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Review Lead: Lead Infection Prevention and Control Nurse

NHS
Calderdale and Huddersfield
NHS Foundation Trust

Section M – Prevention and Management of Clinical Sharps Injuries and Exposure to Blood and High Risk Body Fluids

Version 8

Important: This document can only be considered valid when viewed on the Trust's Intranet. If this document has been printed or saved to another location, you must check that the version number on your copy matches that of the document online.

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Document Summary		
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Infection Prevention and Control Committee	Consultant Microbiologist/Director of Infection Prevention & Control	February 2018
Other Stakeholders Consulted		
All members of the Infection Prevention and Control Committee		
Consultant GUM		
Consultant Accident and Emergency Department		

Does this document map to other Regulator requirements?	
Regulator details	*Regulator standards/numbers etc*
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Document Version Control	
Version 8	Key Points now included in section 1. Reviewed and updated relevant telephone numbers in section 13: agencies section. Websites and hyperlinks updated. Terms changed to reflect current practice and department title: ED- Emergency Department & AAU- Ambulatory Assessment Unit.
Version 7	Updated Introduction and sharps container to current standard. Updated Information about hepatitis treatments being available, disposal of peripheral venous cannula and drug information updated. High risk individuals from areas of greater prevalence updated, amendments to telephone numbers for contact points, amendment to treatment success. Change to Appendix 1 to include needle safe device. Updates to Appendix 3. Change of Appendix 5 to follow

	current medicine treatments.
Amendment May 2015	A section on management of neonatal exposure to erroneous expressed breast milk (EBM) has been added to the policy along with a link to the green book for immunisation has also been added to the Policy.
Version 6	The policy has been reviewed and amendment made December 2013 to Section 7 and Appendix 2. If the donor (source) is a patient attending an area where there is no doctor to consent e.g. Physiotherapy department, he/she should be referred to the ambulatory area of MAU.
Version 5	The Management of Clinical Sharps Injuries and Exposure to Blood and High Risk Body Fluids Policy and the Blood Borne Virus Policy have been amalgamated, reviewed and updated. Amendments made October 2013 to section 5a Sharps safety. The fill line is now 80%, no longer ¾ full.
Version 4	The document has been redesigned to ensure that all new and revised procedural documents are set out to a Trust wide format and the content of which includes a minimum set of criteria which include: ▪ the training requirements for implementation ▪ monitoring arrangements for the document ▪ Equality Impact of the document In addition, the monitoring arrangements for this document have been included.

Contents

1. Introduction

Clinical sharps injuries and exposure to blood and high risk body fluid, have the potential to pass on blood borne viruses which may be the cause of serious illness. Such injuries or exposure include:

> needles or sharp objects that have been in contact with blood or high risk body fluids*; splashing of blood or high risk body fluid* on skin that is broken, abraded, chapped, or has dermatitis or open sores; contamination of eyes, nose or mouth with blood or high risk body fluids*; a human bite that breaks the skin.

*High-risk body fluids include blood and blood stained fluids, semen and vaginal secretions.

The majority of injuries occur in a hospital setting, but sharps injuries can also occur in community settings such a health centres, patients own home or public areas.

In May 2010 a European Directive was introduced to prevent injuries and blood borne infections. The aim of the Directive is to achieve the safest possible working environment by preventing injuries to workers caused by all medical sharps (including needle-stick injuries) and protecting workers at risk in the hospital and healthcare sector, from May 2013 it became a legal requirement to comply with the Directive.

Calderdale and Huddersfield Foundation Trust is committed to maintaining the Health and Safety of its patients and Health Care Workers (HCW's).

This policy, which is based on the above Directive and other UK Department of Health's published guidance, aims to minimise risks and to protect both patients and employees from the transmission of Blood Borne Viruses (BBV's) in the workplace. The principles can be applied to other groups of workers and the general public.

Clinical sharps and exposure injuries cause considerable concern and uncertainty among those injured and their families. For HBV there is effective vaccination; there is also prophylactic treatment for those who are not vaccinated. For Human Immunodeficiency Virus (HIV) there is no vaccine or cure yet available; however, there is post exposure prophylaxis (PEP) which requires to be given immediately following the injury. There are currently new treatments becoming available for Hepatitis C Virus (HCV), currently a vaccine is not available.

Testing the donor (source) patient/person for HBV, HCV and HIV is the most effective way of providing reassurance to those injured, as the vast majority of people will not be infectious.

1.1 Key points

All health care workers have a duty to take action to protect themselves and others, from blood and body fluid contact, **in the event of a clinical sharps and exposure injury occurring, it is important for all staff to know:**.

- **What action to take:** Section 6.1 immediate first aid (page 16) Puncture/sharps wounds: Bleed, wash and cover the injury.
  Mucosal/Eye contamination: Irrigate or rinse area, wearers of any kind lenses/mouth guards should remove these items and seek immediate treatment.
- **Report the injury and seek assessment:** report in a timely manner, DATIX the incident (this can be completed by manager or area supervisor) and attend Occupational Health or Emergency Department (out of hours), If high risk of HIV+ve exposure suspected immediate assessment to be within 1 hour of incident.
- **How to report the incident so that systems can be revised and future injuries reduced or avoided:** Complete *Appendix 1, Appendix 2 and/or Appendix 3,* and refer to appropriate agencies.

2. Purpose

This policy is intended to provide clear guidance on the issues surrounding sharps injury and exposure to blood borne viruses, and precautions to adopt to prevent such exposure.

3. Definitions and Abbreviations

High Risk Body Fluids are body fluids capable of transmitting blood borne viruses, and includes blood and bloodstained fluids, semen and vaginal secretions.

A sharps injury is defined as an injury where a needle or other sharp object, contaminated with blood or other body fluid, penetrates the skin.

A contamination injury may include a bite, scratch where the skin has been broken, or a splash into the eyes or mouth or other mucous membrane with high risk body fluid or blood.

Exposure Prone Procedures (EPP) are procedures involving sharps where there is poor visibility or restricted access.

Blood borne viruses are viruses that some people carry in their blood and which may cause severe disease in certain people and few or no symptoms in others. The virus can spread to another person, whether the carrier of the virus is ill or not.

The main BBVs of concern are:

- Hepatitis B,C,D
- HIV

Hepatitis B (HBV)

Hepatitis B may present as an acute infection, sub-clinical infection or chronic infection (carriers).

Diagnosis of Hepatitis B is confirmed by detection of antigens or their antibodies, and the mix of either, will vary according to the stage of infection.

Acute Infection the incubation period is between 6 weeks and 6 months. Symptoms include malaise, nausea, anorexia, abdominal discomfort, joint pains, dark urine, clay coloured stools and jaundice. The recovery period may take up to 6 months with occasional post viral depression and fatigue.

Hepatitis B Surface antigen (HBsAG) can be detected in the blood early in an acute attack and then remains present in the blood of carriers.

Hepatitis B ‘e’ antigen (HBeAg) is present when the virus is actively replicating and denotes high infectivity.

Hepatitis ‘e’ antibody (HBeAb) may be detectable when ‘e’ antigen is lost, and denotes much lower infectivity.

Ante-HBcIgM is a marker of acute infection.

Sub clinical infection

This infection may go undetected as most people experience no symptoms. A feeling of fatigue, malaise or depression may occur, however, they are still infectious and may be more likely to become chronic carriers.

Chronic Infection (carriers)

This occurs when hepatitis B surface antigen (HBsAg) is still detectable in the blood after 6 months. Some carriers may be HBeAg positive. All chronic carriers are potentially infectious to others. Chronic infection may progress to permanent liver damage, cancer or cirrhosis.

Hepatitis B core antibody (anti-HBc) is one of the more sensitive markers of prior exposure to HBV whereby antibodies are present for HBcAg.

Hepatitis C (HCV)

The incubation period ranges from 2 weeks to 6 months. The acute phase is often asymptomatic or mild. 80% of infected persons develop chronic infection, of which 70% develop chronic liver disease with a risk of progression to cirrhosis or cancer. Fatigue may be a chronic symptom.

Diagnosis is made through serological tests. PCR may need to be performed to confirm diagnosis.

Antibody positive shows current or previous infection. HCV RNA positive means actively replicating virus.

Up to 42% of injecting intravenous drug users are Hepatitis C antibody positive.

The transmission of HCV through breast milk has not been documented and there appears to be no evidence to suggest that breast feeding will increase the incidence of transmission to the baby, which remains relatively low at 4% in both breast fed and bottle fed babies, except in the case of cracked nipples.

Hepatitis D

Hepatitis D (previously known as Delta agent) is a defective virus, which requires the presence of HBV to allow it to replicate. Therefore Hepatitis D virus only occurs in people who already have HBV or people who acquire both viruses simultaneously. Acute Hepatitis D virus is usually severe and patients with both viruses usually develop rapidly progressive disease.

HIV/ AIDS

Human Immunodeficiency Virus (HIV) is a retrovirus, which interferes with the body's immune response to infection and malignancy. A person infected with HIV may experience an initial acute illness followed by a period in which there are no clinical features, although antibodies to the virus can be detected in the blood. People with HIV infection may remain well for several years. As the

immune system becomes increasingly impaired, the chances of opportunistic infections and tumour are increased.

Acquired Immune Deficiency Syndrome (AIDS) is diagnosed when a person with HIV infection is found to be suffering from one or more of a number of specific diseases. These diseases include Pneumocystis Carinii Pneumonia (PCP), certain cancers, e.g. Kaposi's sarcoma and conditions thought to be due to the direct effect of HIV, e.g. HIV encephalopathy.

The HIV test is a blood test to detect antibodies that are made once the body has been infected with HIV. Antibodies can take up to 6 months to appear (window period), therefore an initial negative test does not exclude exposure to HIV, and the virus may still be transmitted to another person via blood or body fluid.

A positive result means that antibodies to HIV were detected and therefore an infection has occurred at sometime. The person is infectious and the virus can be transmitted to other people. The virus cannot be passed on by normal everyday contact.

The transmission of HIV infection through breast milk has been documented, therefore mothers should be made aware of this risk and encouraged to bottle feed the infant.

Abbreviations

-ve	-	Negative
+ve	-	Positive
Anti-HBs	-	Antibodies to Hepatitis B surface antigen
BBV(s)	-	Blood borne virus(es)
CRH	-	Calderdale Royal Infirmary
EAGA	-	Expert Advisory group on AIDS
ED	-	Emergency Department
EPP	-	Exposure Prone Procedures
GPs	-	General Practitioners
GUM	-	Genito-urinary medicine
HBeAg	-	Hepatitis B 'e' antigen
HBsAg	-	Hepatitis B surface antigen
HBIG	-	Hepatitis B Immunoglobulin
HBV	-	Hepatitis B virus
HCV	-	Hepatitis C virus
HCWs	-	Health care worker(s)
HRI	-	Huddersfield Royal Infirmary
HIV	-	Human immunodeficiency virus
IPCN	-	Infection Prevention and Control Nurse
IPCT	-	Infection Prevention and Control Team

IM	-	Intramuscular
i.u.	-	International Units
IV	-	Intravenous
OH	-	Occupational Health
PEP	-	Post exposure prophylaxis
PCR	-	Polymerase Chain Reaction
RNA	-	Ribonucleic Acid
YAS	-	Yorkshire Ambulance Service

4. Duties (Roles and responsibilities)

The Chief Executive is responsible for ensuring that there are effective infection prevention and control, and Occupational Health arrangements in the Trust in order to minimise the risk of exposure injuries and infection to patients, visitors and staff.

