Administering Injectable Influenza and COVID-19 Vaccines on the Same Day: Clinical Considerations

JoEllen Wolicki, BSN, RN

Nurse Educator

Immunization Services Division

Communication and Education Branch

Clinical Considerations

Best Practices

Clinical Resources

Timing and Spacing of COVID-19 Vaccines

- During influenza season, CDC recognizes there may be compelling logistical advantages to offering patients COVID-19 and influenza vaccines on the same day, and providers can encourage patients to receive these on the same day.
- There are limited data on the safety of coadministration of COVID-19 vaccines with other vaccines, including flu vaccine. Based on experience with coadministration of inactivated vaccines in general, safety problems are not anticipated.

Vaccine Finder www.vaccines.gov/search/

COVID-19 Vaccines and Other Vaccines

- COVID-19 vaccines and other vaccines may be coadministered with ALL other vaccines including:
  - Non-live vaccines
  - Live, attenuated vaccines

Interim Clinical Considerations for Use of COVID-19 Vaccines Currently Approved or Authorized in the United States
www.cdc.gov/vaccines/covid-19/clinical-considerations/covid-19-vaccines-us.html#dosing-schedule

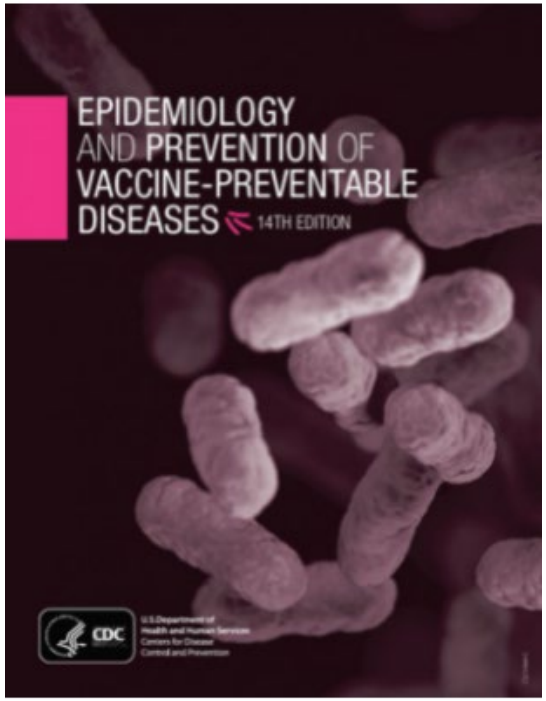
COVID-19 Vaccine and Passive Antibody Products

- COVID-19 vaccination should be temporarily deferred after receiving passive antibody products for SARS-CoV-2:
  - Post-exposure prophylaxis: Defer COVID-19 vaccination for 30 days
  - COVID-19 treatment: Defer COVID-19 vaccination for 90 days
- This guidance applies to COVID-19 vaccine ONLY.

Interim Clinical Considerations for Use of COVID-19 Vaccines Currently Approved or Authorized in the United States
www.cdc.gov/vaccines/covid-19/clinical-considerations/covid-19-vaccines-us.html#dosing-schedule

Clinical Considerations: Coadministration and Other Routinely Vaccines

- Almost all vaccine can be administered at the same clinical visit.
- Some vaccines should NOT be coadministered on the same day, including:
  - PCV13 (Prevnar) and PPSV23 (Pneumovax)
  - PCV13 (Prevanr and MenACWY (Menactra)



Epidemiology and Prevention of Vaccine-Preventable Diseases www.cdc.gov/vaccines/pubs/pinkbook/index.html

