Guidance For The Provision Of Immunisations For Patients Travelling Abroad

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Medicine Management
Specialist Nurse

Approver:
Medicine Guidelines and Policies Group

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Review Date:
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Information contained within this document should be used in conjunction with the latest recommendations as detailed in the “green book”– Immunisations against Infectious Disease (HMSO) and any additional guidance from Health Protection Scotland or the Scottish Government Health Directorate.

Uncontrolled when printed

Version 5

Executive Sign-Off

This document has been endorsed by the Director of Pharmacy and Medicines Management

Signature:
## Revision History:

<table>
<thead>
<tr>
<th>Date of change</th>
<th>Approval date of PGD being superseded</th>
<th>Summary of Changes</th>
<th>Section heading</th>
</tr>
</thead>
<tbody>
<tr>
<td>April 2018</td>
<td>April 2016</td>
<td>Infanrix® and Pediacel® removed from Tetanus/Diphtheria/Pertussis/Polio monograph as no longer available in the UK.</td>
<td>Tetanus/Diphtheria/ Pertussis/Polio monograph</td>
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<tr>
<td>April 2018</td>
<td>April 2016</td>
<td>Infanrix hexa® added to Tetanus/Diphtheria/Pertussis/Polio monograph.</td>
<td>Tetanus/Diphtheria/ Pertussis/Polio monograph</td>
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<tr>
<td>April 2018</td>
<td>April 2016</td>
<td>Updated UK immunisation schedule added.</td>
<td>Appendix 1</td>
</tr>
<tr>
<td>June 2018</td>
<td>April 2016</td>
<td>ACW135Y Vax removed as discontinued.</td>
<td>Page 12</td>
</tr>
<tr>
<td>July 2018</td>
<td>April 2016</td>
<td>Additional info added regarding post exposure rabies vaccine under notes.</td>
<td>Introduction section (ii)</td>
</tr>
<tr>
<td>July 2018</td>
<td>April 2016</td>
<td>Fendrix® added to PGD.</td>
<td>Hep B monograph</td>
</tr>
<tr>
<td>July 2018</td>
<td>April 2016</td>
<td>Statement regarding high risk groups added to table.</td>
<td>Meningococcal (Types A,C,W135Y) monograph</td>
</tr>
<tr>
<td>July 2018</td>
<td>April 2016</td>
<td>Pertussis vaccination removed as it is no longer available for travel.</td>
<td>Tetanus/Diphtheria/ Pertussis/Polio monograph</td>
</tr>
<tr>
<td>July 2018</td>
<td>April 2016</td>
<td>Statement regarding the availability of BCG vaccine added. Removal of link to PGD and reference to PGD changed to PSD.</td>
<td>Tuberculosis (BCG) monograph</td>
</tr>
<tr>
<td>July 2018</td>
<td>April 2016</td>
<td>Links to HPS Yellow Fever site finder and TravelHealthPro/NaTHNaC added.</td>
<td>Yellow Fever</td>
</tr>
<tr>
<td>July 2018</td>
<td>April 2016</td>
<td>Inserted NHS Scotland Routine Childhood Immunisation Programme.</td>
<td>Appendix 1</td>
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**Title:** Guidance For The Provision Of Immunisations For Patients Travelling Abroad  
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**Review date:** At least every 3 years or sooner if current treatment recommendations change.

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## Guidance For The Provision Of Immunisations For Patients Travelling Abroad

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Guidance For The Provision Of Immunisations For Patients Travelling Abroad

Introduction

There are three categories of immunisations that may be required for travel purposes:

(i) **Those that must always be given as part of NHS provision through GMS Additional Services**

No fee may be charged by the contractor to a patient registered for NHS services with that contractor. Patients should be prescribed these vaccines via an individual NHS Prescription:

Cholera
Combined hepatitis A and B
Combined hepatitis A and typhoid
Hepatitis A
Tetanus, diphtheria and polio as given in the combined Td/IPV vaccine
Typhoid.

(ii) **Those that cannot be given as an NHS service for travel purposes**

The following immunisations cannot be prescribed as part of NHS services for travel purposes and are not remunerated by the NHS as part of additional services. Patients must be prescribed the vaccines below via an individual Private Prescription:

Japanese B encephalitis
Rabies*
Tick borne encephalitis
Yellow Fever.

The contractor may therefore charge a patient registered for General Medical Services (GMS) for the immunisation if requested for travel.

*NB: Rabies vaccine may be required for those individuals who regularly handle bats, regularly handle imported animals, or are laboratory workers working with rabies virus and will be part of their occupational health requirements. Those who have been exposed to rabies having returned from abroad will also require post exposure vaccination which should be provided under the NHS.
(iii) Those that can be given as either NHS or as a private service

The following vaccines may be provided to the patient on the NHS only where the patient meets the criteria (and age bands) for these immunisations under the routine UK immunisation schedule (see Appendix 1) or patients are in a risk group where immunisation is recommended for UK residency. Where patients do not meet any of these criteria and the immunisation is solely for travel purposes these vaccines are not remunerated by the NHS as part of additional services, and patients must be prescribed these vaccines via an individual Private Prescription.

Hepatitis B
Meningitis ACWY
BCG (non-NHS supply may not be available via GP surgeries).

General Points

To provide vaccines as an NHS Service, practices should prescribe the immunisation on either a GP10, GP10(N) or GP10(P) for an individual named patient. The practice must not charge the patient for the administration of the vaccine.

Vaccines intended for travel purposes should not be obtained using a GP10a (stock order) form or obtained from childhood immunisation stock.

If a confirmatory certificate is requested by the patient then the practice may charge for this, but cannot charge for recording immunisation details for the patient’s personal record.

For those vaccines, as detailed above, that can be provided as a Private Service the practice may charge the patient registered for GMS services for the immunisation. In this situation a charge may be made for the administration of the vaccine and the vaccine must be provided on a Private Prescription.

For further advice, see General Practitioners Committee Focus on travel immunisations, November 2012.

http://bma.org.uk/-/media/Files/PDFs/Practical%20advice%20at%20work/Doctors%20as%20managers/Managing%20your%20practice%20staff%20services/gpfocusustravelimmunisations.pdf

Each individual vaccine must be provided either entirely as an NHS process or entirely as a private service – the two cannot be mixed.

