Vaccine News and Updates

2019 Immunization Update

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Disclosures

- The speaker is a federal government employee with no financial interest in or conflict with the manufacturer of any product named in this presentation.
- The speaker will not discuss a vaccine not currently licensed by the FDA.
- Use of trade names is for identification purposes only.
- The speaker will discuss the off-label use of some vaccines in a manner consistent with ACIP recommendations.
The recommendations to be discussed are primarily those of the Advisory Committee on Immunization Practices (ACIP):

- Composed of 15 nongovernment experts in clinical medicine and public health
- Provides guidance on use of vaccines and other biologic products to DHHS, CDC, and the U.S. Public Health Service

Watch the meeting via live webcast

Next ACIP meeting: October 23–24, 2019

Measles Update

1,250 cases as of October 9, 2019

Guidance for Health Care Personnel

- Be vigilant about measles
- Consider measles in patients with febrile rash illness and clinically compatible measles symptoms—cough, coryza, and conjunctivitis
- Mask and promptly isolate patients with suspected measles
- Ask patients about:
  - Recent international travel
  - Recent travel to domestic venues frequented by international travelers
  - Recent contact with international travelers
  - History of measles in the community

Presumptive Evidence of Measles Immunity

- **Evidence of measles immunity:**
  - 2 appropriately spaced and documented doses of MMR vaccine
  - Laboratory evidence of immunity or
  - Laboratory confirmation of disease

- **No additional doses are indicated or recommended**

- **Post-vaccination serologic testing is not recommended**

*At least 4 weeks apart
**2 doses for measles and mumps immunity, 1 dose for rubella immunity

*MMWR 2013;62(RR-4)*
ACIP Routine Immunization Recommendations*

**Pediatric:**
- Dose 1 at 12–15 months
- Dose 2 at 4–6 years

**Adults:**
- Most adults need 1 dose
- 2 doses, at least 28 days apart, for those at increased risk, including:
  - Health care personnel without evidence of immunity
  - College and post-high-school students
  - International travelers

*Without evidence of immunity

*MMWR 2013;62(RR-4)*
ACIP Immunization Recommendations: International Travel

- Persons 12 months of age and older without other evidence of immunity should receive 2 doses, * including:
  - Children 1–4 years of age
  - Adults** who only received 1 dose in the past

- Children 6–11 months of age should receive 1 dose***
  - Those vaccinated between 6–11 months of age need 2 additional doses* at 12 months of age or older

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*Separate doses by at least 28 days
**Born in 1957 or later
***ACIP off-label recommendation

MMWR 2013;62(RR-4)
What You Need to Know About Vaccination during Outbreaks

- Stay in contact with local health departments for the most up-to-date recommendations
  - May include guidance for additional doses (similar to travel recommendations)

- Health departments may recommend 1 dose of MMR for infants 6–11 months of age
  - Outbreak is affecting infants younger than 12 months of age
  - Outbreak demonstrates sustained, community-wide transmission
  - Weigh benefit of early protection against risk of decreased immune response
  - MMR given prior to 12 months of age does not count toward routine series

Most Measles Cases in 25 Years: Is This the End of Measles Elimination in the United States? CDC COCA webinar, 5/21/2019
Slides emergency.cdc.gov/coca/ppt/2019/slides_052119_Measles.pdf
Measles Outbreak Toolkit for Healthcare Providers

For information about measles for healthcare professionals, visit https://www.cdc.gov/measles/hcp/index.html

If you are looking for resources for you or your staff to learn more about having effective vaccine conversations with parents, these may help:

- Guidance for Talking with Parents about Vaccines
- Tips for Preparing for Questions Parents May Ask about Vaccines
- Vaccine safety fact sheets, such as Understanding Thimerosal, Mercury, and Vaccine Safety
- You Call the Shots module on MMR

Examples of resources for providers to share with parents include:

- Parent-friendly immunization schedule for children ages 0-6
- Fact Sheet: Infant Immunization FAQs
- Fact Sheet: If You Choose Not to Vaccinate Your Child, Understand the Risks and Responsibilities
- Infographic: Measles: It Isn't Just a Little Rash
- Fact Sheet: Tips for a Less Stressful Shot Visit
- Infographic: Illustrated list of Six Reasons to Follow CDC’s Immunization Schedule
- Fact sheet: Measles and the Vaccine (Shot) to Prevent It
- Fact Sheet: Vaccines When Your Child is Sick