Clinical Considerations

Best Practices

Clinical Resources

Best Practices: Preparation

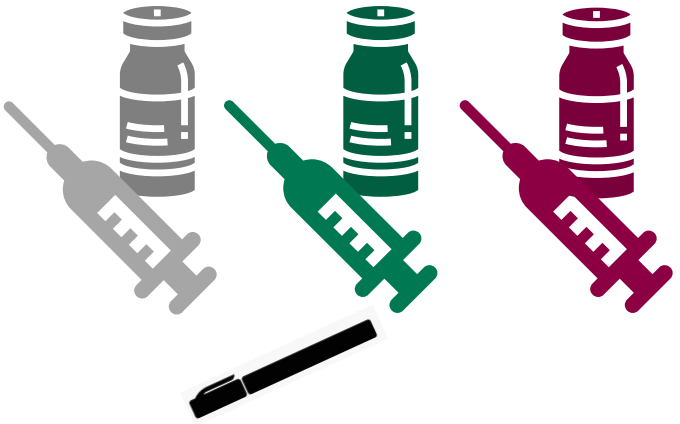
- Prepare vaccines in a clean, designated medication area.
- Perform proper hand hygiene before vaccine preparation.
- Always check the expiration dates on the vaccine and diluent, if needed.
- Always check the BUD, if applicable, on the vaccine.
  - The BUD replaces the manufacturer's expiration date.
  - DO NOT prepare/administer vaccine past the BUD.

CDC *Epidemiology and Prevention of Vaccine Preventable Diseases*, Vaccine Administration chapter
www.cdc.gov/vaccines/pubs/pinkbook/vac-admin.html

Prepare each injectable vaccine using a separate needle and syringe.

Best Practices: Preparing More Than One Vaccine

- Label each syringe with the:
  - Name and the dosage (amount) of the vaccine
  - Lot number
  - Initials of the preparer
  - Exact beyond-use time, if applicable



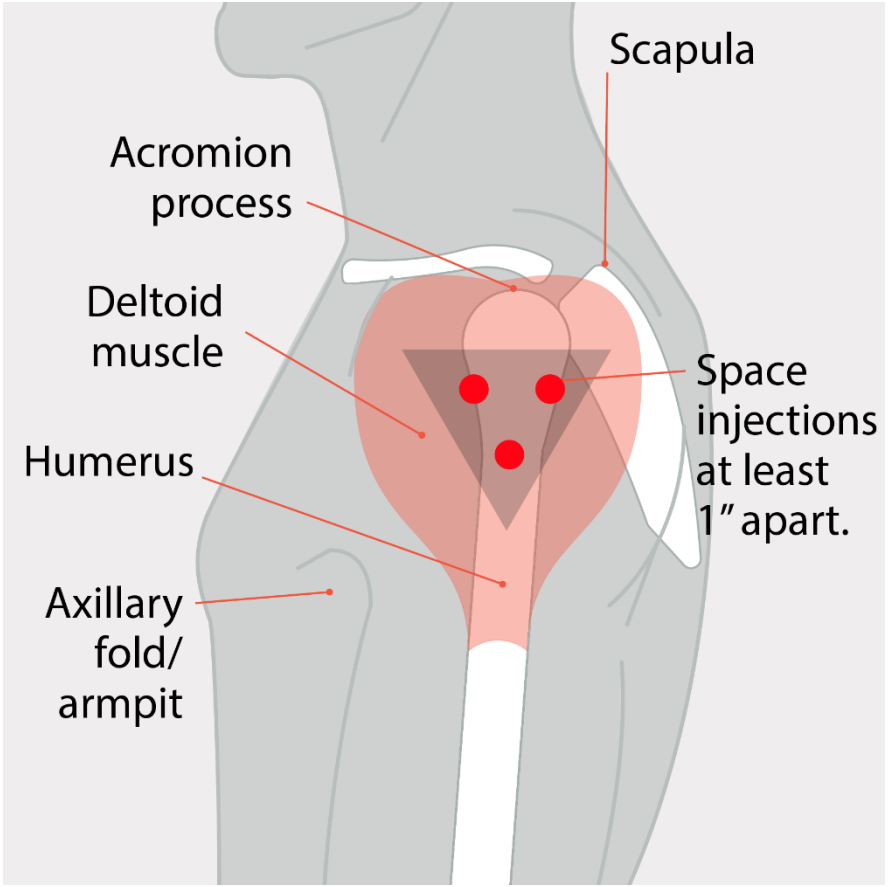
Injectable Influenza and COVID-19 Vaccines: Route and Site

Vaccines	Route	Recommended Site
COVID-19 Vaccine	Intramuscular (IM) injection	Deltoid muscle* in the upper arm
Non-live Influenza Vaccine– IIV4, aIIV, ccIV4, HD-IIV4, RIV4	Intramuscular (IM) injection	Deltoid muscle* in the upper arm

*The vastus lateralis muscle in the anterolateral thigh may be used as an alternate site.

