Leaflet 31
BLOOD BORNE VIRUSES
(Previously HIV and AIDS)

DS&C
Directorate of Safety and Claims

AMENDMENT RECORD

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REVISION NOTE:

Leaflet completely revised during August-September 2007 by the Working Party Led by Dr Peter Griffin- DMSD-Civ-OM. The Leaflet's topic was expanded to include advice on all blood borne viruses and needle stick injuries.

Internal Consultation (1) carried out during October. Comments were incorporated during November 2007

Internal Consultation with MOD Trade Unions conducted during December 2007. Trade Unions confirmed consent in January 2007

HISTORICAL RECORD:

Original Leaflet created in October 2001. The Leaflet was originally entitled Human Immunodeficiency Virus (HIV) and Acquired Immune Deficiency Syndrome (AIDS).

During review of leaflet in 2007 by the Working Party it was recommended that this leaflet's topic was too narrow in focus and the Leaflet was expanded to include advice on all blood borne viruses.

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CONTENTS

FOREWORD

This leaflet is published under the authority of the Chairman of the Defence Occupational Health and Safety Board (OHSB). This leaflet is for application across all areas of MOD and the Armed Forces and reflects recent changes in legislation and MOD practises. Leaflet 31 has been revised from the original material covering HIV/AIDs to include all blood borne viruses.

1. SCOPE

1.1 This leaflet provides guidance on the safety precautions to be followed to reduce the risk of MOD employees being exposed to potential infection from viruses in blood, blood products and/or body parts. In the main those employees at risk of contracting blood borne viruses are:

- Healthcare workers
- Other staff who work in Dental and Medical Centres such as cleaners and maintenance staff
- First Aiders
- Staff who may handle blood, blood products or body parts (e.g. divers, morticians)
- Staff who may be deliberately bitten or spat at (e.g. MDPGA)

2. INTRODUCTION

2.1 Blood Borne Virus(es) (BBV) cover a number of viral diseases where the virus remains active in the blood for long periods of time and contaminated blood is a potential source of infection. These infections include HIV and several hepatitis

viruses, considered separately in the following paragraphs. For other rarer potentially blood-borne viruses, specialist viralogical advice should be sought.

2.2 In general, the biggest occupational risks of transmission of BBVs is to Health Care Workers (HCWs) or other staff working in Medical or Dental Centres where there is a risk of exposure to blood and exceptionally to certain other body fluids or body tissues from an infected patient.

2.3 When identifying workplace risks, the potential for exposure to BBVs must be considered (especially for the jobs listed in paragraph 1.1) and if necessary be subject to a formal risk assessment which must also set out appropriate control measures.

3. TYPES OF BBV

3.1 Human Immunodeficiency Virus (HIV or AIDS)

3.1.1 HIV/AIDS is a virus that attacks the immune system. At present there is no vaccination to prevent infection.

3.1.2 HIV has been found in blood, semen, vaginal secretions, saliva, tears, urine, breast milk, and cerebrospinal, synovial and amniotic fluids. However only blood, blood products, semen, vaginal secretions, donor organs and tissues and breast milk have been implicated in infection. There is good evidence from studies of household contacts of infected people that HIV is not spread by close social contact even when this is prolonged, as in a family setting. A small number of cases of "household" transmission of HIV have occurred, but infection is most likely to have occurred through exposure to infected blood or blood contaminated body fluids.

3.1.3 Although HIV infection may occur in health care settings, most HIV infection occurs as follows:

- by unprotected penetrative sexual intercourse with an infected person (between men or between a man and a woman);
- by inoculation of infected blood; (at present in the UK this results mainly from drug users sharing blood contaminated injecting equipment);
- from an infected mother to her baby (before or during birth or through breast feeding).

3.2. Hepatitis B Virus (HBV)

3.2.1 HBV is a virus that damages the liver. It may be found in blood and virtually all body fluids of patients with acute hepatitis B and carriers of the virus but blood, semen and vaginal fluids are mainly implicated in the spread of HBV infection. Infection usually occurs by:

- unprotected sexual intercourse
- injecting drug users sharing blood contaminated injecting equipment;
- at or around the time of birth from an infected mother to her baby.

3.2.2 The most important measure whereby Health Care Workers (HCW) and others likely to be exposed to blood or blood products can be protected against HBV is by immunisation, which provides protection in up to 90% of recipients. Immunisation is not a substitute for good infection control practice since it provides no protection against infection with other BBVs.

