



Managing blood-borne virus exposures in custody

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Healthcare Professionals, (HCPs), will be asked to see police personnel following potential exposures to blood-borne viruses (BBVs), namely hepatitis B, (HBV), hepatitis C, (HCV) and Human Immunodeficiency Virus (HIV). It is important to recognise and manage these effectively; ensure that all the relevant information is collated; and, where possible, take a blood sample from the source and send it to the relevant department.

N.B. All police personnel, whether police officers or not, who might be at risk of exposure to BBV, should be offered vaccination against hepatitis B (HBV), as part of their occupational health care. Moreover, this reflects the new public health approach whereby HBV vaccine is now included in the childhood vaccination schedule, since 2017.

Prompt and effective management of the recipient is vital in ensuring that any necessary treatment is given expeditiously. Also where the risk is deemed to be low or non-existent then reassurance can be given.

The immediate management following a potential exposure depends not on the virus but on the route of infection/exposure. The routes can be divided into three broad categories:

- parenteral exposure e.g. needle-stick, bites or other sharps injury;
- mucous membrane exposure e.g. mouth and eyes;
- contamination of non-intact skin (less than 24 hours old).

Where there has been penetration of the skin or contamination of an open wound, encourage gentle bleeding from the site. Then wash the wound with soap and warm running water, but do not scrub or apply antiseptics; do not suck the wound. Mucous membranes should be irrigated copiously with sterile water. If the recipient is wearing contact lenses then they should be removed and the eyes irrigated again.

Collect as much information about the incident as possible. This is summarised in the following table.

| | | | | |
|-------------------------------------|-----------------------------------|--|--|--|
| Date and time of incident | | | | |
| Nature of incident | <input type="checkbox"/> Bite | <input type="checkbox"/> Spit | <input type="checkbox"/> Splash * | <input type="checkbox"/> Needle-stick injury |
| Material | <input type="checkbox"/> Blood | <input type="checkbox"/> Blood-stained fluid | <input type="checkbox"/> Saliva | |
| Site of injury | <input type="checkbox"/> Skin | <input type="checkbox"/> Mucosa | <input type="checkbox"/> Eye | <input type="checkbox"/> Mouth |
| Injury type | <input type="checkbox"/> Puncture | <input type="checkbox"/> Laceration | <input type="checkbox"/> Other | |
| If needle-stick injury (NSI) | <input type="checkbox"/> Fresh | <input type="checkbox"/> Discarded | <input type="checkbox"/> Visible blood | |
| | <input type="checkbox"/> Hollow | <input type="checkbox"/> Solid | | |
| Injury through | <input type="checkbox"/> Gloves | <input type="checkbox"/> Clothes | <input type="checkbox"/> No protection | |

*contamination of broken skin or mucous membrane like eyes or mouth

Other information should also be sought as to the health of the recipient, specifically asking if they are pregnant, immunocompromised or immune-suppressed, or if they are on any medication or have previously received medication for any of the BBVs. This would include anti-retroviral (ARV) treatment for HIV, antivirals, e.g. lamuvidine or tenofovir for HBV and antivirals, e.g. ribavirin and interferon therapy for HCV. Check whether they have been vaccinated for HBV and if so how many doses they received and when, and whether they had their antibody levels checked at any time. All these factors will play a part in the decision-making process for further management. It may be necessary to consider whether HBV immunoglobulin (HBIG) may be required (given as soon as possible, ideally, within 24 hours, and no later than 7 days from the date of exposure), as well as commencing an ultra-rapid vaccination course.

Gather as much information/details about the contact as possible, if known. This must be done with the contact's valid consent. Such consent may allow contact with their care-provider, to establish current therapy, viral load etc.

Please see page 2 for the relevant history to be obtained from the contact and page 4 for the details of the blood sample requirements and the consent form to be completed by the HCP and the contact.



The following questions should be asked where possible:

- Injecting drug use whether current or historic.
- A detailed sexual history in the context of determining the risk of blood-borne virus exposure.
- Country of origin and/or residence.
- History of blood transfusions and/or surgical procedures including when and where they were carried out.
- General health including any medication they may be taking.
- History of vaccination against HBV (number of doses, timing and whether antibody levels have been checked).
- It may be helpful to ask about any time spent in prison or contact with Drug Treatment Agencies.
- Check with the arresting or investigating officer for any useful background information.

