Vaccination Cribsheet for Borders Health Professionals
Childhood immunisations and general vaccination information
July 2007

NHS Borders

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1) TIMETABLE OF ROUTINE IMMUNISATIONS

CURRENT FULL IMMUNISATION SCHEDULE – From September 2006		
WHEN TO IMMUNISE	**WHAT IS GIVEN**	**HOW IT IS GIVEN**
2 months old	Diphtheria, tetanus, pertussis, polio and Hib (DTaP/IPV/Hib) + pneumococcal conjugate vaccine (Prevenar®)	Two injections
3 months old	Diphtheria, tetanus, pertussis, polio and Hib (DTaP/IPV/Hib) + Men C	Two injections
4 months old	Diphtheria, tetanus, pertussis, polio and Hib (DTaP/IPV/Hib) + Men C + pneumococcal conjugate vaccine	Three injections
12 months	Hib/MenC	One injection
13 months old	Measles, mumps and rubella (MMR) + pneumococcal conjugate vaccine	Two injections
3 years and 4 months to 5 years old	Diphtheria, tetanus, pertussis and polio (dTaP/IPV or DTaP/IPV) Measles, mumps and rubella (MMR)	Two injections
13 to 18 years old	Diphtheria, tetanus, polio (Td/IPV)	One injection

PREVIOUS FULL IMMUNISATION SCHEDULE – Until August 2006		
WHEN TO IMMUNISE	**WHAT IS GIVEN**	**HOW IT IS GIVEN**
2, 3 and 4 months old	Diphtheria, tetanus, pertussis, polio and Hib (DTaP/IPV/Hib)	One injection
	MenC	One injection
Around 13 months old	Measles, mumps and rubella (MMR)	One injection
3 years and 4 months to 5 years old	Diphtheria, tetanus, pertussis and polio (dTaP/IPV or DTaP/IPV)	One injection
	Measles, mumps and rubella (MMR)	One injection
13 to 18 years old	Diphtheria, tetanus, polio (Td/IPV)	One injection

2) IMPORTANT IMMUNISATION POLICIES INTRODUCED SINCE PRODUCTION OF 1996 'GREEN BOOK' IMMUNISATION AGAINST INFECTIOUS DISEASE

Vaccine Issue	Source of advice	Policy Change
IPV instead of oral polio	SEHD/CMO (2004) 17	From the 27 September 2004 oral polio vaccination was stopped and inactivated polio injection (IPV) (singly or in combinations) issued. The change was recommended by the Joint Committee on Vaccination and Immunisation (JCVI) due to the reduced risk of polio entering the country following the on-going global vaccination programme. As the polio vaccine is no longer a live vaccine there is no longer a need for parents and carers to take any special precautions with changing nappies following a baby's polio immunisation. The siblings and households contacts of children with immunocompromised health will receive IPV but now, along with all other children, in the combination vaccine
Acellular pertussis vaccine (aP) instead of whole cell pertussis vaccine (wP)	SEHD/CMO (2004) 17	From the 27 September 2004 whole cell pertussis vaccines was stopped and the new acellular pertussis vaccine (in 4 or 5 vaccine combinations) issued. This acellular preparation is a new format, containing a five-component pertussis vaccine which meets the JCVI recommendations by providing equal or better protection against typical pertussis disease and because acellular, causes fewer adverse reactions. The change was recommended by the JCVI since the acellular vaccine causes less adverse reaction and the product now available meets the necessary immunological standard.
The above 2 vaccines contain no thiomersal		

Vaccine Issue	Source of advice	Policy Change
Influenza and Pneumococcal vaccines in 'at risk' children	SEHD/CMO(2004) 15 dated 6th August 2004 National policy for the 2004 / 05 influenza and pneumococcal immunisation programmes	**Influenza immunisation** should be offered to the following clinical 'at risk' groups of children aged over 6 months : • Chronic respiratory disease, including asthma • Chronic heart disease • Chronic renal disease • Diabetes mellitus • Immunosuppression • Resident in long stay facilities. Children in these categories receiving influenza vaccine for the first time will require 2 doses. **Pneumococcal conjugate vaccine** (Prevenar) should now be given to the small number of children in the 2 month to 5 year old age group in the following at-risk groups : • Asplenia or dysfunction of the spleen • Chronic respiratory disease, including asthma • Chronic heart disease • Chronic renal disease • Chronic liver disease • Diabetes mellitus • Immunosuppression • Individuals with cochlear implants • Individuals with CSF shunts • Children under 5years of age who have previously had invasive pneumococcal disease **Dose schedule as follows:** Infants under the age of 6 months: three doses, the first dose usually given at 2 months of age and intervals of at least 1 month between doses. A fourth dose given in 2nd year. **Previously unvaccinated older infants and children:** Infants aged 7-11 months: two doses, each of 0.5ml, with an interval of at least one-month between doses. A third dose in 2nd year, at least 1 month after the second dose. Children starting between 12 – 60 months, two doses, with an interval of 2 months between doses. All children above should also receive the 23-valent pneumococcal polysaccharide vaccine, single dose, after 2nd birthday and at least 2 months after last Prevenar. Advice should be sought from a consultant paediatrician in cases of hyposplenic or immunocompromised children.

