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# Pneumococcal vaccination

PLT for HCA's April 2022

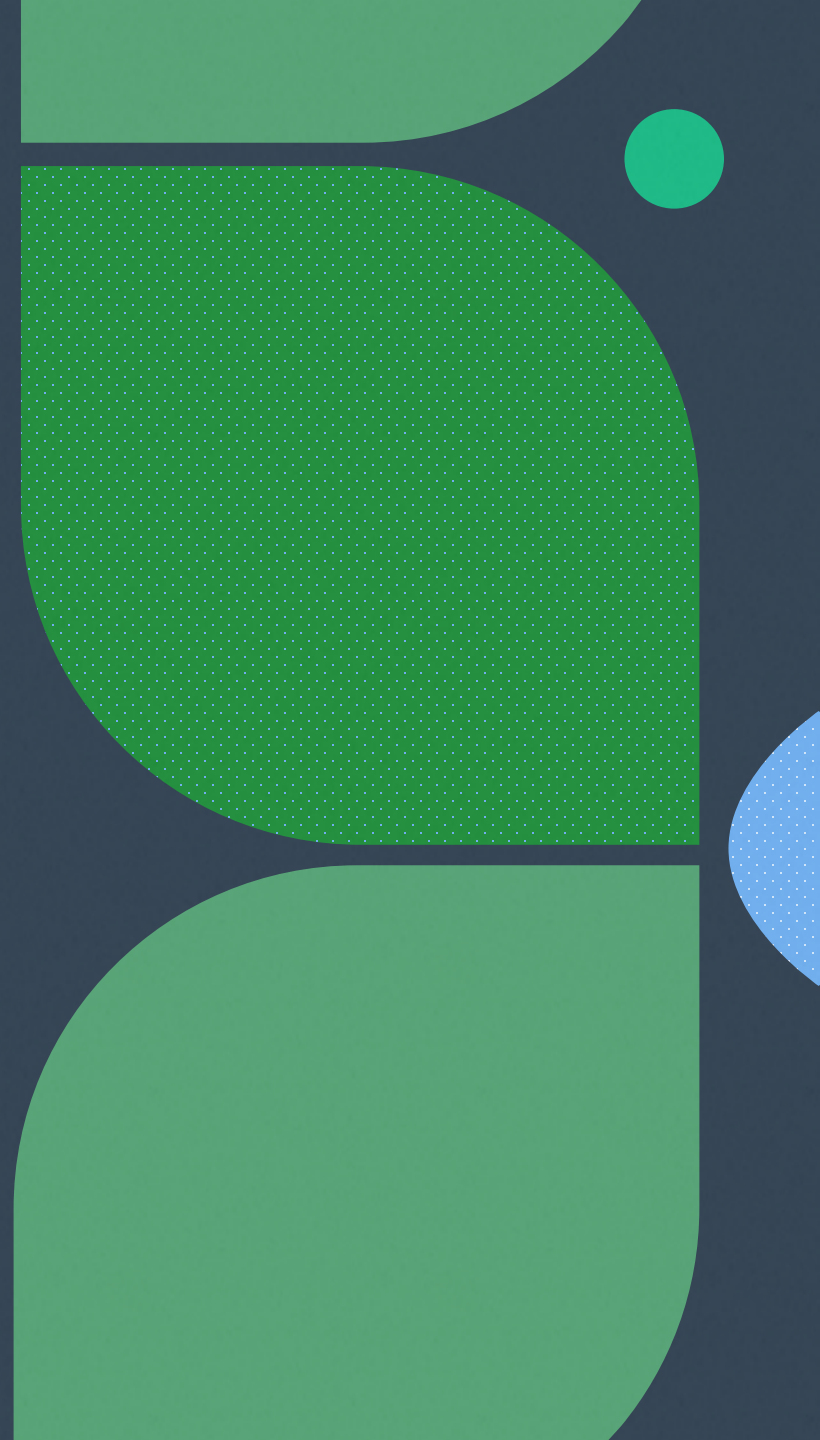
Sally White Clinical Tutor Open Doors

# Pneumococcal disease

- Pneumococcal disease is caused by the bacterium *Streptococcus pneumoniae* (Also known as *Pneumococcus*)
- There are 90 different types
- It doesn't just cause Pneumonia!
  