Duty of Employees

All health care workers should:

- take action to protect themselves and others, from blood and body fluid contact
- adhere to Personal Protective Equipment and Waste Management protocols
- adhere to protocols for safe use and disposal of sharps
- take action to prevent needlestick and other contamination injuries
- dispose of sharp objects safely. This responsibility is personal to the individual user and cannot be delegated to others
- apply first aid immediately following a sharps/contamination injury.(see section 6)
- report this type of incident to their Line Manager/Supervisor and ensure that an incident form is completed
- following a contamination injury, the HCW should contact Occupational Health (based at CRH) as soon as possible. They are available during office hours 08.30-16.30 Monday to Friday. Outside these hours attend the Accident and Emergency Department (ED) at either Calderdale Royal Hospital or Huddersfield Royal Infirmary. If attending A & E the employee must contact Occupational Health Department the next working day

NB: If there is a high index of suspicion that the infecting blood is HIV positive, reporting to Occupational Health or A&E must be done immediately, as time is critical to the success of prophylaxis in these cases.

Duty of Managers/ Supervisors of an injured Healthcare Worker

- To ensure staff are aware of the risks of contamination/inoculation injury and follow procedures as per Trust policies to prevent the transmission of BBVs
- To assess the risk of sharps injuries from work procedures and activities
- Adopt any appropriate preventative strategies, e.g. safe positioning of sharps boxes or other measures that will reduce the likelihood of further injuries. Liaise with the Infection Prevention and Control Nurse if necessary
- To ensure that staff are advised appropriately if they sustain an accidental inoculation, bite, scratch or incident with blood stained body fluid on non intact skin, conjunctiva or mucous membrane
- Ensure that first aid has occurred (see section 6)
- Refer injured HCW to Occupational Health Department or A&E as soon as possible
- Ensure that a clinical incident form is completed and forwarded to the appropriate authority
- Ensure that all steps for care of the HCW are taken and follow-up is completed
- Investigate the cause of the incident and implement measures to reduce the risk of further injury
- If the source patient is known, ensure the clinical team completes a risk assessment form and obtains consent to take a blood sample and test for BBVs (Appendix 2). Forward a copy of the form to Occupational Health

Duty of Occupational Health

- Management of staff immunisations including pre-employment screening and vaccination
- Manage exposure incident as per this policy
- Undertake a risk assessment of each individual reported incident
- Ensure first aid has been carried out
- Following an exposure risk incident, advise and support the employee exposed to blood borne virus in the workplace
- Complete risk assessment form for clinical sharps injuries and exposure to body fluids (Appendix 1)
- If infecting blood stained fluid is suspected or known to be positive for HIV and the injury is significant e.g. penetration of skin, contamination of mucous membrane, refer to the Emergency Department immediately for assessment and possible commencement of PEP
- Assist with investigation of the cause and circumstances of the accident / incident (there is a sharps group chaired by the Health and Safety Officer which explores this)
- Continue ongoing management and support

- Refer HCW to Physician if seroconversion (HBV)
- Report sharps injuries to the Health Service Executive (HSE) when the source person is known to carry a BBV, is subsequently found to have a BBV, or the HCW develops a virus following a sharps injury.

Duty of Emergency Department Staff

- Manage exposure incident as per this policy
- Complete risk assessment forms as appropriate (Appendices 1,2,3)
- Arrange appointment for injured person at next Genitourinary Medicine Clinic (GUM) for follow up, as well as joint counselling and support with the appropriate Occupational Health Department
- Refer HCWs to the Trust Occupational Health for long-term care, support and follow up tests
- Send original copy of standard form (Appendix1) to Occupational Health.
- Send a copy of standard form (Appendix 1) to GUM (all injured parties for hepatitis HIV and Hepatitis C)
- Give original copy of standard form (Appendix 1) to other HCWs to take to their own Occupational Health Departments
- If member of the public, (or HCW without an Occupational Health Department) and vaccination has been started for HBV, inform the person's General Practitioner

Duty of Medical Practitioners

- Acute infectious hepatitis is a statutory notifiable disease. The Registered Medical Practitioner is responsible for such notification
- Follow guidelines for approaching the donor (source) patient for permission to test for BBVs and ensure risk assessment form completed (Appendix 2)
- Provide information to patient on sharps/contamination injury (Appendix 4)
- Forward a copy of the patient/donor risk assessment form to Occupational Health/ Emergency Department, as appropriate.

5. Safe Practices for the Prevention of Injury

5.1 Training

Training should be provided for all new and temporary staff, students and contractors, and should include:

- The safe use and disposal of sharps
- The correct use of safer sharps/safety engineered devices
- What to do in the event of a sharps injury

- The correct use of Personal Protective Equipment

5.2 Standard Precautions

Standard Precautions must always be followed for all patients at all times but is especially important in the care of patients with known or suspected blood borne viruses. Such precautions can be found in Section C, Infection Control Policies, and include:

- Hand hygiene
- Personal Protective Equipment (PPE)
- Safe use and disposal of sharps
- Management of spillage of blood/body fluids.

Other precautions include:

- The safe handling and disposal of clinical waste. Trust Waste Management Policy
- Death of a patient with suspected or known BBV – An infection risk 'sticker' should be placed on the outside of the cadaver (body) bag, on both wrist and ankle identification bracelets and on the death notice. Refer to Section P, Care of the Deceased Patient Infection Control Policy
- Specimens from patients with known or suspected BBV infection should be labelled 'Danger of Infection'. Stickers are available through pathology stores. Such information should accompany request cards or included on PASweb

If dealing with a haemorrhaging or unco-operative patient, seek assistance when:

- taking blood
- giving injections
- Commencing or discontinuing intra venous therapy

Patients with suspected or known BBV may be nursed in the main ward but for the purpose of privacy, a single room may be desirable, or if other infections are present, if the patient is immuno-suppressed or if there is uncontrollable bleeding.

The possibility of infection is best prevented by avoiding sharps, by implementing changes in practice and using safety device mechanisms where provided. Where splash contamination is possible, the wearing of appropriate protection for procedures and covering broken or abraded skin surfaces with an adhesive dressing should be utilised.

5.3 Sharps Safety

Sharps injuries can be avoided by the safe handling and disposal of sharp objects

a) The Sharps Bin

- All sharps bins must comply with British Standards EN ISO 23907:2012 and UN 3291 Standards
- Containers must be located away from public access and out of the reach of vulnerable people and children
- They should not be stored on the floor. They should be located at waist height for the average person
- An **empty** sharps container must always be available on the emergency trolley and secured safely, eg. on a bracket
- The container should be assembled correctly, following the manufacturer's instructions
- The identification label on the front of the bin must be completed on assembly, closure and disposal of the container
- Select a bin size with a capacity suitable for the intended use
- When not in use the aperture on the top of the container must be in the 'temporary closed' position
- Containers must be replaced and locked when 80% full (fill line visible on the container). To lock, push the closure mechanism firmly across until a click is heard
- Sharps bins must not be used for any other purpose than the disposal of sharps

b) Safe Practices

- Safety engineered devices should be used where available, to prevent or minimize the risk of accidental Injury. Training should be provided on such devices
- It is the responsibility of the individual user to dispose of sharp objects safely. This responsibility is personal and cannot be delegated to others
- Always take a sharps bin to the task, rather than the sharp object to the bin
- Use the approved sharps tray/trolley to transport the container to the point of use
- Sharps and needles should not be passed from hand to hand
- Used sharps must be discarded immediately into a sharps container. Do not leave sharps or needles lying around
- Staff carrying out exposure prone procedures or who are expected to come into contact with medical sharps must ensure that they are

immunised against Hepatitis B and their status is checked by Occupational Health

- Care to be taken when handling instruments during surgical procedures. Pass instruments by handle first
- Use a needle-holder to hold suture needles
- Do not attempt to locate the position of a sharp instrument without visual control
- Used needles MUST NOT be re-sheathed by hand and must not be bent or broken prior to disposal
- Used needles MUST NOT be detached from the syringe. Needle and syringe should be disposed of as one unit except when there is a need to decant blood from the syringe directly into a specimen container. In such a case, the needle may be removed, using the "needle remover", if provided on the sharps box
- All peripheral venous cannulas should be treated as sharps, and disposed of in a sharps bin
- Always carry used sharps bins by the handle
- Do not attempt to retrieve items from sharps bins
- Healthcare staff who travel in the community and carry sharps in the course of their work should follow safe systems of working at all times, in line with this policy and the waste disposal policy. Sharps should always be stored safely and securely. Sharps should be disposed of in a container suitable for transport(UN 3291, EN ISO 23907:2012) and secured in the vehicle to avoid tipping

c) Disposal of Sharps Bins

- Sharps containers should not be filled beyond the fill line on the container (80% full)
- Once full and locked, the container must be stored in a designated area away from public access, to await collection by the porter
- NEVER place filled containers inside clinical waste bags as this results in sharps containers entering the wrong waste stream which may result in fines or prosecution
- Place damaged and overfilled sharps containers into a larger secure container for disposal
- Full sharps bins must be disposed of as per Trust Waste Management Policy
- Once assembled for use, sharps containers should be disposed of within 3 months

6. Action Following Injury

6.1 Immediate First Aid

A. Puncture/Sharps Wounds

- Encourage local bleeding by gentle squeezing
  DO NOT SUCK THE AREA
- Wash thoroughly under running water
- Dry and apply adhesive dressing

B. Eye Contamination

- Irrigate the eye(s) for several minutes with water/saline for irrigation or warm tap water
- Wearers of contact lenses should immediately remove them from the affected eye(s) before irrigation as above. The lens should not be replaced until advice is sought from their own eye specialist

C. Contaminated Skin

- Wash contaminated skin with soap and warm water
  DO NOT SCRUB THE AREA

D. Mucosal Contamination

- Treat mucosal surfaces such as mouth or nose by rinsing with warm water or saline. Water used for rinsing the mouth must not be swallowed

DO NOT USE BLEACH ON THE INJURY - it is a caustic agent.

6.2 Reporting of the Injury

The injured person should report the injury in a timely manner to their manager/supervisor, complete a clinical incident form (Datix) and should be released from work to contact Occupational Health (or if unavailable/out of hours to attend ED) for further assessment.

