Vaccination Policy for Patients with Chronic Kidney Disease (CKD) Hepatitis B

Your patient with CKD needs to be vaccinated against Hepatitis B in accordance with Public Health England: 'Hepatitis B: guidance, data, analysis and Immunisation against infectious disease- The green book Chapter 18- July 2017.'

Hepatatis B Vaccination

Hepatitis B vaccination should be offered to:

1) All patients on Renal Replacement Therapy (RRT) (haemodialysis, peritoneal dialysis and renal transplant).
2) CKD stage 4 or 5 (Unless it is felt unlikely that they will ever need RRT).
3) CKD stage 3 only if advised by a renal consultant.

Responsibilities and Roles

Specialist responsibilities

- Regularly monitor antibody levels and other parameters considered necessary.
- Check for evidence of previous infection.
- Issue patient with Hepatitis B vaccination record card.
- Inform patient that there is a national shortage which may affect their treatment.
- Inform GP that a complete Hepatitis B Vaccination programme or booster dose needs to be prescribed and administered to the patient.
- Forward renal Hepatitis B Vaccination Policy to GP.

General Practitioner responsibilities

- Reply to the request from the specialist as soon as possible.
- Prescribe and administer vaccinations as advised by the specialist.
- Complete patient's Hepatitis B vaccination record card.
- Stop Hepatitis B vaccination on the advice of the specialist or if an urgent need to stop treatment arises.
- Report any suspected adverse events to specialist team and any severe adverse events to MHRA.

Supply

Based on the current supply constraints please refer to the table below.

Table 1: Choice of vaccinations and order of preference:

Order of preference	Adults of any age with renal failure who are pre-dialysis or on dialysis / renal transplantation programmes.
1st	High Ag content HepB vaccine: Fendrix: 20 micrograms I.M given at 0,1,2 and 6 months **OR** HBVaxPRO40: 40 micrograms I.M given at 0,1 and 6 months
2nd	Adult monovalent HepB vaccine EngerixB: 40 micrograms I.M (2 x 20mcg) given at 0,1,2 and 12 months **OR** HBVaxPRO: 40 micrograms I.M given at 0,1 and 6 months
3rd	High dose adult combination HepA / HepB vaccine Twinrix: 20micrograms I.M. given at 0,1 and 6 months
4th	Two simultaneous doses of paediatric combination HepA/HepB vaccine Twinrix paediatric: 20micrograms (2 x 10mcg) I.M. given at 0, 1 and 6 months.

- **Where possible, the same vaccine should be used for any given course including subsequent annual boosters as required. However if supplies of any given vaccine become unavailable part way through an immunisation course or a booster dose is needed, it is reasonable to complete the course or administer a booster dose with an alternative vaccine (see appendix 1 for compatibility information when switching brand).**

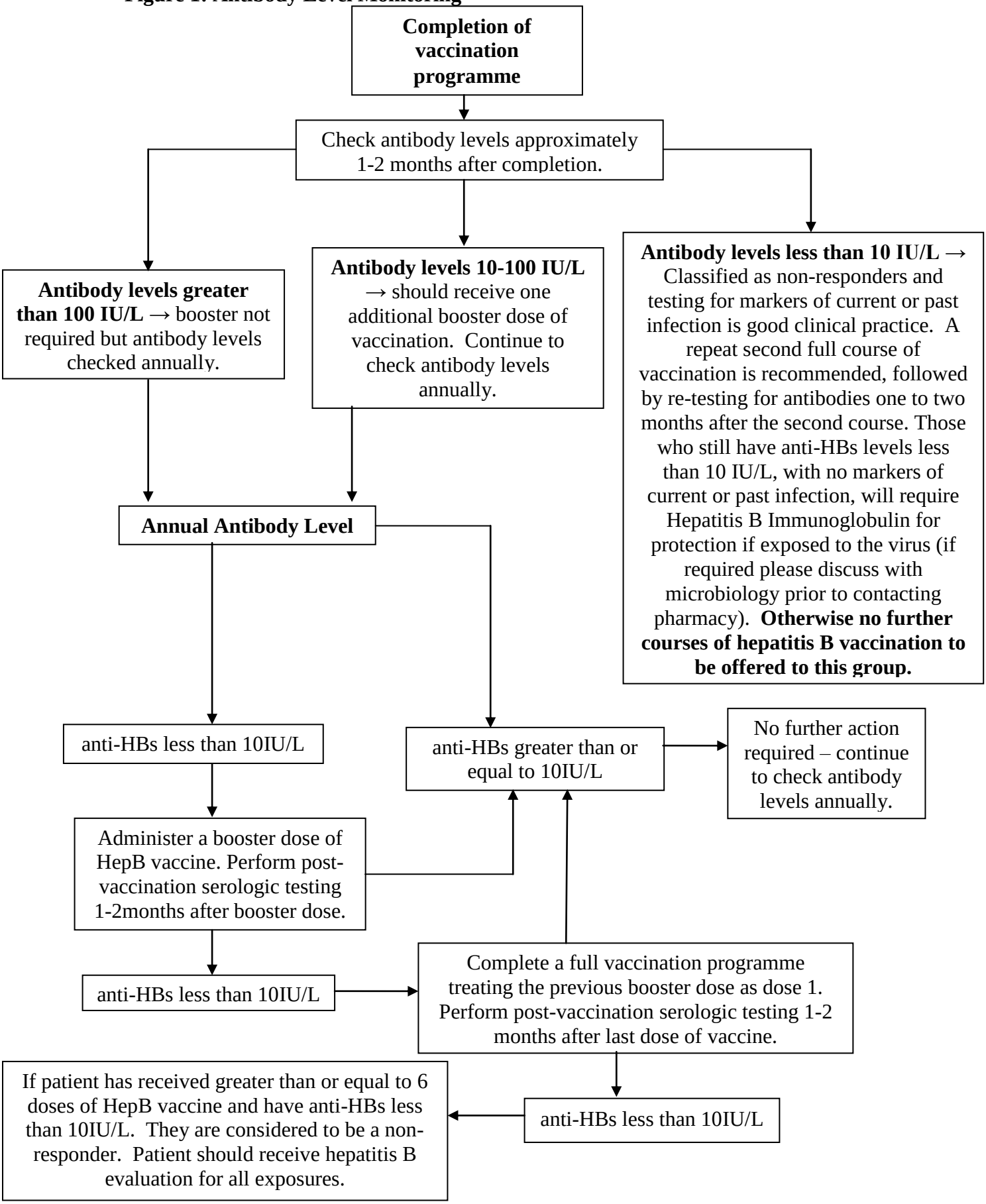
Monitoring (To be performed by Specialist)