If you would like posters to display in your office, here are some that may be helpful:

- Superbaby: Power to Protect
- How Vaccines Strengthen Your Baby's Immune System
- Stop Serious Childhood Diseases in Their Tracks

Learn the signs and symptoms of measles for quicker diagnosing:

CDC Commentary: Suspect Measles and Act Fast

Vaccine Information Statements
Recently updated VISs include:

- HepB
- Influenza IIV
- Influenza LAIV
- MMR
- MMRV
- MenACWY
- MenB
- Varicella

2019 Vaccine Information Statement Updates

ACIP Immunization Schedule Updates
CDC Website
2019 Immunization Schedules
Advisory Committee on Immunization Practices (ACIP) Updates and *MMWR* Publications
ACIP Immunization Recommendations: Influenza Vaccine
2019–2020 Northern Hemisphere Vaccine Strains

For 2019–2020, trivalent (three-component) vaccines contain:
- A/Brisbane/02/2018 (H1N1)pdm09-like virus*
- A/Kansas/14/2017 (H3N2)-like virus*
- B/Colorado/06/2017-like virus (Victoria lineage)

Quadrivalent (four-component) vaccines, which protect against a second lineage of B viruses, also includes:
- B/Phuket/3073/2013-like virus (Yamagata lineage)

*New

MMWR 2019;68(3):1–21
2019–20 Influenza Season

- ACIP recommendations were published August 23
- Many products will be available—IIV3, IIV4, and LAIV
  - Indications vary by product, including age, formulation, and type
  - More than one product may be appropriate for any given person
# Pediatric Flu Vaccine Products and Dosages (Amounts)

<table>
<thead>
<tr>
<th>Age</th>
<th>Product</th>
<th>Dosage (Amount)</th>
</tr>
</thead>
<tbody>
<tr>
<td>6 through 35 months</td>
<td>Afluria</td>
<td>0.25 mL</td>
</tr>
<tr>
<td></td>
<td>Fluzone</td>
<td>0.25 mL or 0.5 mL</td>
</tr>
<tr>
<td></td>
<td>Fluarix</td>
<td>0.5 mL</td>
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<tr>
<td></td>
<td>FluLaval</td>
<td>0.5 mL</td>
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<tr>
<td>3 years and older*</td>
<td>All products</td>
<td>0.5 mL</td>
</tr>
</tbody>
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**Labeling changes:**

Afluria: May be given to children 6 months and older (was 5 years and older)

Fluzone: 0.5 mL dosage may be given to children as young as 6 months of age

*Product eligibility may vary based on the FDA approved age indications*
Annual influenza vaccination is recommended for persons 6 months of age and older without contraindications or precautions.

Vaccination providers may choose to administer any licensed, age-appropriate influenza vaccine product, including LAIV, IIV, RIV, or ccIIV.

- ACIP/CDC express no preference for any one type of influenza vaccine product if more than one is appropriate and available.
Children 6 months through 8 years* of age with:

- No previous doses of influenza vaccine
- 1 documented dose before July 1, 2019
- Unknown history

**Both doses do not have to be the same type of influenza vaccine or product**

Dose 1

Dose 2

*2 doses are recommended even if the child turns 9 years of age before receiving dose 2

Completed series**
No additional doses are needed this flu season

At least 4 weeks
2019–20 Influenza Vaccination Schedule for Children

- Children 6 months through 8 years of age who have had 2 doses before July 1, 2019*
- Children 9 years of age and older, regardless of immunization history

*Note: Both doses do not have to be administered during the same season or consecutive seasons
Both doses do not have to be the same type of influenza vaccine or product
CDC Clinical Resources for Health Care Personnel: Influenza

- **Education for health care personnel with free CE**
  - *You Call the Shots*—Influenza  [www.cdc.gov/vaccines/ed/youcalltheshots.html](http://www.cdc.gov/vaccines/ed/youcalltheshots.html)

- **Clinical job aids**
  - Influenza vaccine product labels for storage units  [www.cdc.gov/vaccines/hcp/admin/storage/guide/vaccine-storage-labels-flu.pdf](http://www.cdc.gov/vaccines/hcp/admin/storage/guide/vaccine-storage-labels-flu.pdf)
ACIP Immunization Recommendations: Human Papillomavirus Vaccine
ACIP Immunization Recommendations: HPV
Persons 9 Through 26 Years of Age