6.3 Assess the Incident and the Extent of Exposure

The risk of viral transmission following an exposure incident is associated with the following:

a) A Viral Source

The contaminating body fluid from the source individual must be infected with one of the blood borne viruses.

b) The Mechanism of Infection

The virus in the contaminating body fluid must enter the body of the injured party.

c) The Vehicle for Viral Transmission:

Although blood borne viruses can be found in many body fluids, for a number of reasons, the greatest risk of infection following injury occurs when the virus is transmitted via:

- infected blood;
- infected serum;
- infected plasma; or
- infected semen or vaginal secretions.

d) The Route of Entry into the Body:

The main routes of transmission are as follows:

- Through broken skin, scratches and puncture injuries caused by needles, sharps and teeth which are contaminated with infected blood
- Through an established cut, abrasion, scratch, burn, dermatitis or other skin condition
- Through mucosal/conjunctival surfaces such as the mouth and the eyes
- Through sexual activity

e) Some Factors Which Increase the Risk of Transmission:

The risk of transmitting infection increases if any of the following factors are present

- Deep or penetrating injuries/ wounds
- Wide/hollow bore needles
- Significant amount of blood contamination
- Contamination of large areas of broken skin
- The quality of the blood e.g. freshness and dilution factor
- Lack of barriers to the transfer of body fluid
- High viral load

- Non-immune recipient
- Needle previously in donor's vein or artery
- Some types of sexual activity (See Appendix 3)

Examples of injuries which constitute a high-risk exposure include:

- Needlestick/sharps injury/bite with skin penetration or the contamination of broken skin, eczematous skin or mucous membranes
- The transfer of bloodstained body fluid to the injured site
- Blood or body fluid from a person known or suspected of having a blood borne virus

To be used in conjunction with the risk assessment form (Appendix 1).

6.4 Assess the Risk of Transmitting Infection and Hence the Need for Prophylaxis

The risk of acquiring infection from an infected person is roughly as follows:

Hepatitis B Virus - Up to 30% (1 in 3) for needlestick injury
Those who have received the HBV vaccine and have developed immunity to the virus are not at risk of infection. For the unvaccinated person, the risk depends on the Hepatitis B e antigen (HBeAg) status of the source individual.

Hepatitis C Virus – Up to 3% (1 in 30) for needlestick injury
The risk following a blood splash is unknown, but is believed to be very small.

HIV – 0.3% (1 in 300) for needlestick injury
The risk following exposure to mucous membranes to HIV infected blood would present a lower risk, on average 0.1% or 1 in 1000.
HIV can be transmitted in certain body fluids via:

Amniotic fluid
Cerebrospinal fluid
Human breast milk
Pericardial fluid
Pleural fluid
Peritoneal fluid
Saliva in association with dentistry (likely to be contaminated with blood, even when not obviously so)
Synovial fluid
Unfixed human tissue and organs
Any other fluid if visibly bloodstained
Exudate, or other tissue fluid from burns or skin lesions

The risk of sero-conversion following contamination with the above fluids is considered to be *low and HIV PEP is only recommended if they are blood stained or from a known HIV positive source.*

Risk assessment is not always clear cut, therefore, if in doubt, seek advice from the on-call Consultant Microbiologist, who offer a 24 hour service through the hospital switchboard.

Remember, it is better to start and stop post-exposure prophylaxis, than to delay treatment.

A splash of blood onto intact skin does not carry a risk of transmission.

When the Donor (source) blood is traced to an individual who is already known to be positive for HIV, Hepatitis C or Hepatitis B surface antigen (HBsAg) further confirmation will not be needed.

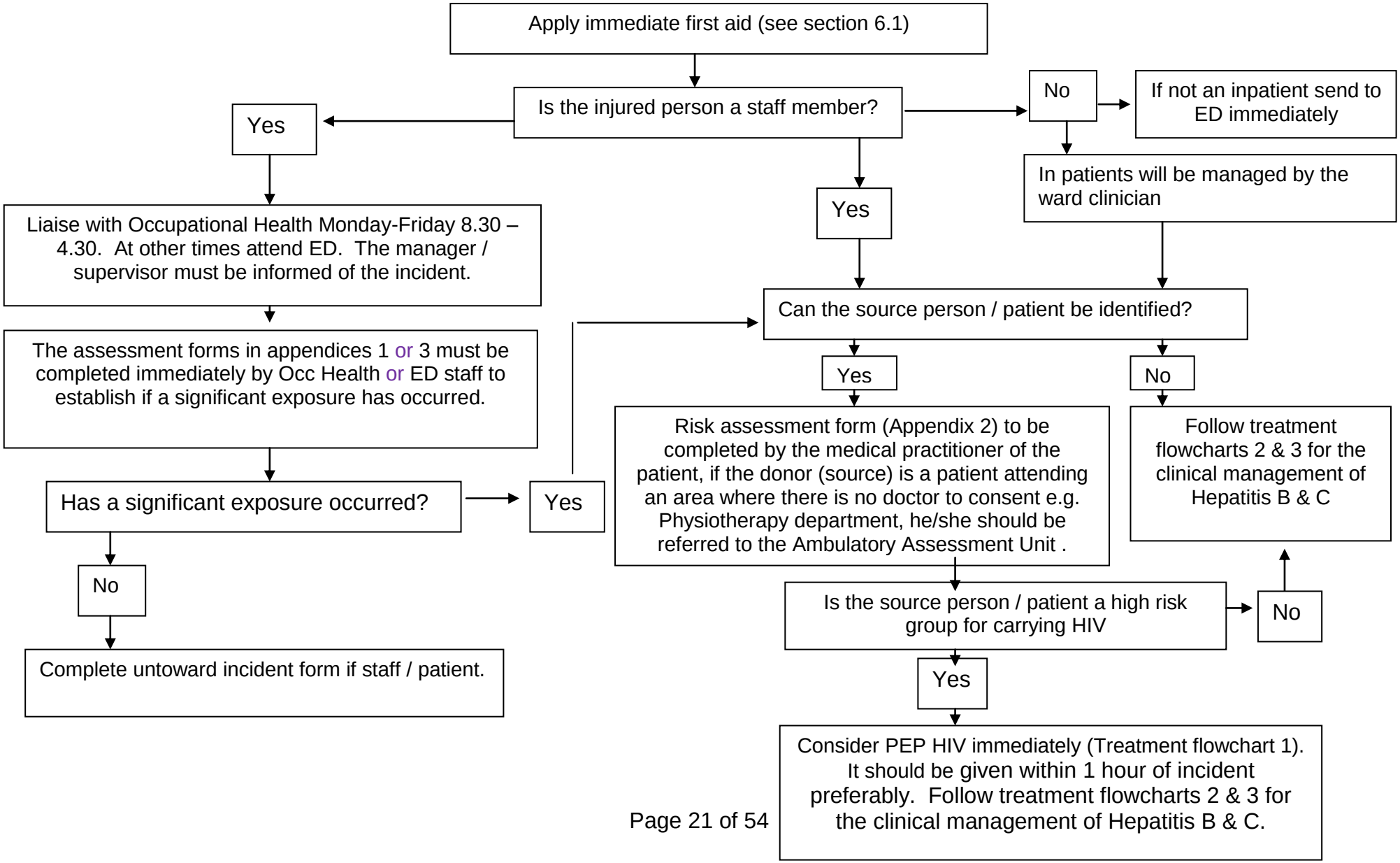
Needles discovered in the street or the park should be considered as high risk of transmitting Hepatitis B and Hepatitis C but not HIV.

In hospital, if it is not possible to identify which patient relates to a particular needle, treat the incident as high risk if the needles come from a ward with known high-risk patients in it.

6.5 Complete the following risk assessment forms

- Risk Assessment Form for Clinical Sharps Injuries and Exposure to Body Fluids **(**Appendix 1)
- Donor Source Risk Assessment Form if known (Appendix 2). Follow the Guidelines for approaching the donor (source) patient and provide information about sharps injury (Appendix 4)
- Post Exposure Prophylaxis Sexual Exposure (PEPSE) Risk Assessment Form if appropriate (Appendix 3)

7. Management of blood and/or body fluid exposure and inoculation incidents

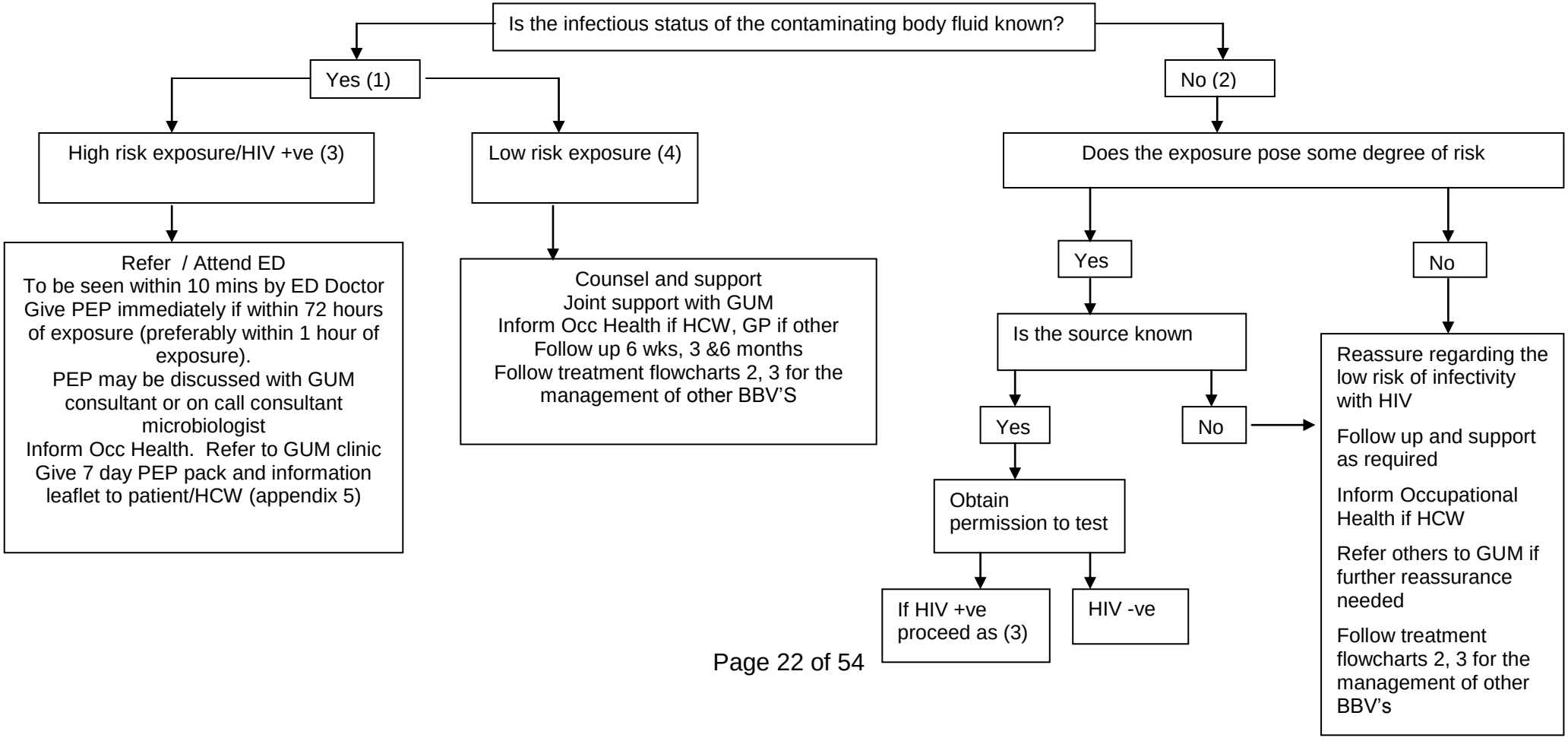


8

Treatment Flow Chart 1

Clinical Management of HIV (ED and Occupational Health)