EACH recommended site can be used for more than one injection.

Separate injection sites by at least 1-inch apart, if possible.



CDC *Epidemiology and Prevention of Vaccine Preventable Diseases*, Vaccine Administration chapter
www.cdc.gov/vaccines/pubs/pinkbook/vac-admin.html

Administer vaccines that are most likely to cause injection site reactions in different limbs, if possible.

CDC *Epidemiology and Prevention of Vaccine Preventable Diseases*, Vaccine Administration chapter
www.cdc.gov/vaccines/pubs/pinkbook/vac-admin.html

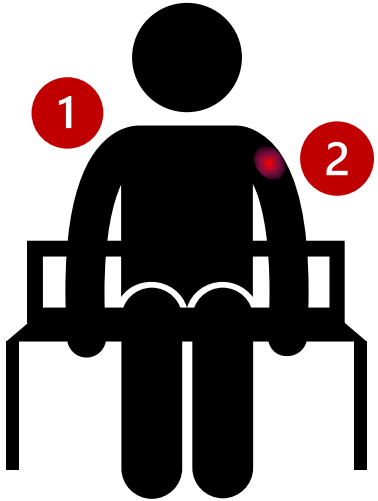
COVID-19 Vaccine and Other Vaccines

- COVID-19 vaccine is associated with local reactions including:
  - Pain
  - Redness
  - Swelling

Vaccine Finder www.vaccines.gov/search/

Pain and Vaccine Injections

- The order of vaccine injections matter.
- Some vaccines are painful when they are injected.
- Administer these vaccines last.



CDC *Epidemiology and Prevention of Vaccine Preventable Diseases*, Vaccine Administration chapter
www.cdc.gov/vaccines/pubs/pinkbook/vac-admin.html

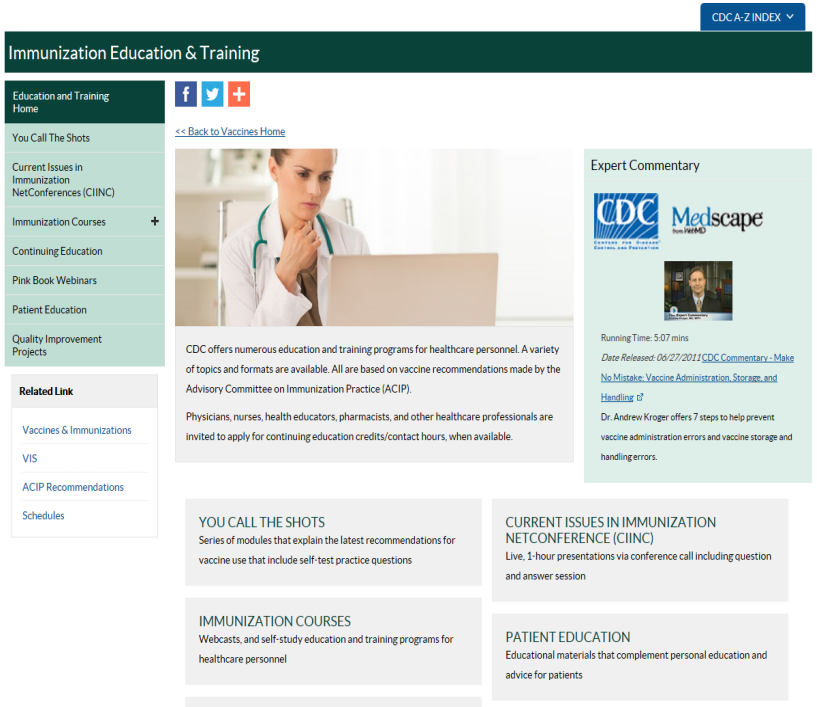
Clinical Considerations

Best Practices

Clinical Resources

Clinical Resources

- Multiple clinical education programs and materials are available free through the CDC website:
  - Vaccine administration
  - *You Call the Shots* self-study modules
  - COVID-19 vaccine materials
- Continuing education available



