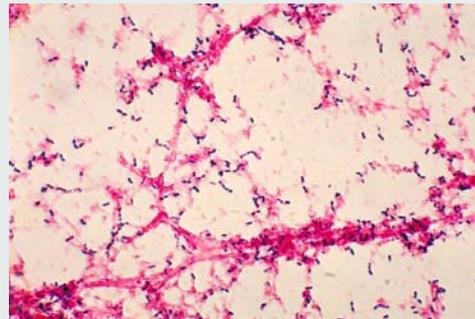


RECOMMENDATIONS FOR PNEUMOCOCCAL AND INFLUENZA VACCINES



STREPTOCOCCUS PNEUMONIAE

- A bacteria that is commonly found in the human respiratory tract.
 - May be isolated from the nasopharynx of 5-70% of normal healthy adults.
- Can sometimes cause severe invasive disease.
 - Bacteremia
 - Meningitis
 - Pneumonia
- More than 90 serotypes of *S. pneumoniae*



PCV13

- Prevnar[®] or PCV13 is conjugate vaccine that protects against 13 types of pneumococcal disease.
- Should be given intramuscularly (IM).
- Routinely recommended for children.
- Also recommended for adults with certain health conditions.
- New ACIP (Advisory Committee for Immunization Practices) recommendation
 - All adults over 65 should receive a dose.

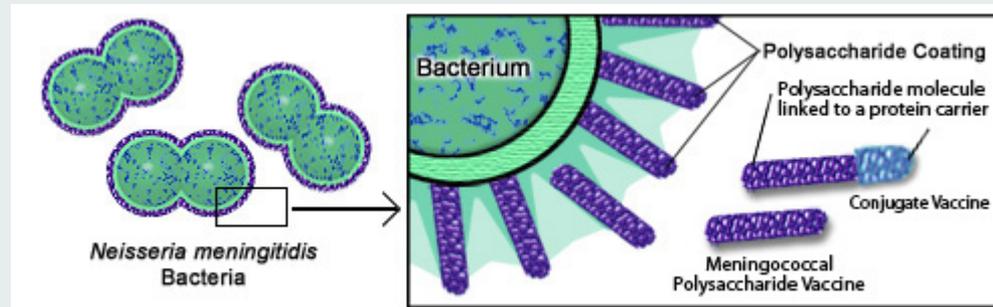
PPSV23

- Pneumovax[®] or PPSV23 is a polysaccharide vaccine that protects against 23 types of pneumococcal disease.
- Should be given either intramuscularly (IM) or subcutaneously (SC).
- All adults over 65 should receive a dose.
- Also recommended for individuals between 2 and 64 with certain health conditions.

POLYSACCHARIDE VACCINE

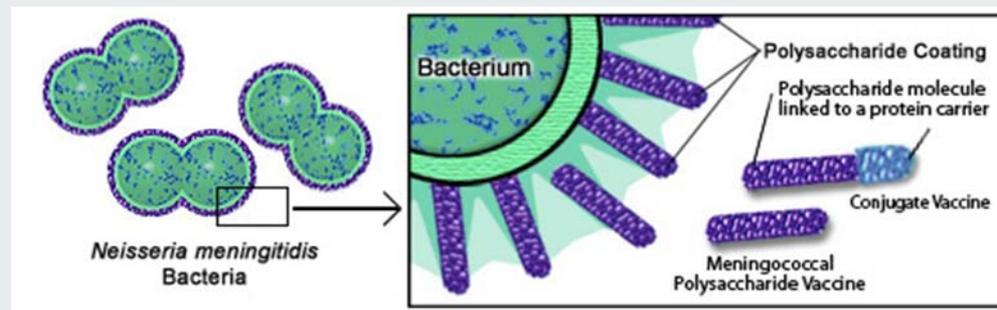
■ Polysaccharide vaccines

- Inactivated subunit vaccine composed of long chains of sugar molecules that make up the surface capsule of certain bacteria.
- Immune response is typically T-cell independent which means that these vaccines are able to stimulate B cells without the assistance of T-helper cells.
- Not consistently immunogenic in children younger than 2 years of age.
- Repeated doses of most inactivated protein vaccines cause the antibody titer to go progressively higher but this does not occur with polysaccharide antigens.



