

Hepatitis B Infected Health Care Workers

Guidance on Implementation of Health Service Circular 2000/020

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Introduction

1. This guidance is intended to assist in implementation of Health Service Circular (HSC) 2000/020 *Hepatitis B Infected Health Care Workers*. It is also available on the Department of Health web site at <http://www.doh.gov.uk/nhsexec/hepatitisb.htm>

Summary of HSC 2000/020

2. This circular supplements previous guidance restricting the working practices of certain hepatitis B infected health care workers, and aims to reduce further the risk of transmission of infection to patients. The circular recommends carrying out additional testing of hepatitis B infected care workers who are e-antigen (HBeAg) negative and perform exposure prone procedures, and restricting the working practices of those with higher viral loads. Previous guidance on hepatitis B infected health care workers who are e-antigen positive still applies (Health Service Guidelines HSG (93)40: *Protecting health care workers and patients from hepatitis B* - 18 August 1993, and its Addendum issued under cover of EL(96)77 - 26 September 1996). **Throughout the circular, hepatitis B infected health care workers refers to those who are hepatitis B surface antigen (HBsAg) positive.**

Action

3. NHS Trusts, Primary Care Trusts, independent contractors in the General Medical and Dental Services and Health Authorities (who employ relevant staff) should ensure that there are arrangements in place:

- to have all hepatitis B infected health care workers who are e-antigen negative and who perform exposure prone procedures or clinical duties in renal units tested for viral load (hepatitis B virus DNA). The testing of staff currently employed should be completed by 1 June 2001 at the latest;
- to restrict hepatitis B infected health care workers who are e-antigen negative and who have a viral load which exceeds 10^3 genome equivalents per ml from performing exposure prone procedures in future. Health care workers whose viral load does not exceed 10^3 genome equivalents per ml need not have their working practices restricted but they should receive appropriate occupational health advice;
- to re-test hepatitis B infected health care workers continuing to perform exposure prone procedures who are e-antigen negative and whose viral load does not exceed 10^3 genome equivalents per ml at 12 monthly intervals. These health care workers should cease to perform exposure prone procedures if their viral load is shown by testing to have risen above the specified level, or if investigation of a case of hepatitis B in a patient indicates the possibility of a transmission from a health care worker;
- to manage blood exposure incidents for both health care workers and patients. Health Authorities, NHS Trusts or Primary Care Trusts should designate medical staff to assess incidents and to consider the need for hepatitis B immunoprophylaxis, where indicated. Independent contractors should ensure that they have similar arrangements in place for staff and patients.

Background & Other Information

Previous guidance and scope of new guidance

4. Health Service Guidelines HSG (93)40 *Protecting health care workers and patients from hepatitis B* issued in August 1993 recommended that health care workers infected with hepatitis B who carry the e-antigen, a marker indicating high infectivity, should not perform exposure prone procedures.¹ **The recommendations about the immunisation of health care workers, the testing of staff who undertake exposure prone procedures, and the restriction of working practices of health care workers who are e-antigen positive outlined in HSG (93)40 and in its addendum issued under cover of EL(96)77 in September 1996 still apply.** However, this circular supplements the recommendations applying to the management of hepatitis B infected health care workers without the e-antigen (e-antigen negative) who perform exposure prone procedures or clinical duties in renal units. The guidance in HSG(93)40 and its accompanying booklet will be revised later this year and include this new recommendation about hepatitis B infected health care workers without the e-antigen who perform exposure prone procedures.

5. This guidance applies to all health care workers in the NHS who carry out exposure prone procedures, including independent contractors such as general dental and medical practitioners (and relevant staff); independent midwives; students; and visiting health care workers. NHS Trusts that arrange for NHS patients to be treated by private sector hospitals should ensure that this guidance is observed by health care workers who perform exposure prone procedures on NHS patients.

Transmissions to patients from hepatitis B infected health care workers without the e-antigen

6. The 1993 guidelines have done much to reduce the risk to patients. However, since those guidelines were issued there have been several incidents in which hepatitis B infected health care workers without the e-antigen have been associated with transmission of infection to their patients. It is now known that some hepatitis B infected individuals carry a genetic variant of the hepatitis B virus, which is unable to produce the e-antigen, but is still capable of assembling infectious viral particles. It is thus necessary to introduce further tests to assess infectivity.

