Inside Edition: CDC Adult Immunization Update

2019

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Immunization Services Division
ACIP Immunization Schedule Updates

2019 Adult Immunization Schedule
Influenza
## Influenza Vaccination Coverage, May, 2018

<table>
<thead>
<tr>
<th>Age Group</th>
<th>U.S. Coverage</th>
<th>Michigan Coverage</th>
</tr>
</thead>
<tbody>
<tr>
<td>&gt;18 years</td>
<td>37.19%</td>
<td>35.5%</td>
</tr>
<tr>
<td>18-64 years, w high risk conditions</td>
<td>32.9%</td>
<td>38.8%</td>
</tr>
<tr>
<td>&gt;65 years</td>
<td>63.1%</td>
<td>59.6%</td>
</tr>
</tbody>
</table>

Influenza Vaccination of Pregnant Women

- **Influenza vaccination recommended** by ACIP for women who will be pregnant during influenza season since 2004
  - Increased risk for severe influenza illness in pregnant women, particularly during second and third trimesters

- Pregnant women may receive any licensed, recommended, age-appropriate injectable influenza vaccine
  - IIV or RIV
  - LAIV is contraindicated
Pregnant Women Are at Serious Risk For Complications From the Flu

- Influenza-related complications include severe illness and pneumonia
- Pregnant women are at increased risk of influenza-related hospitalization compared with the general population
- Risk of influenza-related hospitalization increases later in pregnancy
Vaccination Helps Protect Mom and Baby

- **Reduces risk of flu-associated acute respiratory infection in pregnant women by about 50%**
  - Reduces antibiotic use, medical visits, and loss of workdays

- **Reduces risk of influenza-associated hospitalizations by 40%**

- **Getting vaccinated can also protect a baby from flu after birth**
  - Mom passes antibodies on to the developing baby during her pregnancy
  - Flu vaccine given during pregnancy reduces risk of laboratory-confirmed influenza and influenza hospitalizations of infants during the first several months of life

Nunes et al. Human Vaccines & Immunotherapeutics 2018;14(3);758–66
Influenza Vaccination and Health Care Workers

- All persons working in health care facilities, even if not providing direct patient care, should receive annual influenza vaccine.

- In 2017–18, influenza vaccination coverage for all health care workers was 78.4%.
  - Ranged from 96.1% (physicians) to 71.1% (aides and assistants).

- Why get vaccinated?
  - You can get flu from patients and coworkers who are sick with flu.
  - If you get the flu, you can spread it to others even if not sick.
  - You help protect yourself, your family, and your patients.
Influenza Vaccination and Health Care Personnel

- Health care personnel are at increased risk for influenza
- Influenza is communicable before symptoms develop
  - Most healthy adults may be able to infect others beginning the day before symptoms develop and up to 5 to 7 days after becoming sick
- Can be infected with the flu virus but have no symptoms
  - May still spread the virus to others
- You can spread flu to family, friends, and vulnerable patients even if not sick

Advisory Committee on Immunization Practices (ACIP) Updates and MMWR Publications
ACIP Recommendations: Hepatitis B Vaccine
### Heplisav-B (HepB-CpG)

<table>
<thead>
<tr>
<th><strong>Storage</strong></th>
<th>Store in the refrigerator between 2°C and 8°C (36°F and 46°F)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Ages</strong></td>
<td><strong>18 years of age and older</strong></td>
</tr>
<tr>
<td><strong>Schedule</strong></td>
<td><strong>Administer 2 doses separated by 4 weeks</strong></td>
</tr>
<tr>
<td><strong>Administration</strong></td>
<td>Intramuscular (IM) injection in the deltoid</td>
</tr>
<tr>
<td></td>
<td>Can be administered at the same clinical visit as other vaccines. Administer in separate injection sites, 1 inch apart (if possible)</td>
</tr>
<tr>
<td><strong>Contraindication</strong></td>
<td>History of severe allergic reaction (e.g., anaphylaxis) after a previous dose of any hepatitis B vaccine or to any component of Heplisav-B, including yeast</td>
</tr>
</tbody>
</table>