CONJUGATE VACCINE

- Conjugate vaccines contain polysaccharide that is chemically linked to a protein.
 - Makes a more potent vaccine.
 - Changes the immune response from T cell independent to T-cell dependent leading to increased immunogenicity in infants and antibody booster response to multiple doses of vaccine.



NEW ROUTINE ADULT RECOMMENDATIONS FOR PCV13

- In August, ACIP recommended PCV13 be routinely administered to adults 65 and older.
 - Adults 65 and older who have not yet received a pneumococcal vaccine should receive PCV13 first followed by a dose of PPSV23 6-12 months later.
 - Adults who have not received PCV13 but have received a dose PPSV23 should receive a dose of PCV13.
 - The recommendations should be re-evaluated in 2018 as needed.

INTERVALS BETWEEN DOSES

- If following routine recommendations for individuals 65 and older:
 - PCV13 should be given first followed by PPSV23 6 - 12 months later.
 - Minimum interval is 8 weeks.
- If an individual has already received a dose of PPSV23:
 - PCV13 should be followed by a minimum interval of 12 months.
- PPSV23 and PCV13 *should not* be given at the same time.

PPSV23 RECOMMENDATIONS FOR HIGH RISK GROUPS

- Those who are between 2 and 64 and have one of the following conditions should be vaccinated with PPSV23:
 - Cigarette smokers age 19 and older
 - Chronic cardiovascular disease (congestive heart failure, cardiomyopathies, excluding hypertension)
 - Chronic pulmonary disease (including COPD and emphysema, and for adults ages 19 and older, asthma)
 - Diabetes Mellitus
 - Alcoholism
 - Chronic liver disease, cirrhosis
 - Candidate for or recipient of cochlear implant

PPSV23 RECOMMENDATIONS FOR HIGH RISK GROUPS

- Those who are between 2 and 64 and have one of the following conditions should be vaccinated with PPSV23:
 - Cerebrospinal fluid leak
 - Functional or anatomic asplenia
 - Immunocompromising conditions (HIV, leukemia, congenital immunodeficiency, Hodgkin's disease, lymphoma, multiple myeloma, generalized malignancy) or on immunosuppressive therapy.
 - Solid Organ Transplant
 - Chronic renal failure or nephrotic syndrome.

PNEUMOCOCCAL BOOSTERS

- Revaccination 5 years after the first dose of PPSV23 is recommended for the following:
 - People age 19-64 years who
 - Have functional or anatomic asplenia (including those with sickle cell disease or splenoectomy patients)
 - Have chronic renal failure or nephrotic syndrome
 - Are immunocompromised (including those with HIV, leukemia, lymphoma, Hodgkin's disease, multiple myeloma, generalized malignancy, are receiving immunosuppressive therapy (including long term systemic corticosteroids or radiation therapy) or who have received a solid organ transplant.
 - Patients over age 65 who received one or two doses of PPSV23 at age 64 or younger for any indication should receive one additional dose after receiving PCV13.

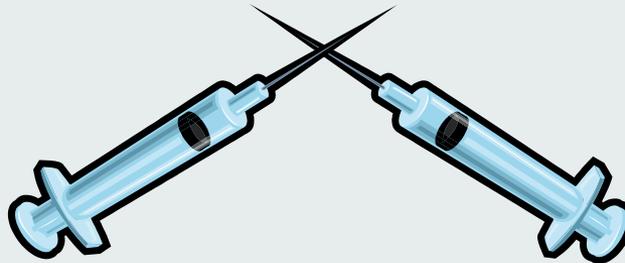
PCV13 RECOMMENDATIONS FOR HIGH RISK GROUPS

- Adults 19 years and older who have one of the following conditions and who have not previously received PCV13 should receive a dose:
 - Immunocompromising conditions (congenital or acquired immunodeficiency, HIV, chronic renal failure, nephrotic syndrome, leukemia, lymphoma, Hodgkin disease, generalized malignancy, iatrogenic immunosuppression, solid organ transplant, and multiple myeloma)
 - Functional or anatomic asplenia (sickle cell disease and other hemoglobinopathies and congenital and acquired asplenia)
 - Cerebrospinal fluid leak
 - Cochlear implants

INFLUENZA AND PNEUMOCOCCAL VACCINES

INFLUENZA AND PNEUMOCOCCAL VACCINE

- Pneumococcal and flu vaccines can be given simultaneously.
- Health experts have found that influenza predisposes individuals to bacterial pneumonia and this is heightened during influenza pandemics.
 - Providers should give flu and pneumococcal vaccine at the same visit if it is indicated.
- Both pneumococcal and flu vaccines are covered under Medicare part B.