Use of viral load tests and restriction on practice of hepatitis B infected health care workers without the e-antigen

7. The Advisory Group on Hepatitis (AGH) has reviewed the 1993 guidelines. It has advised that the restrictions placed upon hepatitis B infected health care workers who are e-antigen positive should remain. Therefore, testing for e-markers should still be carried out. However, in addition, the AGH has recommended that hepatitis B infected health care workers who are e-antigen negative and who perform exposure prone procedures should have their viral loads measured, and that those with viral loads exceeding 10^3 genome equivalents per ml should not perform exposure prone procedures in future.

¹ Exposure prone procedures are those where there is a risk that injury to the health care worker could result in their blood contaminating a patient's open tissues. An illustrative list of exposure prone procedures is contained in *Guidance on the management of HIV/AIDS infected health care workers and patient notification* (issued under cover of Health Service Circular 1998/226).

8. Not all currently available assays have a dynamic range capable of detecting viral loads at this level and therefore, testing is to be undertaken with a commercial amplification based assay. Arrangements have been made for two designated laboratories to undertake this testing and to arrange for an interchange of specimens to ensure consistency of results. At present, only test results from the designated laboratories should be used to determine whether a hepatitis B infected health care worker who is e-antigen negative is to be allowed to perform exposure prone procedures. In accordance with good laboratory practice, two different serum samples will be taken from each health care worker a week apart and will be tested in the two designated laboratories. Annex A to this circular contains detailed guidance on sampling and testing.

9. Hepatitis B infected health care workers who are e-antigen negative and whose viral loads do not exceed 10^3 need not be restricted from performing exposure prone procedures or from any other areas of work. However, these health care workers should have their viral loads re-tested regularly at 12 monthly intervals because research has shown that viral loads in some infected individuals may fluctuate over time. If their viral loads rise above 10^3 genome equivalents per ml, they should cease to perform exposure prone procedures. In addition, hepatitis B DNA testing should be carried out immediately if a health care worker becomes immunosuppressed for any reason or has symptoms suggestive of a reactivation of their hepatitis B infection, or if investigation of a case of hepatitis B in a patient indicates the possibility of a transmission from a health care worker.

10. An algorithm showing the sequence of testing of hepatitis B infected health care workers who perform exposure prone procedures is at Annex B.

Timescale for implementation

Initial implementation phase

11. Initial assessments of the viral load should be completed by 1 June 2001 at the latest for all hepatitis B infected health care workers in post who are e-antigen negative and who perform exposure prone procedures. During this initial implementation phase, these health care workers should not be restricted from carrying out exposure prone procedures whilst awaiting viral load test results.

Ongoing implementation

12. After the initial implementation phase, health care workers previously tested and found to have viral loads which do not exceed 10^3 genome equivalents per ml, need not be restricted from carrying out exposure prone procedures whilst awaiting subsequent viral load test results, provided samples have been taken and despatched for repeat testing within 12 months from the date on which the first of the samples was taken for the preceding test. In all other circumstances, hepatitis B infected health care workers without the e-antigen should not perform exposure prone procedures until satisfactory test results have been provided.

Security of samples

13. As for other tests of hepatitis B markers performed on health care workers who perform exposure prone procedures, it is important that those commissioning tests for hepatitis B viral loads should ensure that samples tested are from the health care worker in question. Where feasible, samples should be taken by the occupational health doctor or nurse. Where this is not feasible, samples should be taken by a person expressly acting on behalf of occupational health. Health care workers should not provide their own specimens.

14. On request, occupational health departments may wish to arrange testing for hepatitis B infected health care workers without the e-antigen who are currently not employed. Trusts are not expected to meet the costs of testing for these individuals, unless such testing forms parts of pre-employment assessment. If it does not, Trusts may wish to seek reimbursement of the testing costs from individual health care workers. Hepatitis B infected health care workers without the e-antigen who are currently not employed will need to be cleared for the performance of exposure prone procedures before applying for locum work or other substantive posts. Occupational health departments will also wish to make arrangements, via health authorities, to provide a similar service for practitioners and staff in the General Medical Services and General Dental Services who perform exposure prone procedures.

