization Administration Practices with Any Vaccine*

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, NCEZIZ, 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

Vaccine Administration Best practices – Route, Dose, Site, Needle Size

Administering Vaccines: Dose, Route, Site, and Needle Size

Vaccine	Dose	Route	Injection Site and Needle Size
COVID-19 Pfizer-BioNTech • age 5 to <12 yrs: 0.2 mL pediatric formulation ("orange cap") • age ≥12 yrs: 0.3 mL adult/adolescent formulation for primary and booster doses Moderna; ≥18 yrs: 0.5 mL primary series*; 0.25 mL booster Janssen: ≥18 yrs: 0.5 mL for primary & booster doses		IM	Subcutaneous (Subcut) injection Use a 23–25 gauge needle. Choose the injection site that is appropriate to the person's age and body mass.
Diphtheria, Tetanus, Pertussis (DTaP, DT, Tdap, Td)	0.5 mL	IM	
Haemophilus influenzae type b (Hib)	0.5 mL	IM	
Hepatitis A (HepA)	≤18 yrs: 0.5 mL ≥19 yrs: 1.0 mL	IM	
Hepatitis B (HepB) <i>Persons 11–15 yrs may be given Recombivax HB (Merck)</i> <i>1.0 mL adult formulation on a 2-dose schedule.</i>	Engerix-B; Recombivax HB ≤19 yrs: 0.5 mL ≥20 yrs: 1.0 mL Heplisav-B ≥18 yrs: 0.5 mL	IM	
Human papillomavirus (HPV)	0.5 mL	IM	
Influenza, live attenuated (LAIV)	0.2 mL (0.1 mL in each nostril)	Intra-nasal spray	
Influenza, inactivated (IIV); for ages 6–35 months	Afluria: 0.25 mL Fluzone: 0.25 or 0.5 mL Fluarix, Flucelvax, FluLaval: 0.5 mL	IM	
Influenza, inactivated (IIV), ≥3 yrs; recombinant (RIV), ≥18 yrs; high-dose (HD-IIV) ≥65 yrs	0.5 mL FluZone HD: 0.7 mL	IM	

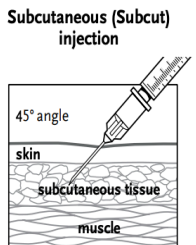
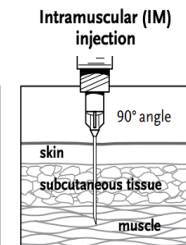
AGE	NEEDLE LENGTH	INJECTION SITE
Infants (1–12 mos)	5/8"	Fatty tissue over anterolateral thigh muscle
Children 12 mos or older, adolescents, and adults	5/8"	Fatty tissue over anterolateral thigh muscle or fatty tissue over triceps
Intramuscular (IM) injection Use a 22–25 gauge needle. Choose the injection site and needle length that is appropriate to the person's age and body mass.		
AGE	NEEDLE LENGTH	INJECTION SITE
Newborns (1st 28 days)	5/8" ¹	Anterolateral thigh muscle
Infants (1–12 mos)	1"	Anterolateral thigh muscle
Toddlers (1–2 years)	1–1¼"	Anterolateral thigh muscle ²
	5/8–1" ¹	Deltoid muscle of arm
Children (3–10 years)	5/8–1" ¹	Deltoid muscle of arm ²
	1–1¼"	Anterolateral thigh muscle
Adolescents and teens (11–18 years)	5/8–1" ¹	Deltoid muscle of arm ²
	1–1½"	Anterolateral thigh muscle
Adults 19 years or older		

Measles, Mumps, Rubella (MMR)	0.5 mL	Subcut
Meningococcal serogroups A, C, W, Y (MenACWY)	0.5 mL	IM
Meningococcal serogroup B (MenB)	0.5 mL	IM
Pneumococcal conjugate (PCV)	0.5 mL	IM
Pneumococcal polysaccharide (PPSV)	0.5 mL	IM or Subcut
Polio, inactivated (IPV)	0.5 mL	IM or Subcut
Rotavirus (RV)	Rotarix: 1.0 mL Rotateq: 2.0 mL	Oral
Varicella (VAR)	0.5 mL	Subcut
Zoster (Zos)	Shingrix: 0.5 [†] mL	IM
Combination Vaccines		
DTaP-HepB-IPV (Pediarix) DTaP-IPV/Hib (Pentacel) DTaP-IPV (Kinrix; Quadracel) DTaP-IPV-Hib-HepB (Vaxelis)	0.5 mL	IM
MMRV (ProQuad)	≤12 yrs: 0.5 mL	Subcut
HepA-HepB (Twinrix)	≥18 yrs: 1.0 mL	IM

* If immunocompromised, Moderna 0.5 mL for 3-dose primary series, then 0.25 mL for booster dose.

[†] The Shingrix vial might contain more than 0.5 mL. Do not administer more than 0.5 mL.

Intranasal (NAS) administration of Flumist (LAIV) vaccine



¹ A 5/8" needle may be used in newborns, preterm infants, and patients weighing less than 130 lbs (<60 kg) for IM injection in the deltoid muscle only if the skin stretched tight, the subcutaneous tissue is not bunched, and the injection is made at a 90-degree angle to the skin.

