

Tip Sheet for Pneumococcal Vaccination for High-Risk Patients

Developed in Collaboration with Children's Mercy Infectious Diseases

Pediatric patients who have certain chronic medical conditions or are immunocompromised have an increased risk of acquiring invasive pneumococcal disease. Based on new CDC/ACIP approved guidelines released in Fall 2023, high risk patients 2 years or older can be protected with the administration of pneumococcal conjugate vaccines (PCV15, PCV20) and/or a pneumococcal polysaccharide vaccine (PPSV23). High risk patients are those patients with the following conditions:

Non-Immunocompromising Conditions

- Cerebrospinal Fluid Leak
- Cochlear Implant
- Chronic Heart Disease (Particularly Cyanotic Congenital Heart Disease and Cardiac Failure, Excluding Hypertension)
- Chronic Liver Disease
- Chronic Lung Disease (e.g. Cystic Fibrosis)
- Diabetes Mellitus (Type 1 and Type 2)

Immunocompromising Conditions

- Asplenia
- Chronic Renal Failure (Chronic Kidney Disease Stage 2 or Higher)
- Nephrotic Syndrome
- HIV Infection
- Leukemia, Lymphoma, and Other Malignancies
- Primary Immunodeficiency (Exclude Chronic Granulomatous Disease)
- Sickle Cell Disease (or Other Hemoglobinopathies)
- Solid Organ Transplantation
- Other Diseases Associated with Treatment with Immunosuppressive Medications or Radiation Therapy

Call to Action!

Please help to vaccinate high-risk children with PCV15, PCV20, & PPSV23 (if available)

Important Insight: PCV15/PCV20 are considered as equivalent vaccines by the CDC/ACIP for the routine PCV immunization schedule. However, administering at least one dose of PCV20 avoids having to administer any doses of PPSV23 to high risk patients!

Important: If PPSV23 is administered, a second dose of either PPSV23/PCV20 is recommended for these immunocompromising conditions at least 5 years after dose 1 of PPSV23.

CDC Clinical Guidelines to Administer PCV15, PCV20, and PPSV23 Vaccinations

Ages 2 through 5 Years Old

- History of 4 Standard/Routine PCV Vaccinations (4-Dose Series at 2, 4, 6, and 12-15 Months)
 - o Previously Received at Least 1 PCV20: PPSV23 Dose is **Not Needed**
 - o No Previous PCV20: 1 Dose PCV20 OR PPSV23 (at least 8 weeks after last PCV dose)
- History of 3 PCV Doses
 - o **Catch Up:** 1 Dose PCV (at least 8 weeks after prior PCV dose) After Catch Up
- History of Less than 3 PCV Doses
 - o **Catch Up:** 2 Doses PCV (8 weeks after the most recent dose and administered 8 weeks apart) After Catch Up

Ages 6 through 18 Years Old

- No History of PCV:
 - Option 1:
 - o 1 Dose PCV20
 - Option 2:
 - o 1 Dose PCV15
 - o 1 Dose PPSV23 (at least 8 weeks after last PCV dose)
- History of Any PCV:
 - Previously Received at Least 1 PCV20: PPSV23 Dose is **Not Needed**
 - No Previous PCV20: 1 Dose PCV20 OR PPSV23 (at least 8 weeks after last PCV dose)

Important References:

- PCV13 Replaced PCV7 in 2010
- PCV15 Replaced PCV13 in Sept 2023
- PCV20 Included in Standard PCV Schedule Starting in Sept 2023

Important: Do not administer PCV15 and PPSV23 at the same visit. PPSV23 should be given at least 8 weeks after last PCV15. **Why?** PPSV23 may blunt the immune response to PCV15.

Children's Mercy specialists welcome and appreciate primary care collaboration to increase PCV15/PCV20/PPSV23 vaccinations for these high-risk patients. Our efforts will help to improve health outcomes!

Common Concerns Around Pneumococcal Vaccination

Blood Transfusions: Receiving blood products (including Intravenous immunoglobulins) does not impact whether or when pneumococcal vaccinations should be administered.

Immunosuppressive Therapies/Medications: Pneumococcal vaccines are inactivated vaccines and can be administered safely to patients with immunocompromising conditions. Timing of vaccination after transplantation or during chemotherapy should be coordinated with the subspecialist.

Contraindications: The only contraindication to the pneumococcal vaccines is a severe allergy to a previous dose of the vaccine or one of its components.

The CDC recommends to not administer PCV to:

- A person who has ever had a severe allergic reaction (e.g., anaphylaxis) after a previous dose of PCV or to any vaccine containing diphtheria toxoid
- A person with a severe allergy to any component of this vaccine

The CDC recommends to not administer PPSV23 to:

- A person who has ever had a severe allergic reaction (e.g., anaphylaxis) after a previous dose
- A person with a severe allergy to any component of this vaccine

Precaution for Patients with Moderate/Severe Acute Illness: Clinicians may administer pneumococcal vaccines, if the provider and parent or patient deems the benefits of vaccination to outweigh the risks, to a person who has a moderate or severe acute illness with or without fever.

Other Vaccinations: You can administer PCV or PPSV23 at the same time as most other routine childhood vaccinations, with one exception.

- Do not give PCV with Menactra®, a meningococcal conjugate vaccine.

Pneumococcal Vaccination Improvement

Why is this important to patient health outcomes?

Invasive pneumococcal disease (IPD) is a major cause of morbidity and mortality in children, particularly those with chronic medical conditions and immune deficiencies. Children with a high-risk condition have an increased risk of hospitalization and death from IPD. Evidence supports PCV and PPSV23 vaccination to reduce pneumococcal disease.

Why are many high-risk patients not properly vaccinated?

Based on our discussions with primary care providers and specialists, two main factors include lack of awareness of clinical recommendations and a lack of recognized accountability. Many specialists and many primary care providers thought pneumococcal vaccinations for high-risk patients were the responsibility of the other group. Also, many primary care practices do not stock PPSV23 (low volumes often prohibit) while many specialty clinics do not stock and administer PCV vaccines.

Objective & Aim: We are striving for a collaborative effort across specialty care and primary care settings to help these high-risk patients receive the necessary pneumococcal vaccinations regardless of where the vaccinations are administered.

How are we informing practices of pneumococcal vaccinations received?

All vaccinations captured in Children's Mercy's electronic medical records (EMR) and your practice's EMR are integrated into the Children's Mercy Integrated Care Solutions Population Health Management platform (Innovaccer). This data platform is used to share vaccination history across both settings at the point of care (Innovaccer InNote, Automated Pre-Visit Planning Reports for Children's Mercy specialty clinics).

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Questions or Need Additional Information: Please Email CMICS staff at ProviderRelations@cmprn.org.