Travel Vaccine Advice

Assessment of requirements for individual vaccinations should be made using up to date reliable sources of travel information, e.g. Travax. This information should be read in conjunction with the advice given in the “Green Book” (Immunisation Against Infectious Disease).

www.travax.nhs.uk
Immunisation programme

Further information about the current immunisation programmes in Scotland, the vaccines available, and the diseases they protect against, can be found via the NHS Health Scotland Immunisation website [www.immunisationscotland.org.uk](http://www.immunisationscotland.org.uk).

Vaccine monographs

The following monographs provide information on individual immunisations, including their availability on the NHS.

In all cases, always refer to up to date manufacturer's literature and the Green Book.


Travel Vaccine Patient Group Directions (PGDs)

Use the link below to the Grampian Medicines Management webpage for individual PGDs.

Vaccine Monographs

1.1 Cholera

For current PGD see the GMM website.

Dukoral® suspension and effervescent granules for oral suspension
Inactive oral cholera vaccine - Adults and children from 2 years of age.

<table>
<thead>
<tr>
<th>Available on NHS:</th>
<th>YES (but only for those at specific risk – see below).</th>
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<tbody>
<tr>
<td>PGD available:</td>
<td>YES</td>
</tr>
<tr>
<td>Supply:</td>
<td>Prescribe vaccine on a GP10 and administer vaccine free of charge.</td>
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</tbody>
</table>

Notes: Ref Fit for Travel

Severe cholera is rare in travellers, mild cases may present as ‘travellers' diarrhoea’. All travellers should be given advice on maintaining good food, water and hand hygiene.

Travellers should be advised on management of diarrhoea, particularly maintaining hydration.

Vaccination should be considered under the following circumstances and is dependent on the individual risk assessment:

(i) Volunteers/aid workers/medical personnel in disaster relief situations where cholera outbreaks likely.
(ii) Those travelling to work in slums/refugee camps, areas affected by natural disasters, or countries experiencing cholera outbreaks.

No traveller should be required to demonstrate vaccination against cholera. Officials at a few remote borders may occasionally ask people travelling from infected areas for evidence of immunisation. Travellers who are likely to cross such borders, especially overland, should be advised to carry a signed statement on official paper that cholera vaccine is not required. When certificates are demanded it may be useful to provide a letter for travellers as follows:

“The above patient attended our Travel Clinic on ------- and requested Cholera vaccine. This was not administered as it is no longer the policy of the World Health Organisation (WHO) to advise this vaccine. All countries in the world have informed the WHO that they do NOT require a Cholera certificate as a condition of entry in any circumstances”.
1.2 Hepatitis A

Ideally, the manufacturers’ recommended timing for the administration of the booster dose of hepatitis A vaccine should be followed. However, studies have shown that successful boosting can occur even when the second dose is delayed for several years so a course does not need to be re-started.

For current PGD see the GMM website.

**Avaxim**
For those 16 years of age and over.

**Havrix® Junior Monodose**
For those aged 1-15 years.

**Havrix® Monodose**
For those over 16 years of age.

**Vaqta® Adult**
*(Sanofi Pasteur MSD)* For those aged 1-17 years inclusive

**Vaqta® Paediatric**
*(Sanofi Pasteur MSD)* For those aged 18 years and older.

The vaccines are interchangeable so boosters (for example) can be given using an alternative monovalent vaccine, taking the age of the traveller into account.

<table>
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<tr>
<th>Available on NHS:</th>
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<tbody>
<tr>
<td>PGD available:</td>
<td>YES</td>
</tr>
<tr>
<td>Supply:</td>
<td>Prescribe vaccine on a GP10 and administer vaccine free of charge.</td>
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</table>

**Clinical decision on risk should determine if vaccination is needed.**

**Notes:**

As with all other illnesses spread by the faecal oral route, precautionary measures should be taken to avoid consumption of potentially contaminated drinks and drinking water, and to ensure food is uncontaminated or cooked thoroughly. Personal hygiene when eating and drinking is also important including hand washing prior to eating and using clean plates, cups and utensils.

Vaccination should be considered under the following circumstances and is dependent on the individual risk assessment:

(i) For those aged one year and over travelling to areas of moderate or high endemicity, such as the Indian subcontinent, for prolonged periods, particularly if sanitation and food hygiene is likely to be poor.

(ii) Vaccine is also recommended for all individuals going to reside in or likely to be posted for long periods to hepatitis A virus-endemic countries.
Immunisation is not considered necessary for individuals travelling to or going to reside in Northern or Western Europe (including Spain, Portugal and Italy), or North America, Australia or New Zealand. Human normal immunoglobulin is no longer recommended for travel prophylaxis.

Country-by-country recommendations for hepatitis A and other travel vaccines are given in Health information for overseas travel (www.nathnac.org).

For travellers, the vaccine should preferably be given at least two weeks before departure, but can be given up to the day of departure. Although antibodies may not be detectable for 12 - 15 days following administration of monovalent hepatitis A vaccine, the vaccine may provide some protection before antibodies can be detected using current assays.
1.3 Hepatitis A - Combined Vaccine

(i) The recommended schedule should be adhered to.
(ii) Once initiated, the primary course of vaccination should be completed with the same vaccine.

Combined Hepatitis A and B vaccine

For current PGDs see the GMM website.

Ambirix® From 1 year up to and including 15 years of age.
May contain trace amounts of neomycin and thiomersal.

The safety and immunogenicity of Ambirix® administered as a booster dose following a two dose primary course have not been evaluated.

Twinrix Adult® Adults and adolescents over 16 years.
May contain trace amounts of neomycin and thiomersal.

Twinrix® Paediatric From 1 year up to and including 15 years of age.
May contain trace amounts of neomycin and thiomersal.

Combined Hepatitis A and Typhoid vaccines

ViATIM® for those from 16 years and over.
May contain trace amounts of neomycin.