Ensure First Aid has been carried out
Take accurate history of the incident
Assess risk of exposure and complete risk assessment forms as appropriate (Appendices 1, 2 and 3). Ensure Occupational Health receive a copy of the form (HCW), GUM (public), other HCW to take original copy to own Occupational Health
Obtain blood sample (10mls clotted blood) from injured person/patient (if not already done so) for storage
Ensure the clinical team completes a risk assessment form when the source /donor is known to be a patient (Appendix 2)



8.1 Management of Exposure to HIV

A. Combination therapy reduces the transmission of HIV. Combination therapy against HIV transmission [post exposure prophylaxis (PEP)] is available in Emergency Department and should be considered when:

i. The donor (source) is known to be HIV infected or is considered to have high risk factors; and
ii. The needlestick injury or mucosal exposure is high risk

If antiretroviral therapy is thought to be necessary **time is of the essence and therapy should ideally be started within one hour of the injury**. PEP is now generally not recommended after 72 hours post exposure. When the source patient is of unknown HIV status but considered to have high risk factors, it may be appropriate to commence antiretroviral therapy prior to the result of an HIV test. In all instances the decision to commence combination therapy may be discussed with the Consultant in Genitourinary Medicine or the on–call Consultant Microbiologist.

Where the donor is on antiretroviral therapy or has an evidence of resistance to antiretroviral the PEP will need to be tailored accordingly. The GUM Physician in charge of the donor should be contacted to advise on this.

If the recipient is pregnant or has a risk of being pregnant they should be advised that the PEP regime is one of the recommended treatment regimes that are used in pregnancy. It is unlicensed for this but no serious adverse events have been recorded.

Enquire if the patient is taking any prescription or non-prescription medication and check for any interactions with pharmacy (On Call if necessary).
(www.hiv-druginteractions.org)

At present the preferred first-line regimen for PEP (for occupational and non-occupational use) is:

Raltegravir/Truvada for 28 days.

One Truvada tablet (245mg tenofovir disoproxil (as fumarate) and
200mg emtricitabine (FTC)) once a day plus one Raltegravir tablet (400mg) twice a day.

Generally PEP will be continued for 28 days under the supervision of the GUM Consultant. Information about these drugs is given in a patient leaflet which can be found in the drug pack (Appendix 5).

Seven day starter packs containing the most up-to-date regimen recommended by the Expert Advisory Group on AIDS (EAGA), are available at the ED Departments, and also within the emergency/out of hours drug cupboard of both Calderdale Royal Hospital and Huddersfield Royal Infirmary. The packs also contain a patient information leaflet, prepared by the HIV Pharmacy Association (HIVPA) Information about the post-exposure prophylaxis (PEP) contained in this pack. (The prescription should be sent to Pharmacy as soon as possible, so that the starter pack can be replaced).

Once PEP is started, the injured HCW or member of the public must be referred to the first available GUM clinic for long-term care, counselling and support. **It is up to the person prescribing the PEP to ensure that adequate follow up is arranged in this way.**

B. If the donor (source) patient (or infecting body fluid) is:
   - of unknown HIV status, PEP is not recommended, but injured workers must be counselled and supported in the Occupational Health Department and given the opportunity to have their blood stored for future testing.

Exceptionally PEP may be indicated following a negative test if there is reason to suspect the source may be sero converting (possible recent exposure, in the window period).

The injured worker should be followed up at 4/6 weeks, 8 weeks & 12 weeks. Injured members of the public will be referred to GUM for support.

If the HIV antibody test in the donor (source) is negative and there are no other “high risk” factors, the injured party can be reassured.

CHILDREN
If a child has been exposed the Consultant Paediatrician on call must be informed.

Post exposure packs for a child.
If post exposure prophylaxis (PEP) is required for a child, during Pharmacy opening hours, the drugs will be dispensed by the Pharmacy Departments at each site. Out of hours the on-call Pharmacist should be contacted to arrange supply and help to calculate the dose,

C.
- A baseline sample of blood must be taken at the time of injury for storage
- Send a copy of the risk assessment form for clinical sharps injuries and exposure to body fluids (Appendix 1) to Occupational Health and GUM clinic if Trust staff seen in A &E. Refer to GUM clinic
- Give a copy of the risk assessment form to other HCW’s to take to their own Occupational Health Dept

- If the injured party is a member of the public, he/she should be referred to the GUM clinic for follow up. Send a copy of the risk assessment form (Appendix 1) and PEPSE form (Appendix 3) as appropriate.

UNIQUE IDENTIFIER NO: C-15-2003
EQUIP-2018-020
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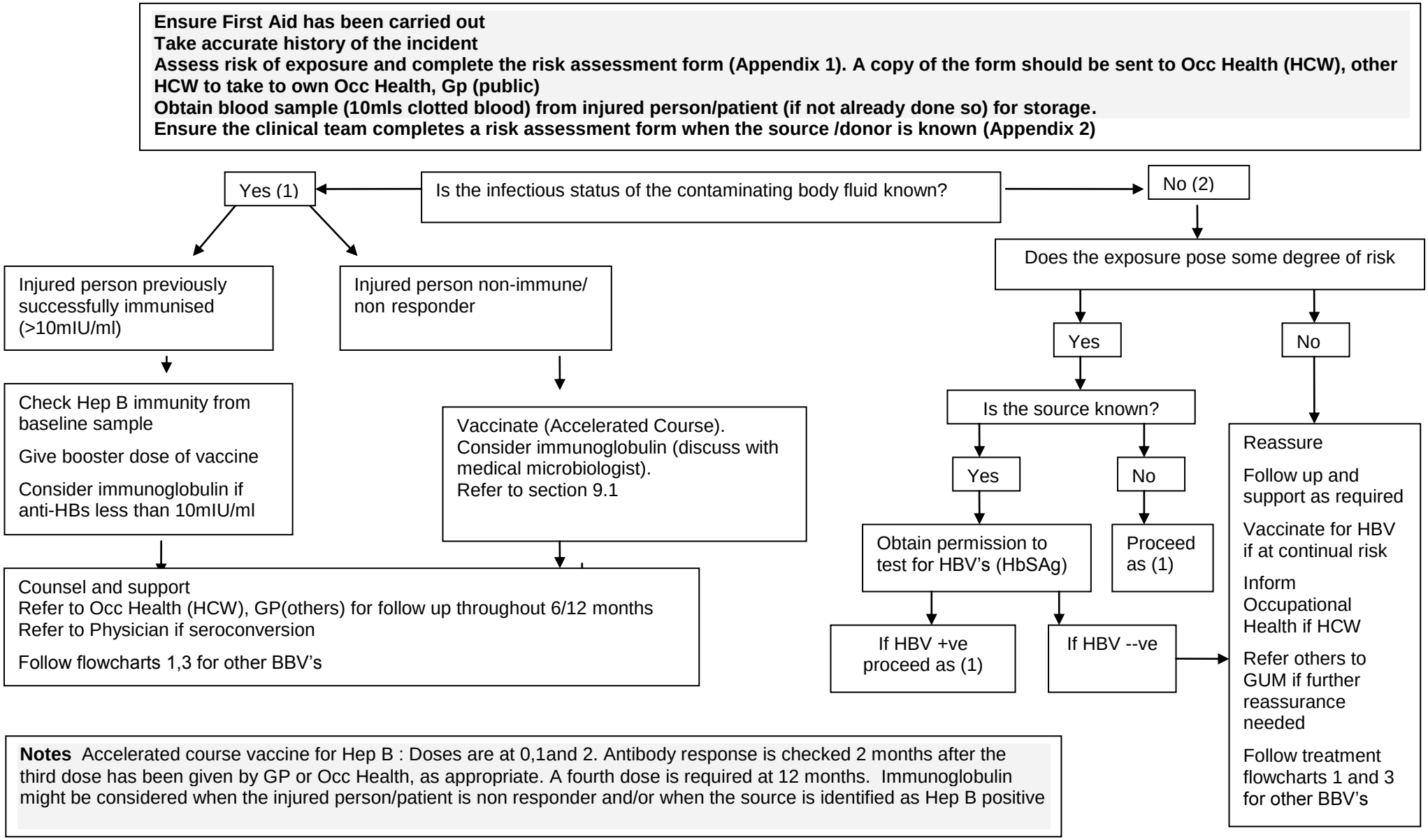
Review Lead: Lead Infection Prevention and Control Nurse

9 Treatment Flow Chart 2 Clinical Management of Hepatitis B (ED and Occupational Health)



Notes Accelerated course vaccine for Hep B : Doses are at 0,1and 2. Antibody response is checked 2 months after the third dose has been given by GP or Occ Health, as appropriate. A fourth dose is required at 12 months. Immunoglobulin might be considered when the injured person/patient is non responder and/or when the source is identified as Hep B positive

9.1 Management of Exposure to Hepatitis B Virus

Action should be taken after establishing the injured person's immunity. In most circumstances, this will be done without waiting for the results of the blood test from the donor (source) patient.

A. A high proportion of NHS staff will have been immunised with Hepatitis B vaccine. Within the Trust all vaccinated staff are offered a post vaccination antibody test to assess their level of immunity. This result may be available from:
   - The recipient of the injury
   - The Occupational Health Department record, within office hours
   - The Microbiology Department at Huddersfield Royal Infirmary, during routine open hours

B. In cases where the exposure is considered significant, the use of Hepatitis B immunoglobulin (HBIG) and/or Hepatitis B vaccine may be required. There is a need for action as soon as possible – within 24 hours for maximum protection.

   Emergency Departments and Occupational Health Department should have ready access to stocks of Hepatitis B vaccine. Hepatitis B immunoglobulin (HBIG) has to be ordered via the on call Microbiologist.

   All healthcare workers (HCWs) must be referred back to the relevant Occupational Health Department. If vaccination is started on a member of the public, his/her General Practitioner must be notified to complete the course.

