

Centers for Disease Control and Prevention
National Center for Immunization and Respiratory Diseases



Influenza Vaccination and Co-administration with Other Vaccines

National Adult Immunization and Influenza Summit September 2, 2021

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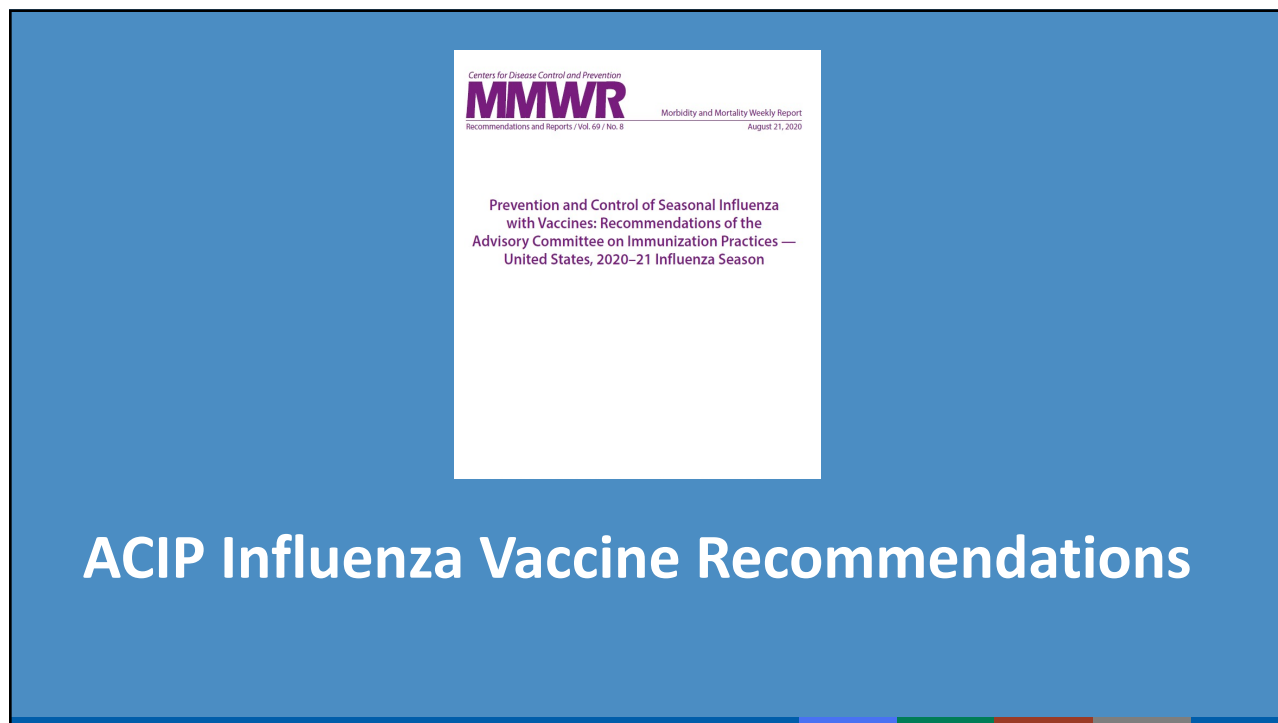
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Overview

- ACIP influenza vaccine recommendations
- Co-administration of influenza vaccine with other vaccines

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ACIP Influenza Vaccine Recommendations

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Revisions to the ACIP Influenza Vaccine Recommendations 2021-2022

- 2021-2022 strains
- Formulation information
- Timing of vaccination
- Contraindications and precautions - allergy

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2021-2022 Strains

Egg-based Vaccine

- A/Cambodia/e0826360/2020 (H3N2-like)
- A/Victoria/2570/2019 (H1N1-like)
- B/Washington/2/2019 (Victoria)
- B/Phuket/3073/2013 (Yamagata)

Cell-culture and Recombinant Vaccine

- A/Cambodia/e0826360/2020 (H3N2-like)
- A/Wisconsin/588/2019 (H1N1-like)
- B/Washington/2/2019 (Victoria)
- B/Phuket/3073/2013 (Yamagata)

[ACIP Influenza Vaccine Recommendations | CDC](#)

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Formulation Updates

- Flucelvax (ccIIV4) the cell culture inactivated vaccine
 - Previously approved for persons 4 years old and older
 - Now approved for persons 2 years old and older

[ACIP Influenza Vaccine Recommendations | CDC](#)

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Timing of Influenza Vaccination

- Influenza vaccine usually becomes available in July.
- Optimal vaccination – vaccinated by the end of October
- Certain persons should be vaccinated earlier rather than later.
 - Children 2 – 8 years of age who require 2 doses of influenza vaccine
 - Persons who are in the third trimester of pregnancy
- Continue vaccinating throughout influenza season.