N.B: Booster doses for hepatitis B will be required to be given using single antigen hepatitis B vaccine. Consider if patients are eligible for hepatitis B immunisation (see section 1.4) before administering a first dose of combined hepatitis A and B vaccine for travel purposes.

<table>
<thead>
<tr>
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<th>There is no funding within GMS for hepatitis B for travel.</th>
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<tbody>
<tr>
<td></td>
<td>YES for combined vaccine. See also section 1.4 for single antigen hepatitis B.</td>
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</tbody>
</table>

| PGDs available: | YES |

| Supply: | Prescribe combined vaccine on a GP10 and administer vaccine free of charge. |
1.4 Hepatitis B

For current PGD see the GMM website.

**Engerix B® 20 microgram** for adults and those over 16 years.
May contain trace amounts of thiomersal.

**Engerix B® (paediatric 10 micrograms)** from birth - 15 years inclusive.
May contain trace amounts of thiomersal.

**HBvaxPRO® 10 micrograms** for adults and those over 16 years.

**HBvaxPRO Paediatric® 5 micrograms** from birth - 15 years inclusive.

**HBvaxPRO® 40 micrograms** for use specifically in pre-dialysis and dialysis adult patients.

**Fendrix®** for use specifically for individuals with renal insufficiency aged 15 years and over.

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<thead>
<tr>
<th>Available on NHS:</th>
<th>There is no funding within GMS for hepatitis B for travel.</th>
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<tr>
<td><strong>YES</strong></td>
<td>for public health/outbreaks and for those individuals requiring pre-exposure vaccination who are at increased risk of hepatitis B because of their lifestyle, occupation or other risk factors as part of UK recommendations – See Green Book (Link)</td>
</tr>
</tbody>
</table>

| PGD available: | **YES** |

| Supply: | For travel, can be given as either NHS (if in one of UK risk groups), or as a private service when requested for travel purposes, at the discretion of individual practices. |

**Clinical decision on risk should determine if vaccination is needed.**

Immunisation is not considered necessary for those travelling to Northern or Western Europe (including Spain, Portugal and Italy), or to North America, Australia or New Zealand. Short term tourists or business travellers are not generally at increased risk of infection unless they place themselves at risk by their sexual behaviour when abroad.

**Efficacy:**

Around 10% to 15% of adults fail to respond to three doses of vaccine or respond poorly. Poor responses are mostly associated with age over 40 years, obesity and smoking. Lower seroconversion rates have also been reported in alcoholics, particularly those with advanced liver disease. Patients who are immunosuppressed or on renal dialysis may respond less well than healthy individuals and may require larger or more frequent doses of vaccine. These 'non-responders' will therefore remain at risk and travellers should be aware of the potential for this, ensuring that they take precautionary measures against blood borne viruses at all times when travelling.
Notes:

For many travellers general advice and awareness will be sufficient, however hepatitis B vaccination should be considered for those visiting medium - high carriage rate areas in the following circumstances:

(i) Travellers to areas of high or intermediate prevalence who place themselves at risk through sexual activity, injecting drug use, undertaking relief aid work and/or participating in contact sports when abroad should be offered immunisation.

(ii) Travellers are also at risk of infection as a result of medical or dental procedures carried out in countries where unsafe therapeutic injections (e.g. potentially the re-use of contaminated needles and syringes without sterilisation).

Individuals at high risk of requiring medical or dental procedures in such countries should therefore be immunised, including:

- those who plan to remain in areas of high or intermediate prevalence for lengthy periods
- children and others who may require medical care while travelling to visit families or relatives in high or moderate-endemicity countries
- people with chronic medical conditions who may require hospitalisation while overseas
- those travelling for medical care.

Hepatitis B immunisation should not be withheld from a pregnant woman if she is in a high risk category. There is no evidence of risk from vaccinating pregnant or breastfeeding women.
1.5 Japanese Encephalitis (JE)

For current PGD see the GMM website.

Japanese Encephalitis (IXIARO®) Vaccine. For those over 8 weeks of age.

<table>
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<th>Available on NHS:</th>
<th>NO</th>
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<tbody>
<tr>
<td>PGD Available:</td>
<td>YES</td>
</tr>
</tbody>
</table>
| Supply:           | Prescribe vaccine on a private prescription.  
                  | A fee may be charged for administration. |

All travellers should undergo a careful risk assessment that takes into consideration their itinerary, season of travel, duration of stay and planned activities. The risk of JE should then be balanced against the risk of adverse events from vaccination. JE vaccine is recommended for those who are going to reside in an area where JE is endemic or epidemic.

Vaccination is important for infants and children who may be more likely to get serious disease.

Travellers should be advised on personal protective measures to prevent mosquito bites and the use of insect repellents. Outside activity during twilight hours should be minimised.

Vaccination should be considered under the following circumstances and is dependent on the individual risk assessment:

(i) Repeated visits to, or prolonged stays (e.g. > 1 month) in endemic regions especially if staying in rural areas.
(ii) Short stays in rural areas during outbreaks - often during the rainy season when the mosquitoes are most active.

Notes:

As a precautionary measure immunisation is not advised during pregnancy or lactation until a risk assessment has been undertaken.

Those with reduced immune responsiveness may not achieve protective levels of antibody.
1.6 Meningococcal (Types A,C,W135Y)

For current PGD see the GMM website

There are currently 2 MenACWY vaccines quadrivalent (ACWY) conjugate vaccines, Menveo® and Nimenrix®.

N.B. In conjugate vaccines the conjugation increases the immunogenicity, especially in young children in whom the non-conjugate (plain polysaccharide) vaccines are less immunogenic. Immunisation with meningitis ACW135Y conjugate vaccine is included as part of the UK childhood immunisation schedule.

Nimenrix® For those aged 6 weeks and above.

Menveo® For those aged 2 years and above.

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<tr>
<th>Available on NHS:</th>
<th>NO - For travel only.</th>
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<td></td>
<td>(YES on public health grounds for contacts of cases as advised by the Health Protection team and as part of childhood immunisation schedule. Also given to patients in some high risk groups like those with asplenia/splenic dysfunction).</td>
</tr>
</tbody>
</table>

| PGD available:   | YES |

| Supply:          | Can be given as part of NHS service if in UK risk group or as part of childhood immunisation schedule. For travel as private service, prescribe vaccine on a private prescription. A fee may be charged for administration. |

Efficacy:

In children below the age of two years protection rates against serogroups C, W135 and Y are lower than against serogroup A and antibodies decline more rapidly than in older children and adults.