C. See table below for details of immunisation required.

HBV status of person exposed	**Significant exposure**			**Non-significant exposure**	
	HBsAg +ve source	**Unknown source**	**HBsAg –ve source**	**Continued risk**	**No further risk**
≤ 1 dose HB vaccine pre-exposure	Accelerated course of HB vaccine* HBIG x 1	Accelerated course of HB vaccine*	Initiate course of HB vaccine	Initiate course of HB vaccine	No HBV prophylaxis Reassure
≥ 2 doses HB vaccine pre-exposure (anti-HBs not known)	One dose of HB vaccine followed by 2nd dose one month later	One dose of HB vaccine	Finish course of HB vaccine	Finish course of HB vaccine	No HBV prophylaxis Reassure
Known responder to HB vaccine (Anti-HBs > 10mIU/ml	Consider booster dose of HB vaccine	Consider booster dose of HB vaccine	Consider booster dose of HB vaccine	Consider booster dose of HB vaccine	No HBV prophylaxis
Known non-responder to HB vaccine (anti-HBs <10mIU/ml 2-4 months post-immunisation	HBIG x 1 Consider booster dose of HB vaccine A second dose of HBIG should be given at one month	HBIG x 1 Consider booster dose of HB vaccine A second dose of HBIG should be given at one month	No HBIG Consider booster dose of HB vaccine	No HBIG Consider booster dose of HB vaccine	No prophylaxis Reassure

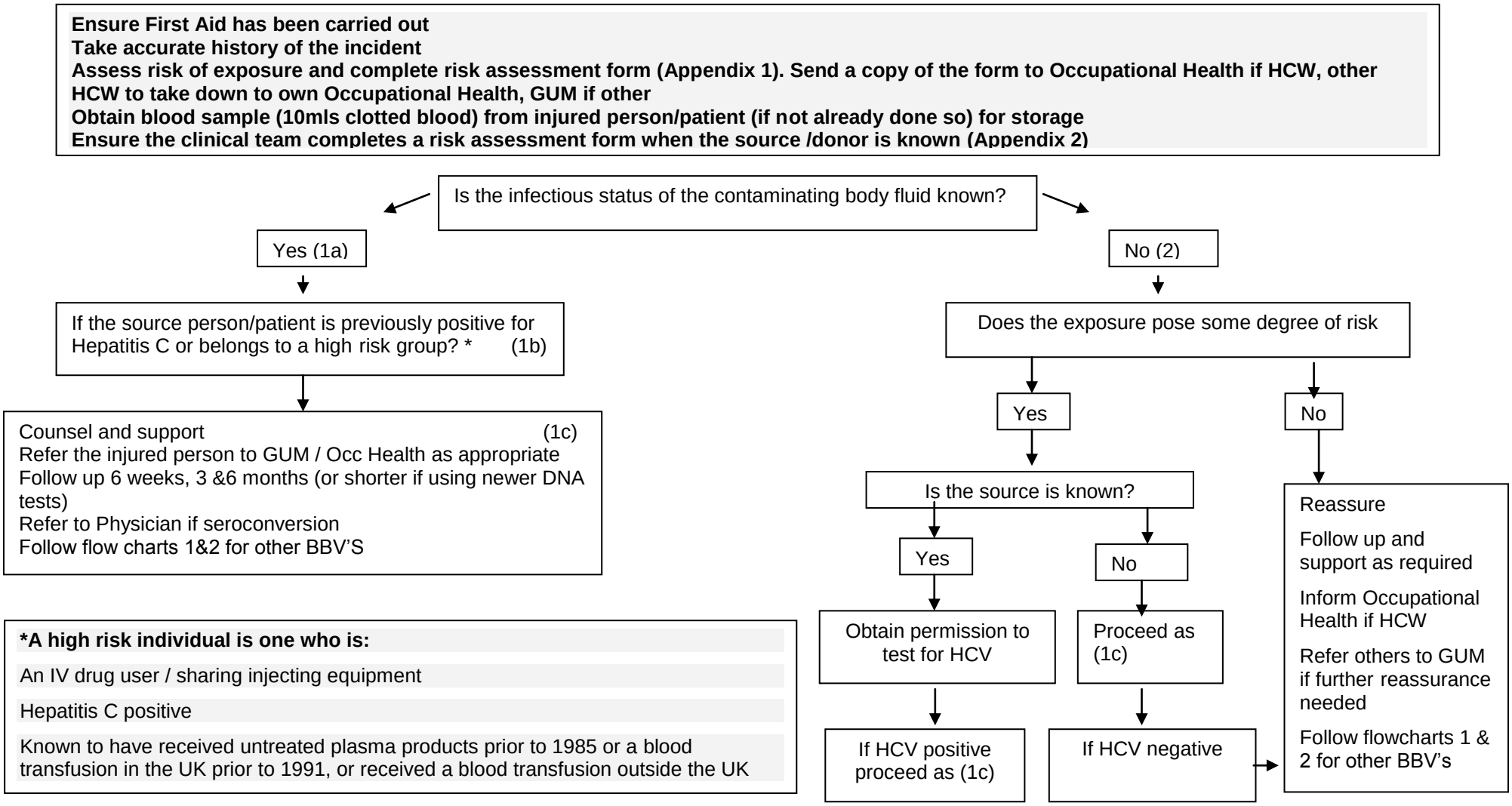
* An accelerated course of vaccine consists of doses spaced at 0,1 and 2 months
A booster dose may be given at 12 months to those at continuing risk of exposure to HBV
Source:PHLS Hepatitis subcommittee (1992).Immunisation against Infectious Disease DOH 2006.
N.B. Engerix B is also licensed for adults on a more rapid schedule of 0, 7 and 21 days and 1 year, which may result in a better take `up.This schedule is licensed for use in circumstances where adults over 18years are at immediate risk and where a more rapid induction of protection is required

For further information, please follow the link below to the green book on immunisation:

https://www.gov.uk/government/collections/immunisation-against-infectious-disease-the-green-book

10 **Treatment Flow Chart 3**

Clinical Management of Hepatitis C (ED and Occupational Health)



10.1 Management of Exposure to Hepatitis C Virus

There is no immunoglobulin or prophylactic treatment presently available for HCV.

In all cases where there is:

- Injury to a HCW; and
- contamination of the injury with blood or blood stained body fluid; and
- the source blood is known to be positive for, or considered to be "high-risk" for Hepatitis C: eg.Donor source from areas with greater prevalence; Eastern Europe or South East Asia

The HCW should be referred to the appropriate Occupational Health Department for counselling, support and follow-up at 6 weeks, 3 and 6 months.

A baseline sample of blood must be taken at the time of the injury for storage.

Send a copy of the risk assessment form (Appendix 1) to Occupational Health Department if Trust staff seen in Emergency Department.

Give a copy of the risk assessment form (Appendix 1) to other HCWs to take to their own Occupational Health Department, when applicable.

If the injured party is a member of the public, he/she should be referred to the GUM clinic for follow up. Send a copy of the risk assessment form (Appendix 1) to the GUM clinic.

If the injured person sero-converts at a later stage, then specialist referral for monitoring liver function and assessment for antiviral therapies is essential.

11. Management of neonatal exposure to erroneous expressed breast milk (EBM)

Definitions
The donor is the mother whose milk is ingested by a child who is not her own.
The recipient is the baby who inadvertently ingests milk expressed breast milk not intended for him/her.

Background

Hepatitis B and Hepatitis C: although these viruses can be found in breast milk, transmission is rare, even if viral loads are high in the mother. However, the presence of skin cracks may promote transmission.

Although HBsAg, hepatitis B envelope antigen (HBeAg) and HBV DNA have been isolated from breast milk samples, evidence to date suggests that breastfeeding does not increase the risk of vertical transmission. Hepatitis C transmission risk is low, occurring in 3-6% of cases.

HIV, HTLV-1 and HTLV-2 infect infants via breast milk. This is not dependant on the presence of small amounts of blood in the milk - the retrovirus can exist freely in milk and/or inside macrophages, that are present in breast milk. The risk of transmission is higher if there is a mucosal or skin breach in the recipient.

The risk of sero-conversion following contamination with expressed breast milk is considered to be low and HIV PEP is only recommended if the breast milk is blood stained or from a known HIV positive source. Advice in such cases should be sought from the Consultant in Genitourinary Medicine.

Actions to take if a suspected error has occurred

Confirm that the baby has actually been given and has ingested the wrong milk
If unclear - err on the side of exposure:
1. Remove the milk by aspirating the NG tube if one is *in situ*
2. A baseline sample of blood must be taken from the recipient at the time of ingesting the EBM for storage
3. A risk assessment using the risk assessment form in appendix 2 in relation to the donor should be made focussing on the need for post-exposure prophylaxis as detailed below:

If donor hepatitis B surface antigen positive:

- vaccinate neonate – accelerated immunisation
- consider Hepatitis B immunoglobulin using 'Green book' criteria for post-exposure prophylaxis in neonates – discuss with regional virologist.
- follow the Neonatal Hepatitis B ICP re follow up

If donor known hepatitis C or high risk (refer to page 28 of this document, treatment flowchart 3):

- Recheck HCV RNA by PCR at 6 weeks and 8-12 months following the exposure.
- 18 months after the exposure test for HCV RNA and Hepatitis C antibody
- Refer to paediatric gastroenterologist if seroconverts or is found to be HCV PCR positive.

If donor hepatitis B/ C state unknown:

- seek consent to test for hepatitis B and Hepatitis C
- If positive for either: proceed as above
- If refuses, proceed with accelerated hepatitis B vaccination

If donor known HIV positive

- Liaise with GUM Consultant immediately with an aim to give PEPSE within one hour

If donor refuses bloods to answer the questions in the use the risk assessment tool (Appendix 2) the case should be discussed with neonatal consultant on-call as to whether to treat as presumed infected or not. This will need discussion with the parents of the baby.

12. Management of the Non–Significant Injury

- The injured person should be reassured
- All persons who suffer injuries or accidents which carry a risk of infection with blood borne viruses, should have baseline blood taken at the time of the injury and must complete the risk assessment form (Appendix 1)
- Healthcare workers (HCWs) must be referred to the appropriate Occupational Health Department, where some HCWs may require further reassurance
- Injured members of the public who require further reassurance should be referred to GUM or the GP

13. List of responsible local agencies

CALDERDALE AND HUDDERSFIELD NHS FOUNDATION TRUST OCCUPATIONAL HEALTH DEPARTMENTS (TRUST STAFF)
The Calderdale Royal Hospital Tel: 01422 (22) 2039.

CALDERDALE AND HUDDERSFIELD NHS FOUNDATION TRUST GUM CLINICS (HCWs AND MEMBERS OF THE PUBLIC) – (for counselling and follow up)
Calderdale - Broad Street HC Tel 01422 261300 or 261370 (GUM).
Huddersfield - Princess Royal clinic @ HRI Appointment Tel 01484 (34) 7077
Tel 01484 (34) 7077 HIV Clinical Nurse Specialist

SOUTH WEST YORKSHIRE PARTNERSHIP MENTAL HEALTH TRUST
Monday – Friday 8.30 – 16.30 hours (01977) 605585

REGIONAL POLICE OCCUPATIONAL HEALTH DEPARTMENT
Senior Nurse, (plus always Medical Officer on-call) Tel: 08448118110.