[ACIP Influenza Vaccine Recommendations | CDC](#)

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Contraindications/Precautions to Influenza Vaccine

- These now vary by brand of influenza vaccine
- Contraindication – based on a safety concern, vaccine should be withheld
- Precaution – based on a milder safety concern, a concern with vaccine effectiveness, or a concern with diagnosis of a new-onset medical condition – a risk benefit analysis should occur.

[ACIP Contraindications Guidelines for Immunization | CDC](#)

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Contraindications to Egg-based Influenza Vaccines

- History of severe allergic reaction (e.g. anaphylaxis) to any component of the vaccine (any valency) or to a previous (or prior) dose of any influenza vaccine (IIV, cclIV, RIV, LAIV) (any valency).

[ACIP Influenza Vaccine Recommendations | CDC](#)

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Contraindications to Cell-culture Influenza Vaccine

- History of severe allergic reaction (e.g. anaphylaxis) to a previous (or prior) dose of any cell-culture vaccine (any valency) or any component of **cell-culture vaccine** (any valency).

[ACIP Influenza Vaccine Recommendations | CDC](#)

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Contraindications to Recombinant Influenza Vaccine

- History of severe allergic reaction (e.g. anaphylaxis) to a previous (or prior) dose of any recombinant influenza vaccine (any valency) or any component of **recombinant influenza vaccine** (any valency).

[ACIP Influenza Vaccine Recommendations | CDC](#)

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Contraindications to Live-attenuated Influenza Vaccine

- History of severe allergic reactions (e.g. anaphylaxis) to any component of the vaccine (any valency) or to a previous (or prior) dose of any influenza vaccine (any valency)
- Concomitant aspirin or salicylate-containing therapy in children and adolescents
- Being a child aged 2-4 years and have received a diagnosis of asthma or whose parents or caregivers report that a health care provider has told them during the preceding 12 months that their child had wheezing or asthma or whose medical record indicates a wheezing episode has occurred during the preceding 12 months
- Altered immunocompetence
- Anatomic and functional asplenia (e.g. sickle cell disease)
- Close contacts and caregivers of persons requiring care in a protected environment
- Pregnancy
- CSF leak
- Receipt of influenza antiviral medications within the previous 48 hours (oseltamivir/zanamivir), 5 days (peramivir), 17 days (baloxavir)

[ACIP Influenza Vaccine Recommendations | CDC](#)

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Precautions to Egg-based Influenza Vaccines

- Moderate or severe acute illness with or without fever
- History of Guillain-Barré syndrome within 6 weeks of receipt of influenza vaccine

[ACIP Influenza Vaccine Recommendations | CDC](#)

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Precautions to Cell-culture Influenza Vaccine

- Moderate or severe acute illness with or without fever
- History of Guillain-Barré syndrome within 6 weeks of receipt of influenza vaccine
- **History of severe allergic reaction to a previous (a prior) dose of any other influenza vaccine (IIV, RIV, or LAIV) (any valency)**

[ACIP Influenza Vaccine Recommendations | CDC](#)

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Precautions to Recombinant Influenza Vaccine

- Moderate or severe acute illness with or without fever
- History of Guillain-Barré syndrome within 6 weeks of receipt of influenza vaccine
- **History of severe allergic reaction to a previous (a prior) dose of any other influenza vaccine (IIV, cIIIV, or LAIV) (any valency)**

[ACIP Influenza Vaccine Recommendations | CDC](#)

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Precautions to Live-attenuated Influenza Vaccine

- Moderate or severe acute illness with or without fever
- History of Guillain-Barré syndrome within 6 weeks of receipt of influenza vaccine
- **Asthma in persons 5 years old and older**
- **Other underlying medical conditions that might predispose to complications after wild-type influenza infection (e.g. chronic pulmonary, cardiovascular [except isolated hypertension], renal, hepatic, neurologic, hematologic, or metabolic disorders [including diabetes mellitus])**

[ACIP Influenza Vaccine Recommendations | CDC](#)

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Influenza Co-administration

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Standards for Adult Immunization Practices | CDC

Immunizing Adult Patients: Standards for Practice

Your patients trust you to give them the best advice on how to protect their health. Vaccine-preventable diseases can result in serious illness, hospitalization, and even death. Make adult vaccination a standard of care in your practice.