² Preferred site

NOTE: Always refer to the package insert included with each biologic for complete vaccine administration information. CDC's Advisory Committee on Immunization Practices (ACIP) recommendations for the particular vaccine should be reviewed as well. Access the ACIP recommendations at www.immunize.org/acip.

IMMUNIZATION ACTION COALITION Saint Paul, Minnesota · 651-647-9009 · www.immunize.org · www.vaccineinformation.org

www.immunize.org/catg.d/p3085.pdf · Item #P3085 (11/21)

How to administer IM and SC vaccine injections

How to Administer Intramuscular and Subcutaneous Vaccine Injections Administration by the Intramuscular (IM) Route

Administer these vaccines via IM route

- Diphtheria-tetanus-pertussis (DTaP, Tdap)
- Diphtheria-tetanus (DT, Td)
- *Haemophilus influenzae* type b (Hib)
- Hepatitis A (HepA)
- Hepatitis B (HepB)
- Human papillomavirus (HPV)
- Inactivated influenza (IIV)
- Meningococcal serogroups A, C, W, Y (MenACWY)
- Meningococcal serogroup B (MenB)
- Pneumococcal conjugate (PCV13)
- Zoster, recombinant (RZV)

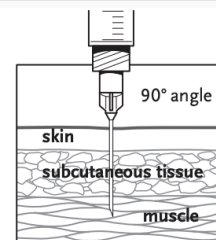
Administer inactivated polio (IPV) and pneumococcal polysaccharide (PPSV23) vaccines either IM or subcutaneously (Subcut).

PATIENT AGE	INJECTION SITE	NEEDLE SIZE
Newborn (0–28 days)	Anterolateral thigh muscle	5/8" (22–25 gauge)
Infant (1–12 mos)	Anterolateral thigh muscle	1" (22–25 gauge)
Toddler (1–2 years)	Anterolateral thigh muscle	1–1¼" (22–25 gauge)
	Alternate site: Deltoid muscle of arm if muscle mass is adequate	5/8"–1" (22–25 gauge)
Children (3–10 years)	Deltoid muscle (upper arm)	5/8"–1" (22–25 gauge)
	Alternate site: Anterolateral thigh muscle	1–1¼" (22–25 gauge)
Children and adults (11 years and older)	Deltoid muscle (upper arm)	5/8"–1" (22–25 gauge)
	Alternate site: Anterolateral thigh muscle	1–1½" (22–25 gauge)

* A 5/8" needle usually is adequate for neonates (first 28 days of life), preterm infants, and children ages 1 through 18 years if the skin is stretched flat between the thumb and forefinger and the needle is inserted at a 90° angle to the skin.

† A 5/8" needle may be used in patients weighing less than 130 lbs (<60 kg) for IM injection in the deltoid muscle only if the skin is stretched flat between the

thumb and forefinger and the needle is inserted at a 90° angle to the skin; a 1" needle is sufficient in patients weighing 130–152 lbs (60–70 kg); a 1–1¼" needle is recommended in women weighing 153–200 lbs (70–90 kg) and men weighing 153–260 lbs (70–118 kg); a 1½" needle is recommended in women weighing more than 200 lbs (91 kg) or men weighing more than 260 lbs (118 kg).



Needle insertion

Use a needle long enough to reach deep into the muscle.

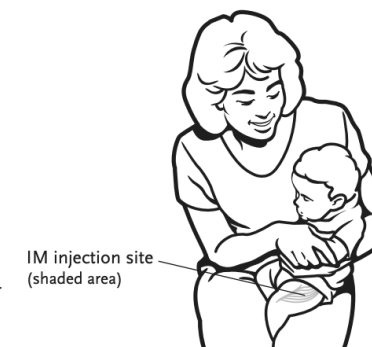
Insert needle at a 90° angle to the skin with a quick thrust.

(Before administering an injection of vaccine, it is not necessary to aspirate, i.e., to pull back on the syringe plunger after needle insertion.†)

Multiple injections given in the same extremity should be separated by a minimum of 1", if possible.

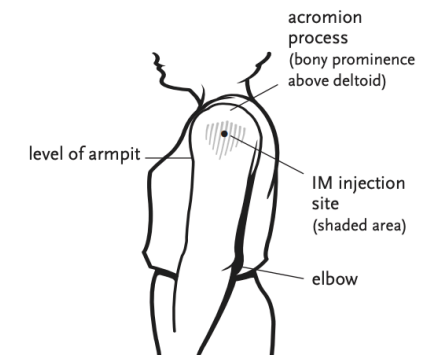
† CDC. "General Best Practices Guidelines for Immunization: Best Practices Guidance of the ACIP" at <https://www.cdc.gov/vaccines/hcp/acip-recs/general-recs/downloads/general-recs.pdf>

Intramuscular (IM) injection site for infants and toddlers



Insert needle at a 90° angle into the anterolateral thigh muscle.

Intramuscular (IM) injection site for children and adults



Give in the central and thickest portion of the deltoid muscle – above the level of the armpit and approximately 2–3 fingerbreadths (~2") below the acromion process. See the diagram. To avoid causing an injury, do not inject too high (near the acromion process) or too low.