NHS Calderdale: including Community Dental and GP Surgery staff
Occupational Health Department (CRH) – Tel 01422 (22) 2039.

YAS (Ambulance Staff): Tel: 0845 124 1241 general switch board
Or Occupational health contracted to PAM (People Asset Management) office hours only Tel : 01924 584 013

FIRE BRIGADE

Occupational Health Department – Tel 01274 655 742.

OTHER AGENCIES OFFERING COUNSELLING

- Huddersfield - GUM Clinic, Princess Royal clinic @ HRI Tel 01484 347011
- Locala sexual health clinic - Tel 0303 330 99 81
- Calderdale - GUM Clinic, Broad Street Health Centre - Tel 01422 261370.
- Brunswick Centre - Tel 01422 341764, OR 01484 469 691
- NHS Sexual Health Helpline Tel 0800 567 123
- Terrance Higgins Trust - Tel 0800 802 1221

14. Training and Implementation

Training will be carried out to all Trust staff by the Infection Prevention and Control Team through Induction and Risk Management as well as targeted training sessions to key personnel/areas. This includes Link Infection Prevention and Control Practitioners in departments and wards across the Trust who will continue to cascade the information to colleagues within their area/department.

15. Trust Equalities Statement

Calderdale and Huddersfield NHS Foundation Trust aims to design and implement services, policies and measures that meet the diverse needs of our service, population and workforce, ensuring that none are placed at a disadvantage over others. We therefore aim to ensure that in both employment and services no individual is discriminated against by reason of their gender, gender reassignment, race, disability, age, sexual orientation, religion or religious/philosophical belief, marital status or civil partnerships.

This policy has been through the Trust's EQUIP (Equality Impact Assessment Process) to assess the effects that it is likely to have on people from different protected groups, as defined in the Equality Act 2010.

16. Monitoring Compliance with this Procedural Document

Compliance with the policy will be monitored through audit by the Occupational Health Department, who report to the Infection Prevention and Control Committee on a quarterly basis.

17. Associated Documents/Further Reading

This policy/procedure should be read in accordance with the following Trust policies, procedures and guidance:

- Standard Precautions
  http://nww.cht.nhs.uk/fileadmin/intranet/policies/documents/213/C-47-2011%20-%20IC%20-%20Section%20C%20Standard%20Precautions%20Policy%20%20(CG).doc

- Waste Management
  http://nww.cht.nhs.uk/fileadmin/intranet/policies/documents/491/G-10-2013%20-%20Waste%20policy%202013%20v4.pdf

- Care of the Deceased
  http://nww.cht.nhs.uk/fileadmin/intranet/policies/documents/295/C-18-2010%20-%20IC%20-%20Section%20P%20-%20Care%20of%20the%20deceased%20(CG).doc

- Specimen Policy
  http://nww.cht.nhs.uk/fileadmin/intranet/policies/documents/480/Section%20R%20Specimen%20Collection%20Policy%20Version%206.pdf

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UK Health Department 1998.

BHIVA, BASHH, British Infection Society*. UK National Guidelines for HIV Testing 2008*

Council Directive 2010/32/EU(2010) *Implementing the framework agreement on prevention from sharps injuries in the hospital and healthcare sector, concluded by HOSPEEM and EPSU. Official Journal of European Union.*

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Health and Safety Executive.gov.uk 2012. Sharps injury protection. Requirements and test methods. Sharps containers BS EN ISO 23907:2012 September 2012

Health and Safety Executive.gov.uk 2013 Health and Safety (Sharp Instruments in Healthcare) Regulations 2013 Guidance for employers and employees

Information from the Centers for Disease Control and Prevention National Center for Infectious Diseases Divison of Healthcare Quality Promotion and Division of Viral Hepatitis: *Exposure to blood :what health-care workers need to know. July 2003.*

International Journal of STD & AIDS 2011; 22: 695–708UK guideline for the use of post-exposure prophylaxis for HIV following sexual exposure (2011) P Benn MBChB FRCP*, M Fisher MBBS FRCP† and R Kulasegaram LRCP MRCS FRCP‡, on behalf of the BASHH§ PEPSE Guidelines Writing Group Clinical Effectiveness Group International Journal of STD & AIDS Volume 22 December 2011. DOI: 10.1258/ijsa.2011.171011.

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NICE quality standard [QS61] Published date: April 2014 *Infection Prevention & Control of Healthcare Associated Infections in Primary and Community Care National Clinical Guidelines Centre*

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APPENDIX 1

CONFIDENTIAL

RISK ASSESSMENT FORM FOR CLINICAL SHARPS INJURIES & EXPOSURE TO BODY FLUIDS – to be used by A&E and Occupational Health Staff

NAME: **D.O.B.** **OCCUPATION:**	**ADDDRESS OF GP:**
DATE OF INJURY: **TIME OF INJURY:** **DEPT/WARD OF INJURY:**	**DATE OF PRESENTATION:** **TIME OF PRESENTATION:**
TYPE OF INJURY: BODY SITE: DESCRIPTION: PUNCTURE [ ] LACERATION [ ] SPLASH [ ] SKIN BROKEN YES [ ] NO [ ] BLEEDING/BRUSING PRESENT: YES [ ] NO [ ] SITE CLEANED/IRRIGATED IMMEDIATELY YES [ ] NO [ ] HOLLOWBORE NEEDLE YES [ ] NO [ ] SIZE ….... IM/IV/INTRA-ARTERIAL (Circle one) SOLID NEEDLE/BLADE? YES [ ] NO [ ] BLOOD IN NEEDLE/SYRINGE YES [ ] NO [ ] NEEDLE SAFE DEVICE YES[ ] NO[ ] FRESH/OLD? (Circle one) HOW RECENTLY USED? …… ANY INOCULATION OF BODY FLUIDS INTO RECIPIENT AS A RESULT OF INJURY? YES [ ] NO [ ] HUMAN BITE? YES [ ] NO [ ] BLOOD/BODY FLUID SPLASH? YES [ ] NO [ ] QUANTITY? …….. ON BROKEN SKIN? YES [ ] NO [ ] ON MUCOUS MEMBRANES YES [ ] NO [ ] VISIBLE BLOOD IN FLUID? YES [ ] NO [ ]	PROTECTIVE BARRIERS: - GLOVES WORN YES [ ] NO [ ] - INOCULATION THROUGH CLOTHING YES [ ] NO [ ] - GOGGLES/VISOR WORN YES [ ] NO [ ] **STATUS OF RECIPIENT (INJURED PERSON)** HEPATITIS B VACCINATED YES [ ] NO [ ] If yes, WHEN ? …… HEPATITIS ANTIBODY LEVEL YES [ ] NO [ ] If yes, ABOVE OR BELOW 10m I.U/ml.? …… RISK OF PREGNANCY YES [ ] NO [ ] TETANUS STATUS …… BASELINE SAMPLE TAKEN YES [ ] NO [ ] SOURCE OF BODY FLUID: KNOWN? YES [ ] NO [ ] AVAILABLE? YES [ ] NO [ ] REF NO / NAME:

Form completed and signed by: ……..

Designation / Title …… Date ……..

When staff attend Accident and Emergency out of hours, please fax this form to the relevant Occupational; Health Department and leave a message on their answer phone. CRH: Answer phone 2037 Fax: 2243

APPENDIX 2

RISK ASSESSMENT FORM (to be used by health professional obtaining consent, from the DONOR (SOURCE) of an incident involving exposure to BBVs, for blood to be tested.

DOB / Ref No / Name of Source of injury / exposure:
(Obtain consent from source of injury to supply this information) ……

Name of recipient of injury: ……

Department / Ward …… **Date:** ……..

RISK FACTORS

HEPATITIS STATUS UNKNOWN [ ] KNOWN [ ] Status if known ……

HIV STATUS UNKNOWN [ ] KNOWN [ ] Status if known ……

If HIV Positive history of antiretroviral treatment / drug resistance ……

HISTORY IV DRUG ABUSE YES [ ] NO [ ]
SAME SEX PARTNERS YES [ ] NO [ ]
SEX WITH ANY OF THE ABOVE YES [ ] NO [ ]
SEX WORKER YES [ ] NO [ ]
MEDICAL / DENTAL PROCEDURE OUTSIDE THE UK YES [ ] NO [ ]
UNPROTECTED SEX AFRICA [ ] FAR EAST [ ]

BLOOD DONOR YES [ ] NO [ ]

If yes, DATE OF LAST DONATION

REC'D BLOOD TRANSFUSION OUTISDE UK YES [ ] NO [ ]

CONSENT OBTAINED FROM SOURCE PATIENT TO TEST FOR:

HBV YES [ ] NO [ ] NOT APPLICABLE [ ]
HCV YES [ ] NO [ ] NOT APPLICABLE [ ]
HIV YES [ ] NO [ ] NOT APPLICABLE [ ]

CONSENT OBTAINED FROM SOURCE PATIENT TO SEND FORM TO:

OCCUPATIONAL HEALTH YES [ ] NO [ ]
GUM YES [ ] NO [ ]

CONSENT OBTAINED BY: ……

CONSENT OBTAINED FROM DONOR (SOURCE) PATIENT TO RECORD RESULTS IN NOTES

CONSENT OBTAINED FROM DONOR (SOURCE) PATIENT TO GIVE RESULTS TO INJURED PARTY

It is the responsibility of the injured person or his/her nurse manager to ensure that this information is received by the Occupational Health Nurse or the Accident & Emergency Triage Nurse, who should ensure that this form is attached to the main assessment form (appendix 1). If the donor (source) is seen in the ambulatory area of MAU, the practitioner assessing the patient must ensure Occupational Health receive a copy.

If donor (source) agrees could be stored in medical notes. If not either at GUM/ Occupational Health.

1. Guidelines for Approaching the Donor (Source) Patient (Adult And Child) by the Patients Medical Team for Permission to Test For HIV, HBV, HCV

*Donor refers to patient (adult or child) or healthcare worker (HCW), or whoever is the donor (source) of the injury.

This situation must be handled sensitively. The patient/donor should NOT be approached by the injured person**, but by an experienced clinician directly involved in the patient's care. If the patient/donor is an attendee of a Rehabilitation Department, they should be asked to attend the ambulatory area of MAU for risk assessment and bloods taking.** There is no single approach which will cover every interview, but it is recommended that the following points are observed:

A. The discussion should take place in a location where privacy is maintained.

B. The patient/donor should be informed that an employee has been injured in an incident involving their blood and that injury of this kind can cause considerable anxiety and worry to health care workers because infections such as Hepatitis B, Hepatitis C and HIV can be transmitted in this way.