Your patients have probably not received all the vaccines they need.

Even though most insurance plans cover the cost of recommended vaccines, adult vaccination rates in the U.S. are extremely low. Each year, tens of thousands of adults needlessly suffer, are hospitalized, and even die as a result of diseases that could be prevented by vaccines.

Your patients may not even realize that they need vaccines.

Many adults don't know which vaccines are recommended for them throughout their lives. Many also report not receiving vaccine recommendations from their healthcare professional.

You can make a difference.

Clinicians are the most trusted and trusted source of health information for adults. Research shows that most adults believe vaccines are important and that a recommendation from their healthcare professional is a key predictor of patients getting needed vaccines.



Make Immunization a Standard of Patient Care in Your Practice:

- ASSESS the immunization status of all your patients at every clinical encounter.**
 - Stay informed about the latest CDC recommendations for immunization of adults.
 - Implement protocols in your office to ensure that patients' vaccine needs are routinely reviewed and patients get reminders about vaccines they need.
- Strongly RECOMMEND vaccines that your patients need.**
 - Address patient questions and concerns in clear and understandable language.
 - Highlight your positive experiences with vaccination (personal or in your practice).
- ADMINISTER needed vaccines or REFER your patients to a vaccination provider.**
 - For vaccines that you stock, make vaccination services as convenient as possible for your patients.
 - For vaccines that you don't stock, refer patients to providers in the area that offer vaccination services.
- DOCUMENT vaccines received by your patients.**
 - Participate in your state's immunization registry to help your office, your patients, and your patient care providers know which vaccines your patients have had.
 - Follow up to confirm that patients received recommended vaccines that you referred them to get from other immunization providers.

Standards for Adult Immunization Practices emphasize the role of all healthcare professionals—whether they provide immunization services or not—in ensuring that each patient is fully immunized. These standards are published by the National Vaccine Advisory Committee and supported by the Centers for Disease Control and Prevention as well as a number of national medical associations.

DON'T WAIT. VACCINATE!



U.S. DEPARTMENT OF HEALTH & HUMAN SERVICES

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Timing and Spacing of Vaccine Doses

- General Best Practices: two different vaccines may be given simultaneously (same clinic day)
 - Some exceptions for certain vaccines and certain risk groups
 - PCV13 and Menactra (asplenia, HIV infection)

- General Best Practices: two different vaccines may be given at any interval
 - Some exceptions for certain vaccines and certain risk groups
 - Menactra and DTaP (asplenia, HIV infection, complement component deficiency)
 - Most injectable live vaccine pairs need to be separated by 28 days
 - LAIV and another live vaccine needs to be separated by 28 days
 - Yellow fever and another live vaccine (including LAIV) needs to be separated by 30 days

ACIP General Best Practice Guidelines for Immunization | CDC

Best Practices for Multiple Injections

- Label each syringe.
- Separate injection sites by 1 inch or more, if possible.
- Administer the **COVID-19 vaccine** and vaccines that may be more likely to cause a local reaction in different limbs, if possible.

<https://www.cdc.gov/vaccines/hcp/admin/resource-library.html>

YOU CALL THE SHOTS Vaccine Administration: Intramuscular (IM) Injection Children 7 through 18 years of age

YOU CALL THE SHOTS Vaccine Administration: Intramuscular (IM) Injection Adults 19 years of age and older

Administer these vaccines by IM injection:

- Hemophilus influenzae type b (Hib)
- Hepatitis A (HepA)
- Hepatitis B (HepB)
- Hepatitis A and hepatitis B (HepA-HepB) (19 years of age and older)
- Human papillomavirus (HPV) vaccine
- Influenza vaccine, inactivated (IV)
- Influenza vac (OVA) (18 yrs)
- Inactivated poliovirus vaccine (IPV)
- MenACWY vaccine
- Meningococcal conjugate (MenACV)
- Meningococcal conjugate (MenB)
- Meningococcal conjugate (PCV13)
- Pneumococcal conjugate (PCV13)
- Pneumococcal polysaccharide vaccine (PPSV23)
- Tetanus, diphtheria, and acellular pertussis (Tdap)
- Tetanus, diphtheria, and acellular pertussis (Tdap)
- Zoster, recombinant (RZV)

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 (2½ to 1.5 inch needles).