Training Tools: Skills Checklist for Vaccine Administration

Skills Checklist for Vaccine Administration

During the COVID-19 pandemic, the CDC recommends additional infection control measures for vaccination (see www.cdc.gov/vaccines/pandemic-guidance/index.html).

The Skills Checklist is a self-assessment tool for healthcare staff who administer immunizations. To complete it, review the competency areas below and the clinical skills, techniques and procedures outlined for each area. Score yourself in the Self-Assessment column. If you check **Needs to Improve**, you indicate further study, practice, or change is needed. When you check **Meets or Exceeds**, you indicate you believe you are performing at the expected level of competence, or higher.

Supervisors: Use the Skills Checklist to clarify responsibilities and expectations for staff who administer vaccines. When you use it to assist with performance reviews, give staff the opportunity to score themselves in advance. Next, observe their performance as they

administer vaccines to several patients, and score in the Supervisor Review columns. If improvement is needed, meet with them to develop a Plan of Action (see bottom of page 3) to help them achieve the level of competence you expect; circle desired actions or write in others.

The video "Immunization Techniques: Best Practices with Infants, Children, and Adults" helps ensure that staff administer vaccines correctly. (View at www.youtube.com/watch?v=W6Z6NEjffI or order online at www.immunize.org/dvd/.) Another helpful resource is CDC's Vaccine Administration eLearn course, available at www.cdc.gov/vaccines/hcp/admin/resource-library.html.

COMPETENCY	CLINICAL SKILLS, TECHNIQUES, AND PROCEDURES	Self-Assessment		Supervisor Review		
		NEEDS TO IMPROVE	MEETS OR EXCEEDS	NEEDS TO IMPROVE	MEETS OR EXCEEDS	PLAN OF ACTION
A Patient/Parent Education	1. Welcomes patient/family and establishes rapport.					
	2. Explains what vaccines will be given and which type(s) of injection(s) will be done.					
	3. Answers questions and accommodates language or literacy barriers and special needs of patient/parents to help make them feel comfortable and informed about the procedure.					
	4. Verifies patient/parents received Vaccine Information Statements (VISs) for indicated vaccines and has had time to read them and ask questions.					
	5. Screens for contraindications (if within employee's scope of work).					
	6. Reviews comfort measures and aftercare instructions with patient/parents, and invites questions.					
B Medical and Office Protocols	1. Identifies the location of the medical protocols (e.g., immunization protocol, emergency protocol, reporting adverse events to the Vaccine Adverse Event Reporting system [VAERS], reference material).					
	2. Identifies the location of epinephrine, its administration technique, and clinical situations where its use would be indicated.					
	3. Maintains up-to-date CPR certification.					
	4. Understands the need to report any needlestick injury and to maintain a sharps injury log.					
	5. Demonstrates knowledge of proper vaccine handling (e.g., maintains and monitors vaccine at recommended temperature and protects from light).					

CONTINUED ON THE NEXT PAGE ►

IMMUNIZATION ACTION COALITION Saint Paul, Minnesota • 651-647-9009 • www.immunize.org • www.vaccineinformation.org

Skills Checklist for Vaccine Administration (continued)

COMPETENCY	CLINICAL SKILLS, TECHNIQUES, AND PROCEDURES	Self-Assessment		
		NEEDS TO IMPROVE	MEETS OR EXCEEDS	NEEDS TO IMPROVE
C Vaccine Preparation	1. Performs proper hand hygiene prior to preparing vaccine.			
	2. When removing vaccine from the refrigerator or freezer, looks at the storage unit's temperature to make sure it is in proper range.			
	3. Checks vial expiration date. Double-checks vial label and contents prior to drawing up.			
	4. Prepares and draws up vaccines in a designated clean medication area that is not adjacent to areas where potentially contaminated items are placed.			
	5. Selects the correct needle size for IM and Subcut based on patient age and/or weight, site, and recommended injection technique.			
	6. Maintains aseptic technique throughout, including cleaning the rubber septum (stopper) of the vial with alcohol prior to piercing it.			
	7. Prepares vaccine according to manufacturer instructions. Inverts vial and draws up correct dose of vaccine. Rechecks vial label.			
	8. Prepares a new sterile syringe and sterile needle for each injection. Checks the expiration date on the equipment (syringes and needles) if present.			
	9. Labels each filled syringe or uses labeled tray to keep them identified.			
D Administering Immunizations	1. Verifies identity of patient. Rechecks the provider's order or instructions against the vial and the prepared syringes.			
	2. Utilizes proper hand hygiene with every patient and, if it is office policy, puts on disposable gloves. (If using gloves, changes gloves for every patient.)			
	3. Demonstrates knowledge of the appropriate route for each vaccine.			
	4. Positions patient and/or restrains the child with parent's help.			
	5. Correctly identifies the injection site (e.g., deltoid, vastus lateralis, fatty tissue over triceps).			
	6. Locates anatomic landmarks specific for IM or Subcut injections.			
	7. Preps the site with an alcohol wipe, using a circular motion from the center to a 2" to 3" circle. Allows alcohol to dry.			

