

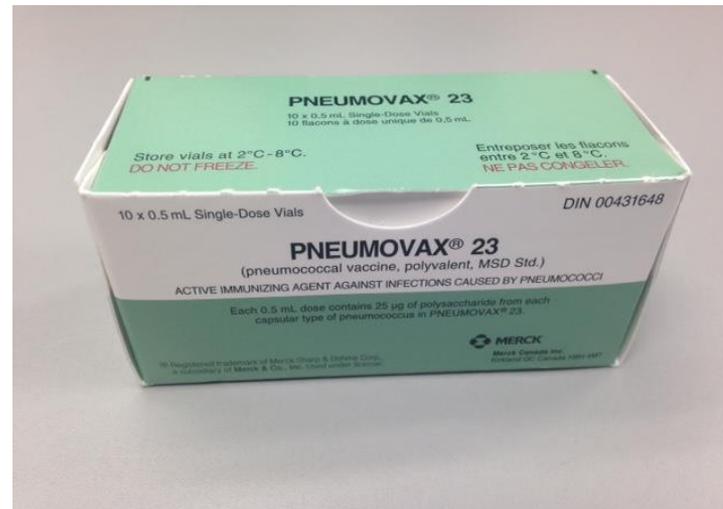
# ***Pneumococcal Vaccines***

**What's right for your clients?**



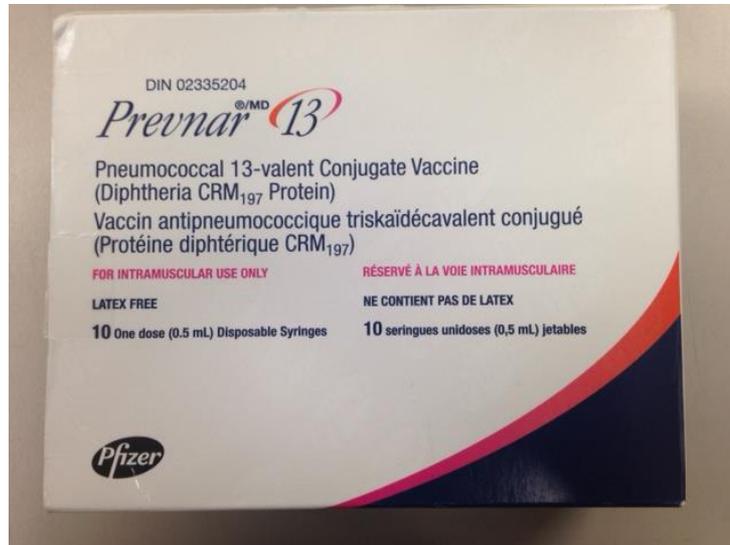
# Vaccines Available - Pneumovax 23

- A [pneumococcal polysaccharide vaccine](#) that includes 23 purified capsular polysaccharide antigens



# Vaccines Available - Prevnar 13

- A [pneumococcal protein-conjugate vaccine](#) that includes capsular polysaccharide antigens covalently linked to a nontoxic protein that is nearly identical to diphtheria toxin



## Polysaccharide vs. Conjugate vaccines

Property	Polysaccharide	Conjugate
Immunogenicity children <2 years	NO	YES
B cell dependent immune response	YES	YES
T cell dependent immune response	NO	YES
Immune memory	NO	YES
Booster effect	NO	YES
Long term protection	NO	YES
Reduction of carriage	NO	YES
Herd immunity	NO	YES

# Prevention

The epidemiology of IPD and vaccine uptake:

- Markedly reduced incidence with the use of effective conjugate vaccines in children and high risk adults (Pneu-C-13 currently)
- Pneu-C-13 eliminates nasal carriage = reduced circulation of pneumococcal serotypes

Prevnar<sup>®</sup> 13

Diphtheria CRM<sub>197</sub>

4

6B

9V

14

18C

19F

23F

1

5

7F

3

6A

19A

# Adults at Highest Risk of IPD

*(Aged 60 years and older most affected)*

*-from CIG Evergreen edition-*

- Cardiac or pulmonary disease
- Kidney disease
- Liver disease
- Diabetes
- HIV
- Weakened immune system  
(congenital/disease/drug therapy)
- Asthma
- Alcoholism
- Adults who smoke
- Homelessness
- Illicit drug use

Funding Eligibility in Table 3 of Ontario Schedule

# Immunosuppression

## Significant

- Prednisone 20mg or more per day x 14 days or more
- Biologicals- Enbrel/Remicade
- Special considerations are given for drugs, if administering HZ vaccine at the same time
- HIV
- Malignant neoplasms (leukemia, lymphoma)
- Solid tumors

## Not Significant

- Prednisone < 20mg/day or short term (< 14 days)
- Sulfasalaxine
- Hydroxychloroquine
- Auranofin

