Pneumococcal Disease

ICE Day – October 13, 2016
Dr. Laura Bourns MD, CCFP
Public Health & Preventive Medicine PGY-5
University of Ottawa
Outline

• Pneumococcal Disease
• Pneumococcal Vaccines
  – Prevnar 13
  – Pneumovax 23
  – Who is funded to get the vaccine?
• Commonly asked Questions
• Key Messages
• Questions
• References
What is it and how do you get it?

PNEUMOCOCCAL DISEASE
What is it and how do you get it?
Pneumococcal Disease

• *Streptococcus Pneumoniae* bacteria
  – > 90 types

• Carried by many humans in nasopharynx
  – In many cases doesn’t cause illness
  – Some at higher risk for illness from the bacteria

• Cause of invasive pneumococcal disease
  – Pneumonia with secondary bacteremia
  – Bacteremia -> Sepsis
  – Meningitis
Pneumococcal Disease

- Illness more common in winter and spring
- Pneumonia
  - Fatal in 5-7% of cases of pneumonia
- Bacteremia
  - Fatal in up to 20% of adults
  - Fatal in up to 60% in the elderly
- Treatment
  - Antibiotics
Pneumococcal Disease

• Transmission:
  – Direct oral contact
  – Respiratory droplets
  – Indirect contact with respiratory secretions of infected or colonized persons.
  – As long as nasal and throat secretions contain large numbers of bacteria

• Incubation period
  – Not clear
  – May be as short as 1-3 days
Pneumococcal Disease

- **Prevention**
  - Vaccination against pneumococcal disease
    - Conjugate pneumococcal vaccine (Prevnar 13)
    - Polysaccharide vaccine (Pneumovax 23)
  - Vaccination against influenza
  - Infection prevention and control practices
    - Including hand washing
PNEUMOCOCCAL VACCINES
Vaccines available in Canada

• Prevnar 13
  – Inactivated bacteria, conjugate vaccine
  – Protective vs 13 serotypes of *S. Pneumoniae*
  – Estimated to be 75% effective vs invasive pneumococcal disease
  – 0.5mL dose, given IM

  – 2014 - Approved for use in high risk adults 50 years+
    • *Funded by MOHLTC* – for selected high risk groups

  – 2015 – Health Canada approved for use in adults ≥18 years
    • *Not funded by MOHLTC* for this group
Pneumococcal Vaccines

Vaccines available in Canada

• Pneumovax 23
  – Inactivated bacteria, polysaccharide vaccine
  – Efficacy 80% in healthy adults, 50-80% in elderly and high risk
  – Protective vs 23 serotypes of *S. Pneumoniae*
  – 0.5mL dose, given IM or SC

In use in Canada since 1983

- Funded by MOHLTC - for selected groups
PREVNAR 13

• Ontario Publicly Funded Immunization Schedule
• Dosing
• **Ontario Publicly Funded Immunization Schedule**
  
  – **Routine Program:** Routine childhood immunizations
  
  – **High Risk Program:** Adults ≥ 50 years of age, with ≥1 of the following:
    - Use of immunocompromising therapy
      - Chemo, radiation, high dose steroids, immunosuppressants
    - Malignancy (cancer)
    - No spleen / non-functional spleen
    - Sickle cell disease, hemoglobinopathies
    - HIV+
    - Congenital immunodeficiencies
    - Transplant recipient
    - *Stem cell transplant recipient* 3 doses

1 dose
Ontario Schedule - Dosing

• High risk immunocompromised clients ≥50 years of age
  – Eligible for both Prevnar and Pneumovax

• Ideally, Prevnar is given before Pneumovax
  – Give 1 dose of Pneumovax ≥8 weeks after the last dose of Prevnar

• If the client has already received Pneumovax
  – Give Prevnar ≥1 year after the last dose of Pneumovax

• No indication for booster dose
Prevnar 13

• Who shouldn’t receive the vaccine?
  – Severe allergy to any component of the vaccine
  – Severe acute illness

