

Immunisations

Babies are eligible for the first set of vaccines 56 days from date of birth, regardless of gestation. A prompt appears on each patient's Badger EPR under tasks and reminders when 56 days have passed.

It is important for primary care professionals and other hospitals (in the case of transfers) to have this information and it is the discharging doctor/ANNP's job to ensure it is available on the discharge or transfer summary.

The nurse administering the vaccine will document it on Badger. When doing the discharge summary check each patient's Badger EPR under "procedures/events"/Kardex's to find out exactly which vaccines were given when and document these clearly in the free text box under "immunisations" on the discharge summary template.

Occasionally vaccines are not given exactly when they are due, perhaps because babies have had other interventions or are medically unstable. For babies transferred to other hospitals, immunisation information must be included in the free text "Summary" box on the discharge-transfer form.

Administration Procedure

Written parental consent must be obtained before any vaccine is administered.

Check prescription kardex and the SIRS-Unscheduled Attenders Form to ascertain vaccination schedule.

In all cases, the SIRS-Unscheduled Attenders Form must be completed in full with the vial batch number and expiry date being written on the form. Only the top copy of the completed form is sent to Community Child Health (address on the bottom left hand corner of the form), the carbon copy underneath is filed in the case notes.

In all cases **document the immunisation in Badger** under Procedures/events completing fully the relevant input form details.

Administration

The anterolateral aspect of the thigh is the preferred site for infants under one year of age. Check table below for which vaccine needs to be administered in a different thigh. Please note for nursing staff, only those who have undertaken the Clinical Skills - Childhood Immunisations may administer immunisations.

Contraindications

- Had a previous severe local or general reaction to the vaccine or any other vaccine that contains one or more of the antigenic components;
- Known or suspected hypersensitivity to any component of the vaccine;
- Acute illness, evolving neurological problems and babies receiving steroid therapy (Live vaccines (eg. live oral polio, BCG, MMR, mumps, rubella) should not be given for at least 3 months after stopping a course of steroid treatment)
- Thrombocytopaenia and coagulation disorders increase risk of bleeding following intramuscular injections.

Side effects to vaccines

- Include pyrexia, anaphylaxis, bronchospasm, laryngeal oedema, collapse, inconsolable crying. These usually occur within 48 hours.
- Tenderness or discomfort at the injection site (including severe tenderness resulting in crying when the injected limb is moved)
- Redness, swelling and hardness of the skin at the injection site
- Sleepiness, irritability, unusual crying
- Vomiting and diarrhoea
- Apnoeic episodes can occur in the preterm baby, particularly in those with chronic lung disease. These usually occur within 24 hours of vaccination and can last 2-3 days.
- Severe and unusual reactions must be reported to the Committee on Safety of Medicines using the Yellow Card system

Table of vaccinations Updated Jan 2020

When to immunise	What is given	Vaccine (given into anterolateral area of thigh)
2 months	DTaP/IPV/Hib/HepB	One IM injection of Infanrix hexa 0.5ml in the RIGHT thigh
	Meningitis B	One IM injection of Bexsero 0.5ml in the LEFT thigh
	Rotavirus*	One oral dose of Rotarix - 1.5ml
3 months	DTaP/IPV/Hib/HepB	One IM injection of Infanrix hexa 0.5ml in the RIGHT thigh
	Pneumococcal (PCV)	One IM injection of Prevenar 0.5ml in the LEFT thigh
	Rotavirus*	One oral dose of Rotarix - 1.5ml
4 months	DTaP/IPV/Hib/HepB	One IM injection of Infanrix hexa 0.5ml in the RIGHT thigh
	Meningitis B	One IM injection of Bexsero 0.5ml in the LEFT thigh

* see rotavirus section as there are strict timing criteria

Infanrix hexa vaccine

This contains - Diphtheria, tetanus, pertussis, inactivated polio and Haemophilus influenzae type b conjugated vaccine (adsorbed), hepatitis B

- Prescribe as Infanrix hexa
- Give at 2, 3 and 4 months postnatal age
- Give 0.5ml IM into anterolateral area of thigh (RIGHT side)
- May be given at the same time as Meningococcal Group B (LEFT side) and Pneumococcal (RIGHT side).
- Document which thigh is used for each vaccine
- Follow package insert for method of preparation
- The occurrence of apnoea following vaccination with Infanrix hexa is increased in infants who were born very prematurely. Very premature infants (born \leq 28 weeks of gestation) who are in hospital should have respiratory monitoring for 48 to 72 hours when given their first immunisation, particularly those with a previous history of respiratory immaturity. If the child has apnoea, bradycardia or desaturations after the first immunisation, the second immunisation should also be given in hospital, with respiratory monitoring for 48 to 72 hours
- Note- this is a new medicine (Black triangle drug (▼)) and any adverse drug reactions, including expected ones, must be reported to the Committee on Safety of Medicines using the Yellow Card system

Meningococcal Group B conjugate vaccine (Bexsero)