Health care workers who have taken interferon or antiviral drugs

15. Health care workers without the e-antigen who are supplying a blood sample for testing should be asked if they are currently being treated or have been treated within the last 12 months with interferon or antiviral therapy. The AGH has advised that hepatitis B infected health care workers should not continue to perform exposure prone procedures whilst on interferon or antiviral therapy. Those who have undergone a course of such treatment need to show that they have a viral load that does not exceed 10^3 genome equivalents per ml one year after cessation of treatment before a return to unrestricted working practices can be considered. Rarely, hepatitis B infected health care workers may lose the hepatitis B surface antigen (HBsAg) spontaneously. In both cases, the UK Advisory Panel for Health Care Workers Infected with Blood-borne Viruses is available to provide advice. Any infected health care worker returning to unrestricted working practices would be subject to the same 12 monthly re-testing as recommended for other unrestricted hepatitis B infected health care workers without the e-antigen.

Health care workers who refuse to be tested

16. Hepatitis B infected health care workers without the e-antigen who refuse to have their viral load tested should not be allowed to carry out exposure prone procedures in future.

Advice to hepatitis B infected health care workers

17. Arrangements should be made to provide individual health care workers with access to a consultant occupational health physician. Occupational health departments should explain to health care workers the purpose of the new testing arrangements and how they might affect continued performance of exposure prone procedures. After testing, occupational health departments should inform health care workers of the results of their tests and the implications for their working practice.

18. All hepatitis B infected health care workers should be given accurate and detailed advice on ways of minimising the risks of transmission in the health care setting and to close contacts². Hepatitis B infected health care workers who are e-antigen negative and whose viral loads exceed 10^3 genome equivalents per ml should not perform exposure prone procedures. Hepatitis B infected health care workers who are e-antigen negative and whose viral loads do not exceed 10^3 should be advised that they can continue performing exposure prone procedures, but that their viral loads will have to be re-tested regularly at 12 monthly intervals because research has shown that viral loads in some infected individuals may fluctuate over time. Occupational health departments should refer hepatitis B infected health care workers for specialist clinical assessment, if this has not already taken place. Occupational health

² *Guidance for clinical health care workers: protection against infection with blood-borne viruses* (issued under cover of Health Service Circular HSC 1998/063) contains advice on infection control.

departments will be able to contact the designated laboratory for their Region should they have any queries about individual test results. Details of contacts are given in Annex A.

Confidentiality

19. It is extremely important that hepatitis B infected health care workers receive the same right of confidentiality as any patient seeking or receiving medical care. Occupational health physicians, who work within strict guidelines on confidentiality, have a key role in this process, and the close involvement of occupational health departments in revising local procedures for managing hepatitis B infected health care workers is strongly recommended. Occupational health notes are separate from other hospital notes. Occupational health physicians are ethically and professionally obliged not to release information without the consent of the individual. There are occasions when an employer may need to be advised that a change of duties should take place, but hepatitis B status itself will not normally be disclosed without the health care worker's consent. Where patients are, or have been, at risk, however, it may be necessary in the public interest for the employer to have access to confidential information.

Duties of other health care workers

20. Health care workers who know or have good reason to believe (having taken steps to confirm the facts as far as practicable), that a hepatitis B infected health care worker has not followed advice to modify their practice, should inform an appropriate person in the health care worker's employing or contracting authority (e.g. a consultant occupational health physician, Trust medical director or director of public health), or where appropriate, the relevant regulatory body. Such cases are likely to arise very rarely. Wherever possible the health care worker should be informed before information is passed to an employer or regulatory body.

Management of blood exposure incidents

21. Implementation of these additional restrictions on the working practices of hepatitis B infected health care workers will minimise the risk of transmission of hepatitis B from infected health care worker to patient. **However, there may be occasions when a patient may accidentally be exposed to the blood of a hepatitis B infected health care worker in circumstances which may or may not involve exposure prone procedures.** Appropriate management of such potential exposure incidents will further reduce the risk of hepatitis B infection for patients.³

22. Health care workers are under ethical and legal obligations to take all proper steps to safeguard the interests of their patients. This would include ensuring that in the event of a patient being exposed to the infected health care worker's blood, information about the latter's status was reported to the appropriate person to consider what action might be necessary to protect the patient from transmission of infection. The General Medical Council's guidance *Good Medical Practice* and *Serious Communicable Diseases* states that doctors who have a serious communicable disease and continue in professional practice must have appropriate medical supervision and should not rely upon their own assessment of the risks they pose to patients. Statements from the General Dental Council and the United Kingdom Central Council for Nursing, Midwifery and Health Visiting also emphasise the duties of health care workers to safeguard the well-being of their patients.