An argument can be made to ask any contact, (if known), for a blood sample regardless of risk factors, as it is not always possible to identify those who may be at risk of infection. This also enables reassurance to be given to the recipient, if the results of the blood tests are negative. Human Immunodeficiency Virus, (HIV): currently, 4th generation tests for HIV, (which assess HIV-1 p24 antigen and antibodies to HIV-1 and 2 together, in a single report) or 5th generation tests (which assess HIV-1 p24 antigen and antibodies to HIV-1 and 2 together, but reports them separately in a single report), mean the 'window period', has been reduced to 45 days/6½ weeks. It is possible a test taken at the time, may identify early infection. However, as noted, the test should be at 45 days/6½ weeks after possible exposure, (or 45 days/6½ weeks after completion of HIV-PEP). If HIV-PEP is not taken, sometimes the HIV test might be done with other BBV serology at/after 12 weeks. See [BASHH Guidelines](#).

Hepatitis B virus, (HBV) can have a long incubation phase and infectivity depends on antigen status. Hepatitis C virus RNA (HCV-RNA) will usually be positive at 2 weeks, whereas antibodies may not become positive for several months.

See [2017 interim update of the 2015 BASHH National Guidelines for the Management of the Viral Hepatitides](#)

RISKS BY VIRUS

Hepatitis B virus

The virus can be transmitted through contact with body fluids (blood, saliva, semen, vaginal fluids, sweat, breast milk and any other if blood-stained) via percutaneous or mucosal exposure. Injecting drug use is the main risk factor for HBV infection in the UK. It is estimated that more than 1% of people who inject drugs, (PWID) and men who have sex with men, (MSM) have been infected with HBV.

Other risk groups include people from high and intermediate risk countries.

See [World Health Organization, Hepatitis B Fact sheet](#)

High risk:

The World Health Organization (WHO) regions: Africa and the Western Pacific; (HBV is found in approximately 6% of the population).

Intermediate risk:

The WHO regions: South East Asia, Eastern Mediterranean and European; (HBV is found in approximately 3% of the population).

The risk from a single needle-stick exposure is estimated at 10 – 30%, but can be taken as an average of 1 in 3.

Human Immunodeficiency Viruses types 1 and 2

By the end of 2019, 98,552 people were receiving care for HIV in the UK, and in that year, there were 4,139 new diagnoses. Rates of new diagnoses were decreasing, (by 34% since 2014), in part due to more testing and the use of HIV (anti-retroviral treatment ART) medicines to treat or prevent transmission of HIV (pre- and post-exposure prophylaxis, PrEP and PEP). There has been a 50% fall in new diagnoses in gay and bisexual men (GBM). For those on ART, the suppression of virus in 97%, was to such a level, that they did not pose a risk of transmitting HIV. See: [HIV testing, new HIV diagnoses, outcomes and quality of care for people accessing HIV services: 2021 report](#).

Nevertheless, many were diagnosed late, in terms of the time since they had acquired the infection. There is also variation related to where individuals live and ethnic group.

Like HBV, HIV is transmitted through percutaneous or mucosal exposure to body fluids.

High risk body fluids include

| | | |
|-------------------|------------------|--------------------|
| Blood | Semen | Vaginal secretions |
| CSF | Peritoneal fluid | Synovial fluid |
| Pericardial fluid | | |

Low risk fluids (unless blood stained)

| | | |
|--------|----------------|-------|
| Saliva | Urine | Vomit |
| Faeces | Amniotic fluid | |

The 2021 UK Guideline for the use of HIV post-exposure prophylaxis following sexual exposure (HIV-PEP) has useful tables and information about prevalence of HIV and the risks associated with different types of exposure, so obtaining as much information as possible is helpful.

See: [UK Guideline for the use of HIV Post-Exposure Prophylaxis 2021](#)

Information regarding prevalence in other countries can be obtained from WHO: [HIV/AIDS \(who.int\)](#).



Hepatitis C virus

It is estimated that around 118,000 people in the UK, of whom 89,000 in England, have chronic HCV. In England, this is a decrease of about 30% since 2015. In the UK the major route of HCV transmission is through injecting drug use, commonly through shared, blood-contaminated needles and syringes; see [Hepatitis C in England 2022: Working to eliminate hepatitis C as a public health problem](#).

The current estimates below are of people who have HCV and inject (or have ever injected) drugs (PWID):

- In England and Wales about 50%
- In Scotland about 58%
- In Northern Ireland about 23%.

Whilst needle exchange programmes reduce transmission, it can still occur by sharing other 'equipment', especially if contaminated with blood.

See [Public Health England, Hepatitis C in the UK 2022](#)

Other routes of infection are as follows:

- Receiving a blood transfusion or blood products prior to September 1991 when screening was introduced in the UK. This has been shown to account for the majority of cases of post-transfusion non-A, non-B hepatitis.
- Transmission from mother to baby is estimated at around 5% and may be much higher if there concomitant HIV.
- Sexual transmission is not common with estimates of less than 0.1% over 10 years, in heterosexual partners. There is an increased risk for those with multiple sexual partners.
- The risk through occupational exposure following a single needle-stick injury with an HCV RNA positive source is estimated at 1.8%
- Tattooing, acupuncture, ear or body piercing with unsterilized equipment.
- There is no data of the risk of hepatitis C through a bite. With saliva alone the risk is considered to be very low. However, if there is blood in the mouth then the risk would increase and could be taken to be about the same as that following a single needle-stick injury.