Vaccine Education and Training for Healthcare Professionals www.cdc.gov/vaccines/ed/index.html

Coadministration and Other Routinely Recommended Vaccines

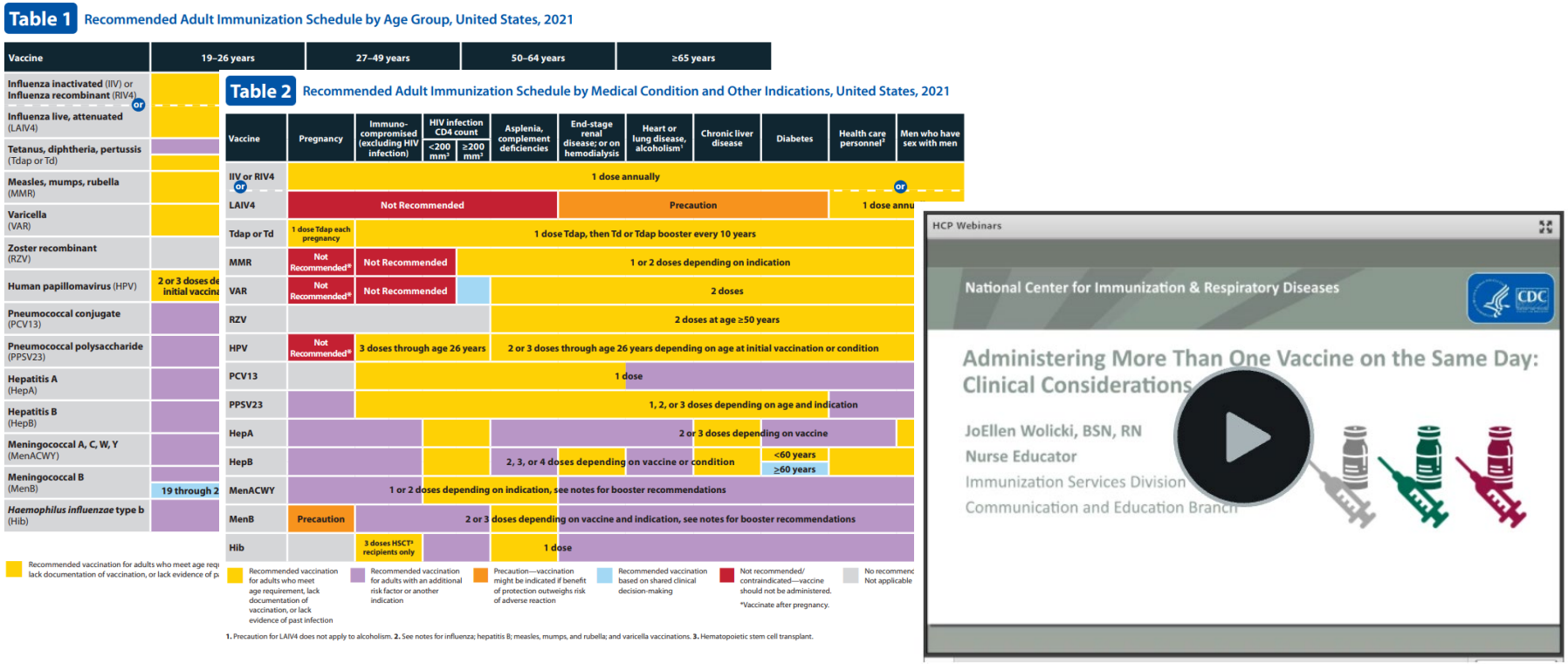


Table 1 Recommended Adult Immunization Schedule by Age Group, United States, 2021

