

**GUIDELINES FOR THE PREVENTION AND MANAGEMENT OF
PERCUTANEOUS INJURIES (SHARPS/NEEDLESTICK INCIDENTS) AND
OTHER EXPOSURE INCIDENTS IN HEALTH CARE WORKERS OF
HEALTH BOARD MANAGED HEALTH CARE FACILITIES WITHIN THE
EASTERN REGIONAL HEALTH AUTHORITY**

**APPROVED BY THE EASTERN REGIONAL HEALTH AUTHORITY INFECTION
CONTROL ADVISORY COMMITTEE FOR HEALTH BOARD MANAGED HEALTH
CARE FACILITIES WITHIN THE EASTERN REGIONAL HEALTH AUTHORITY.**

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List of Abbreviations

1. **HCW** Health care Worker
2. **Source** is the person who is or maybe the origin of the potential infection.
3. **Recipient** is the person who has sustained the percutaneous injury or other exposure incident.
4. **OHD** Occupational Health Department
5. **Consultant Specialist**
Medical specialist with expertise in needlestick injury management and the prescribing of anti retro viral therapy.
6. **HCV** Hepatitis C Virus
7. **HIV** Human Immunodeficiency Virus
8. **HBV** Hepatitis B Virus
9. **HBsAg** Hepatitis B surface antigen
10. **HBeAg** Hepatitis B e antigen
11. **HBsAb** Hepatitis B surface antibody
12. **HBcAb** Hepatitis B core antibody
13. **HBeAb** Hepatitis B e antibody
14. **HBIG** Hepatitis B immunoglobulin
15. **HCV-PCR** Hepatitis C Virus, polymerase chain reaction.
16. **PEP** Post Exposure Prophylaxis
17. **EC 1** Exposure Code 1
18. **EC 2** Exposure Code 2
19. **EC 3** Exposure Code 3
20. **HIVSC1** HIV Status Code 1
21. **HIVSC2** HIV Status Code 2
22. **Supervisor** is the person held responsible for a health care worker in any health care facility at a specific time.

SECTION 1

1. INTRODUCTION:

1.1 **Why Needlestick Injury Guidelines are being produced.**

The risk of Needlestick Injury in the Health care setting is appreciable. The number of blood-borne viruses recognised is enlarging. These two phenomena together pose a potential risk to anyone working within a Health care setting. As part of minimising this risk, a clear policy on the prevention and management of such injuries needed to be developed. A Needlestick Subcommittee of the Eastern Health Board Infection Control Committee was formed (This parent committee has now been disbanded and it's functions incorporated into the larger Eastern Regional Health Authority Infection Control Advisory Committee).

Remit of Subcommittee:-

To develop guidelines for the prevention and management of percutaneous injuries (sharps/needlestick incidents) and other exposure incidents sustained by Health care worker in Area Health Board managed Health care facilities of the Eastern Region.

Subcommittee Membership:-

- Dr. Eleanor McNamara, Consultant Microbiologist, Cherry Orchard Hospital, SWAHB.
- Ms. Jane Murphy, Clinical Nurse Specialist in Infection Control, Cherry Orchard Hospital, SWAHB
- Ms. Ros Cashman, Clinical Nurse Specialist in Infection Control, JCMH, NAHB.
- Dr. Leo McElearney, Occupational Health Physician, EHSS, Occupational Health Dept., Dr. Steevens' Hospital.
- Dr. Fiona Donnelly, Occupational Health Physician, EHSS, Occupational Health Dept., Dr. Steevens' Hospital.
- Ms. Mary Carroll-Browne, Occupational Health Nurse, EHSS, Occupational Health Dept., Dr. Steevens' Hospital.
- Mrs. Ena O'Mahoney, Director of Nursing, Cherry Orchard Hospital, SWAHB.
- Dr. Colm Bergin, Consultant in Infectious Diseases, St. James's Hospital/ERHA.

1.2 **Definitions.**

1.2.1 **A Percutaneous Injury.**

A percutaneous injury is one where there has been skin penetration by a sharp, which has been used on a patient or been in contact with a patient's body fluids. Other accidental exposure incidents include bites or splashes on to the skin or mucous membranes.

1.2.2 **Exposure.**

An "exposure" that may put a Health Care Worker (HCW) at risk of contracting a viral infection is defined as a percutaneous injury (e.g. A needlestick or cut with a sharp object), contact with mucous membrane or non-intact skin (e.g. When exposed skin is chapped abraded or afflicted with dermatitis) or contact with intact skin where the duration of contact is prolonged (i.e. Several minutes or more) or involves an extensive area with blood, tissue or other body fluids.⁽¹⁾

1.2.3 **Source.**

In this document “**source**” refers to the individual who is or maybe the origin of the potential infection.

1.2.4 **Recipient.**

“**Recipient**” refers to the individual who has sustained a percutaneous injury or other exposure incident. The recipient is usually a HCW for the purposes of this policy document.

1.3 **Blood Borne Viral Infections potentially transmissible via Percutaneous Injury.**

The principle blood-borne viral infections in HCW’s (following Percutaneous injury or other exposure incidents) are:

- Hepatitis B
- Hepatitis C
- HIV (2)

The Blood-borne viruses present a risk to the HCW of cross-infection only when the “source” is a carrier and or is persistently excreting the live virus.

1.3.1 **Hepatitis B Virus (HBV).**

Hepatitis B is a virus which may cause infection of the liver after a prolonged incubation period of 6 weeks to 6 months. While some of those infected may be asymptomatic (no overt illness), the majority will develop jaundice and slowly recover while antibodies (protective proteins) against the virus are produced in the blood. A percentage of those infected (up to 10%) may progress to develop complications such as chronic liver disease, resulting in total liver failure or liver cancer. Some who recover from the initial infection may become chronic carriers and pose a risk of transmission to others. Diagnosis of this infection, its stage of progression or infectivity is made by examining serum (blood samples) to detect the antigens (virus particles) or antibodies. Transmission in a health care setting most commonly occurs due to needlestick or percutaneous (skin penetrating) injuries where the recipient comes in contact with contaminated blood. There are effective vaccines readily available against most strains of this virus.

1.3.2 **Hepatitis C Virus (HCV).**

Hepatitis C is another virus which may attack the liver after a shorter incubation period of 3 to 4 weeks. Classically the associated illness is malaise followed by jaundice, though some may be asymptomatic. While many cases eventually recover by producing protective antibodies, a sizeable proportion (40 to 60%) may have persisting hepatitis over several years with the risk of late onset liver failure or liver cancer. Diagnosis is based on detection of antibodies in the serum and or evidence of the virus in the blood of those actively infected. There is no vaccine against this virus. The response to therapy is variable, dependent on the infecting strain. The transmission risk of HCV may be increased with HIV co-infection and with a significant HCV viral load in the source. Health Care Workers are at risk of occupationally acquiring this infection predominately through needlestick or percutaneous injuries.