- Infections are either non-invasive or invasive
- Non-invasive diseases include middle ear infections (otitis media), sinusitis and bronchitis and are less severe
- Invasive pneumococcal disease (IPD) includes septicaemia, pneumonia and meningitis.
- Invasive disease can cause severe illness and death
- 5,000 cases a year

# How is it transmitted?

- Person to Person by aerosol of, or contact with respiratory secretions
- Transmission is higher in the winter, peaking in December and January



# Who is most at risk?

- The very young
- Elderly
- Those with impaired immunity, no spleen
- Chronic medical conditions such as COPD, Diabetes, Chronic kidney disease

# Which vaccines are available?

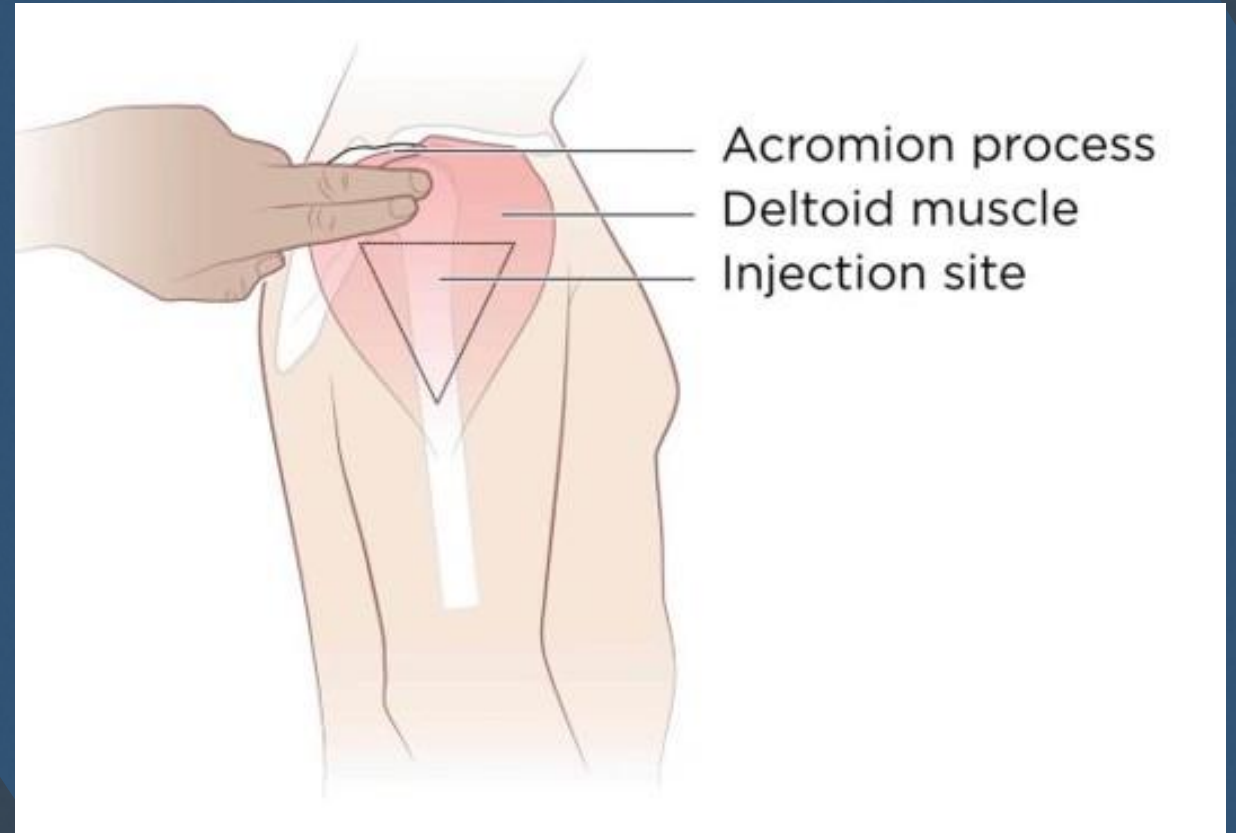
- Children receive vaccinations against Pneumococcal disease in the childhood immunisation schedule. This is the PPV 13 vaccination and protects against 13 types of Pneumococcal disease
- Adults and those in at risk groups over the age of 2 years receive another vaccination PPV 23 which protects against 23 types of Pneumococcal disease
- Most adults produce a good antibody response within 3 weeks of vaccination and only need one vaccination
- Protection from the vaccine is shown to begin to wane after 5 years for those in certain high risk groups so they will be offered a booster every 5 years
- Vaccine effectiveness is thought to be 50-70% effective at preventing Pneumococcal disease

