# Immunisations in the Paediatric Sickle Cell Clinic, Kings College Hospital

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For Clinical Guidelines Groups’ use only
**Immunisations in the Paediatric Sickle Cell Clinic, Kings College Hospital**

Children without a functioning spleen are more prone to severe infections. All children with sickle cell disease should receive routine courses of immunisations as for all other children. These should be given at their chronological age regardless of prematurity. In addition children should be offered vaccination against seasonal, and when appropriate pandemic, influenza annually from the age of 6 months. Blood transfusions are screened for Hepatitis B in the UK but giving Hepatitis B at 12, 13 and 18 months is an optional extra. Children commencing on long term transfusion therapy should definitely receive a course if not already completed (at 1,2 and 6 months after which serology should be checked)

**UK + sickle specific schedule**

<table>
<thead>
<tr>
<th>Vaccine</th>
<th>Age</th>
</tr>
</thead>
<tbody>
<tr>
<td>BCG</td>
<td>At birth in selected cases depending on ethnic background and prevalence of TB</td>
</tr>
<tr>
<td>Hepatitis B</td>
<td>At birth if mother HepBsAg+</td>
</tr>
<tr>
<td>DTaP/Hib/IPV + PCV</td>
<td>2 months</td>
</tr>
<tr>
<td>DTaP/Hib/IPV polio + MenC</td>
<td>3 months</td>
</tr>
<tr>
<td>DTaP/Hib/IPV + MenC + PCV</td>
<td>4 months</td>
</tr>
<tr>
<td>Hep B* + Hib/Men C</td>
<td>12 months</td>
</tr>
<tr>
<td>MMR + PCV + Hep B*</td>
<td>13 months</td>
</tr>
<tr>
<td>Hep B*</td>
<td>18 months</td>
</tr>
<tr>
<td>DTaP/Hib/IPV + MMR</td>
<td>From 3 years 4 months</td>
</tr>
<tr>
<td>PPV</td>
<td>2 years</td>
</tr>
<tr>
<td>PPV</td>
<td>7 years</td>
</tr>
<tr>
<td>BCG</td>
<td>12-13 years</td>
</tr>
<tr>
<td>PPV</td>
<td>12 years</td>
</tr>
<tr>
<td>HPV</td>
<td>Girls 12-13 years</td>
</tr>
<tr>
<td>Td/IPV</td>
<td>13-18 years</td>
</tr>
<tr>
<td>PPV</td>
<td>17 years</td>
</tr>
<tr>
<td>Influenza Annually</td>
<td>From 6 months of age</td>
</tr>
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</table>

*optional

DTaP/Hib/IPV is a single vaccine that protects against diphtheria, tetanus, pertussis, *Haemophilus influenzae* and polio.

Hib/MenC is a combined vaccine that protects against *Haemophilus influenza* and meningitis C.

HPV human papilloma vaccine

PCV is a pneumococcal conjugate vaccine

PPV is a pneumococcal polysaccharide vaccine also known as Pneumovax.

Td/IPV tetanus, diphtheria and polio

Most of these vaccinations will be given routinely in the GP practice or in schools through the school health programme. The pneumococcal polysaccharide vaccine (Pneumovax) and Hepatitis B is usually given in the hospital outpatient clinic. Influenza vaccine is not routine and the parent and GP should be reminded that sickle cell children should receive it annually. Similarly GPs should be advised that children travelling abroad may need to receive immunization against meningitis (ACWY), and hepatitis A, (see below) in addition to routine
vaccines that are recommended. GPs in Lambeth, Southwark & Lewisham received updated guidance re vaccinations for sickle cell children in 2008.