Vaccine Issue	Source of advice	Policy Change
Asplenic Patients	SEHD/CMO letter (2001) 3	In addition to the routinely recommended vaccines, immunisation with pneumococcal, Hib and influenza vaccines is currently recommended for hyposplenic individuals. Up to now, meningococcal immunisation (with meningococcal A&C vaccine) was recommended only in high risk situations, such as travel to a high risk area, on the grounds that most infections in the UK were due to group B strains and any protection from the polysaccharide A&C vaccine was likely to be of short duration. In view of the better efficacy and longer duration of immunity likely to be conferred by conjugate meningococcal C (MenC) vaccine, it is now recommended that MenC vaccine is offered to all patients with an absent or dysfunctional spleen. When traveling to a high risk area for meningococcal infection, such patients will still require the additional protection conferred by polysaccharide A&C or quadrivalent (A,C,W,Y) vaccine. **Note:** see p20 for further advice
Pneumococcal and Flu	SEHD/CMO(2003)4	Pneumococcal and flu immunisation for those aged 65 and over from October 2003.
Meningitis C	SEHD/CMO(2002)1	Recommended for everyone below the age of 24 years.
MMR Concerns	MMR discussion pack Produced by NHS Health Scotland 2004	http://www.healthscotland.com/immunisation/mmr/index.cfm scroll down to leaflet or discussion pack in multiple languages Following the publication of the Report of the MMR Expert group from the Scottish Executive in 2002, Health Scotland has produced the MMR discussion pack to help professionals and parents review the evidence around MMR. Nine main questions are covered and each question outlines the basic facts plus Key Notes for parents, together with Additional Notes for health professionals, which are fully referenced. Whilst the Additional Notes are essentially for health professionals, the information is presented in such a way as to allow full discussion between health professionals and parents, on each issue.
BCG School programme stopped & replaced with selective BCG programme	SEHD/CMO(2005)10	From 1 September 2005, the new policy is to provide an improved targeted BCG vaccination programme for: • All infants (aged 0 to 12 months) living in areas of the UK where the incidence of TB is 40/100,000 or greater • All infants (aged 0 to 12 months) with a parent or grandparent who was born in a country where the incidence of TB is 40/100,000 or greater

Vaccine Issue	Source of advice	Policy Change
Flu	SEHD/CMO (2005) 09	Influenza immunisation recommended for: • people who are the main carer for an elderly or disabled person whose welfare may be at risk if the carer falls ill • people with chronic liver disease.
Pneumococcal	SEHD/CMO(2005)3	Change to clinical risk category of chronic respiratory disease - **Asthma is NOT an indication**, unless so severe as to require continuous or frequently repeated use of systemic steroids
Pneumococcal, Men C & Hib	SEHD/CMO(2006)03	Changes to the routine Childhood Immunisation Programme • New vaccine to protect against pneumococcal infection; • Pneumococcal vaccination catch-up programme for under 2's; • Amending the MenC vaccination schedule to give two doses of vaccine in the first year of life, and a booster dose combined with booster dose of Hib vaccine at 12 months.

3) ROUTINE TETANUS, DIPHTHERIA AND POLIO IMMUNISATION SCHEDULES

1. Children aged 10 years and over and adults tetanus immunisation should now receive combined adsorbed tetanus/low dose diphtheria and inactivated polio vaccine (Td/IPV).

2. A full course of tetanus immunisation consists of a minimum of 5 doses of tetanus-containing vaccine at intervals as follows:

Schedule	Children	Adults
Primary Course	3 doses of vaccine (usually as DTaP/IPV/Hib) at 2, 3 and 4 months of age	3 doses of vaccine (as Td/IPV) each one month apart
1st booster dose = 4th dose	At least 3 years after the primary course, usually pre-school entry (as DTaP/IPV OR dTaP/IPV)	At least 5 years after last dose should receive further dose of Td/IPV
2nd booster dose = 5th dose	Aged 13-18 years ideally 10 years after 1st booster (as Td/IPV)	Ideally 10 years after 2nd booster (4th dose) (as Td/IPV)

3. Older adults may be unimmunised and at particular risk. Opportunities should be taken to check their immunisation status when attending surgery, for example for their influenza immunisation, and complete the recommended 5 dose schedule. Td/IPV can be given at the same time as influenza vaccine in a different arm.

4. For travellers to areas where medical attention may not be accessible should a tetanus prone injury occur and whose last dose of a tetanus containing vaccine was more than 10 years previously, a booster dose should be given prior to travelling, even if the individual has received 5 doses of vaccine previously. This is a precautionary measure in case immunoglobulin is not available to the individual should a tetanus prone injury occur. Where tetanus, diphtheria or polio protection is required and the last dose was more than 10 years ago, Td/IPV should be given.

