

# Practice Guidelines

## ACIP Approves 2022 Adult and Child/Adolescent Immunization Schedules

### Key Points for Practice

- Vaccination against hepatitis B is recommended for all adults up to 59 years of age.
- The 15- and 20-valent PCVs are recommended for all adults 65 years and older and younger adults with risk factors. Those who receive the 15-valent vaccine should also receive the 23-valent PPSV.
- In addition to adults older than 50 years, recombinant zoster immunization is recommended for people 19 years and older with immunosuppression.

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**The 2022** adult and child/adolescent immunization schedules have been approved by the Advisory Committee on Immunization Practices (ACIP) of the Centers for Disease Control and Prevention (CDC) and are accessible at <https://www.aafp.org/family-physician/patient-care/prevention-wellness/immunizations-vaccines.html>. These schedules now combine links to COVID-19 vaccination information, Vaccination Information Statements, adverse event reporting, and a QR code for online schedules. Notable changes to the child/adolescent schedule include the addition of dengue vaccine recommendations, whereas the adult schedule has been updated with the 15- and 20-valent pneumococcal conjugate vaccines (PCV15, PCV20) in place of the 13-valent pneumococcal conjugate vaccine (PCV13), recombinant

zoster vaccine recommendations for immunocompromised adults, and changes to hepatitis B recommendations.

### Changes to Both the Child/Adolescent and Adult Immunization Schedules

#### INFLUENZA VACCINATION

Routine annual influenza vaccination continues to be recommended for all people six months or older without contraindications. Although late October remains the target for universal vaccination, it should continue to be offered while influenza viruses are circulating locally and unexpired vaccine is available. The 2021-2022 influenza season coincides with continued circulation of SARS-CoV-2 infection. Influenza vaccination reduces symptoms that might be confused with those of COVID-19 while reducing outpatient visits, hospitalizations, and intensive care unit admissions and mitigating stress on the U.S. health care system.

There are six types of vaccines with nine brand names available for administration. All seasonal influenza vaccines available in the United States for the 2021-2022 season are quadrivalent with updates to the influenza A(H1N1)pdm09 and influenza A(H3N2) components. U.S.-licensed influenza vaccines will contain hemagglutinin derived from an influenza A/Victoria/2570/2019 (H1N1)pdm09-like virus (for egg-based vaccines) or an influenza A/Wisconsin/588/2019 (H1N1)pdm09-like virus (for cell culture-based and recombinant vaccines), an influenza A/Cambodia/e0826360/2020 (H3N2)-like virus, an influenza B/Washington/02/2019 (Victoria lineage)-like virus, and an influenza B/Phuket/3073/2013 (Yamagata lineage)-like virus.

The minimum age for the cell culture-based inactivated influenza vaccine (Flucelvax Quadrivalent) has been adjusted from four to two years of age.

Influenza vaccines can be coadministered with other vaccines, including COVID-19 vaccines, with the vaccines given in separate anatomic sites. ACIP guidance concerning coadministration of other vaccines with influenza vaccines is

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This series is coordinated by Michael J. Arnold, MD, contributing editor.

A collection of Practice Guidelines published in AFP is available at <https://www.aafp.org/afp/practguide>.

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available at: <https://www.cdc.gov/flu/pdf/professionals/acip/acip-2021-22-summary-of-recommendations-updated.pdf>.

People with egg allergy should receive the recombinant influenza vaccine (Flublok Quadrivalent) or the cell culture–based inactivated influenza vaccine, which do not contain egg components. If egg-based influenza vaccines need to be administered, they should be given in a medical setting under supervision of a health care professional who can recognize and manage severe allergic reactions.

## Changes to the Child/Adolescent Immunization Schedule

### COVID-19 VACCINATION

A booster dose of the Pfizer COVID-19 vaccine is recommended five months after completing the initial two-dose series for children 12 to 17 years of age. Unvaccinated children in this age group are hospitalized six times as often as those who received the two-dose series.<sup>1</sup> The risk of myocarditis for children younger than 16 years is 37 times higher for those infected with COVID-19 than those uninfected.<sup>2</sup>

In Israel, where 6% of children 12 to 15 years of age received a booster dose five months after the initial vaccine series, children without the booster were infected 17 times as often as those who received the booster. Two cases of myocarditis were diagnosed after the booster dose in more than 40,000 Israeli children who received the booster.

