

HIV Exposure Management

NOTE: Consider exposure to other blood-borne pathogens (e.g., hepatitis B and C) in addition to HIV. See sections on hepatitis B and C provided in this resource.

- PEP for non-occupational (nPEP) and occupational exposures (oPEP) should start IMMEDIATELY (ideally within 1-2 hours post exposure), and continue for 28 days, or until the source person is confirmed to be HIV-negative.
- See Table on Recommended Schedule for Laboratory Evaluation for Source and Exposed Persons
- If nPEP initiated, consider PrEP after completion of the 28-day nPEP regimen for those with repeated high-risk behavior or repeat courses of nPEP
- Risk reduction and primary prevention counseling should be provided whenever someone is assessed for nPEP, regardless of whether PEP is initiated
- The Clinician Consultation Center provides timely answers for urgent exposure management and PEP. PEP consultation services are available from 9 am to 9 pm EST, 7 days per week. Call 888.448.4911 or visit <http://ncc.ucsf.edu/clinician-consultation/pep-post-exposure-prophylaxis/> for more information

Post-Exposure Management for Hepatitis C Virus (HCV)

CDC. Updated U.S. Public Health Service Guidelines for the Management of Occupational Exposures to HBV, HCV, and HIV and Recommendations for Postexposure Prophylaxis. MMWR, 2001;50(RR-11), 1-53. Available at www.cdc.gov/mmwr/pdf/rr/rr5011.pdf.

CDC. Information for Healthcare Personnel Potentially Exposed to Hepatitis C Virus (HCV): Recommended Testing and Follow-up. November 2016. Available at <https://www.cdc.gov/hepatitis/pdfs/testing-followup-exposed-hc-personnel-3d.pdf>.

CDC. Testing for HCV Infection: An Update of Guidance for Clinicians and Laboratorians. MMWR, 2013;62(18), 357-365. Available at <http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6218a5.htm>. All accessed April 12, 2017.

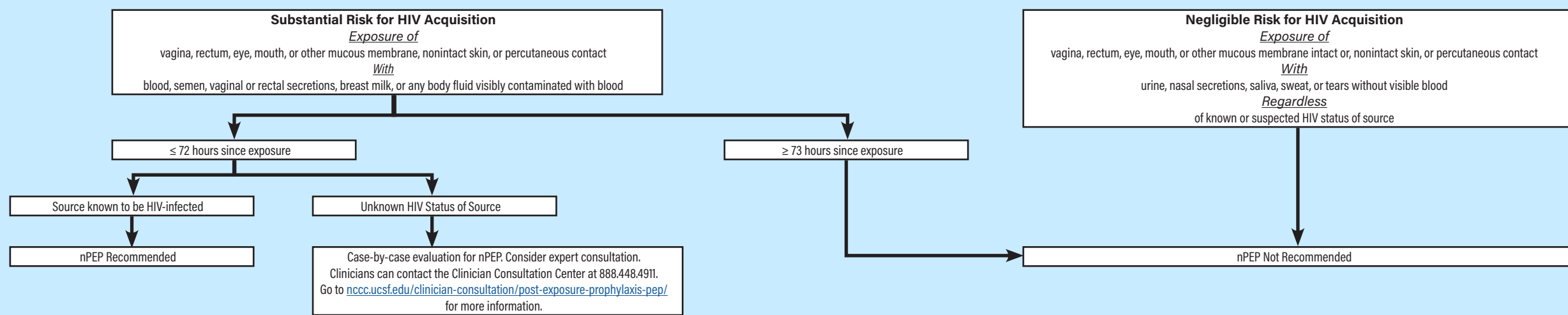
Management of Exposures and Post-Exposure Management to HCV

- See Table on Recommended Schedule for Laboratory Evaluation for Source and Exposed Persons
- Confirm HCV Ab results reported positive by testing for HCV viral load
- No regimens proven beneficial for PEP
- Early identification of acute HCV and referral to hepatitis C specialist for management if infected⁶

6. Management of Acute HCV Infection in AASLD and IDSA HCV Guidance: Recommendations for Testing, Managing, and Treating Hepatitis C. Available at <http://www.hcvguidelines.org/full-report/management-acute-hcv-infection>. Accessed April 12, 2017.

