

# Choices vs Decisions on Workplace Health & Wellness: Role of immunizations

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# Learning Objectives

At the end of the presentation learners will be able to:

- Identify the reasons why choices and decisions in workplace health and wellness matters
- Review adult immunizations for vaccine preventable diseases with a focus on workplace wellness
- Discuss role of health care providers in implementing workplace health and wellness promotion strategies with a focus on immunizations for better outcomes

# Choices and Decisions Matters



- Long life with better quality and a sense of peace
- Productivity in all phases of life
- At risk for serious diseases that are still common in US
- Power to make a difference in the life of others

# Background



**Parents, patients, and healthcare professionals all have misconceptions about vaccinations:**

- MMR causes autism
- Giving multiple vaccines can overwhelm the immune system
- It's better to space out vaccines using an alternative schedule
- Natural infection is better than immunization
- Thimerosal causes autism
- Ingredients in vaccines are harmful

# Background (cont.)



**Parents, patients, and healthcare professionals all have misconceptions about vaccinations:**

- Disease rates have dropped due to factors other than vaccination
- Vaccines are not effective
- Mandatory vaccination violates civil rights
- VAERS data prove that vaccines are dangerous

# Background (Cont.)



**Healthcare professionals have misconceptions about vaccinations:**

- Vaccination contraindications and precautions are complicated, and the many vaccines and their recommendations can cause confusion that leads to misconceptions.
- Providers who are concerned about vaccinating properly frequently err on the side of caution.
- Unfortunately, misconceptions can lead to missed opportunities to vaccinate.

# Provider Myths



- Vaccines can't be given to people who are sick
- Providers need to check vital signs before vaccinating
- There is a limit to the number of vaccines that can be given at the same visit
- Figuring out which vaccines can be given at a single visit is complicated
- Vaccines can't be given to women who are breastfeeding
- Live virus vaccines (zoster, varicella, MMR, and LAIV) should not be given to contacts of pregnant women or to contacts of immunocompromised people
- Pregnant women should never get vaccines.
- Pregnant women and infants need to get thimerosal free influenza vaccine
- Tdap can't be administered if a person has received Td in the last 5 years

# Understanding Immunization and Infectious Diseases



- Vaccines are among the most cost-effective clinical preventive services
- Childhood immunization programs provide a very high return on investment:
  - *Saves 33,000 lives.*
  - *Prevents 14 million cases of disease.*
  - *Reduces direct health care costs by \$9.9 billion.*
  - *Saves \$33.4 billion in indirect costs*
- Despite progress, approximately 42,000 adults and 300 children in the US die each year from vaccine-preventable diseases.
- The emergence of new strains of vaccine-preventable disease can result in a significant increase in serious illnesses and death

# Adult vaccines: Beyond the Basics



- Vaccines work by stimulating the immune system to produce antibodies which fight the infection and help the person to recover
- Antibodies work to prevent a person from becoming ill in the future by rapidly produces the antibodies required to destroy the organism
- **Active vaccines**
  - *use weakened form of the harmful bacteria or virus (eg. live vaccines)*
  - *Vaccines that help the immune system protect the body from toxins are called toxoids that are made from weakened forms of the toxins of bacteria.*
- **Passive vaccines** – provide temporary immunity with antibodies (obtained from a large pool of donors) known as immune serum globulin.

# Adult vaccines: Beyond the Basics (cont.)



## Vaccine Side Effects

- *Most vaccines are safe and cause few if any serious side effects. Very rarely, serious side effects do occur.*
- *Vaccine Adverse Events Reporting System (VAERS)*

## Mild side effects

- *mild fever*
- *reddish, tender area at the site of injection*
- *occasionally, "serum sickness-like" reaction characterized by fever, skin rash, swollen lymph nodes, joint pain, and/or other symptoms*

## Severe side effects – are rare but may include:

- *severe neurologic reaction (eg. seizures)*
- *severe allergic reactions (eg, anaphylaxis - usually occur within minutes to hours of receiving the vaccine).*

# Adult vaccines: Beyond the Basics (cont.)



## Reasons to avoid vaccinations:

- Eggs or egg protein, since some vaccines are prepared with embryonic chicken eggs or cultures (eg. influenza vaccine, yellow fever vaccine).
- Antibiotics - neomycin or streptomycin (some vaccines contains trace amounts of neomycin)
- Gelatin Allergy ( MMR V, Influenza, Zoster, etc.)
- Pregnancy – avoid live vaccines

# Adult vaccines: Beyond the Basics (cont.)



## Reasons to avoid vaccinations:

**Live virus vaccines, including the measles, mumps, and rubella vaccine and the varicella vaccine are generally not recommended for the following groups:**

