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

Revision Date: March 1, 2023

Rationale for Update:

- Updated precautions to include co-administration of Shingrix vaccine.

Please consult the Product Monograph[1] for further information about the product.	
	PNEUMOVAX® 23
Manufacturer	Merck Canada Inc.
Licensed use	Individuals 2 years of age and older
Off-license use	None
Indications for use of provincially funded vaccine	• All individuals 65 years of age and older.[3] • **Note**: Individuals are eligible for one dose of Pneumo-P after they turn 65 years of age – as long as 5 years have passed since a previous Pneumo-P.[3] • All residents of long-term facilities.[3] • All individuals 2 years of age and older with conditions/circumstances that place them at higher-risk for invasive pneumococcal disease (IPD): ➢ Alcoholism[3]. ➢ Asplenia/hyposplenism (functional or anatomic) [3]. ➢ Chronic cardiac disease[3] ➢ Chronic cerebral spinal fluid (CSF) leak[3]. ➢ Chronic liver disease, including hepatic cirrhosis due to any cause, hepatitis B carriers and hepatitis C infection[3]. ➢ 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 syndrome[3]. ➢ 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 mellitus[3]. ➢ Hematopoietic stem cell transplant (HSCT) recipients[3]. See: ▪ Immunization for Child Hematopoietic Stem Cell Transplant Recipients and ▪ Immunization for Adult Hematopoietic Stem Cell Transplant Recipients. ➢ HIV infection[3].

	➢ Immunosuppressive therapy including: [3] ▪ 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. **Note:** Individuals prescribed eculizumab (Soliris®) are at increased risk of serious infections, especially with encapsulated bacteria, such as *Streptococcus pneumoniae;*[5] therefore, they should receive pneumococcal polysaccharide vaccine at least eight weeks after receiving Prevnar® 13. See scheduling for further spacing information. For additional information see: Immunization of Specific Populations. ➢ Malignant hematologic disorders (affecting the bone marrow or lymphatic system) including leukemia, lymphoma, Hodgkin's disease and non- Hodgkin's lymphomas, and multiple myeloma.[1,3,8] ➢ Malignant solid organ tumors either currently or within past 5 years. ➢ Living in homeless/chronically disadvantaged situations: [3] ▪ 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.[3] ➢ Solid organ or islet transplant (SOT) candidates and recipients[3] See: ▪ 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 drug use.[3] **Note:** • Pneumococcal conjugate vaccine may also be recommended for individuals at highest risk of IPD. See Biological Products: Pneumococcal 13-valent Conjugate Vaccine for these risk groups. • Individuals 18 years of age and older, including those with conditions that place them at higher risk for IPD, who have received 20-valent pneumococcal conjugate vaccine (PCV20), according to the schedule(s) outlined in the product monograph, are not recommended to receive Pneumo-P at this time.[12] **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.*[6]

Dose	0.5 mL
Route	Intramuscular or subcutaneous injection
Schedule	**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.[3,9,10,13] **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 and ➢ Immunization for Adult Hematopoietic Stem Cell Transplant Recipients.[1,2,3] • 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[1,2,3] • SOT candidates and recipients - see: ➢ 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.[1,2,3] **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.[2,8] 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.[1] • If antibiotics for prophylaxis against pneumococcal infection are required, these should not be discontinued after immunization with Pneumovax® 23.[11] • Pneumococcal vaccine should be given at least 14 days prior to initiation of immunosuppressive therapy (cancer chemotherapy and other immunosuppressive therapies)[1,3] when possible. • Fever and shivering were more frequent when Pneumovax® 23 vaccine was co-administered with Shingrix®.[14]
Possible reactions	See Product Monograph
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]
Program Notes	• 1997 April – Pneumovax®23 and Pneumo 23® Pneumococcal polysaccharide vaccine introduced into program for high risk groups except 65 years of age and older. End date for Pneumo 23® 2008-09. • 1998 Fall – Pneumococcal polysaccharide vaccine for individuals 65 years of age and older. • 2014 October – Illicit drug use added to indications. • 2015 February 10 – Expanded indication for immunosuppressive therapy regarding medication Solaris®

	• 2019 January 1 – Vaccine becomes available at pharmacies for healthy individuals age 65 years of age and older. • 2022 December 9 – Updated recommendation for adults who privately purchase 20-valent pneumococcal conjugate vaccine. • 2023 March 1- Updated precautions to include co-administration of Shingrix® vaccine.

