THE PATHCARE NEWS

Laboratory investigations for possible occupational or non-occupational exposure to HIV and other blood borne pathogens

Risk of exposure to HIV

Southern Africa has a very high background prevalence of HIV infection, making exposure risk both inside and outside the occupational setting high. The approach to occupational, sexual and other forms of exposure (bites, assaults, trauma, injecting drug use, etc) is similar regarding routine baseline and follow-up investigations.

Risk of Transmission of HIV

The risk of occupational transmission is low. Average risk after needlestick injury (with no prophylaxis) = 3/1000 (0.3%).

Initial actions after exposure

Immediate cleansing of the exposed site if possible. Wash with soap and water or clean with antiseptic such as an alcohol-based hand hygiene agent. Other antiseptics (e.g. chlorhexidine) also inactivate HIV. Irrigate mucosal surfaces with water or saline.

Ideally post exposure prophylaxis (PEP) should be initiated within 1 to 2 hours (or sooner) after exposure to the body fluids from an HIV-infected person. It is still offered up to 72 hours after exposure and in rare cases up to 7 days post exposure.

Investigating the Source individual

IF SOURCE IS POSITIVE DO:
- POST TEST COUNSELLING
- TREAT / REFER

ROUTINE RESISTANCE TESTING OF SOURCE IS NOT RECOMMENDED

IF SOURCE CANNOT BE TESTED FOR WHATEVER REASON:
DEFAULT POSITION IS "THE SOURCE IS SEROPOSITIVE FOR ALL BLOOD BORNE PATHOGENS"

ON SOURCE
(As soon as possible)
1. HIV ELISA*
2. HBsAg ELISA
3. Hep C RNA

IF SOURCE IS ON ARVs DO HIV RNA PCR (VIRAL LOAD). IF ELEVATED CONSIDER GENOTYPING.
DO NOT DELAY THE START OF PEP.
IF VIRAL LOAD AND GENOTYPING IS NOT AVAILABLE AND RESISTANCE IS EXPECTED, USE A BOOSTED PROTEASE INHIBITOR AS PART OF THE PEP REGIMEN

IF SOURCE IS NEGATIVE FOR Hep C, EXPOSED PERSON DOES NOT HAVE TO BE FOLLOWED UP FOR Hep C

IF SOURCE CANNOT GIVE CONSENT (e.g. UNCONSCIOUS), FOLLOW NATIONAL GUIDELINES (e.g. SPOUSE MAY GIVE CONSENT)

TESTING OF NEEDLES, SHARPS OR OTHER SAMPLES IMPLICATED IN THE EXPOSURE IS NOT INDICATED:
- UNRELIABLE
- FURTHER RISK TO HEALTH CARE WORKER

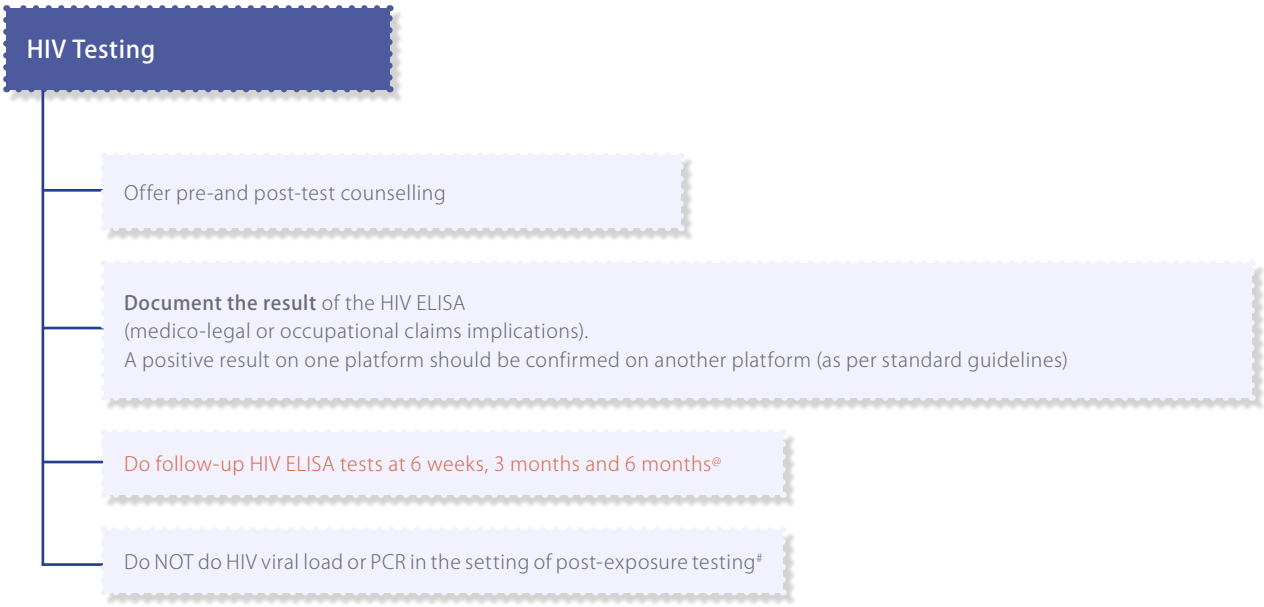
* If negative, enquire about possible exposure in the past 3-4 weeks. If the possibility exists, handle the exposed person as potentially exposed to a positive sample.