Evaluation and Treatment of Possible Non-Occupational Exposures to HIV

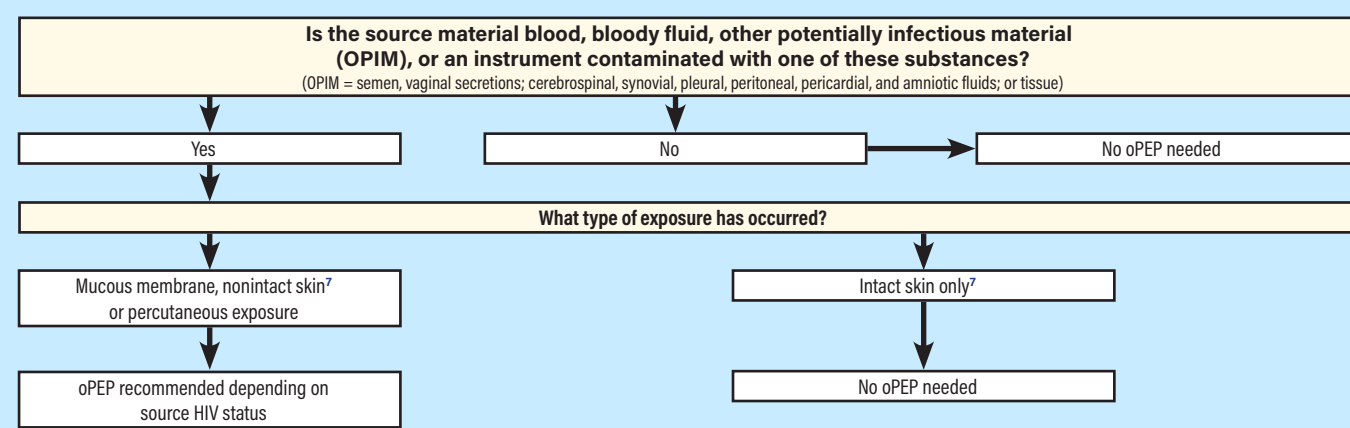
Adapted from CDC. Updated Guidelines for Antiretroviral Postexposure Prophylaxis After Sexual, Injection Drug Use, or Other Nonoccupational Exposure to HIV—United States, 2016. Available at <http://www.cdc.gov/hiv/pdf/programresources/cdc-hiv-npep-guidelines.pdf>. Accessed April 12, 2017.



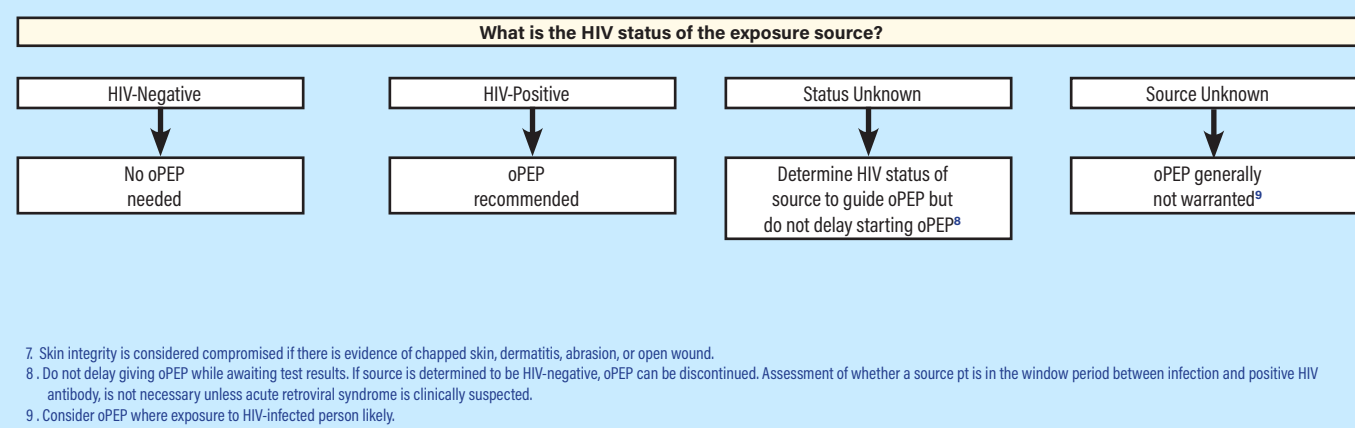
Evaluation and Treatment of Possible Occupational Exposure to HIV

The Society for Healthcare Epidemiology of America. Updated US Public Health Service Guidelines for the Management of Occupational Exposures to Human Immunodeficiency Virus and Recommendations for Postexposure Prophylaxis. Infection Control and Hospital Epidemiology, 2013; 34(9) 875-892. Available at <http://www.jstor.org/stable/10.1086/672271>. Accessed March 18, 2016.

