Biohazard Exposure Management PHC Remote CAHS Guideline

<table>
<thead>
<tr>
<th>Target Audience</th>
<th>All Clinical Employees</th>
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<tbody>
<tr>
<td>Jurisdiction</td>
<td>Primary Health Care Remote CAHS</td>
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<tr>
<td>Jurisdiction Exclusions</td>
<td>N/A</td>
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<td>Document Owner</td>
<td>Kerrie Simpson</td>
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<td>Atlas Development Officer Primary Health Care Remote CAHS</td>
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<td>Brycen Brook</td>
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<td>Director Nursing and Midwifery Primary Health Care CAHS</td>
</tr>
<tr>
<td>Author</td>
<td>PHC Safety and Quality Team</td>
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The attributes in the above table will be auto-filled from the PGC System. Do not update in this document.

**Purpose**

Primary Health Care Remote CAHS Guideline to provide guidance to staff on managing biohazard exposure.

**Guideline**

1. **General Information**

A biohazard injury occurs when broken skin, conjunctiva, or mucosa of the nose and/or mouth are exposed to the blood or body fluids of another person. These include needle-stick punctures, scalpel cuts, bites, scrapes and cuts where the integrity of the skin or mucous membranes have been compromised and includes splashes of blood and or body fluids including amniotic fluid.

Occupational exposures to blood / body fluids from a high risk source person or a high-risk event require assessment within two hours of exposure and the need for HIV Post Exposure Prophylaxis determined.

2. **Definitions**

**HIV:** Human Immunodeficiency Virus

**HTLV-1:** Human T-cell Lymphotropic Virus Type 1

**Index Case:** The person from which the blood or body fluids originated in the event of a biohazard injury. Also referred to as the source person.

**Recipient:** Is the person exposed to a biohazard injury. Also referred to as the injured person or exposed person.

3. **Responsibilities**

3.1 **Central Australia Health Service Primary Health Care Remote Staff**

- Observe infection control principles - Standard and appropriate Additional precautions and Sharps Handling
- Observe Staff Immunisation recommendations
- Utilise Personal Protection Equipment as required
- Immediately report any biohazard exposure to the Primary Health Centre Manager and / or Manager
- Submit an as required

3.2 Primary Health Centre Manager (PHCM)
- Ensure infection control standards and biohazard exposure protocols are followed
- Ensure the provision of and encourage staff to utilise Personal Protection Equipment as required
- Assist staff with managing a biohazard injury

3.3 Medical Practitioner
- Provide medical assistance as required – refer to 4.1.2

3.4 Centre for Disease Control (CDC)
- Provide advice regarding clinical management following biohazard exposure as required
- Monitor notifiable diseases in accordance with the Notifiable Diseases Act

4. Procedure

Body fluids pose a risk for blood borne virus transmission and include:
- Blood, serum, plasma, and all biological fluids visibly contaminated with blood
- Laboratory specimens that contain concentrated virus
- Pleural, amniotic, pericardial, peritoneal, synovial and cerebrospinal fluids
- Uterine / vaginal secretions or semen

Occupational exposure is considered if one of the above body fluids comes in contact with another person during the course of work via:
- Percutaneous injury eg needle-stick or scalpel
- Non-intact skin. Skin integrity is considered compromised if there is evidence of chapped skin, dermatitis, abrasion or an open wound
- Eye splash
- Mucous membrane splash

Note: If the skin is intact it is not generally considered an exposure. However if the exposure was to blood, and the circumstances suggest a higher volume of exposure (eg an extensive area of skin was exposed and /or prolonged contact with blood) then exposure management procedure should be followed.

4.1 Exposure Management Procedure

The immediate management including first aid, risk assessment and consideration of post exposure prophylaxis is considered a medical emergency in terms of timeliness and resource allocation.

4.1.1 Recipient (Injured / Exposed Person) - General Instructions

Immediately Perform Basic First Aid
- Wash needle-stick injury and cuts with soap and water after gently bleeding. Cleanse with an antiseptic solution and apply a dry dressing.
- Flush splashes to the nose, mouth, or skin with copious amounts of water. Irrigate eyes with clean tap water, sterile water for irrigation or sterile saline.
- If required, remove soiled clothes and place in plastic bag. Wash affected skin area thoroughly with soap and water.
Report Incident

- All staff should report the incident to the immediate supervisor
- Report the incident to a Medical Practitioner providing the following information:
  
  Describe the injury so the Medical Practitioner can determine the risk level of the event
  
  - state type of needle (hollow-bore or solid) or
  - instrument causing injury
  - degree of blood, bloody fluid contamination on needle / instrument from patient
  - depth of injury, if bleeding occurred
  - what first aid was carried out immediately
  - Hepatitis B immunisation history and whether seroconversion occurred
  - if the Index Case has been bled for testing / or not
  - the Recipient is reminded they are responsible to attend any follow up

