

## **Healthcare Worker Needle Stick Exposure – Hepatitis and HIV Algorithm**

A/ STAT requests in association with needle stick.

The initial screen testing for needle stick Hepatitis and HIV is being provided in Saskatchewan at one of three locations. Royal University Hospital Chemistry lab in the Saskatoon Health District, Regina General Hospital Chemistry lab in the Regina Health District and the Provincial Laboratory for all other regions of the province. All confirmatory Hepatitis and HIV testing is performed at the Provincial Lab. Two sources of blood are requested following a needle stick exposure:

1/ the source patient

2/ the healthcare worker

When determining whether the request for testing is STAT or not two factors should be scrutinised carefully:

1/ is the source patient considered a “high risk” exposure candidate ( IDU, Sex trade worker) and/or was healthcare worker advised to take HIV prophylaxis (anti-viral drugs).

2/ has the healthcare worker been vaccinated for Hepatitis B in the past and what is their immune status? The previously vaccinated healthcare worker who tests non-immune, should receive one dose of vaccine. (They should be followed up in one month: (1) if immune, follow-up is finished, (2) if still testing non-immune, need to finish the vaccine series.

If the health care worker has never received hepatitis B vaccine or is a non-responder to a course of vaccine, they should receive Hepatitis B immunoglobulin ASAP (within 72 hours) to be determined by the attending physician or occupational health nurse and an accelerated course of vaccine at 0,1,2 and 6 months. Note: if the source patient is surface antigen negative, the HBIG is not required.

If the answer is yes to the first factor, STAT blood testing should be initiated. The exposure source and healthcare workers blood samples should be sent and arrive at the testing lab together. The healthcare workers blood is for baseline serology. Notify the testing laboratory that STAT samples have been sent and how and when they are expected to arrive.

If the answer is no to the first factor the tests should be ordered ASAP and can be done first thing the next work day.

Needle stick test requests not meeting the STAT criteria should be ordered ASAP.

B/ Tests to be ordered:

On the source patient include Hepatitis B surface Antigen (HbsAg), anti-Hepatitis C (anti-HCV) and HIV.

On the healthcare worker, anti-Hepatitis B surface Antigen (anti-Hbs, AUSAB), HBsAG, anti-HCV and HIV. The later three test markers are for baseline serology.

\* Hepatitis “A” and Hepatitis “B core” are not considered part of the needle stick protocol.

C/ Requisitions.

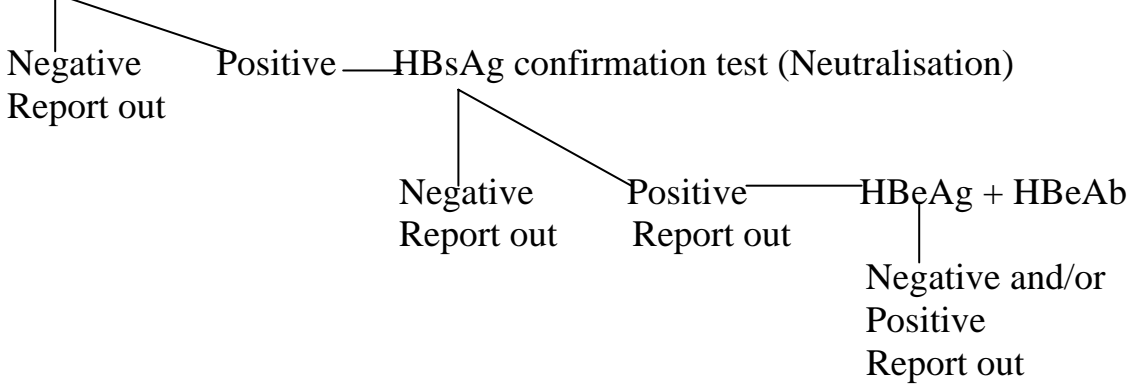
Fill out Provincial Lab Hepatitis and HIV requisitions in full (when sending to the Provincial Lab) requesting the proper tests. Please put the “complete” return address on the test request requisition(s). Samples with out this information will not be processed. The barcode stickers arriving on some requisitions give no indication of where the specimen originating from. Place the full identification of the patient on the hepatitis requisition and the proper HIV code identifier on the HIV requisition along with the complete DOB, day/month/year.

**\* Important \* Be sure to include the “name” and “phone number” of the person that the lab is to contact with the results. This person ( physician, health nurse, nurse or lab technologist in charge) should be available at that phone number indicated on the requisition to receive the results when testing is completed. The results will not be left on an answering machine unless it is a prearranged and known to be a secure system.**

\* Contact the Provincial Lab by phone, 787-2964 or 787-3131, to advise that a STAT request for testing, following a needle stick exposure, is being sent. Indicate how it is being transported and when it is expected to arrive at the lab. Follow up the phone contact by Faxing a copy of each of the completed requisitions to the Provincial Lab front office at 787-9122. Clearly mark “STAT” on the outside of the shipping container for rapid identification by lab staff.