Investigating the Exposed individual

***Recommendation**: Any investigation on blood of the exposed person should be requested and the sample drawn by an **independent third party** (in case of future compensation claims)*

On EXPOSED (As soon as possible)
1. HIV ELISA
2. Hepatitis B (HBsAg, HBSAb, IgG anti-HBcore)
3. Hep C ELISA

HIV



@ A negative HIV ELISA at 6 weeks following exposure (without an interim re-exposure) will rule out HIV infection in the majority of cases. The 3 and 6 month follow-up testing is scheduled to detect the delayed seroconversion cases (which is very unusual). Routine testing of an exposed person at 12 months is not recommended as seroconversion after 6 months is very rare. However, exposed individuals should be properly counselled in this respect and testing provided if the individual requests it.

Quantitative viral loads may yield false-positive results, and may cause substantial anxiety. The time points after exposure when HIV PCR and viral loads become positive (should infection occur) may vary. Furthermore, PEP can delay infection and a negative PCR or viral load performed early after exposure does not exclude the possibility of HIV infection.

Seroconversion on PEP is extremely rare. Symptoms consistent with primary HIV infection (often described as a mononucleosis-like syndrome) may include fever, lymphadenopathy, sore throat, mucocutaneous lesions, myalgia/arthralgia, diarrhea, headache, nausea/vomiting and weight loss. The usual time from HIV exposure to the development of symptoms is two to four weeks, although incubation periods as long as 10 months have been seen. HIV viral load testing should be performed in these patients (with suspected acute retroviral syndrome) to make the diagnoses.