- Given at 2 and 4 months postnatal age (and within one month of the first birthday 12-13 months)
- Give at same time as Infanrix hexa and Prevenar but in the other thigh.
- Give 0.5ml IM into anterolateral area of the LEFT thigh. It should be the opposite side to other vaccines (document which side)
- It is recommended that a loading dose of paracetamol is given at the time of the vaccine and a second and third maintenance dose at the appropriate time interval as per Paracetamol monograph. Prescribe on the once only section. If pyrexia persists, review and examine baby prescribe further doses on the as required section if clinically indicated.
- Note- this is a new medicine (Black triangle drug (▼)) and any adverse drug reactions, including expected ones, must be reported to the Committee on Safety of Medicines using the Yellow Card system

Pneumococcal conjugate vaccine (PCV - Prevenar)

- Babies born before 1st Jan 2020-Given at 2 and 4 months postnatal age (and around 13 months of age)
- Babies born from 1st Jan 2020 will have a dose at 3 months and around 13 months of age.
- Give at same time as Infanrix hexa and Bexsero
- If given at the same time as Bexsero administer in the opposite side
- Give 0.5ml IM into anterolateral area of the thigh (document which side)

Rotavirus (Rotarix)

- Give first dose at 2 months (56 days), but if not possible, no later than 14 weeks and 6 days (104 days). NB do not start immunisation after this time.
- Give second dose at least 4 weeks later and before 23 weeks and 6 days (167 days). NB must not be given after this time
- Give 1.5ml **orally**- see package insert for method of administration
- If the infant spits out or regurgitates most of the vaccine a single replacement dose may be given at that time
- Contraindicated if history of intussusceptions or malformation which disposes to intussusceptions or severe combined immune-deficiency
- Should be postponed if acute severe febrile illness or diarrhoea or vomiting
- Very premature infants (born \leq 28 weeks of gestation) who are in hospital should have respiratory monitoring for 48-72 hrs when given their first dose
- If the child has apnoea, bradycardia or desaturations after the first dose, the second dose should also be given in hospital, with respiratory monitoring for 48-72 hrs
- It is a live attenuated vaccine and potential for transmission via faecal material for at least 14 days post vaccination.
- Note- this is a new medicine and any adverse drug reactions, including expected ones, must be reported to the Committee on Safety of Medicines using the Yellow Card system

BCG

See BCG immunisation guide-But essentially **In Lothian newborn infants who are eligible for BCG vaccination are identified through information gathered by the health visitor at the 10 day postnatal baby check.**

Influenza Immunisation

Influenza immunisation should be considered at hospital discharge for babies who are likely to be at greater risk from the complications of influenza infection

- This mainly applies to babies with bronchopulmonary dysplasia (BPD), congenital heart disease, hypertension with cardiac complications or chronic heart failure
- The greatest risk is in the period October-March
- The vaccine is not licensed for use in children less than 6 months
- If discharged before 6 months inform GP that immunisation will be required at 6 months and recommend that immediate family member are immunised prior to discharge

Precautions

- Because the vaccine is cultured in hens eggs, allergy to egg proteins is a contraindication
- Infants of this age rarely have serious allergic reactions
- Withhold or reconsider if there is a strong family history of egg allergy

How to immunise

- Influenza vaccine is made each year incorporating strains which are thought to be prevalent, and is made available in October.
- Get written consent as for other immunisations.
- Administer the first dose of 0.5ml in activated quadrivalent influenza vaccine by IM injection before hospital discharge if over 6 months of age.
- Inform the GP with standard letter sent with discharge summary that the second dose is due after 4 weeks.
- If discharged before 6 months of age advise GP that two doses will be required the first at 6 months of age.

Risk of infection and complications and childhood immunisation schedule

Vaccines can be made from inactivated (killed) or attenuated live organisms. Live (attenuated) vaccines may be temporarily contraindicated in individuals who are immunosuppressed, however, patients with relatively minor immunodeficiencies can, and indeed should, receive all recommended vaccinations, including live vaccines.

The following vaccines are administered under the childhood immunisation schedule at age two, three and four months:

- Diphtheria, Tetanus, Pertussis (Acellular, Component), Poliomyelitis (Inactivated), and Haemophilus Type b Conjugate Vaccine (Adsorbed).
- Pneumococcal Polysaccharide Conjugate Vaccine (Adsorbed).
- Rotavirus Vaccine (**live attenuated**)

The **rotavirus vaccine** is the only live attenuated vaccine included in the immunisation schedule for children aged two, three and four months. With the exception of severe combined immune-deficiency (SCID), the benefit from vaccination may exceed any risk in other forms of immunosuppression - therefore, there are very few infants who cannot receive rotavirus vaccine.

References:

1. David Salisbury, Mary Ramsay and Karen Noakes, eds. Immunisation against infectious disease. The Stationery Office, 2006
2. Summaries of Product Characteristics for Rotarix, Pediacel, Prevenar 13, Menjugate Kit 10 via Electronic Medicines Compendium. www.medicines.org.uk Accessed on 14/07/15
3. BNF for children (online). Accessed via Medicines Complete on 14/07/15
4. [A guide to childhood immunisations up to 5 years of age](#). NHS Health Scotland, 2016
5. Immunisations Against Infectious Diseases. Public Health England, 2006; revised chapter on meningococcal disease, 2016 <https://www.gov.uk/government/publications/meningococcal-the-green-book-chapter-22>
6. Health Protection Scotland (2016) [Infant Men C vaccination](#). Weekly Report 50:2016/28