



# NEEDLESTICK INJURIES, BLOOD OR BODY FLUID EXPOSURE INFORMATION AND TEST FORMS

Hepatitis B, Hepatitis C and HIV may be contracted through exposure to any body fluid, particularly blood.

## IMMEDIATE ACTION IS EXTREMELY IMPORTANT

**Exposures must be reported as soon as first aid has been completed**

### STEP 1: FIRST AID

1. Immediately rinse the affected area under running warm water for at least 3 minutes.
2. If there is a puncture wound, squeeze it gently to flush out any contamination.
3. Paint puncture wound with povidone-iodine (Betadine) or Isopropyl Alcohol.
4. Cover with a dry, water proof dressing.

### STEP 2: NOTIFY THE GENERAL PRACTITIONER

Notify a general practitioner to arrange specimen collection. The GP may also choose to contact a hospital Clinical Microbiologist or Infectious Diseases Physician.

To ensure your results will be managed appropriately, refer to your workplace infection control protocols for blood/body fluid exposures.

The GP in consultation with a Clinical Microbiologist / Infectious Diseases Physician On Call may decide that post exposure prophylaxis is needed, which should be administered within hours of exposure.

Prophylaxis is used to reduce the risk of developing disease, therefore PROMPT REPORTING OF NEEDLESTICK / BLOOD/BODY FLUID EXPOSURE IS IMPORTANT to ensure appropriate management measures.



## STEP 3: COLLECT SOURCE PERSON & EXPOSED PERSON BLOOD SPECIMENS

- Inform patient (source) of exposure and give Patient Information sheet. (NB See guidelines for obtaining consent for testing source blood).
- Take SOURCE PERSON and EXPOSED PERSON bloods using SST (yellow top) tubes. (NB Testing can also be performed on EDTA, heparin, sodium citrate, ACD or CPD tubes)
- Label the bloods CORRECTLY
- Fill out the SOURCE PERSON and EXPOSED PERSON lab forms provided in this pack.
- On the lab forms record the name and contact details of the General Practitioner you notified. The exposed and source forms must also indicate who the results are to go to i.e. specified General Practitioner, workplace occupational health or infection control supervisor, manager.
- Place blood tubes in specimen bags with forms.
- The source person can now leave

## STEP 4: SEND THE COMPLETED FORMS & BLOODS TO THE LAB *URGENTLY*

- Send bloods & forms to the lab **URGENTLY**. Contact the laboratory on 381 5900 ext 818 (the main laboratory reception) to arrange a courier collection between 7am—5.30pm. Inform them that SOURCE PERSON and EXPOSED PERSON specimens are to be sent **URGENTLY** to the laboratory. Remember to provide BOTH specimens' identity details.
- If in the event it is after normal laboratory hours ph 381 5900 and choose the message option to transfer your call to Wellington Hospital laboratory.

Normal Aotea Pathology laboratory hours are:

Monday—Friday:	07:30-20:00
Saturday :	08:30-15:00
Sunday:	09:00-12 midday

## STEP 5: REVIEW OF RESULTS AND FOLLOW-UP TESTING

- The laboratory will contact the person managing the results. This person is responsible to ensure results are communicated and may have to arrange prophylaxis for the exposed person.
- Follow-up blood test forms are provided in the **GUIDE TO FOLLOW UP TESTING FOR BLOOD OR BODY FLUID EXPOSURES AND NEEDLESTICK INJURIES** information pack. Follow-up testing of the exposed person should occur at **6 weeks, 3 and 6 months** post-blood/body fluid exposure. Refer to Aotea Pathology's [Guide to Follow Up Testing for BBFEs](#) (available on Aotea Pathology's website.)

**SOURCE PERSON**

REQUEST FORM for  
NEEDLESTICK INJURY & BLOOD/BODY FLUID EXPOSURE (BBFE) TESTING  
**URGENT**

To ensure rapid service use this form for a blood sample from the individual who is the Source of the blood or body fluid.

