衞生防護中心
Centre for Health Protection

Scientific Committee on AIDS and STI (SCAS)

Recommendations on Post-Exposure Management for HBV, HCV, and HIV Following Exposure to Blood or Other Body Fluids

Background

The Scientific Committee on AIDS and STI (SCAS) updated its recommendations on post-exposure management for hepatitis B virus (HBV), hepatitis C virus (HCV) and human immunodeficiency virus (HIV) infection prevention, following exposure to blood or body fluids taking reference from major updates in international guidelines[1,2,3,4]. This document includes discussion on post-exposure management in both occupational and non-occupational settings, updated management for acute hepatitis C infection, newer antiretroviral agents used for post-exposure prophylaxis (PEP) for HIV, and transition to preventive care pathway for those with ongoing risk exposure for HIV in non-occupational settings. It supersedes the paper "*Recommendations on the Management and Post-exposure Prophylaxis of Needlestick Injury or Mucosal Contact to HBV, HCV and HIV*" issued by SCAS and Infection Control Branch, Centre for Health Protection in January 2014.

Scope

2. The principles outlined in this document are applicable to the management of blood-borne pathogens including HBV, HCV and HIV following exposure to blood or other body fluids in both occupational and non-occupational settings. For assessment and management of individuals

at risk of HIV exposure under non-occupational settings that involves further risk stratification according to the type of exposure, references can be made from SCAS' "*Recommendations on the Use of Non-Occupational Post-Exposure Prophylaxis against HIV*"[5].

3. Occupational setting refers to the specific work environments where workers are exposed to blood or other potentially infectious body fluids, e.g. within healthcare facilities, emergency services, laboratories and waste management etc. While non-occupational setting refers to environments outside of traditional workplaces which include, but are not limited to, exposures in household setting, in community setting, during sexual or injection drug use behaviours.

Guiding Principles

4. This set of revised guidelines is recommended according to the following principles:

(a) An integrated approach is taken by considering collectively the most important blood-borne infections, i.e. HBV, HCV and HIV.
(b) Risk assessment and counselling constitute the basis of post-exposure management which led to specific options of PEP when appropriate. As such, case-by-case evaluation is crucial.
(c) Local perspectives as well as scientific evidence and international developments were considered in putting forth the recommendations.

Types of Exposure Posing Risks of Transmission

5. Blood and visibly blood-stained body fluids are potentially infectious and carries a risk of transmission of blood-borne infections including HBV, HCV and HIV. Potentially infectious body fluids include cerebrospinal fluids, synovial fluid, pleural fluid, peritoneal fluid, pericardial fluid, amniotic fluid, semen and vaginal discharge. Notably, faeces, nasal secretions, saliva, sputum, sweat, tears, urine and vomitus are not considered infectious unless they are visibly bloody.

6. Both occupational and non-occupational exposure to blood or body fluids pose the risk of transmission of the aforementioned blood-borne infections. Common examples of occupational exposure include (a) percutaneous exposure (from needles, sharp instruments, bone fragments, human bites with breach of skin, etc.); (b) exposure via broken skin (abrasions, cuts, eczema, etc.); and (c) exposure via mucous membranes including the eye. Non-occupational exposures include the above occurring outside of occupational setting and the majority of cases who seek medical consultation involve exposures during sexual encounter and sharing of injection equipment.

7. Of note, with the implementation of standard precautions, provision of personal protective equipment and widespread adoption of safety-engineered devices, and enhanced training and education on infection control practices in the healthcare setting, the number of needlestick injuries and mucosal exposures occurring within healthcare settings have reduced dramatically over the past few decades and had remained at a low level in the past decade, while the number of non-occupational exposures has been increasing. Data from the Therapeutic Prevention Clinic (TPC), a service unit under Special Preventive Programme of the Centre for Health Protection of the Department of Health which provides post-exposure management on HBV, HCV and HIV for clients referred by medical practitioners for documented exposure to blood or other body fluids, confirms this trend.

The Three Blood-Borne Viruses and Their Transmission Risks

Hepatitis B virus (HBV)

8. Chronic hepatitis B (CHB), a liver disease caused by HBV infection, remains prevalent in Hong Kong. As derived from the results of Population Health Survey (PHS) 2020-22, about 5.6% of the Hong Kong population, which is about 410 000 people, have CHB[6]. The PHS 2020-22 found that the prevalence of hepatitis B surface antigen (HBsAg) was high at 7.8% among participants aged 35 to 84, and peaked at 8.4% among those aged between 35 and 54. In contrast, HBsAg prevalence was much lower in younger age groups (0.3% and 1.5% among those aged 15 to 24 and 25 to 34 respectively), who were mostly born after the implementation of universal neonatal HBV vaccination in

1988. The majority of individuals acquiring HBV in adulthood could develop acute hepatitis while only a small proportion may progress to CHB. About 15-40% of untreated people with CHB could develop cirrhosis and liver cancer during their lifetime[7].

