Pneumococcal Vaccine, 23-valent Polysaccharide (Pneumo-P)

Revision Date: March 15, 2018

Rationale for update: Clarifying eligibility for individuals with cancer and past history of cancer.

Please consult the Product Monograph¹ for further information about the vaccine.

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<th><strong>PNEUMOVAX® 23</strong></th>
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**Indications for use of provincially funded vaccine**

Pneumococcal conjugate vaccine may also be recommended for individuals at highest risk of invasive pneumococcal disease (IPD).

See Biological Products: Pneumococcal 13-valent Conjugate Vaccine for these risk groups.

- All individuals 65 years of age and older.³
  
  **Note:** All individuals should receive one dose of Pneu-P-23 after they turn 65 years of age – as long as 5 years have passed since a previous Pneu-P-23, regardless of their prior immunization history.³

- All residents of long-term facilities³

- All individuals 2 years of age and older with:
  - Alcoholism³.
  - Asplenia/hyposplenism (functional or anatomic)³.
  - Chronic cardiac disease³
  - Chronic cerebral spinal fluid (CSF) leak³.
  - Chronic liver disease, including hepatic cirrhosis due to any cause, hepatitis B carriers and hepatitis C infection³.
  - Chronic neurologic conditions that may impair clearance of oral secretions.³
  - Chronic pulmonary disease (including asthma requiring medical treatment within the last 12 months regardless of whether they are on high dose steroids).³,⁴
  - Chronic renal disease, including nephrotic syndrome³.
  - Cochlear implants (candidates and recipients)³.
  - Congenital immune deficiencies involving any part of the immune system, including B-lymphocyte (humoral) immunity; T-lymphocyte (cell) mediated immunity; complement system (properdin or factor D deficiencies); or phagocytic functions.³
  - Diabetes mellitus³.
  - Hematopoietic stem cell transplant (HSCT) recipients³. See:
    - Immunization for Child Hematopoietic Stem Cell Transplant Recipients and
    - Immunization for Adult Hematopoietic Stem Cell Transplant Recipients.
  - HIV infection³.
Immunosuppressive therapy including:

- use of long term corticosteroids,
- chemotherapy,
- radiation therapy,
- post-organ transplant therapy,
- biologic and non-biologic immunosuppressive therapies for:
  - inflammatory arthropathies, e.g., systemic lupus erythematosus (SLE), rheumatoid or juvenile arthritis,
  - inflammatory dermatological conditions, e.g., psoriasis, severe atopic dermatitis and eczema, and
  - inflammatory bowel disease, e.g., Crohn’s disease, ulcerative colitis.

For additional information see: Immunization of Specific Populations.

Note: Individuals prescribed eculizumab (Soliris®) are at increased risk of serious infections, especially with encapsulated bacteria, such as Streptococcus pneumoniae; therefore, they should receive pneumococcal polysaccharide vaccine at least eight weeks after receiving Prevnar® 13. See scheduling for further spacing information.

Malignant hematologic disorders (affecting the bone marrow or lymphatic system) including leukemia, lymphoma, Hodgkin’s disease and non-Hodgkin’s lymphomas, and multiple myeloma.

Malignant solid organ tumors either currently or within past 5 years.

Living in homeless/chronically disadvantaged situations:

- Definition: At the time of diagnosis, the individual did not have an address or home (apartment, townhouse, etc.). This would include people staying in shelters, cars, etc.
- Document “No Fixed Address” under home address. If the individual is using a friend/relative’s mailing address, it can be included in brackets under home address.

Sickle cell disease and other hemoglobinopathies.

Solid organ or islet transplant (SOT) candidates and recipients

- Immunization for Children Expecting Solid Organ Transplant at 18 Months of Age or Older (Catch-up Schedule) and
- Immunization for Adult Solid Organ Transplant Candidates and Recipients.

Illicit injection drug use.

Post-exposure

Previous IPD does not confer immunity or preclude immunization with pneumococcal vaccine.

