

Pneumococcal Polysaccharide Vaccine Information for Healthcare Professionals

What is pneumococcal disease?

Pneumococcal disease is a bacterial infection caused by streptococcus pneumoniae of which there are more than 90 serotypes. It can lead to significant morbidity and mortality, particularly amongst the very young, the very old, those with impaired immunity and those with anatomic or functional asplenia. The organism is frequently found in the upper respiratory tract of healthy individuals worldwide. It has been estimated that carriage of the bacteria may range from 10% of adults to 50% of children attending day care facilities.

What are the symptoms of pneumococcal disease?

Pneumococcal infection is responsible for 50 % of community acquired pneumonia and bacteraemia where the overall mortality rate can be as high as 25%. It can also cause a wide variety of other infections including sinusitis, osteomyelitis, bronchitis and otitis media. The very young, the elderly and those in “at-risk” groups as laid down in the National Immunisation Guidelines are at increased risk of infection.

Over the years streptococcus pneumoniae has become resistant to many medications making the treatment of pneumococcal infections much more difficult. Prevention of disease through vaccination is now more important than ever.

How is pneumococcal disease transmitted?

Transmission requires close contact with cases or carriers and by droplet infection. Person-to-person transmission of the organism is common. The incubation period can be difficult to determine but can be as short as 1-3 days.

Which pneumococcal vaccines are recommended in Ireland?

Two vaccines are recommended to prevent pneumococcal disease:

Pneumococcal conjugate vaccine (PCV)

Pneumococcal conjugate vaccine (7 Valent) PCV contains polysaccharide from seven of the most common capsular types.

This vaccine has been recommended for high risk children under 5 years of age since 2002 and was added to the routine childhood immunisation schedule for babies born on or after 1st July 2008.

Pneumococcal polysaccharide vaccine (PPV23)

This vaccine contains purified polysaccharide from 23 of the most common capsular types of streptococcus pneumoniae. This vaccine is recommended for those aged 65 years and older and “at-risk” adults and children over 2 years of age.

PPV23 is not recommended for children under 2 years of age due to an inadequate antibody response in young children.

Who should be vaccinated with PPV23?

- Everybody aged 65 years and over
- Those aged over 2 years and less than 65 who have any of the following:
 - Diabetes mellitus,
 - Chronic heart, respiratory or liver disease,
 - Chronic renal disease or nephritic syndrome,
 - Sickle cell disease,
 - Missing or non-functioning spleens,
 - Immunodeficiency due to disease or treatment,
 - HIV infection,
 - CSF leaks either congenital or complicating skull fracture or neurosurgery,
 - Individuals who have received, or are about to receive, cochlear implants.

Vaccination is **not recommended** for healthy young adults, as there is little risk of pneumococcal infection.

Are there any reasons why PPV23 should not be given?

Contraindications:

Previous anaphylactic reaction to a preceding dose or any of the constituents.

Precautions

Acute severe febrile illness – defer until recovery.

Pregnancy

PPV23 can be given if there is an urgent need for protection.

How should the pneumococcal vaccine be given?

A single dose of pneumococcal vaccine 0.5ml should be given subcutaneously or intramuscularly. The deltoid area or lateral aspects of the thigh are the preferred injection sites.

Are there any side-effects from vaccination?

The most commonly reported adverse reactions are localised redness and swelling at the injection site (>10%). If the vaccine is administered intradermally then a severe local reaction may occur.

How often is vaccination with PPV23 required?

Revaccination is not normally required. PPV23 booster vaccination is recommended for those aged 65 years and older if they received vaccine more than 5 years before and were less than 65 years of age at the time of the first dose.

PPV23 booster vaccination is recommended 5 years after the first vaccination for people whose antibody levels are likely to decline rapidly e.g. asplenia, splenic dysfunction, immunosuppression or chronic renal disease.

PPV23 booster vaccination is recommended 3 months after treatment if the vaccine was given during chemotherapy or radiotherapy.

Reimmunisation with PPV23 can produce severe local reactions especially if given within 5 years of previous injection.

Can the vaccine be given at the same time as the influenza vaccine?

Yes. Pneumococcal vaccine may be given at the same time as influenza vaccine but at a different site. As there is considerable overlap in the target groups for both vaccines, it is appropriate to offer the pneumococcal vaccine to patients (if indicated) when they attend for their influenza vaccine.

For more information on pneumococcal vaccine see <http://www.hpsc.ie/hpsc/A-Z/VaccinePreventable/PneumococcalDisease/InformationforHealthProfessionals/File,3956,en.pdf>

Note: This document should be read in conjunction with the Summary of Product Characteristics (SPC) issued by the vaccine manufacturer.