Hepatitis B

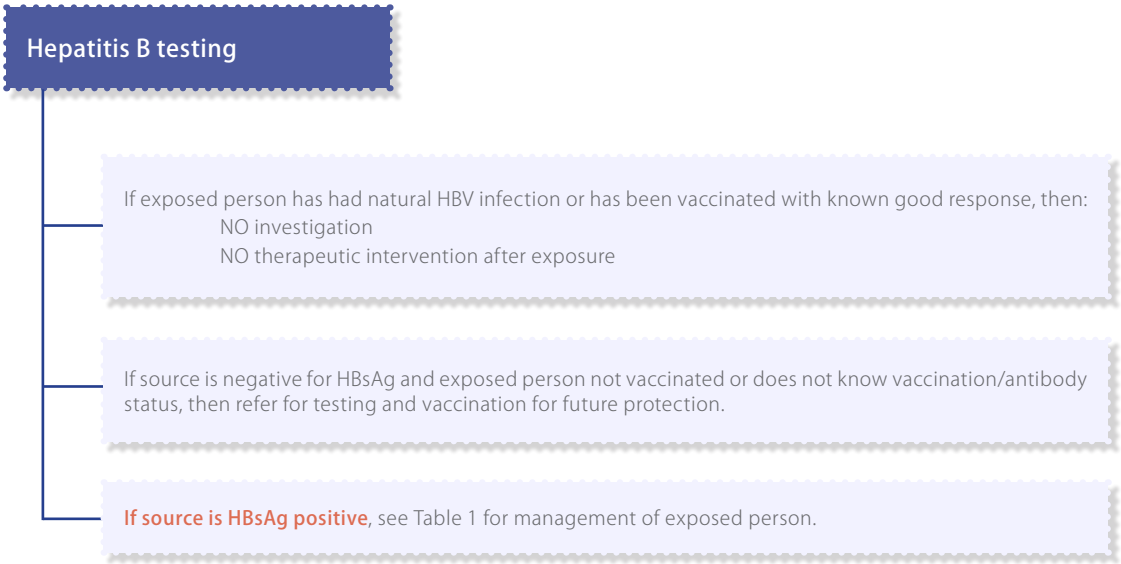


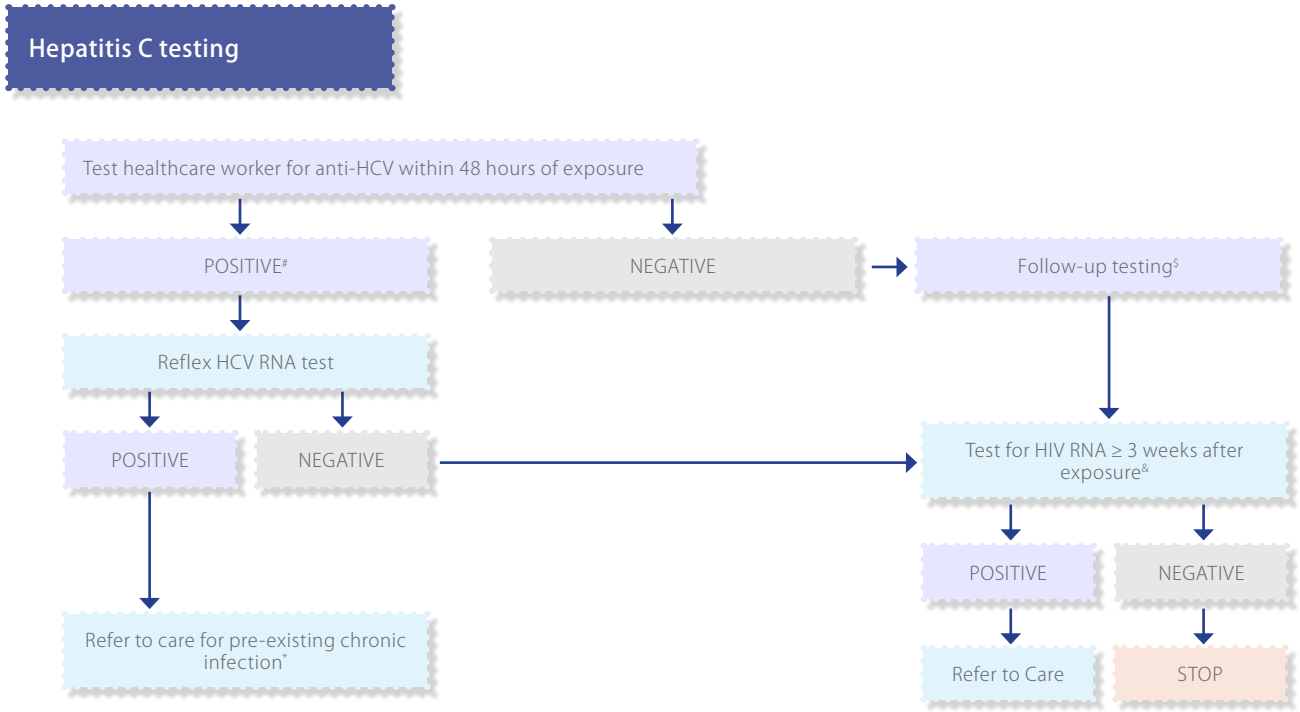
Table 1: Management of person exposed to a HBsAg-positive or unknown source