**1. REQUESTOR DETAILS**

Requesting Practitioner: \_\_\_\_\_ NZMC #: \_\_\_\_\_  
 Contact Daytime Phone no: \_\_\_\_\_ After Hours Phone No: \_\_\_\_\_  
 Name of person who will be managing results (e.g. GP, workplace occupational health or infection control person, manager)  
 \_\_\_\_\_ Position/Title \_\_\_\_\_  
 Contact Daytime Phone no: \_\_\_\_\_ After Hours Phone No: \_\_\_\_\_  
 Cell phone No: \_\_\_\_\_ Date \_\_\_\_\_

**REQUESTOR ACTIONS**

Contact laboratory on 381 5900 ext 818 (the main laboratory reception) to arrange courier collection between 7am-5.30pm. Inform them that a SOURCE needlestick specimen is to be sent URGENTLY to the laboratory and provide the Source Person's identity details. Refer to "After Hours" instructions below if outside normal lab hours.

Please provide the phone number (including afterhours or cell phone number) to which the results on the source blood are to be phoned to – this may be to the General Practitioner, Occupational Health Supervisor or the Manager.

This person may have to arrange prophylaxis for the Exposed Person.

Normal Laboratory Hours: Mon – Fri 07:30 – 20:00 Sat 08:00 - 15:00 Sun 09:00 – 12 midday

**After Hours Instructions:** Testing out of normal lab hours will be performed at Wellington Hospital. To organise testing, phone 3815 900 and select the option on the phone message to transfer your call to Wellington Hospital. Wellington Hospital will contact an Aotea Pathologist for authorisation of afterhours testing.

**Wellington Hospital Staff to complete:**

Aotea Pathologist name \_\_\_\_\_ Notification Date & Time \_\_\_\_\_

Has Aotea Pathologist given approval for URGENT testing to proceed? Yes/No

**2. Collect a 5ml Yellow SST tube** (however alternative – EDTA, Heparin, sodium citrate, ACD, CPD tube may be used if SST unable to be obtained). Label specimen CORRECTLY.

**3. SOURCE PERSON DETAILS**

Source Person Full Name/Code: \_\_\_\_\_ Date of Birth: \_\_\_\_\_

NHI No. (if known): \_\_\_\_\_ Gender (circle one) Male/Female

Address \_\_\_\_\_

Do you want your results to be sent to your GP?: Yes / No (circle)

If YES:

Name of Dr \_\_\_\_\_ Location of Dr's Medical Centre \_\_\_\_\_

**4. INFORMED CONSENT BY SOURCE PERSON FOR BLOOD TEST:**

A staff member has been exposed to your blood/body fluid. We would appreciate it if we could undertake testing to ensure that the staff member is safe. Your test results will be released to their GP.

I understand tests for Hepatitis B, Hepatitis C and HIV will be performed on my blood specimen.

Consent signed by patient \_\_\_\_\_ Date \_\_\_\_\_

**INSTRUCTIONS TO AOTEA PATHOLOGY SPECIMEN RECEPTION STAFF:**

Enter request for **SNS** (Source Needlestick) profile. Immediately take specimen to, or inform Biochemistry Write up person (381 5900 ext 844) when data entry complete. **Hubs—also "Red Bag" specimen**

**If this is a Dental Needlestick** Enter as "Industrial" **I bill type.**

**EXPOSED PERSON**NEEDLESTICK INJURY, BLOOD/BODY FLUID  
EXPOSURE TEST *REQUEST FORM***1. EXPOSED PERSON DETAILS**

First Name \_\_\_\_\_ Last Name \_\_\_\_\_ NHI No. (if known): \_\_\_\_\_

DOB \_\_\_\_\_ Workplace \_\_\_\_\_ Gender (circle one) Male/Female

Address \_\_\_\_\_

Date of Exposure \_\_\_\_\_ Time of Exposure \_\_\_\_\_

Date &amp; Time reported \_\_\_\_\_ Anatomical Site \_\_\_\_\_

**2. CONTACT PERSON AND GP DETAILS**

Name of person managing results (e.g. GP, workplace occupational health or infection control person, manager)

\_\_\_\_\_ Position/Title \_\_\_\_\_

Contact Daytime Phone no: \_\_\_\_\_ After Hours Phone No: \_\_\_\_\_

Cell phone No: \_\_\_\_\_

If the above is not your GP, do you want a copy of your results to be sent to them?: Yes / No (circle)

If Yes:

Name of Dr \_\_\_\_\_ Location of Dr's Medical Centre \_\_\_\_\_

**3. Collect a 5ml Yellow SST tube** (however alternatively – EDTA, Heparin, sodium citrate, ACD, CPD tube may be used if SST is unable to be obtained). Label Specimen CORRECTLY.**4. INFORMED CONSENT BY EXPOSED PERSON FOR BLOOD TESTS AND PROPHYLAXIS:**

I understand the risk of infection following accidental blood/body fluids exposure and am aware of the treatment options. I agree to having the following blood tests performed. Tests for Hepatitis B,C and HIV will be performed unless excluded (please cross out to exclude):

 Hepatitis BsAg (Diagnosis)  Hepatitis BsAb (Immunity)  Hepatitis C Antibody  HIV Antibody/Antigen

Exposed Person Signature \_\_\_\_\_

Date \_\_\_\_\_

**INSTRUCTIONS TO AOTEA PATHOLOGY SPECIMEN RECEPTION STAFF:**Enter request for **ENS** (Exposed Person Needlestick) profile. Immediately take specimen to, or inform Biochemistry Write Up person (381 5900 ext 844) when data entry complete. **Hubs—also “Red Bag” specimen.****If this is a Dental Needlestick** Enter as “Industrial” **I bill type.**

## EXPOSED PERSON

NEEDLESTICK INJURY, BLOOD/BODY FLUID  
EXPOSURE TEST REQUEST FORM  
*Continued*

### 5.NEEDLESTICK, BLOOD, BODY FLUID EXPOSURE DETAILS

Type of Exposure: (please tick)

- Splashing of intact skin only
- Mucous membrane or non-intact skin* exposure, i.e. splashing of nose/mouth/eyes/pre-existing wound/burn/chapped or broken skin.
- Percutaneous exposure*, i.e. needlestick or injury with other sharp object  
Approximate depth and volume \_\_\_\_\_  
Blood/other body fluid injected      Yes / No
- Scratch/bite* caused by another person.

Type of fluid:      (please circle)      blood / unknown / other \_\_\_\_\_

Source: (Please tick relevant box)

- Known (name & DOB) \_\_\_\_\_
- Unknown

Immediate action taken: (please tick)

- mucous membranes (nose, mouth or eyes) flushed with water
- wound/skin washed with soap and water
- other \_\_\_\_\_

Details of accident: Describe what happened, e.g. recapping needle, venepuncture mishap, splashed with other body fluids etc.

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*Note: Follow-up testing of the exposed person should occur at **6 weeks, 3 and 6 months** post-blood/body fluid exposure*

# SOURCE PATIENT INFORMATION SHEET

## INFORMED CONSENT FOR BLOOD TESTING FOLLOWING STAFF EXPOSURE TO BODY FLUID

You are being asked to give consent for your blood to be taken to test for the presence of Hepatitis B, Hepatitis C and HIV in your blood. A staff member has been exposed to your blood or other body fluid and there is a risk that if you are carrying one of the above mentioned viruses, then the staff member exposed could contract an infection. By establishing as soon as possible after the exposure whether or not you are carrying one of these viruses we may be able to offer the staff member treatment to prevent them from becoming infected.

Medical staff will give the results of the blood tests to your GP who will explain any consequences to you. It is suggested that you read the information given below about these viruses and ask the Aotea Pathology Pathologist/ Infectious Diseases Physician if you have any questions or points you may like clarified.

### INFORMATION

**Hepatitis B** is a virus which is transmitted by blood and body fluids from one person to another and can cause inflammation of the liver. Once infected, individuals may or may not get noticeably ill and many can fight off the virus and become non-infectious. Others, unbeknown to themselves, can end up carrying the virus for the rest of their lives and remain a possible source of infection to other people that are exposed to their blood or body fluid.

**Hepatitis C** is another virus which can cause liver inflammation. It is also carried in the blood but is less likely to be carried in other body fluids. Again individuals may not be aware that they have been infected and can end up carrying the virus for the rest of their life. With current technology it is difficult to be certain which infected people are contagious and so everyone with evidence of past infection must be treated as though they are a potential source of infection to others. If positive you will require some medical advice concerning follow-up.

**HIV** is also a viral infection mostly found in blood but also in other body fluids. Infected individuals may not develop significant illness for many years but are still a source of infection to others exposed to their blood or body fluid. If positive you will require medical follow up and counselling about the way this will affect your life.