9. The risk of contracting HBV infection through occupational exposure ranges from 18% to 30% depending on the type of exposure, the body fluids involved and the infectivity of the source[8]. Specifically, percutaneous injuries with hollow-bored, blood-filled needles from a source positive with hepatitis B e-antigen (HBeAg), which often signifies a high viral load, carry the highest risk of infection at 37-62%[9].

Hepatitis C virus (HCV)

10. As derived from the results of PHS 2020-22, the prevalence of viremic HCV infection was about 0.23%, a figure suggesting a consistently low prevalence of HCV infection in the general population in Hong Kong in the past few decades[6]. Notably, HCV infection prevails in some specific populations, such as people who inject drugs (prevalence of viremia HCV infection around 50%)[10,11] and people newly diagnosed with HIV infection (HCV prevalence 4.0%)[12]. Prevalence of anti-HCV positivity in new blood donors was below 0.1% in the last decade and it was estimated that some 0.2-0.3% of the population have been infected[13,14]. A majority of individuals infected with HCV would develop chronic infection, as spontaneous clearance in the absence of treatment occurs within six months of infection in about 25% of infected individuals only[15]. If left untreated, chronic HCV infection can lead to cirrhosis, hepatic decompensation and hepatocellular carcinoma (HCC)[13].

11. HCV does not transmit as efficiently as HBV. An estimated 0.2% of percutaneous exposures involving an HCV-positive source result in HCV transmission[16], while older literature reported that the estimated risk of contracting HCV through needlestick injury was 1.8% (ranged 0-7%)[17]. The variability might be partly explained by the mechanism of injury, sensitivity of the test used to detect infection and the HCV RNA status of anti-HCV-positive source, with higher risk of transmission when the source being HCV RNA positive[18].

Human immunodeficiency virus (HIV)

12. In Hong Kong, the prevalence of HIV in the general adult population is <0.1%. However, the prevalence is higher in certain populations, such as men who have sex with men (6.73% among sexually active MSM), people who inject drugs (1.25% among methadone clinic attendees), and female sex workers (0.73%)[19,20,21].

13. For cases of occupational exposure, it has been shown that certain features were associated with a higher potential of HIV transmission, which should be taken into account during risk assessment[22]. These include:

(a) injury with a device visibly contaminated with the source's blood;
(b) a procedure involving a needle which has been placed in a vein or artery; and
(c) deep injury.

14. The risk of acquiring HIV infection from occupational exposure to blood and body fluids is very low, but not zero. In Hong Kong, there has been no cases of occupationally acquired HIV infections diagnosed nor suspected. In the United States, 58 confirmed and 150 possible cases of HIV transmission via occupational exposure had been reported to the US CDC by 2013. Of these, only 1 confirmed case has been reported since 1999[23]. The average risks of HIV transmission after percutaneous and mucocutaneous exposure to HIV-infected blood were estimated to be 0.3% and 0.1% respectively.

15. In the setting of non-occupational exposure, the risk of HIV transmission differs in different types of exposure. It is prudent to be aware that not all exposures are the same and certain factors add to the risk of HIV transmission through the circumstances of exposure, for example, infectivity of the source and concurrent infection with other sexually transmitted infections (STIs), etc.

Post-exposure Management

First aid

16. Following any exposure, whether the source is known to pose a risk of infection or not, the wound should be washed immediately and thoroughly with soap and water. Antiseptics are not necessary as there is no evidence of their efficacy. All wounds should not be sucked or compressed as these actions would induce further micro-trauma. The exposed individual should then seek medical advice for proper wound care and post-exposure management.

17. For mucosal contact, such as spillage of blood or body fluids into the conjunctivae, the exposed mucous membranes should be flushed with copious amounts of water, and eyes should be irrigated with saline or water. Again, medical advice should be sought after first aid. ***Flowchart 1*** illustrates the general algorithm of management of exposure to blood and body fluids.

Reporting (for occupational exposure)

18. In cases of occupational exposure, healthcare institutions should ensure that a mechanism is in place and made known to all their staff to facilitate reporting and management of sharps injury and mucosal exposure in the occupational settings. Clear documentation and investigation of the circumstances of exposure are necessary. In addition, a surveillance system of exposure events should be set up to avoid similar incidents. In this endeavor, however, safeguard of privacy and confidentiality is of the utmost importance since such exposures often occur in the presence of co-workers.

19. According to a surveillance and reporting system for healthcare staff from the Department of Health (DH), 520 cases of sharp injuries and mucocutaneous exposure to blood or other body fluids were reported from 2007 to 2024, the vast majority (93.5%) of these were sharp injuries. In these occupational injuries, blood or blood products was the most common type of blood and body fluids exposed, which accounted for 58.6% of the cases, with saliva being the second most common blood and body fluids involved (34.4%).