Notes:

In some areas of the world, the risk of acquiring meningococcal infection is much higher than in this country particularly for those visitors who live or travel “rough”, such as backpackers and those living or working with the local people.

(i) Epidemics, mainly group A and more recently W135 infections, occur throughout tropical Africa, particularly in the savannah during the dry season, which varies from country to country and can be unpredictable. Immunisation is recommended for long-stay or high-risk visitors to sub-Saharan Africa, for example those who will be living or working closely with local people, or those who are backpacking.
(ii) From time to time, outbreaks of meningococcal infection may be reported from other parts of the world, including the Indian sub-continent and other parts of Asia. Where such outbreaks are shown to be due to vaccine-preventable serogroups, vaccination may be recommended for certain travellers to the affected areas.

(iii) Saudi Arabia has required ACW₁₃₅Y immunisation as an entry requirement for people attending the Hajj or Umrah annual pilgrimages. Visa applications require vaccination to have been given at least 10 days prior to the expected date of entry, but not more than 3 years previously.

(iv) Asplenic children and adults travelling to areas where there is an increased risk of serogroup A, W₁₃₅ or Y disease should receive quadrivalent meningococcal vaccine.

Check that Men ACW₁₃₅Y has not already been administered to the patient as it is part of the UK schedule and offered to children in S3 and young adults who are going to university (up to age 25).
1.7 Rabies

For current PGD see the GMM website.

Rabies Vaccine BP may contain trace amounts of neomycin.

Rabipur® may contain trace amounts of neomycin. Contraindicated where allergy to egg/ovalbumin.

<table>
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<tr>
<th>Available on NHS:</th>
<th>NO - for travel.</th>
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<tr>
<td></td>
<td>YES - for UK occupational risk and post exposure prophylaxis as directed by the Health Protection Team.</td>
</tr>
<tr>
<td>PGD Available:</td>
<td>YES - for pre-exposure vaccination only.</td>
</tr>
<tr>
<td>Supply:</td>
<td>For travel purposes prescribe vaccine on a private prescription. A fee may be charged for administration.</td>
</tr>
</tbody>
</table>

Efficacy:

The three dose primary pre-exposure course produces protective antibody in virtually 100% of recipients. The maximum immune response can be expected by day 28 of a primary series of 3 injections.

Notes:

Pre-exposure vaccination should be considered for some travellers:

(i) Those living in or travelling for more than one month to rabies-enzootic areas, unless there is reliable access to prompt, safe medical care. Health professionals can access the information at www.travax.nhs.uk.

(ii) Those travelling for less than one month to rabies-enzootic areas, but who may be exposed to rabies because of their travel activities, if post exposure medical care and rabies biologics at the destination are lacking or in short supply. Consideration should be given to the activities being undertaken on the holiday, i.e. cycling, running. N.B. Children may be at higher risk as they are less likely to be aware that they should avoid animals.

(iii) Health workers in rabies enzootic areas who will be at risk of direct exposure to body fluids or tissue from a patient with confirmed or probable rabies.

(iv) The additional population which may be defined (in response to a UK rabies incident) by the NHSG Health Protection Team or by the Scottish Government Health Directorate.

Emphasis should be given on avoidance of contact with wild, stray and domestic animals including cats and dogs in rabies-endemic areas. All travellers to enzootic areas should be informed of the immediate steps to be taken if an animal bite is sustained, and the need to seek medical advice for further treatment. Pre-exposure rabies vaccine should only be given to pregnant women if the risk of exposure to rabies is high.
Post-exposure management normally consists of wound treatment and risk assessment for appropriate post exposure prophylaxis. Treatment and immunisation after a possible rabies exposure will depend on the circumstances of the exposure, including the local incidence of rabies in the species involved and the immune status of the person.
1.8 Tetanus/Diphtheria/Pertussis/Polio

For current PGDs see the GMM website.

**Revaxis® (Td/IPV)**
**Infanrix hexa® (DTaP/IPV/Hib/HepB)**
**Boostrix® (dTaP/IPV)**

<table>
<thead>
<tr>
<th>Available on NHS:</th>
<th>YES</th>
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<tr>
<td>PGDs available:</td>
<td>YES</td>
</tr>
<tr>
<td>Supply:</td>
<td>For children eligible under the UK immunisation schedule and pregnant women meeting UK immunisation criteria, order vaccine from ARI and administer vaccine free of charge.</td>
</tr>
<tr>
<td></td>
<td>For adults for travel purposes prescribe Td/IPV vaccine on a GP10 and administer vaccine free of charge.</td>
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</table>

**Notes:**

**For all components:** Ensure UK Vaccination Schedule complete for all travellers including booster doses as teenagers.

**TETANUS:** Travellers should be aware of tetanus and types of injuries considered high risk for disease.

Vaccination should be considered under the following circumstances and is dependent on the individual risk assessment:

(i) Individuals with an incomplete primary vaccination history for tetanus, irrespective of region of travel.

(ii) 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 occur. Where tetanus, diphtheria or polio protection is required and the final dose of the relevant antigen was received more than ten years ago, Td/IPV should be given.

**DIPHTHERIA:** Travellers should be aware of: persistence of disease in many regions of the world to which unvaccinated individuals are susceptible and waning immunity from diphtheria vaccine with increasing age.

Vaccination should be considered under the following circumstances and is dependent on the individual risk assessment:

(i) Individuals with an incomplete primary vaccination history for diphtheria, irrespective of region of travel.
(ii) All travellers to epidemic or endemic areas should ensure that they are fully immunised according to the UK schedule. Additional doses of vaccines may be required according to the destination and the nature of travel intended, for example for those who are going to live or work with local people in epidemic or endemic areas. Where tetanus, diphtheria or polio protection is required and the final dose of the relevant antigen was received more than ten years ago, Td/IPV should be given.