CONTINUED ON THE NEXT PAGE ►

IMMUNIZATION ACTION COALITION Saint Paul, Minnesota • 651-647-9009 • www.immunize.org • www.vaccineinformation.org | www.immunize.org/catg.d/p7010.pdf • Item #P7010 (2/21)

Skills Checklist for Vaccine Administration (continued)

page 3 of 3

COMPETENCY	CLINICAL SKILLS, TECHNIQUES, AND PROCEDURES	Self-Assessment		Supervisor Review		
		NEEDS TO IMPROVE	MEETS OR EXCEEDS	NEEDS TO IMPROVE	MEETS OR EXCEEDS	PLAN OF ACTION
D Administering Immunizations (continued)	8. Controls the limb with the non-dominant hand; holds the needle an inch from the skin and inserts it quickly at the appropriate angle (90° for IM or 45° for Subcut).					
	9. Injects vaccine using steady pressure; withdraws needle at angle of insertion.					
	10. Applies gentle pressure to injection site for several seconds (using, e.g., gauze pad, bandaid).					
	11. Uses strategies to reduce anxiety and pain associated with injections.					
	12. Properly disposes of needle and syringe in "sharps" container.					
E Records Procedures	13. Properly disposes of vaccine vials.					
	1. Fully documents each vaccination in patient chart: date, lot number, manufacturer, site, VIS date, name/initials.					
	2. If applicable, demonstrates ability to use state/local immunization registry or computer to call up patient record, assess what is due today, and update computerized immunization history.					
	3. Asks for and updates patient's vaccination record and reminds them to bring it to each visit.					

Plan of Action

Circle desired next steps and write in the agreed deadline for completion, as well as date for the follow-up performance review.

- Watch video on immunization techniques and review CDC's Vaccine Administration eLearn, available at www.cdc.gov/vaccines/hcp/admin/resource-library.html.
- Review office protocols.
- Review manuals, textbooks, wall charts, or other guides (e.g., Key Vaccination Resources for Healthcare Professionals at www.immunize.org/catg.d/p2005.pdf).
- Review package inserts.
- Review vaccine storage and handling guidelines or video.
- Observe other staff with patients.

- Practice injections.
- Read Vaccine Information Statements.
- Be mentored by someone who has demonstrated appropriate immunization skills.
- Role play (with other staff) interactions with parents and patients, including age appropriate comfort measures.
- Attend a skills training or other appropriate courses/training.
- Attend healthcare customer satisfaction or cultural competency training.
- Renew CPR certification.
- Other _____

File the Skills Checklist in the employee's personnel folder.

PLAN OF ACTION DEADLINE _____

DATE OF NEXT PERFORMANCE REVIEW _____

EMPLOYEE SIGNATURE _____ DATE _____

SUPERVISOR SIGNATURE _____ DATE _____

IMMUNIZATION ACTION COALITION Saint Paul, Minnesota • 651-647-9009 • www.immunize.org • www.vaccineinformation.org | www.immunize.org/catg.d/p7010.pdf • Item #P7010 (2/21)

<https://www.immunize.org/catg.d/p7010.pdf>

6/24/22

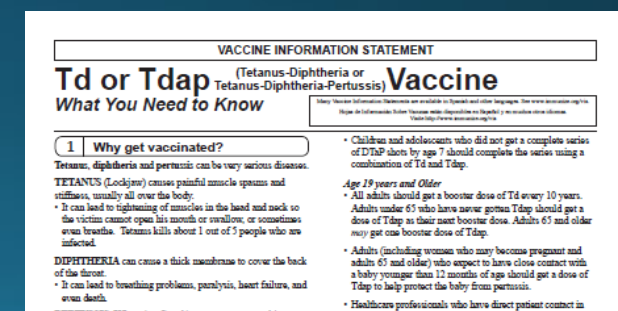
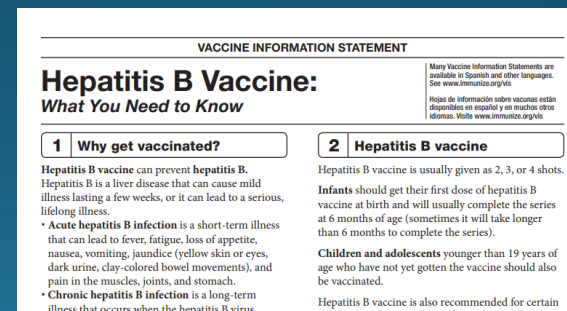
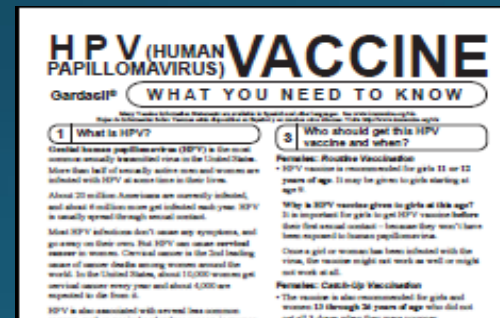
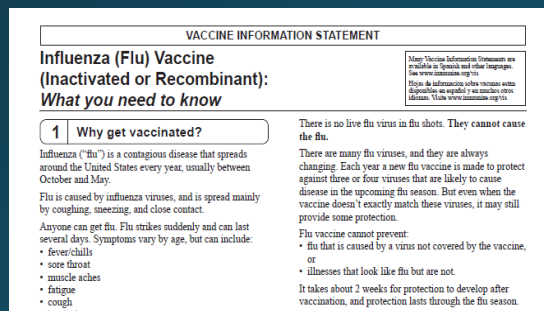
60

Always Document...