Counselling

20. Until infection is ruled out, the person potentially exposed to HBV, HCV or HIV contaminated blood or body fluids should refrain from donating blood, plasma, organs, tissue or semen. Safer sex with condom is advisable. In the event when the incident has induced anxieties to an individual, counselling should be offered to address the psychological stress or specific concerns.

Management of exposure to HBV

21. The management of an incident of exposure to HBV involves proper risk assessment, counselling tailored to the needs of individual client, and the prescription of Hepatitis B immunoglobulin (HBIG) or HBV vaccination as appropriate.

22. The efficacy of HBIG and HBV vaccine for post-exposure protection can be referenced from the scene in perinatal transmission. A single dose of HBIG lowers the infection rate of infants born to HBsAg positive mothers from 92% to 54% at 1 year[24]. With multiple doses, HBIG becomes 70-75% effective[25]. The efficacy of protection is further increased to 85-95% by adding a standard HBV vaccination regimen to HBIG[26].

23. Following potential exposure to HBV, the hepatitis B status of the source and the exposed person should be ascertained whenever feasible. Vaccination history and place of birth are useful history to aid risk stratification in case the hepatitis B status is not available. Depending on the hepatitis B status of the source and the immune status of the exposed, HBIG administration and HBV vaccination may be required. The exposed person may be managed as in the case an incident involving a HBsAg positive source person if the hepatitis B status of the source cannot be ascertained (***Flowchart 2***).

24. If indicated, the first dose of HBIG should be given to the susceptible individual within 24 hours or preferably within 7 days after the exposure to provide immediate protection against HBV. A second dose of HBIG, given 4 weeks apart, is indicated for those known to be non-responder or hypo-responder to previous completed course of HBV vaccination. For those previously

unvaccinated, HBV vaccination is also advised after the exposure. The second dose of HBIG can be skipped if the exposed individual has initiated the HBV vaccination series.

25. For individuals who are unvaccinated or partially vaccinated, in particular those at risk of future exposure, it is recommended to complete a 3-dose HBV vaccination at a standard schedule of 0, 1 and 6 months. Under circumstances where the risk of hepatitis B transmission is substantial or for those requiring rapid protection, an accelerated course with the first three doses given quickly at 0, 1, 2 months, followed by a final dose at 12 months for long-term immunity can be considered[27].

26. As a rule, all individuals with potential risk of exposure to blood and body fluids, either at work or outside of work setting, are advised to receive HBV vaccination for the best protection prior to exposure. An anti-HBs antibody concentration of ≥10 mIU/mL measured 1-2 months after administration of the last dose of the primary series is considered a reliable serological marker of long-term protection against HBV infection. Non-responders are those with no detectable anti-HBs and hypo-responders are those whose ant-HBs titre are between 0-10 mIU/mL. Both non-responders and hypo-responders should complete a second 3-dose series and get retested one to two months after the completion of the second series. Non-responders to the initial 3-dose series have an 80% or above chance of responding to a second 3-dose series[28]. For those who still have anti-HBs less than 10 mIU/mL after the second series, they should be managed as non-responder and will require HBIG for protection in case of future incidence of exposure to HBV.

27. The level of vaccine-induced antibodies to HBV may decline over time, but immune memory could trigger an anamnestic response for protection against future exposure to HBV, regardless of the anti-HBs level at the time of the exposure. Hence, for people with on-going risk of exposure to HBV, documentation of the anti-HBs status is helpful in guiding the management of subsequent incidents involving potential exposures to HBV. In general, once an individual is documented with immunity, he/she would be considered as immune to HBV and does not require further post-exposure management with either HBIG or HBV vaccination. However, in immunocompromised

individuals, the need for post-exposure management should be reviewed on a case-by-case basis.

Management of exposure to HCV

28. Unlike HBV which is vaccine-preventable, the principle of HCV post-exposure management is to identify those with acute HCV infection early and refer them for assessment and treatment. At baseline, blood specimen for HCV antibody (HCV Ab) should be obtained from both the source and the exposed. While the specimen from the source would be tested right away, some laboratories would store the baseline sample of the exposed and performed subsequent testing after collecting the follow-up specimen at 6 months (and at 12 months if the source is HIV-HCV co-infected). If the follow up specimen collected is positive, the baseline specimen from the exposed will be retrieved for testing to diagnose seroconversion (***Flowchart 3***).

29. Baseline liver function test (LFT) should be checked for the exposed if the source is known to be having chronic HCV infection or is at risk of HCV infection with unknown HCV status (e.g. with current or history of injecting drug use). Furthermore, testing for LFT, HCV Ab and HCV-RNA should be performed between 6 and 8 weeks in order to capture those who develop acute hepatitis.

30. Currently, there is no effective vaccine or chemo-prophylactic agents for preventing HCV infection after exposure to blood or body fluids. However, HCV can be treated with an 8- or 12-week course of direct-acting antiviral agents (DAA) with a cure rate of over 95%[29]. DAA are generally well tolerated. Therefore, individuals who are found infected with HCV should be promptly referred for further evaluation and treatment by hepatologists.

