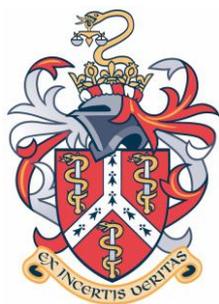


### Recommendations

## Managing blood-borne virus exposures in custody



The medico-legal guidelines and recommendations published by the Faculty are for general information only. Appropriate specific advice should be sought from your medical defence organisation or professional association. The Faculty has one or more senior representatives of the MDOs on its Board, but for the avoidance of doubt, endorsement of the medico-legal guidelines or recommendations published by the Faculty has not been sought from any of the medical defence organisations.

From time to time Forensic Physicians (FPs) or Healthcare Professionals (HCPs) will be asked to see police personnel following potential exposures to blood-borne viruses (BBVs), namely hepatitis B, hepatitis C and 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.

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.

The routes can be divided into three broad categories:

- parenteral exposure e.g. needlestick, 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 a 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. 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.

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

\*contamination of broken skin

Other information should also be sought as to the health of the recipient, specifically asking if they are immunosuppressed, if they are on any medication or have previously received medication for any of the BBVs. This would include anti-retroviral treatment for hepatitis B and HIV, and ribavirin and interferon therapy for hepatitis C. Check whether they have been vaccinated for hepatitis B 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.

Gather as much information about the contact as possible if they are known. This must be done with the contact's valid consent.

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.
- 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 with hepatitis B vaccine (no. 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. When only HIV antibody tests were available, there was a window of at least 4 weeks during which false negative results could be obtained. Now, with modern tests which include measuring HIV P24 Antigen and viral RNA for HIV and hepatitis C, this window period has been reduced to around 2 weeks.

A sample of clotted blood (ideally 10 ml but not less than 0.5 ml) should be taken from the contact and placed in a plain tube. The sample can only be taken with specific consent<sup>1</sup> to test for HIV, hepatitis B and hepatitis C. An example of a consent form is shown below. Additional authority may be required if the sample is designated as an 'intimate' sample.<sup>2</sup>

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## Consent form

### THIS FORM SHOULD ACCOMPANY THE BLOOD SAMPLE

The form should be signed by the HCP, the contact and witnessed by an independent police officer (usually the custody sergeant). 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, hepatitis C virus and human immunodeficiency virus (HIV). 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]).

I do / do not \* wish to be informed of the results.

If I wish to be informed of the results they 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 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 named below.

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\*Delete as applicable

## Risks by virus

### Hepatitis B

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 hepatitis B infection in the UK. Overall it is estimated that 1 in 6 injecting drug users have been infected with hepatitis B.

Other risk groups include men who have sex with men (MSM), and people from high or intermediate risk countries.

#### High risk:

Sub-Saharan Africa, most of Asia and the Pacific Islands

#### Intermediate risk:

Mediterranean, the Amazon Basin, most of the Middle East, Japan, the Indian subcontinent and southern parts of Eastern and Central Europe

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

### Human Immunodeficiency Virus

By the end of 2009, 86 500 people aged 15 or over were living with HIV in the UK. Of these 25% were unaware of their infection. Risk groups include:

MSM	46% of total
Heterosexual men and women	49% (62% of these were Black African)
IDU (injecting drug users)	2%

Like hepatitis B, 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

#### Estimated risks from high risk exposure

Type of Exposure	Estimated risk of HIV transmission per exposure (%)
Blood transfusion (one unit)	90 – 100
Sharing injection equipment	0.67
Needlestick injury	0.3
Mucous membrane exposure	0.09
Receptive anal intercourse	0.1 – 0.3
Receptive vaginal intercourse	0.1 – 0.2
Insertive anal intercourse	0.06
Insertive vaginal intercourse	0.03 – 0.09
Receptive oral sex (fellatio)	0 – 0.04

### Hepatitis C

It is estimated that around 200,000 people in England have chronic hepatitis C. In the UK the major route of HCV transmission is through sharing equipment for injecting drug use, most commonly through blood-contaminated needles and syringes. The current estimate is that 40% of IDUs are infected in the UK. The highest areas of prevalence are in London, Glasgow with around two thirds infected. Wales and the North East of England have the lowest prevalence of 1 in 4 or less. Spoons, filters and water may also transmit infection if contaminated with blood.

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 6%, but this can increase to around 15% with concomitant HIV.
- Sexual transmission is not common with estimates of around 5% or less in sexual partners of those with HCV. There is an increased risk for those with multiple sexual partners.
- The risk through occupational exposure following a single needlestick 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

## 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). 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. However, guidance for management can be found on the Health Protection Agency website: [www.hpa.org.uk/infections/topics](http://www.hpa.org.uk/infections/topics)

## 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. This authorisation would be entered on the custody record.