4) MANAGEMENT OF TETANUS PRONE WOUNDS

Immunisation Status	Clean Wound	Tetanus Prone Wound (see definition at* below)	
	Vaccine	**Vaccine**	**Human tetanus immunoglobulin #**
Fully immunised i.e. has received a total of 5 doses of tetanus vaccine at appropriate intervals	None required	None required	Only if risk especially high (e.g. contaminated with stable manure)
Primary immunisation complete, boosters incomplete but up to date	None required (unless next dose due soon and convenient to give now)	None required (unless next dose due soon and convenient to give now)	Only if risk especially high (see above)
Primary immunisation incomplete or boosters not up to date	A reinforcing dose of vaccine and further doses as required to complete the recommended schedule (to ensure future immunity)	A reinforcing dose of vaccine and further doses as required to complete the recommended schedule (to ensure future immunity)	Yes: one dose of human tetanus immunoglobulin in a different site
Not immunised or immunisation status not known or uncertain	An immediate dose of vaccine followed, if records confirm this is needed, by completion of a full 5 dose course to ensure future immunity	An immediate dose of vaccine followed, if records confirm this is needed, by completion of a full 5 dose course to ensure future immunity	Yes: one dose of human tetanus immunoglobulin in a different site

***** A tetanus prone wound is:

1. Any wound or burn sustained more than six hours before surgical treatment of the wound or burn.
2. Any wound or burn at any interval after injury that shows one or more of the following characteristics:
    - i. A significant degree of devitalised tissue, including foreign bodies or compound fractures
    - ii. Puncture-type wound especially if contact with soil or manure likely to harbour tetanus organisms
    - iii. Clinical evidence of sepsis

For prevention the dose of human tetanus immunoglobulin is:

- For most uses: 250iu by intramuscular injection
- If more than 24 hours have elapsed since injury or there is a risk of heavy contamination or following burns: 500iu by intramuscular injection.

5) ADVICE ON INDIVIDUALS WITH UNCERTAIN OR INCOMPLETE IMMUNISATION STATUS

For World Health Organisation country-by-country vaccination schedules and coverage information, see:
www-nt.who.int/vaccines/globalsummary/Immunization/CountryProfileSelect.cfm

Centre for Infections, Immunisation Department
March 2007

Vaccination of Individuals with Uncertain or Incomplete Immunisation Status

2 months – 12 months of age

DTaP/IPV/Hib* + PCV*
4 week gap
DTaP/IPV/Hib + Men C*
4 week gap
DTaP/IPV/Hib + Men C + PCV

*When **Hib** and/or **Men C** have not been given as part of a **primary** course *give:*
-3 doses of Hib containing vaccine at monthly intervals
-2 doses (minimum) of Men C containing vaccine at monthly intervals
Or
- 3 doses of MenC/Hib combined vaccine

*When **PCV** has not been given as part of a **primary** course *give 2 doses at least 2 months apart*

Please note: ***It is not contraindicated to give doses of PCV one month apart, however response is better at an interval of two months. Where children are unlikely or unable to complete this course, then two doses at a one month interval would be better than a single dose.***

Boosters
As per UK schedule

>12 months – 2 years of age

DTaP/IPV/Hib#
+ PCV# + MMR + Men C#
4 week gap
DTaP/IPV/Hib
4 week gap
DTaP/IPV/Hib

#*All children require 1 dose of **Hib, Men C and PCV** over the age of 1 year*

Boosters
As per UK schedule
Additional doses of DTaP/IPV/Hib given under 3 years of age do not count as a booster to the primary course and should be discounted

>2 years – 10 years of age

DTaP/IPV/Hib~ + Men C~ + MMR
4 week gap
DTaP/IPV/Hib + MMR
4 week gap
DTaP/IPV/Hib

~*All children require 1 dose of **Hib and Men C** over the age of 1 year*

Boosters
1st dTaP/IPV or DTaP/IPV
1st booster can be given as early as 1 year following completion of primary course to re-establish on routine schedule

10 years of age and over

Td/IPV + Men C^ + MMR
4 week gap
Td/IPV + MMR
4 week gap
Td/IPV

^*1 Men C for 24yrs and under*

Boosters
1st Td/IPV
Preferably 5 years following completion of primary course

2nd Td/IPV 5-10yrs later

MMR - From 12 months
- Doses of **MMR/measles** given prior to 12 months of age should not be counted.
- For individuals **< 18** months of age a minimum interval of 3 months should be left between 1st and 2nd dose.
- For individuals **>18** months of age a minimum of 1 month should be left between 1st and 2nd doses.
- 2 doses of **MMR** should be given irrespective of history of measles, rubella or mumps infection and/or age.

General Principles
- Unless reliable vaccine history, individuals should be assumed to be **unimmunised**, and a full course of immunisations planned.
- Individuals coming to UK part way through their immunisation schedule should be transferred onto the UK schedule and immunised as appropriate for age.
- If primary course has been started but not completed, continue where left off - **NO NEED TO REPEAT DOSES OR RESTART COURSE.**
- **IPV** should be used to complete a vaccination course which may have been started with OPV.
- **aP** should be used to complete a primary course which may have been started with whole cell.
- **MenC/Hib** combined vaccine can be used when Hib alone or Hib/Men C are required.
- A minimum of 1 year should be left between DTP/IPV primary course and 1st booster. A minimum of 5 years should be left between the 1st and 2nd Boosters.

Note: BCG and Hepatitis B should be given according to local policy and has not been included in this algorithm.