Perform Testing

- Provide Pre-Test Information
  
  Collect blood for testing. Tests required:
  
  - HIV Ab
  - Hbs Ag
  - Hc Ab (if positive, then RNA PCR)
  - STS (Syphilis Treponemal Serology)
  - +/- HTLV –1 (include if Index Case is an Aboriginal Person from the Katherine or Central Australian Regions)

- Send blood specimens and request forms to laboratory. The pathology request form is to be marked URGENT and RECIPIENT BIOHAZARD INJURY. Telephone the laboratory to notify them that samples have been sent. The optimum period to initiate prophylactic therapy is 24 hours. Ensure that blood specimens arrive at the laboratory and urgency of testing is communicated to laboratory staff.

Documentation and Follow up

- Thoroughly document all medical consultations, treatment, procedures and follow up within the Recipient’s Medical Record
- Follow the incident reporting process and complete an incident report via the RiskMan system as soon as practical

4.1.2 Index Case (Source Patient) - General Instructions

Ideally a Medical Officer should manage the Index Case although this may not be an option available in a remote health centre. If a Medical Officer is not available to manage the Index Case, in the first instance a staff member other than the Recipient, in consultation with a Medical Officer, is recommended.

Informed Consent

This must be obtained from the Index Case to perform any testing. Agreement to undergo testing is voluntary. Index Case clients are under no legal obligation to comply with this request.

Perform Testing

- Provide Pre-Test Information
- Collect blood for testing. Tests required:
  
  - HIV Ab
- Hbs Ag
- Hc Ab (if positive then, RNA PCR)
- STS (Syphilis Treponemal Serology)
- +/- HTLV-1 (include if Index Case is an Aboriginal Person from the Katherine or Central Australian Regions)

- Send blood specimens and request forms to laboratory. The pathology request form is to be marked **URGENT** and **INDEX CASE BIOHAZARD INJURY**. A copy of test results should be requested for the [regional] Centre for Disease Control. Telephone the laboratory to notify them that samples have been sent. The optimum period to initiate prophylactic therapy for the recipient is 24 hours. Ensure that blood specimens have arrived at the laboratory and urgency of testing is communicated to laboratory staff.

**Note:**
- Previous syphilis results / history may be available through the CDC database
- Check the Index Case Medical Record. A history of a Hepatitis B Surface Antigen positive result negates further Hepatitis B testing
- If the Index Case is HIV positive, obtain list of current medications and contact the Infectious Disease Registrar on call

### Documentation and Follow-up

- Thoroughly document all medical consultations, treatment, procedures and follow up within the Index Case Medical Record
- Where a positive disease status is confirmed, documentation is to made in the Recipient Medical Record

#### 4.1.3 Pre-Test Information

Pre-test information is aimed at providing sufficient information to obtain informed consent without causing distress. As a guide the following points should to be discussed:

<table>
<thead>
<tr>
<th>Recommended points to discuss when providing Pre Test information:</th>
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<tbody>
<tr>
<td>Particular behaviours are considered to place a person at a higher risk of infection. High risk behaviours include: sexually active people with multiple partners, men who have sex with men, IV drug use, blood transfusion in the 1980’s, invasive medical/dental procedures overseas, having tattoo’s or body piercing performed by an unregistered / unlicensed person.</td>
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<tr>
<td>If exposed to a Blood Borne Virus it may take up to 3 months before antibodies are detected in the blood. This is known as the window period. The Recipient has the potential to be infectious during this period and should be informed to take precautions not to infect others e.g. practice safe sex, ensure level of safe work practices, avoid blood and body fluid donations, and avoid pregnancy.</td>
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<tr>
<td>There should be an explanation of the procedure of testing; how long it will take before a result comes back and what will happen should the result turn out to be positive. Initial positive test results will require confirmatory tests.</td>
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<tr>
<td>Blood tests are looking for evidence for infection of HIV, hepatitis, syphilis and +/- HTLV-1</td>
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<tr>
<td>There is a difference between testing positive to HIV and having AIDS. If results returned are positive for HIV a repeat test will be required to confirm results.</td>
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<tr>
<td>Treatments are now available for HIV/AIDS. People live for a long time and stay healthy even with AIDS.</td>
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<td>Written consent is not necessary but consent must be informed, therefore use a translator if necessary to ensure informed consent is obtained.</td>
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<td>Follow-up: document the arrangements made to give results in person, or the alternative arrangement made for the patient to receive their results (eg via their personal Medical Practitioner or General Practitioner (GP). Always ask that they come back to receive their results.</td>
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4.1.4 General Information

**Hepatitis B**

Health Care Workers who have received HBV vaccination and have developed immunity to the virus are at virtually no risk of infection (ie documented history of Hbs Abs >10IU/mL).