2. Identify the injection site.

- Preferred site: Deltoid muscle in the upper arm.
- Use anatomical landmarks to determine the injection site.

3. Administer the vaccine correctly.

- Inject the vaccine into the middle and thicker part of the muscle.
- Inject at a 90-degree angle and aspirate all of the vaccine in the muscle.
- Administering more than one vaccine in the same arm, up to 1 inch if possible.

1 in (25 mm) DB

Age and weight	Needle length
Infants, less than 15 lb (7 kg)	1 in (25 mm) DB
Children, 15 to 20 lb (7 to 9 kg)	1.5 in (38 mm) DB
Children, 20 to 30 lb (9 to 14 kg)	1.5 in (38 mm) DB
Children, 30 to 40 lb (14 to 18 kg)	1.5 in (38 mm) DB
Children, 40 to 50 lb (18 to 23 kg)	1.5 in (38 mm) DB
Children, 50 to 60 lb (23 to 27 kg)	1.5 in (38 mm) DB
Children, 60 to 70 lb (27 to 32 kg)	1.5 in (38 mm) DB
Children, 70 to 80 lb (32 to 36 kg)	1.5 in (38 mm) DB
Children, 80 to 90 lb (36 to 41 kg)	1.5 in (38 mm) DB
Children, 90 to 100 lb (41 to 45 kg)	1.5 in (38 mm) DB
Children, 100 to 110 lb (45 to 50 kg)	1.5 in (38 mm) DB
Children, 110 to 120 lb (50 to 54 kg)	1.5 in (38 mm) DB
Children, 120 to 130 lb (54 to 59 kg)	1.5 in (38 mm) DB
Children, 130 to 140 lb (59 to 64 kg)	1.5 in (38 mm) DB
Children, 140 to 150 lb (64 to 68 kg)	1.5 in (38 mm) DB
Children, 150 to 160 lb (68 to 73 kg)	1.5 in (38 mm) DB
Children, 160 to 170 lb (73 to 77 kg)	1.5 in (38 mm) DB
Children, 170 to 180 lb (77 to 82 kg)	1.5 in (38 mm) DB
Children, 180 to 190 lb (82 to 86 kg)	1.5 in (38 mm) DB
Children, 190 to 200 lb (86 to 91 kg)	1.5 in (38 mm) DB
Children, 200 to 210 lb (91 to 95 kg)	1.5 in (38 mm) DB
Children, 210 to 220 lb (95 to 100 kg)	1.5 in (38 mm) DB
Children, 220 to 230 lb (100 to 104 kg)	1.5 in (38 mm) DB
Children, 230 to 240 lb (104 to 109 kg)	1.5 in (38 mm) DB
Children, 240 to 250 lb (109 to 113 kg)	1.5 in (38 mm) DB
Children, 250 to 260 lb (113 to 118 kg)	1.5 in (38 mm) DB
Children, 260 to 270 lb (118 to 123 kg)	1.5 in (38 mm) DB
Children, 270 to 280 lb (123 to 127 kg)	1.5 in (38 mm) DB
Children, 280 to 290 lb (127 to 132 kg)	1.5 in (38 mm) DB
Children, 290 to 300 lb (132 to 136 kg)	1.5 in (38 mm) DB
Children, 300 to 310 lb (136 to 141 kg)	1.5 in (38 mm) DB
Children, 310 to 320 lb (141 to 146 kg)	1.5 in (38 mm) DB
Children, 320 to 330 lb (146 to 151 kg)	1.5 in (38 mm) DB
Children, 330 to 340 lb (151 to 156 kg)	1.5 in (38 mm) DB
Children, 340 to 350 lb (156 to 161 kg)	1.5 in (38 mm) DB
Children, 350 to 360 lb (161 to 166 kg)	1.5 in (38 mm) DB
Children, 360 to 370 lb (166 to 171 kg)	1.5 in (38 mm) DB
Children, 370 to 380 lb (171 to 176 kg)	1.5 in (38 mm) DB
Children, 380 to 390 lb (176 to 181 kg)	1.5 in (38 mm) DB
Children, 390 to 400 lb (181 to 186 kg)	1.5 in (38 mm) DB
Children, 400 to 410 lb (186 to 191 kg)	1.5 in (38 mm) DB
Children, 410 to 420 lb (191 to 196 kg)	1.5 in (38 mm) DB
Children, 420 to 430 lb (196 to 201 kg)	1.5 in (38 mm) DB
Children, 430 to 440 lb (201 to 206 kg)	1.5 in (38 mm) DB
Children, 440 to 450 lb (206 to 211 kg)	1.5 in (38 mm) DB
Children, 450 to 460 lb (211 to 216 kg)	1.5 in (38 mm) DB
Children, 460 to 470 lb (216 to 221 kg)	1.5 in (38 mm) DB