1.3.3 **HIV Virus.**

Human Immunodeficiency Virus (HIV) causes a prolonged infection characterised by different stages in disease progression. During the initial incubation period (varying from 4 to 12 weeks) the virus actively multiplies, the infected person will be asymptomatic but highly infectious. The development of antibodies against the HIV virus may be accompanied by a feverish illness of variable severity (seroconversion) in 40%-60%. This is followed by a prolonged period (years) of asymptomatic infection. The virus continues to multiply and the patient's immunity deteriorates until the final full blown AIDS stage is reached, which is characterised by serious opportunistic diseases. While there is no cure or vaccine against the HIV virus, dramatic advances have been made in the treatment of this infection resulting in prolonged survival of those affected. HIV is the least infectious of the predominant viruses transmitted by needlestick or percutaneous injuries.

1.4 **Prevalence of Hepatitis B, Hepatitis C and HIV.**

1.4.1 **Hepatitis B.**

In Ireland the prevalence of **Hepatitis B** virus is low in the general population. Current data in the Republic of Ireland has estimated a seroprevalence in 1 in 4,000 among new blood donors and 1 in 3,000 among women attending for antenatal care.⁽³⁾ A recent nation-wide survey on the prevalence of Hepatitis B virus infection in the Republic of Ireland estimated a prevalence of 0.51% Hepatitis B core antibodies in the population. (Personal communication, Dr. Tom O'Connell, Public Health Registrar, North Eastern Health Board).

Data from specific sub-groups show a high prevalence of Hepatitis B markers (68% and 50%) in persons with intellectual disability living in residential accommodation ⁽⁴⁾⁽⁵⁾ and a prevalence of 11% in intellectually disabled persons **not** living in residential accommodation.⁽⁶⁾

In a cohort of intravenous drug abusers attending ERHA methadone clinics the prevalence of Hepatitis B core antibody, based on laboratory reports, was 29% (Dr. Joe Barry, Public Health Specialist, ERHA, 1995).

1.4.2 **Hepatitis C.**

Hepatitis C in Ireland mainly occurs in 2 populations: cohorts of individuals who became infected through anti D or other infected blood products and injecting drug users. Among injecting drug users the prevalence varied between 52% ⁽⁷⁾ and 76% (Dr. Joe Barry, 1995 Personal Communication).

1.4.3 **HIV.**

Total statistics on HIV and AIDS to December, 1999 published by the Department of Health and Children in June 2000⁽⁸⁾ have confirmed:-

- 2195 persons are HIV sero-positive.
- AIDS cases is 691.
- Number of deaths, 349 (approx. 50%).
- IV drug users represent the largest group accounting for 40.5% of HIV cases. Homosexuals/Bisexuals account for 34.2%. Heterosexuals account for 13.3%. The remainder includes haemophiliacs, children and others at 11.9%.

The rate of **HIV** infection in antenatal women prior to the introduction of routine antenatal HIV screening is 0.02%.⁽⁹⁾

In a random study of intravenous drug abusers attending the EHB methadone clinics in 1997 the prevalence of HIV based on laboratory reports was 8% (Dr. Joe Barry, EHB)⁽¹⁰⁾

1.4.4 **Summary.**

Thus one can deduce that all three viruses are more prevalent in drug users than in the general population and among drug users Hepatitis C is the most common infection. There is still a risk of blood borne infections from undeclared groups.

1.5 **Risk of Transmission of Blood-Borne Viral Infections from Percutaneous Injuries.**

The risk of transmission of Blood-Borne Viruses (BBVs) is greater from patient to HCW than from HCW to patient.

The risk to the HCW is proportional to:

- ◆ The prevalence of that infection in the population served
- ◆ The infectious status of the individual source patient, which may or may not be known
- ◆ The risk of significant occupational exposure occurring during the procedures undertaken. In the health care setting transmission most commonly occurs after percutaneous exposure to a patient's blood by "sharps" or "needlestick" injury.

The risk of transmission to HCW from an infected patient following such an injury has been shown to be:⁽¹⁰⁾

- ◆ 1 in 3 when a source patient is infected with Hepatitis B and is "e" antigen positive,
- ◆ Around 1 in 30 when the patient is infected with Hepatitis C
- ◆ About 1 in 300 when the patient is infected with HIV.

Specific occupations by virtue of their higher exposure rates to large volumes of blood pose a higher risk of acquiring BBV's. Thus risk reduction strategies are of particular relevance in obstetrics and gynaecology, also in those that provide emergency care.

Most percutaneous injuries in the operating theatre or during obstetric/midwifery procedures are caused by sharp suture needles. The risk to the operator of percutaneous injury has been found to be associated with the type and duration of the procedure, and the use of fingers rather than instruments to hold tissue whilst suturing.

The rate of injury has been noted to vary from 4% for orthopaedic procedures to 10% for gynaecological procedures.

For hysterectomy alone, the rate of percutaneous injury varies from 10% for abdominal hysterectomies to 21% for vaginal hysterectomies.

More than 50% of percutaneous injuries sustained by surgeons have been to the non-dominant index finger and 20% of injuries are caused by the operator to the assistant.

1.6 **Documentation of a Percutaneous Injury.**

It is essential there is accurate documentation in the 3 Eastern Regional areas health boards of the incident in order to optimise management. Every exposure must be reported at once to the immediate local supervisor. Appropriate action in accordance with these guidelines must be initiated. This will include urgent medical consultation, recording the incident on a Percutaneous (sharps/needlestick) Incident Report Form (Appendix 1).

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SECTION 2

2. PREVENTATIVE MEASURES TO MINIMISE THE RISK OF PERCUTANEOUS INJURIES:

Measures to aid the prevention of sharps injuries and the associated risks include:

- 2.1 Health & Safety Legislation.
- 2.2 Standard (Universal) Precautions.
- 2.3 Educational programmes.
- 2.4 Disposal of sharps.
- 2.5 Safe Work Practice with Sharps
- 2.6 Vaccination

2.1 **Health and Safety Legislation.**

The **1989 Health, Safety and Welfare at Work Act** ⁽¹⁾ governs general standards of safety, obliging the employer to provide a duty of care to the workforce. In addition, staff have a duty of care to themselves and colleagues and must be cognisant of acts or omissions likely to cause an accident. Unsafe work practices with sharps are governed by this legislation.