- Routinely recommended at age 11 or 12 years
  - Vaccination can be started at age 9 years
- Catch up all unvaccinated and incompletely vaccinated persons in this age group regardless of gender
- Immunization schedules and intervals have not changed; administer a 2- or 3-dose series depending at age of first dose and health status
Updated ACIP Immunization 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 unvaccinated adults to see if they would benefit from vaccination
- Shared clinical decision-making criteria available at www.cdc.gov/mmwr/volumes/68/wr/pdfs/mm6832a3-H.pdf
Human Papillomavirus Vaccination for Adults: Updated Recommendations of the Advisory Committee on Immunization Practices

Human papillomavirus (HPV) infection is a common sexually transmitted infection, with HPV acquisition generally occurring soon after first sexual activity (1). Most new HPV infections occur in adolescents and young adults. Although most sexually active adults have been exposed to HPV, new infections can occur with each new sexual partner. Three prophylactic HPV vaccines are licensed for use in the United States: 9-valent (9vHPV, Gardasil 9, Merck), quadrivalent (4vHPV, Gardasil, Merck, and Biogen, 2014), Cervarix, GlaxosmithKline (GSK, 2009). As of June 2016, only 9vHPV is distributed in the United States. These HPV vaccines are licensed for use in individuals aged ≥16 years; however, the Advisory Committee on Immunization Practices (ACIP) recommends continued use of the 4vHPV for all individuals aged 15 to 26 years. ACIP currently recommends routine HPV vaccination for all adolescents aged 11 to 15 years and catch-up vaccination for all adolescents aged 16 to 26 years. The ACIP also recommends that adolescents who have not been vaccinated continue to receive the vaccine series through their 21st birthday. In June 2016, ACIP recommended catch-up HPV vaccination for all persons through age 26 years. ACIP did not recommend routine catch-up vaccination for adults aged ≥27 years. However, some adults may benefit from vaccination in this age range; therefore, ACIP recommended shared clinical decision-making regarding potential HPV vaccination for these persons.

Background

HPV is a sexually transmitted infection, with HPV acquisition generally occurring soon after first sexual activity (1). Most new HPV infections occur in adolescents and young adults. Although most sexually active adults have been exposed to HPV, new infections can occur with each new sexual partner. Three prophylactic HPV vaccines are licensed for use in the United States: 9-valent (9vHPV, Gardasil 9, Merck), quadrivalent (4vHPV, Gardasil, Merck, and Biogen, 2014), Cervarix, GlaxosmithKline (GSK, 2009). As of June 2016, only 9vHPV is distributed in the United States. These HPV vaccines are licensed for use in individuals aged ≥16 years; however, the Advisory Committee on Immunization Practices (ACIP) recommends continued use of the 4vHPV for all individuals aged 15 to 26 years. ACIP currently recommends routine HPV vaccination for all adolescents aged 11 to 15 years and catch-up vaccination for all adolescents aged 16 to 26 years. The ACIP also recommends that adolescents who have not been vaccinated continue to receive the vaccine series through their 21st birthday. In June 2016, ACIP recommended catch-up HPV vaccination for all persons through age 26 years. ACIP did not recommend routine catch-up vaccination for adults aged ≥27 years. However, some adults may benefit from vaccination in this age range; therefore, ACIP recommended shared clinical decision-making regarding potential HPV vaccination for these persons.

Methods


Ideally, HPV vaccination should be given in early adolescence because vaccination is most effective before exposure to HPV through sexual activity. For adults aged 27 through 45 years who are not adequately* vaccinated, clinicians can consider discussing HPV vaccination with persons who are most likely to benefit. HPV vaccination does not need to be discussed with most adults aged ≥26 years.

- HPV is a very common sexually transmitted infection.
- Most HPV infections are transient and asymptomatic, with no clinical problems.
- Although new HPV infections are most commonly acquired in adolescence and young adulthood, some adults are at risk for acquiring new HPV infections. At any age, having a new sexual partner is a risk factor for acquiring a new HPV infection.
- Persons who are in a long-term, monogamously 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 vaccine.
ACIP Immunization Recommendations: Hepatitis A Vaccine
State-Reported Hepatitis A Outbreak Cases as of October 4, 2019

Updated Hepatitis A Immunization Recommendations: Adults

- Recommended for adults who have a specific risk or lack a risk factor but want protection:
  - Homeless persons
  - Travel to or work in countries with high or intermediate endemic hepatitis A
  - Men who have sex with men
  - Injection or noninjection drug use
  - Clotting factor disorders
  - Chronic liver disease
  - Close, personal contact with an international adoptee
  - Healthy adults through age 40 years who have recently been exposed to hepatitis A virus
  - Work with hepatitis A virus in a research laboratory or with nonhuman primates infected with hepatitis A virus

MMWR 2019;67(43):1208–10
ACIP recommends that all children and adolescents aged 2 through 18 years who have not previously received hepatitis A vaccine be vaccinated routinely at any age (i.e., children and adolescents are recommended for catch-up vaccination).