Children, 470 to 480 lb (221 to 226 kg)	1.5 in (38 mm) DB
Children, 480 to 490 lb (226 to 231 kg)	1.5 in (38 mm) DB
Children, 490 to 500 lb (231 to 236 kg)	1.5 in (38 mm) DB
Children, 500 to 510 lb (236 to 241 kg)	1.5 in (38 mm) DB
Children, 510 to 520 lb (241 to 246 kg)	1.5 in (38 mm) DB
Children, 520 to 530 lb (246 to 251 kg)	1.5 in (38 mm) DB
Children, 530 to 540 lb (251 to 256 kg)	1.5 in (38 mm) DB
Children, 540 to 550 lb (256 to 261 kg)	1.5 in (38 mm) DB
Children, 550 to 560 lb (261 to 266 kg)	1.5 in (38 mm) DB
Children, 560 to 570 lb (266 to 271 kg)	1.5 in (38 mm) DB
Children, 570 to 580 lb (271 to 276 kg)	1.5 in (38 mm) DB
Children, 580 to 590 lb (276 to 281 kg)	1.5 in (38 mm) DB
Children, 590 to 600 lb (281 to 286 kg)	1.5 in (38 mm) DB
Children, 600 to 610 lb (286 to 291 kg)	1.5 in (38 mm) DB
Children, 610 to 620 lb (291 to 296 kg)	1.5 in (38 mm) DB
Children, 620 to 630 lb (296 to 301 kg)	1.5 in (38 mm) DB
Children, 630 to 640 lb (301 to 306 kg)	1.5 in (38 mm) DB
Children, 640 to 650 lb (306 to 311 kg)	1.5 in (38 mm) DB
Children, 650 to 660 lb (311 to 316 kg)	1.5 in (38 mm) DB
Children, 660 to 670 lb (316 to 321 kg)	1.5 in (38 mm) DB
Children, 670 to 680 lb (321 to 326 kg)	1.5 in (38 mm) DB
Children, 680 to 690 lb (326 to 331 kg)	1.5 in (38 mm) DB
Children, 690 to 700 lb (331 to 336 kg)	1.5 in (38 mm) DB
Children, 700 to 710 lb (336 to 341 kg)	1.5 in (38 mm) DB
Children, 710 to 720 lb (341 to 346 kg)	1.5 in (38 mm) DB
Children, 720 to 730 lb (346 to 351 kg)	1.5 in (38 mm) DB
Children, 730 to 740 lb (351 to 356 kg)	1.5 in (38 mm) DB
Children, 740 to 750 lb (356 to 361 kg)	1.5 in (38 mm) DB
Children, 750 to 760 lb (361 to 366 kg)	1.5 in (38 mm) DB
Children, 760 to 770 lb (366 to 371 kg)	1.5 in (38 mm) DB
Children, 770 to 780 lb (371 to 376 kg)	1.5 in (38 mm) DB
Children, 780 to 790 lb (376 to 381 kg)	1.5 in (38 mm) DB
Children, 790 to 800 lb (381 to 386 kg)	1.5 in (38 mm) DB
Children, 800 to 810 lb (386 to 391 kg)	1.5 in (38 mm) DB
Children, 810 to 820 lb (391 to 396 kg)	1.5 in (38 mm) DB
Children, 820 to 830 lb (396 to 401 kg)	1.5 in (38 mm) DB
Children, 830 to 840 lb (401 to 406 kg)	1.5 in (38 mm) DB
Children, 840 to 850 lb (406 to 411 kg)	1.5 in (38 mm) DB
Children, 850 to 860 lb (411 to 416 kg)	1.5 in (38 mm) DB
Children, 860 to 870 lb (416 to 421 kg)	1.5 in (38 mm) DB
Children, 870 to 880 lb (421 to 426 kg)	1.5 in (38 mm) DB
Children, 880 to 890 lb (426 to 431 kg)	1.5 in (38 mm) DB
Children, 890 to 900 lb (431 to 436 kg)	1.5 in (38 mm) DB
Children, 900 to 910 lb (436 to 441 kg)	1.5 in (38 mm) DB
Children, 910 to 920 lb (441 to 446 kg)	1.5 in (38 mm) DB
Children, 920 to 930 lb (446 to 451 kg)	1.5 in (38 mm) DB
Children, 930 to 940 lb (451 to 456 kg)	1.5 in (38 mm) DB
Children, 940 to 950 lb (456 to 461 kg)	1.5 in (38 mm) DB
Children, 950 to 960 lb (461 to 466 kg)	1.5 in (38 mm) DB
Children, 960 to 970 lb (466 to 471 kg)	1.5 in (38 mm) DB
Children, 970 to 980 lb (471 to 476 kg)	1.5 in (38 mm) DB
Children, 980 to 990 lb (476 to 481 kg)	1.5 in (38 mm) DB
Children, 990 to 1000 lb (481 to 486 kg)	1.5 in (38 mm) DB

