



Community Infection Prevention and Control Guidance for Health and Social Care

Blood-Borne Viruses

BLOOD-BORNE VIRUSES

Version 1.02
October 2018

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Date Adopted:	1 st October 2018
Review Date:	30 th September 2021

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BLOOD-BORNE VIRUSES

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1. Introduction

Blood-borne viral (BBV) infections are spread by direct contact with the blood of an infected person. The main blood-borne viruses of concern are:

- Human immunodeficiency virus (HIV), which causes acquired immune deficiency syndrome (AIDS)
- Hepatitis B virus (HBV) and Hepatitis C (HCV) virus which cause hepatitis.

These viruses are considered together because infection control requirements are common and because of the similarities in their transmission routes.

2. HIV

HIV infection damages the immune system increasing the risk of severe infections and certain cancers. There is no cure or vaccine, but treatment includes drugs that have proved very effective at improving the quality of life and extending lifespan. Individuals with HIV may not have any symptoms and may be unaware of their infection.

UK estimates for HIV prevalence are low (about 0.11% of the general population), but are much higher in other parts of the world and among UK residents exposed in those countries.

3. Hepatitis B

Hepatitis B is an infection of the liver. Acute infection may be asymptomatic or may cause a non-specific illness with nausea, vomiting, loss of appetite and jaundice. Infection without apparent illness is common in children.

The risk of developing chronic Hepatitis B infection depends on the age at which infection is acquired and the risk is increased in those whose immunity is impaired. Most infected adults recover fully and develop lifelong immunity. However, approximately 5% of previously healthy adults may remain infected (chronic carriers) and potentially infectious. Children infected between the ages of 1-5 years have a much higher chance of becoming a chronic carrier (20-50%) and this is particularly the case for babies infected at birth (90%).

Around 20 to 25% of individuals with chronic HBV infection worldwide have progressive liver disease, leading to cirrhosis in some patients.

UK estimates for Hepatitis B prevalence is low, around 0.3%, but is more common in other parts of the world and among UK residents exposed in those countries.

4. Hepatitis C

Hepatitis C is another virus which can damage the liver. Most service users with Hepatitis C have no symptoms and are unaware of their infection. Some may develop a flu-like illness and jaundice. About 1 in 5 people infected with Hepatitis C recover completely. The majority become chronically infected, and about 20% of these will develop severe liver scarring (cirrhosis) in 20-30 years, and a proportion will go on to develop liver cancer.

UK estimates for Hepatitis C prevalence are low (around 0.5%), but the infection is more common in other parts of the world and among UK residents exposed in those countries. Prevalence among drug users may be as high as 50-80%.

5. Prevention

Prevention strategies focus on minimising lifestyle risks, early recognition of cases to facilitate early treatment and advice for cases, screening in pregnancy for the reduction of vertical transmission of HIV and Hepatitis B.

Strategies in occupational settings include:

- standard precautions
- use of safety sharps where assessment indicates they will provide safe systems of working for health and social care workers
- protection of staff with Hepatitis B vaccination
- appropriate management of percutaneous exposures (sharps/splash injuries) - refer to your local Sharps Management and Inoculation Injuries Guidance.

Viral Hepatitis is notifiable and cases should be reported to the Consultant in Communicable Diseases Control (CCDC) at your local Public Health England office. For Hepatitis B, effective vaccination is available for high risk individuals and individuals who have been exposed. Early discussion of new cases with your local CCDC is recommended, who will coordinate contact tracing and the provision of HBIG and vaccine.

6. Infectivity

HIV

HIV infection is spread by direct contact with an infected person's blood or certain body fluids.

Main routes of transmission:

- sexual intercourse with an infected person, particularly without using a condom
- sharing contaminated needles or other injecting equipment
- from an infected mother to baby during pregnancy, delivery or breast feeding
- tattooing, body piercing or acupuncture with unsterilised equipment
- blood transfusion in a country where blood donations are not screened for HIV
- sharing razors and toothbrushes (which may be contaminated with blood from an infected person)
- occupational exposure through sharps injuries or other mucosal or non-intact skin exposure.

HIV is not spread by normal daily activities, e.g., coughing, sneezing, kissing, sharing food, crockery or bathroom facilities.

Hepatitis B

Hepatitis B infection is spread by direct contact with an infected person's blood or certain body fluids.

The degree of infectivity is related to specific serum markers, i.e., hepatitis e antigen and anti-hepatitis e antibody.

Main routes of transmission:

- sexual intercourse with an infected person without using a condom
- sharing contaminated needles or other injecting equipment
- from an infected mother to baby, during pregnancy or delivery
- tattooing, body piercing or acupuncture with unsterilised equipment
- blood transfusion in a country where blood donations are not screened for Hepatitis B
- sharing razors and toothbrushes (which may be contaminated with blood from an infected person)
- occupational exposure through sharps injuries or other mucosal or non-intact skin exposure.