**Additional Heplisav-B Considerations**

- **2-dose series** only applies when BOTH doses are Heplisav-B, administered at least 4 weeks apart
  - Any 2 doses of Heplisav-B separated by 4 weeks is considered complete, even if the patient has had other HepB vaccine products

- **Heplisav-B may be used** interchangeably with the other hepatitis B vaccines to complete a 3-dose series

- Until safety data are available for Heplisav-B, providers should vaccinate pregnant women needing HepB vaccination with Engerix-B or Recombivax HB

*MMWR 2018;(No.15):455–58*
**Scenarios**

1. **HepB-CpG**
   - Heplisav-B 01/01/2018

2. **HepB**
   - Engerix-B or RecombivaxHB 01/01/2018

   **Completed series**
   - No additional doses are needed
Updated Recommendations: HPV Persons 27 Through 45 Years of Age

- Vaccination not routinely recommended for persons in this age group
- Shared clinical decision-making discussion recommended for these persons to see if they would benefit from vaccination

- Shared clinical decision-making criteria available in the *MMWR*

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*MMWR* 2019;68(32):698–702
Considerations for shared clinical decision-making regarding HPV vaccination of adults aged 27 through 45

- HPV is a very common STI. Most HPV infections are transient, asymptomatic, and cause no clinical problems.

- New HPV infections most commonly acquired in adolescence and young adulthood; some adults are at risk for acquiring new HPV infections. At any age, having a new sex partner is a risk factor for acquiring a new HPV infection.

- Persons who are in a long-term, mutually monogamous sexual partnership are not likely to acquire a new HPV infection.

- Most sexually active adults have been exposed to some HPV types, although not necessarily all of the HPV types targeted by vaccination.

*MMWR* 2019;68(32):698–702
No clinical antibody test can determine if a person is already immune or not to any given HPV type.

HPV vaccine efficacy is high among persons who have not been exposed to vaccine-type HPV before vaccination.

Vaccine effectiveness might be low among persons with risk factors for HPV infection or disease (e.g., adults with multiple lifetime sex partners and likely previous infection with vaccine-type HPV), as well as among persons with certain immunocompromising conditions.

HPV vaccines prevent new HPV infections. They do not prevent progression of HPV infection to disease, decrease time to clearance of HPV infection, or treat HPV-related disease.
ACIP Recommendations: Pneumococcal Vaccine
Pneumococcal Vaccines and Persons 65 Years of Age and Older

- **PPSV23**
  - 1 dose is routinely recommended at/after 65 years of age regardless of PPSV23 immunization history
  - Multiple doses at/after 65 years of age are not recommended – even for persons with a high risk condition

- **PCV13**
  - 1 dose is currently recommended at/after 65 years of age for persons not previously vaccinated
ACIP Meeting June 2019

Pneumococcal Vote

- ACIP recommends PCV13 based on shared clinical decision-making for adults 65 years or older who do not have an immunocompromising condition and who have not previously received PCV13

- All adults 65 years or older should receive a dose of PPSV23
  - Recommendations for PPSV23 have not changed

These recommendations have been adopted by the CDC Director and will become official once published in MMWR. Advisory Committee on Immunization Practices (ACIP) www.cdc.gov/vaccines/acip/index.html. Accessed 8/25/2019.
Administering Pneumococcal Vaccines to Adults

- Administer **PCV13 before PPSV23** whenever possible
- PCV13 and PPSV23 should **not be administered** during the same clinic visit
  - Either vaccine may be administered with other vaccines
- Prior doses count and do not need to be repeated
- If either vaccine is inadvertently given earlier than the recommended interval, **do not repeat the dose**
Assessing Adults for Pneumococcal Vaccination

