Learning Objectives

- To update in new current vaccination recommendations for Hep B, PCV13, PPSV23, Men B and Men ACWY for adults by the Advisory Committee on Immunization Practices (ACIP)

- Identify the specific adult populations in need for vaccination of childhood Vaccines. Also ways to meet that need.

- Describe the use of childhood vaccines in the adult population who are at risk of acquiring specific disease and preventing that disease
Childhood Vaccines for Adults

- Hepatitis B
- Pneumococcal
  - PCV13
  - PPSV23
- Meningococcal
  - Men B
  - Men ACWY
Hepatitis B virus

- Transmitted via blood, bodily fluids or sexual contact
- If contract Hep B virus, person is at increase risk of cirrhosis, liver failure and liver cancer
- Consequently, if infected with the Hepatitis B virus, a person is at risk of other organ disease and failure
Hepatitis B Vaccine Recommendations

- Universal vaccination of infants at birth
- Vaccination for children and Adolescents who are unvaccinated
- Vaccination in Adults who are unvaccinated and who are at “risk” of exposure of HBV infection
- Adults who request protection from HBV infection
Vaccination of Pregnant Women

- Pregnant women who are identified as being at risk of HBV infection during pregnancy
  - Having more than one sex partner in 6 months
  - Have been evaluated and treated for STD’s
  - Recent or current IV drug use
  - Having a HBV positive sex partner

All should be tested and if not immune then vaccination is recommended. Should also be counseled on prevention.
Adults at risk of HBV infection

- Injection- drug users
- Sexual exposure
- Household contacts
- Developmentally Disabled persons in long term care facility
- Correctional facilities/incarcerated
- Occupational exposure
- Hemodialysis patients
Adults at risk of HBV infection

- Persons with HCV infection
- Persons with chronic liver disease (cirrhosis, fatty liver disease, alcoholic liver disease, autoimmune hepatitis, elevated liver enzymes)
- Travelers to countries where HBV is endemic
- Persons with HIV infection
- Persons with Diabetes
Vaccine Protection

- Adolescents are 95% protected if they complete the 3 dose series.
- Adults < than 40 yrs of age, with a complete 3 dose series, have a 90% protection. Decreases with age.
- Adults >60 yrs of age, have 75% protection.
- Adult with Diabetes and chronic kidney disease has a protection of 60% as compared to the 75% protection in adults without diabetes.
Vaccine Protection

- Immunocompromised conditions
  - Hematopoietic stem cell transplant receipts
  - Patients undergoing chemotherapy
  - HIV infected patients

Modified dosing including doubling the standard antigen dose or administration of additional doses might increase response rates.
Revaccination

- A booster dose or challenge dose or revaccination with a complete series in not recommended for persons with normal immune status
- Revaccination is recommended if tested and anti-HBs is less than 10 mIU/mL
- Health care provider not immune
- Hemodialysis patient, need to be tested annually
- Immunocompromised (HIV, Stem cell recipient, chemotherapy) with ongoing exposure
Implementation Strategies

- In settings in which a high proportion of persons have risk factors of HBV infection (treatment centers for STD’s, HIV, needle exchange program, homeless shelters, ..assume and offer vaccination
- In primary care or specialty care settings- offer as routine services
- Occupational health programs; provide information and offer vaccination
Meningococcal Vaccines

- Meningococcal conjugate vaccine
  - Serogroups A, C, W, and Y
- Meningococcal vaccine
  - Serogroup B
**Meningococcal disease**

- How people spread the germs by coughing or sneezing, while in close contact with others, who breathe in the bacteria.
- Spread by sharing respiratory or throat secretions (saliva or spit by coughing or kissing)
- It is also important to know that people can carry these bacteria in or on their bodies without being sick.
- These people are “carriers.” Most carriers never become sick, but can still spread the bacteria to others.
Men B Vaccine Recommendations

- Persons age > 10 yrs and at increase risk of Serogroup B meningococcal disease. (Series at 0, 1-2, and 6 months)
- All otherwise healthy adolescents and young adults aged 16-23 years of age (Series 0 and 6 months)
- Not licensed for children less than 10 yrs of age
- Not to use in traveling to endemic areas
- Not to use with First year College students or military recruits
Men ACWY Vaccine Recommendations

- Vaccination is recommended for infants aged 2 through 23 months at increased risk for meningococcal disease.
- Routine vaccination against meningococcal disease is not recommended for children aged 2 months through 10 years unless at high risk of disease.
- Every adolescent at 11-12 years old and a booster dose at 16 years of age.
- All HIV infected person > 2 months.
People at increase risk of disease

