



The Old Sweet Shop  
Teme Street, Tenbury Wells,  
Worcs. WR15 8BB  
Phone: 07887 870090  
Web: [villagebyvillage.org.uk](http://villagebyvillage.org.uk)  
Email: [neil@villagebyvillage.org.uk](mailto:neil@villagebyvillage.org.uk)  
Registered Charity Number 1116952

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## **Village By Village – HIV/AIDS Policy**

### **Introduction**

"Fifteen years after HIV/AIDS surfaced in Ghana in 1986, the Government created the Ghana AIDS Commission to coordinate the various, usually ineffective, public sector efforts to create awareness about the disease. Now there is some focus. Awareness is increasing, but the rapid rise in HIV/AIDS incidence appears to be continuing. "

Doctor Nicholas Swift, Chairman of Village by Village.  
Date: 14 September 2007.

### **HIV Policy**

#### **Introduction**

This guidance contains measures to protect volunteers and volunteer care workers against occupational infection with blood-borne viruses (BBVs). It is based on the recommendations of the Expert Advisory Group on AIDS and the Advisory Group on Hepatitis. All guidance and instruction are the responsibility of the Clinic/Hospital a volunteer will be working in. If at any time these guidance's are not being followed or there is a lack of personnel protection equipment (PPE) the volunteer must stop all volunteering and report the event to a Village by Village supervisor. This document should be read in conjunction with "TheRiskofAids.pdf" issued to all volunteers.

This document covers known BBVs including human immunodeficiency virus (HIV), hepatitis B virus (HBV) and hepatitis C virus (HCV). There are practical advantages in adopting common infection control policies to prevent the transmission of BBVs, and this is reflected in the guidance.

Viral hazards in health care settings.

## General principles

The BBVs which present most cross-infection hazard to volunteers are those associated with a carrier state with persistent replication of the virus in the human host and persistent viraemia. These include HIV and several hepatitis viruses, considered separately in the following paragraphs. For other rarer potentially blood-borne viruses, specialist virological advice should be sought.

In general, occupational risks of transmission of BBVs to Volunteers arise from the possibility of exposure to blood and exceptionally to certain other body fluids or body tissues from an infected patient. Semen and breast milk may pose a risk of BBV infection but exposure of Volunteers is considered unlikely in most health care settings.

Body fluids etc which should be handled with the same precautions as blood

- Cerebrospinal fluid
- Peritoneal fluid
- Pleural fluid
- Pericardial fluid
- Synovial fluid
- Amniotic fluid
- Semen
- Vaginal secretions
- Breast milk
- Any other body fluid containing visible blood, including saliva in association with dentistry
- Unfixed tissues and organs

## Human Immunodeficiency Virus (HIV)

HIV has been isolated from 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 the transmission of 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 transmission is most likely to have occurred through exposure to infected blood or blood contaminated body fluids. Although HIV transmission may occur in health care settings, most HIV transmission occurs:

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

There is at present no vaccine to prevent HIV infection.

## Hepatitis B virus (HBV)

Hepatitis B virus surface antigen (HBsAg) 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.

Transmission usually occurs:

- by unprotected sexual intercourse;
- by injecting drug misusers sharing blood contaminated injecting equipment;
- perinatally from an infected mother to her baby.

Up to 90% of babies infected perinatally and around 5% to 10% of those infected as adults develop chronic carrier status. The persistence of the 'e' antigen correlates with a high level of viral replication and increased infectivity. The most important measure whereby Volunteers 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.

## Hepatitis C virus (HCV)

HCV is the main cause of what was previously known as non-A non-B hepatitis. HCV is most frequently acquired by direct blood to blood contact and the commonest mode of transmission in the UK is the sharing of blood contaminated injecting equipment by injecting drug misusers. Both sexual and perinatal transmission can occur but in general these are less efficient modes of transmission.

There is at present no vaccine to prevent HCV infection.

## Hepatitis D virus (HDV)

HDV causes infection only in those who have active HBV infection. HDV infection can occur either as co-infection with HBV or as superinfection of an HBV carrier. Since HDV depends on an HBV-infected host for replication, prevention of HBV infection by immunisation will also prevent HDV infection.