	ACTIONS TO BE TAKEN			
Vaccinated status of exposed person	**Anti-HBs**	**HBIG (0.06 ml/kg)**	**HBV vaccine**	**Comment**
Previous vaccination and known responder	None	None	None	
Not vaccinated	Do HBsAb. If anti-HBs > 10 mUI/mL, no treatment	If anti-HBs < 10 mUI/mL, give stat HBIG and repeat at 1 month	1st dose stat and proceed to accelerated schedule 1-2-12 months	HBIG and HBV vaccine can be administered concomitantly at different sites
Incomplete vaccination or unsure	Do HBsAb. If anti-HBs > 10 mUI/mL, no treatment	If anti-HBs < 10 mUI/mL, single dose HBIG stat	Complete depending on documentation or restart 0-1-2-12 months	As above
Vaccinated but unknown response	Do HBsAb. If anti-HBs > 10 mUI/mL, no treatment	If anti-HBs < 10 mUI/mL, single dose HBIG stat	Single booster stat	As above
Non-responder to primary vaccination	No	1 dose HBIG stat repeated after one month	1st dose stat and proceed to accelerated schedule 1-2-12 months	As above
Previously vaccinated with 4 doses or 2 completed vaccine series but **non-responder**		1 dose HBIG stat repeated after one month	Consider alternative vaccine (e.g. combination of HepA and HepB which gives better immune response)	As above

Hepatitis C

The risk for HCV infection after a needlestick or sharps exposure to HCV-positive blood, is about 1.8%. There is no prophylactic treatment currently available for a person exposed to the blood of a patient with hepatitis C virus infection. Persons experiencing a needle stick injury from a known or high-risk hepatitis C source should be monitored closely for acute hepatitis symptoms. Symptomatic patients and patients with detectable levels of HCV RNA in serum should be referred to a specialist for assessment and possible treatment.

Health Care Workers exposed to HCV should be tested as soon as possible after exposure for the antibody to HCV and if negative, test again at 3 and 6 months (if RNA testing is not used at earlier stage). Baseline liver function testing should also be done and be repeated at 3 and 6 months.



False positive anti-HCV results are possible

$ Anti-HCV testing at 3 and ≥ 6 months with reflex to HCV RNA test, if positive, could also be done

& A single negative HCV RNA test is considered sufficient to rule out chronic HCV infection when screening an HCV antibody-positive individual with no known ongoing risk of exposure. HCV RNA becomes detectable within 3 weeks after exposure even when the antibody is still undetectable. Persons developing symptoms of acute HCV infection such as jaundice may be tested earlier than 3 weeks, but if negative would require re-testing at ≥ 3 weeks.

*All patients with current HCV infection as evidenced by a positive HCV RNA test result should be referred to a practitioner with expertise in assessment of liver disease severity and HCV treatment.

Reference: www.cdc.goc/hepatitis

Others

Syphilis.

Routine testing of source should NOT be performed.

Counselling recommendations

BLOOD BORNE PATHOGEN	RECOMMENDATIONS
HIV	Should be advised to practice safer sex for a 6-month period and advise sexual partner(s) of the potential risk
	Pregnancy should be avoided for 6 months
	Breastfeeding should be stopped (consult an infectious diseases physician)
	Do not donate blood, semen, organs or tissue for 6 months
	Do not share razors, toothbrushes or needles
HBV	Risk of HBV transmission to sexual partner(s) of persons recently exposed who were non-immune and now receiving HBIG and/or the HBV vaccine series is unknown
	May consider safer sexual practices and should discuss with their partner(s)
	Do not donate blood, semen, organs or tissue for 6 months
	Do not share razors, toothbrushes or needles
HCV	Risk of sexual transmission is low (0.1%). The exposed person should advise their sexual partner(s) of the potential risk
	Transmission from mother to infant is rare
	There is no known prophylaxis for HCV
	Do not donate blood, semen, organs or tissue for 6 months
	Do not share razors, toothbrushes or needles

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