Vaccine	19–26 years	27–49 years	50–64 years	≥65 years
Influenza inactivated (IIV) or Influenza recombinant (RIV4)				
Influenza live, attenuated (LAIV4)				
Tetanus, diphtheria, pertussis (Tdap or Td)				
Measles, mumps, rubella (MMR)				
Varicella (VAR)				
Zoster recombinant (RZV)				
Human papillomavirus (HPV)	2 or 3 doses de initial vaccin			
Pneumococcal conjugate (PCV13)				
Pneumococcal polysaccharide (PPSV23)				
Hepatitis A (HepA)				
Hepatitis B (HepB)				
Meningococcal A, C, W, Y (MenACWY)				
Meningococcal B (MenB)	19 through 2			
Haemophilus influenzae type b (Hib)				

Recommended vaccination for adults who meet age requ
lack documentation of vaccination, or lack evidence of p

Table 2 Recommended Adult Immunization Schedule by Medical Condition and Other Indications, United States, 2021

Vaccine	Pregnancy	Immuno-compromised (excluding HIV infection)	HIV infection CD4 count <200 mm³	HIV infection CD4 count ≥200 mm³	Asplenia, complement deficiencies	End-stage renal disease; or on hemodialysis	Heart or lung disease, alcoholism[1]	Chronic liver disease	Diabetes	Health care personnel[2]	Men who have sex with men
IIV or RIV4	1 dose annually										
LAIV4	Not Recommended						Precaution			1 dose annu	
Tdap or Td	1 dose Tdap each pregnancy	1 dose Tdap, then Td or Tdap booster every 10 years									
MMR	Not Recommended*	Not Recommended	1 or 2 doses depending on indication								
VAR	Not Recommended*	Not Recommended			2 doses						
RZV	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								
PCV13	1 dose										
PPSV23	1, 2, or 3 doses depending on age and indication										
HepA	2 or 3 doses depending on vaccine										
HepB	2, 3, or 4 doses depending on vaccine or condition								<60 years	≥60 years	
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[3] 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

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

Recommended vaccination based on shared clinical decision-making

Not recommended/ contraindicated—vaccine should not be administered.

*Vaccinate after pregnancy.

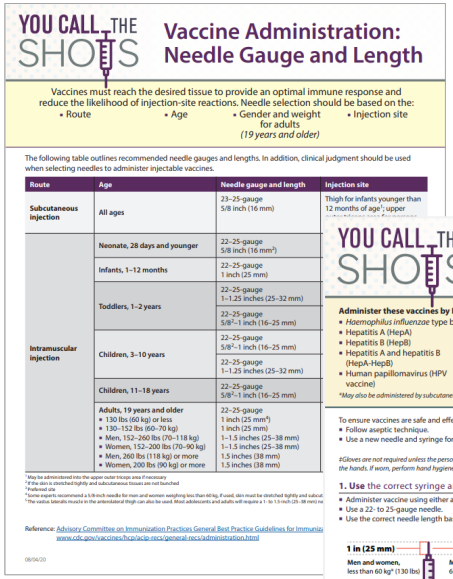
No recommenc
Not applicable

1. Precaution for LAIV4 does not apply to alcoholism. 2. See notes for influenza; hepatitis B; measles, mumps, and rubella; and varicella vaccinations. 3. Hematopoietic stem cell transplant.

Recommended Adult Immunization Schedule for ages 19 years or older, United States, 2021 www.cdc.gov/vaccines/schedules/hcp/imz/adult.html

Administering More Than One Vaccine on the Same Day: Clinical Considerations www.cdc.gov/vaccines/covid-19/training-education/webinars.html

Vaccine Administration Resources



YOU CALL THE SHOTS

Vaccine Administration: Needle Gauge and Length

Vaccines must reach the desired tissue to provide an optimal immune response and reduce the likelihood of injection-site reactions. Needle selection should be based on the:
- Route
- Age
- Gender and weight for adults *(19 years and older)*
- Injection site