³ *Guidance for clinical health care workers: protection against infection with blood-borne viruses* (issued under cover of Health Service Circular HSC 1998/063) contains advice on the management of blood exposure incidents.

23. As recommended in HSC 1998/063: *Guidance for clinical health care workers: protection against infection with blood-borne viruses*, each employer should draw up a policy on the management of blood exposure incidents for both patients and staff. Each Health Authority (which employs relevant staff) or NHS Trust should designate one or more doctors to whom health care staff or any other person present in the health care setting may be referred immediately for advice if they have been exposed, or have exposed others, to potentially infected blood. Local policies should also specify who will be responsible for provision of post-exposure prophylaxis and for the follow up of any staff or patients who have been exposed. Dental and medical practitioners in primary care should also ensure that similar procedures are in place for themselves and their staff.

Patient notification exercises

24. The AGH does not recommend that the finding that a health care worker has a viral load above 10^3 genome equivalents per ml should, in itself, trigger a patient notification exercise. Patient notification, with the offer of serological testing, should be undertaken only if there is evidence to suggest that transmission of infection from a health care worker to a patient may have taken place, and should be considered if a review of surveillance data or other local information, points to this possibility. Local responsibility for considering the need for patient notification exercises should rest with the Director of Public Health or Consultant in Communicable Disease Control. If a patient notification exercise is considered necessary, the UK Advisory Panel for Health Care Workers Infected with Blood-borne Viruses should be consulted.

Redeployment, retraining and compensation issues

25. It is expected that relatively small numbers of health care workers will be affected by the new restrictions and their retraining/redeployment needs will vary. Employers should make every effort to arrange suitable alternative work and retraining opportunities in accordance with good general principles of occupational health and management practice. NHS employers already assist and support cases where staff retraining or redeployment is necessary for a variety of reasons. Postgraduate medical and dental deans also play an important role in retraining or redeployment programmes for doctors and dentists, not only within the training grades, but often within the career grades too. Local employers are best placed to support staff displaced because of the new restrictions, and to ensure that the process is handled sympathetically and sensitively. Medical Directors will have an important contribution to make. Local NHS Trusts will want to consider the training and development needs of the non-medical workforce (e.g. midwives) using training and development opportunities available within the Trust and through consortia. In particularly difficult cases which cannot be resolved locally, employers will be able to draw on advice from Regional Offices and the Human Resources Directorate of the NHS Executive Headquarters (contact: Julian Topping, Human Resources Directorate, Room 2W19 Quarry House, Quarry Hill, Leeds LS2 7UE; Telephone: 0113-254-5756).

26. The NHS Injury Benefits Scheme and the Industrial Injuries Disablement Benefit Scheme provide benefits where hepatitis B has been occupationally acquired. Occupational health services locally should provide health care workers with advice in cases where entitlement to benefits for occupationally acquired infection is under consideration. Details of the NHS Scheme can be obtained from the Injury Benefits Manager, NHS Pensions Agency, 200-220 Broadway, Fleetwood, Lancs. FY7 8LG. Leaflets and advice on the Industrial Injuries Disablement Scheme can be obtained from local Benefits Agency Offices.

Associated Documentation

- Health Service Guidelines HSG (93)40: *Protecting health care workers and patients from hepatitis B* (18 August 1993 and its Addendum issued under cover of EL(96)77 (26 September 1996);
- Health Service Circular HSC 1998/063: *Guidance for clinical health care workers: protection against infection with blood-borne viruses*;
- Health Service Circular HSC 1998/226: *Guidance on the management of AIDS/HIV infected health care workers and patient notification*

TESTING ARRANGEMENTS FOR HEPATITIS B INFECTED HEALTH CARE WORKERS WITHOUT THE E-ANTIGEN WHO CARRY OUT EXPOSURE PRONE PROCEDURES

Designated laboratories

1. Two laboratories have been designated to carry out the testing to ensure consistency of results. NHS Regions have been allocated a lead laboratory to which specimens should be sent.