Management of exposure to HIV

31. Post-exposure management for HIV mainly involves an individualised risk assessment and counseling to determine if the use of PEP with antiretroviral agents is recommended or not and to address if transition to preventive care pathway is necessary for those seeking PEP under non-occupational setting (nPEP). Initial assessment should include whether the source has HIV (and if yes, the viral suppression information), the type of body fluids involved, the route and nature of the exposure, presence of barriers at the time of exposure, whether the exposed person is on pre-exposure prophylaxis (PrEP), and the likelihood of HIV infection of the source person when HIV status cannot be ascertained.

32. In occupational settings, exposure to a patient who presents at the stage of acute seroconversion illness or with late, untreated infection more often associates with a high plasma viral load and thus carries a higher risk of HIV transmission [30]. High blood volume, deep injury and involvement of a hollow needle (versus solid needle) are other factors associated with higher risks of viral transmission. Exposure to urine, vomit, saliva and faeces are of lower risks unless they are visibly blood-stained. Gloves can effectively reduce the extent of exposure; and exposure to blood in the environment that has begun to dry up carries a lower risk of transmission[22].

33. Non-occupational exposures mainly include sexual exposures and sharing of injection equipment. Examples of different types of exposures and their respective risks of HIV transmission per exposure are outlined in ***Table 1***. Certain factors add to the risks of HIV transmission in these settings, examples include:

(a) High plasma HIV viral load in the source person as with acute infection or late, untreated infection;
(b) Presence of active STIs in either the source or the exposed person;
(c) Breaches of mucosal barriers such as genital ulcer disease and anal or vaginal traumas;
(d) Repetitive exposures would likely have occurred, e.g. during group sex; and
(e) Sexualised drug use (a.k.a. chemsex).

34. When assessing persons for nPEP, it is important to screen for other medical conditions that might be associated with the exposure. These include screening for safety (e.g. in case of sexual assault), mental health concerns, substance use disorder, pregnancy status, STIs, and other conditions as indicated by the clinical presentation. Referrals to respective care team may be needed for follow-up management of these conditions.

35. The exposed person should have baseline blood taken for laboratory-based HIV testing before initiation of PEP[28]. Other baseline workup includes renal and liver function tests, and pregnancy test as indicated. Oral fluid-based rapid HIV tests are not recommended for HIV screening in the context of PEP initiation as they are less sensitive for detection of acute or recent infection. It should be noted that PEP initiation should not be delayed while awaiting the baseline HIV test result.

36. Attempts should also be made as far as possible to identify the source and to determine his/her HIV status after pre-test counseling and verbal consent[31]. If positive, the plasma HIV viral load, resistance profile and treatment history should also be obtained. For source person with known HIV infection and is on antiretroviral therapy (ART) with sustained virological suppression, there is no risk of HIV transmission through sexual exposure ("undetectable = untransmittable"). In the context of sharps and mucocutaneous splash injuries, the transmission risk when the source person is on effective ART with suppressed HIV viral load is likely to be negligible. However, the use of PEP should be evaluated on case-by-case basis. High risks injuries, e.g. deep wound with hollow bore needle; concerns over source person's adherence to ART or viral control should prompt consideration of the use of PEP.

37. Nevertheless, the HIV status of source person is not always obtainable. Therefore, the likelihood of HIV infection of the source person has to be estimated based on clinical clues in the setting:

(a) Belonging to populations with a higher HIV prevalence, e.g. men who have sex with men, people who inject drugs, female sex workers etc.
(b) HIV-related risk behaviours, e.g. unprotected sex, multiple sex partners, needle sharing for drug injection, practice of chemsex etc.
(c) HIV-related illnesses, e.g. *Pneumocystis jiroveci* pneumonia, oral

thrush, etc.

38. If the exposure event constitutes a significant risk of HIV transmission, antiretroviral chemoprophylaxis should be considered. PEP should not be delayed for the purpose of investigating the source's HIV status. Findings from animal studies suggested that antiretroviral drugs would not be effective if begun more than 72 hours after exposure[32]. Therefore, PEP should be initiated as soon as possible, preferably within 1-2 hours after exposure, and continued for 28 days. Delayed initiation after 72 hours may be considered only on exceptional basis if the likelihood of benefits clearly outweighs the risks inherent in taking antiretroviral medications and the possibility of antiretroviral resistance should transmission occur. PEP should be stopped if at any point during the course the source person is confirmed to not have HIV.

39. A three-drug regimen should be used for PEP if indicated. In general, the three drugs include two nucleoside reverse transcriptase inhibitors (NRTIs) as the backbone and a third anchoring drug. There is currently limited data to support the use of two-drug regimen as PEP.

40. No comparative trial data on efficacy are available for different PEP regimens. Most international guidelines suggested the use of tenofovir disoproxil fumarate (TDF) and emtricitabine (FTC) as the NRTI backbone for the PEP regimen based on efficacy, tolerability and safety[1,2,3,4]. Compared to the previously recommended zidovudine-based regimen, TDF-based regimen has been shown to be better tolerated and hence resulted in a higher PEP completion rate[33].