- *Those with weakened immune system- there is an increased risk of infection*
- *Patients who have recently received a blood transfusion or immune serum globulin, which can delay the normal response to active vaccination - vaccination should be delayed for one month.*
- *Women who are pregnant or considering becoming pregnant within the next 28 days, due to the potential risk of the vaccine to the developing fetus.*

# Adult vaccines: Beyond the Basics (cont.)



## Conditions that do not affect vaccination:

- Current or recent mild illness, with or without low grade fever
- Current or recent antibiotic therapy
- Previous mild to moderate tenderness, redness, or swelling at the site of injection or fever less than 104.9°F (40.5°C) after any previous vaccination
- A personal history of allergies, except those listed above
- A family history of adverse reactions to vaccines

# National Vaccine Advisory Committee (NVAC)



Established in 1987, National Vaccine Advisory Committee (NVAC) recommends ways to achieve optimal prevention of human infectious diseases through vaccine development, and provides direction to prevent adverse reactions to vaccines

The *National Adult Immunization Plan* (NAIP) provides an overview of actions needed to be undertaken by federal and nonfederal partners to protect public health and achieve optimal prevention. NAIP key goals are:

- *Strengthen the adult immunization infrastructure*
- *Improve access to adult vaccines*
- *Increase community demand for adult immunizations*
- *Foster innovation in adult vaccine development and vaccination related technologies*

# Adult Immunization



- Influenza vaccine
- Hepatitis B vaccine
- MMR vaccine / Varicella vaccine
- Td/ Tdap vaccine
- Pneumococcal vaccine
- Shingles vaccine
- Meningococcal vaccine

# Influenza Vaccine – 2016-2017



- Routine annual influenza vaccination of all persons aged  $\geq 6$  months without contraindications
- ACIP makes the interim recommendation that LAIV4 should not be used because of low effectiveness
- Modified recommendations for influenza vaccination of persons with egg allergy:
  - *consider observing all patients for 15 minutes after vaccination (not 30 minutes)*
  - *persons with a history of severe allergic reaction to egg should be vaccinated in an inpatient or outpatient medical setting under the supervision of a health care provider who is able to recognize and manage severe allergic conditions.*

# Persons at Risk for Medical Complications Attributable to Influenza



- children aged 6 through 59 months
- persons aged  $\geq 50$  years
- Those who have chronic pulmonary or cardiovascular renal, hepatic, neurologic, hematologic, metabolic disorders, or immunosuppression
- women who are or will be pregnant during the influenza season
- children and adolescents (aged 6 months–18 years) on long-term aspirin therapy /at risk for experiencing Reye syndrome after influenza infection
- residents of nursing homes and other long-term care facilities
- American Indians/Alaska Natives
- persons who are extremely obese (BMI  $\geq 40$ )

# Hepatitis B Vaccine



- Hepatitis B vaccines licensed for use in the United States
  - *Single-antigen hepatitis B vaccines - ENGERIX-B® & RECOMBIVAX HB®*
  - *Combination vaccines - PEDIARIX®/ TWINRIX®*
- Contraindications – serious allergy to prior dose of hep B vaccine or it's component or to yeast
- Vaccines from different manufacturers may be used to complete the series
- Can be administered concurrently with other vaccines – must use separate sites and syringes
- If there is an interruption between doses of hepatitis B vaccine, vaccine series doesn't need to be restarted
- Hepatitis B vaccine be given during pregnancy or lactation
- immunologic memory remains intact for at least 20 years among healthy vaccinated individuals

# MMR/ Varicella vaccine



- Anyone 18 years of age or older who was born after 1956 should get at least one dose of MMR vaccine, unless they can show that they have either been vaccinated or had all three diseases.
- MMR vaccine may be given at the same time as other vaccines.
- Varicella vaccine – two doses
- Children between 1 and 12 years of age can get a “combination” vaccine called MMRV, which contains both MMR and varicella (chickenpox) vaccines.
- There is a separate Vaccine Information Statement for MMRV.

# Td/ Tdap vaccine



- Tdap protects adolescents and adults from tetanus, diphtheria, and pertussis. One dose of Tdap is routinely given at age 11 or 12.
- Tdap -Important for health care professionals and anyone having close contact with a baby younger than 12 months.
- Pregnant women should get a dose of Tdap during **every pregnancy**, to protect the newborn from pertussis.
- Td protects against tetanus and diphtheria, but not pertussis. A Td booster should be given every 10 years. Tdap may be given as one of these boosters if you have never gotten Tdap before.
- Contraindicated
  - *life-threatening allergic reaction after a previous dose of any diphtheria, tetanus or pertussis containing*
  - *Anyone who had coma or long repeated seizures within 7 days after a childhood dose of DTP or DTaP, or a previous dose of Tdap*

# Pneumococcal vaccine



The pneumococcal vaccine prevents serious blood, brain, and lung infections from the *Streptococcus pneumoniae* bacteria -called pneumococcal disease -- includes pneumonia, meningitis, and septicemia.