6) REINFORCING IMMUNISATIONS **(includes dates of vaccine introduction to UK and details of targeted programmes)**

Vaccine	Notes
Polio	Individuals born before 1958 may not have been immunised and no opportunity should be missed to immunise them in adult life. For most circumstances, a total of **five doses** of vaccine at the appropriate intervals are considered to give satisfactory long-term protection. All **travellers** to epidemic or endemic areas should ensure that they are fully immunised according to the UK schedule. An additional dose of polio vaccine may be required according to the destination (see p22) and the nature of travel intended if the final dose of the polio antigen was received more than ten years ago. Td/IPV should be given.
Diphtheria	Introduced in 1942. Approximately 50 per cent of UK adults over 30 years are susceptible to diphtheria. For most circumstances, a total of **five doses** of vaccine at the appropriate intervals are considered to give satisfactory long-term protection. All **travellers** to epidemic or endemic areas should ensure that they are fully immunised according to the UK schedule. An additional dose of diphtheria vaccine may be required according to the destination (see p22) and the nature of travel intended if the final dose was received more than ten years ago. Td/IPV should be given.
Tetanus	Introduced into national programme in 1961. For most circumstances, a total of **five doses** of vaccine at the appropriate intervals are considered to give satisfactory long-term protection. Where there is documentary evidence of five doses being given at sporadic intervals this will usually suffice. Ideally the 2nd booster (5th dose) should be 5-10 years after the 1st booster. If in doubt give an extra booster. Such additional doses are unlikely to produce an unacceptable rate of reactions. For **travellers** to areas where medical attention may not be accessible and whose last dose of a tetanus-containing vaccine was more than ten years previously, a booster dose should be given prior to travelling, even if the individual has received five doses of vaccine previously. This is a precautionary measure in case immunoglobulin is not available to the individual should a **tetanus prone injury** (see p8) occur. Td/IPV should be given.
Pertussis	Introduced in 1950's. The objective of the immunisation programme is to provide a minimum of **four doses** of a pertussis-containing vaccine at appropriate intervals for all individuals up to ten years of age.
Hib	Hib conjugate vaccine was introduced into the routine UK immunisation schedule in 1992. There was a small but gradual disease increase amongst children born in 2000 and 2001. In 2003, a booster campaign was implemented with call-back of children aged six months to four years. The objective of the immunisation programme is to provide a minimum of **three doses** of a Hib-containing vaccine at appropriate intervals for all infants less than one year of age followed by a booster at 12 months. Booster introduced in Sep 2006. Satisfactory long-term protection is achieved from a **single dose** of Hib vaccine in children commencing immunisation above the age of one year and under ten years, irrespective of incomplete Hib immunisation before one year of age.

(cont)

Vaccine	Notes
Men C	Become part of the routine Childhood Immunisation Programme in the UK from Autumn 1999 in **three doses**. The schedule changed from Sept 2006 to **two doses** at the appropriate intervals followed by a booster of the vaccine at 12 months. Only **one dose** is required for those over one year.
MMR	Introduced in 1988. A single dose of MMR vaccine confers protection in around 90% of individuals for measles and mumps and 95% for rubella. **Two doses** is ideal and should be provided to any concerned person born between Nov 1978 & Nov 1991 requesting protection from mumps infection. The current increase in mumps cases reveals a peak incidence in birth cohorts 1984-1987. The MR (measles, rubella) campaign was in 1994 and the introduction of the second dose of MMR came in 1996.
Rubella	Rubella immunisation was introduced in the UK in 1970 for pre-pubertal girls and non-immune women
Measles	Vaccine introduced in 1968
MR	MR (measles/rubella) vaccine was used only during the schools immunisation campaign of November 1994.
PCV	Introduced into universal childhood schedule September 2006 and catch up for children under 2 years.

Additional points to note

- **Unless there is a reliable vaccine history, individuals should be assumed to be unimmunised, and a full course of immunisations planned as per section 5.**
- What is an 'appropriate interval'? – See p9
- If primary course has been started but not completed, continue where left off - NO NEED TO REPEAT DOSES OR RESTART COURSE

7) GUIDANCE ON IMMUNISATIONS FOR CHILDREN AND ADULTS IN SPECIAL RISK GROUPS

LIVE vaccines include measles, mumps, rubella (MMR), varicella, yellow fever, BCG, oral typhoid, oral cholera
NON-LIVE vaccines include IPV, DTP, Hib, Men C, influenza, pneumococcal, hepatitis A, hepatitis B ***(Chapter 14, BNF)***
The evidence for the recommendations is drawn from the relevant chapters of the Department of Health 'Green Book' Immunisation Against Infectious Disease 2006. This is also available to view or download from ***http://www.dh.gov.uk/***

7a) Guidance for groups with specific medical conditions

Preterm babies and small for dates babies	
Children	Routine childhood schedule started 2 months after birth regardless of the extent of prematurity
Down's syndrome	
Children and adults	Routine schedule MMR is particularly important as may be at increased risk of measles As for chronic heart disease if present
Chronic heart disease (including congenital, ischaemic, and hypertensive heart disease, and heart failure)	
Children and adults	Routine schedule Influenza vaccine Pneumococcal vaccine