3.3 Hepatitis C Virus (HCV)

3.3.1 Hepatitis C virus (HCV) is also a virus that affects the liver. It is most frequently acquired by direct blood to blood contact and the commonest mode of infection in the UK is the sharing of blood contaminated injecting equipment by injecting drug misusers. Both sexual and perinatal (at or around the time of birth) infection can occur but in general infection by these routes is rare. There is at present no vaccine to prevent HCV infection.

3.4 Other BBVs

3.4.1 There are other BBVs, but, compared with HIV, HBV and HCV, they are not significant in an occupational setting. However, precautions taken to protect against HIV, HBV and HCV will protect against these other viruses.

4. Risks of Infection

4.1 Not all patients infected with BBVs have had their infections diagnosed. It is therefore important that all blood and body fluids and tissues are regarded as potentially infectious, and HCWs should follow precautions scrupulously in all circumstances to avoid contact with them.

4.2 Sharps ‘Needlestick’ Injuries

4.2.1 "Sharps" in this context are needles, sharp-edged instruments, broken glassware or any other item which may be contaminated by blood or body fluids and which may cause laceration or puncture wounds. Sharp tissues such as spicules of bone or teeth may also pose a risk of injury

4.2.2 Sharps/needlestick injuries are the most common route of infection with BBVs in the health care setting as “sharps" or "needlestick" injury causes infected blood to be injected into the HCW. The risk of infection to a HCW from an infected patient following such an injury has been shown to be;

- 1 in 3 when a patient is infected with HBV and is antigen positive,
- 1 in 30 when the patient is infected with HCV and
- 1 in 300 when the patient is infected with HIV.

4.2.3 Most cases of occupationally acquired HIV infection have arisen from “sharps” injuries, and of these the majority have followed injury from hollow needles in association with procedures where a needle or cannula is placed in a vein or artery e.g. taking a blood sample.

4.2.4 Transmission of BBVs may result from contamination of mucous membranes (lining of the eyes or the mouth), or of broken skin, with infected blood or other infectious material. The infection risks after an eye, mouth or broken skin exposure are lower than those after a “sharps” injury. The risk of acquiring HIV after a single eye, mouth or broken skin exposure is less than 1 in 2000. Eye, mouth or broken skin exposures occur more frequently than “sharps” injuries; the majority of both types of exposure are preventable.

4.3 **Human Bite**

4.3.1 A human bite may potentially cause a BBV infection, if the bite breaks the skin of the person bitten. There is no evidence that BBVs can cause infection by blood contamination of intact skin, by inhalation or by faecal-oral contamination.

5. PRECAUTIONARY MEASURES (General)

5.1 There are general measures to reduce the risk of occupational exposure which can be introduced at all levels. The following measures will help to minimise the risk of exposure to BBVs and are appropriate for all health care settings:

- All staff should wash hands before and after contact with each patient, and before putting on and after removing gloves;
- change gloves between patients;
- cover existing wounds, skin lesions and all breaks in exposed skin with waterproof dressings[1].
- Wear gloves if hands are extensively affected; wear gloves where contact with blood can be anticipated; avoid sharps usage where possible,
- and where sharps usage is essential,
- exercise particular care in handling and disposal;
- avoid wearing open footwear in situations where blood may be spilt,
- or where sharp instruments or needles are handled;
- clear up spillage of blood promptly and disinfect surfaces;
- wear gloves when cleaning equipment prior to sterilisation or disinfection when handling chemical disinfectant and when cleaning up spillages;
- follow safe procedures for disposal of contaminated waste.

5.2 The HSE guidance is set out in Safe disposal of clinical waste (see the Medical Devices Agency's Safety Action Bulletin No 102, Use and Management of Sharps Containers (1993) and the British Medical Association's Safe Use and Disposal of Sharps (1993)).

5.3 If direct contact with another person's blood or other body fluids occurs the area should be washed as soon as possible with ordinary soap and water. Clean cold tap water should be used if the lips, mouth, tongue, eyes or broken skin are affected and medical advice sought.

[1] Pre-employment occupational health assessment should identify those with damaged skin e.g. fissured hand eczema, who may be at higher risk of occupationally acquired infection, and ensure that advice is given about minimising any occupational health risk to which they may be exposed

5.4 Any risk assessment should include a consideration of the costs of occupational health follow-up of HCWs after needle stick injuries, the possible morbidity of HCWs in these circumstances and associated costs, and any legal claims against MOD or independent practitioners for compensation for occupationally acquired BBV infections.

6. Related Documents

6.1 DIN 2005DIN07-027: Advice for contractors concerning “sharps” injuries

This DIN provides guidance mainly for cleaning contractors on the precautions which should be taken to prevent a “sharps” injury and what action should be taken if a “sharps” injury occurs.

- Health and Safety at Work Act 1974 -This sets out general duties for all employers concerning the health and safety of their employees and the general public.