41. Integrase strand transfer inhibitors (INSTI) are currently more commonly recommended as the third anchoring drug in the latest international guidelines because of its efficiency and tolerability[1,2,3,4]. Previous studies on raltegravir (RAL) have demonstrated better drug tolerance and completion rate compared to other regimens, although some mild side effects have been reported[34,35]. Dolutegravir (DTG), in combination with TDF and FTC, was also demonstrated to be well-tolerated and efficacious as PEP in an overseas study[36]. Bictegravir (BIC)-based regimen has also been suggested as an acceptable option in certain international guidelines[2,4].

42. Protease inhibitors (PI) can be used as an alternative to INSTI as the third anchoring drug. Examples include ritonavir-boosted darunavir (DRV/r)[37] and cobicistat-boosted darunavir (DRV/c). However, the potential drug-drug interaction with other concurrent medications have to be considered if a PI-based regimen is used.

43. Pregnancy is not a contraindication for PEP. A thorough risk assessment should be performed for women with childbearing potential prior to prescribing PEP. DTG was previously reported to be associated with an increased risk for neural tube defect[38]. Although later studies have no longer found the risks to be significant, it is prudent to avoid the use of DTG as the third drug in potential pregnant individuals when other options, such as RAL, are available.

44. Subjected to cost and availability, fixed-dose combination antiretroviral may also be considered in the setting where a lower pill burden may enhance adherence and completion rate. ***Table 2*** summarises information on the commonly used antiretroviral regimens for HIV PEP. It is noted that antiretroviral therapy is a rapidly changing field and the most updated information should be obtained before prescription. Experts in HIV medicine should be consulted if the source person is known or suspected to have antiretroviral resistance.

45. The Emergency Department of major public hospitals or clinics in private health sector are often the first place where an individual presents after exposure to blood or body fluids. It is advisable that the healthcare institutes decide on the appropriate starter PEP regimen(s) to stock and devise their own management protocol. Early referrals are then made for follow-up by physicians with more expertise in ART.

46. Adherence is critical for HIV PEP efficacy. Counselling and support should be given during PEP initiation and at follow-up to enhance adherence.

47. Exposed person should be informed on the limitation of baseline HIV testing in identifying HIV acquisition from recent exposure. This is to reinforce the importance of follow-up HIV testing. Symptoms of acute HIV infection,

such as fever, rash, or mononucleosis-like symptoms should be educated to the exposed person. They should be advised to reach out to the health care provider if such symptoms occur or when they experience any treatment-related adverse effects.

48. Follow-up HIV antibody tests should normally be performed at 3 to 6 months. Additional, earlier testing may also be needed to alleviate anxiety or to evaluate possible acute retroviral syndrome. However, a negative test result at 4-6 weeks post PEP initiation does not rule out HIV infection as the use of antiretrovirals might suppress viral replication for longer than 2 weeks after medication cessation. Repeat testing may be offered at an interval beyond 6 months, especially when further exposures are reported during this period.

49. Special consideration should be made for individuals who have history of exposure to antiretroviral drugs as PrEP, it is preferable to refer these individuals to clinics with experience in managing clients who are taking PrEP. nPEP is generally not indicated after sexual exposure for individuals using PrEP with good adherence.

50. All individuals who received nPEP should be assessed if they have on-going risk of HIV acquisition through exposure to blood or bodily fluids. Those with on-going risks might benefit from transition from nPEP to PrEP after the end of the nPEP course. Health care providers should refer these individuals to centres offering preventive interventions to further reduce the risk for acquiring HIV. Detailed guidance for use of PrEP can be referred to SCAS' "*Guidance on the use of HIV Pre-exposure Prophylaxis (PrEP) in Hong Kong*"[39].

Conclusion

51. Timely assessment and treatment are keys to success of post-exposure management for HBV, HCV and HIV following blood or body fluid exposure. If indicated, HBIG, HBV vaccination or PEP for HIV should be initiated as soon as possible to increase the success rate. Moreover, both baseline and follow up blood testing are essential in assessing and managing these individuals. After managing an incident of blood or body fluid exposure, it is advisable to assess for on-going risk and offer further interventions, such as HBV vaccination or a

transition plan from nPEP to PrEP under a comprehensive preventive care pathway, as appropriate.