Accept only written documentation of prior immunizations
Provide VIS prior to administration of vaccine

After administering a vaccine, document:

- Publication date of VIS & Date VIS given
- Date, site, route, antigen(s), manufacturer, lot #
- Person administering vaccine, practice name and address





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>

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: VACCINE ERROR REPORTING SYSTEM**

- 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

Setting Up Your Office For Immunization Services

Operational & Financial



Setting Up Your Office for Immunization Services

- Planning
- Purchasing supplies
- Storing vaccines
- Administering vaccines



Setting Up Your Office for Immunization Service

• Planning

- Conduct an Immunization Financial Analysis (Resource Kit)
- Obtain staff support
- Identify a vaccine coordinator
- Make a list of vaccines to be offered
- Obtain vaccination forms and reference materials
- Create standing orders
- Plan workflow and workspace
- Conduct staff training
- Inform patients about availability of vaccines (posters, fact sheets)
- Identify community resources



Consider these vaccines

- Annual influenza vaccine for all patients (consider immunizing other family members)
- Tdap for pregnant women or anyone planning to have a child (consider household members)
- HPV vaccine for women through age 45 years
- Hepatitis B vaccine for women at risk
- COVID-19 vaccine for all patients (consider immunizing other family members)

Additional Steps

- Revise assessment forms to include an immunization record.
- Estimate the percent of individuals you are likely to immunize.
- Estimate the total number of doses of vaccine required (Remember that some vaccines have a series of shots).



Setting Up Your Office for Immunization Service

• Purchasing

- Set up vaccine purchasing spreadsheet showing prices, terms, discounts, rebates, etc. (see resource kit)
- Purchase:
 - Storage equipment and certified thermometers
 - Administration supplies
 - Emergency response supplies
 - Vaccines (Most vaccines can be ordered on line and arrive at the practice within 5 days)

Immunizations as a Profit Center?

- Choose the vaccines you will provide to your patients
- Determine the top third party payers for your practice
- Calculate average reimbursement for each vaccine
- Calculate average reimbursement for administration fees
- Calculate the net revenue using the weighted average



Code Immunizations Properly!

- Keep up with changes
- Code for vaccine administration
- Code for diagnosis

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*).
- COVID-19 vaccine

6/24/22

Are YOU up to date?

Healthcare Personnel Vaccination Recommendations¹

VACCINES AND RECOMMENDATIONS IN BRIEF

Hepatitis B – If previously unvaccinated, give a 2-dose (Hepelisav-B) or 3-dose (Engerix-B or Recombivax HB) series. Give intramuscularly (IM). For HCP who perform tasks that may involve exposure to blood or body fluids, obtain anti-HBs serologic testing 1–2 months after dose #2 (for Hepelisav-B) or dose #3 (for Engerix-B or Recombivax HB).

Influenza – Give 1 dose of influenza vaccine annually. Inactivated injectable vaccine is given IM. Live attenuated influenza vaccine (LAIV) is given intranasally.

MMR – For healthcare personnel (HCP) born in 1957 or later without serologic evidence of immunity or prior vaccination, give 2 doses of MMR, 4 weeks apart. For HCP born prior to 1957, see below. Give subcutaneously (Subcut).

Varicella (chickenpox) – For HCP who have no serologic proof of immunity, prior vaccination, or diagnosis or verification of a history of varicella or herpes zoster (shingles) by a healthcare provider, give 2 doses of varicella vaccine, 4 weeks apart. Give Subcut.

Tetanus, diphtheria, pertussis – Give 1 dose of Tdap as soon as feasible to all HCP who have not received Tdap previously and to pregnant HCP with each pregnancy (see below). Give Td or Tdap boosters every 10 years thereafter. Give IM.

Meningococcal – Give both MenACWY and MenB to microbiologists who are routinely exposed to isolates of *Neisseria meningitidis*. As long as risk continues: boost with MenB after 1 year, then every 2–3 years thereafter; boost with MenACWY every 5 years. Give MenACWY and MenB IM.

Hepatitis A, typhoid, and polio vaccines are not routinely recommended for HCP who may have on-the-job exposure to fecal material.

Hepatitis B

Unvaccinated healthcare personnel (HCP) and/or those who cannot document previous vaccination should receive either a 2-dose series of Hepelisav-B at 0 and 1 month or a 3-dose series of either Engerix-B or Recombivax HB at 0, 1, and 6 months. HCP who perform tasks that may involve exposure to blood or body fluids should be tested for hepatitis B surface antibody (anti-HBs) 1–2 months after dose #2 of Hepelisav-B or dose #3 of Engerix-B or Recombivax HB to document immunity.

- If anti-HBs is at least 10 mIU/mL (positive), the vaccinee is immune. No further serologic testing or vaccination is recommended.
- If anti-HBs is less than 10 mIU/mL (negative), the vaccinee is not protected from hepatitis B virus (HBV) infection, and should receive another 2-dose or 3-dose series of HepB vaccine on the routine schedule, followed by anti-HBs testing 1–2 months later. A vaccinee whose anti-HBs remains less than 10 mIU/mL after 2 complete series is considered a “non-responder.”

