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Recommended Citation

Bethishou L, Munjy L, Goad J. 2018-2019 ACIP immunization updates: Highlights for pharmacists. *Pharmacy Times*. <https://www.pharmacytimes.com/publications/supplements/2019/march2019/20182019-acip-immunization-updates-highlights-for-pharmacists>. Published March 21, 2019.

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Pharmacy Times

2018-2019 ACIP Immunization Updates: Highlights for Pharmacists

2019-03-21 01:35:00

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Vaccinations have significantly reduced the burden of infectious diseases, preventing almost 6 million deaths worldwide.^{1,2} In the United States, vaccines have led to a decrease in incidence of vaccine-preventable illness, mortality, and disease sequelae.³ Despite the proven benefit of vaccines, misinformation and failure to vaccinate has led to outbreaks of vaccine-preventable diseases. As of December 29, 2018, 372 cases of measles (from 17 outbreaks) and 2251 cases of mumps were reported in the United States in 2018.^{4,5} These outbreaks support the need for continued education of patients and active immunization by pharmacists.

The US FDA determines indications for vaccines and the CDC's Advisory Committee on Immunization Practices (ACIP) makes recommendations for licensed vaccines.⁶ The ACIP meets 3 times each year to review and discuss new vaccine research and scientific data on vaccine safety and efficacy, clinical trial results, outbreaks of vaccine-preventable disease, cost, and vaccine shortages, and to update immunization schedules and recommendations based on these findings.⁷ The following are highlights from the most recent updates in vaccine recommendations from the ACIP as of October 2018 (see also guide to adult immunizations page 8a).⁸

Immunization Updates by Vaccine

Influenza

All persons aged 6 months and older, who do not have contraindications, should receive an annual dose of the influenza vaccine. Available formulations include inactivated influenza vaccines and the live attenuated influenza vaccine (LAIV4).⁹ Although the live formulation has not been recommended since the 2015-2016 season, it is recommended as an option without preference for the 2018-2019 season for those aged 2 to 49 years, excluding patients who are pregnant and those who are immunocompromised.⁹ Patients with an egg allergy should still receive an influenza vaccine, but they should do so under the supervision of a health care provider, such as a pharmacist, who can recognize and manage severe allergic reactions.⁹ Pharmacists should be sure that they are using an influenza vaccine with the appropriate FDA age indication for the population they are vaccinating.

Herpes Zoster

In October 2017, the FDA approved Shingrix, a 2-dose, adjuvanted, recombinant zoster vaccine (RZV) for the prevention of herpes zoster. It is now preferred over the live zoster vaccine (ZVL) for prevention of herpes zoster.¹⁰ Two doses of RZV should be administered 2 to 6 months apart to adults 50 years and older regardless of past ZVL vaccination history or history of herpes zoster. If a previous dose of ZVL was given, patients should receive RZV, with the first dose given at least 2 months after the ZVL dose. Although individuals 60 years or older can receive either vaccine, RZV is preferred.^{9,10}

HPV

The human papilloma virus (HPV) can cause cancer and genital warts in men and women.¹¹ Most individuals will be exposed to 1 or more types in their lifetime.¹² Although most HPV

infections clear on their own, specific high-risk types of HPV can lead to genital, anal, and oral cancers in both men and women. The 9-valent HPV vaccine protects against 7 types of cancer-causing HPV and 2 types that cause genital warts.¹² Although vaccination may begin as early as age 9 and be offered through age 21 for males and age 26 for females, the CDC recommends starting vaccination between ages 11 and 12. Males aged 22 to 26 years may also receive vaccination based on individual clinical decision.¹²⁻¹⁴ The FDA recently approved the 9-valent HPV vaccine to be administered up to age 45; however, the CDC has not made a recommendation for use in this expanded population.¹⁴ For those aged 9 to 14 years, the CDC now recommends 2 doses, spaced 6 to 12 months apart.

Hepatitis B

About 20,900 chronic hepatitis B virus (HBV) infections were reported in 2016 in the United States.¹⁵ Adults who are at high risk of infection and those who were not previously vaccinated in childhood should receive HBV vaccination.¹⁶ Vaccination is generally recommended for infants within 24 hours of birth.^{16,17} In February 2018, the ACIP recommended Heplisav-B (HepBCpG) as a 2-dose series for adults 18 years or older. Heplisav-B contains a novel adjuvant and a yeast-derived synthetic DNA sequence formulation which provides 90% to 100% efficacy against HBV. In comparison, Engerix and Recombivax provide approximately 70% to 90% protection after 3 doses. This enhanced immune response may be beneficial in special populations, such as those who are immunocompromised or on hemodialysis. Since Heplisav-B is administered as a 2-dose series 1 month apart, it may also be ideal for at-risk adult travelers with a short time to departure.¹⁷⁻¹⁹

Measles, Mumps, and Rubella (Third Dose)

Recent outbreaks of mumps have prompted evaluation for the need of a third dose of the measles, mumps, and rubella (MMR) vaccine. The MMR vaccine has shown to be approximately 97% effective in preventing measles with 2 doses of vaccine. The mumps component, however, is only 88% effective after 2 doses.²⁰ Cases of mumps have risen drastically in recent years, with more than 12,000 cases reported between 2016 and 2017 combined, mostly in individuals who received 2 doses of the MMR vaccine. This phenomenon is likely a combination of lower mumps component efficacy, waning immunity, and congregate living, particularly in college dormitories.²⁰ In response, the ACIP now recommends a third dose of the MMR vaccine during a mumps outbreak, as determined by public health, in those who have had 2 doses. No serious adverse effects following a third dose of the MMR vaccine have been reported and current evidence suggests that a third dose of the MMR vaccine provides the necessary boost in immunity for at-risk individuals as well as seroconversion in most seronegative subjects.²⁰ It is important to note that a third dose of MMR is not recommended during a measles outbreak.

CONCLUSION

In 2018, the ACIP provided significant vaccination updates for influenza, herpes zoster, HPV, HBV, and use of a third dose of the MMR vaccine. Details regarding changes to vaccination schedules are updated regularly and resources guiding their use can be found on the CDC website as well as through publications from the ACIP. Pharmacists are encouraged to proactively and regularly screen their patients for vaccine indications.

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