2.2 **Standard (Universal) Precautions.**

Recommendations from the Centre for Disease Control, produced in 1988, advocate “blood and body fluid precautions used for all patients regardless of their blood borne infection status” **(C.D.C 1988)**⁽²⁾. These standard (universal) precautions are adopted within the area health board managed Health care facilities. Standard (universal) precautions include the appropriate use of personal protective equipment (PPE) and hand hygiene procedures when in contact with blood or patient body fluids. When a large amount of spillage of blood or blood stained body fluids is anticipated (e.g. surgery) a water impermeable barrier gown should be worn, supplemented by latex gloves, protective face mask/visor, protective goggles and rubber boots.

Given recent studies indicating glove perforation, rates may be as high as 37%, it is recommended that hands be washed thoroughly after wearing gloves⁽³⁾.

2.3 **Educational Programmes.**

This is a vital component in the prevention of sharps injuries and all Health Care workers (HCW) should be required to attend scheduled sessions. Haiduven et al⁽⁴⁾ suggests that in order for the educational programme to reap benefits it must be:-

- a) ongoing,
- b) be used in conjunction with the use of memorandum to update staff on the occurrence of local sharps injuries,
- c) must target all members of staff,
- d) be mandatory for all staff to attend the sessions.

Educational programmes are currently provided by Infection Control and Occupational Health specialists.

2.4 **Disposal of Sharps.**

Sharps Boxes

- Sharps should be disposed of in specific puncture resistant sharps containers.
- Sharps containers must be manufactured to an approved standard⁽⁵⁾ UN 3291, BS 7320.
- Sharp containers should be easily accessible to staff i.e. located near to patients areas which decreases the need for staff to walk distances with sharps⁽⁶⁾ ⁽⁷⁾. Sharps containers should be secured off the floor to prevent accidental kicking of container, and/or access by unauthorised persons.
- Sharps containers should be terminally sealed when contents reach the “Fill line”.

2.5 **Safe Work Practice with Sharps.**

2.5.1 ***Resheathing (Recapped) of used needles.***

Resheathing (recapping) of used needles has been implicated as one of the major risk procedures in sustaining a sharps injury ⁽⁸⁾⁽⁹⁾⁽¹⁰⁾. In accordance with the C.D.C.⁽¹¹⁾ and the British Medical Association⁽¹²⁾ it is recommended that resheathing of needles should not occur and the needle and syringe should be discarded as a single unit immediately after use. The continued dental practise of resheathing needles needs to be re-evaluated.

2.5.2 ***Needleless or safe devices.***

Whilst the reduction in the use of needles will decrease the number of sharps injuries, the cost of needleless systems remains a major deterrent⁽¹³⁾. However it may be argued that the cost of managing a needlestick injury or the consequence of a Health care worker acquiring an occupationally acquired blood borne infection will far outweigh the short term cost of introducing such a system. A variety of systems are available, but these need to be evaluated to assess appropriateness in local clinical settings.

2.6 **Vaccination.**

- It is recommended that all Health care workers avail of Hepatitis B vaccine.
- Hepatitis B vaccine available to all Health care workers of area health board managed facilities. Advice available from the Occupational Health Department (OHD), Dr. Steevens’ Hospital.
- Vaccination records and seroconversion status should be documented.
- **There is currently no vaccine for Hepatitis C or HIV.**

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SECTION 3

3. RECOMMENDED PROCEDURE WHEN SHARPS/NEEDLESTICK PERCUTANEOUS INJURY OCCURS:

3.1 Immediate First Aid.

- Encourage the stab wound to bleed freely under warm running water for several minutes or until bleeding ceases. Do not suck the puncture site. Cover the wound with a waterproof dressing. If eyes, mouth or skin are splashed with blood or body fluids, wash well with water.
- If there is a large laceration, cover the wound securely and seek medical advice immediately.
- If there is a protruding foreign body/object, do not press on the object. Apply firm pressure on either side of wound and build up padding on either side of the object, without pressing the object. Secure with a bandage and seek medical advice immediately.

3.2 Report every incident to Supervisor/Line Manager immediately.

- The supervisor should complete the Percutaneous (Sharps/Needlestick) Incident Form, Part 1 as per Appendix 1.
- It is essential that the Supervisor should contact the Accident & Emergency Department/Occupational Health Department to which the recipient is being referred to for urgent assessment.
- Incidents should be reported immediately to the Occupational Health Department, Dr. Steevens' Hospital (answering machine available outside office hours) - **Telephone 6352789.**

3.3 Documentation.

For each incident a form requires completion, this is:

- Percutaneous (Sharps/Needlestick) Incident Report Form containing Part 1 and 2 (see Appendix 1).

It is essential that this confidential document is completed in full.

3.3.1 **Percutaneous (Sharps/Needlestick) Incident Report Form, Part 1.**

Part 1

Must be fully completed by the **Supervisor/Line Manager** in the presence of the Recipient of the injury. The form should be signed and dated by both the Supervisor and recipient.

A copy of the completed **Part 1** form should be sent immediately to the

- **Medical Officer** who is providing the initial assessment and management of the recipient.
- **Director of Nursing/Clinical Manager** who will forward it to the Occupational Health Department immediately. See Flow Sheet Appendix 2.

3.3.2 ***Percutaneous (Sharps/Needlestick) Incident Report Form, Part 2 signed and dated.***

Part 2

Should be fully completed, by the attending **Medical Officer** who is providing the initial assessment and management of the recipient. The appropriate medical assessment and management is outlined in Section 4.

3.3.3 ***Forwarding of completed Part 1 and 2 of the Percutaneous (Sharps/Needlestick) Incident Report Form.***

Following initial medical assessment, a copy of **both parts** (Part 1 and 2) should be sent to:-

- **The Occupational Health Department (if initial medical assessment undertaken elsewhere).**
- **The Medical Consultant/Specialist to whom the recipient may be referred for in the setting of a high risk exposure for which post exposure prophylaxis maybe required.**

This Percutaneous (Sharps/Needlestick) Incident Report Form does not replace the:-

- Casualty Card Records.
- Staff Accident Form.
- Health and Safety Authority Form No. IR1.

SECTION 4

4. MEDICAL ASSESSMENT AND MANAGEMENT OF PERCUTANEOUS INJURIES AND OTHER EXPOSURE INCIDENTS.

4.1 **Medical Assessment.**

To evaluate the potential for transmission of Hepatitis B Virus, Hepatitis C Virus, HIV from such an injury, the medical practitioner initially caring for the recipient should undertake:-

- Risk assessment of the injury.
- Risk assessment of the recipient.
- Risk assessment of the source person.
- Risk assessment of the source item.

Document these risk assessments on the Percutaneous (Sharps/Needlestick) Incident Report Form Part 2 (See Appendix 1).