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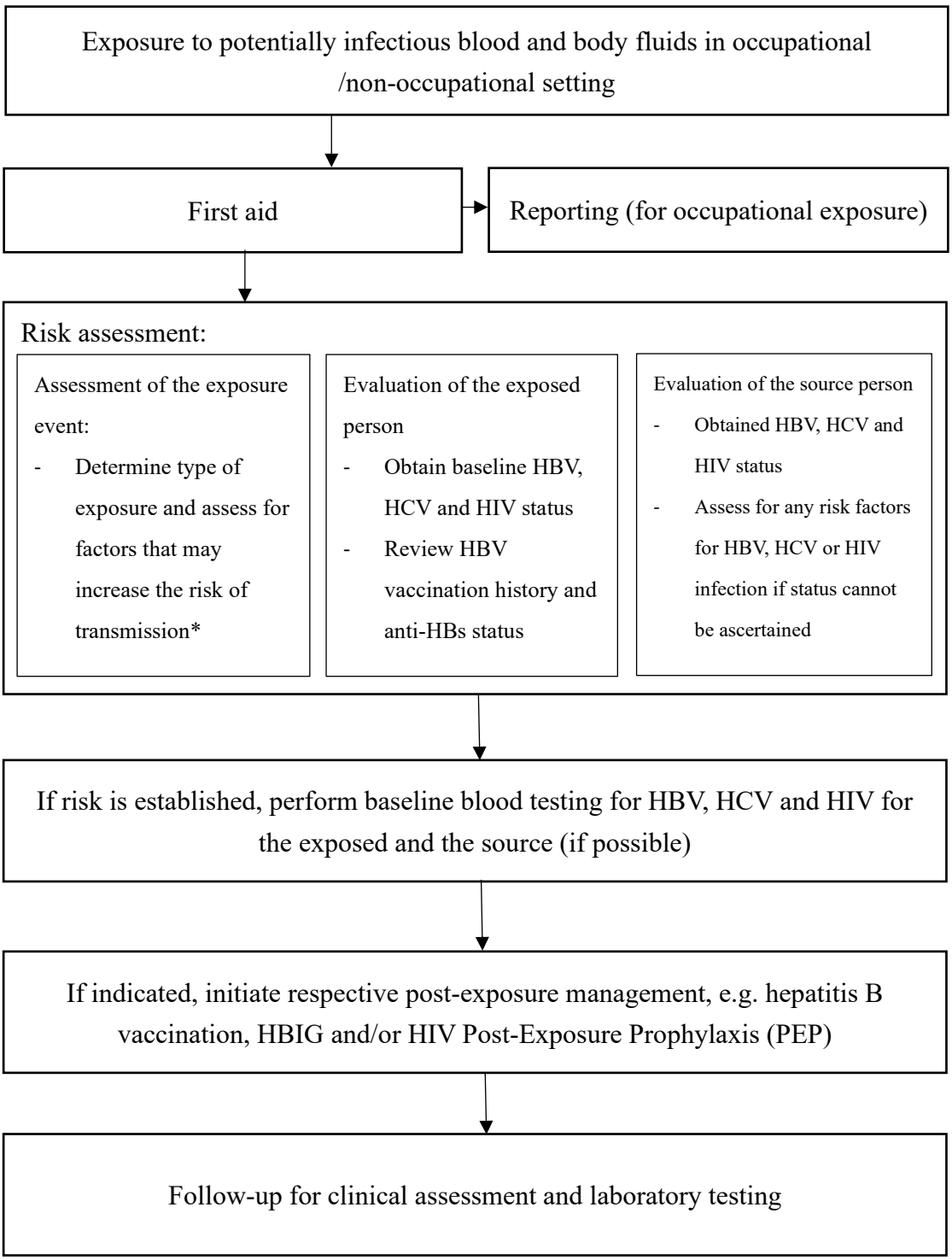