C. Explain it is as if patient has donated their blood to HCW and we would like to test for the usual infections that are screened for by Blood Transfusion Service. The patient should be asked if he/she would be willing to consider allowing a sample of their blood to be taken for testing for HBV, HCV and HIV as a negative result gives most reassurance to the injured employee.
In asking this question it is important that undue pressure is not put on the patient to comply with this request. It should be made clear that the decision lies entirely with the patient/donor. The outcome of the discussion should be recorded in the patient's notes. A refusal from the patient must not have an effect on the overall management of that patient and this must be explained clearly to the patient.

D. If the request raises serious anxiety for the patient, for any reason, then the services of a trained counsellor should be offered and this can be arranged on the next working day. (See information regarding support staff, including GUM Health Advisors, section 12).

E. If the consent to take blood is granted:
   - complete the risk assessment form.
   - obtain permission for results to be given to a third party i.e. a members of the patients clinical team, Occupational Health, GUM, and the injured person, and record this information into the patient notes.

- ascertain if the donor (source) patient wishes to have a coded ID on the sample.
- ask if there is any objection to the report being filed within the clinical notes. Any objection should be recorded in the patient notes.

F. A member of the patients' medical team/or the practitioner in the ambulatory area of MAU should relay results to the patient of the donor, Occupational Health and GUM as applicable. It is not necessary to pass on the name of the source patient to a third party.

G. If the donor (source) is unconscious or unable to give informed consent for any reason, blood cannot be taken for testing, even with the relatives' agreement. Under such circumstances it is advisable to treat the injury as if the donor was Hepatitis B & C positive and offer the recipient the appropriate follow up testing. A risk assessment should be made to decide whether post-exposure prophylaxis with anti-HIV drugs should be given

Children and Young People

Before testing a child you must also seek consent. Young people aged 16 and 17 are presumed to have the competence to give consent for themselves. Younger children who understand fully what is involved in the proposed procedure can also give consent (although their parents will ideally be involved). In other cases someone with parental responsibility must give consent on the child's behalf. Bear in mind that not all parents have parental responsibility – see Consent Policy for guidance.

If a competent child consents to treatment, a parent cannot override that consent. Legally, a parent can consent if a competent child refuses, but it is likely that taking such a serious step will be rare. To establish the risk status of a child, ask the relevant questions from section 2 below

The Consultant in charge of the child should be consulted before approaching the child and his/her parents. He/She should seek the advice from a Paediatrician experienced in the field of HIV

2. Establishing the Infectivity Risk of the Donor (Source) Patient

A When the Donor (source) blood is traced to an individual who is already known to be positive for HIV, Hepatitis C or Hepatitis B surface antigen (HBsAg) further confirmation will not be needed.

B Needles discovered in the street or the park should be considered as high risk of transmitting Hepatitis B and Hepatitis C but not HIV.

C In hospital, if it is not possible to identify which patient relates to a particular needle, treat the incident as high risk if the needles come from a ward with known high-risk patients in it.

If the donor (source) does not consent to testing, or if there are other good reasons for not testing, he or she should be asked if they would mind answering some personal questions, which could help to clear up the concern. Such questions should also be asked where a donor(source) is identified. Emphasise that the questions are very personal and may very well not apply to them, however, these questions are now asked routinely, for example, by the Blood Transfusion Service before accepting blood donations.

If the donor (source) agrees, ask them the questions detailed below in below

A list of questions to determine the risk category of the source patient's blood

1. Have you ever given blood? If yes, when last donated? Continue to ask the following:
2. Have you ever been told that you are positive for HIV/AIDS, HBV or HCV?
3. (For men only) have you ever had sex, even safe sex with another man?
4. Have you ever injected yourself with drugs? (This includes body-building drugs, but excludes prescription drugs, such as insulin).
5. Have you ever lived in, or visited, any country outside the UK and had sex with men or women living there or received hospital treatment?
6. Have you ever received a blood transfusion outside the United Kingdom? If yes, where and when?
7. Have you ever undergone a medical or dental procedure outside of the UK. If so, where and when?
8. Have you paid or been paid for sex at any time?
9. Have you ever had sex with a person in the above groups?

Anyone answering **yes** to any of the questions and a baby of any high-risk woman should also be considered high risk. Remember residents of institutions for the mentally handicapped or anyone from an endemic area are high risk for Hepatitis B unless previously immunized.

3. Responsibilities for Obtaining Donor (Source) Blood

a) Clinical Manager/supervisor covering the area where the donor (source) is located or Occupational Health:-

- Locate donor (source) if possible.
- If the donor (source) is an attendee of a rehabilitation department, he/she should be referred to the ambulatory area of MAU for follow up.

- Arrange for a member of the medical team responsible for the donor (source) patient to seek donor (source) patient consent to have blood tests for HIV/HBV/HCV blood borne viruses (BBVs) carried out and for permission to give that result to a third party i.e. a member of the patient's medical team, Occupational Health and GUM.

- Arrange for transport of specimens to microbiology laboratory (taxi if rapid results required) and prompt return of report. Phone lab and organise to which member of the clinical team the result should be phoned.

- Laboratory staff are available to test blood samples during working hours from 08.00 hrs – 20.00hrs Monday until Friday, or on-call up until midnight. At weekends 08.00 hrs – 16.00 hrs, or on-call up until midnight. **Any incident occurring after midnight, the blood sample can be tested immediately the following morning. The sample may be stored in the fridge if the laboratory is not open. In this case contact the laboratory at 08.00 to inform them and ensure the blood sample has been forwarded to the laboratory ready for testing. Any exceptionally urgent case may be discussed with the Consultant Microbiologist on call**

- Arrange for results to be phoned back to a named individual, usually a member of the patients' medical team. Advise the patient that he/she will be informed of the results by a member of their medical team, usually within 24 hours, and that further tests may be required if the tests are not negative. Should the patient prove to have a blood borne virus, he/she will be referred to the appropriate physician. Consent should be obtained from the source patient about disclosing the result to the injured HCW

- Inform Occupational Health Department (08:30 – 16:30 hours), Monday to Friday or Accident & Emergency outside these hours if a donor (source) patient has been identified and, if so, forward a completed risk assessment form (Appendix 2) and blood test results, if available. It is not necessary to identify the name of the donor (source) patient

N.B. If the donor (source) patient prefers, a coded identification should be used, otherwise the patient should give approval for testing under his or her own name.

b) Clinician in charge of the donor (source) patient

- Confirm details of injury
- Consult guidelines on approaching the Donor (source) patient and establish risk status

- Seek donor (source) patient's consent for testing and for reporting result to a third party
- Complete risk assessment form and forward to Occupational Health/Accident and Emergency Department, as appropriate.
- Complete blood form/ICE Request and the specific tests requested(i.e. HBV, HCV or HIV). Ensure that the specimens and requests are completed accurately including the NHS Number. (NB. Specimens accompanied by forms/requests that are not completed correctly and signed will not be processed by the laboratory).
- Advise the patient's consultant that the incident has occurred.
- Inform donor (source) of the results.
- Inform Occupational Health and Genitourinary Medicine Clinic (GUM) as per arrangement made with donor (source) patient.

Calderdale and Huddersfield NHS Foundation Trust
CONFIDENTIAL
Post Exposure Prophylaxis Sexual Exposure (PEPSE)
Risk Assessment Form

Patient sticker

Name ……..DoB ……. /……. /…….
Address……

Date of PEPSE discussion ……. /……. /…….

Name of Doctor ……

INCLUSION CRITERIA

Date of sexual exposure ……. /……. /……. Within 72 hours Yes/No

*If **No** then patient should be informed that PEP is unlikely to be effective this long after exposure, but refer to genitourinary medicine (GUM) clinic if patient wishes to continue.*

• Type of exposure……
• Was it protected? Yes / No
• Was the sexual partner HIV positive? Yes / *No / Unknown / High risk category

If** No **then PEP is unlikely to be needed as the likelihood of actual risk of HIV transmission is low (see table 1)

Table 1The risk of HIV transmission following an exposure from a known HIV-positive individual

Type of exposure	Estimated risk of HIV transmission per exposure from a known HIV-positive individual not on ART
Receptive anal intercourse	1 in 90
Receptive anal intercourse with ejaculation	1 in 65
Receptive anal intercourse no ejaculation	1 in 170
Insertive anal intercourse	1 in 666
Insertive anal intercourse not circumcised	1 in 161
Insertive anal intercourse and circumcised	1 in 909
Receptive vaginal intercourse	1 in 1000
Insertive vaginal intercourse	1 in 1219
Receptive oral sex (giving fellatio)	<1 in 10,000
Insertive oral sex (receiving fellatio)	<1 in 10,000
Needlestick injury	1 in 333
Sharing injecting equipment (includes chemsex)	1 in 149
Human bite	<1 in 10,000

• Did unprotected anal, vaginal sex, or receptive oral sex prior to ejaculation occur?
Yes / No

If No **then PEP is unlikely to be needed as the risk of HIV transmission with most oral sex or non-penetrative sex is small.**

Details of risk partner:
• HIV status of risk partner:
[ ] Definitely known HIV + (well known to patient or risk partner here and confirms status)
[ ] Possible HIV + (patient told by third party)
[ ] Unknown HIV status but high risk group, specify……
[ ] Other, specify…….

• Does the partner attend Genitourinary Medicine clinic @ Princess Royal (PRHC)/Broad Street Health Centre Yes / No

Name of risk partner ……DoB ……. /……. /…….
PRHC/Broad Street HC Clinic Ref. of partner (or address) ……..

Source on anti-retroviral / documented drug resistance? ----------

When the above 3rd party information is stored in notes, this has to be removed from the notes if the notes are to be sent anywhere else e.g. for court purposes.