Chronic respiratory disease (including asthma, COPD, and cystic fibrosis)	
Children and adults	Routine schedule Influenza vaccine Pneumococcal vaccine
Chronic liver disease (including chronic hepatitis B or C and cirrhosis)	
Risk	At increased risk of severe illness if infected with Hepatitis A
Children and adults	Routine schedule Pneumococcal vaccine Hepatitis A vaccine
Chronic renal disease (including nephrotic syndrome, chronic renal failure, and renal transplant)	
Children and adults	Routine schedule Influenza vaccine Pneumococcal vaccine Hib vaccine Hepatitis B vaccine if need for dialysis or transplantation is anticipated
Persons on haemodialysis	
Risks	Increased risk of hepatitis B and C Response to hepatitis B vaccine may be suboptimal
Children and adults	Routine schedule Hepatitis B vaccination for non-immune individuals prior to starting dialysis Subsequent annual testing of anti-HBs antibody levels and re-immunisation if fallen below 10miu/ml

Diabetes mellitus (requiring oral hypoglycaemics or insulin)	
Children and adults	Routine schedule Influenza vaccine Pneumococcal vaccine
Hyposplenism or absent spleen (see page 20)	
Definition	Hyposplenism includes those with homozygous sickle cell anaemia and coeliac disease
Risk	Increased risk of bacterial infections, most commonly encapsulated organisms
Children and adults	Routine schedule Influenza vaccine Pneumococcal vaccine Hib vaccine MenC vaccine Prophylactic antibiotics and standby broad spectrum antibiotic for intercurrent infection
Immunocompromised	
Definition	See GREEN BOOK 7 for definition of groups with significant immunocompromise and Royal College of Paediatrics and Child Health publication on immunisation of the immunocompromised child
Children and adults	DTaP/IPV/Hib and MenC from routine childhood schedule MMR depending on severity of immunocompromise – check with consultant Influenza vaccine Pneumococcal vaccine Consider HNIG after measles exposure and VZIG after varicella zoster exposure for non-immune individuals
Contraindications	Live vaccines Note household contacts of an immunosuppressed person should receive IPV rather than OPV, but MMR may be used for this group

HIV infection (with or without symptoms)	
Children and adults	Usual childhood schedule except BCG although discuss MMR depending on degree of immunosuppression. Pneumococcal vaccine Hepatitis B is safe if indicated Consider HNIG after measles exposure and VZIG after varicella zoster exposure for non-immune individuals
Contraindications	BCG and yellow fever vaccines are contraindicated
Recipients of bone marrow transplants	
Children and adults	6 months after transplant check immunity to diphtheria, tetanus, polio, measles, mumps, rubella, and Hib and immunise accordingly
Contraindications	Live vaccines within 6 months of transplant
Haemophilia	
Risk	At increased risk of severe illness if infected with Hepatitis A
Children and adults	Routine schedule Hepatitis A vaccine Hepatitis B (also applies to other persons receiving regular blood transfusions or blood products)
Contraindications	Haemophiliacs should be immunised subcutaneously rather than intramuscularly
Recipients of cochlear implants	
Children and adults	Routine schedule Pneumococcal vaccine

7b) Groups with environmental or lifestyle related risk factors for infectious disease.

Babies born to mothers who have acute hepatitis B during pregnancy or are chronic carriers of hepatitis B	
Children	Hepatitis B vaccine (and HBIG if indicated)
Babies born to ethnic minority parents	
Definition	Parents coming from any country with a high prevalence of TB (in practice outwith Western Europe) even if second or subsequent generation immigrants
Children	BCG at birth (no need for prior tuberculin skin testing if immunised within 3 months of birth and no known contact with a case of TB)
Access	BCG vaccination for this group can be arranged through the BGH Child Health services.
Pregnancy	
Adults	The Green Book whose advice is paramount states that pregnant women and those breast-feeding can be immunised when clinically indicated. Rubella vaccine **after delivery** for women found to be non-immune on ante-natal screening
Contraindications	Live vaccines are contraindicated during pregnancy. The data sheets for dTaP/IPV, DTaP/IPV and Td/IPV do not recommend these vaccinations during pregnancy, whilst the SPCs for dTaP/IPV and DTaP/IPV recommend avoidance during breast-feeding but see note above.
Sex workers	
Adults	Hepatitis B vaccine

Men who have sex with men	
Adults	Hepatitis A vaccine Hepatitis B vaccine (if changing partner frequently)
Injecting drug users	
Adults	Hepatitis A vaccine Hepatitis B vaccine
Prisoners	
Adults	Hepatitis B vaccine
Persons living in residential accommodation e.g. care homes	
Children and adults	Influenza vaccine Hepatitis B vaccine (only for persons with severe learning disabilities) Consider hepatitis A vaccine (only for persons with special needs and difficulties with personal hygiene)

ABSENT OR DYSFUNCTIONAL SPLEEN VACCINE GUIDELINES

NHS Borders

Antibiotic Prophylaxis	**Men C vaccine**	**Hib vaccine**	**Pneumococcal vaccine**	**Influenza vaccine**	**Travel ****	**Bites *****
Choice of antibiotic, dosage and treatment length vary. Follow advice of specialist clinician.	See 'Green Book' guidance – Ch 22	See 'Green Book' guidance – Ch 16	See 'Green Book' guidance – Ch 25	Annual	Avoid insect/mosquito bites Use antimalarials if advised Meningitis - Polysaccharide (ACWY) vaccine or AC where appropriate	*Ticks – Some bites carry risk of Babeseosis and Lyme Disease Dogs – A rare infection with* C.canimorus *can result from a bite*