- Management of Health and Safety at Work Regulations 1999 -This gives more explicit detail of the requirements for managing health and safety at work, especially the need for risk assessments of all work activities.

- Control of Substances Hazardous to Health Regulations 2002 -This details the requirements for assessing the risks and taking appropriate precautions when working with hazardous substances.

- Reporting of Diseases and Dangerous Occurrences Regulations 1995 -This details the requirement to report some work-related accidents, diseases (including any form of hepatitis) and dangerous occurrences.

- Further advice on Blood Borne Viruses and occupational exposure is available on the HSE website (general advice) at: http://www.hse.gov.uk/pubns/indg342.pdf

- The Department of Health Website (healthcare staff and blood) at: http://www.dh.gov.uk/en/Policyandguidance/Healthandsocialcaretopics/Bloodsafety/Bloodborneviruses/index.htm and the Health Protection Agency website (mainly healthcare workers) at: http://www.hpa.org.uk/infections/topics_az/bbv/bbmenu.htm

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SPECIFIC PRECAUTIONS FOR OCCUPATIONAL GROUPS

1 INTRODUCTION

1.1 This Annex will cover in more detail the precautions that need to be undertaken by certain Occupational Groups whom are at higher risk of BBV infection. These as previously stated include;

- Healthcare workers
- Other staff who work in Dental and Medical Centres such as cleaners and maintenance staff
- Staff who may handle blood, blood products or body parts (e.g. divers, morticians)
- First Aiders
- Staff who may be deliberately bitten or spat at (e.g. MDPGA)

1.2 The advice and information given in this Annex explains that there are only a few ways in which infection can be passed on, and emphasises that HIV/AIDS and viral hepatitis cannot be contracted through normal social or work contact. Publicity about HIV and AIDS maintains a high profile, but these are not the only BBVs risks, the major other risk being viral hepatitis (hepatitis B [HBV] and hepatitis C [HBC]). Staff in these high risk occupational groups may have questions about both HIV/AIDS and viral hepatitis such as what causes them, how they are, and are not, transmitted and what precautions they should take.

2. SPECIAL PRECAUTIONS

2.1 Health Care Workers (HCW)

2.1.1 Healthcare workers including students and trainees, who have direct contact with patient's blood or other potentially infectious body fluids or tissues should be immunised against HBV. Advice should be obtained from Occupational Health. Further information on immunisation is available in the current edition of the Department of Health's "The Green Book Immunisation against Infectious Diseases".

2.1.2 Whenever blood, semen or other body fluids have to be mopped up, disposable plastic gloves and an apron should always be worn and paper towels used; these items should then be placed in plastic bags and disposed of, preferably by burning. Clothing may be cleaned in an ordinary washing machine using a hot cycle (60ºC or higher). BBV are killed by household bleach, and the area in which any spills have occurred should be disinfected using one part of bleach diluted with 10 parts of water; caution should be exercised as bleach is corrosive and can be harmful to the skin.

2.1.3 The mopping up procedure should be carried out using paper towels soaked in the recommended bleach solution and placed over all the contaminated areas for 30 minutes before removal and destruction. The wet areas must then be dried thoroughly.

2.1.4 If direct contact with another person's blood or other body fluids occurs the area should be washed as soon as possible with ordinary soap and water. Clean cold tap water should be used if the lips, mouth, tongue, eyes or broken skin are affected and medical advice sought.

2.1.5 No case of BBV infection is known to have occurred as a result of carrying out mouth-to-mouth resuscitation (HIV has been found only occasionally in saliva and in very small quantity compared with blood)

2.1.6 Wherever a person who is known or suspected to be infected with a BBV dies, it is the duty of those with knowledge of the case to ensure that those who need to handle the body, including funeral personnel, mortuary and post-mortem room staff are aware that there is a potential risk of infection. Making those who may be at risk aware of a known or suspected hazard is a statutory duty under the HSWA. Although the diagnosis should be kept confidential, the discreet use of "danger of infection" or similar labelling is appropriate, always making clear what type of precautions are needed.

2.1.7 Any body which is externally contaminated with blood, or known or suspected to be infected with a BBV should be placed in a disposable plastic body bag as soon as possible. Absorbent material may be needed when there is leakage, e.g. from surgical incisions or wounds. Mortuary staff should ensure that good liaison is maintained between themselves and those who submit bodies for post-mortem examination or storage and those who collect bodies for disposal.

3. Other staff who work in Dental and Medical Centres

3.1 Other staff who work in Dental and Medical Centres such as cleaners and maintenance staff should follow the same precautions as Health Care Workers (HCW) except that in most cases Hep B vaccination is unnecessary.