Diphtheria vaccines are produced in two strengths according to the diphtheria toxoid content:

- vaccines containing the higher dose of diphtheria toxoid (abbreviated to 'D') contain not less than 30IU
- vaccines containing the lower dose of diphtheria toxoid (abbreviated to 'd') contain approximately 2IU.

Vaccines containing the higher dose of diphtheria toxoid (D) are used to achieve satisfactory primary immunisation of children under ten years of age. Vaccines containing the lower dose of diphtheria toxoid (d) should be used for immunisation in individuals aged ten years or over, where they provide a satisfactory immune response and the risk of reactions is minimised.

PERTUSSIS: Travellers should be aware that the disease is wide spread; both in the UK and across some regions of the world and unvaccinated individuals are susceptible to this highly infectious disease.

Vaccination should only be considered under the following circumstances and is dependent on the individual risk assessment:

(i) Individuals with an incomplete primary vaccination history for pertussis, irrespective of region of travel.

POLIO: Travellers should be aware that the disease still persists in some regions of the world and unvaccinated individuals are susceptible to this severe infection. Practice good food/water hygiene whilst travelling.

Vaccination should be considered under the following circumstances and is dependent on the individual risk assessment:

(i) Individuals with an incomplete vaccination history for polio, irrespective of region of travel.
(ii) Travellers to endemic countries or countries reporting outbreaks.
1.9 Tick Borne Encephalitis

For current PGD see the GMM website.

**Vaccination is contraindicated in patients with severe hypersensitivity to egg and chick proteins.** May contain trace amounts of formaldehyde, neomycin, gentamicin, protamine sulfate.

*TicoVac®* for those aged 16 years and above.

*TicoVac Junior®* for those aged above one year and below 16 years.

<table>
<thead>
<tr>
<th>Available on NHS:</th>
<th>NO</th>
</tr>
</thead>
<tbody>
<tr>
<td>PGD Available:</td>
<td>YES</td>
</tr>
<tr>
<td>Supply:</td>
<td>Prescribe vaccine on a private prescription. A fee may be charged for administration.</td>
</tr>
</tbody>
</table>

**Efficacy:**

The maximum immune response can be expected after completion of 3 doses.

**Notes:**

The vaccine may be considered for:

(i) Travellers to endemic areas at high risk of exposure to the virus, e.g. those who hike, camp and hunt in warm forested endemic areas in central Europe or Asia. The incidence of the Eastern subtype is seasonal in scattered foci in far eastern part of the former USSR and extending across into China. The Western subtype occurs in Russia, Austria, Hungary, the Balkans, Czech Republic, Slovakia, Scandinavia and Northern Japan.

(ii) Laboratory workers who may be exposed to the virus.

(iii) Those who will be going to reside in an area where tick borne encephalitis is endemic or epidemic, and particularly for those working in forestry, woodcutting, farming and the military.

Protection is also afforded by covering arms, legs and ankles and using insect repellents on socks and outer clothing, whether or not vaccine is given.
1.10 Tuberculosis (BCG)

BCG Vaccine Statens Serum Institut (SSI). This vaccine is not currently available in the UK although it may be available in late 2018. The vaccine that is available is Intervax which is an unlicensed BCG vaccine (freeze dried) supplied by InterVax Ltd, Canada which can only be used under a Patient Specific Direction.

Infants under 12 months of age: single dose of 0.05mL. Children over 12 months of age and adults: single dose of 0.1mL.

<table>
<thead>
<tr>
<th>Available on NHS:</th>
<th>NO – for travel.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>YES – for Public Health - As part of Public Health Policy.</td>
</tr>
<tr>
<td>PGD Available:</td>
<td>No (PSD only)</td>
</tr>
<tr>
<td>Supply:</td>
<td>Refer to GO Health Services Travel Clinic.</td>
</tr>
<tr>
<td></td>
<td>or TB nurse specialist as part of Public Health Policy.</td>
</tr>
</tbody>
</table>

Efficacy:

The maximum immune response can be expected 6 weeks after 1 dose. The vaccine has been shown to have a variable degree of efficacy with protection waning after 10 years.

Notes:

For travellers and those going to reside abroad: BCG may be required for previously unvaccinated, tuberculin-negative individuals according to the destination and the nature of travel.

BCG Vaccine Statens Serum Institut (SSI) is the only licensed vaccine available in the UK (see above). This is a live attenuated vaccine.

Specific training in intradermal injection technique is necessary.

Additional notes:

No further immunisations should be given in the arm used for BCG immunisation for at least three months due to the risk of regional lymphadenitis.

If other vaccines are given at the same time as BCG, do not give into the same arm.

People with a positive tuberculin skin test should not be given BCG, it is unnecessary and may cause severe injection site reactions.

A tuberculin skin test is not necessary prior to BCG vaccination for children up to and including five (5) years of age provided that:
(i) There is no history of residence or prolonged stay (more than three cumulative months) in a country with an annual tuberculosis incidence of 40/100,000 or greater.

(ii) There is no history of contact with a person with known tuberculosis.

BCG can be given up to three months following a negative tuberculin test.

Individuals with an uncertain history of prior BCG vaccination should be tuberculin tested before being given BCG.

BCG should not be administered to previously vaccinated individuals as there is an increased risk of adverse reactions and no evidence of additional protection.

BCG is contraindicated in symptomatic HIV-positive individuals. In countries such as the UK where the risk of TB is low, it is recommended that BCG is also withheld from all those known to be or suspected to be HIV positive, regardless of clinical status. Where vaccination is indicated, for example infants born to HIV-positive mothers, this can be administered after two appropriately timed negative postnatal polymerase chain reaction tests for HIV infection.

**The Tuberculin Skin Test**

A tuberculin skin test may be necessary prior to BCG vaccination (see Appendix 2).
1.11 Typhoid

For current PGD see the GMM website.

**TYPHIM Vi**® and **Typherix**® for those aged from two years.

**Vivotif**® for those aged 6 years and above.

<table>
<thead>
<tr>
<th>Available on NHS:</th>
<th>YES</th>
</tr>
</thead>
<tbody>
<tr>
<td>PGD Available:</td>
<td>YES</td>
</tr>
<tr>
<td>Supply:</td>
<td>Prescribe vaccine on a GP10 and administer vaccine free of charge.</td>
</tr>
</tbody>
</table>

**Efficacy:**

The maximum immune response can be expected 2-3 weeks after vaccination.

