IMMUNIZE WISCONSIN

Pneumococcal Vaccines:
Not Just the Pneumonia Shot!

Margaret Hennessy MD, FAAP
Co-Chair Immunize Wisconsin Advisory Council

Learning Objectives

IMMUNIZE WISCONSIN

As a result of attending this webinar, participants will be able to:

1) Review the significance of pneumococcal infections

2) List the pneumococcal immunizations available in the US

3) Summarize the recommendations for the pneumococcal immunizations

Please Note…

IMMUNIZE WISCONSIN

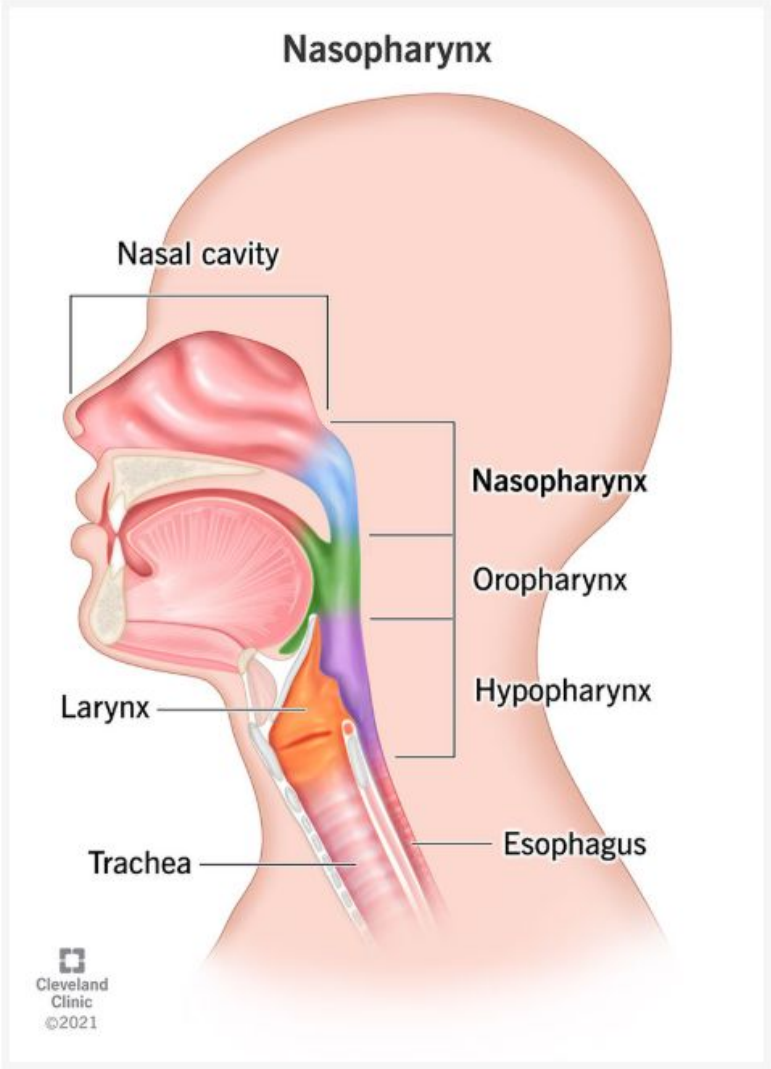
- I may use brand names at times but this is not an endorsement of any particular product--it will just make it easier to communicate.
- I am not provided any financial incentive to discuss these immunizations.
- I am relying on scientific principles. These immunizations are worthwhile. They are safe and effective and they save lives and decrease human suffering.

IMMUNIZE WISCONSIN

What is Pneumococcus?

Pneumococcus AKA Streptococcus pneumoniae

- **Morphology**: Gram-positive, lancet-shaped bacteria.
- **Carriage:** Up to 90% of humans carry pneumococcus in the nasopharynx
- **Discovery:** First isolated by Louis Pasteur in 1881 from the saliva of a patient with rabies.
- **Serotypes & Capsule:** The bacterium's surface is covered by polysaccharides, which define the serotypes.
    - There are over 100 known serotypes (about 30 IPD)
- **Protection:** Protection is conferred by type-specific antibodies targeting the capsular polysaccharide.
- **Reservoir:** Humans are the sole reservoir for pneumococcus (no animal or insect vectors exist).



How is pneumococcus spread?

- Person to person through respiratory droplets
- Can spread from direct contact with another person
- Autoinoculation from bacteria colonizing a person upper airway--how the immune system works from colonization to infection is not completely understood.
- Increased spread seen in crowded conditions

IMMUNIZE WISCONSIN

IMMUNIZE WISCONSIN

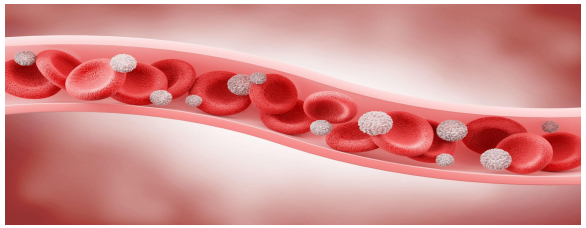
What is the impact of Pneumococcal infection?