## General Information for the Exposed Person regarding Needlestick, Blood or Body fluid Exposure

This document is designed to provide further in-depth information for the reader which may help the reader understand the rationale behind decisions made by the on-call Microbiologist/Immunologist/Infectious Disease Physician when dealing with a needlestick, blood or body fluid exposure.

### Risk assessment

After first aid, the most important step in the management process is an assessment of the status of the source of the needlestick, blood or body fluid exposure. In addition, the severity of the exposure determines the risk of blood borne virus transmission. The risk assessment is undertaken urgently as initiation of post exposure prophylaxis (PEP) may potentially prevent a life-threatening disease. PEP is expensive and may have significant side effects, so an accurate risk assessment is important in ensuring PEP is only recommended when warranted. A Clinical Microbiologist/Infectious Diseases Physician is always available to follow up all reported needlestick, blood or body fluid exposures. In assessing whether an exposure has the potential to transmit a blood borne virus (BBV), considerations are:

- type of exposure
- type of body substance
- volume of blood or body fluids
- length of time in contact with blood or body fluids time elapsed since exposure.

Additional considerations after a sharps injury are:

- presence of visible blood or body substance on the device causing the injury
- type of device involved
- whether a hollow bore needle or solid sharp object
- procedure for which the device was used (for example, into a vein or artery)
- gauge of the needle or device
- time elapsed since use of device whether the injury was through a glove or clothing.

### Pretest Counselling

It is obligatory to offer counselling to the exposed worker. The doctor requesting the Source Person blood tests should explain the implications to the Exposed Person. Counselling should include the reasons for, and importance of:

- having blood tests soon after the exposure and for follow-up tests
- not donating blood until the final tests are clear
- practising safe sex until final tests are clear
- reporting any glandular fever like illness within 6 months of exposure
- avoiding pregnancy until the final tests are clear

## Risk of HIV transmission

The overall risk from a needlestick, blood or body fluid exposure from a known HIV positive source has been estimated at 0.3%. However, the factors above determine whether the exposed person is at more or less risk.

A six year retrospective study (Henry and Campbell, 1995) of health care workers exposed to known HIV-infected blood, identified the following factors as being associated with HIV transmission:

- deep injury
- a device visibly contaminated with blood
- procedures involving a needle placed directly in a vein or artery
- terminal illness in the source.

Reviews of the literature show that most cases of HIV seroconversion after occupational exposure occur after percutaneous injury from a hollow bore needle (very few are related to mucocutaneous exposures) often after venepuncture.

## Risk of Hepatitis B Virus (HBV) transmission

It is important to remember that while much of the documentation on risk relates to HIV, the risk of Hepatitis B Virus (HBV) transmission to a non-immune person is much greater than for HIV. While all health care workers are encouraged to take up vaccination, not all have done so and some remain non-responders to vaccination. The risk of HBV transmission to a non-immune person from a single needlestick, blood or body fluid exposure is more than 30% if the source is hepatitis B 'e' antigen positive, and less than 6% if the source is surface antigen positive, but 'e' antigen negative.

## Risk of Hepatitis C Virus (HCV) transmission

The risk of Hepatitis C Virus (HCV) transmission from a single needlestick, blood or body fluid exposure from a confirmed HCV positive source is about 1.8%, but this rose to 10% in a study where the source patients had HCV RNA in their blood (tested by PCR). Two international studies of occupational transmission of HCV suggest that the risk factors are similar to HIV – predominantly from needlestick injury with a large bore needle used for drawing blood.

No HCV vaccine currently exists and neither immunoglobulin nor antiviral therapy are recommended as post-exposure prophylaxis.

## Post exposure prophylaxis (PEP)

If the exposure is considered significant (i.e. able to transmit a BBV if the source were infectious) then Post Exposure Prophylaxis (PEP) for HBV, HIV and Tetanus should be considered immediately. There is no PEP for Hepatitis C.



## HIV PEP

In situations where there is significant potential for HIV transmission, post-exposure prophylaxis with 2-3 anti-retroviral agents is recommended. It is preferable to start PEP within a few hours if possible, but can be started up to 72 hours of exposure. The risk assessment and decision to start PEP must be made in conjunction with the on-call Infectious Diseases physician/Clinical Microbiologist. Follow up of any person commenced on PEP should be arranged with the Infectious Diseases service at CCDHB.