Points to note

1. Patients with an absent or dysfunctional spleen are at an increased risk of life-threatening infection. This guidance aims to support primary care staff in helping patients to reduce that risk. However, patients who are under the specialist care of a consultant immunologist or haematologist should follow the advice of their consultant - this is entirely appropriate.
2. Some asplenic patients may need vaccinations boosting more frequently. Periodic measurement of pneumococcal and Hib antibodies levels may be recommended for a small number of patients by their specialist clinician.
3. Patient should carry a wallet-sized 'ALERT' card or wear a MEDIC-ALERT bracelet/necklace (Medic-Alert Foundation, 12 Bridge Wharf, 156 Caledonian Road, London N1 9UU

* Men C - Quadrivalent (ACWY) polysaccharide vaccine protection is not long-lasting. If this was given more than 6 months ago a single dose of conjugate (MenC) vaccine should be given
** Antibiotic resistant bacteria - In many countries, the incidence of *Streptococci pneumoniae* that are resistant to Penicillin is higher than in Great Britain. This is particularly a problem in the USA, Canada and Southern Europe. Patients without a spleen or with poor splenic function should change to using Erythromycin or Co-amoxiclav prophylaxis while travelling in these countries.
*** Asplenic patients are particularly susceptible to infection following animal and insect bites. They should attend promptly for appropriate management.

8) IMMUNISATIONS: FREQUENTLY ASKED QUESTIONS BY HEALTH PROFESSIONALS

For an updated list of General Public FAQ's see http://www.immunisation.org.uk/faq

Q1. A child has arrived from abroad with a history of receiving single measles vaccine. Do they require MMR vaccination?
A: Even if the child has received single measles vaccine, they should still be given MMR (depending on their age, either one now and one at pre-school age, or 2 doses three months apart) to maximise their protection against measles, mumps and rubella.

Q2. A child has failed to complete his/her course of primary vaccinations. What regime should be followed?
A: See section 5.

Q3. A baby attends for polio vaccination. Should its parents be given a booster dose of polio vaccine at the same time?
A: Unimmunised adults should be immunised at the same time as their baby. Those who started a course with oral polio can complete the course with IPV containing vaccines. However, if parents have already received a full course of polio vaccine (they should have had the opportunity for five doses of polio vaccine by this point) there is **no** need for further doses, even if more than 10 years has elapsed. Exceptions are travellers and healthcare workers likely to be in contact with polio.

Q4. A child has arrived from a country that routinely gives an extra dose of DTP (usually around the age of 18 months). Does the child require its pre-school DTaP/IPV booster in the UK?
A: Many countries have a six dose DTP strategy (e.g. Australia 2m, 4m, 6m, 18m, 4y plus Td at school leaving age), rather than the UK five dose strategy which has been shown to provide adequate immunity in the context of our vaccination schedule and disease burden. In these circumstances the guiding principles are:

- The pre-school booster (4th dose) is ideally given at least 3 years after 3rd vaccines of the primary course i.e. usually in UK at age 3 years 4month onwards.
- A minimum of one year should be left between the 3rd and 4th doses

- The pre-school booster (4th dose) will be the last dose of pertussis the child receives, and the last dip-tet-polio before the school leaving boosters (5 doses). Therefore, if the pre-school boosters (4th doses) are given too early, the protection may not last until then. This is why it is recommended that, generally, the 18 month boosters (4th dose) given in many countries are discounted, and pre-school boosters (now a 5th dose) are still given.

Q5. What time interval should be left between the administration of different vaccines?
A: If it is necessary to administer more than one live vaccine at the same time, they should be given **either simultaneously** in different sites (unless a combined preparation is used) or be **separated by a minimum period of three weeks**.
Live vaccines should be given **3-4 weeks** prior to or following BCG vaccination. **No** interval is required between the administration of live and **non-live** vaccines.

Q6. A child is a household contact of someone who is immunocompromised. Can they be immunised?
A: Inactivated polio vaccine (IPV) is now the standard and used instead of oral polio vaccine (OPV) since live virus may be shed in the stool following OPV, which could potentially infect the immunocompromised person. There is **no** risk of transmission of measles, mumps or rubella following MMR vaccination; therefore this vaccine should be given as usual. DTP, Hib and Men C can also be given as usual.

Q7. A mother is worried about Thiomersal in vaccines and requests Thiomersal-free vaccines.
A: Thiomersal was found in DTwP-Hib, DT and Td. However, the vaccines now in use are all Thiomersal free – the DTaP/IPV/Hib, dTaP/IPV and Td/IPV. Thiomersal is not added to DTaP-Hib, MMR, single Hib, polio, Men C or BCG.

Q8. A child is going abroad shortly. Can their immunisations be brought forward slightly?
A: Reducing the interval between doses by a few days is acceptable, especially if a child is going to a country where vaccine-preventable illness is a real threat. Shortening the interval by more than a few days may reduce the effectiveness.

