December
Better Pharmacist Knowledge
Jordan Drug Information and Toxicology Center 2021
2021

COVID-19 vaccination in children 5 years and older (November 2021)

For children ages 5 to 11 years, we recommend COVID-19 vaccination (**Grade 1B**).

In October 2021, the US Food and Drug Administration authorized BNT162b2 (Pfizer vaccine) for individuals 5 to 11 years old based on data from randomized trials in over 2000 children in this age group, which demonstrated 91 percent vaccine efficacy against symptomatic COVID-19 and immunogenicity similar to that in adolescents and young adults. There were no cases of vaccine-associated myocarditis in the trials; although the precise risk is uncertain, it is expected to be lower than that seen in older individuals. We agree with recommendations from the Centers for Disease Control and Prevention to give BNT162b2 to children ages 5 to 11 years. Clinicians should be aware that the dose and formulation used for children are different than those for adolescents and adults.[1]

Who is eligible for a booster dose? And when should it be administered? (October 2021)

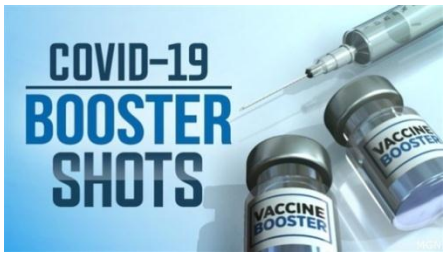
Because of the possibility of waning immunity and decreased efficacy against variants that might escape the immune response directed against spike proteins targeted by the original vaccines, several countries have initiated or announced plans to administer a booster vaccine for individuals who have been fully vaccinated.

In the United States, **the Food and Drug Administration (FDA) has authorized and the CDC recommends a booster dose be given for certain high-risk adults**.

For those who previously received an mRNA vaccine (eg, mRNA-1273 [Moderna COVID-19 vaccine], BNT162b2 [Pfizer COVID-19 vaccine]), the CDC recommends a booster dose at least six months after completion of the primary series for the following:

- Adults 65 years or older **should** receive a booster dose.
- Adults 50 years or older at risk for severe COVID-19 because of comorbidities should receive a booster dose.
- Adults aged 18 to 50 years and at risk for severe COVID-19 because of comorbidities **may** receive a booster dose after weighing the individual risks and benefits.
- Adults aged 18 to 64 years who have occupational or institutional risk of exposure to SARS-CoV-2 (eg, health care workers or those living in congregate settings) **may** receive a booster dose after weighing the individual risks and benefits.

For **all** individuals who previously received Ad26.COV2.S (Janssen/Johnson & Johnson COVID-19 vaccine), the CDC recommends a booster dose at least two months after completion of the primary series. Booster doses following a primary vaccine series are a distinct issue from administering a third dose of an mRNA vaccine for the primary series in certain immunocompromised patients.[2]



Statins not effective for preventing preeclampsia (September 2021)

Statins are generally discontinued in pregnancy; however, data from animal studies and a small pilot trial in humans suggested statins may reduce the risk for preeclampsia. A multicenter randomized trial including over 1100 singleton pregnancies at high risk for term preeclampsia now reports that pravastatin 20 mg daily beginning at 35+0/7ths to 36+6/7ths weeks and continuing until birth did not reduce the incidence of preeclampsia or other adverse pregnancy outcomes compared with placebo. A limitation of the trial is the late initiation and short duration of therapy. Appropriately powered randomized trials are needed to determine whether earlier initiation of therapy, use of higher doses, or use of more potent statins might be effective. [3]

Randomized trial of goal blood pressure in older adults (October 2021)

UpToDate recommends intensive blood pressure lowering in hypertensive older adults. In the Strategy of Blood Pressure Intervention in the Elderly Hypertensive Patients (STEP) trial, more than 8000 Chinese adults aged 60 to 80 years were randomly assigned to either a more intensive (goal systolic pressure <130 mmHg) or a less intensive (goal systolic pressure <150 mmHg) blood pressure lowering strategy. Those assigned to more intensive blood pressure lowering had modestly lower rates of stroke, acute coronary syndrome, and heart failure at approximately three years; major adverse events were similar between the groups. The STEP trial findings are broadly consistent with those from SPRINT and support our recommendation for intensive blood pressure lowering in hypertensive older adults. [4]

References:

1. Infectious Diseases (Nov 2021); COVID-19 vaccination in children 5 years and older, accessed online via UpToDate, cited on 18 Nov 2021.
2. COVID-19: Questions and answers, accessed online via UpToDate, cited on 16 November 2021.
3. Statins not effective for preventing preeclampsia (September 2021), accessed online via UpToDate.
4. Adult general internal medicine: Randomized trial of goal blood pressure in older adults (October 2021), accessed online via UpToDate

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New CDC Study: Vaccination Offers Higher Protection than Previous COVID-19 Infection: Study (October 2021)

CDC published new science **reinforcing that vaccination is the best protection against COVID-19**.