2. Identify the injection site.

- Identified site: Deltoid muscle in the upper arm.
- Use anatomical landmarks to determine the injection site.

3. Administer the vaccine correctly.

- Inject the vaccine into the middle and thicker part of the muscle.
- Inject at a 90-degree angle and aspirate all of the vaccine in the muscle.
- Administering more than one vaccine in the same arm, up to 1 inch if possible.

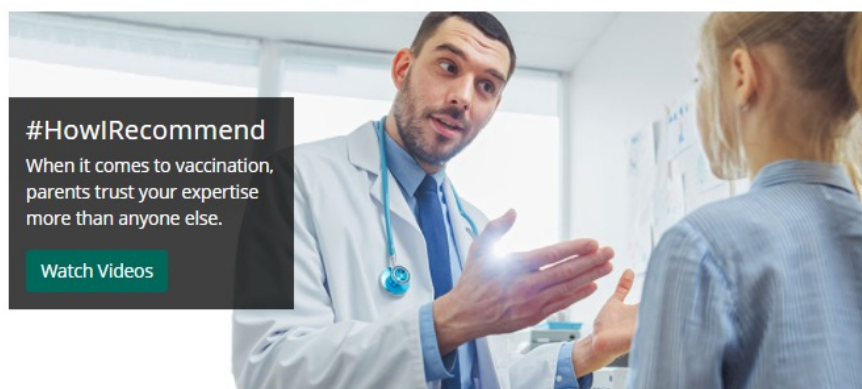
Vaccines Most Likely to Cause a Local Reaction

- Adjuvanted vaccines: HepB, DTaP, Tdap, Td, IIV (Fluad), HPV, Zoster (RZV), MenB, Pentacel, Pediarix, Quadracel, Kinrix, Twinrix, Vaxelis
- High-dose influenza vaccine
- Tetanus-toxoid containing vaccines (all are adjuvanted as above)
- In making your limb decision....use your clinical experience about other vaccines that might be reactogenic (e.g. IPV, PPSV23, HepA).
- Don't miss an opportunity to vaccinate!

[Vaccines Pink Book Webinar Series | CDC](#)
[Vaccines, Blood & Biologics | FDA](#)

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Communication with Patients



<https://www.cdc.gov/vaccines/howirecommend/index.html>

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Communication Resources

- **COVID-19 Vaccine Recipient Education:**
<https://www.cdc.gov/vaccines/covid-19/hcp/index.html>
- **#HowIRecommend videos:**
<https://www.cdc.gov/vaccines/howirecommend/index.html>
- **Patient education:** <https://www.cdc.gov/vaccines/hcp/patient-ed/index.html>
- **How Nurses and Medical Assistants Can Foster a Culture of Immunization in the Practice:**
<https://www.cdc.gov/vaccines/ed/courses.html#foster-culture>