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. The pneumococcal conjugate vaccine (PCV13) and the pneumococcal polysaccharide vaccine (PPSV23) are recommended for patients 2 years or older with the following conditions:

Call to Action!
Please help to vaccinate high-risk children with PCV13 (and PPSV23 if available).

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

Important: A second dose of PPSV23 is recommended for these immunocompromising conditions at least 5 years after dose 1 of PPSV23.

CDC Clinical Guidelines to Administer PCV13 and PPSV23 Vaccinations[1]

Ages 2 through 5 Years Old

- History of Standard PCV13 Vaccinations
  (4-Dose Series at 2, 4, 6, and 12-15 Months)
  - 1 Dose PPSV23 (at least 8 weeks after last PCV13 dose)
- History of 3 PCV13 Doses
  - 1 Dose PCV13 (at least 8 weeks after prior PCV13 dose)
  - 1 Dose PPSV23 (at least 8 weeks after last PCV13 dose)
- History of Less than 3 PCV13 Doses
  - 2 Doses PCV13 (8 weeks after the most recent dose and administered 8 weeks apart)
  - 1 Dose PPSV23 (at least 8 weeks after last PCV13 dose)

Ages 6 through 18 Years Old

- No History of PCV13
  - 1 Dose PCV13
  - 1 Dose PPSV23 (at least 8 weeks after last PCV13 dose)
- History of Any PCV13
  - 1 Dose PPSV23 (at least 8 weeks after last PCV13 dose)
- History of PPV23 But No PCV13
  - 1 Dose PCV13 (at least 8 weeks after PPSV23 dose)

Important: Many patients 10+ years old have not had PCV13 vaccinations because PCV7 was replaced by PCV13 in 2010.

Important: Do not administer PCV13 and PPSV23 at the same visit. PPSV23 should be given at least 8 weeks after last PCV13. **Why?** PPSV23 may blunt the immune response to PCV13.

Children's Mercy specialists welcome and appreciate primary care collaboration to increase PCV13/PPSV23 vaccinations for these high-risk patients. Our efforts will help to improve health outcomes!

[1]2021 CDC/ACIP Recommended Child and Adolescent Immunization Schedule for Ages 18 Years or Younger (https://www.cdc.gov/vaccines/schedules/downloads/child/0-18yrs-child-combined-schedule.pdf)

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 PCV13 to:

- A person who has ever had a severe allergic reaction (e.g., anaphylaxis) after a previous dose of PCV7 or PCV13 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 PCV13 or PPSV23 at the same time as most other routine childhood vaccinations, with one exception.

- Do not give PCV13 with Menactra®, a meningococcal conjugate vaccine.

Pneumococcal Vaccination Improvement

FAQ

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 PCV13 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 PCV13.

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).

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

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