For the non-immunised / non-responder person the risk of infection from an occupational injury depends on the route of transmission of body fluid, and how infective the body fluid is (which depends on the infectivity of the source and the type of fluid).

Hepatitis B Immunoglobulin can provide a high level of protection to non-immune people who have been exposed to hepatitis B. It is optimal to administer within 24 hours of exposure, however is acceptable within 72 hours post exposure. The first dose of hepatitis B vaccination should be a double dose and should be given at the same time as the immunoglobulin.

**Hepatitis C**

Based on limited studies the risk of infection after exposure to HCV infected blood following a needle-stick or cut is approximately 1.8%. The risk following a blood splash is unknown but is believed to be very small; however HCV infection from a blood splash has been reported. No immunisation or post-exposure prophylaxis exists for hepatitis C.

**Human Immunodeficiency Virus**

The average risk of HIV infection after exposure to HIV following a needlestick or open/fresh cut infected blood is 0.3%. The risk of infection from HIV positive blood exposure to intact skin is <0.1%. The risk increases slightly with skin damage, volume of blood and duration of exposure. The risk of infection from HIV blood exposure to eye, nose or mouth is estimated on average to be 0.1%.

**Human T-cell Lymphotropic Virus Type 1**

This is a blood born virus rarely causing disease. There is no evidence that it has ever been transmitted in an occupational injury. No prevention or treatment is available.

**Syphilis**

Transmission through occupation exposure may be possible. Syphilis is treatable with penicillin.

**Tetanus**

Few biohazard injuries are tetanus prone. However where someone's immunisation is overdue consider giving ADT or DTPa.

4.2 Biohazard Exposure from an Index Case known to have HIV, Hepatitis or HTLV-1

In the event of a high level biohazard injury, that is when the Index Case is known to be HIV antibody positive or Hepatitis B or C antibody positive etc the staff member needs to be advised and counselled by either the Infectious Diseases Physician or Infectious Diseases Registrar on call.

4.2.1 HIV

Requires urgent attention. Should the Infectious Disease Team determine Post Exposure Prophylaxis (PEP) necessary, staff will be sent to a DHF hospital for assessment and or treatment. PEP should commence as soon as possible within an optimum period of 72 hours post exposure.

4.2.2 Hepatitis B

For a non-immunised / non-responder Recipient's, offer Adult dose of HBIG and 1st dose (double normal dose) of Hepatitis B Vaccine. Refer to CDC for ongoing management.
4.2.3 Hepatitis C
Refer to CDC.

4.2.4 Syphilis
Dependent on the Index Case syphilis serology the Recipient may be offered a single dose of IM Benzathine Penicillin 2.4 mega units (or equivalent treatment), and review in 6 weeks by a Medical Officer / GP. CDC advice should be sought.

4.2.5 HTLV-1
Refer to CDC immediately. Documented evidence of transmission via needlestick injury is limited in medical literature and currently there is no recognised regimen for prophylaxis however each case of exposure should be reviewed and managed in line with the latest available advice.

Document Quality Assurance

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<thead>
<tr>
<th>Implementation</th>
<th>Method</th>
<th>Responsibility</th>
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<tbody>
<tr>
<td></td>
<td>Document will be accessible via the Policy Guidelines Centre and Remote Health Atlas</td>
<td>Health Policy Guidelines Program Atlas Development Officer, Primary Health Care CAHS</td>
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| Review | Document is to be reviewed within 4 years, or as changes in practice occur | Atlas Development Officer, Primary Health Care CAHS |

| Evaluation | Evaluation will be ongoing and informal, based on feedback. Adverse events are entered on RiskMan and managed by the relevant manager | Atlas Development Officer, Primary Health Care CAHS Relevant manager |

Key Associated Documents

<table>
<thead>
<tr>
<th>Forms</th>
<th>RiskMan down time form (ONLY to be used in the event of outages)</th>
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<thead>
<tr>
<th>Key Legislation, By-Laws, Standards, Delegations, Aligned &amp; Supporting Documents</th>
<th>Personal Protection Equipment</th>
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<tbody>
<tr>
<td></td>
<td>Implementation of an Infection Prevention and Management Program Hospital Network Policy</td>
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<td></td>
<td>Notifiable Diseases Act</td>
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<td>Notifiable Diseases to be Reported in the NT</td>
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Evidence Table

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<th>Method</th>
<th>Evidence level (I-V)</th>
<th>Summary of recommendation from this reference</th>
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