<p>Public Health Laboratory, Heartlands Hospital, Birmingham B9 5SS</p> <p><u>Contact</u>⁴:</p> <p>Dr Elizabeth Boxall or Dr Kathryn Collingham</p> <p>Tel: 0121-424-2248 (Dr Boxall) 0121-424-2244 (Dr Collingham)</p> <p>(Or contact via main switchboard 0121-424-2000 and ask for the duty virologist bleep 2821)</p> <p>Fax: 0121-772-6229</p>	<p>Regional Virus Laboratory, Gartnavel General Hospital, 1053 Great Western Road, Glasgow G12 0YN</p> <p><u>Contact</u>:</p> <p>Dr Sheila Cameron or Dr Bill Carman</p> <p>Tel: 0141-211-0080 (Dr Cameron) or 07775-783743 (Dr Carman)</p> <p>Fax: 0141-211-0082</p>
<p>West Midlands Trent South and West Eastern</p>	<p>Northern and Yorkshire North West London South East</p>

Specimens

2. Two samples of a minimum of 10 ml of clotted blood should be taken from the health care worker a week apart, and should be sent separately and as soon as possible after sampling to the lead laboratory. The first sample should not be stored and the two samples then sent together. A suggested standard laboratory request form, which should be photocopied locally, is attached at Appendix (i). Each sample should be packaged and despatched separately in accordance with current Post Office regulations. The aim should be for samples to arrive within 24 hours of despatch and on a working day, taking account of national and local holidays in the receiving laboratory. Those despatching samples should telephone or fax the lead laboratory for their Trust to say that samples have been sent. The lead laboratory will confirm receipt of the sample by fax.

⁴ Please note that these contact details (except for the fax number) differ from those given in the hard copy version of this guidance issued under cover of HSC 2000/020. This is because notification of the change was received after it was printed.

Testing

3. The two samples from each health care worker will be tested for hepatitis B viral load in both laboratories using a hepatitis B virus DNA quantitative polymerase chain reaction assay. The lead laboratory will arrange testing in the second laboratory and will provide results back to the occupational health department.

4. Until further notice, only test results from the two designated laboratories should be used to determine whether a hepatitis B infected health care worker who is e-antigen negative can continue to perform exposure prone procedures.

Results

5. The designated laboratories will be able to provide test results within 4 weeks from receipt of sample.

Re-testing

6. Occupational health departments should make the necessary arrangements to recall health care workers for re-testing so that a specimen is taken and despatched within 12 months from the date on which the first of the samples was taken for the preceding test. If this has not been done, these health care workers should not be allowed to perform exposure prone procedures until satisfactory test results have been provided. Health care workers should be advised when their next test is due so that those who move jobs can approach their new occupational health department to arrange further testing. Previous employers should also include details of the next test due in the occupational health record as it would be helpful to new employers if they ask for it to be passed on.

Testing costs and payment

7. The unit cost of testing service is £400 per health care worker. Such testing is exempt from Value Added Tax. Payment should be made on receipt of an invoice from the lead laboratory. NHS Trusts, Primary Care Trusts and Health Authorities (who employ relevant staff) are expected to fund these tests for their employees and health care workers undergoing a pre-employment assessment. Trusts may wish to seek reimbursement of the testing costs from individual health care workers who are currently not employed (unless they are being tested for pre-employment assessment), and practitioners and staff in the General Medical Services and General Dental Services.

SUGGESTED STANDARD LABORATORY REQUEST FORM FOR HEPATITIS B VIRAL LOAD TEST

Request for HBV viral load testing in accordance with Health Service Circular 2000/020

Name of health care worker:.....Ref No:.....

Age..... Grade.....

Has this health care worker been treated with interferon or antiviral therapy within the last twelve months? YES/NO*

If yes, the health care worker should be advised as set out in paragraph 15 of the Health Service Circular implementation guidance.

*(Only send samples for testing if the health care workers claims that the circumstances in paragraph 15 of the implementation guidance can be met - please give details).

.....

Occupational Health Department:.....