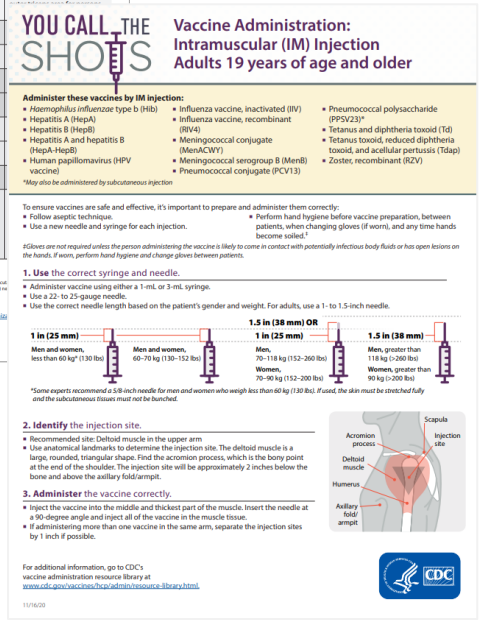
The following table outlines recommended needle gauges and lengths. In addition, clinical judgment should be used when selecting needles to administer injectable vaccines.

Route	Age	Needle gauge and length	Injection site
Subcutaneous injection	All ages	23–25-gauge 5/8 inch (16 mm)	Thigh for infants younger than 12 months of age[a]; upper
Intramuscular injection	Neonate, 28 days and younger	22–25-gauge 5/8 inch (16 mm[2])	
	Infants, 1–12 months	22–25-gauge 1 inch (25 mm)	
	Toddlers, 1–2 years	22–25-gauge 1–1.25 inches (25–32 mm)	
		22–25-gauge 5/8[b]–1 inch (16–25 mm)	
	Children, 3–10 years	22–25-gauge 5/8[b]–1 inch (16–25 mm)	
		22–25-gauge 1–1.25 inches (25–32 mm)	
	Children, 11–18 years	22–25-gauge 5/8[b]–1 inch (16–25 mm)	
	Adults, 19 years and older • 130 lbs (60 kg) or less • 130–152 lbs (60–70 kg) • Men, 152–260 lbs (70–118 kg) • Women, 152–200 lbs (70–90 kg) • Men, 260 lbs (118 kg) or more • Women, 200 lbs (90 kg) or more	22–25-gauge 1 inch (25 mm[2]) 1 inch (25 mm) 1–1.5 inches (25–38 mm) 1–1.5 inches (25–38 mm) 1.5 inches (38 mm) 1.5 inches (38 mm)	

[a] May be administered into the upper outer triceps area if necessary
[b] Use if skin is stretched tightly and subcutaneous tissues are not bunched
[c] Preferred site
[d] Some experts recommend a 5/8-inch needle for men and women weighing less than 60 kg, if used, skin must be stretched tightly and subcut
[e] The vastus lateralis muscle in the anterolateral thigh can also be used. Most adolescents and adults will require a 1- to 1.5-inch (25 -38 mm) ne

Reference: Advisory Committee on Immunization Practices General Best Practice Guidelines for Immuniz
www.cdc.gov/vaccines/hcp/acip-recs/general-recs/administration.html

08/04/20



YOU CALL THE SHOTS

Vaccine Administration: Intramuscular (IM) Injection Adults 19 years of age and older

Administer these vaccines by IM injection:
- *Haemophilus influenzae* type b (Hib)
- Hepatitis A (HepA)
- Hepatitis B (HepB)
- Hepatitis A and hepatitis B (HepA-HepB)
- Human papillomavirus (HPV vaccine)
- Influenza vaccine, inactivated (IIV)
- Influenza vaccine, recombinant (RIV4)
- Meningococcal conjugate (MenACWY)
- Meningococcal serogroup B (MenB)
- Pneumococcal conjugate (PCV13)
- Pneumococcal polysaccharide (PPSV23)*
- Tetanus and diphtheria toxoid (Td)
- Tetanus toxoid, reduced diphtheria toxoid, and acellular pertussis (Tdap)
- Zoster, recombinant (RZV)

**May also be administered by subcutaneous injection*

To ensure vaccines are safe and effective, it's important to prepare and administer them correctly:
- Follow aseptic technique.
- Use a new needle and syringe for each injection.
- Perform hand hygiene before vaccine preparation, between patients, when changing gloves (if worn), and any time hands become soiled.[1]

†Gloves are not required unless the person administering the vaccine is likely to come in contact with potentially infectious body fluids or has open lesions on the hands. If worn, perform hand hygiene and change gloves between patients.