The following will be discussed by the on-call Infectious Diseases physician/Clinical Microbiologist with the exposed person before commencing PEP:

- A detailed assessment of the exposed person's risk
- That HIV PEP is an experimental, not a proven therapy
- It is a 4 week course of oral therapy
- There can be difficulties taking PEP (especially if working)
- Side effects - 30- 40% in several studies do not complete the course due to side effects—it is important that the exposed person knows the difference between PEP side effects and seroconversion symptoms
- It is the exposed individual's choice whether to take PEP and the individual can stop at any time
- The risks of using PEP during pregnancy

## HIV PEP Side Effects

- All antiretroviral agents have been associated with side-effects, mainly gastrointestinal e.g. nausea or diarrhoea
- Serious side-effects have been reported with the use of combination drugs for PEP
- All of the approved antiretroviral agents might have potentially serious drug interactions when used with certain other drugs
- In occupational exposures for which PEP is not recommended, the potential side-effects and toxicity of taking PEP outweigh the negligible risk of transmission posed by the type of exposure
- Current underlying medical conditions or pregnancy may influence choice of prophylactic agents
- **Pregnancy testing should be offered** to all women of childbearing age **before PEP is undertaken**
- All exposed persons should be cautioned about potential risks of transmission of HIV to another person and precautions should be taken for 6 months until follow-up blood tests have all proven negative – at-risk individuals should not donate blood, tissue or semen – they should use condoms to protect sexual partners and avoid pregnancy

## HBV PEP

If the exposed person has ever had a blood test that demonstrates Hepatitis B (HBV) immunity – whether from infection or vaccination – there is no necessity for further boosters or hepatitis B immunoglobulin after a potential exposure to hepatitis B.

If the exposure is significant and the exposed person has not had demonstrated immunity to HBV, hepatitis B immunoglobulin can be given within 72 hours of exposure. After any exposure (whether significant or not) to a non-immune person who has not been vaccinated, it is advisable to commence a course of HBV vaccination. For a full discussion on the use and doses of HBV immunoglobulin and vaccination, refer to the New Zealand Immunisation Handbook (Ministry of Health).

## HCV PEP

No HCV vaccine currently exists and neither immunoglobulin nor antiviral therapy is recommended as postexposure prophylaxis.

## Tetanus PEP

If the exposure involves an injury from an object which may be contaminated with soil or dust, tetanus prophylaxis should also be considered. For a full discussion on the use, types and doses of tetanus prophylaxis refer to the New Zealand Immunisation Handbook.(Ministry of Health).

## Bites and Clenched Fist Injuries

Human bites, clenched fist injuries (which microbiologically are equivalent to human bites) and animal bites often become infected, that is why it is mandatory for the exposed person to commence the needlestick, blood or body fluid exposure process if they are faced with this situation. There is no risk of HIV, hepatitis B or hepatitis C transmission from an animal bite. The risk of HIV infection following a human bite is considered to be minimal as the saliva in HIV infected people has been demonstrated to contain insufficient quantities for transmission to occur. While there is the potential that other infectious diseases such as HBV, tetanus and to a lesser extent, HCV may be spread following a human bite, instances of this happening have rarely been documented.

The recommended management for bites and clenched fist injuries is thorough cleaning, debridement, elevation, immobilisation and prophylactic antibiotics. If obviously infected, a wound swab should be taken. In all cases, a patient's tetanus immunisation status must be assessed. The most commonly recommended antibiotic prophylaxis is amoxicillin-clavulanic acid. The Aotea Pathology Clinical Microbiologist/Infectious Diseases Physician may be consulted for further information.

## Blood testing of the Exposed Person

Blood testing will be performed on the exposed person to provide a baseline result against which to measure future test results. Because any infection resulting from the current exposure will not be evident by routine blood testing for some time, this testing may be performed up to two weeks after the exposure. The main reason to do an urgent blood test on the exposed person is to assess immunity against Hepatitis B virus, by measuring Hepatitis B Surface Antibodies.

Note: Follow-up testing of the exposed person should occur at **6 weeks, 3 and 6 months** post-blood/body fluid exposure. Refer to Aotea Pathology's [Guide to Follow Up Testing for BBFEs](#) (available on Aotea Pathology's website).