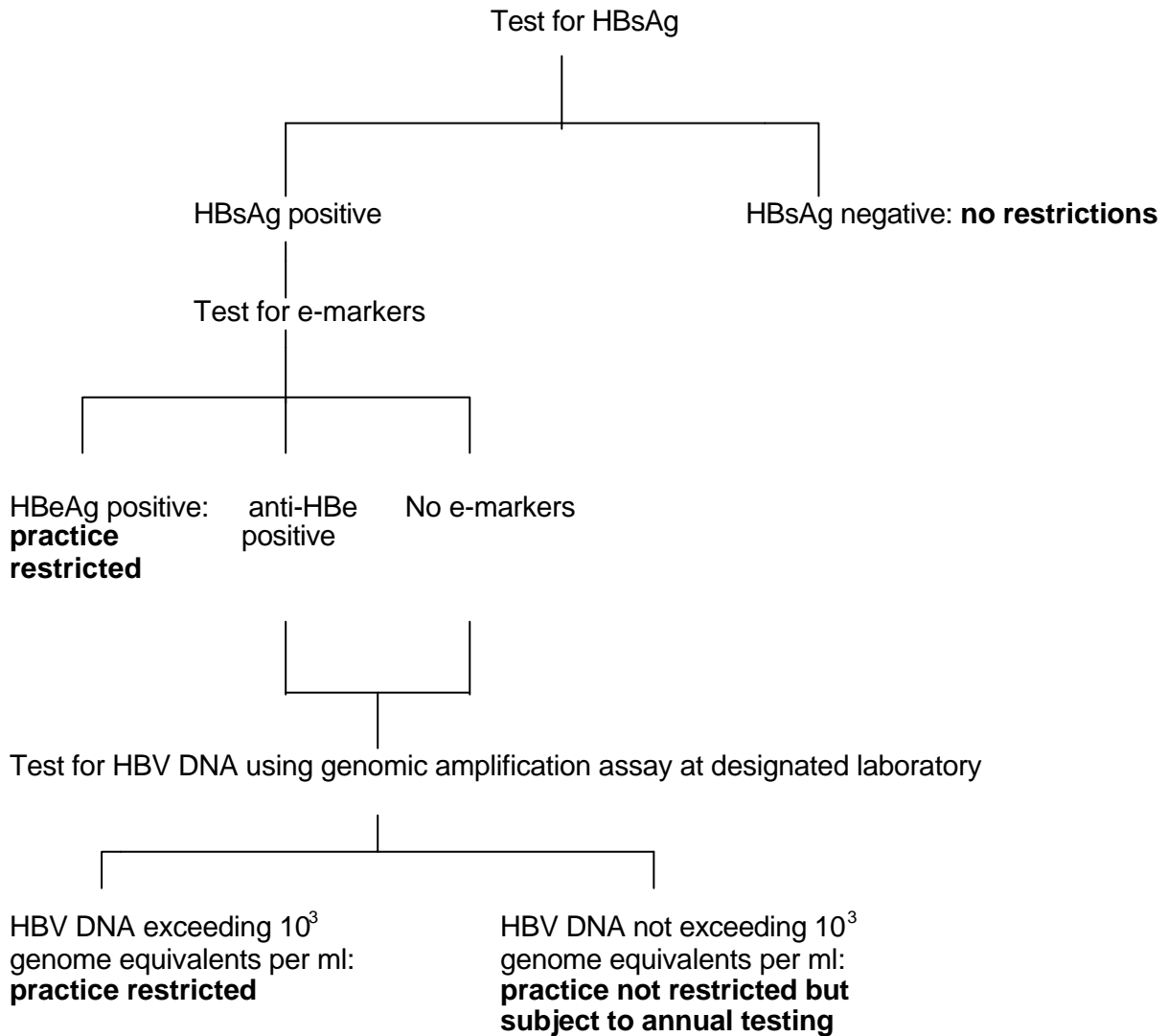
Address:.....

.....

Requesting physician:.....Signature:.....

Date:.....

INVESTIGATION OF HEPATITIS B INFECTED HEALTH CARE WORKERS (HEPATITIS B SURFACE ANTIGEN (HBsAg) POSITIVE) WHO PERFORM EXPOSURE PRONE PROCEDURES



Any hepatitis B infected health care worker associated with transmission of infection to a patient should cease performing exposure prone procedures.