INFLUENZA VACCINE RECOMMENDATIONS

- Flu vaccine is recommended for all persons aged 6 months and older
- If flu supply is limited, efforts should be focused on people who:
 - Are ages 6 months-4 years
 - Are age 50 years and older
 - Have chronic pulmonary(including asthma), cardiovascular, renal, hepatic, neurologic, hematologic, or metabolic disorders(including diabetes)
 - Are immunosuppressed(including immunosuppression caused by medication or HIV)
 - Are or will be pregnant during the influenza season

INFLUENZA VACCINE RECOMMENDATIONS

- If flu supply is limited, efforts should be focused on people who:
 - Are ages 6 months through 18 years and receiving long-term aspirin therapy and who therefore might be at a risk for experiencing Reye syndrome after influenza virus infection
 - Are residents of nursing homes and other chronic-care facilities
 - Are American Indian or Alaska Natives
 - Are morbidly obese (BMI is 40 or greater)
 - Are healthcare personnel
 - Are household contacts and caregivers of children ages younger than 5 years and adults ages 50 years and older with particular emphasis on vaccinating contacts of children aged younger than 6 months
 - Are household contacts and caregivers of persons with medical conditions that put them at a higher risk for severe complications from influenza.

MANDATORY FLU VACCINATION POLICIES

- CDC found that the national coverage rate of health care personnel was approximately 72% for the 2012-2013 influenza season.
 - For facilities requiring vaccination, the coverage rate was 96.5%
- Some facilities require flu vaccination as a condition of employment.
 - According to a survey done last year, flu vaccination is a requirement of employment at about 16% of North Dakota facilities.
 - These facilities have noticeably higher vaccination rates among staff.

TIMING OF VACCINATION

- CDC recommends that flu vaccine should be administered as soon as it is available
 - Studies have shown declining antibodies after vaccination over a few months
 - However, declining antibodies have not been correlated with less protection
- If possible, flu vaccine should be offered by October

THIS SEASON'S VACCINE

- All of the 2014-2015 influenza vaccine is made to protect against the following three viruses:
 - an A/California/7/2009 (H1N1)pdm09-like virus
 - an A/Texas/50/2012 (H3N2)-like virus
 - a B/Massachusetts/2/2012-like virus
 - Quadrivalent vaccine protects against an additional B virus (B/Brisbane/60/2008-like virus).

HIGH DOSE INFLUENZA VACCINE

- A high dose influenza vaccine is available for individuals 65 and older.
- Contains a higher dose of antigen in order to give older adults a better immune response.
 - Data from clinical trials indicate higher antibody levels after receiving the high dose vaccine.
 - An ongoing study is examining if higher antibody levels result in a higher immune response.

HIGH RISK PEOPLE AND LAIV

- Who should not receive Flumist[®]?
 - Pregnant Women
 - People younger than 2 and older than 49
 - Immunosuppressed persons
 - Those in close contact with severely immunosuppressed persons(require a protective environment)
 - Persons with asthma and other chronic respiratory conditions
 - Anyone with an egg allergy

PEOPLE WHO CAN RECEIVE LAIV

- Breast feeding women
- Contacts of people who are immunocompromised but do not need to live in a protective environment.
- People with mild acute illness who do not have significant nasal congestion.

OTHER VACCINES RECOMMENDED FOR ADULTS

- **Tdap:** all adults are recommended to receive one lifetime dose of Tdap.
 - Protects against tetanus, diphtheria, and pertussis.
- **Zoster:** all adults over the age of 60 are recommended to receive a single dose of zoster vaccine.
 - Protects against shingles.

NORTH DAKOTA IMMUNIZATION INFORMATION SYSTEM (NDIIS)

- Adult doses can be entered into the North Dakota Immunization Registry.
- Can forecast future doses of pneumococcal vaccine.
- Keeps track of historical doses given in order to avoid giving unnecessary doses of vaccine.

THANK YOU

Questions?

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