- Ask which age group does the person fall into?
  - 19 through 64 years of age?
    - Is the person at increased risk for IPD?
    - What is their immunization history?
  - 65 years of age and older?
    - What is their immunization history?
1. **Age:** Adults 19 Through 64 Years of Age:
2. **Risk Factor:** **High** Risk for IPD

- Those at high risk for IPD, include persons with:
  - Pulmonary disease (including asthma)
  - Cardiac disease (excluding hypertension)
  - Liver disease (including cirrhosis)
  - Diabetes
  - Alcoholism
  - Smokers
  - Residents of a long-term care facility

- Administer PPSV23 vaccine; PCV13 is not indicated at this time

**MMWR 2015;64(34):944-47**
1. Age: 19 Through 64 Years of Age
2. Risk Factor: **Higher** Risk for IPD

- Those at higher risk for IPD, include persons with a:
  - CSF leak
  - Cochlear implant

- Administer PCV13 followed by PPSV23 vaccine

MMWR 2015;64(34):944–47
1. Age: 19 Through 64 Years of Age:
2. Risk Factor: **Highest** Risk for IPD

- Those at highest risk for IPD, include persons who:
  - Are immunocompromised (including HIV infection)
  - Have chronic renal failure or nephrotic syndrome
  - Are asplenic

- Administer PCV13 and 2 doses of PPSV23

At least 8 weeks apart

PCV13

At least 5 years apart

PPSV23

At least 5 years apart

PPSV23
1. Age: Age 65 Years and Older, No Indication for PCV13
2. Vaccination Status: No History of PCV13 or PPSV23

*Draft These recommendations have been adopted by the CDC Director and will become official once published in MMWR.

**7 weeks if at higher or highest risk

At least 1 year

PCV13

PPSV23

No additional doses of PPSV23 are recommended—even if the person develops a high risk condition in the future

*Shared clinical decision making*

Yes

No

*Draft These recommendations have been adopted by the CDC Director and will become official once published in MMWR.

**8 weeks if at higher or highest risk

MMWR 2015;64(34):944-47
1. Age: 65 Years and Older, No Indication for PCV13
2. Vaccination Status: PPSV23 Before 65 Years of Age, No doses of PCV13

- Administer PCV13, followed by PPSV23 as below

  Shared clinical decision making*

  Yes
  - At least 1 year**
  - PCV13

  No
  - At least 1 year**
  - PPSV23

At least 5 years

No additional doses of PCV13 or PPSV23 are recommended—even if the person develops a high risk condition in the future

*Draft These recommendations have been adopted by the CDC Director and will become official once published in MMWR.

**8 weeks if at higher or highest risk

MMWR 2015;64(34):944–47
1. **Age: Age 65 Years and Older**

2. **Vaccination Status: PCV13 and PPSV23 Before 65 Years of Age**

   - At least 1 year* for PCV13
   - At least 5 years for PPSV23

   - No additional doses of PCV13 or PPSV23 are recommended—even if the person develops a high risk condition in the future

   *8 weeks if at higher or highest risk

   MMWR 2015;64(34):944–47
1. Age: Age 65 Years and Older, Developed a Risk Condition

2. Vaccination Status: PPSV23 After 65 Years of Age, No PCV13

No additional doses of PCV13 or PPSV23 are recommended—even if the person develops a high risk condition in the future.

*MMWR 2015;64(34):944–47*
ACIP Recommendations: Tdap Vaccine
ACIP Recommendations for Pregnant Women

**Pregnant women:**
- Administer Tdap during each pregnancy, preferably at 27 through 36 weeks’ gestation.
- If not given during pregnancy, administer Tdap immediately postpartum to women **not previously vaccinated**.
- Additional doses are **not indicated for previously vaccinated postpartum women**.
  - History of an adolescent dose (or Tdap given at another time) = previously vaccinated.
Maternal Tdap Vaccination is Very Effective in Prevention of Infant Pertussis Infection