- Those with persistent complement component deficiencies (C3, C5-C9, properdin, factor D, and factor H)
- Those with functional or anatomic asplenia (including sickle cell disease)
- Healthy infants in communities with a meningococcal disease outbreak for which vaccination is recommended
- Those traveling to or residing in areas where disease is epidemic (Sub-Saharan African “meningitis belt”)
- HIV disease
Risk factors for Meningococcal Disease

- Persons who have persisted deficiencies in common complement pathways have a 10,000 fold increase risk of disease and can experience recurrent disease
- Anatomic asplenia
- Household crowding
- Military recruits
- Chronic underlying medical illness
- Active and passive smoking
- Working as a microbiologist or health care professional
Meningitis Disease in College Students

- Meningococcal disease is higher in the First year of college students and mostly if living in dormitory setting and residence halls.
- In 2000, ACIP recommended that First year college students living in dorm settings to consider vaccination.
- Since then, many colleges have required all matriculating students to be vaccinated.
Pneumococcal Vaccines

- The 13 valent pneumococcal conjugate vaccine
  - (PCV13)

- The 23 valent pneumococcal polysaccharide vaccine
  - Contains 12 strains of PCV 13 plus 11 other strains
  - (PPSV23)
Pneumococcal disease

- Pneumococcal bacteria spread from person-to-person by direct contact with respiratory secretions, like saliva or mucus.
- Many people, especially children, have the bacteria in their nose or throat at one time or another without being ill.
- Doctors call this “carriage” and do not know why it only rarely leads to sickness.
Pneumococcal Invasive Disease

- A leading cause of serious illness in adults in the US
  - Bacteremia
  - Meningitis
  - Pneumonia
  - Ear infections
Recommendations for PCV 13

- CDC recommends PCV 13 for infants, young children and adults 65 of age or older
- Older children and adults younger than 65 yrs of age who are at risk of pneumococcal disease may also need a dose of PCV 13
Recommendations for PPSV23

- CDC recommends for all adults 65 yrs of age or older
- Those 2 yrs of age and older who are at increased risk for the disease
Recommendations for PCV13 and PPSV23

- ACIP currently recommends that a dose of PCV 13 be followed by a dose of PPSV23 in all adults > 65 yrs of age

- In persons age > 2 yrs who are at high risk of pneumococcal disease because of underlying medical conditions (8 weeks later)

- Adults age > 65 yrs of age with immunocompromising conditions (8 weeks later)
Immunocompromised conditions

- Functional asplenia (including Sicke Cell disease)
- Cerebrospinal fluid (CSF) leaks
- Cochlear implants
- Hematologic Cancer
- Any other type of cancer
- HIV
At risk of Pneumococcal disease

- Age under 2
- In child care or group care setting
- Diabetes
- Nephrotic syndrome
- Chronic heart disease
- Chronic lung disease (COPD, Emphysema, asthma)
- Liver disease
- Kidney disease
- Cigarette exposure
Summary of CDC Vaccination Recommendations

- [https://www.cdc.gov/vaccines/schedules/downloads/adult/adult-schedule-easy-read.pdf#page=2](https://www.cdc.gov/vaccines/schedules/downloads/adult/adult-schedule-easy-read.pdf#page=2)
Resources

- https://www.cdc.gov/vaccines/hcp/acip-recks/vacc-specific/hepb.html
- https://www.cdc.gov/hepatitis/hbv/vaccadults.htm
- https://www.cdc.gov/mmwr/volumes/67/rr/rr6701a1.htm
Resources for Meningococcal vaccines

- https://www.cdc.gov/vaccines/hcp/acip-recs/vacc-specific/mening.html
- https://www.cdc.gov/vaccines/vpd/mening/
- https://www.cdc.gov/mmwr/volumes/65/wr/mm6543a3.htm
Resources for Pneumococcal Vaccines

- https://www.cdc.gov/vaccines/hcp/acip-recs/vacc-specific/pneumo.html
- https://www.cdc.gov/pneumococcal/vaccination.html
- https://www.cdc.gov/mmwr/preview/mmwrhtml/mm6434a4.htm
- https://www.cdc.gov/mmwr/preview/mmwrhtml/mm6337a4.htm
- https://www.cdc.gov/mmwr/preview/mmwrhtml/mm6140a4.htm