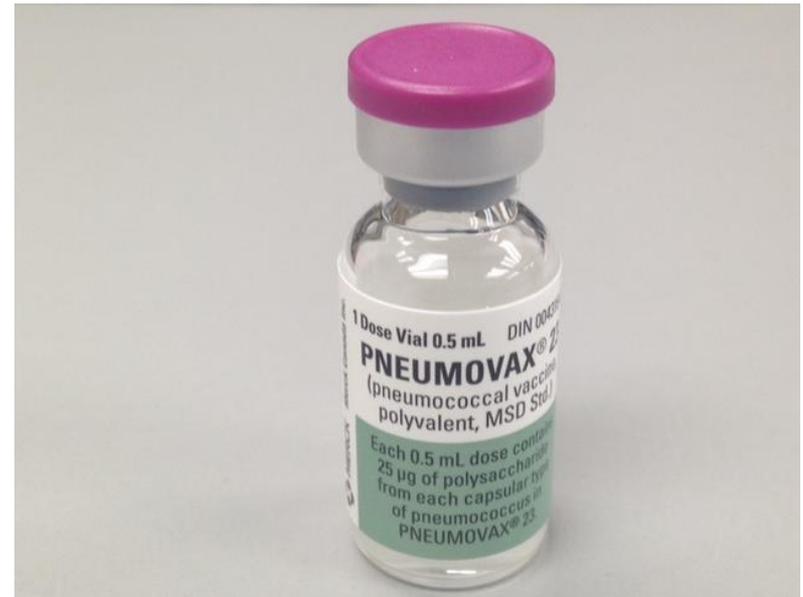


# Pneumovax 23

- 23 valent polysaccharide vaccine
- Merck Canada Inc.
- Pneu-P-23
- 1 dose at age 65 and older
- 1 dose for adults < 65 in LTC facilities
- Adults of any age with a chronic condition that puts them at the highest risk of IPD

## Vaccine efficacy:

- >80% against IPD among healthy young adults
- 50% to 80% among the elderly and in high-risk groups



# Prevnar 13

Adults with immuno-comprising conditions may also be eligible for funded Pneu-C-13

- Asplenia
- Congenital
- HIV
- HSCT (3 doses)
- Drug Therapy
- Malignant Neoplasms
- Sickle Cell
- Solid organ transplant



Funding eligibility available on Table 3 of Ontario Schedule

# Vaccine Administration

## Prevnar 13

- IM Deltoid

## Pneumovax 23

- Pneu-P-23 vaccine may be given either IM (Deltoid) or subcutaneously (SC)

- Each dose of pneumococcal vaccine is 0.5 mL
- 

8 weeks

- Pneu-C-13  Pneu-P-23

- adults with immunocompromising conditions due to underlying disease or therapy



# Booster Doses

## Pneumovax 23

- Revaccination with one booster dose:
  - 5 years after first dose
  - at least 8 weeks after a dose of Pevnar13 for clients with:
    - *Immunosuppression (disease/therapy)*
    - *Asplenia*
    - *Sickle Cell Disease*
    - *HIV*
    - *Hepatic Cirrhosis*
    - *Renal Failure (chronic)*
    - *Nephrotic Syndrome*

## Pevnar 13

- Not indicated unless client is post HSCT (recipient), then 3 doses as per HSCT protocol



# Safety for Pneumovax 23

## Can be administered:

- To pregnant women who meet high risk criteria
- With HZ vaccine at same visit



## Adverse Reactions:

- Soreness, redness and swelling at the injection site occur in 30% to 60% of clients
- More common following SC than IM administration
- Occasionally, low grade fever may occur.
- Rarely, severe local reactions, including reports of injection site cellulitis and peripheral edema in the injected extremity
- Local reactions are more common with second dose

# Immunogenicity for Pneumovax 23

- Full antibody response typically in 2-3 weeks after vaccination
- Decreased in certain groups at particularly high risk of pneumococcal infection
- Antibody levels decline after 5 to 10 years and decrease more rapidly in some groups than others
- Used to control outbreaks of pneumococcal infection due to Pneu-P-23 vaccine serotypes in adults
- Duration of immunity is not known

# Continue to recommend Pneumovax 23...

## High risk groups

- Low immunity and higher SEs
- Most likely to have serious effects (primary or secondary) from disease

## Immunocompetent Adults

- Covers serotypes that continue to cause 50-60% of disease
- Some strains have become antibiotic resistant



# Storage and Handling

## Thinking of stocking Pneumococcal vaccines in your fridge?

- Call SMDHU VPD line ext. 8806
- Arrange a storage and handling inspection date
- Keep temperature logs twice a day
- Follow the MOHLTC Storage and Handling Guidelines for vaccines
- Annual inspection negates having to apply for MOHLTC influenza program separately
- Can store other vaccines (Tdap)