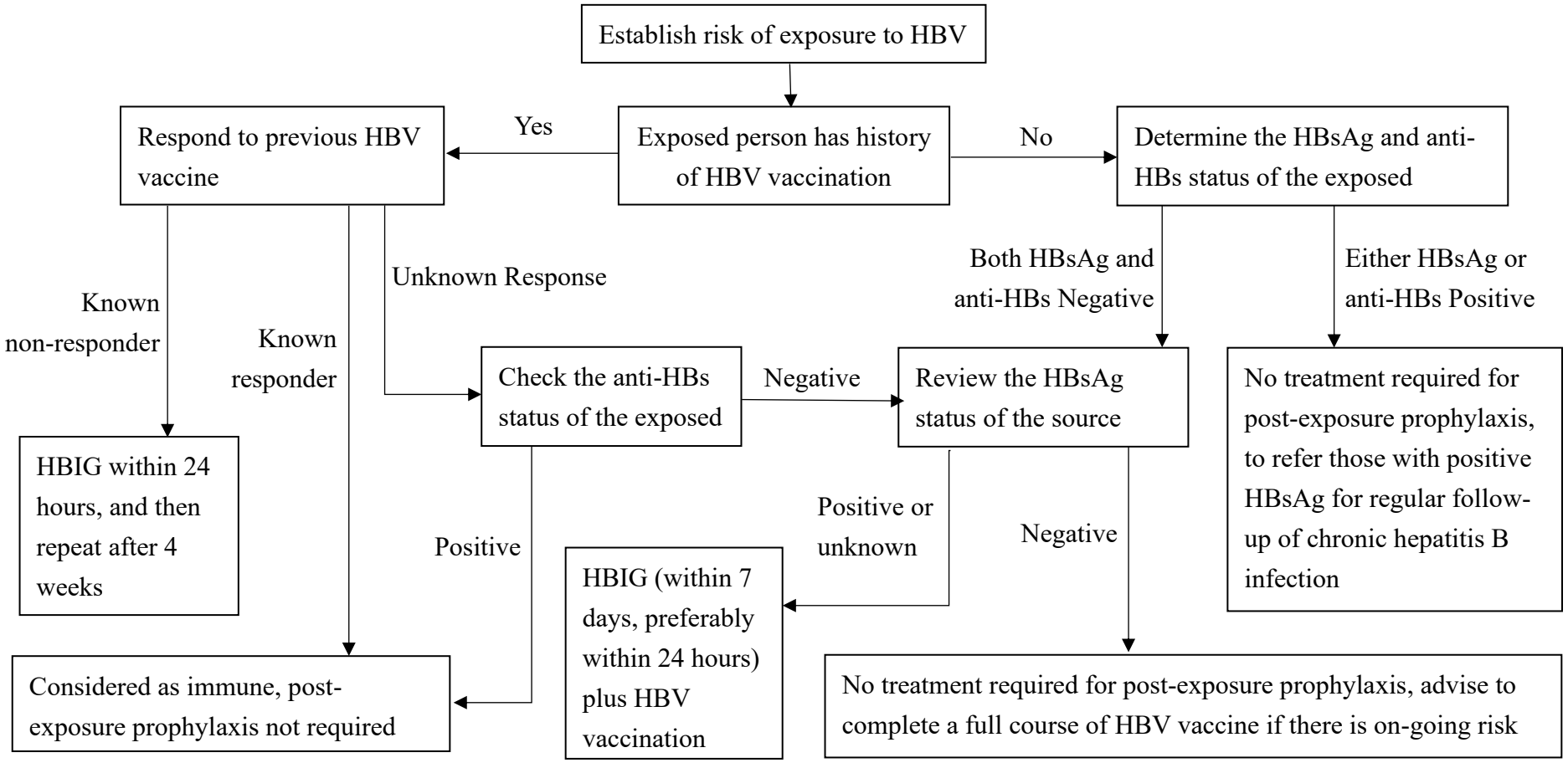
Flowchart 1: General Algorithm of Management of Exposure to Blood and Body Fluids