3.2 If a member of this group of staff suffers a needlestick injury or similar high risk exposure they should immediately attend the nearest Accident and Emergency Department that is able to give to expert virological advice especially concerning post exposure prophylaxis (PEP - see related documents).

4. Staff who may handle blood, blood products or body parts

4.1 Staff who may handle blood, blood products or body parts should adopt similar precautions to those recommended in this Annex for Health Care Workers, including Hep B vaccination.

4.2 Specific guidance for post mortem work is provided by the Health and Safety Commission Health Services Advisory Committee in Safe working and the

prevention of infection in the mortuary and post-mortem room, and by the ACDP in Protection against blood-borne infections in the workplace.

5. First Aiders

5.1 In any situation requiring First Aid, there are certain standard hygiene precautions that are expected to be undertaken by First Aiders to reduce the risk of transmitting infection. Provided these standard hygiene precautions are adhered to they will be equally effective against infection by BBVs.

5.2 Any exposed cuts or abrasions on the first aider's skin should be covered with a waterproof dressing before undertaking any treatment on a casualty, whether or not any infection is suspected. They should also wash their hands in hot soapy water both before and after applying any dressings. In circumstances where hot soapy water is not available, commercial skin cleaners may be used.

5.3 The risk to a first aider of contracting infection when giving mouth-to-mouth resuscitation is extremely small and should not discourage a prompt response in a life-saving emergency. First aiders may be issued with protective mouthpieces for use during resuscitation. As a first aider it is important to remember that you should not withhold treatment for fear of being infected with a BBV

5.4 The HSE advises that it is not normally necessary for first aiders in the workplace to be immunised against HBV, unless the risk assessment indicates it is appropriate.

6. Staff Working Overseas

6.1 Blood borne viruses, especially HIV and AIDS are a worldwide problem, certain areas having a far greater incidence of these diseases than the UK. Staff travelling overseas need to pay particular heed to the advice and guidance given on ways of reducing the risk of infection. Special care needs to be taken in high risk areas, where the diseases are widespread and where the main cause of their spread is through sexual intercourse between men and women.

6.2 There are, however, additional points that need to be borne in mind when travelling overseas, particularly to third world countries. BBV can be spread by infected blood transfusions (blood in many parts of the world is not routinely screened for HIV and other infections including hepatitis B, as it is in the UK) and by blood products, and also through the use of needles or syringes that have not been sterilised.

6.3 It is important whenever possible to ask whether a blood transfusion is absolutely necessary: in some countries blood transfusions of 500-1000ml are given which in the UK (where they are usually given only in life threatening situations) would not be deemed necessary. If a transfusion has to be given, it should be only with screened blood, and any injections should only be carried out with a sterile, disposable syringe and needle.

6.4 It is, of course, safest to avoid blood transfusions altogether if possible, and for this reason British Embassies and High Commissions in countries where blood is not safe or tested hold a plasma expander which can be used in emergencies for the replacement of up to 1500ml of blood. There will also be an expatriate donor panel for use in emergencies. Before going abroad to those areas where the blood supply cannot be relied on to be safe (in the main, third world countries), it is advisable for individuals to know their blood group, and to ascertain the location of the nearest British Embassy or High Commission.

6.5 It is sensible for travellers to carry a basic first aid kit or to take a special medical kit containing sterile equipment for use in emergencies. These kits are available from the Civilian Occupational Health Service Contractor (London only) Military Medical Centres (ONLY where civilians already have an entitlement to use them, e.g. Naval Dockyards), GPs, chemists and independent companies. Before travelling abroad it is advisable to talk to your doctor about vaccinations and anti-malarial treatment and to have a check-up if you have not recently had one.

6.6 Advice on general health matters, including AIDS, for those travelling abroad is contained in the Department of Health leaflet "Health Advice for Travellers". The Medical Advisory Service for Travellers Abroad (MASTA) can also provide advice on medical services for people travelling overseas. MASTA is based at the London School of Hygiene and Tropical Medicine, Keppel Street, London WC1E 7HT, tel 0207-631 4408.

7. **Staff who may be deliberately bitten or spat at**

7.1 Staff who may be bitten or spat at e.g. MDPGA, should immediately wash the affected area with hot soapy water. In circumstances where hot soapy water is not available, commercial skin cleaners may be used. If spittle enters the eyes or mouth the effected area should be irrigated with copious quantities of clean water.

7.2 In the case of severe bite where there is significant penetration of the skin resulting in bleeding they should immediately attend the nearest Accident and Emergency Department that is able to give to expert virological advice especially concerning post exposure prophylaxis (PEP).