<table>
<thead>
<tr>
<th>Definitions</th>
<th>United Kingdom</th>
<th>United States</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vaccine effectiveness (95% confidence intervals)</td>
<td>Observational,¹ screening method</td>
<td>Cohort,³ retrospective</td>
</tr>
<tr>
<td></td>
<td>91% (83–95%)</td>
<td>85% (33–98%)</td>
</tr>
<tr>
<td></td>
<td>Younger than 3 months</td>
<td>Younger than 2 months</td>
</tr>
<tr>
<td></td>
<td>At least 28 days before birth*</td>
<td>27–36 weeks</td>
</tr>
<tr>
<td>Infant age at pertussis onset</td>
<td>Case-Control,² retrospective</td>
<td>Case-Control,⁴ retrospective</td>
</tr>
<tr>
<td></td>
<td>91% (77–97%), unadjusted</td>
<td>78% (44–91%)</td>
</tr>
<tr>
<td></td>
<td>93% (81–97%), adjusted²</td>
<td>Younger than 2 months</td>
</tr>
<tr>
<td></td>
<td>Younger than months</td>
<td>27–36 weeks</td>
</tr>
<tr>
<td>Mother gestational age received Tdap</td>
<td>Cases: 31.5 weeks (range, 28–38)</td>
<td>Controls: 33 weeks (range, 26–38)</td>
</tr>
<tr>
<td></td>
<td>Controls: 33 weeks (range, 26–38)</td>
<td></td>
</tr>
</tbody>
</table>

*2012 UK recommendation: Tdap between 28 and 38 weeks
²Adjusted for sex, geographical area, and birth period
Vaccination coverage for pregnant women:
- 2010 and earlier: <1%
- 2013: 28%
- 2015: 53%

96% of Tdap vaccinations were administered in physicians’ offices or clinics.
CDC Clinical Resources for Health Care Personnel: Tdap

- Pink Book webinar series with free CE
  www.cdc.gov/vaccines/ed/webinar-epv/index.html

- Updated ACIP recommendations
  www.cdc.gov/mmwr/volumes/67/rr/pdfs/rr6702a1-H.pdf

- Catch-up guidance for children 7 through 18 years of age

- HCP materials on vaccinating pregnant women
  www.cdc.gov/vaccines/pregnancy/hcp/index.html
ACIP Recommendations: Shingrix
Due to high levels of demand for GSK’s Shingrix vaccine, GSK has implemented order limits and providers have experienced shipping delays.

Order limits and shipping delays will continue throughout 2019.

GSK has increased the U.S. supply available and plans to release more doses on a consistent and reliable basis in 2020.
RZV Zoster Vaccine: Shingrix

- **Storage:** Store vaccine AND diluent between 2°C and 8°C (36°F and 46°F)
- **Preparation:** Use the adjuvanted diluent supplied by the manufacturer to reconstitute the vaccine just before administering
- **Schedule:** 2 doses, 2 to 6 months apart
- **Route:** IM injection
  - Site: Deltoid or the thigh may be used if necessary
  - Needle gauge: 22–25 gauge
  - Needle length: Varies by weight and injection technique
- **May administer during the same clinical visit as other needed vaccines**
  - Administer in a separate limb from other vaccines, if possible

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**Protect your patients with the new shingles vaccine**

CDC recommends new shingles vaccine (Shingrix) for adults 50 and older

- **Who should get Shingrix?**
  - Give Shingrix (Recombinant Zoster Vaccine) to immunocompetent adults 50 years and older, including those who:
    - had shingles in the past
    - received Zostavax® (Zoster Vaccine Live) at least 8 weeks prior
    - have health conditions, such as chronic renal failure, diabetes mellitus, rheumatoid arthritis, or chronic pulmonary disease
    - are receiving other vaccines, such as influenza and pneumococcal vaccines, at the same visit
    - are taking low-dose immunosuppressive therapy
  - While Shingrix is not contraindicated in immunocompromised people, it is not recommended by the Advisory Committee on Immunization Practices (ACIP) at this time. ACIP will review evidence for Shingrix in immunocompromised people as it becomes available.