Hepatitis B is not spread by normal daily activities, e.g., coughing, sneezing, kissing, sharing food, crockery or bathroom facilities.

Hepatitis C

Hepatitis C is spread by direct contact with an infected person's blood. In the past, infection may have been transmitted by blood and blood products.

Currently the main route of spread in the UK is through sharing contaminated equipment among drug injectors. This accounts for the majority of cases.

Other less common routes of transmission include:

- sexual intercourse with an infected person without using a condom (this route of transmission is relatively uncommon)
- from an infected mother to baby, during pregnancy or delivery
- tattooing, body piercing or acupuncture with unsterilised equipment
- blood transfusion in a country where blood donations are not screened for Hepatitis C
- sharing razors and toothbrushes (which may be contaminated with blood from an infected person)
- occupational exposure through sharps injuries or other mucosal or non-intact skin exposure.

Hepatitis C is not spread by normal daily activities, e.g., coughing, sneezing, kissing, sharing food, crockery or bathroom facilities.

7. Prevention

Prevention strategies focus on minimising lifestyle risks, early recognition of cases to facilitate early treatment and advice for cases, screening in pregnancy for the reduction of vertical transmission of HIV and Hepatitis B.

Strategies in occupational settings include:

- standard precautions
- use of safety sharps where assessment indicates they will provide safe systems of working for health and social care workers
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- appropriate management of percutaneous exposures (sharps/splash injuries) - refer to your local Sharps Management and Inoculation Injuries Guidance.

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office. For Hepatitis B, effective vaccination is available for high risk individuals and individuals who have been exposed. Early discussion of new cases with your local CCDC is recommended, who will coordinate contact tracing and the provision of HBIG and vaccine.

8. Infection prevention and control

Precautions to prevent inoculation of blood and certain body fluids will prevent transmission of these viruses.

As a result of the lack of early symptoms in some infected persons and the propensity of the viruses to persist as chronic infections, many people who carry these blood-borne viruses may not be aware of this fact.

Assigning risk on the basis of declared or observed high risk activity is potentially discriminatory and highly unreliable. In adopting standard precautions, the risk of transmission of these viruses will be minimised from all. As always, care should be taken with sharps (please refer to the Sharps Management and Inoculation Injuries Guidance) and in line with Health and Safety Executive Guidance regarding sharps. Consideration should be given on the use of safety sharps.

The quality of infection control procedures should be such that in principle no extra precautions are required for service users known to carry these viruses.

For service users in communal settings, e.g., care homes, hospices, etc., side room isolation is unnecessary, unless indicated because of other clinical concerns.

Standard infection prevention and control precautions for reducing the risk of transmission of BBVs

- Keep cuts or broken skin covered with waterproof dressings.
- Protect eyes, mouth and nose from blood splashes where there is a risk of splashing.
- Avoid direct skin contact with blood and blood stained body fluids (if blood/blood stained body fluids are splashed on to the skin, wash off with soap and water).
- Wear disposable latex/nitrile gloves when contact with blood or body fluids is likely.
- Always clean hands after removing gloves.
- Always clean hands before and after giving first aid.
- Never share razors or toothbrushes as they can be contaminated.
- Contain and promptly disinfect surfaces contaminated by spillages of blood and body fluids.

Spillages of blood or body fluids

Urine, faeces, sputum, tears, sweat and vomit are not considered to pose a risk unless they are contaminated with blood. Please refer to the Environmental Cleanliness Guidance and Standard Precautions Guidance for advice on cleaning spillages of blood/blood stained body fluids.

Disposal of waste in the home

Contaminated paper towels, gloves and aprons used by a health or social care worker during the care of a service user, should be put in the appropriate waste bag and disposed of as per local Waste Management Policy.

Personal hygiene waste such as sanitary towels, nappies, tampons and incontinence pads should be adequately wrapped and secured in a plastic bag prior to disposal in domestic waste.

Vomit, urine and faeces can be flushed down the toilet. Potties and nappy changing mats should be washed with detergent and warm water and dried with paper towels after each use.

Disposal of waste in residential, day care or health and social care settings

Refer to your local Waste Management Policy.

Pathology specimens

Standard precautions for venepuncture and sharps disposal should be employed.

Specimens and request forms from service users known to be or suspected of being infected with blood-borne viruses should be labelled with a 'Danger of Infection' or 'hazard' sticker.

9. Deceased service users

Standard Precautions should be maintained when in contact with deceased service users.

The body of service users diagnosed with HIV Hepatitis B and C may be viewed and hygienic preparation can be performed.

Inform mortuary staff and funeral directors of infection hazards prior to the transfer of a body. Embalming should not be performed.

10. Additional IPC resources

The North Yorkshire and York Community Infection Prevention and Control (IPC) team have produced a wide range of innovative educational and other IPC resources. These resources are designed to assist your organisation in achieving compliance with the Health and Social Care Act 2008 and CQC requirements. Further information on these high quality evidence-based resources is available at www.infectionpreventioncontrol.co.uk

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