### DENGUE VACCINATION

Recurrent dengue virus infections can be deadly when the second infection involves a different virus strain. For people nine to 16 years of age who live in an area where dengue virus is endemic and have laboratory confirmation of a previous dengue virus infection, ACIP recommends three doses of Dengvaxia administered six months apart.

## Changes to the Adult Immunization Schedule

### HEPATITIS B VACCINATIONS

Chronic hepatitis B virus (HBV) infection carries up to a 25% risk of premature death from cirrhosis or liver cancer. The CDC Division of Viral Hepatitis announced a goal of reducing HBV infections by 90% and HBV-related deaths by 65% by 2030, and the Department of Health and Human Services announced earlier this year a goal to eliminate viral hepatitis as a public health threat in the U.S. by 2030. Universal vaccination of adults is a key element of this goal. ACIP recommends that the HBV vaccine be administered to all adults through 59 years of age, and to adults 60 years and older who have any risk factor for HBV infection. Adults 60 years and older without risk factors for HBV infection may receive the vaccine if they choose.

Childhood vaccination against hepatitis B is on a path to eliminate acute HBV infection for U.S. adults younger than 29 years. In contrast, the previous risk-based HBV

vaccination strategy among adults has been less successful, with nearly 2 million Americans living with chronic HBV infection.

### PNEUMOCOCCAL VACCINATION

ACIP now recommends that all adults 65 years and older and adults 19 to 64 years of age with certain risk factors (*Table 1*) who have not previously received a pneumococcal conjugate vaccine (PCV) or whose vaccination history is unknown receive one dose of PCV15 or PCV20. When PCV15 is used, it should be followed by a dose of pneumococcal polysaccharide vaccine (PPSV23) typically more than one year later; a minimum of eight weeks later for those at high risk.<sup>3</sup>

### RECOMBINANT ZOSTER VACCINATION

ACIP now recommends two doses of recombinant zoster vaccine for the prevention of herpes zoster and its complications in people 19 years and older who are or will be immunodeficient or immunosuppressed because of disease or therapy, in addition to adults 50 years and older.

### ORTHOPOXVIRUS VACCINATION

ACIP now recommends the Jynneos vaccine as an alternative to the ACAM2000 vaccine for the primary series and for booster doses in people 18 years and older at risk of monkeypox or smallpox because of occupational exposure. ACAM2000 is a live, replicating vaccinia virus vaccine that

TABLE 1

#### Risk Factors Indicating the Need for Pneumococcal Vaccination in People 19 to 64 Years of Age

Alcoholism
Cerebrospinal fluid leak
Chronic heart disease
Chronic kidney disease or nephrotic syndrome
Chronic liver disease
Chronic lung disease
Cigarette smoking
Cochlear implant
Congenital or acquired asplenia
Diabetes mellitus
Generalized malignancy
HIV
Hodgkin disease
Immunodeficiency or iatrogenic immunosuppression
Leukemia, lymphoma, or multiple myeloma
Sickle cell disease or other hemoglobinopathies
Solid organ transplant recipient

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can cause significant adverse effects. As a live, nonreplicating vaccine, Jynneos causes fewer adverse effects.

### EBOLA VACCINATION

ACIP expanded the recommendation for pre-exposure vaccination with Ervebo, a genetically engineered live, attenuated vaccine against the Zaire Ebola virus, to include health care personnel at special pathogen treatment centers who are involved in the transport and treatment of patients with suspected or confirmed Ebola and laboratory or support staff at Laboratory Research Network facilities who may handle Ebola virus specimens. Vaccination continues to be recommended for individuals responding to Ebola outbreaks, health care personnel stationed at federally designated Ebola treatment centers, and laboratory workers at level 4 biosafety facilities.

### RABIES VACCINATION

ACIP recommends a two-dose intramuscular pre-exposure rabies vaccine series, with doses separated by seven days, be offered to immunocompetent people 18 years and older at elevated risk of rabies exposure. As an alternative to rabies antibody titers, an intramuscular booster dose of rabies

vaccine is recommended between 21 days and three years after the initial series for those with sustained elevated risk of rabies exposure.

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**Editor's Note:** Dr. Rockwell serves as liaison to ACIP for the AAFP.

### References

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