ACIP recommends all persons with HIV aged 1 year of age and older be routinely vaccinated with hepatitis A vaccine.

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](http://www.cdc.gov/vaccines/acip/index.html). Accessed 8/25/2019.
Hepatitis A Vaccine for International Travelers: Infants

- Administer 1 dose of HepA vaccine to infants 6–11 months of age
- Restart the 2-dose series at 12 months of age or older
ACIP Immunization Recommendations: Meningococcal B Vaccine
ACIP Recommendations: Meningococcal B

- Individuals 10 years of age and older at increased risk of disease

- Adolescents and young adults not at increased risk for disease
ACIP Recommendations: Meningococcal B

- Persons 10 years of age and older* at increased risk should receive MenB vaccine, including:
  - Persons with persistent complement component deficiencies
  - Persons with anatomic or functional asplenia**
  - Microbiologists routinely exposed to isolates of *Neisseria meningitides*
  - Persons identified as at increased risk because of an outbreak

- Shared clinical decision-making discussion recommended for persons 16–23 years of age to see if they would benefit from vaccination*
  - Preferred age is 16–18 years

*ACIP off-label recommendation
**Including sickle cell disease
http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6422a3.htm?s_cid=mm6422a3_w
Meningococcal B Vaccination Schedules

- Vaccination schedule varies based on product and risk of disease
  - Bexsero: 2 doses at 0, 1–6 months
  - Trumenba:
    - 2 doses (0, 6 months) for healthy adolescents not at increased risk
    - 3 doses (0, 1–2, 6 months) for persons at increased risk and for during serogroup B outbreaks
- Same vaccine product should be used for all doses
- ACIP does not prefer one product
For persons 10 years of age and older:
- With complement deficiency, complement inhibitor use, asplenia, or who are microbiologists:
  o ACIP recommends a booster dose 1 year following completion of a primary series, followed by booster doses every 2–3 years thereafter, for as long as increased risk remains
- Determined by public health officials to be at increased risk during an outbreak:
  o ACIP recommends a one-time booster dose if it has been 1 year or more since completion of a primary series
  o A booster dose interval of 6 months or longer may be considered by public health officials depending on the specific outbreak, vaccination strategy, and projected duration of elevated risk
Other Recently Updated ACIP Immunization Recommendations
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

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.
Hesitant Patients?

- Question the value or necessity of the recommended vaccination schedule or specific vaccines
- Want information to make the best choice
- BUT may not identify themselves as vaccine-hesitant
Vaccine Conversations

- Answering questions can be challenging
  - Staff not always prepared for questions
  - Inconsistent messages from staff
  - Real-life time constraints
  - Frustrating! Correcting misconceptions does not always result in vaccination

- National survey among pediatricians shows:
  - 46% agreed that their job was less satisfying because of the need to discuss vaccines with vaccine-hesitant parents
  - 60% reported spending more than 10 minutes discussing vaccines in visits with vaccine-hesitant parents

Communicating About Vaccines

- Much research on knowledge, attitudes, and beliefs about vaccines
- Little is known on communication techniques that change behavior
  - Research in this area is complicated
- We’ve been focused on the “what” more than the “how”
Conventional Wisdom

- Improve knowledge and they will make the right decision

- This educational approach assumes human decision-making is rational—but this is often not true

- Behavioral economics: human behavior is influenced by deep-seated cognitive biases and heuristics resistant to rational influence
What Do We Know?
What You Say Matters

- Providers are a patient’s most trusted source of information on vaccines
- Research shows a patient who receives a strong recommendation from a provider is 4–5 times more likely to be vaccinated
- “Bundle” all needed vaccines into the same recommendation

What Do We Know?
How You Say It Matters

- The best predictor of vaccination was how the provider started the conversation
  - For both vaccine-hesitant and nonhesitant patients

Participatory Versus Presumptive Approach

- **Participatory provides more decision-making latitude**
  - Example: “Have you thought about what shots you’d like today”?