# Contraindications to the vaccine

- Anaphylaxis to any components of the vaccine
- It is not a live vaccine, it is inactivated and cannot give you Pneumococcus

# How to administer?

- Single dose of 0.5mls
- Intramuscular injection into the Deltoid muscle of the upper arm
- Can be given at the same time as other vaccines including the Influenza vaccine, preferably in the other arm or at least 2.5cm apart if in the same arm



# Side effects of vaccine

- Redness and swelling at injection site
- Low grade fever –uncommon
- Fatigue, muscle pains, headache
- Side effects are usually mild and rare





# Who is eligible for vaccination?

- All over 65 years of age
- Those in certain clinical risk groups
  - Chronic respiratory disease (Not asthma unless on frequent oral steroids)
  - Chronic Heart disease (this includes hypertension with cardiac complications)
  - Chronic liver disease
  - Diabetes (not diet controlled)
  - Immuno-suppression
  - Cochlear implants
  - Cerebrospinal fluid leaks

# Who is eligible for a 5 yearly booster dose?

- Nephrotic syndrome, Chronic kidney disease at stages 4 and 5 and those on kidney dialysis or with kidney transplantation
- Homozygous sickle cell disease and Coeliac syndrome that may lead to splenic dysfunction
- Asplenia (No spleen) or dysfunction of the spleen

## APPENDIX A

### Clinical risk groups who should receive the pneumococcal immunisation

(Green Book [Chapter 25](#) Table 25.2)

Clinical risk group	Examples (decision based on clinical judgement)
<b>Asplenia or dysfunction of the spleen</b>	This also includes conditions such as homozygous sickle cell disease and coeliac syndrome that may lead to splenic dysfunction.  (Re-immunisation is recommended every 5 years)
<b>Chronic respiratory disease</b>	This includes chronic obstructive pulmonary disease (COPD), including chronic bronchitis and emphysema; and such conditions as bronchiectasis, cystic fibrosis, interstitial lung fibrosis, pneumoconiosis and bronchopulmonary dysplasia (BPD). Children with respiratory conditions caused by aspiration, or a neurological disease (such as cerebral palsy) with a risk of aspiration. Asthma is not an indication, unless so severe as to require continuous or frequently repeated use of systemic steroids (as defined in immunosuppression below).
<b>Chronic heart disease</b>	This includes those requiring regular medication and/or follow-up for ischaemic heart disease, congenital heart disease, hypertension with cardiac complications, and chronic heart failure.
<b>Chronic kidney disease</b>	Nephrotic syndrome, chronic kidney disease at stages 4 and 5 and those on kidney dialysis or with kidney transplantation.  (Re-immunisation is recommended every 5 years)
<b>Chronic liver disease</b>	This includes cirrhosis, biliary atresia and chronic hepatitis.
<b>Diabetes</b>	Diabetes mellitus requiring insulin or anti-diabetic medication. This does not include diabetes that is diet controlled.
<b>Immuno-suppression</b>	Due to disease or treatment, including patients undergoing chemotherapy leading to immunosuppression, bone marrow transplant, asplenia or splenic dysfunction, complement disorder, HIV infection at all stages, multiple myeloma or genetic disorders affecting the immune system (e.g. IRAK-4, NEMO).  Individuals on or likely to be on systemic steroids for more than a month at a dose equivalent to prednisolone at 20mg or more per day (any age), or for children under 20kg, a dose of 1mg or more per kg per day.
<b>Individuals with cochlear implants</b>	It is important that immunisation does not delay the cochlear implantation.
<b>Individuals with cerebrospinal fluid leaks</b>	This includes leakage of cerebrospinal fluid such as following trauma or major skull surgery (does not include CSF shunts).

# Resources

- [Pneumococcal vaccine overview - NHS \(www.nhs.uk\)](http://www.nhs.uk)
- [The Green book of immunisation: chapter 25 - pneumococcal \(publishing.service.gov.uk\)](http://publishing.service.gov.uk)
- [Pneumococcal polysaccharide vaccine: patient group direction template - GOV.UK \(www.gov.uk\)](http://www.gov.uk)