Pneumococcal Infections

IMMUNIZE WISCONSIN

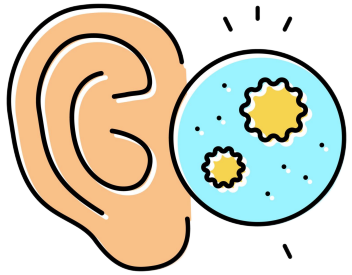
Invasive Disease

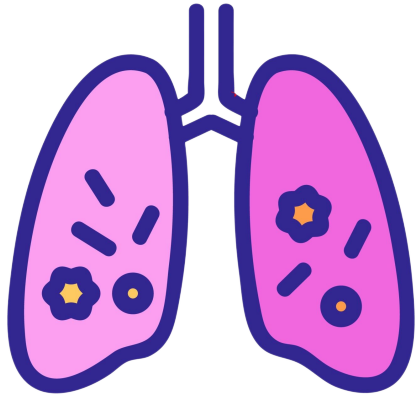
- Osteomyelitis (infection in bone)
- Bacteremia (infection in blood)
- Pneumonia with bacteremia
- Septic arthritis (infection in joint)
- Meningitis (infection in spinal cord and brain)



Non-invasive Disease

- Pneumonia without bacteremia
- Otitis Media (ear infection)
- Sinusitis (sinus infection)





Viral respiratory infections increase the risk of pneumococcal infections in all age groups.

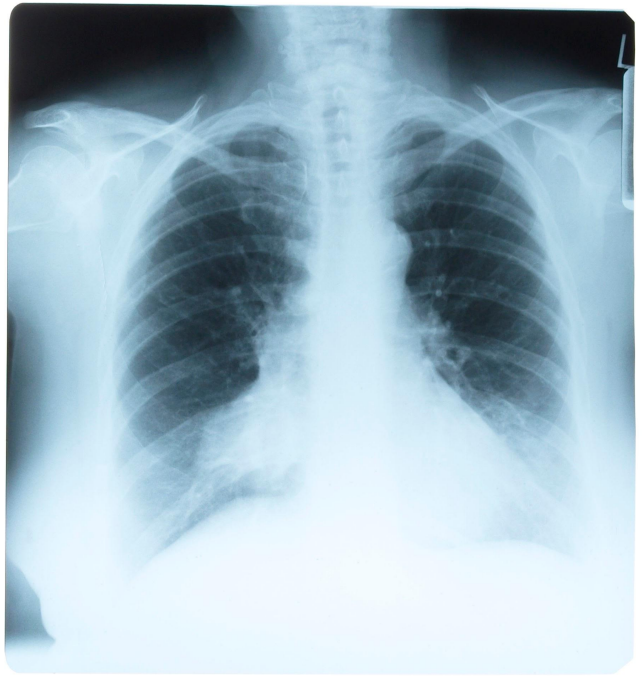
Pneumococcal meningitis

- ✓ *S. pneumoniae* serotypes cause more than **50%** of cases of bacterial meningitis
- ✓ About **2000 cases** of pneumococcal meningitis each year in the US
- ✓ Presents with headache, lethargy, vomiting, fever, neck stiffness, irritability and progress to seizures, coma, and death
- ✓ Death rate in adults is **14%**
- ✓ Up to **50% of survivors** are left with neurologic damage, hearing loss, seizures, intellectual and/or behavioral disabilities, motor deficits

IMMUNIZE WISCONSIN

Pneumococcal pneumonia

- More than 150,000 persons hospitalized with pneumococcal pneumonia each year in the US
- Most common cause of bacterial pneumonia in children, especially <5 years
- Causes 10-30% of community-acquired bacterial pneumonia in adults
- Often complicates influenza infections.
- Presents abruptly with fever, productive cough, chest pain, rusty sputum, increased heart rate/respiratory rate, hypoxia, malaise, weakness
- Can lead to bacteremia, empyema, pericarditis, atelectasis, lung abscess
- Case-fatality rate is 5-7%, higher in persons 65+ and persons with high risk conditions



IMMUNIZE WISCONSIN

Pneumococcal bacteremia

- Can occur with or without pneumonia
- People without a spleen are at particularly high risk but can also be seen in people who are immunocompromised
- Can lead to arthritis, meningitis, and endocarditis
- 10% of people with pneumonia with bacteremia will die despite therapy
- Case-fatality rate is as high as 60% in older adults

IMMUNIZE WISCONSIN

Risk factors for significant infections

IMMUNIZE WISCONSIN

- Age--less than 5 years and older than 65 years
- Health conditions in people who have
  - Alcoholism
  - Cerebrospinal fluid leak
  - Chronic heart disease
  - Chronic liver disease
  - Chronic lung disease-such as emphysema, COPD, asthma
  - Diabetes mellitus
  - Cochlear implant
  - Compromised immune system

Immunocompromising conditions

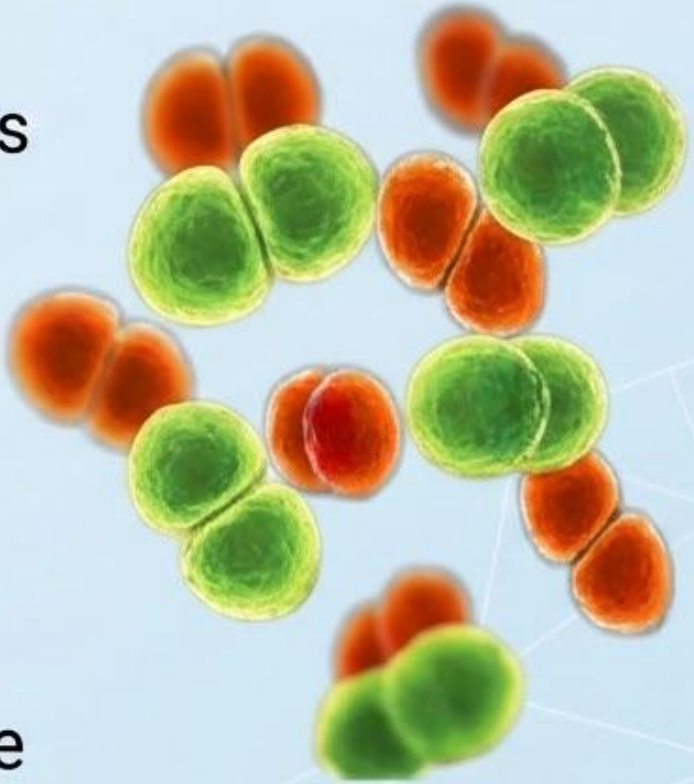
IMMUNIZE WISCONSIN

- Chronic kidney failure/nephrotic syndrome
- Spleen dysfunction or no spleen (congenital or acquired)
- Diseases that are being treated immunocompromising medication or radiation
  - Hodgkin's Disease
  - Leukemia/lymphoma
  - Cancer
  - Solid organ transplantation/bone marrow transplant
- HIV disease
- Sickle cell disease/hemoglobinopathies