1. Use the correct syringe and needle.
- Administer vaccine using either a 1-mL or 3-mL syringe.
- Use a 22- to 25-gauge needle.
- Use the correct needle length based on the patient's gender and weight. For adults, use a 1- to 1.5-inch needle.

1 in (25 mm) — Men and women, less than 60 kg* (130 lbs)
1 in (25 mm) — Men and women, 60–70 kg (130–152 lbs)
1.5 in (38 mm) OR 1 in (25 mm) — Men, 70–118 kg (152–260 lbs); Women, 70–90 kg (152–200 lbs)
1.5 in (38 mm) — Men, greater than 118 kg (>260 lbs); Women, greater than 90 kg (>200 lbs)

**Some experts recommend a 5/8-inch needle for men and women who weigh less than 60 kg (130 lbs). If used, the skin must be stretched fully and the subcutaneous tissues must not be bunched.*

2. Identify the injection site.
- Recommended site: Deltoid muscle in the upper arm
- Use anatomical landmarks to determine the injection site. The deltoid muscle is a large, rounded, triangular shape. Find the acromion process, which is the bony point at the end of the shoulder. The injection site will be approximately 2 inches below the bone and above the axillary fold/armpit.

3. Administer the vaccine correctly.
- Inject the vaccine into the middle and thickest part of the muscle. Insert the needle at a 90-degree angle and inject all of the vaccine in the muscle tissue.
- If administering more than one vaccine in the same arm, separate the injection sites by 1 inch if possible.

For additional information, go to CDC's vaccine administration resource library at www.cdc.gov/vaccines/hcp/admin/resource-library.html.

11/16/20

Title: Live, Attenuated Influenza Vaccine (LAIV)
Short Description: Videos
in their knowledge of influenza vaccination recommendations. The best way to prevent the flu is to get vaccinated each year.

Title: Subcutaneous (SC or Subcut) Injection: Administration
Short Description: This training addresses how to administer a subcutaneous (SC or subcut) injection. Injections are commonly used in health care settings to administer vaccines for disease prevention. A needle is used to inject the vaccine into the tissue layer between the skin and the muscle. Safe injection practices minimize risk of injuries, infections, and non-infectious adverse events for both patients and providers. Health care providers are always advised to observe patients for 15 minutes after vaccination.

Title: Subcutaneous (SC or Subcut) Injection: Supplies
Short Description: This training addresses how to select the equipment needed to prepare for a subcutaneous (SC or subcut) injection. Aseptic technique must be used to protect vaccines, injection equipment, and supplies from microbial contamination. Safe and sterile injection practices minimize risk of injuries, infections, and non-infectious adverse events for both patients and providers.

Title: Subcutaneous (SC or Subcut) Injection: Sites
Short Description: This training helps providers identify subcutaneous (SC or subcut) injection sites. A needle is used to inject the vaccine into the tissue layer between the skin and the muscle. The appropriate site for a subcutaneous injection for those under 12 months of age is the fatty tissue over the anterolateral thigh. The fatty tissue over the triceps area of the upper arm is preferred for those older than 12 months of age. Safe injection practices minimize risk of injuries, infections, and non-infectious adverse events for both patients and providers. Health care providers are always advised to observe patients for 15 minutes after vaccination.