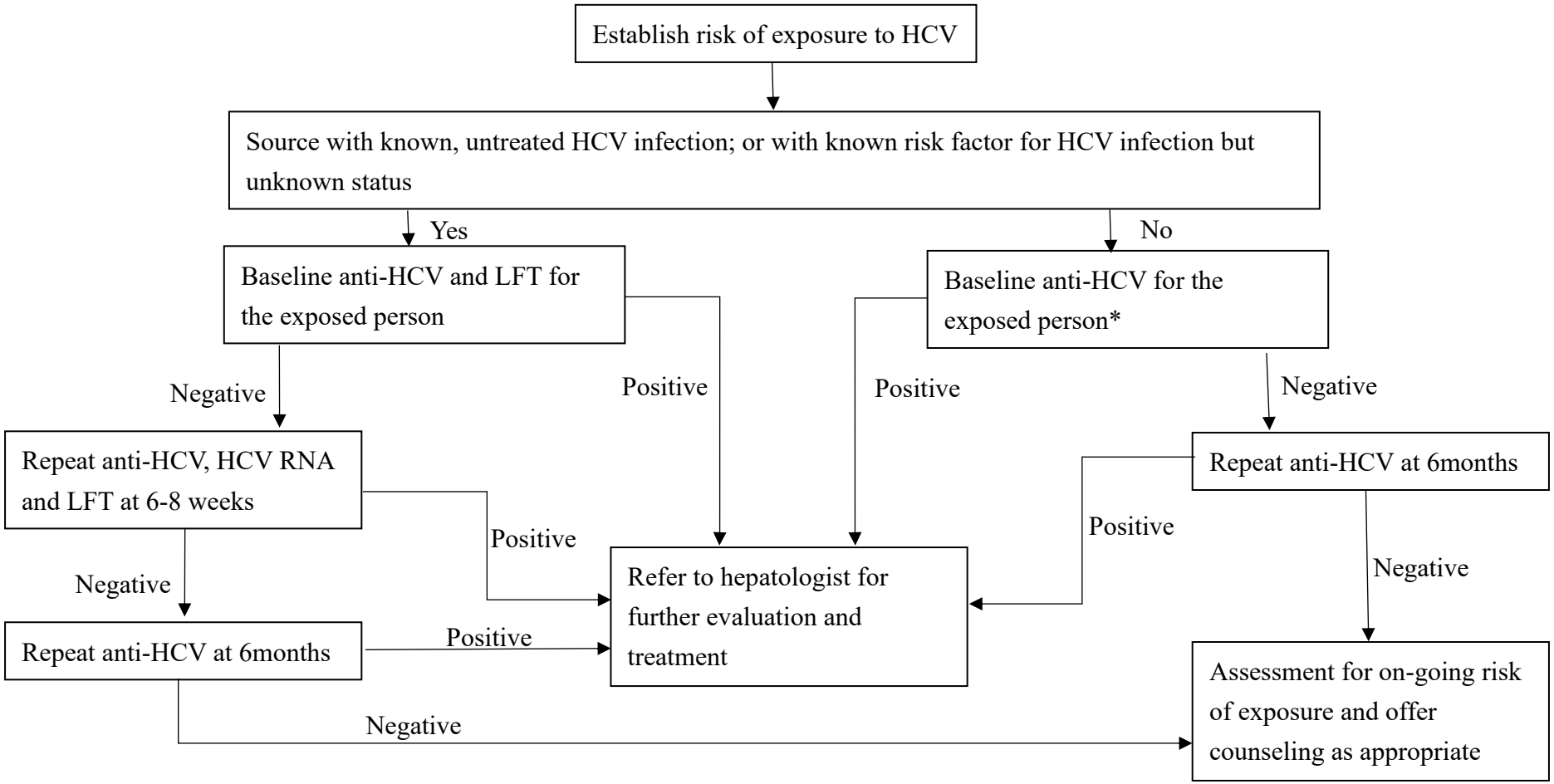


* Referred to the text for factors associated with increased risk of transmission in an exposure event for HBV, HCV and HIV respectively

Flowchart 2: Testing Algorithm of Exposure to Hepatitis B



Flowchart 3: Testing Algorithm of Exposure to Hepatitis C



** Baseline specimen of the exposed person may be initially stored and retrieved for testing when a subsequent specimen tests positive in some laboratories.*

Table 1 - Risk of HIV transmission per exposure from a known-HIV-positive individual not on ART (Referenced from various international guidelines[1,3,4])

Type of exposure	Estimated risk of HIV transmission per exposure from a known HIV-positive individual not on ART*
Needlestick injury	1 in 330 to 400
Mucocutaneous or non-intact skin exposure	1 in 1000
Human bite	<1 in 10,000
Receptive anal intercourse	1 in 72 to 90
Receptive anal intercourse with ejaculation	1 in 65 to 70
Receptive anal intercourse without ejaculation	1 in 155 to 170
Insertive anal intercourse	1 in 666 to 910
Insertive anal intercourse (not circumcised)	1 in 160
Insertive anal intercourse (circumcised)	1 in 910
Receptive vaginal intercourse	1 in 1000 to 1250
Insertive vaginal intercourse	1 in 1220 to 2500
Semen splash to eyes	<1 in 10,000
Oral sex	<1 in 10,000
Sharing injection equipment (including chemsex)	1 in 125 to 150

** A range of estimated risk is included for reference only; exact risk would be affected by the presence of other factors as described in text.*

Table 2 - Commonly Used PEP Regimen for HIV for Adults and Their Major Adverse Effects

A PEP regimen includes a dual NRTI backbone plus a third anchoring drug		
Antiretroviral	**Dosage**	**Major adverse effects**
Preferred dual NRTI backbone		
Tenofovir Disoproxil Fumarate (TDF) 300mg + Emtricitabine (FTC) 200mg	TDF 300mg daily, FTC 200mg daily	GI intolerance; headache; rarely renal insufficiency and Fanconi syndrome
Tenofovir Disoproxil Fumarate (TDF) 300mg + Lamivudine (3TC) 300mg	TDF 300mg daily, 3TC 300mg daily	
Alternative dual NRTI backbone		
Tenofovir Alafenamide Fumarate (TAF) 25mg + Emtricitabine (FTC) 200mg (can be considered for individuals with renal insufficiency)	TAF 25mg daily, FTC 200mg daily	GI intolerance; headache
Candidates for the third drug		
Raltegravir	400mg BD	Mild GI intolerance; headache; sleep disturbances; myositis, rarely rhabdomyolysis
Dolutegravir	50mg daily	Mild GI intolerance; malaise; headache; sleep disturbances; not routinely recommended for women of childbearing potential
Bictegravir (only available in fixed-dose combination tablet co-formulated with TAF/FTC)	50mg daily	Mild GI intolerance; headache; sleep disturbances
Ritonavir-boosted Darunavir: ● Darunavir (DRV) 800mg ● Ritonavir (RTV) 100mg	DRV 800mg daily, RTV 100mg daily	GI intolerance; headache; risk of drug-drug interaction
Cobicistat- boosted Darunavir: ● Darunavir (DRV) 800mg ● Cobicistat (Cobi) 150mg	DRV 800mg daily, Cobi 150mg daily	GI intolerance; headache; risk of drug-drug interaction; not recommend for pregnant women

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