See [BASHH National Guidelines for the Management of the Viral Hepatitis](#)

Human T-cell lymphotropic virus (HTLV types 1 and 2)

The UK government has produced guidance on rare instances of needle-stick injury and transmission of HTLV which can be prevented by using Raltegravir. Some virology laboratories in the UK offer HTLV testing on both donors and recipients default but this is not yet mandated.

[Human T-cell lymphotropic virus \(HTLV\) types 1 and 2 - GOV.UK \(www.gov.uk\)](#)

Follow up Management

Specialist management of any potential exposure is required to ensure that the optimum treatment is given where relevant. Whilst this would be handled at the same time for all the viruses, it is easier to discuss them as separate entities.

Nevertheless, it is important that all police personnel are aware of the importance of reporting at-risk incidents immediately. They should attend their nearest Emergency Department (ED) unless there is immediate access to assessment via occupational health. ED staff should have access to on-call expert advice to assist in carrying out a suitable risk assessment of any BBV risk. Such experts could be consultants in virology, microbiology, infectious diseases, HIV medicine or GU medicine. They could also include public health physicians, namely Consultants in Communicable Disease Control or Consultants in Public Health in Scotland.

The Occupational Health Departments for the different Constabularies should have good arrangements in place with their local EDs to collate information about police personnel following any exposure.

The reason for having a robust system in place is to ensure that Post-Exposure Prophylaxis is instigated as soon as possible, in the case of HIV. Ideally this should be within one hour, although it may be considered up to 72 hours after exposure.

The details of the specific management for each virus are beyond the remit of this document and would be the responsibility of the specialist. Further information may be found:

[How to deal with an exposure incident](#)

[The Green Book, Immunisation against infectious disease](#)

[UK Health Security Agency](#)

[Office for Health Improvement and Disparities](#)

[The Public Health Agency \(Northern Ireland\)](#)

[NHS Health Scotland](#)

[Public Health Wales](#)

[BASHH Guidelines](#)

[United Kingdom drug situation 2019: Focal Point annual report](#)

[United Kingdom - Country Drug Report 2017](#)



A sample of clotted blood, (ideally 10ml but not less than 0.5ml), should be taken from the contact and placed in a plain tube. The sample can only be taken with specific consent¹ to test for HIV, HBV, HCV and HTLV. An example of a consent form is shown below. Additional authority may be required if the sample is designated as an 'intimate' sample.²

Notes

- 1. Informed consent is an absolute pre-requisite to testing the source for the purpose of managing blood-borne virus. In this case consent is governed by the Human Tissue Act, 2004, which outlines a universal approach for source testing and identifies those who can give appropriate consent. The exposed individual, (the recipient) should not themselves approach the source to request testing.
2. Where the source has been arrested for assault on a police officer or another person [including a sexual assault], under PACE the sample of blood may then become an intimate sample - part of the evidence against the detainee and require the authorisation of an inspector before it can be taken. N.B. If the detainee is held under Terrorism legislation the authority has to come from a superintendent. This authorisation would be entered on the custody record.
3. A standard operation procedure (SOP) should be in place to cover at which laboratory samples will be sent for testing and may require a chain of evidence procedure. See: Guidance on handling medicolegal specimens and chain of evidence 2017.

Consent form - THIS FORM SHOULD ACCOMPANY THE BLOOD SAMPLE

(along with any appropriate laboratory request form +/- chain of evidence form, if required)

The form should be signed by the HCP, the contact and witnessed by an independent, named police officer. The blood sample and the form should be taken to the designated hospital by an independent officer i.e. not the injured police officer (recipient).

Part 1

"I, _____ having discussed with

who is a Forensic Physician/Healthcare Professional to the

_____ (insert Constabulary),

hereby consent to give a sample of my blood for testing for hepatitis B virus, (HBV), hepatitis C virus, (HCV) and human immunodeficiency virus, (HIV), human T-lymphotropic virus type 1 + 2, (HTLV-1 + 2)

I also authorise the testing laboratory to inform the Occupational Health Service of

_____ (insert Constabulary),

of the results of the tests and agree that the results may also be released by them to

(insert name and shoulder number of police officer [recipient])."

"The results can be communicated to me by telephone/mobile phone/text/email/post (two of the above must be selected and completed below)."

Print name _____

Address _____

Telephone no. _____

Mobile 'phone no. _____

Email _____

Signed _____

Signature witnessed by _____

Print Name of witness _____

Countersigned by FP/HCP _____

Print Name _____

Part 2

I would also like the result of the test to be communicated to the GP and/or GP practice named below