## GB virus-type C (Hepatitis G virus)

Recently a further BBV has been described, provisionally designated either as GBV-C agent or hepatitis G virus. The full clinical significance of infection with this virus, whether it is a true hepatotropic virus, and its natural history are as yet unknown.

## Risks of transmission of BBVs

The risk of transmission of BBVs is greater from patient to Volunteers than from Volunteers to patient. The risk to the Volunteers for each virus is proportional to the prevalence of that infection in the population served, the infectious status of the individual source patient, which may or may not be known, and the risk of a significant occupational exposure occurring during the procedures undertaken. In the health care setting transmission most commonly occurs after percutaneous exposure to a patient's blood by "sharps" or "needlestick" injury. The risk of transmission to a Volunteers from an infected patient following such an injury has been shown to be around 1 in 3 when a source patient is infected with HBV and is 'e' antigen positive, around 1 in 30 when the patient is infected with HCV and around 1 in 300 when the patient is infected with HIV.

"Sharps" in this context are needles, sharp-edged instruments, broken glassware or any other item which may be contaminated in use 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.

Most cases of occupationally acquired HIV infection have arisen from percutaneous exposure to HIV infected material, 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 eg venepuncture. Others have arisen through exposure of mucous membranes or non-intact skin to blood.

Transmission of BBVs may result from contamination of mucous membranes of the eyes or the mouth, or of broken skin, with infected blood or other infectious material. The transmission risks after a mucocutaneous exposure are lower than those after a percutaneous exposure. The risk of acquiring HIV after a single mucocutaneous exposure is less than 1 in 2000. Mucocutaneous exposures occur more frequently than percutaneous exposure; the majority of both types of exposure are preventable.

BBVs are potentially transmissible by a human bite through mucous membrane exposure if the bite breaks the skin of the person bitten. There is no evidence that BBVs can be transmitted by blood contamination of intact skin, by inhalation or by faecal-oral contamination.

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

Precautions against exposure to BBV infection

Assessment of risk

Health care staff at the place of volunteering should at all times carry out an assessment of the work to be done and of current procedures in order to be able to prevent or control exposure to substances hazardous to health.

Categorisation of risks and appropriate levels of protection. Each team or group of Volunteers working together on a task should discuss the hazards involved in their current methods of working and ways of reducing these hazards.

This process should include a consideration of the risks to others involved by such activities as the disposal of sharps, bodies, tissues, body fluids, and contaminated disposable items and the maintenance of equipment.

The team should be encouraged to devise safe, and reasonably practicable procedures and routines for performing each task; ensure they are followed after appropriate training and keep them under active review.

The appropriate level of precautions to be taken for any procedure should be determined according to the extent of possible exposure to blood and not because of knowledge or speculation about the infectious status of the patient.

All blood, tissues and some body fluids should be regarded as potentially infectious. This approach is sometimes referred to as "Universal Precautions".

General measures to reduce the risk of occupational exposure

The following measures will help to minimise the risk of exposure to BBVs and are appropriate for all health settings:

- 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
- 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

Volunteers should be encouraged to follow good practice methods. Volunteers and their employers or supervisors should keep themselves informed of safe methods of working.

Volunteers must not be involved in the handling and disposal of sharps or resheathing needles.

Injuries may occur while hollow bore needles are being prepared for disposal, eg whilst attempting to resheath a needle manually after venepuncture. Gloves cannot prevent percutaneous injury but may reduce the risk of acquiring a

BBV infection.

Although punctured gloves allow blood to contaminate the hand, the wiping effect can reduce the volume of blood to which the worker's hand is exposed and in turn the volume inoculated in the event of percutaneous injury.