RISK ASSESSMENT

Prior HIV risk of patient:
1) Has the patient tested HIV negative in the past? Yes / No (If no go to Q5)
2) **If Yes** give date of last test ……. / ……. /…….
3) Approximate number of partner with which patient has had unprotected sexual intercourse (UPSI) since last HIV negative test (or even if no prior HIV test)
0 1 2 3 4 5 6-10 11-20 20+
4) Most recent date of UPSI (excluding that for which PEP considered) …. / … / ……
Men who have sex with men Yes/No
Sex abroad Yes/No
Sex with anyone from abroad Yes/No
IV drug user Yes/No
Casual sex worker Yes/No
Infection via blood to blood contact (e.g. sharing needles, accidents, etc.) since last HIV test?
Yes / No

Nature of Contact:
If there is more than one date of potential exposure within the last 7 days, or more than one partner, please give details for each on a separate form

Sexual activity	Condom intact	Condom accident	No condom used	Internal ejaculation
Oral sex, patient Insertive				
Oral sex, patient Receptive				
Vaginal sex, Patient insertive				
Vaginal sex, Patient receptive				
Anal sex, Patient insertive				
Anal sex, Patient receptive				
Other perceived risk				

OUTCOME		
Post exposure prophylaxis required: yes/no	Supplied by:	Referred to GUM clinic: PRHC ☐ LMHC ☐
Please send copy of PEPSE Risk Assessment Form to GUM clinic		

Ref: BASHH Guideline UK Guideline for the use of post-exposure prophylaxis for HIV following sexual exposure
Acknowledgment: courtesy of Paul Bena, Camden Primary Care Trust

Situations where PEP is considered

	HIV positive- viral load detectable	HIV positive- viral load undetectable	Source unknown from high prevalence group/area*	Unknown from low prevalence group/area
Receptive anal sex	**Recommend**	Not Recommend	**Recommend**	Not recommended
Insertive anal sex	**Recommend**	Not recommended	Consider~	Not recommended
Receptive vaginal sex	**Recommend**	Not recommended	Consider~	Not recommended
Insertive vaginal sex	Consider	Not recommended	Consider~	Not recommended
Fellatio with ejaculation#	Not recommended	Not recommended	Not recommended	Not recommended
Fellatio without ejaculation#	Not recommended	Not recommended	Not recommended	Not recommended
Splash of semen to the eye	Not recommended	Not recommended	Not recommended	Not recommended
Cunnilingus	Not recommended	Not recommended	Not recommended	Not recommended
Sharing of injecting equipment	Recommended	Not recommended	Consider	Not recommended
Human bite$	Not recommended	Not recommended	Not recommended	Not recommended
Needle stick from a discarded needle in the community			Not recommended	Not recommended

* In UK high prevalence groups included men who have sex with men and individuals who have immigrated from areas of high HIV prevalence (particularly sub-saharan Africa)
~ more detailed knowledge of local prevalence of HIV within communities may change these recommendations from consider to recommend in areas of particularly high HIV prevalence
# PEP is not recommended for individuals receiving fellatio
$ a bite is assumed to constitute breakage of the skin with passage of blood

APPENDIX 4

SHARPS/CONTAMINATION INJURIES

INFORMATION FOR THE PATIENT

The doctor should give the donor (Source) patient the following information about Hepatitis and HIV.

Hepatitis B Virus

All health care workers should be immunized against Hepatitis B.

Hepatitis B virus infects the liver after an incubation period of 6 weeks to 6 months. Up to two thirds of cases are asymptomatic. In the remaining third, common symptoms include nausea, abdominal pain and jaundice, but can range from minor upsets to overwhelming liver failure requiring transplantation. Occasional deaths occur in adults

The routes by which it is transmitted is via blood or blood products, through sexual intercourse and from pregnant mother to her baby.

The prevalence within the general population is 0.3%. Of those adults who become infected, 10% become carriers. Carriers can go on to have long-term liver disease that can result in cirrhosis or liver failure, or very occasionally in liver cancer.

Treatment is now available with a variable but increasing success rate.

Hepatitis C Virus

Hepatitis C affects the liver in a similar way to HBV except that far more people become long-term carriers – up to 70% or 80%. Around 1 in 5 with chronic infection go on to develop cirrhosis and of these 5% may develop liver cancer.

- Antibodies develop within 6-9 weeks after infection. About 80% develop chronic HCV.
- The prevalence within the general population is 0.5%
- Hepatitis C transmission is by blood to blood
- The most common method of transmission is due to intravenous drug use.30% of intravenous drug users are infected with HCV antibodies.
- Sexual transmission is rare, less than 5%. Transmission from a pregnant woman to her unborn child is rare, at less than 5%

Treatment which is now available is highly effective above 90%.

HIV

HIV stands for Human Immunodeficiency Virus. HIV infects and destroys the white cells of the immune system which protects the person from infections and some cancers. Persons who are infected with HIV therefore suffer from repeated serious infections, often with organisms that cause only minor illness in those with a normal immune system, and they have an increased incidence of certain cancers. Sufferers can now be treated with anti-viral drugs that can control, but not cure, the illness.

Transmission is via blood or blood products, via sexual intercourse, through a pregnant mother to her baby, or through breast feeding.

The disease is now a growing problem in most areas of the world and indeed in some places in Africa, up to 1 in 4 or more of the population are infected. In the UK the prevalence is low with only 1:1000 of adults being infected. One of the main groups of people who are infected in the UK are men who have sex with men, though worldwide the commonest route of infection is through heterosexual intercourse between men and women. Another group of people, who have an increased risk of infection, are intravenous drug users, though they are far less likely to be positive for HIV than for HCV.

In the past there has been some social stigma attached to suffering from HIV infection. Mortgage and insurance applications may be refused to those who are HIV positive.

Infection with any of these diseases can affect one's ability to practice in certain occupations such as medicine, dentistry or related professions.

ASSESSING THE RISK OF TRANSMISSION

Type of Injury

The risk of the HCW acquiring infection from a needle-stick injury from an infected patient is roughly as follows:

0.3% for HIV
3% for HCV
30% for HBV

A splash of blood onto a mucous membrane would present a lower risk of transmission. For example, for HIV it would be around 0.1% i.e. 1 in 1000.

The likelihood of transmission of infection also depends upon the nature of the injury sustained. For example a deep needle-stick into a muscle, or inoculation from a hollow needle that has been in the patient's vein or artery, is far more likely to transmit infection than e.g. a superficial scratch on the skin from a solid needle such as a lancet or a mucous membrane splash.

A splash of blood onto intact skin does not carry a risk of transmission.

APPENDIX 5

HIV POST EXPOSURE PROPHYLAXIS (PEP):PATIENT INFORMATION

Introduction

- You have been prescribed post-exposure prophylaxis (PEP) because you may have been exposed to the HIV virus. Prophylaxis means a preventative treatment.
- The risk of acquiring HIV following needle stick injury or sexual exposure is small. This will be explained to you when you are assessed for the preventative treatment.
- The treatment consists of a combination of two tablets, containing three active drugs
- All three are antiviral drugs which are effective against the HIV virus. Used together, there is evidence that they can reduce the risk of developing HIV infection following exposure to the virus.
- The names of your medicines are:
  Truvada tablet (245mg tenofovir disoproxil (as fumarate) and
  200mg emtricitabine
  And
  Raltegravir tablet (400mg)
- You have been supplied with a seven day starter pack, but the treatment will normally need to be continued for four weeks. Follow up and further supplies will be arranged for you by one of the Genitourinary Medicine Consultants. A Clinical Nurse Specialist will be able to provide further advice and reassurance, contact: 07766 905822 9am – 4pm Monday to Friday.

Taking your Medicines

- For this treatment to be effective, it is important that you take your medicines properly. Treatment should start as soon as possible after potential exposure to HIV.
- Read the label on your medicines. They should be taken approximately 12/24 hours apart:

Medicine	**Morning**	**Evening**
Raltegravir	Take **one** tablet with your breakfast	Take **one** tablet with your evening meal
Truvada	Take **one** tablet once daily.	

- Swallow the tablets whole with plenty of water while sitting or standing in an upright position. It is important that they are not chewed or crushed.
- Take the medicines approximately 12/24 hours apart even if you have not actually had a meal.
- If you forget to take a dose, take it as soon as possible and then continue as before. If you have difficulty remembering to take them, use an alarm, e.g. on your mobile phone or download pill reminder application.

- You may drink small amounts of alcohol while taking these medicines (within normal recommended safe limits).

Other Medicines and Medical Problems

- With this treatment there is a risk of problems developing if you are taking other medication or if you have other medical problems (e.g. kidney or liver problems).
- You must tell your doctor about any and all medical problems you have, and about any medication you are taking, whether these are prescribed for you or bought over the counter.
- Tell your doctor if you are allergic to any medicines.
- Do not start any new medication without discussing it with your doctor first.
- Just some of the drugs that are known to interact with these medicines include:*warfarin* (an anticoagulant) *phenytoin, sodium valproate (*used for treating epilepsy), *rifampicin, erythromycin and clarithromycin* (used for treating bacterial infections), *terfenadine* or *astemizole (*used to treat allergy symptoms), *amiodarone* or *quinidine* (used to treat an irregular heart beat), *triazolam* or *midazolam* (used to relieve anxiety and/or trouble with sleeping), *ergot* derivatives (used to treat migraine, *methadone* (used in the treatment of opiate dependence) *St. John's wort* (Hypericum) (used to treat mild depressions), *simvastatin* or *lovastatin* (used to lower cholesterol levels), and hormonal methods of contraception, including the combined pill and mini-pill.
- You should not breast feed while taking these medicines.

General Advice

- Do not take more than the recommended dose.
- Do not give your medicines to others.
- Keep your medicines in a cool, dark, dry place, out of the reach of children.

Side Effects

The commonest side effects of the medicines are nausea (feeling sick), diarrhoea, headache, tiredness, weakness and muscle aches.

These usually settle if you keep taking the medicines as directed, but simple painkillers or tablets to prevent sickness or diarrhoea may help. Tell your doctor if the symptoms persist.

Serious side effects are rare; they include allergic reactions, liver toxicity, and reduced production of red blood cells, causing anaemia, or white blood cells, which can make you prone to infections.

Antiviral Drugs	Side effects	What to do
Truvada Very common (1 in 10 patients)	Mild diarrhoea. mild nausea or stomach pain, Loss of appetite Headache, dizziness, depressed mood, Tingling, Numbness, or Burning sensation Mild itching or skin rash or darkening of Palms or Soles	Keep on taking the tablets with food – it often settles. Tell your doctor if it persists or becomes distressing. Take a simple painkiller such as Paracetamol or ibuprofen (Nurofen). Tell your doctor if it persists.
Truvada Common (1 in 100 Patients)	Allergic reaction Difficulty sleeping Tummy bloating & Flatulence Strange dreams	Take care driving or operating machinery. It may go away. Tell your doctor if it persists.
Raltegravir Very common (1 in 10)	Nausea, Vomiting, Diarrhoea Tummy bloating, flatulence, Loss of appetite, indigestion Headache, dizziness	Keep on taking the tablets with food – it often settles. Tell your doctor if it persists or becomes distressing.
Raltegravir Common (1 in 100)	Behavioural changes Depression Difficult sleeping, Nightmares Skin rash/reactions Stomach pain, anal/rectal discomfort	Take care driving or operating machinery. It may go away. Tell your doctor if it persists.

- Blood tests will be taken at 2 week to check for blood count and liver problems
- Tell your doctor if you are concerned about any new symptoms
- Some anti-HIV drugs may cause changes in body fat distribution and high blood sugar and cholesterol levels, but this usually only occurs with long-term treatment (several years)

Pregnancy

- The available evidence is that the recommended drugs are safe after 12 weeks pregnant, but we have less information about the safety of the drugs in early pregnancy
- You must tell your doctor if you could be pregnant. You should take precautions to avoid becoming pregnant or fathering a child while taking the medicines
- The medication will reduce the effectiveness of hormonal contraception; these methods should not be relied on while you are taking the medication, and you should use a barrier method (condoms) in addition
- You should continue to use a barrier method (condoms) of contraception for three months post exposure i.e. until you have had a negative HIV test
- You should avoid sharing toothbrushes or razors until you have had a confirmatory negative test at 3 months