- **Presumptive presupposes that parents would get the child vaccinated**
  - Example: “We have some vaccines due today.”
Participatory Versus Presumptive

- A larger proportion resisted vaccine recommendations when providers used a participatory rather than presumptive approach.
- This is true for both vaccine-hesitant and non-hesitant parents.

Most patients perceive decisions about vaccination to be complicated.

When we make decisions we perceive to be complicated, we tend to have a status quo bias (also called a “default bias”), meaning we go with what is expected or normal.

Using a presumptive approach, patients are made to feel that vaccination is what most people do, and it is the socially acceptable “norm.”
What Usually Happens When a Patient is Hesitant?

- The provider might ask why the patient does not want the vaccine
- In response, often the patient responds with all the reasons they do not want to be vaccinated
- During this process,
  - Patient strengthens their resolve against the vaccination
  - Health care personnel is vulnerable to falling into conversation traps
Communication Traps

Persuasion trap

Data dump trap

Q and A trap
Persuasion Trap

- When the provider becomes the champion for the vaccine and tries to convince the hesitant or resistant patient of the benefits

- Usually ends up in an argumentative type of “yes, but” cycle

O’Leary, S. Strategies for Talking to Vaccine-Hesitant Parents. NFID Clinical Vaccinology Course, March 2017
The Data Dump (Lecture) Trap

- Tendency here is to provide the full story about some aspect of the vaccine
- Often ends up putting people off and raising resistance because it implies that they don’t know the full story and you’re going to give it to them
- Can be counterproductive as concerns can be raised that the patient had not previously considered
The Question and Answer Trap

- When the provider begins asking a series of closed questions that require a yes or no answer and does not invite any additional information or thoughts

O’Leary, S. Strategies for Talking to Vaccine-Hesitant Parents. NFID Clinical Vaccinology Course, March 2017
Pro-Immunization Office Culture

- Consistent messages from ALL staff are critical
  - Don’t forget front desk/support staff

- Share talking points to get everyone on the same page

You told Mr. Smith WHAT??!

Flu vaccine gave me the flu!

O’Leary, S. Strategies for Talking to Vaccine-Hesitant Parents. NFID Clinical Vaccinology Course, March 2017
Using a Framework
Motivational Interviewing

- A patient-centered, guiding communication style for enhancing a person’s own motivation for change or behavioral activation
- Has not been tested and proven effective for convincing those who are hesitant about vaccination
- Has been shown to be effective in other health interventions, including:
  - Diabetes self-care
  - Smoking cessation
  - Cognitive behavioral therapy

O'Leary, S. Strategies for Talking to Vaccine-Hesitant Parents. NFID Clinical Vaccinology Course, March 2017
Motivational Interviewing

- Engages the patient respectfully and fully in the discussion using:
  - Open-ended questions
  - Affirmations
  - Reflection
  - Summary

- The 4 elements include:
  - Empathy
  - Collaboration
  - Evocation
  - Support for autonomy

O’Leary, S. Strategies for Talking to Vaccine-Hesitant Parents. NFID Clinical Vaccinology Course, March 2017
Using Motivational Interviewing for Vaccine Discussions

- **Motivational interviewing includes:**
  - Open-ended questions
  - Affirmations
  - Reflection
  - Summary

- **Remember to:**
  - Start with a presumptive approach
  - Include simple, strong, and personalized recommendation
Motivational Interviewing and Vaccine Conversations

- HCP asks in a nonthreatening way what the concern is
- HCP reflects back what is said to be sure he/she understands and summarizes
- If possible, put the concern into perspective—something that can be related to
- Give a simple, strong, and personalized recommendation, ending the conversation with an open-ended question
Vaccine Conversation Summary

- Start with a presumptive approach
- Engage the patient respectfully and fully in the discussion
- Frame the discussion using open-ended questions and reflections
- Use the 4 elements of MI—empathy, collaboration, evocation, and support for autonomy
- Don’t forget—a simple, strong, and personalized recommendation!
Vaccine Conversation Resources for Staff and Parents

- CDC resources for health care personnel and parents including:
  - Videos
  - Printable materials
  - Educational programs and materials (CE 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
- Vaccine conversations www.cdc.gov/vaccines/hcp/conversations/index.html
- Influenza www.cdc.gov/flu
- Twitter @DrNancyM_CDC
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