4.2 **Medical Management of the Recipient involves:-.**

4.2.1 *Acute Management* within 2-4 hours of the injury should be undertaken by the medical practitioner. If the incident is assessed as a potentially high risk incident for HIV transmission, as assessed by exposure code and source status (see Table 4.5.2.A, 4.5.2.B and 4.5.2.C), immediate arrangements should be made for urgent advice from or access to a Consultant Specialist designated for the management of high risk percutaneous injuries. For assessment of the risk and need for management of Hepatitis B refer to Table 1 for guidance. For guidance on assessment and management of Hepatitis C see Section 4.4.

4.2.2 *Follow-up Management:-* Medical follow-up management of recipients of percutaneous injuries will occur for a number of months. Follow-up will be undertaken by:-

- The Occupational Health Department, Dr. Steevens', if the initial assessment and management identified a medium or low risk incident.
or
- The Consultant Specialist, if the initial assessment and management identified a high risk incident.

4.3 **HEPATITIS B:**

4.3.1 **Medical Assessment and Management of Percutaneous Injuries with respect to Hepatitis B Virus (HBV).**

Hepatitis B can be acquired occupationally with or without HIV. The risk of transmission of Hepatitis B virus from an infected patient to a HCW is approximately 1:3 when the source patient is Hepatitis B e antigen positive.

The following should be undertaken:

- Wound management (including tetanus vaccination, if appropriate).
- Documentation of incident should be performed as previously outlined.
- Source patient should be evaluated with his or her consent for Hepatitis B surface antigen (HBsAg) and e antigen (HBeAg) status, where appropriate.

- Obtain (HBV) vaccine history from the recipient and document if HBsAb titre checked post vaccine series. If recipient is not known to be immune to Hepatitis B, they should have serology drawn for Hepatitis B surface antibody (HBsAb) titre (if previously vaccinated) and baseline Hepatitis B core antibody (HBcAb) and Hepatitis B surface antigen (HBsAg) to rule out prior natural infection.

4.3.2 Acute Management for the recipient will be one of the following four treatment options:

1. If there is no serological evidence of immunity (natural or acquired) in the recipient, then the recipient should receive Hepatitis B vaccine. HBIG (Hepatitis B immunoglobulin), should be administered if the source is documented to be HBsAg positive.
2. If the recipient has received Hepatitis B vaccine within the last 5 years and is known to have seroconverted with adequate immunity (known responder HBsAb > 10 mIU) then no further action is required.
3. If the recipient failed to seroconvert post vaccine series (known non responder) and the source patient is HBsAg positive then either one dose of HBIG and one dose of vaccine booster or two doses of HBIG should be administered, one dose immediately and the second dose one month later.
4. If the recipient was vaccinated greater than 5 years prior to the incident, then check recipient HBsAb titre and the recipient should receive a vaccine booster if necessary (i.e., if HBsAb is < 10 IU sample ratio units as measured by RIA or negative by EIA) or both vaccine booster and HBIG if source is HBsAg positive as outlined above.

4.3.3 In general Hepatitis B immunoglobulin (HBIG) should only be administered in the setting of documented Hepatitis B surface antigen (HBsAg) in the source and documented absence of immunity (natural or acquired) in the HCW/recipient. Ideally HBIG should be administered within 24 hours of exposure.

Where the source is unknown or the source refuses testing, an individual risk assessment is necessary for the requirement of HBIG. There is time to check serology from the source patient for the presence of Hepatitis B surface antigen (HBsAg) and HBIG can be given up to within seven days post exposure.

4.3.4. Follow up:-

- 4.3.4.1. Recipient/HCW with documented HBV immunity (vaccine or acquired) do not require further HBV viral studies.
- 4.3.4.2. For **non immune** recipients/HCW then check recipient's blood for Hepatitis B surface antigen (HBsAg) and core (HBcAb) antibody at 3 and 6 months post incident in order to assess for evidence of acute infection.
- 4.3.4.3. Hepatitis B vaccine series should be completed for the recipient where indicated with second and third vaccine injections at 1 month and 6 months respectively. Follow-up of Hepatitis B surface antibody titres should be tested post vaccine series.

4.3.4 **Summary Table of Medical Assessment and Management of Percutaneous Injury with respect to Hepatitis B Virus:-**

Table 1.

RECIPIENT STATUS	MANAGEMENT OPTION FOR RECIPIENT		
<u>Recipient/HCW Exposed</u>	Source HbsAg Positive	Source Unknown	Source HbsAg Negative
<1 dose of Hep. B vaccine prior to exposure	Give HBIG and Hbvaccine series	Give HBvaccine series, and HBIG may be required	Give HBvaccine series
Unknown HBsAb titre post (complete or incomplete) vaccine	Check recipient titre. Give Hbvaccine at 0 and 1 month, HBIG maybe required	Check recipient titre. HBvaccine maybe required	Complete HBvaccine series
Known responder	In general no action required	In general no action required	In general no action required
Known non-responder	1. Give vaccine booster and HBIG. OR 2. Two doses of HBIG at 0 and one month and Consider re-vaccination. (seek expert advice)	Consider HBIG if source at high risk for Hep. B infection and Consider re-vaccination. (seek expert advice)	Consider re-vaccination. (seek expert advice)

4.4 **HEPATITIS C:**

4.4.1 **Medical Assessment and Management of Percutaneous Injuries with respect to Hepatitis C Virus (HCV).**

The risk of transmission of Hepatitis C to the HCW/recipient is approximately 1:30 when the source person is Hepatitis C antibody positive.

In general the following should be undertaken:

- Undertake Wound hygiene as previously outlined, including tetanus vaccine where indicated.
- Document incident and report events as previously outlined.

4.4.2 **Acute Management:-**

1. Check baseline Hepatitis C antibody status in all recipients.
2. There is no role for post exposure immunoglobulin in the health care exposure setting.
3. If source patient is HCV antibody positive, then if possible the source HCV PCR status should be tested. Where the HCV status of the source is unknown, then if possible the source should be tested for HCV antibody.

4.4.3 **Follow-up:-**

Depending on recipient's exposure risk

Check recipient's:-

- Hepatitis C PCR at 6 weeks where source is known HCV positive.
- Hepatitis C PCR and antibody at 3 months and 6 months post injury.
- In the setting of recipient HIV acquisition, HCV PCR and HCV antibody testing of the recipient should be extended out to 12 months (under specialists care).
- Refer recipient to a specialist if recipient HCW is HCV antibody or PCR positive for evaluation.