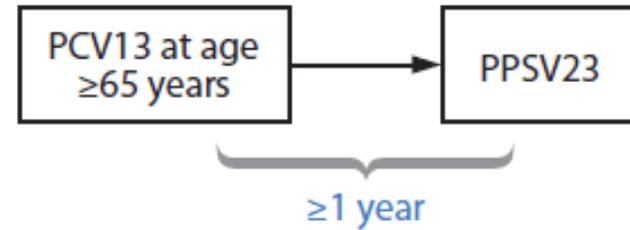
- PPSV23 (Pneumovax) is recommended for the following adults:
  - *Adults ages 19 to 64 with certain medical conditions (eg. certain kidney diseases, cigarette smoking, asthma, chronic heart or lung disease, asplenia, and conditions that cause weakening of the immune system)*
- PCV13 is recommended for the following adults:
  - *Adults ages 19 and older with asplenia, sickle cell disease, cerebrospinal fluid leaks, cochlear implants, or conditions that cause weakening of the immune system.*
- PCV13 ([Pneumovax 13](#)), which is routinely given to infants and toddlers, but was approved by the FDA in 2011 for use in adults ages 50 and older.
  - *One year gap between PPSV23 and PCV13*

# Pneumococcal Vaccine

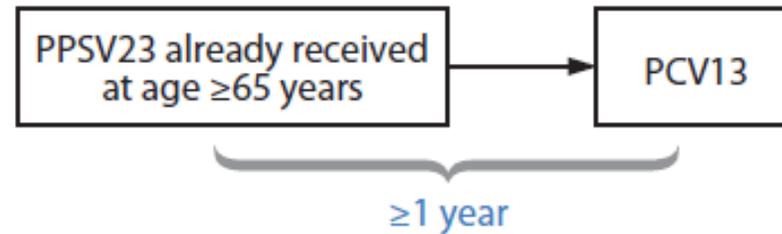
## Sequential administration and recommended intervals for PCV13 and PPSV23 for adults aged $\geq 65$ years — ACIP, United States

For adults aged  $\geq 65$  years with immunocompromising conditions, functional or anatomic asplenia, cerebrospinal fluid leaks, or cochlear implants, the recommended interval between PCV13 followed by PPSV23 is  $\geq 8$  weeks.

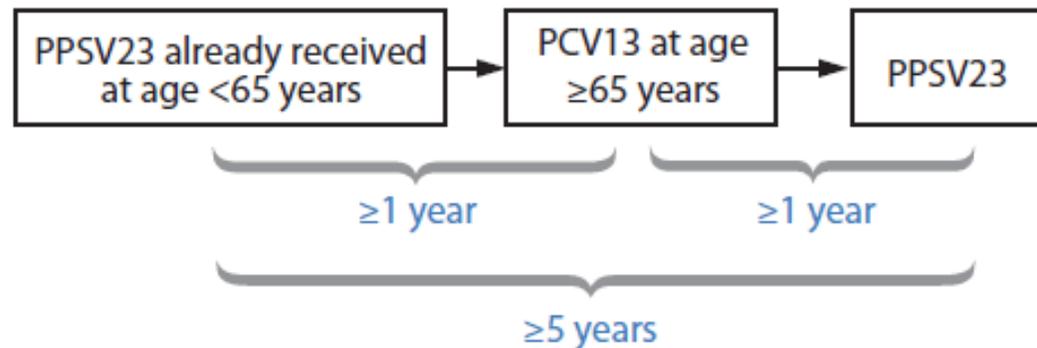
*Pneumococcal vaccine-naïve persons aged  $\geq 65$  years*



*Persons who previously received PPSV23 at age  $\geq 65$  years*



*Persons who previously received PPSV23 before age 65 years who are now aged  $\geq 65$  years*