Review serotypes-brief notes

IMMUNIZE WISCONSIN

- **Serotype 3:** Linked to necrotizing pneumonia, empyema, septic shock, and high mortality.
- **Serotypes 19A & 19F:** Associated with high rates of antibiotic resistance and mortality.
- **Serotypes 6B, 9N, 11A, 15B, 16F:** Identified as having high case-fatality rates.
- **Serotypes 1 & 7F:** High potential for IPD
- **Serotypes 4, 14, 18C, 23F:** Common causes of invasive infections.
- **Serotype 4**: important cause of infection in some populations



IMMUNIZE WISCONSIN

Pneumococcal Immunizations

Prior to Routine Vaccination for children

- Estimated 17,000 cases invasive pneumococcal infections per year in US (millions globally)
- Average of 200 pediatric deaths each year in the US due to pneumococcus
- Estimated 5 million cases of otitis media in children less than 5 years-old
- Children were also often sources of infection for adults--vaccinating children has benefitted adults in the US.

IMMUNIZE WISCONSIN

History of pneumococcal immunizations

IMMUNIZE WISCONSIN

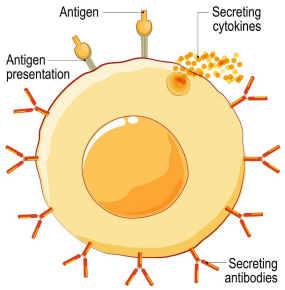
- 1977-PPSV (pneumococcal polysaccharide vaccine) with 14 serotypes
- 1983-PPSV 23 replaces PPSV 14
- Routine use was only for adults.

Why not use PPSV in young children?

IMMUNIZE WISCONSIN

Polysaccharide vaccine-PPSV

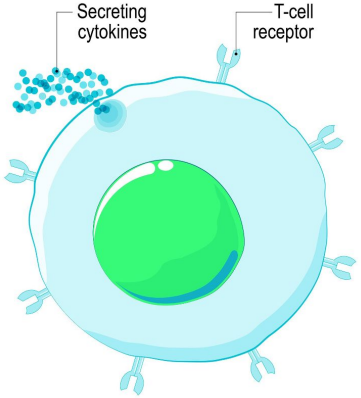
- Immune response is T-cell independent, i.e. stimulate B cells without T-cells
- Does not induce immunity in young children
- Does not impact NP carriage
- Does not boost well (that means extra doses do not provide improved protection)



B-cell

Conjugate vaccine-PCV

- Combines protein molecule with polysaccharide (conjugation)-Changes to T-cell dependent immune response
- Triggers infants' immune system to make antibodies to the protein and the polysaccharide
- Promotes memory B-cells
- Reduces NP carriage
- Option for boosters



T-cell

A Word about the Carrier Protein

IMMUNIZE WISCONSIN

ELSEVIER

Immunochemistry

Volume 9, Issue 9, September 1972, Pages 891-906, IN5-IN6

An immunological study of the diphtheria toxin molecule ☆

A.M. Pappenheimer Jr., Tsuyoshi Uchida, Annabel Avery Harper

- Conjugation of a carrier protein to the polysaccharide changes the immune response
- Current PCVs use the carrier protein CRM197
- It is non-toxic variant of the diphtheria toxin
- CRM197 has been available since the 1980's
- Also present in meningococcal vaccines

History of pneumococcal immunizations

IMMUNIZE WISCONSIN

- 2000-PCV7 (7-valent pneumococcal conjugate vaccine)--were 7 most common serotypes isolated from CSF of small children, accounted for 80% of infections
- 2010-switch to PCV13 as bacterial surveillance revealed that about 60% of invasive infections were not covered by PCV7--especially serotype 19A
- Invasive disease by serotypes in PCV13 have decreased by 90% and the benefit has been sustained-rate of overall IPD down but could be better
- 2015-PCV15 becomes available
- 2021-PCV20 approved for adults, 2023-approved for children
- 2024-PCV21 approved for adults

PCV=pneumococcal conjugate vaccine

15-valent pneumococcal conjugate (PCV15)

IMMUNIZE WISCONSIN

General Information

- Vaxneuvance (Merck)
- Serotypes 1, 3, 4, 5, 6A, 6B, 7F, 9V, 14, 18C, 19A, 19F, 22F, 23F, and 33F
- FDA approval down to age 6 weeks through adulthood

Composition & Safety

- Presentation: prefilled syringes, 0.5 ml, no latex, no preservatives
- Ingredients: polysaccharide/protein, histidine, polysorbate 20, sodium chloride (salt), and aluminum
- Contraindications: allergy to any of the components or diphtheria toxoid

Side Effects

- **Young children**: fever, pain/redness/swelling at injection site, fussiness, sleepiness, decreased appetite
- **Children 2-17 years**: pain/redness/swelling at injection site, fatigue, myalgia, headache
- **Adults**: pain/redness/swelling at injection site, fatigue, myalgia, headache, arthralgia

merck.com/product/usa/pi_circulars/v/vaxneuvance/vaxneuvance_pi.pdf

20-valent pneumococcal conjugate (PCV20)