**Notes:**

Those who remain at risk of infection should be re-immunised with a single dose every three years.

Immunisation may be less important for short stays in good accommodation.

The vaccines are not 100% effective and the importance of preventing infection by taking care that food and water consumed is safe is paramount. Care should be taken with hand and environmental hygiene also.

Vaccination is recommended for travellers to areas where food and water are likely to be contaminated. When the risk is small vaccination may be limited only to those unable to maintain their own hygiene precautions or staying for long periods. These vaccines do not protect against para-typhoid. A previous typhoid illness does not confer reliable immunity and, when indicated, vaccine should still be used.

1.12 Typhoid Combined Vaccines

See section 1.3, Hepatitis A and Typhoid.

For current PGDs see the GMM website.
1.13 Yellow fever

Yellow fever can only be given at designated yellow fever vaccination centres. There are a number of Yellow Fever Centres in Grampian

Stamaril® for those aged 9 months and above. Can be used in those aged 6 - 9 months but only if the risk is unavoidable. Seek expert opinion from Health Protection Scotland Travel Team www.hps.scot.nhs.uk

Stamaril® is contraindicated in patients with:

(i) Anaphylactic reaction to eggs, chicken proteins or to previous dose of yellow fever vaccine.
(ii) Immunosuppression.
(iii) History of thymus dysfunction.
(iv) Symptomatic HIV infection.
(v) Asymptomatic HIV infection when accompanied by evidence of impaired immune function.
(vi) Age less than 6 months.
(vii) Pregnant or breastfeeding woman.
(viii) Current moderate or severe febrile illness.

DO NOT INJECT INTRAMUSCULARLY

<table>
<thead>
<tr>
<th>Available on NHS</th>
<th>NO</th>
</tr>
</thead>
<tbody>
<tr>
<td>PGD Available</td>
<td>YES – Available at request only</td>
</tr>
<tr>
<td>Supply</td>
<td>Prescribe vaccine on a private prescription. A fee may be charged for administration.</td>
</tr>
</tbody>
</table>

Efficacy:

A single dose correctly administered confers immunity in 95 to 100% of recipients. Data suggests that with some exceptions, most vaccine recipients will maintain protective antibody titers for potentially several decades, or possibly life-long, following vaccination.

Yellow fever may be considered for:

(i) Persons aged nine months and over should be immunised if travelling through, or living in, infected areas and those travelling outside urban areas of countries in the yellow fever endemic zone, even if these countries have not officially reported the disease and do not require evidence of immunisation on entry. (Please see TravelHealthPro/NaTHNaC for more information).

(ii) Infants under 9 months: Vaccine associated encephalitis has been recorded when the vaccine is given to infants mostly under 9 months of age. The manufacturers recommend that it should not be given to infants less than 6 months of age although risk/benefit may need to be considered in infants between 6 and 9 months going into an epidemic situation when mosquito bite avoidance is going to be difficult. Seek expert opinion.
(iii) Persons over 60 years: Due to the higher risk of yellow fever vaccine-associated severe and potentially fatal adverse reactions in persons from 60 years of age, the vaccine should only be given when it is considered that there is a considerable and unavoidable risk of acquiring yellow fever infection.
(iv) Travellers requiring an International Certificate of Vaccination for entry into a country should also be vaccinated.

Licensed supplier: Sanofi Pasteur MSD (0800 085 5511).

To become a designated yellow fever vaccination centre, practices should apply to Health Protection Scotland, www.hps.scot.nhs.uk; Tel: 0141 300 1100. Email: nss.hps.yellowfever@nhs.net

They will register new centres, supply yellow fever certificates and monitor quality by confirming that suitably qualified personnel are administering the vaccine, that the correct vaccine is being used and that it is properly stored.

Notes:

Certificates

The International Certificate of Vaccination for Yellow Fever is the sole remaining certificate requirement under International Health Regulations of the WHO. Yellow fever vaccine can only be administered in a designated yellow fever vaccination centre. Usually the certificate requirement is a condition of entry into some countries, or if arriving from an infected area. While not specified, this normally means if arriving directly from an infected country or if the traveller has been in an infected country during the last 10 days.

Travellers should be recommended to carry a certificate if they have been in an infected country during the previous month to avoid any possible difficulties with immigration. There is always the possibility that a traveller without an up to date certificate that is legally required will be vaccinated and detained in isolation at the port of arrival for up to 10 days or possibly repatriated.

A certificate saying yellow fever vaccination is contraindicated for medical reasons may be accepted by immigration authorities subject to International Health Regulations. Such an exemption letter does not preclude a country from quarantining the traveller without a valid vaccination certificate for 7 days. The exemption can be written on the official WHO certificate or on practice headed notepaper but must include the Practice stamp.

Lost certificates

Re-issuing a certificate is permissible if there are records available of the dates and batch numbers from when the vaccine was administered. If not, then the only 'legally acceptable' approach to satisfy immigration authorities is to repeat the vaccination. This is unnecessary from the point of view of protection but side effects are unlikely, especially since the patient will already be immune. As of 11 July 2016, The ICVP is valid for the life of the person vaccinated beginning from the tenth day after primary immunisation.
# Appendix 1 - The Routine Childhood Immunisation Schedule

## Routine Childhood Immunisation Programme

For immunisations from 1 October 2017

Each immunisation is given as a single injection into the muscle of the thigh or upper arm, except rotavirus, which is given by mouth (orally) and flu, which is given as a nasal spray.