• Minor acute illness, with or without fever isn’t a contraindication for vaccination
Pneumovax 23

- Ontario Publicly Funded Immunization Schedule
- Dosing
Pneumovax 23

• Ontario Publicly Funded Immunization Schedule
  – Routine Program
    • All adults ≥ 65 years of age
    • 1 Dose
  – High Risk Program
    • Aged 2-64 years old meeting at least 1 high risk criteria...
Pneumovax 23

• High Risk Program (MOHLTC)
  – 2-64 years of age who meet at least 1 of the following criteria:
    • Residents of nursing homes, homes for the aged, chronic care facilities
    • Chronic cardiac or respiratory disease (e.g. COPD)
    • Diabetes Mellitus (Type 1 and 2)
    • Chronic neurological conditions
    • Chronic kidney disease, nephrotic syndrome
Pneumovax 23

• High Risk Program (MOHLTC)
  – 2-64 years of age who meet at least 1 of the following criteria:
    • Malignancy (Cancer)
    • Chronic liver disease (e.g. cirrhosis, hepatitis B, C)
    • Taking immunosuppressant therapy
    • HIV+
    • No spleen / non-functional spleen
    • Sickle cell disease
Ontario Publicly Funded Immunization Schedule

- Second dose (one in a lifetime) funded for those at the highest risk
- ≥ 5 years after 1st dose

Eligible for second dose

- Chronic Kidney Failure or nephrotic syndrome
- Immunosuppressed – due to therapy or disease
- HIV +
- Cirrhosis of the liver
- Asplenia, sick cell disease

All others funded for one dose under High Risk Program are not eligible for second dose
Pneumovax 23

- Ontario Publicly Funded Immunization Schedule – Dosing
  - Previously received Prevnar 13
    - Give 1 dose of Pneumovax ≥8 weeks after the last dose of Prevnar
  - Previously received Pneumovax 23 and are eligible for a booster
    - ≥ 5 years after last dose of Pneumovax 23
Who shouldn’t receive the vaccine?

- Proof of previous dose, and no indication for a booster
- Severe allergy to any component of the vaccine
- Children under the age of 2 years
- Severe acute illness

Minor acute illness, with or without fever is not a contraindication for vaccination.
COMMONLY ASKED QUESTIONS
Prevnar 13 and Pneumovax 23

• What if you don’t have previous vaccine records for a client?

  Immunize

  – Considered them to be unimmunized
  – Give immunization(s) appropriate for risk factors and age
  – No evidence of adverse events with repeated immunization
Prevnar 13 and Pneumovax 23

• Can the vaccines be given at the same time?
  – No

• Can the vaccines be given at the same time as the influenza vaccine?
  – Yes, one (not both) may be given at the same time as the flu vaccine
What are side effects of the vaccine?
- Any side effects are usually minor and short duration
  - Swelling and soreness at injection site
  - Itching or rash at injection site
  - Mild fever
  - Rarely – headache, high fever, fatigue
Key Messages

- *Streptococcus Pneumoniae* can cause invasive infections, including pneumonia, bacteremia, meningitis
- Infections can be fatal, especially in the elderly
- Vaccination can help protect against infection
Key Messages

- 2 vaccines in Ontario: Prevnar 13, Pneumovax 23
  - Prevnar 13
    - Indicated for those 50+ at highest risk
    - 1 time dose
  - Pneumovax 23
    - Indicated for those 2-64 years deemed high risk AND all ≥ 65 years of age
    - 1 x booster dose at 5 years, for those at highest risk
QUESTIONS?

Visit our website:  
www.healthunit.org

Email us at: 
contact@healthunit.org

Call the Health ACTION Line:  
1-800-660-5853

FACEBOOK:  
LGLHealthUnit

TWITTER:  
@LGLHealthUnit

SCAN LINK:  
www.healthunit.org
References