IMMUNIZE WISCONSIN

- Prevnar 20 (Pfizer)
- serotypes 1, 3, 4, 5, 6A, 6B, 7F, 8, 9V, 10A, 11A, 12F, 14, 15B, 18C, 19A, 19F, 22F, 23F, and 33F
- Can be used down to 6 weeks through adulthood
- Presentation: prefilled syringes, 0.5 ml, no latex, no preservatives
- Ingredients-saccharide/protein, succinate buffer, polysorbate 80, sodium chloride (salt), and aluminum
- Contraindications: allergy to any of the components or diphtheria toxoid
- Small risk of febrile seizure in young children who get pneumococcal vaccine at the same time as influenza vaccine

Side effects

-Young children-fussiness, pain/redness/swelling at injection site, sleepiness, decreased appetite, fever

-Children 15 months-17 years-fussiness, pain/redness/swelling at injection site, myalgia, fatigue, headache, fever

-Adults-pain/swelling at injection site, myalgia, fatigue, headache, arthralgia

https://labeling.pfizer.com/ShowLabeling.aspx?id=15428&format=pdf

21-valent pneumococcal conjugate (PCV21)

IMMUNIZE WISCONSIN

Key Information

- Capvaxive (Merck)
- Serotypes: 3, 6A, 7F, 8, 9N, 10A, 11A, 12F, 15A, 15B, 15C, 16F, 17F, 19A, 20A, 22F, 23A, 23B, 24F, 31, 33F, and 35B
- Approved for persons 18 years and older
- Presentation: prefilled syringes, 0.5 ml, no latex, no preservatives

Ingredients & Contraindications

- Ingredients-polysaccharide/protein, histidine, polysorbate 20, sodium chloride (salt), and aluminum
- Contraindications: allergy to any the components or diphtheria toxoid

Side effects-

- 18-49 years-pain/swelling/redness at injection site, fatigue, myalgia
- 50+ years-pain at injection site, fatigue, headache

https://www.merck.com/product/usa/pi_circulars/c/capvaxive/capvaxive_pi.pdf

23-valent pneumococcal polysaccharide vaccine (PPSV23)

IMMUNIZE WISCONSIN

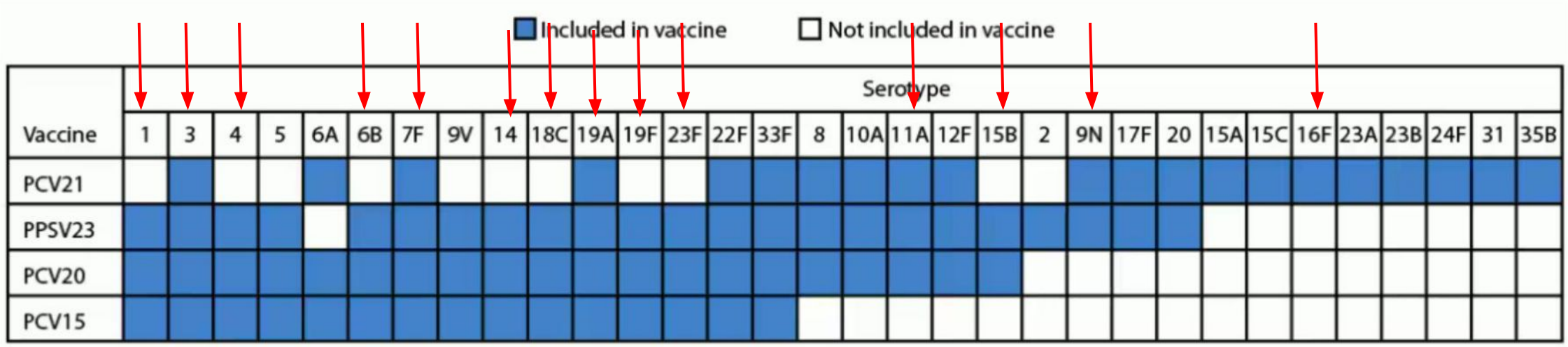
- Brand name is Pneumovax 23 (Merck)
- serotypes 1, 2, 3, 4, 5, 6B, 7F, 8, 9N, 9V, 10A, 11A, 12F, 14, 15B, 17F, 18C, 19F, 19A, 20, 22F, 23F, and 33
- Can be used down to age 2 years through adulthood
- Presentation: prefilled syringes or single dose vial, 0.5 ml, no latex
- Ingredients-polysaccharide in saline solution with phenol as preservative
- Contraindications: allergy to any of the components
- Side effects-pain/redness/swelling at injection site, headache, asthenia (weakness) and fatigue, myalgia