4.5 **HIV:**

4.5.1 **Acute management with respect to HIV.**

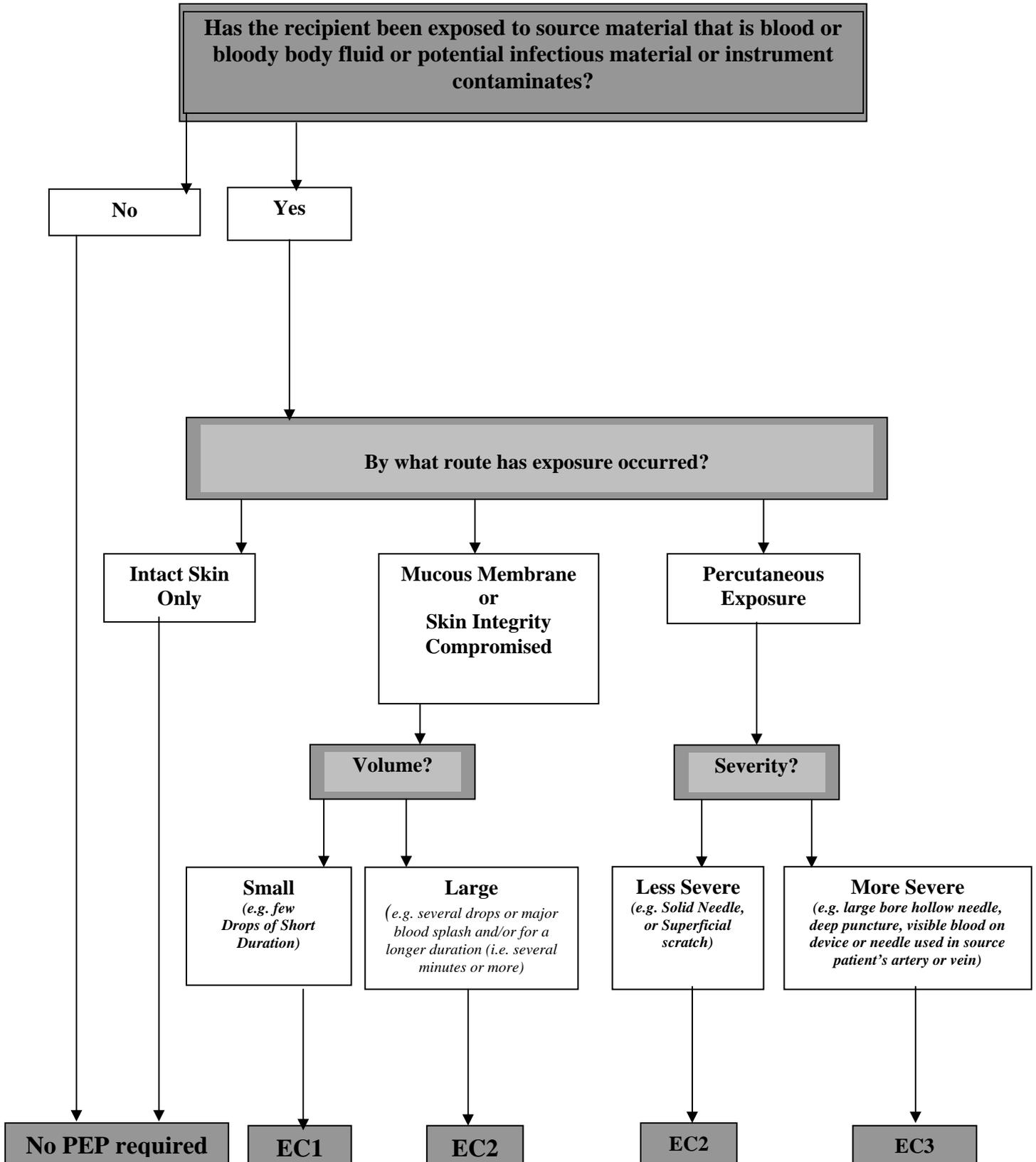
- Recipient, blood for baseline HIV antibody should be taken for immediate testing or storage after appropriate **counselling**. This step should be documented.
- Source, if the source HIV status is unknown, consent should be obtained for immediate source HIV antibody testing after appropriate **counselling**. Every effort should be made to document the HIV status of the source. This step should be documented.

4.5.2 **Medical Assessment and Management of Percutaneous Injuries with respect to HIV.**

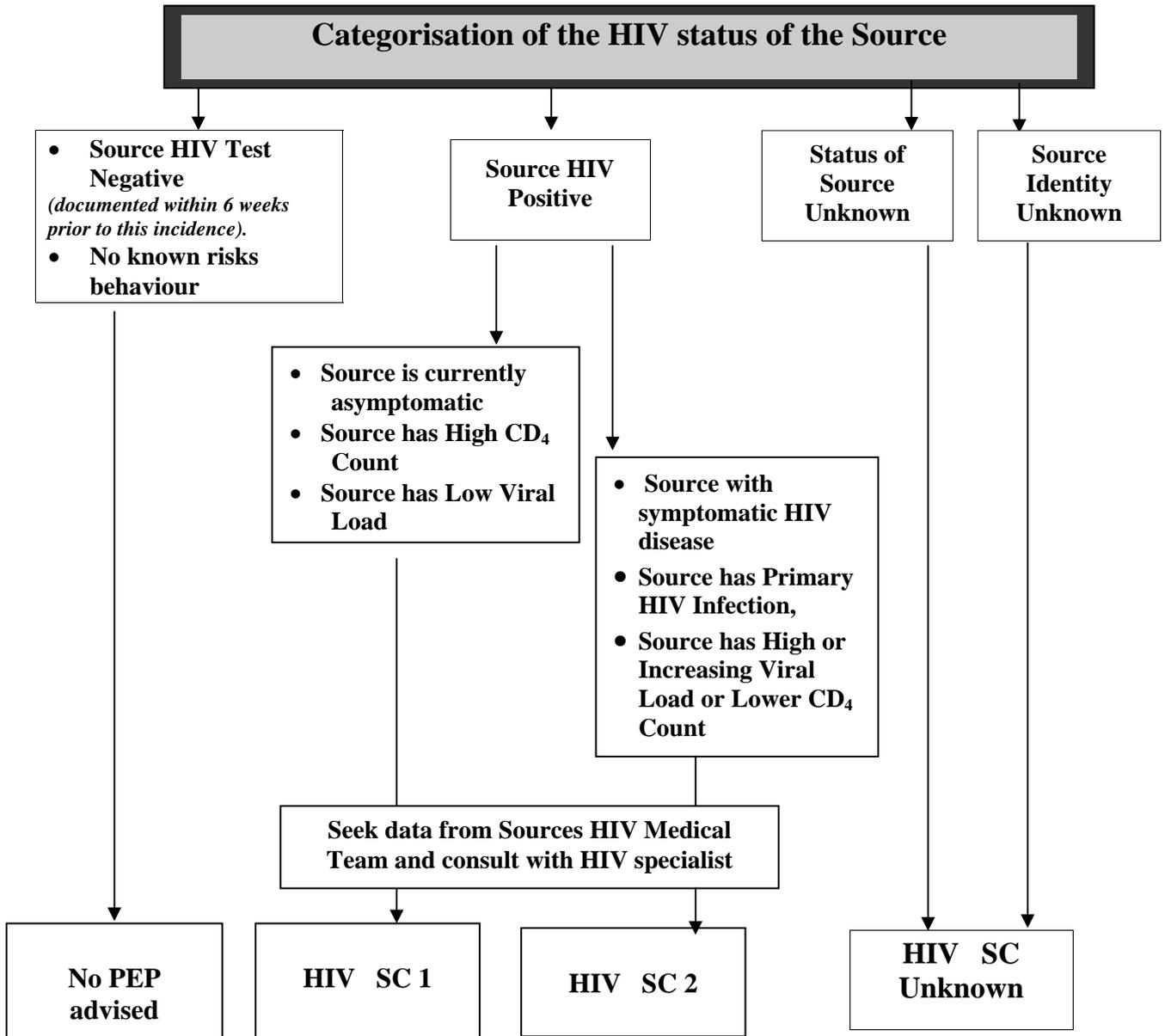
Three steps are taken to complete medical assessment and identify the need for PEP post percutaneous injuries with respect to HIV.