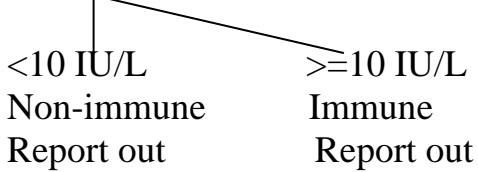
D/ Test algorithms:

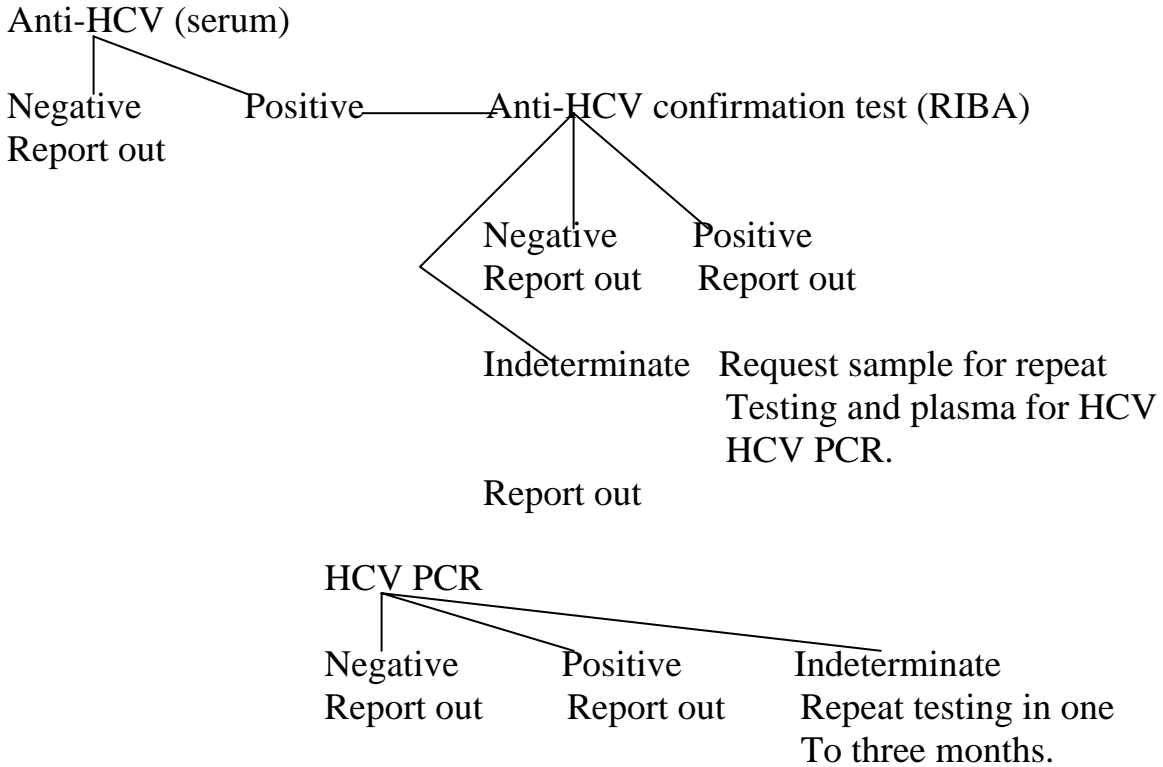
HBsAg (serum)



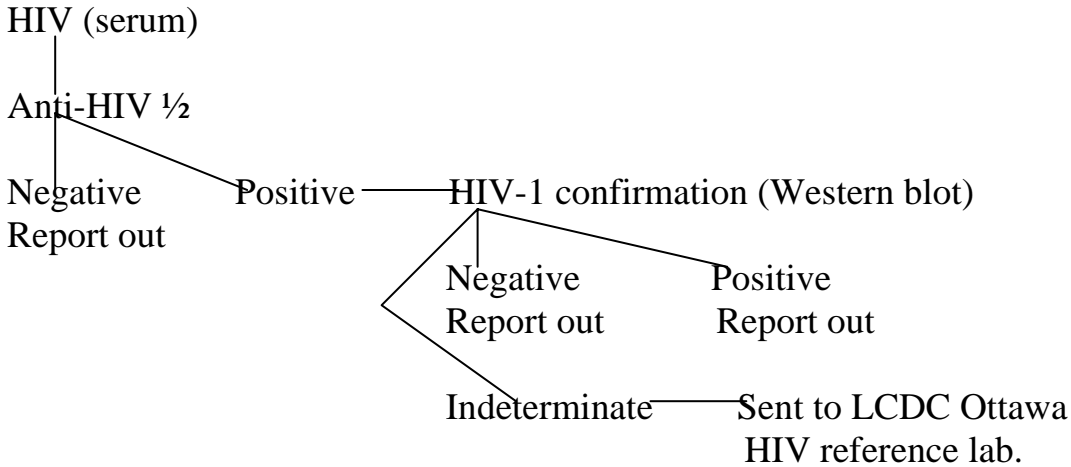
- A positive HBeAg indicates that a patient is highly infectious

Anti-HBs (serum)





- samples with a indeterminate result may be in the early stages of sero-conversion. A repeat sample should be collected three weeks to a month following the initial result and re-tested.
- A HCV PCR positive result indicates that HCV RNA is circulating, an active infection. A HCV PCR negative result would indicate no infection or the result is below the tests lower limit of detection. In case of a negative PCR and Indeterminate RIBA a three or six month sample follow-up protocol should be in place.



- tests performed at LCDC, HIV-1 and HIV-2 screen Elisa, HIV-1 and HIV-2 Western blot, HIV-1 RIPA (Radio-immuno-precipitate assay). If the result is Indeterminate at LCDC a sample for PCR is requested and a three to six month follow-up sample.

**\* In all Hepatitis and HIV test cases, “confirmation testing” will only be done on samples that screen test positive at one of the initial testing sites.**

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