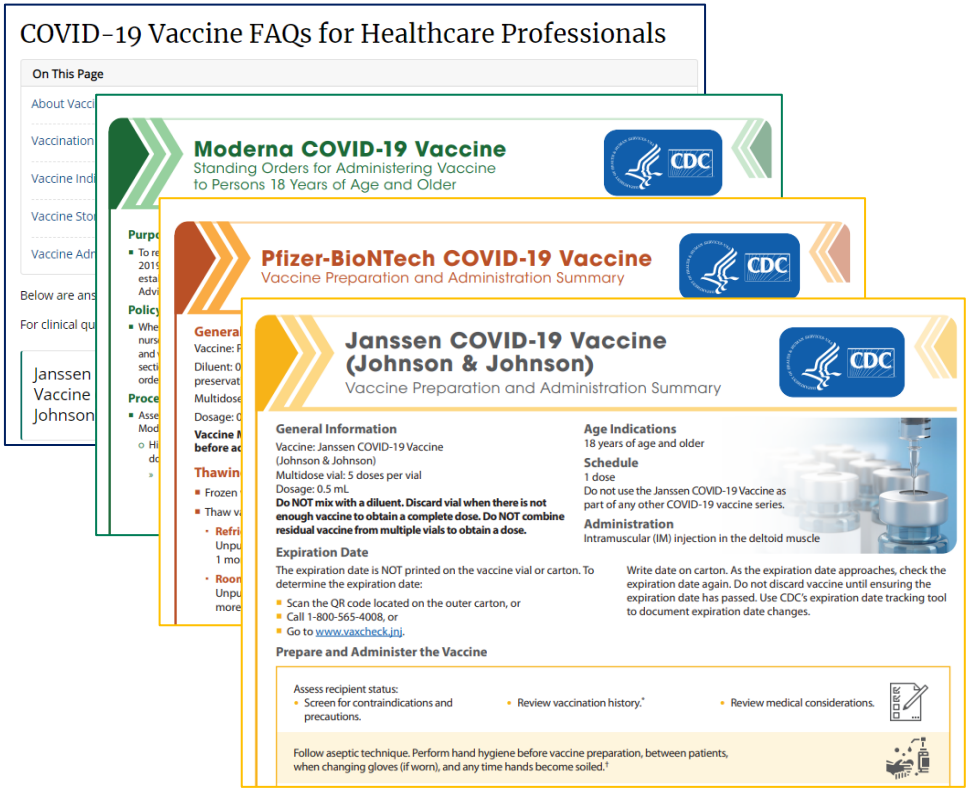
Title: Intramuscular (IM) Injection: Supplies (Children Birth through 18 Years of Age)
Short Description: This training addresses how to select the equipment needed to prepare an intramuscular (IM) injection for children from birth through 18 years of age. A supply of needles of the appropriate lengths should be available. Aseptic technique must be used to protect supplies from microbial contamination. Safe injection practices minimize risk of injuries, infections, and non-infectious adverse events for both patients and providers. Health care providers are always advised to observe patients for 15 minutes after vaccination.

Title: Intramuscular (IM) Injection: Supplies (Adults 19 Years of Age and Older)
Short Description: This training addresses how to select the equipment needed to prepare an intramuscular (IM) injection for adults 19 years of age and older. A supply of needles of the appropriate lengths should be available. Aseptic technique must be used to protect supplies from microbial contamination. Safe injection practices minimize risk of injuries, infections, and non-infectious adverse events for both patients and providers. Health care providers are always advised to observe patients for 15 minutes after vaccination.

Title: Intramuscular (IM) Injection: Sites
Short Description: This training helps providers identify intramuscular (IM) injection sites. A needle is used to inject the vaccine into the muscle. The appropriate site for an intramuscular injection for those under 2 years of age is the vastus lateralis muscle. The deltoid muscle over the triceps area of the upper arm is preferred for persons 3 years of age and older. Safe injection practices minimize risk of injuries, infections, and non-infectious adverse events for both patients and providers. Health care providers are always advised to observe patients for 15 minutes after vaccination.

CDC vaccine administration resource library
www.cdc.gov/vaccines/hcp/admin/resource-library.html

CDC COVID-19 Vaccines Resources



CDC Resources

- Advisory Committee on Immunization Practices General Best Practice Guidelines for Immunization: www.cdc.gov/vaccines/hcp/acip-recs/general-recs/index.html
- *You Call the Shots Vaccine Administration*: www2.cdc.gov/vaccines/ed/vaxadmin/va/ce.asp
- CDC Vaccine Administration Resource Library: www.cdc.gov/vaccines/hcp/admin/resource-library.html
- CDC Injection Safety website: www.cdc.gov/injectionsafety/providers.html
- *Epidemiology and Prevention of Vaccine-Preventable Diseases*, Vaccine Administration Chapter: www.cdc.gov/vaccines/pubs/pinkbook/vac-admin.html