merck.com/product/usa/pi_circulars/p/pneumovax_23/pneumovax_pi.pdf

Current options for immunizations

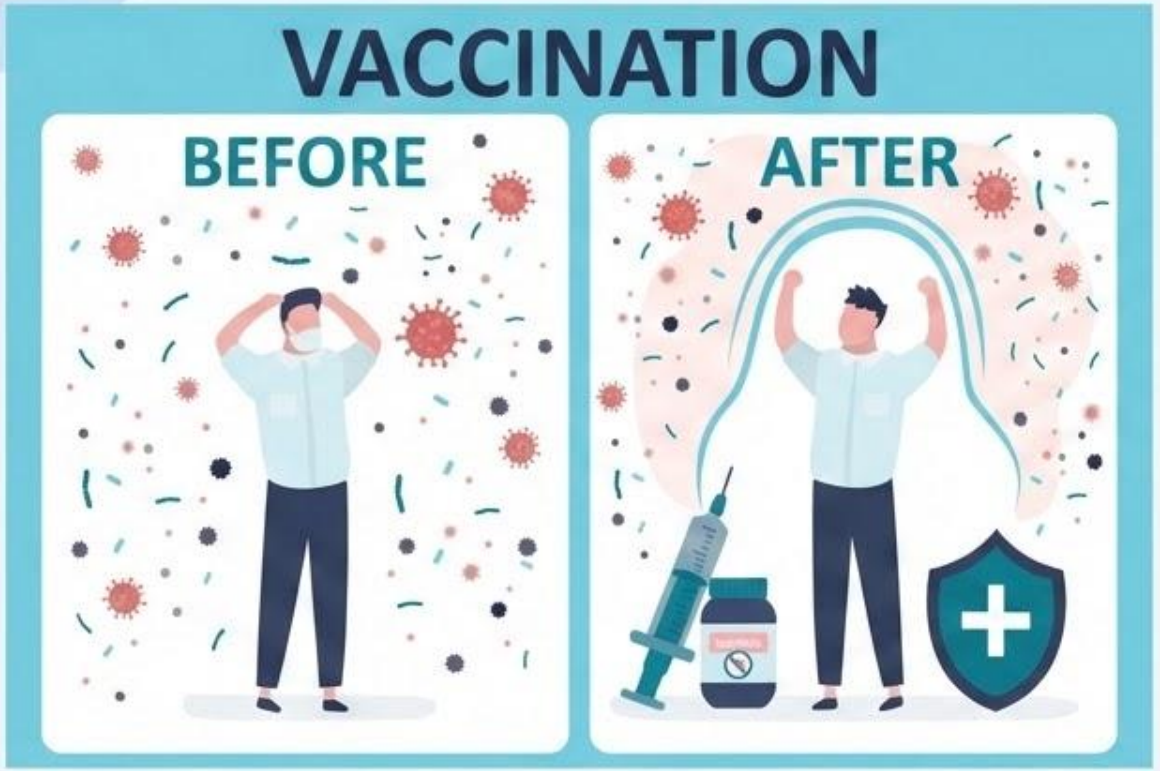
IMMUNIZE WISCONSIN

FIGURE. Serotypes*,† included in pneumococcal vaccines currently recommended for adults — United States, 2024



Abbreviations: PCV = pneumococcal conjugate vaccine; PCV15 = 15-valent PCV; PCV20 = 20-valent PCV; PCV21 = 21-valent PCV; PPSV23 = 23-valent pneumococcal polysaccharide vaccine.

IMMUNIZE WISCONSIN

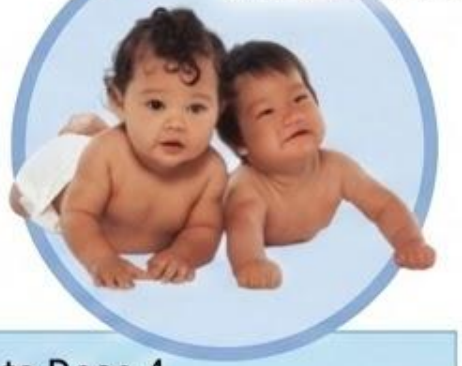


Pneumococcal Immunization Schedule

Routine PCV schedule for children without risk factors

IMMUNIZE WISCONSIN

- 4 doses, given at 2 months, 4 months, 6 months, and 12-15 months
- Catch-up doses up through age 4 years
- For catch-up, If 2-4 years, give one dose PCV20 for any incomplete schedule
- No need to repeat doses of PCV20 if child completed series with PCV13 or PCV15



Routine Catch up schedule with minimal intervals (mainly for children <2 years)

Minimum age for Dose 1	Dose 1 to Dose 2	Dose 2 to Dose 3	Dose 3 to Dose 4
6 weeks	• No further doses needed for healthy children if first dose was administered at age 24 months or older • 4 weeks if first dose was administered before the 1st birthday • 8 weeks (as final dose for healthy children) if first dose was administered at the 1st birthday or after	• No further doses needed for healthy children if previous dose was administered at age 24 months or older • 4 weeks: if current age is younger than 12 months and previous dose was administered at <7 months old • 8 weeks (as final dose for healthy children) if previous dose was administered between 7–11 months (wait until at least 12 months old); OR if current age is 12 months or older and at least 1 dose was administered before age 12 months	8 weeks (as final dose): This dose is only necessary for children age 12 through 59 months regardless of risk, or age 60 through 71 months with any risk, who received 3 doses before age 12 months

ROUTINE=no risk factors

Another way to view this from IAC

IMMUNIZE WISCONSIN

Table 1. Recommended schedule for administering pneumococcal conjugate vaccine (PCV) to all children (healthy and those with risk conditions) age 2 through 23 months

Child's age now	Number of previous PCV13, PCV15 or PCV20 doses	Number PCV15 or PCV20 doses to complete series by age 24 mos*†
2 through 6 months	0	4 doses: 3 doses 8 weeks apart; last dose at age 12–15 months
	1	3 additional doses: 2 doses, 8 weeks apart; last dose at age 12–15 months
	2	2 additional doses: 1 dose 8 weeks after most recent dose; last dose at least 8 weeks later at age 12–15 months
	3	1 additional dose at age 12–15 months
7 through 11 months	0 before age 7 months	3 doses; 2 doses 8 weeks apart; last dose at age 12–15 months
	1 or 2 before age 7 months	2 additional doses: 1 dose 8 weeks after most recent dose; last dose at least 8 weeks later, at age 12–15 months
	3 before age 7 months	1 additional dose at age 12–15 months
	1 at age 7 months or older	2 additional doses; 1 dose 8 weeks after most recent doses; last dose at least 8 weeks later, at age 12–15 months
	2 at age 7 months or older	1 additional dose at least 8 weeks later, at age 12–15 months
12 through 23 months	0 before age 12 months	2 doses: 2 doses 8 weeks apart
	1 before age 12 months	2 additional doses: 1 dose at least 8 weeks after most recent dose; last dose at least 8 weeks later
	2 or 3 before age 12 months	1 additional dose, at least 8 weeks after most recent dose
	1 dose at age 12 months or older	1 additional dose, at least 8 weeks after the most recent dose

†Minimum interval between doses: for children younger than age 12 months = 4 weeks; for children age 12 months or older = 8 weeks
Children 24-59 months who have not completed the schedule or received no doses, get one dose of PCV

Source:immunize.org/wp-content/uploads/catg.d/p2016.pdf

What about children with high-risk, immunocompetent conditions?