Q9. What are the contraindications to immunisation?
A: General Contraindications
- If an individual is suffering from an acute illness, immunisation should be postponed until recovery had occurred. Minor infections without fever or systemic upset are not reasons to postpone immunisation.

- Avoid immunisation in individuals who have a definite history of a severe localised or generalised reaction to a preceding dose of **that particular vaccine. The exception is** where there was a severe localised reaction to vaccines containing acellular pertussis: this is not a contraindication to a further immunisation of this type***.***
- As the discussion above has shown, there are very few complete contra-indications to vaccination and many children who need actively seeking out for immunisation. The following list highlights the common reasons parents or carers may be concerned and which **are NOT contraindications to immunisation:**

- Family history of any adverse reactions following immunisation
- Previous history of pertussis, measles, rubella or mumps infection
- Prematurity: immunisation should not be postponed
- Stable neurological conditions such as cerebral palsy and Down's syndrome.
- Contact with an infectious disease
- Asthma, eczema, hay fever or "snuffles"
- Treatment with antibiotics or locally-acting (e.g. topical or inhaled) steroids
- Child's mother is pregnant
- Child being breast fed
- History of jaundice after birth
- Under a certain weight
- Over the age recommended in the immunisation schedule
- "Replacement" corticosteroids
- Egg allergy (see Q.10)

If there are any concerns regarding immunisation and whether a condition or event maybe a contraindication, contact either a consultant paediatrician or the public health department of NHS Borders.

Q10. Can MMR be given if a child is allergic to eggs?

A: Concerns about giving MMR to a child who has a severe egg allergy, who may already have had measles, or who has a cold, are quite common. None of these is a reason not to have the vaccine, i.e. they are not contraindications.

Although tissue derived from eggs is used to grow the vaccine virus, as much as possible is removed. A number of scientific papers have been published which demonstrate the safety of MMR vaccine, even in children with a known severe egg allergy. MMR vaccine can be administered in hospital to children with a history of anaphylaxis to eggs, if there is particular parental concern.

Severe egg allergy means essentially the occurrence of anaphylaxis after eating eggs, not food intolerance or dislike of eggs. There is increasing evidence that MMR vaccine can be given safely to children even when they have previously had an anaphylactic reaction following food containing egg (generalised urticaria, swelling of the mouth and throat, difficulty breathing, hypotension or shock). Scientific papers have been written advocating the safety of administering the MMR vaccine to children with egg allergy. Over 99% of children who are allergic to eggs can safely receive the MMR vaccine.

Q11. A mother / carer is asking about single antigen vaccines instead of MMR.

A: Single vaccines are not given in the UK due to:

- Increased risk of disease
- Increased risk of missing a dose completely
- Increased risk of local reactions at injection site
- Increased trauma to child

Giving the vaccines separately would mean a child needing a total of six injections to complete the course, instead of two. These children would remain **unprotected** and at risk of disease for longer. Six injections could also mean an increased risk **of local reactions at the injection site.** Control programmes would be less effective and this would lead to more cases of measles, mumps and rubella.

Drug companies do not manufacture single antigen measles or mumps vaccines **that match UK licence specifications.** Some of the unlicensed single antigen vaccines imported into the UK and offered in private clinics are known to be **less effective, or to have a higher risk of side-effects** than the MMR vaccine.

(see question 7 in the MMR discussion pack at the following website on NHS Health Scotland)
www.healthscotland.com/immunisation/mmr/pubcontents.cfm?TxtTCode=1172&TA=index&newsnav=1&NC=2

Q12. Is it safe to give someone more than 5 doses of tetanus vaccine?

A: Five doses at appropriate intervals of tetanus vaccine are considered to give satisfactory long-term protection (see section 5). Where there is any doubt either about the schedule timing or the type of vaccine supplied the advice is to complete a full course. Doses given outside of the appropriate intervals (ie tetanus prone wound) do happen but are

unlikely to produce an unacceptable rate of reactions. Persons requiring a polio booster who have completed a full course of tetanus should still have the Td/IPV.
For travellers to areas where medical attention may not be accessible (such as parts of Angola) and whose last dose of a tetanus-containing vaccine was more than ten years previously, a booster dose should be given prior to travelling, even if the individual has received five doses of vaccine previously. This is a precautionary measure in case immunoglobulin is not available to the individual should a tetanus prone injury occur.

Q13. Where can I find information about vaccines given to patients from other countries?
A:

- **Foreign language terms** – An aid to translating immunisation terms
  www.cdc.gov/vaccines/pubs/pinkbook/downloads/appendices/B/foreign-products-tables-07.pdf
- **Foreign country schedules -** World Health Organisation vaccination schedules and coverage information
  www.who.int/vaccines/globalsummary/immunization/countryprofileselect.cfm

Q14. A mum has refused to give consent to vaccination as she believes that pertussis vaccine has serious side effects. What should I do?

By far the best course is to reassure mum that a) there never was any association between pertussis vaccine and brain damage; b) pertussis vaccine is known to be safe; and c) the new, more refined vaccine is more free of local side-effects. Check that the mum knows that reactions are much less with the acellular pertussis than with the previously used whole cell vaccine and that children who had a reaction previously with whole cell vaccine don't usually have a repeat reaction with the acellular type.