Reducing risk of blood-skin contact

The following measures should be followed by the Health care staff at the place of volunteering and may reduce the risk of blood-skin contact:

- if a glove puncture is suspected or recognised, rescrub if possible and reglove as soon as safety permits;
- change gloves regularly if performing, or assisting with a prolonged surgical procedure even if no glove puncture is suspected or recognised;
- the need for protection of body, eyes and face;
- choose waterproof gowns, or wear a surgical gown with waterproof cuffs and sleeves and a plastic apron underneath if blood contact and therefore "strikethrough" is considered a risk - such as procedures anticipated to involve high blood loss;
- if legs or feet may be contaminated (as in obstetric and some other procedures performed in the lithotomy position), ensure that impermeable gown/apron covers legs and wear impermeable footwear. Wellington or calf length overboots are preferable to shoes or clogs. Surgical drapes with "catch-basins" are available to reduce the risk of leg and foot contamination;
- wear protective headwear and surgical mask. Male Volunteers should consider wearing hoods rather than caps to protect freshly shaven cheeks and necks; • ensure that all blood is cleansed from a patient's skin at the end of an operation before patient leaves theatre;
- remove protective clothing including footwear on leaving the contaminated area. All contaminated reusable protective clothing, including footwear, should be subjected to cleaning and disinfection or sterilisation, with appropriate precautions for those undertaking it. Footwear should be adequately decontaminated after use.

#### Other measures to prevent BBV transmission

##### Hepatitis B immunisation

All Volunteers, 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.

##### Decontamination and waste disposal

Many occupational exposures to BBVs result from failure to adhere to basic rules concerning decontamination, waste disposal etc.

##### Equipment and materials

Single use equipment should be used where appropriate, particularly where decontamination cannot be carried out effectively. Any reusable equipment which is to be reused and which has been employed for a procedure involving potential contact with a patient's blood must be sterilised or disinfected before it is reused. Such equipment includes items which may not necessarily be in direct contact with the patient eg manual self inflating resuscitation bags and dental handpieces. Reusable equipment must be of a type that is readily decontaminated without distortion or damage to its function. When selecting suction and aspiration equipment, apparatus which will discharge directly into a waste outlet is to be preferred in order to reduce the potential for accidental spillage.

##### Decontamination of equipment

Thorough physical cleaning of instruments in warm water with detergent to remove blood and debris is essential prior to disinfection or sterilisation, for either procedure to

be effective. Neither cold nor hot water should be used for this purpose; the former may harden fats and the latter may cause proteinaceous material to adhere.

#### Exposure Prone Procedures -

are those where there is a risk that injury to the worker may result in the exposure of the patient's open tissues to the blood of the worker. These include procedures where the worker's gloved hands may be in contact with sharp instruments, needle tips and sharp tissues (spicules or bone or teeth) inside a patient's open body cavity, wound or confined anatomical space where the hands or fingertips may not be completely visible at all times.

#### Disposal of clinical waste

All waste which is contaminated with blood, tissues and other potentially infectious body fluids should be treated as "clinical waste", and disposed of following local protocols.

#### Management of blood exposure incidents

##### General principles

Needlestick and other exposures to blood in the health care setting are unnecessarily common at present. Many result from a failure to follow recommended procedures, and from careless disposal of waste. Strict adherence to the guidance earlier in this document should reduce the incidence of these exposures.

There will remain occasions where exposure occurs despite careful attention to the correct procedures. All exposure incidents should be reviewed to consider how recurrence might be prevented.

All Volunteers in hospital and elsewhere (eg general medical and dental practice) should be informed and educated about the possible risks from occupational exposure and should be aware of the importance of seeking urgent advice following any needlestick injury or other possible exposure.

Although the risk of acquiring a BBV through occupational exposure is low, the consequences are serious. Occupational exposure to known or suspected BBV infected material is always stressful, and for some, extremely so.

Volunteers or any other person in the health care setting exposed to HBV or HIV infected blood or body fluids should be offered appropriate post-exposure prophylaxis, if available and Volunteers particularly at risk of exposure to HIV should be encouraged to consider in advance, whether in the event of an occupational exposure to HIV, they would wish to take prophylaxis.

At present, there is no effective post-exposure prophylaxis against HCV infection.

#### Post-exposure procedures

Action after a Volunteers has been exposed to blood or other potentially infectious body fluids should take account of the interests of both the worker and the source patient. The circumstances, which led to the exposure, should be identified and all possible steps taken to prevent recurrence.

Immediately following any exposure, the site of exposure ie. wound or non-intact skin should be washed liberally with soap and water but without scrubbing.

Exposed mucous membranes including conjunctivae should be irrigated copiously with water, after first removing contact lenses if present. If there has been a puncture wound, free bleeding should be encouraged gently but the wound should not be sucked.