For disease investigation and reporting requirements refer to Public Health Notifiable Disease Management Guidelines – Invasive Pneumococcal Disease.

| Use in children younger than two years of age | Not recommended for children younger than two years of age due to inadequate immune response. |
| Dose | 0.5 mL |
| Route | Intramuscular or subcutaneous injection |
One dose for most individuals

Notes:
- If possible, vaccine should be administered at least 14 days before splenectomy or initiation of immunosuppressive therapy. 3
- If vaccine cannot be administered before initiation of immunosuppressive therapy, generally a period of at least 3 months should elapse between therapy cessation and the vaccine. 3
  - If immunosuppressive therapy will be long term/ongoing and/or for those with malignant solid organ tumors or malignant hematological disorders, currently undergoing immunosuppressive therapy the vaccine should be administered as soon as possible. 3
- When both pneumococcal conjugate vaccine and pneumococcal polysaccharide vaccine are indicated, the pneumococcal conjugate vaccine should be administered first with a minimum interval of at least eight weeks between the two vaccines. 3 However, if pneumococcal polysaccharide vaccine has already been administered, there must be an interval between doses as specified below:
- Children 2 – 17 years of age: pneumococcal conjugate vaccine may be administered with a minimal interval of at least eight weeks after the pneumococcal polysaccharide vaccine. 3,7,8
- Adults 18 years of age and older: pneumococcal conjugate vaccine may be administered with a minimal interval of at least one year after the pneumococcal polysaccharide vaccine. 3,9,10

Reinforcing dose: A one-time reinforcing dose should be offered 5 years later to those who have:
- Asplenia/hyposplenism (functional or anatomic). 1,2,3
- Chronic renal failure or nephrotic syndrome. 1,2,3
- Chronic liver disease including hepatic cirrhosis. 2
- Congenital immunodeficiencies involving any part of the immune system. 2,3
- HIV infection. 1,2,3
- HSCT recipients may be an exception to this recommendation – see:  
  - Immunization for Child Hematopoietic Stem Cell Transplant Recipients  
  - Immunization for Adult Hematopoietic Stem Cell Transplant Recipients  
- Immunosuppression related to therapy including: 3
  - use of long term corticosteroids,  
  - chemotherapy  
  - radiation therapy  
  - post-organ transplant therapy,  
  - biologic and non-biologic immunosuppressive therapies (e.g. Soliris® medication) for:  
    - inflammatory arthropathies, e.g. systemic lupus erythematosus (SLE), rheumatoid or juvenile arthritis,  
    - inflammatory dermatological conditions, e.g., psoriasis, severe atopic dermatitis and eczema, and  
    - inflammatory bowel disease, e.g., Crohn’s disease, ulcerative colitis.  
- Malignant hematological disorders (affecting the bone marrow or lymphatic system) including leukemia, lymphoma Hodgkin’s disease and non-Hodgkin’s lymphoma and multiple myeloma 1,2,3
- Sickle cell disease
- SOT candidates and recipients - see:
  - Immunization for Children Expecting Solid Organ Transplant at 18 Months of Age or Older (Catch-up Schedule)
  - Immunization for Adult Solid Organ Transplant Candidates and Recipients

**Notes:** Individuals with underlying medical conditions would be eligible for a dose after turning 65 years of age – as long as 5 years have passed since a previous Pneumo-P, regardless of their prior immunization history.

Pneumococcal conjugate vaccine may also be recommended for individuals at highest risk of IPD. See Pneumococcal 13-valent Conjugate Vaccine: Prevnar® 13 for risk groups.

### Contraindications
- Known severe hypersensitivity to any component of Pneumovax® 23.
- Anaphylactic or other allergic reaction to a previous dose of vaccine containing pneumococcal antigen

### Precautions
- Pneumovax® 23 will only protect against serotypes of *S. pneumoniae* that are contained in the vaccine. It will not protect against other micro-organisms that cause invasive infection, otitis media and pneumonia.
- If antibiotics for prophylaxis against pneumococcal infection are required, these should not be discontinued after immunization with Pneumovax® 23.
- Pneumococcal vaccine should be given at least 14 days prior to initiation of immunosuppressive therapy (cancer chemotherapy and other immunosuppressive therapies) when possible.

### Possible reactions
| Common: | Injection site pain, soreness, erythema, warmth, swelling, local induration. |
| Uncommon: | Chills, malaise, nausea, vomiting, lymphadenitis, lymphadenopathy, rash, urticaria, arthralgia, and paresthesia. |
| Rare: | Cellulitis-like reactions. |

**Notes:**
- Re-immunization of healthy adults less than two years after the initial dose is associated with increased local and systemic reactions.
- Re-immunization after intervals of 3 – 5 years may be associated with higher adverse events particularly, pain and/or induration at the injection site.
- Individuals who have had pneumococcal infections prior to vaccine administration may have increased reactions to pneumococcal vaccine usually localized to the injection site but may be systemic.

Refer to: Adverse Events Following Immunization (AEFI), Policy for Alberta Immunization Providers.
Pregnancy
Pregnant women with conditions that are a risk for IPD should receive pneumococcal vaccine as indicated.³

Lactation
Breastfeeding women with conditions that are a risk for IPD should receive pneumococcal vaccine as indicated.³

References