

# Disease specific procedures for the management of HCWs – Hepatitis B



## Purpose of this procedure:

To provide information and guidance aimed at the identification and management of HCWs infected with hepatitis B virus.

## The Procedure:

### **NHS Lothian Policy for the Management of Hepatitis B Virus**

#### **1.0 Hepatitis B Virus Markers**

The infectivity of those infected with HBV will vary depending on circulating antigens and antibodies. There are 2 markers that are important in determining whether someone who is infected with HBV can perform EPPs. These are:

##### **1.1 Hepatitis B Surface Antigen (HBsAg)**

HBsAg is found during the latter part of the incubation period and acute phase of Hepatitis B Infection. Its persistence is associated with failure to clear virus from the body, though the level of infectivity is considered to be low when the patient is HBeAg negative and anti-e positive.

##### **1.2 Hepatitis B Viral Load (Hepatitis B DNA quantification)**

Some individuals infected with Hepatitis B may carry a genetic variant, which does not produce Hepatitis B e-antigen, but is still capable of assembling infectious viral particles. In such cases the person will be Hepatitis B surface antigen positive but have no e antigen markers. Viral load testing should take place for individuals in this category to determine their infectivity.

#### **2.0 Hepatitis B Virus Immunisation**

The NHS Lothian policy on HBV immunisation is contained in the NHS Lothian Immunisation Policy.

- 2.1 All HCWs who will be undertaking exposure prone procedures (EPP) or performing clinical duties in renal units or other settings involving renal dialysis within NHS Lothian will have their carrier status assessed at the time of first injection.
- 2.2 It should be borne in mind that HCWs are at greater risk of acquiring HBV in the health care setting than patients. Therefore, all staff whose duties may bring them into contact with blood or blood stained fluid or tissues are strongly advised to be immunised against Hepatitis B.

### **3.0 Determining Fitness for Exposure Prone Procedure Duties and Restrictions**

Service Managers, Clinical Directors and Department Heads are responsible for identifying posts and staff performing EPP.

Before carrying out EPPs all HCW must:

- a) Show evidence they are not infected with hepatitis B (HBsAg negative). If not previously immunised, they will be offered hepatitis B vaccination and their immunity checked

Or

If a previously immunised and is a non-responder to the vaccine or if vaccination is contraindicated they must be HBsAg negative. Annual testing of the HBV immune status of non-responders in EPP posts or staff performing clinical duties in renal units or other settings involving renal dialysis will be carried out by the OHS.

Or

- b) Be HBsAg positive and a viral load less than 200IU/ml (\*\* Registration with UKAP and periodic testing will be required.)
- c) Any member of staff, including those who refuse testing, who cannot satisfy any of the above criteria, must not perform EPPs.

**On the grounds of patient safety, HCWs who perform EPPs or undertake clinical duties in renal units any other settings involving renal dialysis will not be allowed to practice if they have an HBV DNA level at or above 200 IU/ml regardless of their treatment status.**

All HBV infected HCWs who are HBsAg positive should not be restricted from performing EPPs or clinical duties in renal units any other settings involving renal dialysis if:

- their HBV DNA viral load is less than 200 IU/mL (either from natural suppression, or 12 months after stopping a course of antiviral therapy during which time there must have been 2 HBV DNA tests 6 months apart, the first being no less than 6 months after ceasing treatment), and
- they are monitored every 6 calendar months by their consultant occupational physician

Or if:

- i. they are on continuous antiviral therapy, and
- ii. their viral load is suppressed to below 200IU/mL, and
- iii. their HBV DNA levels are monitored every 6 months by their consultant occupational physician

The six (6) month monitoring period should be taken from the date the previous blood sample taken by the occupational health service and not from the date the result was received. Six-monthly viral load testing can be performed no earlier than 24, and no later than 28 complete calendar weeks after the date of the preceding specimen taken for occupational health monitoring purposes.

#### **4.0 Pre-Employment Screening for Exposure Prone Procedure Posts**

- 4.1 All candidates for employment must be notified to the OHS giving adequate notice for pre-employment screening by the person undertaking the recruitment.
- 4.2 Evidence of satisfactory immunity to Hepatitis B or if Hep BsAg positive, having a viral load less than 200IU/ml is a contractual condition of employment.
- 4.3 Prospective employees with evidence of failing to mount an immunological response to vaccination will require to be investigated for carrier status, prior to any job offer being made.
- 4.4 Prospective employees who are HBsAg carriers will all require further investigations to determine their viral load status.
- 4.5 If restriction from performing EPPs is not considered practicable the following will not be considered for employment to an EPP post:
  - Individuals who are HBsAg positive with a viral load greater than 200IU/ml. (Unless there are medical contraindications, individuals employed in EPP posts are expected to avail themselves of the offer of HBV Immunisation).
- 4.6 Where there are medical contraindications to Hepatitis B immunisation, the implications will be assessed by the Occupational Health Physician.

#### **5.0 Staff Currently in Employment**

As with some new starts, situations may arise where staff currently employed, i.e. EPP Posts, will be required to undergo further or periodic testing. The OHS will notify the appropriate Manager of the individual's fitness restriction, indicating the appropriate review date. The OHS will arrange the reviews, but Managers must ensure that EPP ceases if confirmation of future fitness is not received. Managers should seek further advice from HR regarding the ongoing management of the HCW.