IMMUNIZE WISCONSIN

Children 2-18 Years with

- cerebrospinal fluid leak
- chronic heart disease
- chronic kidney disease (excluding maintenance dialysis and nephrotic syndrome)
- chronic liver disease
- chronic lung disease (including moderate persistent or severe persistent asthma)
- cochlear implant
- diabetes mellitus

Schedule for high risk conditions 2-5 years

IMMUNIZE WISCONSIN

Previous Doses	What to get today	Another dose?
Complete series of PCV with at least one dose of PCV20	NONE	N/A
Complete series of PCV but no PPSV23 and no PCV20	+8 weeks PCV20 or PPSV23	NONE
Incomplete, 3 dose of PCV	+8 weeks PCV20	NONE
Incomplete, <3 doses of PCV	+8 weeks PCV20	+8 weeks PCV20

Past schedules included a dose of PPSV23 but that is no longer part of the schedule

Schedule for high risk conditions 6-18 years*

*defer doses of PCV20 or PPSV23 during pregnancy

IMMUNIZE WISCONSIN

Previous Doses	What to get today	Another dose?
No doses of PCV13, PCV 15, or PCV 20	PCV 20 OR PCV 15	ONLY if PCV15 used then +8 weeks PPSV23
Complete series of PCV before age 6 years with at least one dose of PCV20	NONE	N/A
Complete series of PCV before age 6 years but no PPSV23 and no PCV20	+8 weeks PCV20 or PPSV23	NONE
Received PCV13 only on or after 6th birthday	+8 weeks PCV20 or PPSV23	NONE
Received PCV13 & PPSV23 on or after 6th birthday	NONE	N/A

IF PPSV23 is not available:

Use PCV20.

(ONLY if PCV15 used then +8 weeks PPSV23)

*defer doses of PCV20 or PPSV23 during pregnancy

What about children with highest risk, immunocompromising conditions?

IMMUNIZE WISCONSIN

Children 2-18 Years with

- Maintenance dialysis
- Immunocompromising conditions
  - Nephrotic syndrome
  - Asplenia (congenital/acquired)
  - Immunodeficiencies-congenital/ acquired
  - Meds or radiation
  - Cancers-organ/blood
  - Solid Organ transplant
  - Sickle cell/hemoglobinopathies

Schedule for highest risk conditions 2-5 years

IMMUNIZE WISCONSIN

Previous Doses	What to get today	Another dose?
Complete series of PCV with at least one dose of PCV20	NONE	N/A
Complete series of PCV but no PPSV23 and no PCV20	+8 weeks PCV20 or PPSV23	Only If PPSV23 used then +5 years PCV20 or PPSV23
Incomplete, 3 dose of PCV	+8 weeks PCV20	NONE
Incomplete, <3 doses of PCV	+8 weeks PCV20	+8 weeks PCV20

Past schedules included a dose of PPSV23 but that is no longer part of the schedule

Schedule for highest risk conditions 6-18 years*

IMMUNIZE WISCONSIN

Previous Doses	What to get today	Another dose?
No doses of PCV13, PCV 15, or PCV 20	PCV 20 OR PCV 15	ONLY if PCV15 used then +8 weeks PPSV23
Complete series of PCV before age 6 years with at least one dose of PCV20	NONE	N/A
Complete series of PCV before age 6 years but no PPSV23 and no PCV20	+8 weeks PCV20 or PPSV23	if PPSV23 used then +5 years PPSV23 or PCV20
Received PCV13 only on or after 6th birthday	+8 weeks PCV20 or PPSV23	if PPSV23 used then +5 years PPSV23 or PCV20
Received PCV13 & PPSV23 on or after 6th birthday	• If last dose was was PCV13 then +8 weeks PCV20 or PPSV23 • if last dose was PPSV23 then +5 years PCV20 or PPSV23	N/A

*defer doses of PCV20 or PPSV23 during pregnancy

IMMUNIZE WISCONSIN

What about Pneumococcal immunizations for adults?

Persons 19 years and older

Routine Schedule for Adults-all adults 50 years and older

- If no previous dose of PCV13, PCV15, PCV20, PCV21--then provide one dose of PCV15, PCV20, or PCV21
- If PCV15 is used then provide PPSV23 one year later (can be 8 weeks later for some high risk conditions). If PPSV23 is not available then can use PCV20 or PCV21
- Persons 65 years and older who have received PCV13 and PPSV23, may receive a dose of PCV20 or PCV21 with shared decision-making

Shared decision-making=Clinician can recommend for a patient or the patient can ask for the immunization. Consider with high risk patients. Does not require a separate consent form.

IMMUNIZE WISCONSIN

Recommendations for High Risk Persons-19 to 49 years

IMMUNIZE WISCONSIN

Immunocompromising conditions**

- chronic renal failure/nephrotic syndrome
- immunodeficiencies/iatrogenic immunosuppression
- generalized malignancy
- HIV infection
- Hodgkin disease/leukemia/lymphoma
- multiple myeloma
- solid organ transplant
- congenital or acquired asplenia
- sickle cell disease or other hemoglobinopathies.