In immunocompromised subjects (e.g. subjects with chronic renal failure, haemodialysis patients and HIV positive subjects), boosters should be administered to maintain anti-HBs antibody concentrations equal or higher than the accepted protective level of 10 IU/L. For these immunocompromised patients, post-vaccination testing every 12 months is advised.

Booster doses should also be offered to any haemodialysis patients who are intending to visit countries with a high endemicity of hepatitis B and who have previously responded to the vaccine, particularly if they are to receive haemodialysis and have not received a booster in the last 12 months.

Please see the figure below for monitoring information: (Note: 1 mIU/ml=1 IU/L).

Figure 1: Antibody Level Monitoring



Precautions

Minor illnesses without fever or systemic upset are not valid reasons to postpone immunisation. If an individual is acutely unwell, immunisation may be postponed until they have fully recovered. This is to avoid confusing the differential diagnosis of any acute illness by wrongly attributing any signs or symptoms to the adverse effects of the vaccine.

- Pregnancy and breast-feeding

Hepatitis B infection in pregnant women may result in severe disease for the mother and chronic infection of the new born. 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 women or those who are breastfeeding with inactivated viral or bacterial vaccines or toxoids. Hepatitis B is an inactivated vaccine, risks to the foetus are likely to be negligible. It should be given if there is a definite risk of infection

- HIV and immunosuppressed individuals

Hepatitis B vaccine may be given to HIV-infected individuals and should be offered to those at risk, since infection acquired by immunosuppressed, HIV positive patients can result in higher rates of chronic infection. Response rates are usually lower depending upon the degree of immunosuppression. Increasing the number of doses may improve the anti-HBs response in HIV-infected individuals. Further guidance is provided by the Royal College of Paediatrics and Child Health (www.rcpch.ac.uk) the British HIV Association (BHIVA) immunisation guidelines for HIV-infected adults (BHIVA, 2006) and the Children's HIV Association of UK and Ireland (CHIVA) immunisation guidelines (www.chiva.org.uk).

Table 2: Compatibility Table: Using Different Vaccination Preparations to either complete an Immunisation Programme or offer a Booster Dose.

Brand	Primary immunisation	Booster dose
Fendrix®	NOT interchangeable with any other commercially available HBV vaccine.	Fendrix can be used as a booster dose after a primary vaccination course with either Fendrix or any other commercial recombinant hepatitis B vaccine.
HBVaxPRO40®	Can be used to complete a primary immunisation course in subjects who have previously received another hepatitis B vaccine.	Can be used as a booster dose in subjects who have previously received another hepatitis B vaccine.
Engerix B®	Engerix B may be used to complete a primary immunisation course started either with plasma-derived or with other genetically-engineered hepatitis B vaccines.	Engerix B may be used to administer a booster dose to subjects who have previously received a primary immunisation course with plasma-derived or with other genetically-engineered hepatitis B vaccines.
Twinrix® Adult Hepatitis A (inactivated) and hepatitis B (rDNA) (HAB) vaccine (adsorbed).	NOT interchangeable with any other commercially available HBV vaccine.	In situations where a booster dose of both hepatitis A and hepatitis B are desired, Twinrix Adult can be given. Alternatively, subjects primed with Twinrix Adult may be administered a booster dose of either of the monovalent vaccines.
Twinrix® Paediatric, suspension for injection Hepatitis A (inactivated) and hepatitis B (rDNA) (HAB) vaccine (adsorbed). **Two simultaneous doses of paediatric combination HepA/HepB vaccine (Twinrix paediatric)**	NOT interchangeable with any other commercially available HBV vaccine.	In situations where a booster dose of hepatitis A and/or hepatitis B is desired, a monovalent or combined vaccine can be given. (The safety and immunogenicity of Twinrix Paediatric administered as a booster dose following a three dose primary course have not been evaluated).

Other Vaccinations needed for CKD patients

Pneumococcal / Influenza Vaccination

- Haemodialysis, peritoneal dialysis, renal transplant, CKD stage 3 to 5, nephrotic syndrome and immunosuppressed patients should be offered a single dose of Pneumococcal Polysaccharide Vaccine (PPV), followed by a booster dose of PPV every five years. Routine testing of antibody levels is not required prior to vaccination or re-vaccination. PPV can be given in any season. Patients should also receive the Influenza Vaccine against seasonal flu between October and November annually to ensure they are protected during the winter months.

BACK-UP ADVICE AND SUPPORT

Contact details	Telephone No.	Email address:
CKD Team	01782 76397	Rajalakshmi.Rajan@uhnm.nhs.uk
Renal Pharmacy Team	01782 674550 / 674536	Imran.Anwar@uhnm.nhs.uk Katie.Webb@uhnm.nhs.uk
Hospital Medicines Information Team:	01782 674537	Medicines.Information@uhnm.nhs.uk