For non-responders: HCP who are non-responders should be considered susceptible to HBV and should be counseled regarding precautions to prevent HBV infection and the need to obtain HBIG prophylaxis for any known or probable parenteral exposure to hepatitis B surface antigen (HBsAg)-positive blood or blood with unknown HBsAg status. It is also possible that non-responders are people who are HBsAg positive. HBsAg testing is recommended. HCP found

to be HBsAg positive should be counseled and medically evaluated.

For HCP with documentation of a complete 2-dose (Hepelisav-B) or 3-dose (Engerix-B or Recombivax HB) vaccine series but no documentation of anti-HBs of at least 10 mIU/mL (e.g., those vaccinated in childhood): HCP who are at risk for occupational blood or body fluid exposure might undergo anti-HBs testing upon hire or matriculation. See references 2 and 3 for details.

Influenza

All HCP, including physicians, nurses, paramedics, emergency medical technicians, employees of nursing homes and chronic care facilities, students in these professions, and volunteers, should receive annual vaccination against influenza. Live attenuated influenza vaccine (LAIV) may be given only to non-pregnant healthy HCP age 49 years and younger. Inactivated injectable influenza vaccine (IIV) is preferred over LAIV for HCP who are in close contact with severely immunosuppressed patients (e.g., stem cell transplant recipients) when they require protective isolation.

Measles, Mumps, Rubella (MMR)

HCP who work in medical facilities should be immune to measles, mumps, and rubella.

- HCP born in 1957 or later can be considered immune to measles, mumps, or rubella only if they have documentation of (a) laboratory confirmation of disease or immunity or (b) appropriate vaccination against measles, mumps, and rubella (i.e., 2 doses of live

measles and mumps vaccines given on or after the first birthday and separated by 28 days or more, and at least 1 dose of live rubella vaccine). HCP with 2 documented doses of MMR are not recommended to be serologically tested for immunity; but if they are tested and results are negative or equivocal for measles, mumps, and/or rubella, these HCP should be considered to have presumptive evidence of immunity to measles, mumps, and/or rubella and are not in need of additional MMR doses.

- Although birth before 1957 generally is considered acceptable evidence of measles, mumps, and rubella immunity, 2 doses of MMR vaccine should be considered for unvaccinated HCP born before 1957 who do not have laboratory evidence of disease or immunity to measles and/or mumps. One dose of MMR vaccine should be considered for HCP with no laboratory evidence of disease or immunity to rubella. For these same HCP who do not have evidence of immunity, 2 doses of MMR vaccine are recommended during an outbreak of measles or mumps and 1 dose during an outbreak of rubella.

Varicella

It is recommended that all HCP be immune to varicella. Evidence of immunity in HCP includes documentation of 2 doses of varicella vaccine given at least 28 days apart, laboratory evidence of immunity, laboratory confirmation of disease, or diagnosis or verification of a history of varicella or herpes zoster (shingles) by a healthcare provider.

Tetanus/Diphtheria/Pertussis (Td/Tdap)

All HCPs who have not or are unsure if they have previously received a dose of Tdap should receive a dose of Tdap as soon as feasible, without regard to the interval since the previous dose of Td. Pregnant HCP should be revaccinated during each pregnancy. All HCPs should then receive Td or Tdap boosters every 10 years thereafter.

Meningococcal

Vaccination with MenACWY and MenB is recommended for microbiologists who are routinely exposed to isolates of *N. meningitidis*. The two vaccines may be given concomitantly but at different anatomic sites, if feasible.

REFERENCES

1. CDC. Immunization of Health-Care Personnel: Recommendations of the Advisory Committee on Immunization Practices (ACIP). *MMWR*, 2011; 60(RR-7).
2. CDC. Prevention of Hepatitis B Virus Infection in the United States. Recommendations of the Advisory Committee on Immunization Practices. *MMWR*, 2018; 67(RR1):1–30.
3. IAC. Pre-exposure Management for Healthcare Personnel with a Documented Hepatitis B Vaccine Series Who Have Not Had Post-vaccination Serologic Testing. Accessed at www.immunize.org/catg.d/p2108.pdf.

For additional specific ACIP recommendations, visit CDC's website at www.cdc.gov/vaccines/hcp/acip-recs/vacc-specific/index.html or visit IAC's website at www.immunize.org/acip.

IMMUNIZATION ACTION COALITION Saint Paul, Minnesota • 651-647-9009 • www.immunize.org • www.vaccineinformation.org

www.immunize.org/catg.d/p2017.pdf • Item #P2017 (2/21)

Available at www.immunize.org, P#2017

Stay Current!



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



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

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

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

Refusal to Vaccinate Form –
https://www.aap.org/en-us/documents/immunization_refusaltovaccinate.pdf

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>



Questions?

Contacts for more immunization information and resources!

National Center for Immunization and Respiratory Diseases, CDC

E-mail ► 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

Thank You!!


- Additional EPIC Training Opportunity
Breastfeeding Education



Questions?

AAP Resources for Providers and Parents (Vaccine Campaign Toolkit)


Masks do not harm
children's speech
development.