#### **6.0 HBsAg Positive HCWs in EPP Posts / Performing Clinical Duties in Renal Units or any other settings involving renal dialysis**

- 6.1 HCWs in post who are found to be HBsAg positive must cease to perform Exposure Prone Procedures until they have been assessed by the occupational health service. Where a viral load in excess of 200IU/ml is detected, then the HCW will not be permitted to perform EPPs or undertake clinical duties on renal units or any other settings involving renal dialysis.
- 6.2 Advice regarding the duties that HBsAg positive HCWs may continue to perform must be sought from the Consultant in Occupational Medicine.
- 6.3 Where the viral load is less than 200IU/ml (either from natural suppression, or 12 months after stopping a course of antiviral therapy), the HCW may continue to perform EPPs/ or undertake clinical duties on renal units. However, the HCW must have their viral load re-tested at 6 monthly intervals to ensure that it remains below the accepted limit. If subsequent testing shows that the individual's viral load has risen above 200IU/ml then the HCW will not be permitted to perform EPPs / or undertake clinical duties on renal units.
- 6.4 Healthcare workers who are HBsAg positive and are on continuous antiviral therapy, and their viral load is suppressed to below 200IU/mL, will have their HBV DNA levels monitored every 6months by their consultant occupational physician. If subsequent testing shows that the individual's viral load has risen above 200IU/ml then the HCW will not be permitted to perform EPPs / or undertake clinical duties on renal units.
- 6.5 Testing of Hepatitis B viral load must only be undertaken in a designated laboratory. The designated laboratory for NHS Lothian is the Specialist Virology Centre, RIE

## **7.0 Non-Responders to Hepatitis B Vaccine**

- 7.1 Non-responders to Hepatitis B vaccine are individuals who have had an equivalent of 2 full courses of Hepatitis B vaccine and not produced a satisfactory antibody response (10 IU/ml).
- 7.2 Staff in post who are vaccine non-responders and who have no markers of previous HBV infection are at risk of acquiring infection. They may continue without restriction of practice, provided that BBV exposure incidents are reported, treated and followed-up.
- 7.3 Non-responders who perform EPP/ or undertake clinical duties on renal units or any other settings involving renal dialysis will be checked annually, by the Occupational Health Service, for Hepatitis B markers.

## **8.0 Viral load monitoring and ongoing clearance for HBsAg positive HCWs who wish to perform EPPs or clinical duties in renal units or any other settings involving renal dialysis**

- 8.1 Healthcare workers who are HBsAg positive must accept the following conditions if they wish to undertake EPPs:

- They must be under the care of a designated consultant in occupational medicine.
- They must have their details registered with UKAP-OHR ( United Kingdom Advisory Panel – Occupational Health Register)
- Attend the OH service (or other appropriate service) when arranged and to provide an Identified Validated Sample ( IVS) for viral load monitoring at the appointed times
- to seek advice if changes in their health condition may affect their fitness to practise or impair their health

8.2 HBV infected HCWs who are cleared to perform EPPs are subject to regular viral load testing at 6 monthly intervals as indicated above.

The monitoring period should be taken from the date the previous IVS was drawn, and **not** from the date the result was received.

The table below sets out the required actions based on viral load tests

DNA Level	Action
<60 IU/mL	No action. Retest in 12 weeks or 12 months depending on antiviral treatment status
> 60 but < 200 IU/mL	A case-by-case approach based on clinical judgement should be taken which may result in no action (as above) or recommending that a second test should be done 10 days later to verify the viral load remains below the threshold. Further action will be informed by the test result.
200 IU/mL or above	<p>The HCW should <b>cease conducting EPPs immediately</b>.</p> <p>A second test must be done on a new blood sample 10 days later to verify the viral load remains above 200 IU/mL.</p> <p>If the viral load is still in excess of 200 IU/mL, the HCW should cease conducting EPPs until their viral load, in 2 consecutive tests no less than 4 weeks apart, is reduced to &lt;200 IU/mL.</p> <p>If the viral load is below 200 IU/mL then further action should be informed by the test result as above.</p> <p>If test results are unexpected (e.g. from very high viral load to low viral load) then seek further advice from a local virologist or UKAP secretariat.</p> <p>A full risk assessment should be triggered to determine the risk of</p>

	<p>HCW to patient transmission. At a minimum, this will include discussion between the consultant occupational physician and the treating physician on the significance of the result in relation to the risk of transmission.</p> <p>The need for public health investigation/action (e.g. patient notification) will be determined by a risk assessment on a case by case basis in discussion with UKAP.</p>
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## **9.0 Responsibilities of clinicians**

- 9.1 Clinicians should remind any BBV infected HCW under their care to refer themselves to OHS. If they become aware that an infected HCW is performing EPP or has done so in the past and has not followed the professional requirements of this policy to refer themselves to the OHS, or to modify their practice due to BBV infection, the clinician has a responsibility to inform the OHS.
- 9.2 If the Occupational Health Physician identifies either risk of ongoing transmission or risk to patients previously treated by the HCW, they should notify the Consultant in Public Health Medicine (CPHM) or Director of Public Health (DPH). In cases where regulatory bodies e.g. the GMC, GDC, NMC need to be informed, the Medical Director/Nurse Director (for HCWs), or relevant personnel within the training institution for those in training, would be notified.