In a new *MMWR* examining more than 7,000 people across 9 states who were hospitalized with COVID-like illness, CDC found that those who were unvaccinated and had a recent infection were 5 times more likely to have COVID-19 than those who were recently fully vaccinated and did not have a prior infection.

The data demonstrate that vaccination can provide a higher, more robust, and more consistent level of immunity to protect people from hospitalization for COVID-19 than infection alone for at least 6 months.

The study looked at data from the VISION Network that showed among adults hospitalized with symptoms similar to COVID-19, unvaccinated people with prior infection within 3-6 months were 5.49 times more likely to have laboratory-confirmed COVID-19 than those who were fully vaccinated within 3-6 months with mRNA (Pfizer or Moderna) COVID-19 vaccines. The study was conducted across 187 hospitals. COVID-19 vaccines are safe and effective. They prevent severe illness, hospitalization, and death. CDC continues to recommend everyone 12 and older get vaccinated against COVID-19. [5]

Atenolol for complicated infantile hemangiomas (November 2021)

Evidence from small studies suggest that oral atenolol, a selective beta-1 blocker, may be as effective as propranolol for the treatment of complicated infantile hemangiomas, **with the potential for a lower risk of serious adverse effects** (eg, bronchospasm, bradycardia, hypoglycemia). In a randomized, open-label trial of nearly 400 infants with problematic hemangiomas treated **with atenolol (1 mg/kg per day in a single dose) or propranolol (2 mg/kg per day in three divided doses)**, the rate of complete/nearly complete response at 96 weeks was similar in the two groups (80 versus 82 percent, respectively). Adverse events, including sleep disturbance, cold extremities, and bradycardia, were more frequent in the propranolol group than in the atenolol group (70 versus 44 percent). These findings indicate that **atenolol has similar efficacy as propranolol for the treatment of complicated infantile hemangiomas with a better safety profile**. Atenolol also has the advantage of once-daily administration. However, an oral formulation suitable for infants is not widely available. [6]

Iron deficiency anemia in children and neurocognitive deficits (October 2021)

Observational studies from low- and middle-income countries show an association between iron deficiency anemia (IDA) and neurodevelopmental deficits. A new randomized trial in more than 3000 infants in rural Bangladesh (one-third with iron deficiency and one-fifth with IDA at baseline) evaluated the effect of iron supplementation (alone or with other micronutrients, compared with placebo) for three months starting in late infancy. Iron supplementation effectively reduced the prevalence of IDA, but there were no significant differences between the three groups on neurocognitive tests or growth outcomes at study completion or nine months later, including in the subgroup with IDA. Thus, the association between IDA and neurocognitive development may not be causal, or the timing and duration of the iron supplementation in this study was insufficient to detect such an effect. Despite these results, IDA has other adverse health effects, and routine screening of young children is warranted. [7]

Avoiding delay in indicated cataract surgery (November 2021)

Although many patients with cataracts are older adults with comorbidities, few conditions preclude proceeding with indicated cataract surgery for those who can tolerate the required positioning because no blood loss or fluid shifts occur. Moreover, significant delays (ie, more than four months) for cataract surgery have been associated with increased morbidity due to greater likelihood of falls, automobile accidents, and worsening cognitive impairment. We agree with the new Society for Ambulatory Anesthesia position statement that recommends against postponing cataract surgery unless the patient has an acute condition that requires time to achieve optimal medical management.[8]

New threshold for elevated blood lead in United States children (November 2021)

For children younger than 6 years of age in the United States, the reference value for an elevated blood level is 3.5 mcg/L(0.17 micromol/L).

Detectable blood lead levels (BLLs) are associated with neurocognitive deficits in infants and children <6 years old. The Centers for Disease Control and Prevention has lowered the (BLL**) threshold for action to 3.5 mcg/dL** (0.17 micromol/L)**from the previous level of 5.0 mcg/dL** (0.24 micromol/L). At or above this threshold, specific interventions should be taken based upon the degree of BLL elevation. [9]

References:

5. COVID Vaccination Provides Better Protection Than Prior Infection: Study FRIDAY, Oct. 29, 2021, accessed online via CDC.
6. Atenolol for complicated infantile hemangiomas (November 2021), accessed online via UpToDate.
7. Iron deficiency anemia in children and neurocognitive deficits (October 2021), accessed online via UpToDate.
8. Novel antiviral agent for COVID-19 in outpatients at risk for severe disease (November 2021), accessed online via UpToDate.
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