- 4.5.2.A Step 1, To Determine the Exposure Code (EC) of the Recipient by Medical Officer performing the initial evaluation of the injury.
- 4.5.2.B Step 2, To Determine the HIV Status Code (HIV SC) of the Source by Medical Officer performing initial evaluation of the injury.
- 4.5.2.C Step 3, Combining Results of Step 1 and Step 2 will determine the need for PEP.(Post Exposure Prophylaxis), in consultation with the specialist.

STEP 1 – TO DETERMINE THE EXPOSURE CODE (EC) OF THE RECIPIENT



STEP 2 – TO DETERMINE THE HIV STATUS CODE (HIV SC) OF THE SOURCE



4.5.2.C **STEP 3 – TO DETERMINE THE NEED FOR PEP (Post Exposure Prophylaxis) COMBINING STEP 1 AND STEP 2 IN CONSULTATION WITH SPECIALIST**

STEP 1	STEP 2	STEP 3
EC	HIV SC	PEP Recommendation
1	1	PEP may not be warranted discuss with Specialist
1	2	Consider basic PEP regimen, discuss with Specialist
2	1	Recommended basic PEP regimen, discuss with Specialist
2	2	Recommended expanded PEP regimen, discuss with Specialist
3	1 or 2	Recommended expanded PEP regimen, discuss with Specialist

HIV SC Unknown

If the source or, in the case of an unknown source, the setting where the exposure occurred suggests a possible risk for HIV exposure and the EC is 2 or 3, then consider PEP basic regimen, but discuss with Specialist. If EC 1, PEP may not be warranted but discuss with specialist.

4.5.3. ***Follow up of recipient with respect to HIV:***

- **Recipient** repeat recipients HIV serology should be undertaken at 6 week, 3 months and 6 months for all exposures.
- Where recipient received PEP, follow up will be under taken by the HIV specialist.
- Where HCV has been acquired by the recipient from this exposure, HIV testing of the recipient should be extended out to a minimum of 9 months. Discuss with specialist.
- Where HIV has been acquired by the recipient from this exposure, immediate referral to a HIV specialist should be made.

4.6 ***Summary of Procedure Guidelines When Percutaneous Injury Occurs.***

1. The Recipient should seek immediate First-Aid locally.
2. The Recipient should contact their Supervisor, who will:-
 - 2.1 Fill in Accident report form appropriate to the work location.
 - 2.2 Fill in the Percutaneous (sharps/needlestick) Incident Report Form, Part 1.
 - 2.3 Direct the recipient immediately to a medical officer for initial assessment and management of injury. The appropriate medical officer for initial referral would be sited at:-
 - A&E of local hospital.
 - Occupational Health Dept., ERHA (during working hours).
 The supervisor should phone in advance to the medical officer and ensure the recipient takes a copy of Part 1 Percutaneous (sharps/needlestick) Incident Report Form for the medical officer.
 - 2.4 Inform Occupational Health Dept. of occurrence of incident immediately.
3. Relevant clinical information of the source person needs to be obtained. Bloods for HBV, HCV, HIV testing should be obtained from the source with prior consent and counselling.

4. The Medical Officer undertaking the immediate management of the recipient should perform the initial assessment and acute management according to these guidelines. The OHD should be informed of the medical management.
5. Medical follow-up of the recipient will be provided by the Occupational Health Dept and/or Designated Consultant Specialist. If the initial assessment and management of the recipient (Health care worker) is carried out at an A&E Department the HCW (recipient) must attend the Occupational Health Department on the next working day.



Appendix 1

PERCUTANEOUS (SHARPS/NEEDLESTICK) INCIDENT REPORT FORM

(To include bites, splashes to mucocutaneous surfaces and non-intact skin)

- This form should be forwarded in accordance with Appendix 1 of the Guideline document.
- Part 1 of this Form must be completed immediately by the Supervisor in the presence of the injured recipient for every incident and forwarded immediately to the Medical Officer providing initial assessment.
- Part 2 of this form must be completed by the Medical Officer and returned to Occupational Health Department, Dr. Steevens' Hospital, Dublin 8.
- Incidents must be reported immediately to the Occupational Health Department, Dr. Steevens' Hospital (answering machine available outside office hours) - Telephone 6352789.

PART 1

DETAILS OF STAFF MEMBER'S (RECIPIENT) INJURY:

NAME: _____ DATE OF BIRTH: ___/___/___ STAFF PERSONAL NO.: _____

NORMAL WORK LOCATION: : _____ LOCATION/WARD WHERE INJURY OCCURRED: _____

INCIDENT DATE: ___/___/___ TIME: _____ AM/PM

INCIDENT REPORTED TO SUPERVISOR: YES NO DATE: ___/___/___ TIME: _____ AM/PM

HAS THE STAFF MEMBER REPORTED A PREVIOUS (SHARPS/NEEDLESTICK) INCIDENT YES NO

IF YES DATE: ___/___/___

RECIPIENT'S JOB (Tick As Appropriate)

Ambulance Personnel	
Nurse: Qualified <input type="checkbox"/> -Student <input type="checkbox"/>	
Care Assistant/Attendant	
Dentist	
Dental Surgery Assistant	
Doctor: -Medical	
-Surgical	
-General Practice	
-Public Health	
-Medical Student	
Community Welfare Officer	
Environmental Health Officer	
Laboratory Employee	
Mortuary Attendant	
Porter	

Laundry Employee	
Household/Domestic	
Phlebotomist	
Therapist: -Physio.	
-Occupational	
-Speech and Language	
General Assistants	
Radiographer/Radiologist	
Pharmacy/Assistants	
Child Care Workers	
Maintenance Staff	
Contractors	
Agency Staff	
Other, Please Elaborate _____	