References

[1] Merck Canada Inc. (2016, April 15). PNEUMOVAX® 23: Pneumococcal vaccine, polyvalent, MSD Std. *Product Monograph*.

[2] National Advisory Committee on Immunization. (2015, April). Re-immunization with polysaccharide 23-valent pneumococcal vaccine (Pneu-P-23).

[3] National Advisory Committee on Immunization. (2017). *Canadian Immunization Guide* (Evergreen ed.). Ottawa, ON: Public Health Agency of Canada. www.canada.ca/en/public-health/services/canadian-immunization-guide.html

[4] Public Health Agency of Canada. (2014). An Advisory Committee Statement National Advisory Committee on Immunization: Update on the Use of Pneumococcal Vaccines: Addition of Asthma as a High-Risk Condition.

[5] Alexion Pharma International Sàrl. (2013-05-31). PrSOLIRIS® (eculizumab). *Product Monograph.*

[6] Alberta Health. *Public Health Notifiable Disease Management Guidelines - Pneumococcal disease, invasive*. www.health.alberta.ca/professionals/notifiable-diseases-guide.html

[7] US Centers for Disease Control and Prevention. (2013, June 28). Use of 13-Valent Pneumococcal Conjugate Vaccine and 23-Valent Pneumococcal Polysaccharide Vaccine among Children Aged 6 – 18 Years with Immunocompromising Conditions: Recommendations of the Advisory Committee on Immunization Practices (ACIP). *Morbidity and Mortality Weekly Report, 62(25)*. Retrieved July 12, 2013 from, www.cdc.gov/mmwr/preview/mmwrhtml/mm6225a3.htm

[8] Immunization Action Coalition. (2017,December 15). Ask the Experts.. Retrieved December 22, 2017 from, http://www.immunize.org/askexperts/experts_pneumococcal_vaccines.asp.

[9] National Advisory Committee on Immunization. (2013, October). Advisory Committee Statement – Statement on the use of conjugate pneumococcal vaccine – 13 valent in adults (Pneu-C-13). Canadian Communicable Disease Report: 39(ACS-5).

[10] US Centers of Disease Control and Prevention. (2012, October). Use of 13-valent pneumococcal conjugate vaccine and 23-valent pneumococcal polysaccharide vaccine for adults with immunocompromising conditions: Recommendations of the Advisory Committee on Immunization Practices (ACIP). *Morbidity and Mortality Weekly Report 61(40).* Retrieved June 7, 2013 from, www.cdc.gov/mmwr/preview/mmwrhtml/mm6140a4.htm

[11] Grabenstein, J. D. (2012). *ImmunoFacts: Vaccines and Immunologic Drugs 2013*. St. Louis, MO: Wolters Kluwer Health.

[12] Immunization Action Coalition. (July 26, 2022) Ask the Experts: Pneumococcal Vaccines. https://www.immunize.org/askexperts/experts_pneumococcal_vaccines.asp#rec_adult.

[13] US Centers of Disease Control and Prevention. (2022 January 28) Morbidity and Mortality Weekly Report. Use of 15-Valent Pneumococcal Conjugate Vaccine and 20-Valent Pneumococcal Conjugate Vaccine Among U.S. Adults: Updated Recommendations of the Advisory Committee on Immunization Practices. www.cdc.gov/mmwr/volumes/71/wr/mm7104a1.htm

[14] GlaxoSmithKline (2022, November 15). Shingrix®: Herpes Zoster vaccine (non-live recombinant, $AS01_B$ adjuvanted). *Product Monograph*. https://ca.gsk.com/media/6259/shingrix-pm-en.pdf