Underlying medical conditions

- alcoholism
- chronic heart/liver/lung disease
- cigarette smoking
- cochlear implant**
- congenital or acquired asplenia
- CSF leak**
- diabetes mellitus

** For persons with these conditions, if using PCV15/PPSV23 series then spacing is 8 weeks, not one year. Also considered this spacing for persons 50 years and older with high risk conditions

Schedule for high-risk persons 19 and older

IMMUNIZE WISCONSIN

Previous Doses	What to get today	Extra doses
No previous doses of **PCV15**, **PCV15**, **PCV20**, or **PCV21**	**PCV15** OR **PCV20** OR **PCV21**	ONLY if **PCV15** used then +1 year **PPSV23***
Only received PCV7	same as above	same as above
Only received **PCV13**	+1 year **PCV20** or **PCV21**	N/A
Only received **PPSV23**	+1 year **PCV15** or **PCV20** or **PCV21**	N/A, even if using **PCV15**, no additional doses are indicated
PCV13 and **PPSV23**	+5 year **PCV20** or **PCV21**	N/A

* *Persons who have an immunocompromising condition, cochlear implant or CSF leak can receive PPSV23 after 8 weeks

Mobile App and web version

PneumoRecs VaxAdvisor

Tool to help determine which pneumococcal vaccines children and adults need.

https://www.cdc.gov/pneumococcal/hcp/vaccine-recommendations/app.html

Last updated 12/2024

Centers for Disease Control and Prevention
CDC 24/7: Saving Lives, Protecting People™

Pneumococcal Vaccine Recommendations

Please select the age group:

<19 years | 19 through 49 years | ≥50 years

More Resources

Pneumococcal ACIP Vaccine Recommendations

Recommended Immunization Schedule for Adults

Recommended Immunization Schedule for Children and Adolescents

Pneumococcal Vaccination: Information for Healthcare Professionals

Pneumococcal Vaccine Timing for Adults (PDF)

Pneumococcal Vaccine Shared Clinical Decision-Making for Adults (PDF)

Page last reviewed: December 11, 2024

IMMUNIZE WISCONSIN

6 year–old with diabetes

Enter your patient's birth date

Month | Day | Year

Continue

IMMUNIZE WISCONSIN

Home

Does the patient have any of the following risk conditions?

- [ ] **No risk factors**
- [ ] **Chronic medical conditions (See below)**
- [ ] **Immunocompromising conditions (See below)**

Chronic medical conditions

- Cerebrospinal fluid leak
- Chronic heart[1], kidney[2], liver, or lung[3] disease
- Cochlear implant
- Diabetes mellitus

Footnotes:
1. Particularly cyanotic congenital heart disease and cardiac failure
2. Excluding maintenance dialysis and nephrotic syndrome, which are immunocompromising conditions
3. Including moderate persistent or severe persistent asthma

Immunocompromising conditions

- Congenital or acquired asplenia or splenic dysfunction
- Congenital or acquired immunodeficiency[4]
- Diseases or conditions treated with immunosuppresive drugs or radiation therapy[5]
- HIV infection
- Maintenance dialysis or with nephrotic syndrome
- Sickle cell disease and other hemoglobinopathies
- Solid organ transplant

Footnotes:
4. Includes B-(humoral) or T-lymphocyte deficiency; complement deficiencies, particularly C1, C2, C3, and C4 deficiency; and phagocytic disorders (excluding chronic granulomatous disease)
5. Including malignant neoplasms, leukemias, lymphomas, and Hodgkin disease

IMMUNIZE WISCONSIN

Home

Has the patient ever received PCV13, PCV15 or PCV20?

- No
- Yes

Home

Any prior doses of PPSV23?

- No
- Yes

CDC Centers for Disease Control and Prevention
CDC 24/7: Saving Lives, Protecting People™

Search

Pneumococcal Vaccine Recommendations

PneumoRecs VaxAdvisor

Recommendation

If at least 1 dose of PCV20 was given at any age, schedule is complete. If PCV15 was given **at or after age 72 months**, then give 1 dose of PPSV23 at least 8 weeks after most recent dose of PCV13 or PCV15. Schedule is then complete. If PCV13 was given (at any age) or PCV15 was given **only before age 72 months**, then give 1 dose of either PCV20 or PPSV23 at least 8 weeks after most recent dose of PCV13 or PCV15. Schedule is then complete.

Print the recommendation

Restart

Patient Characteristics

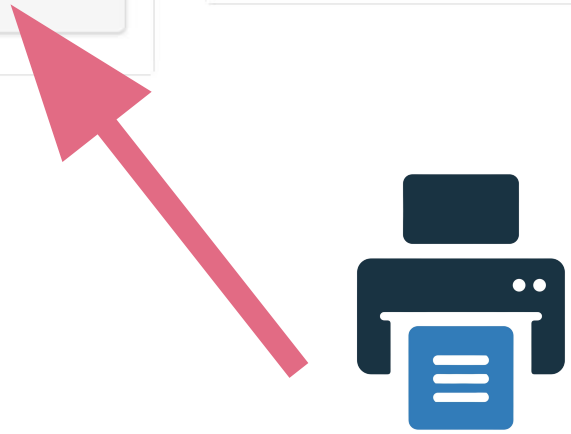
Age:
6 years, 2 months, 23 days
Risk Factors:
Chronic medical conditions

PCV13, PCV15, or PCV20:
Has received prior doses

PPSV23:
No prior doses

More Resources

- Pneumococcal ACIP Vaccine Recommendations
- Recommended Immunization Schedule for Adults
- Recommended Immunization Schedule for Children and Adolescents
- Pneumococcal Vaccination: Information for Healthcare Professionals
- Pneumococcal Vaccine Timing for Adults (PDF)
- Pneumococcal Vaccine Shared Clinical Decision-Making for Adults (PDF)



IMMUNIZE WISCONSIN

VACCINE INFORMATION STATEMENT

Pneumococcal Conjugate Vaccine: *What You Need to Know*

Many vaccine information statements are available in Spanish and other languages. See www.immunize.org/vis

Hojas de información sobre vacunas están disponibles en español y en muchos otros idiomas. Visite www.immunize.org/vis

1. Why get vaccinated?

Pneumococcal conjugate vaccine can prevent **pneumococcal disease**.