DETAILS OF CURRENT INCIDENT (Tick As Appropriate)

Stab with sharp or pointed instrument	
Needlestick while re-sheathing	
Scratch with needle	
Needlestick with butterfly	
Needlestick with BM stick	
Needlestick involving Sharps box	
Needlestick from rubbish bag	

Eye splash	
Non intact skin splash	
Mouth splash	
Scratched by patient	
Human bite	
Other, Please Elaborate _____	

SOURCE ITEM (e.g. sharps, needle or instrument)

	YES	NO
➤ Was the Sharp/needle visibly blood stained	<input type="checkbox"/>	<input type="checkbox"/>
➤ Was the Sharp/needle solid bore	<input type="checkbox"/>	<input type="checkbox"/>
➤ Was the Sharp/needle hollow bore	<input type="checkbox"/>	<input type="checkbox"/>



SUPERVISOR'S ACTION AT TIME OF INCIDENT

(1) Immediate Acute Management of Injury undertaken:-

Please tick box:-

	YES	NO
➤ Bled	<input type="checkbox"/>	<input type="checkbox"/>
➤ Washed	<input type="checkbox"/>	<input type="checkbox"/>
➤ Waterproof Dressing Applied	<input type="checkbox"/>	<input type="checkbox"/>
➤ Reported to Hospital Manager/Director of Nursing	<input type="checkbox"/>	<input type="checkbox"/>
➤ Referred for Medical Advice (<i>See below</i>)	<input type="checkbox"/>	<input type="checkbox"/>
➤ Contacted Occupational Health Dept. Date: ___/___/___ Time: _____ am/pm	<input type="checkbox"/>	<input type="checkbox"/>
Occupational Health Dept. Answering Machine	<input type="checkbox"/>	<input type="checkbox"/>

(2) Recipient Referred to:-

Please tick box:-

	YES	NO
➤ A & E Dept. of Hospital _____ Date: ___/___/___ Time: _____ am/pm	<input type="checkbox"/>	<input type="checkbox"/>
➤ Occupational Health Dept. ERHA (Name of Contact Person) _____ Date: ___/___/___ Time: _____ am/pm	<input type="checkbox"/>	<input type="checkbox"/>
➤ Other Health care Facility (Name of Contact Person) _____ Date: ___/___/___ /Time: _____ am/pm	<input type="checkbox"/>	<input type="checkbox"/>

(3) Supervisor to forward Part 1 (Pages 1 & 2) to:-

Please tick box:-

	YES	NO
➤ Medical Officer (A&E Dept./Occupational Health)	<input type="checkbox"/>	<input type="checkbox"/>
➤ Clinical Manager/Director of Nursing	<input type="checkbox"/>	<input type="checkbox"/>

Supervisor have you completed Part One of Percutaneous (Sharps/Needlestick) Incident Report Form in the presence of the recipient of the injury.

YES	NO
<input type="checkbox"/>	<input type="checkbox"/>

Signed: _____ Date: ___/___/___
Supervisor

Signed: _____ Date: ___/___/___
Recipient of Injury

If the recipient chooses not to avail of the Supervisors advice to seek medical assessment they should sign here:

Signed: _____ Date: ___/___/___
Supervisor

Signed: _____ Date: ___/___/___
Recipient of Injury



PERCUTANEOUS (SHARPS/NEEDLESTICK) INCIDENT REPORT FORM

(Part 2 to be completed by Attending Medical Officer & returned to the Occupational Health Department and the Medical Specialist if a referral is required)

PART 2

DETAILS OF STAFF MEMBER'S (RECIPIENT) INJURY:

NAME: _____ DATE OF BIRTH: ___/___/___ STAFF PERSONAL NO.: _____

NORMAL WORK LOCATION: : _____ LOCATION/WARD WHERE INJURY OCCURRED: _____

A. RISK ASSESSMENT OF RECIPIENT

RECIPIENT'S HEPATITIS B STATUS

	YES	NO	
Is Hepatitis B Status known	<input type="checkbox"/>	<input type="checkbox"/>	
Fully completed Hepatitis B Vaccine Course	<input type="checkbox"/>	<input type="checkbox"/>	If Yes state Year: _____
Partially completed Hepatitis B Vaccine Course	<input type="checkbox"/>	<input type="checkbox"/>	If Yes state Year: _____
Follow-up Serology	<input type="checkbox"/>	<input type="checkbox"/>	If Yes state Year: _____
Result of Serology:- <10 mIU/ml (non-responder) 10 – 100 mIU/ml >100mIU/ml	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>		

If Hepatitis B Vaccine Course was *incomplete*, did they receive:

	YES	NO	
1 injection	<input type="checkbox"/>	<input type="checkbox"/>	Date: ___/___/___
2 injections	<input type="checkbox"/>	<input type="checkbox"/>	Date: ___/___/___
3 injections	<input type="checkbox"/>	<input type="checkbox"/>	Date: ___/___/___

RECIPIENT'S HEPATITIS C STATUS

	YES	NO	
Is Recipient's Hepatitis C Status Known?	<input type="checkbox"/>	<input type="checkbox"/>	If Yes state result: _____ Date of Test: _____

RECIPIENT'S HIV STATUS

	YES	NO	
Has HIV Serology Previously been tested?	<input type="checkbox"/>	<input type="checkbox"/>	If Yes, Date of Test: _____ Result: _____
<i>If Yes, Indication for Testing:-</i>			
Occupational Injury	<input type="checkbox"/>	<input type="checkbox"/>	
For Insurance Purposes	<input type="checkbox"/>	<input type="checkbox"/>	
Other	<input type="checkbox"/>	<input type="checkbox"/>	
Is Recipient receiving Antiviral Therapy?	<input type="checkbox"/>	<input type="checkbox"/>	
<i>If Yes, Date Antiviral Therapy Commenced</i>			Date: _____

RECIPIENT'S PREVIOUS NEEDLESTICK HISTORY, IF APPROPRIATE

	YES	NO	DON'T KNOW	
Has the recipient ever had a previous needlestick injury?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	If Yes, Date: _____ Employment Location: _____
Was serum sent for testing?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	If Yes state Year: _____
Was serum stored for testing?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	If Yes state Year: _____
Was immunoglobulin given?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	If Yes state Year: _____

CURRENT MEDICATION (PLEASE GIVE DETAILS)

This form does not replace the Casualty Card Records



B. RISK ASSESSMENT OF SOURCE PERSON

DETAILS OF SOURCE PERSON:

	KNOWN	UNKNOWN
Is the Source Person	<input type="checkbox"/>	<input type="checkbox"/>