**New patients**
Check which immunisations they have received as per the table above
For those newly arrived in UK, follow guidelines for vaccination for individuals with uncertain or incomplete immunizations schedule (Health protection agency January 2009
www.hpa.org.uk)

**For vaccines that are to be given in outpatients**
• Informed consent must be taken from the parent/carer.
• Immunisations should be deferred if the child is unwell with a febrile illness.
• All immunisations are prescribed in the Once Only section of the drug chart, documented in the notes, on EPR (summary field), and in under-5s, in the Child Health Record.
• The clinic letter should inform the GP (cc Health Visitor/school nurse).
• For follow-up Pneumovax in children attending Philip Isaacs for monthly blood transfusions the vaccination should be given whilst a day case, ie not in out-patients to avoid confusion.
• There are very few exceptions to the recommendations below eg patients post-bone marrow transplant /those with bleeding disorders – please discuss

**Pneumovax (23-valent polysaccharide vaccine, PPV)**
• Dose: 0.5ml IM
• Give at 2 years of age and 5-yearly thereafter. Ensure the immunisation is documented on EPR (summary tab), on the front of the notes and in the Child Health Record carried by the parent(s). Repeat immunisation < 3 years can cause a severe local reaction.
• New patients – ask about immunisations received. If history unclear, check anti-pneumococcal antibodies and immunise if indicated.
• If a patient is due to undergo splenectomy, ensure that the Pneumovax is up to date.

**Hepatitis B - Children born at KCH**
• If the mother was found to be HepBsAg+ in the antenatal period, neonatal immunisation will have been given.
• Offer immunisation to all patients starting at 1 year; 3 doses of 0.5ml Engerix-B im
1st and 2nd doses 1 month apart, 3rd dose 6 months after the first
• Check anti-HBsAbs at 2 years of age.
If <100mIU/ml give 4th dose and retest 1 month later.
If <10mIU/ml consider - infection/immunosuppressed?
• Check anti-HBsAbs annually and boost when <100mIU/ml or every 5 years (whichever is sooner) and recheck antibodies again after 4 weeks.
• If inadequate response (anti-HBsAbs >100mIU/ml are considered protective) repeat full course and recheck

**Hepatitis B - Patients new to KCH**
• Check HBsAg, anti-HBsAb and anti-HBcAb (& Hep C antibodies) at first visit:
If not immune (anti-HBsAbs >100mIU/ml are considered protective)
Immunise *- 1st and 2nd doses 1 month apart, 3rd dose 6 months after the 1st
Dose of Engerix-B 0-12 years 0.5ml im, >12 years dose 1.0ml im.
If evidence of previous infection à send further sample to virology for confirmation and refer to the liver unit.

*Optional

**Hepatitis B - Patients Receiving Regular Blood Transfusions**

- Patients receiving blood products should be immunised against Hepatitis B.
- Check anti-HBsAb, anti-HbcAb and HBsAg (and Hepatitis C antibodies) if previously transfused.

If not immune (anti-HBsAbs >100mIU/ml are considered protective)
- Immunise - 1st and 2nd doses 1 month apart, 3rd dose 6 months after the 1st
- Dose of Engerix-B 0-12 years 0.5ml im, >12 years dose 1.0ml im
- Check anti-HBsAb 1 month after 3rd dose
- If <100mIU/ml give 4th (booster) dose and retest 1 month later.
- If <10mIU/ml consider - infection/immunosuppressed?

- Check anti-HBsAb annually and boost when <100mIU/ml or every 5 years (whichever is sooner)
- Patients with significant hepatopathy should also receive Hepatitis A vaccine.
- Patients with Hepatitis B or C should be referred to the liver unit.
- These patients should have their immunizations given on Philip Isaacs Ward only.

**Hepatitis A**

Recommended for patients with significant hepatopathy (arrange in clinic)
- Dose 0.5ml im plus booster dose 6-12 months later. If booster not given after recommended interval, may be delayed 3 years after 1st injection

**Travel advice**

**Hepatitis A**

- Recommended for travel to Caribbean and Africa. Ask GP to arrange with other travel immunizations
- Dose 0.5ml im plus booster dose 6-12 months later. If booster not given after recommended interval, may be delayed 3 years after 1st injection

**Meningitis ACWY**

- Recommended for travel to sub-Saharan Africa and Saudi Arabia particularly if on pilgrimage to Hajj or Umrah. Advise family and ask GP to arrange.

Dr Moira Dick
January 2010