Pneumococcal disease refers to any illness caused by pneumococcal bacteria. These bacteria can cause many types of illnesses, including:

- Pneumonia (infection of the lungs)
- Ear infections
- Sinus infections
- Meningitis (infection of the tissue covering the brain and spinal cord)
- Bacteremia (bloodstream infection)

Anyone can get pneumococcal disease, but young children, older adults, and people with certain risk factors are at the highest risk.

Most pneumococcal infections are mild. However, some can result in long-term problems, such as brain damage or hearing loss. Meningitis, bacteremia, and pneumonia caused by pneumococcal disease can lead to death.

2. Pneumococcal conjugate vaccine

Pneumococcal conjugate vaccine helps protect against bacteria that cause pneumococcal disease. There are several pneumococcal conjugate vaccines (PCVs). The specific PCV and number of doses recommended are based on a person's age, vaccination history, and medical status. Your health care provider can help you determine which type of PCV, and how many doses, should be received.

- **Infants and young children** usually need 4 doses of PCV. These doses are recommended at 2, 4, 6, and 12–15 months of age.
- Certain **older children and adolescents** who did not receive the recommended doses as infants or young children need PCV. This depends on age and medical conditions, or other risk factors.
- **Adults 19 through 49 years old** who have not received PCV and have certain medical conditions or other risk factors should receive PCV. Some adults in this group who have already received PCV might be recommended to receive another dose.
- **Adults 50 years or older** who have not previously received PCV should receive a PCV vaccine. Some adults in this group who have already received PCV might be recommended to receive another dose.

3. Talk with your health care provider

Tell your vaccination provider if the person getting the vaccine:

- Has had an **allergic reaction after a previous dose of any type of PCV, or to any vaccine containing diphtheria toxoid** (for example, DTaP), or has any **severe, life-threatening allergies**

In some cases, your health care provider may decide to postpone PCV until a future visit.

People with minor illnesses, such as a cold, may be vaccinated. People who are moderately or severely ill should usually wait until they recover.

Your health care provider can give you more information.

CDC U.S. CENTERS FOR DISEASE CONTROL AND PREVENTION

VACCINE INFORMATION STATEMENT

Pneumococcal Polysaccharide Vaccine (PPSV23): *What You Need to Know*

Many vaccine information statements are available in Spanish and other languages. See www.immunize.org/vis

Hojas de información sobre vacunas están disponibles en español y en muchos otros idiomas. Visite www.immunize.org/vis

1. Why get vaccinated?

Pneumococcal polysaccharide vaccine (PPSV23) can prevent **pneumococcal disease**.

Pneumococcal disease refers to any illness caused by pneumococcal bacteria. These bacteria can cause many types of illnesses, including:

- Pneumonia (infection of the lungs)
- Ear infections
- Sinus infections
- Meningitis (infection of the tissue covering the brain and spinal cord)
- Bacteremia (bloodstream infection)

Anyone can get pneumococcal disease, but young children, older adults, and people with certain risk factors are at the highest risk.

Most pneumococcal infections are mild. However, some can result in long-term problems, such as brain damage or hearing loss. Meningitis, bacteremia, and pneumonia caused by pneumococcal disease can lead to death.

2. PPSV23

PPSV23 helps protect against 23 types of bacteria that cause pneumococcal disease.

PPSV23 is recommended as an option for some children and adolescents with certain medical conditions or risk factors.

For adults, PPSV23 is recommended following a dose of 15-valent pneumococcal conjugate vaccine (PCV15).

Your health care provider can give you more information.

3. Talk with your health care provider

Tell your vaccine provider if the person getting the vaccine:

- Has had **an allergic reaction after a previous dose of PPSV23,** or has any **severe, life-threatening allergies**.

In some cases, your health care provider may decide to postpone PPSV23 vaccination to a future visit.

People with minor illnesses, such as a cold, may be vaccinated. People who are moderately or severely ill should usually wait until they recover before getting PPSV23.

Your health care provider can give you more information.

CDC U.S. CENTERS FOR DISEASE CONTROL AND PREVENTION

IMMUNIZE WISCONSIN

May 2025

Final notes

IMMUNIZE WISCONSIN

- What if you don't know the previous doses?
- Are pneumococcal vaccines covered under insurance?
- Are pneumococcal vaccines covered under VFC?
- Are pneumococcal vaccines covered under Medicare Part B?
- Are clinicians obligated to report adverse events to VAERS* (vaers.hhs.gov)?

*Announced 3/11/26 this is changing to a drug and vaccine platform called the FDA Adverse Event Monitoring System (AEMS)

RESOURCES

IMMUNIZE WISCONSIN

- "PinkBook"–cdc.gov/pinkbook/hcp/table-of-contents/chapter-17-pneumococcal-disease.html
- CDC overview of pneumococcal infections cdc.gov/pneumococcal/hcp/clinical-overview/index.html
- cdc.gov/pneumococcal/hcp/vaccine-recommendations/risk-indications.html
- cdc.gov/pneumococcal/downloads/Vaccine-Timing-Adults-JobAid.pdf
- chop.edu/vaccine-education-center/vaccine-details/pneumococcal-vaccine
- immunize.org/ask-experts/topic/pneumococcal/
- AAP.org/ImmunizationSchedule
- aafp.org/family-physician/patient-care/prevention-wellness/immunizations-vaccines/immunization-schedules.html
- cdc.gov/vaccines/hcp/current-vis/pneumococcal-conjugate.htm
- cdc.gov/vaccines/hcp/current-vis/downloads/ppv.pdf
- merckmanuals.com/professional/infectious-diseases/gram-positive-cocci/pneumococcal-infections
- https://doi.org/10.1016/j.vaccine.2014.02.096

Questions

IMMUNIZE WISCONSIN