Real Talk

Masks Do Not Harm Children's Speech Development


Being around adults wearing
masks doesn't delay
babies' speech or language
development.



Real Talk


Being Around Adults Wearing Masks Doesn't Delay Babies' Speech

Social Media Graphics



This is Their Shot!

Select Language ▼ Select Platform ▼



The Vaccine is Here!

Select Language ▼ Select Platform ▼

SOURCE:AAP

1/18/2023



THE CONVERSATION™
ABOUT THE **COVID VACCINES & KIDS**
Presented with the American Academy of Pediatrics

Pediatricians answer questions about the COVID-19 vaccines for children.



Kids & the COVID Vaccines: W. Kamau Bell Talks to Pediatricians




Which COVID vaccines are available for kids?



How were the COVID vaccines studied in kids?


Changing the Covid Conversation




de Beaumont
BOLD SOLUTIONS FOR HEALTHIER COMMUNITIES

**LANGUAGE THAT WORKS
TO IMPROVE VACCINE ACCEPTANCE**
Communications Cheat Sheet


TIPS




TAILOR YOUR MESSAGE FOR YOUR AUDIENCE. Americans' perceptions about vaccines and their safety differ by political party, race, age, and geography.




EXPLAIN THE BENEFITS OF GETTING VACCINATED, NOT JUST THE CONSEQUENCES OF NOT DOING IT. Say, "Getting the vaccine will keep you and your family safe," rather than calling it "the right thing to do." Focus on the need to return to normal and reopen the economy.



TALK ABOUT THE PEOPLE BEHIND THE VACCINE. Refer to the scientists, the health and medical experts, and the researchers – not the science, health, and pharmaceutical companies.



AVOID JUDGMENTAL LANGUAGE WHEN TALKING ABOUT OR TO PEOPLE WHO ARE CONCERNED. Acknowledge their concern or skepticism and offer to answer their questions.






USE (AND REPEAT) THE WORD "EVERY" TO EXPLAIN THE VACCINE DEVELOPMENT PROCESS. For example: "Every study, every phase, and every trial was reviewed by the FDA and a safety board."

Use These Words MORE:

Use These Words LESS:

The benefits of taking it	The consequences of not taking it
Getting the vaccine will keep you safe	Getting the vaccine is the right thing to do
A return to normal	Predictability/certainty
Your family	Your community
Medical experts	Scientists/health experts
Research	Discover/create/invent
Medical researchers	Drug companies
Damage from lockdowns	Inability to travel easily and safely
A transparent, rigorous process	The dollars spent; number of participants
Safety	Security
Pharmaceutical companies	Drug companies
Advanced/groundbreaking	Historic
Vaccination	Injection/inoculation
America's leading experts	The world's leading experts
Skeptical/concerned about the vaccine	Misled/confused about the vaccine




www.changingthecovidconversation.org

CHANGING THE COVID CONVERSATION
Communications Cheat Sheet


Effective communication is always important in public health, but it's never been more important to understand the perceptions of Americans and modify your language accordingly. These recommendations are based on the "Changing the COVID Conversation" poll, conducted by Frank Luntz in partnership with the de Beaumont Foundation, Nov. 21-22, 2020. Learn more at debeaumont.org/changing-the-covid-conversation.

TIPS




FOCUS ON THE BENEFITS OF SUCCESS, NOT JUST THE CONSEQUENCES OF FAILURE.

- We understand that people are tired, but public health measures are not the enemy — they are the roadmap for a faster and more sustainable recovery.
- Scientists and medical professionals are developing and preparing to distribute a safe and effective vaccine that will help us return to normal day-to-day activities.




EMPHASIZE THAT THE SCIENCE IS SETTLED.

- The science is clear. There is no doubt that mask wearing, hand washing, and social distancing reduce the spread of COVID-19 and saves lives.



DON'T EXPECT PEOPLE TO TAKE PUBLIC HEALTH MEASURES BECAUSE IT'S GOOD FOR THEM. SPEAK TO THE CONSEQUENCES OF NOT TAKING THESE MEASURES.

- Because COVID-19 is highly infectious, one infection can quickly grow into an outbreak that could shutter a neighborhood, community, or entire city.



DON'T LET POLITICS OR PARTISANSHIP SLIP INTO YOUR MESSAGING, BECAUSE THAT WILL HARM YOUR CREDIBILITY. KEEP YOUR LANGUAGE NEUTRAL AND REPEATEDLY EMPHASIZE "EVERY" AND "ALL."

Use These Words MORE:


Use These Words LESS:

the pandemic	the coronavirus
eliminate/eradicate/get rid of the virus	defeat/crush/knock out the virus
social distancing	physical distancing
an effective and safe vaccine	a vaccine developed quickly
protocols	orders/imperatives/decrees
face masks	facial coverings
essential workers	frontline workers
personal responsibility	national duty
a stay-at-home order	a government lockdown/shutdown
public health agencies	government health agencies
policies that are based on facts/science/data	policies that are sensible/impactful/reasonable

Sample Language

SHORT: We all have a responsibility to slow the spread of COVID-19. It is imperative that we protect each other by doing things like wearing masks and practicing social distancing so we can return to a strong economy and normal day-to-day activities.