If the Source Person is Known:-

Name of Source Person: _____

Address: _____

Date of Birth: _____/_____/_____

Hospital Number: _____

Has the source person been previously tested for:-

	YES	NO	
Hepatitis B	<input type="checkbox"/>	<input type="checkbox"/>	Date: ____/____/____ Result: _____
Hepatitis C	<input type="checkbox"/>	<input type="checkbox"/>	Date: ____/____/____ Result: _____
H.I.V	<input type="checkbox"/>	<input type="checkbox"/>	Date: ____/____/____ Result: _____

SOURCE ITEM (e.g. Sharps, Needles, Instrument):

Location of Source Item at the time of the incident: _____
Description of Source Item: _____

	YES	NO
Is Source Item categorised High Risk? (See Guidance Document)	<input type="checkbox"/>	<input type="checkbox"/>

C. SEROLOGICAL TESTING OF RECIPIENT AND SOURCE FOR CURRENT INCIDENT.

	RECIPIENT		SOURCE	
	YES	NO	YES	NO
Has informed written consent been obtained for Serological Testing?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Has Serum been sent for Urgent Testing?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Have results been received?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Has Serum been taken for Storage, Laboratory of Storage: _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

D. ACUTE MEDICAL MANAGEMENT OF RECIPIENT.

Information for Attending Physician Undertaking the Initial Risk Assessment of current Percutaneous Incident:-

The definitive guidelines for the management of needlestick injury are located in the Eastern Regional Health Authority's guidance document for Health Board managed Health care facilities for the prevention and management of percutaneous injuries and other exposure incidents.

- For Risk Assessment and Classification of incident refer to Section 4.
- If the incident is graded as a potential high-risk, advice must be sought immediately from HIV Medical Specialist for further management. (See below)*
- If incident is assessed as medium/low risk see Section 4 and Flow Sheets for management.

*For potential high risk percutaneous injuries, attending Medical Officer should seek advice from: (nominations still to be clarified)

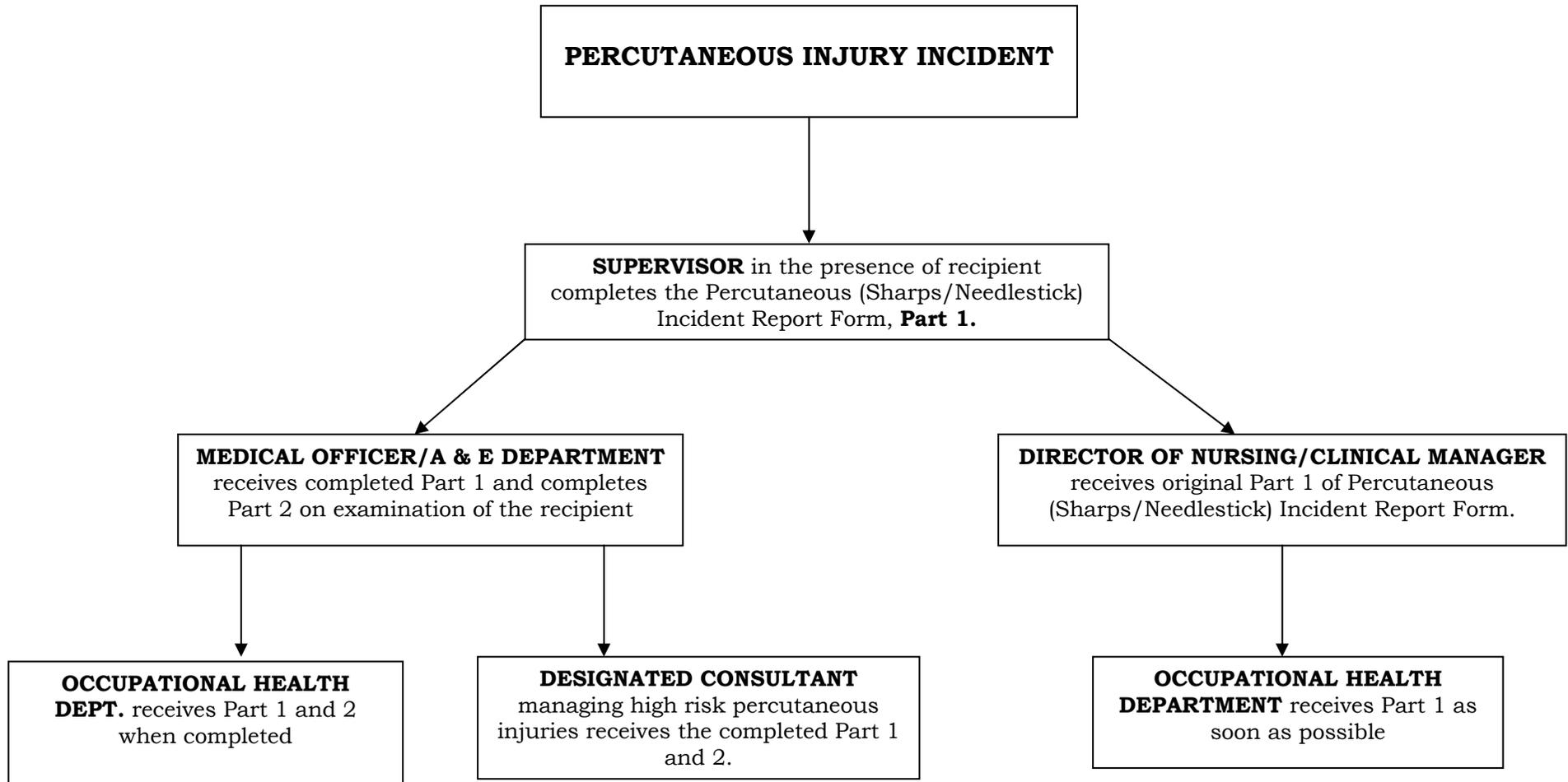
Signature: _____

Attending Medical Officer: _____

Date: _____

APPENDIX 2

Summary of Documentation Trail of the Percutaneous (Sharps/Needlestick) Incident Report Form



APPENDIX 3

Implementation issues to be addressed:

- Who will be responsible to gather information and arrange for serology testing and counselling of the source person if known?
- Who will counsel the recipient?
- Resources will be required to implement this document with respect to personnel in Occupational Health Dept. and A&E Department.
- Training will be required for:
 - Supervisors
 - A&E – NCHD
 - Counsellors
 - Occupational Health Department personnel.
- Assessment of needlestick injuries of HCW need to be fast tracked in A&E Depts.
- Access to Consultant Specialists in managing needlestick injuries needs to be clarified.
- This document is written for HCW in Area Health Board managed Health care facilities only. The management of needlestick injuries throughout the Eastern Regional Health Authority needs to be co-ordinated. This would require further consultation with appropriate professionals in the Eastern Regional Health Authority.