# Shingles vaccine



- 30% of Americans will develop herpes zoster in their lifetime
- About half of all cases occur among people age 60 years or older
- ACIP recommends a single dose of zoster vaccine for all adults age 60 years/older
- No upper age limit for zoster vaccine
- No need to ask people for varicella disease history
- Zoster vaccine contains 19,400 PFUs (14 times higher than varicella vaccine).
- If an adult 60 years or older is tested negative for varicella immunity he/she should be given 2 doses of varicella vaccine 4 weeks apart, not zoster vaccine
- Prudent to defer vaccination for 6 -12 months after the shingles has resolved
- All HCP should ensure immunity to varicella regardless of their work setting
- Administer vaccine at least 14 days before immunosuppressive therapy begins

# Meningococcal Vaccine



The CDC recommends you get the vaccine if you are an adult and:

- Are living in a dorm
- Work with meningococcal bacteria in a lab
- Are in the military
- Are traveling to or living in a country where meningococcal disease is common, such as in certain parts of Africa
- Have a damaged spleen, or it's been removed
- Have an immune system disorder called terminal complement deficiency
- Are taking eculizumab (Soliris) - used to treat paroxysmal nocturnal hemoglobinuria (PNH) & a rare chronic blood disease called atypical hemolytic uremic syndrome (aHUS).
- May have been exposed to meningitis during an outbreak



If you are this age,

talk to your healthcare professional about these vaccines



If you are this age,	Flu <i>Influenza</i>	Td/Tdap Tetanus, diphtheria, pertussis	Shingles <i>Zoster</i>	Pneumococcal		Meningococcal		MMR Measles, mumps, rubella	HPV <i>Human papillomavirus</i>		Chickenpox <i>Varicella</i>	Hepatitis A	Hepatitis B	Hib <i>Haemophilus influenzae</i> type b
				PCV13	PPSV23	MenACWY or MPSV4	MenB		for women	for men				
19 - 21 years	Green	Green	Light Green	Blue	Blue	Blue	Blue	Green	Green	Light Green	Green	Blue	Blue	Blue
22 - 26 years	Green	Green	Light Green	Blue	Blue	Blue	Blue	Green	Green	Light Green	Green	Blue	Blue	Blue
27 - 49 years	Green	Green	Light Green	Blue	Blue	Blue	Blue	Green	Green	Light Green	Green	Blue	Blue	Blue
50 - 59 years	Green	Green	Light Green	Blue	Blue	Blue	Blue	Green	Green	Light Green	Green	Blue	Blue	Blue
60 - 64 years	Green	Green	Light Green	Blue	Blue	Blue	Blue	Green	Green	Light Green	Green	Blue	Blue	Blue
65+ year	Green	Green	Light Green	Blue	Blue	Blue	Blue	Green	Green	Light Green	Green	Blue	Blue	Blue

**More Information:**

You should get flu vaccine every year.

You should get a Td booster every 10 years. You also need 1 dose of Tdap. Women should get a Tdap vaccine during every pregnancy to protect the baby.

You should get shingles vaccine even if you have had shingles before.

You should get 1 dose of PCV13 and at least 1 dose of PPSV23 depending on your age and health condition.

You should get this vaccine if you did not get it when you were a child.

You should get HPV vaccine if you are a woman through age 26 years or a man through age 21 years and did not already complete the series.



**Recommended For You:** This vaccine is recommended for you *unless* your healthcare professional tells you that you cannot safely receive it or that you do not need it.



**May Be Recommended For You:** This vaccine is recommended for you if you have certain risk factors due to your health, job, or lifestyle that are not listed here. Talk to your healthcare professional to see if you need this vaccine.

**If you are traveling outside the United States, you may need additional vaccines.**

Ask your healthcare professional about which vaccines you may need at least 6 weeks before you travel.

For more information, call 1-800-CDC-INFO (1-800-232-4636) or visit [www.cdc.gov/vaccines](http://www.cdc.gov/vaccines)



U.S. Department of Health and Human Services  
Centers for Disease Control and Prevention

# Role of Healthcare providers



- Be an advocate and role model
- Transfer knowledge and skills
- Identify and improve processes to deliver health and wellness programs in all settings
- Choices are presented, but choose to make the right decision
- Information and tools to help you and your practice stay up-to-date on vaccination standards and practices are easily available.
  - *Current Immunization Schedules*
  - *Standards for Adult Immunization Practice*
  - *Strategies for Increasing Adult Vaccination Rates*
  - *Resources for Insurance and Payment*
  - *Travel Vaccine Recommendations*
  - *NFID Adult Immunization Resources*

# References



- **ACIP Vaccine Recommendations.** Retrieved from <http://www.cdc.gov/vaccines/hcp/acip-recs/>
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- The U.S. Department of Health and Human Services. Retrieved from <http://www.hhs.gov/sites/default/files/nvpo/national-adult-immunization-plan/naip.pdf>