LONGER: We all want a return to normal, and we all want the economy and our schools to open. And we also want to protect our family and friends from the pandemic. Our finest medical researchers are clear: If we fail, there will be even worse consequences for our families and our economy. We all have a personal responsibility to slow the spread of the pandemic and eliminate the virus as quickly as possible. Therefore, it's imperative that we take an effective, fact-based approach ... by doing things like wearing face masks and practicing social distancing. Let's do what needs to be done now so we can return to a strong economy and normal day-to-day activities.



de Beaumont
BOLD SOLUTIONS FOR HEALTHIER COMMUNITIES

SOURCE: de Beaumont

82

2022 Recommended Immunization Schedule for Adults Aged ≥19 Years*

- Recommended adult schedule by age group
- Recommended immunization schedule for adults aged 19 years or older by medical condition and other indications

Changes

- Clarification of the charts
- Additional information in the Notes section

READ THE FOOTNOTES TO ACCESS SPECIFIC VACCINE ADMINISTRATION DETAILS!

Table 1 Recommended Adult Immunization Schedule by Age Group, United States, 2023

Vaccine	19–36 years	37–49 years	50–64 years	≥65 years
COVID-19	2- or 3-dose primary series and booster (See Notes)			
Influenza inactivated (IIV4) or Influenza recombinant (RIV4)	1 dose annually			
Influenza live, attenuated (LAIV4)	1 dose annually			
Tetanus, diphtheria, pertussis (Tdap or Td)	1 dose Tdap each pregnancy; 1 dose Td/Tdap for wound management (see notes) 1 dose Tdap, then Td or Tdap booster every 10 years			
Measles, mumps, rubella (MMR)	1 or 2 doses depending on indication (if born in 1957 or later)			
Varicella (VAR)	2 doses (if born in 1980 or later)			
Zoster recombinant (ZCV)	2 doses for immunocompromising conditions (see notes)			
Human papillomavirus (HPV)	2 or 3 doses depending on age at initial vaccination or condition			
Pneumococcal (PCV15, PCV20, PPSV23)	1 dose PCV15 followed by PPSV23 OR 1 dose PCV20 (see notes)			
Hepatitis A (HepA)	2, 3, or 4 doses depending on vaccine			
Hepatitis B (HepB)	2, 3, or 4 doses depending on vaccine or condition			
Meningococcal A, C, W, Y (MenACWY)	1 or 2 doses depending on indication, see notes for booster recommendations			
Meningococcal B (MenB)	2 or 3 doses depending on vaccine and indication, see notes for booster recommendations			
Haemophilus influenzae type b (Hib)	1 or 3 doses depending on indication			

 Recommended vaccination for adults who meet age requirement, lack documentation of vaccination, or lack evidence of past infection.
 Recommended vaccination for adults with an additional risk factor or another indication.
 Recommended vaccination based on shared clinical decision making.
 Contraindicated or not recommended based on shared clinical decision making.
 No recommendation/Not applicable.

Table 2 Recommended Adult Immunization Schedule by Medical Condition or Other Indication, United States, 2023										
Vaccine	Pregnancy	Immunocompromised (excluding HIV infection)	HIV infection CD4 percentage and count	Asplenia, complement deficiencies	End-stage renal disease, or on hemodialysis	Heart or lung disease, alcoholism*	Chronic liver disease	Diabetes	Health care personnel†	Men who have sex with men
COVID-19		See Notes								
IIV4 or RIV4 or LAIV4	1 dose annually									1 dose annually
Tdap or Td	1 dose Tdap each pregnancy	1 dose Tdap, then Td or Tdap booster every 10 years								
MMR	Contraindicated*	Contraindicated	1 or 2 doses depending on indication							
VAR	Contraindicated*	Contraindicated	2 doses							
RZV		2 doses at age ≥19 years				2 doses at age ≥50 years				
HPV	Not Recommended†‡	3 doses through age 26 years		2 or 3 doses through age 26 years depending on age at initial vaccination or condition						
Pneumococcal (PCV15, PCV20, PPSV23)		1 dose PCV15 followed by PPSV23 OR 1 dose PCV20 (see notes)								
HepA				2, 3, or 4 doses depending on vaccine						
HepB	3 doses (see notes)	2, 3, or 4 doses depending on vaccine or condition								
MenACWY	1 or 2 doses depending on indication, see notes for booster recommendations									
MenB	Precaution	2 or 3 doses depending on vaccine and indication, see notes for booster recommendations								
Hib		3 doses HibT recipients only	1 dose							

Recommended vaccination for adults who meet age requirement, lack documentation of vaccination, or lack evidence of past infection

Recommended vaccination for adults with an additional risk factor or another indication

Recommended vaccination based on shared clinical decision making

Precaution—vaccination might be indicated if benefit of protection outweighs risk of adverse reaction

Contraindicated or not recommended—vaccine should not be administered

No recommendation/Not applicable

*Vaccinate after pregnancy. †Vaccinate after pregnancy. ‡Precaution for LAIV4 does not apply to alcoholism. See notes for influenza, hepatitis B, measles, mumps, and rubella, and varicella vaccinations. c, Hematopoietic stem cell transplant.