<table>
<thead>
<tr>
<th>When to immunise</th>
<th>Diseases protected against</th>
<th>Vaccine given</th>
<th>Site*</th>
</tr>
</thead>
<tbody>
<tr>
<td>8 weeks old</td>
<td>Diphtheria, tetanus, pertussis (whooping cough), polio, Haemophilus influenzae type b (Hib) and hepatitis B (HepB)</td>
<td>DTap/IPV/Hib/HepB/Infanrix Hexa</td>
<td>Thigh</td>
</tr>
<tr>
<td></td>
<td>Pneumococcal disease</td>
<td>PCV (Prevenar 13)</td>
<td>Thigh</td>
</tr>
<tr>
<td></td>
<td>Rotavirus</td>
<td>Rotarix</td>
<td>By mouth (orally)</td>
</tr>
<tr>
<td></td>
<td>Meningooccal group B (MenB)</td>
<td>Meningrix</td>
<td>Left thigh</td>
</tr>
<tr>
<td>12 weeks old</td>
<td>Diphtheria, tetanus, pertussis, polio, Hib and HepB</td>
<td>DTap/IPV/Hib/HepB/Infanrix Hexa</td>
<td>Thigh</td>
</tr>
<tr>
<td></td>
<td>Rotavirus</td>
<td>Rotarix</td>
<td>By mouth (orally)</td>
</tr>
<tr>
<td>16 weeks old</td>
<td>Diphtheria, tetanus, pertussis, polio, Hib and HepB</td>
<td>DTap/IPV/Hib/HepB/Infanrix Hexa</td>
<td>Thigh</td>
</tr>
<tr>
<td></td>
<td>Pneumococcal disease</td>
<td>PCV (Prevenar 13)</td>
<td>Thigh</td>
</tr>
<tr>
<td></td>
<td>Meningooccal group B (MenB)</td>
<td>Meningrix</td>
<td>Left thigh</td>
</tr>
<tr>
<td>Between 12 and 13 months old – within a month of the first birthday</td>
<td>Hib and meningooccal group C</td>
<td>Hib/MenC/Vax (Menactrix)</td>
<td>Upper arm/Thigh</td>
</tr>
<tr>
<td></td>
<td>Pneumococcal disease</td>
<td>PCV (Prevenar 13)</td>
<td>Upper arm/Thigh</td>
</tr>
<tr>
<td></td>
<td>Measles, mumps and rubella (German measles)</td>
<td>MMR (Polio or MMR VaxPRO)</td>
<td>Upper arm/Thigh</td>
</tr>
<tr>
<td></td>
<td>Meningooccal group B (MenB)</td>
<td>Meningrix</td>
<td>Upper arm/Thigh</td>
</tr>
<tr>
<td>2 to 11 years – annually</td>
<td>Influenza (Flu)</td>
<td>Fluores (flu nasal spray – if nasal spray unobtainable, use inactivated flu vaccine)</td>
<td>Nasal spray (both nostrils), injection if nasal spray contraindicated</td>
</tr>
<tr>
<td>3 years 4 months old or soon after</td>
<td>Diphtheria, tetanus, pertussis and polio</td>
<td>DTap/IPV (Repevax) or DTap/IPV (Infanrix-IPV)</td>
<td>Upper arm</td>
</tr>
<tr>
<td></td>
<td>Measles, mumps and rubella</td>
<td>MMR (Polio or MMR VaxPRO) (check that dose has been given)</td>
<td>Upper arm</td>
</tr>
<tr>
<td>6 months old to 2 years – annually</td>
<td>Hib and meningoccal groups ACWY</td>
<td>Pneumovax (Menomix or Menveo)</td>
<td>Upper arm</td>
</tr>
</tbody>
</table>

*Where two or more injections are required at once, these should ideally be given in different limbs. Where this is not possible, injections in the same limb should be given 2.5 cm apart. For more details see Chapters 4 and 11 in the Green Book.

### Additional immunisations for at-risk babies

- At birth, 4 weeks old, and 12 weeks old: Hepatitis B and Hep B
- At birth: Tuberculin: BCG
- 6 months old to 2 years – annually: Influenza (Flu) and inactivated flu vaccine

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[Images of vaccines and brands] (www.immunisationscotland.org.uk)

Guidance For The Provision Of Immunisations For Patients Travelling Abroad – Version 5
## Selective immunisation programmes

<table>
<thead>
<tr>
<th>Target group</th>
<th>Age and schedule</th>
<th>Disease</th>
<th>Vaccines required</th>
</tr>
</thead>
<tbody>
<tr>
<td>Babies born to hepatitis B infected mothers</td>
<td>At birth, four weeks and 12 months old</td>
<td>Hepatitis B</td>
<td>Hepatitis B (Engerix B/Rebif/Pegpro)</td>
</tr>
<tr>
<td>Infants in areas of the country with TB incidence &gt;= 40/100,000</td>
<td>At birth</td>
<td>Tuberculosis</td>
<td>BCG</td>
</tr>
<tr>
<td>Infants with a parent or grandparent born in a high incidence country</td>
<td>At birth</td>
<td>Tuberculosis</td>
<td>BCG</td>
</tr>
<tr>
<td>Pregnant women</td>
<td>During flu season</td>
<td>Influenza</td>
<td>Inactivated flu vaccine (Flanrix/Fluarix)</td>
</tr>
<tr>
<td>Pregnant women</td>
<td>At any stage of pregnancy</td>
<td>Pertussis</td>
<td>(DTP/HibV/Boostrix/PV or Repavax)</td>
</tr>
</tbody>
</table>

1. Take blood for HIV Ag at 12 months to exclude infection.
2. In addition, hepatitis vaccine (Hepatitis A) is given at 8, 12 and 18 weeks.
3. Where the annual incidence of TB is >= 40/100,000 – see www.gov.uk/government/publications/tuberculosis-tb-by-country-rates-per-100000-people