- **Who should not get Shingrix?**
  - You should not give Shingrix to a patient who has ever had a severe allergic reaction, such as anaphylaxis, to a component of this vaccine, or after a dose of Shingrix. Consider delaying vaccination if your patient is pregnant, lactating, or experiencing an acute episode of shingles.

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*MMWR 2018: 7(3)103–108*

www.cdc.gov/shingles/vaccination

www.cdc.gov/shingles/vaccination
ACIP Zoster Recommendations

- Persons 50 years of age and older should be vaccinated with zoster vaccine
- **Shingrix is preferred** to Zostavax for persons 60 years and older
- Administer 2 doses of Shingrix to immunocompetent persons
  - Regardless of previous history of vaccination with varicella-containing vaccines—Varivax or Zostavax
  - Separate Shingrix and varicella-containing vaccines by at least 8 weeks

*MMWR 2018;67(3):103–108*
There are currently ordering limits and intermittent shipping delays for Glaxo Shingrix vaccine

Use proven strategies to help patients complete the series, including:

- Use a reminder and recall system to contact patients when you have Shingrix
  - Give first consideration to patients due for their second dose of Shingrix

- If you are out of Shingrix and a patient needs a second dose, refer the patient to another provider in the community that has Shingrix

- Be sure to enter your patients’ current vaccination information into your state’s immunization information system (IIS)

- As supply becomes less constrained, notify eligible patients so they can come in to get their first dose of Shingrix

Ensure Your Patients Get Both Doses!
## RZV (Shingrix) Adverse Reactions

<table>
<thead>
<tr>
<th>Reaction Description</th>
<th>Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Local reactions</td>
<td>49%</td>
</tr>
<tr>
<td>Local reactions – Grade 3</td>
<td>9.4%</td>
</tr>
<tr>
<td>Systemic reactions (headache, malaise, fatigue)</td>
<td>45–78%</td>
</tr>
<tr>
<td>Systemic reactions (headache, malaise, fatigue) – Grade 3</td>
<td>11%</td>
</tr>
</tbody>
</table>

*MMWR* 2018;67(3);103–108
Adverse Reactions after Shingrix

- **Educate patients regarding:**
  - Potential adverse reactions, including injection site and systemic reactions
  - The need for a second dose—even if s/he has an adverse reaction

- **Offer comfort measures and strategies**
CDC Clinical Resources for Health Care Personnel: Zoster

- Pink Book webinar series with free CE

- Shingles (Herpes Zoster) vaccination information for health care providers
  www.cdc.gov/vaccines/vpd/shingles/hcp/index.html

- Shingrix fact sheet

- FAQs on Shingrix
  www.cdc.gov/vaccines/vpd/shingles/hcp/shingrix/faqs.html

- Everything you need to know about Shingrix video
CDC Resources for Staff Education

- **Multiple education products available free through the CDC website:**
  - Immunization courses (webcasts and online self-study)
  - *You Call the Shots* self-study modules
- Continuing education available

Immunization Questions?

- Questions? E-mail CDC  nipinfo@cdc.gov or  www.cdc.gov/cdcinfo
- Vaccines and Immunizations website  www.cdc.gov/vaccines
- HCP education  www.cdc.gov/vaccines/hcp.htm
- Twitter  @DrNancyM_CDC
- Influenza  www.cdc.gov/flu
- Vaccine safety  www.cdc.gov/vaccinesafety
CDC Immunization Apps for Health Care Personnel

Childhood and adult immunization schedules
www.cdc.gov/vaccines/schedules/hcp/schedule-app.html

Influenza information
www.cdc.gov/flu/apps/cdc-influenza-hcp.html

Morbidity and Mortality Weekly Report (MMWR)
www.cdc.gov/mobile/applications/mobileframework/mmwrpromo.html

PneumoRecs VaxAdvisor
www.cdc.gov/vaccines/vpd/pneumo/hcp/pneumoapp.html