If mum still refuses it is important that the child is protected with non pertussis containing vaccines. In such instances *Revaxis (Td/IPV)* should be considered along with Hib/MenC . This does not contain pertussis antigens but does contain polio. However it is not licensed for children under 10. This is mainly because it lacks the pertussis rather than for any safety concerns and as it only contains low-dose diphtheria vaccine, it cannot be depended on to give reliable immunity for this group. Deviations from the guidelines are however allowed after due consideration and advice. If mum is still adamant in leaving the children unvaccinated it may be wise to explain that this has significant risk to the children and record your conversation in the children's notes.

9) TRAVEL VACCINATION ISSUES

NHS entitlement
Immunisations which are available for reimbursement under the Regulations are provided free of charge to patients who require them. These include smallpox, typhoid, polio and hepatitis A, to destinations where vaccination is recommended (for destinations where vaccination is not recommended, general practices are entitled to charge a fee). Other vaccines may be provided free of charge if this would complete primary immunisation courses (e.g. Tetanus/diphtheria/polio).

Sources of advice
Advice on Travel Health can be found at the Health Protection Scotland Travax website www.travax.scot.nhs.uk/ The public can use the Fit for Travel section at www.fitfortravel.scot.nhs.uk/ which provides good and updated information and links to a number of other websites including the Foreign and Commonwealth website which gives safety recommendations for travellers.

The health professionals website TRAVAX provides much more detailed information on the illnesses specific to each destination. TRAVAX has been provided as a resource by the National Health Service since 1984 to help health care professionals who are advising patients on how to avoid illness when travelling abroad. TRAVAX is accessed through a log-in address and the registration system is straightforward, and the database easy to use.

Travel Clinics
The nearest Travel clinics are :

Teviot Medical Practice
Yellow Fever Vaccine centre
Hawick
Tel: 01450 370999
Fax: 01450 371025
Phone for appointment with practice nurse during surgery hours.

The O'Connell Street Medical Centre
Yellow Fever Vaccine centre
Hawick
Tel : 01450 372276

Phone for appointment with practice nurse during surgery hours

The Specialist Travel Clinic – yellow fever centre
Ward 41, Regional Infectious Diseases Unit
Western General Hospital
Crewe Road South, Edinburgh, EH4 2XU
Tel : 0131 537 2822
9am – 12 noon, Monday - Friday

The Edinburgh Travel Health Clinic
Newington Surgery
14 East Preston Street, Edinburgh, EH8 9QA
Tel : 0131 667 1030
8.30am – 6pm, Monday – Friday
www.edinburghtravelhealthclinic.co.uk

Marchmont Surgery – yellow fever centre
10 Warrender Park Terrace, Edinburgh, EH9 1JA
Tel : 0131 229 6314
8am – 6pm, Monday – Friday

MASTA Travel (Medical Advisory Services for Travellers Abroad)
5 Quality Street, Edinburgh, EH4 5BP
Tel : 0131 336 3038
8.30am- 10am, 3.30pm-4.30pm, Monday – Friday (mornings only on Friday)
www.masta.org

Adventure & Tourism Travel Health Centre – yellow fever centre
LHCC Centre, 5 Mill Lane, Leith
Tel : 0131 536 8818
6pm – 8pm Monday and Wednesday, 2pm – 5pm Friday

Edinburgh International Health Centre – yellow fever centre, Mantoux & BCG offered
Elphinstone Wing, Carberry, Musselburgh, EH21 8PW
Tel : 0845 375 2545
www.eihc.org
Clinics from 9am – 1pm Wednesday and Thursday, 9am-5pm Friday.
(Booking office open 8.30am – 5pm Monday – Friday).

10) OCCUPATIONAL HEALTH ISSUES

Health Care Workers may be exposed to infectious hazards in the course of their work. In certain circumstances they may also transmit infection to patients. NHS Borders has a legal responsibility to protect staff from infectious disease - *see 'Staff Immunisation Policy (Feb 2006) published on intranet for more details.* Immunisation is offered appropriate to the occupational risk. A variety of immunisations are available.
Currently these include:

- Poliomyelitis
- Rubella
- Tetanus
- Typhoid
- BCG
- Diphtheria
- Hepatitis A & B
- Varicella
- Influenza

Non-employees of NHS Borders such as students and locums are treated as if they were employed and are required to fulfil the Trust's Immunisation Policy. Contracted services are, within the terms of the contract, required to arrange and ensure appropriate immunisation for their employees in line with the NHS Borders Staff Immunisation Policy.

People not employed in the NHS may also require immunisation appropriate to the occupational risk e.g. carers, plumbers, sewage workers. In these circumstances immunisation may be required to comply with Public Health legislation as well as Health & Safety Law. If you have any queries please feel free to contact OH for advice.

11) CONTACTS

During normal hours as per the following:

Contact	Telephone	
Consultant in Public Health Medicine (CD/EH) NHS Borders	01896 825517	
Health Protection Nurse Specialist, NHS Borders	01896 825565	
Consultant Community Paediatrician, BGH	01896 826673	
Senior Pharmacist, Primary Care, NHS Borders	01896 827707	
Head of Pharmacy NHS Borders	01896 825579	
Occupational Health West End House, Melrose	01896 825982	BGH Pager 6158