## Additional vaccines for individuals with underlying medical conditions

<table>
<thead>
<tr>
<th>Medical condition</th>
<th>Diseases protected against</th>
<th>Vaccines required</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asplenia or splenic dysfunction (including due to sickle cell and coeliac disease)</td>
<td>Meningococcal groups A, B, C, W and Y</td>
<td>Hib/MenC MenACWY MenB PCV13 (up to two years of age) PpV (from two years of age)</td>
</tr>
<tr>
<td></td>
<td>Pneumococcal</td>
<td>Annual flu vaccine</td>
</tr>
<tr>
<td></td>
<td>Haemophilus influenzae type b (Hib)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Influenza</td>
<td></td>
</tr>
<tr>
<td>Cochlear implants</td>
<td>Pneumococcal</td>
<td>PCV13 (up to two years of age) PpV (from two years of age)</td>
</tr>
<tr>
<td>Chronic respiratory and heart conditions (such as severe asthma, chronic pulmonary disease, and heart failure)</td>
<td>Pneumococcal</td>
<td>PCV13 (up to two years of age) PpV (from two years of age) Annual flu vaccine</td>
</tr>
<tr>
<td>Chronic neurological conditions (such as Parkinson's or motor neurone disease, or learning disability)</td>
<td>Pneumococcal</td>
<td>PCV13 (up to two years of age) PpV (from two years of age) Annual flu vaccine</td>
</tr>
<tr>
<td></td>
<td>Influenza</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Diabetes</td>
<td>Pneumococcal</td>
<td>PCV13 (up to two years of age) PpV (from two years of age) Annual flu vaccine</td>
</tr>
<tr>
<td></td>
<td>Influenza</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chronic kidney disease (CKD) (including haemodialysis)</td>
<td>Pneumococcal (stage 4 and 5 CKD) Influenza (stage 3, 4 and 5 CKD) Hepatitis B (stage 4 and 5 CKD)</td>
<td>PCV13 (up to two years of age) PpV (from two years of age) Annual flu vaccine Hepatitis B</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chronic liver conditions</td>
<td>Pneumococcal</td>
<td>PCV13 (up to two years of age) PpV (from two years of age) Annual flu vaccine Hepatitis A Hepatitis B</td>
</tr>
<tr>
<td></td>
<td>Influenza</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Hepatitis A</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Hepatitis B</td>
<td></td>
</tr>
<tr>
<td>Haemophilia</td>
<td>Hepatitis A</td>
<td>Hepatitis A</td>
</tr>
<tr>
<td></td>
<td>Hepatitis B</td>
<td>Hepatitis B</td>
</tr>
<tr>
<td>Immunosuppression due to disease or treatment</td>
<td>Pneumococcal</td>
<td>PCV13 (up to two years of age) PpV (from two years of age) Annual flu vaccine</td>
</tr>
<tr>
<td></td>
<td>Influenza</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Complement disorders (including those receiving complement inhibitor therapy)</td>
<td>Meningococcal groups A, B, C, W and Y Pneumococcal Haemophilus influenzae type b (Hib) Influenza</td>
<td>Hib/MenC MenACWY MenB PCV13 (up to any age) PpV (from two years of age) Annual flu vaccine</td>
</tr>
</tbody>
</table>

1. Check relevant chapter of green book for specific schedule.
2. In any age with severe immunosuppression.
3. Consider annual influenza vaccination for household members and those who care for people with these conditions.

---

Appendix 2 - UK BCG Immunisation Programme

The UK BCG immunisation programme is a risk-based programme, the key part being a neonatal programme targeted at protecting those children most at risk of exposure to TB, particularly from the more serious childhood forms of the disease.

BCG is recommended for the following groups if BCG immunisation has not previously been carried out:

- all infants (0–12 months) born in and living in areas where the incidence of tuberculosis 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 annual incidence of TB is 40/100,000 or greater
- all infants (aged 0 – 12 months) where it can be demonstrated that the family is likely to live for more than 3 months in a high prevalence area within the first year of life
- children aged 1 to 5 years with a parent or grandparent who was born in a country where the annual incidence of TB is 40/100,000 or greater. These children should be identified at suitable opportunities, and can normally be vaccinated without tuberculin testing
- tuberculin-negative children aged from 6 to under 16 years of age with a parent or grandparent who was born in a country where the annual incidence of TB is 40/100,000 or greater. These children should be identified at suitable opportunities, tuberculin tested and vaccinated if negative
- tuberculin-negative individuals under 16 years of age who were born in or who have lived for a prolonged period (at least 3 months in either one visit or cumulatively in more than one visit) in a country with an annual TB incidence of 40/100,000 or greater
- tuberculin-negative individuals under 35 years of age who are contacts of cases of respiratory TB (following recommended contact management advice – see National Institute for Health and Clinical Excellence (NICE), 2011).
- Individuals at occupational risk

People in the following occupational groups who are more likely than the general population to come into contact with someone with TB:
- (i) healthcare workers* who will have contact with patients or clinical materials
- (ii) laboratory staff who will have contact with patients, clinical materials or derived isolates
(iii) veterinary and staff such as abattoir workers who handle animal species, e.g. simians which are known to be susceptible to TB
(iv) prison staff working directly with prisoners
(v) staff of care homes for the elderly
(vi) staff of hostels for homeless people and facilities accommodating refugees and asylum seekers.

Unvaccinated, tuberculin-negative individuals aged under 35 years in these occupations are recommended to receive BCG. There are no data on the protection afforded by BCG vaccine when it is given to adults aged 35 years or over.

*Not all healthcare workers are at an equal risk of TB. There are likely to be categories of healthcare workers who are at particular risk of TB, and should be part of the clinical risk assessment by occupational health when the use of BCG is being considered for a healthcare worker over 35 years of age.

**Tuberculin skin test**

A tuberculin skin test is not necessary prior to BCG vaccination for children up to and including 5 years of age provided that:

(i) There is no history of residence or prolonged stay (more than three cumulative months) in a country with an annual TB incidence of 40/100,000 or greater.

(ii) There is no history of contact with a person with known tuberculosis.

**A tuberculin skin test is necessary prior to BCG vaccination for:**

(i) All individuals aged 6 years or over.

(ii) Infants and children under 6 years of age with a history of residence or prolonged stay (more than three months, either in one visit or cumulatively in more than one visit) in a country with an annual TB incidence of 40/100,000 or greater.

(iii) Those who have a family history of TB within the last 5 years.

**Travellers and those going to reside abroad.**

BCG may be required for previously unvaccinated, tuberculin-negative individuals according to the destination and the nature of travel. The vaccine is recommended for those who are going to live or work with local people for more than three months in a country where the annual incidence of TB is 40/100,000 or greater. (Ref “Green Book” (Link)).

**BCG for travel purposes is not available on the NHS in Grampian.**