Step 1: Evaluation of Exposure



Step 2: Determine the HIV Status of the Source



7. Skin integrity is considered compromised if there is evidence of chapped skin, dermatitis, abrasion, or open wound.
8. Do not delay giving oPEP while awaiting test results. If source is determined to be HIV-negative, oPEP can be discontinued. Assessment of whether a source pt is in the window period between infection and positive HIV antibody, is not necessary unless acute retroviral syndrome is clinically suspected.
9. Consider oPEP where exposure to HIV-infected person likely.

Preferred HIV Post-Exposure Prophylaxis Regimens for Healthy Adults and Adolescents (All regimens are for 28 days [4 weeks])

(See the Guidelines listed below for persons with decreased renal function, pregnant women, and children.)

Updated U.S. Public Health Service Guidelines for the Management of Occupational Exposures to HIV and Recommendations for Postexposure Prophylaxis, (September 2013) at <http://www.jstor.org/stable/10.1086/672271>, the New York State Department of Health AIDS Institute occupational post-exposure prophylaxis guidelines (October 2014) at <http://www.hivguidelines.org/pep-for-hiv-prevention/>, and CDC. Updated Guidelines for Antiretroviral Postexposure Prophylaxis After Sexual, Injection Drug Use, or Other Nonoccupational Exposure to HIV—United States, 2016. Available at <http://www.cdc.gov/hiv/pdf/programresources/cdc-hiv-npep-guidelines.pdf>. All accessed April 12, 2017.

Note: If the source is known to be infected with HIV, the healthcare provider should attempt to get a history of antiretroviral use, resistance and most recent viral load from the source patient or his/her provider to guide the choice of nPEP medications. The clinician is encouraged to consult an expert in PEP management when choosing a regimen for an exposed pregnant women or in cases of exposures to virus known or suspected to be resistant to one or more antiretroviral agents. The Clinician Consultation Center provides timely answers for urgent exposure management and PEP.

Call 888.448.4911 9 am to 9 pm EST, 7 days a week or visit <http://ncc.ucsf.edu/clinician-consultation/pep-post-exposure-prophylaxis/> for more information. See the online PEP Quick Guide (<http://ncc.ucsf.edu/clinical-resources/pep-resources/pep-quick-guide/>) for urgent PEP decision making.

PREFERRED oPEP REGIMENS

Tenofovir disoproxil fumarate/Emtricitabine 300/200 mg (Truvada[®]) po once daily PLUS [raltegravir (Isentress[®]) 400 mg po twice daily **OR** dolutegravir (Tivicay[®]) 50 mg po once daily]¹⁰

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ALTERNATIVE oPEP REGIMENS

For alternative oPEP regimens see New York State Department of Health AIDS Institute occupational post-exposure prophylaxis guidelines (October 2014) at http://www.hivguidelines.org/pep-for-hiv-prevention/occupational/#tab_6

ALTERNATIVE nPEP REGIMENS

For alternative nPEP regimens see CDC. Updated Guidelines for Antiretroviral Postexposure Prophylaxis After Sexual, Injection Drug Use, or Other Nonoccupational Exposure to HIV—United States, 2016. Available at <http://www.cdc.gov/hiv/pdf/programresources/cdc-hiv-npep-guidelines.pdf>.

NOTE: Some pharmacies may not “break” their bottles of ARVs which typically come in a 30-day supply. Consider ordering a complete 30-day supply to assure PEP is started in a timely manner.

10. USPHS Guidelines list only the raltegravir regimen as preferred for oPEP.

Recommended Schedule of Laboratory Evaluations for Source and Exposed Persons

Adapted from 1. CDC. Updated Guidelines for Antiretroviral Postexposure Prophylaxis After Sexual, Injection Drug Use, or Other Nonoccupational Exposure to HIV—United States, 2016. Available at <http://www.cdc.gov/hiv/pdf/programresources/cdc-hiv-npep-guidelines.pdf>. 2. CDC. Updated U.S. Public Health Service Guidelines for the Management of Occupational Exposures to HBV, HCV, and HIV and Recommendations for Postexposure Prophylaxis. MMWR, 2001;50(RR-11): 1-53. Available at www.cdc.gov/mmwr/pdf/rr/rr5011.pdf. 3. The Society for Healthcare Epidemiology of America. Updated US Public Health Service Guidelines for the Management of Occupational Exposures to Human Immunodeficiency Virus and Recommendations for Postexposure Prophylaxis. Infection Control and Hospital Epidemiology, 2013; 34(9) 875-892. Available at <http://www.jstor.org/stable/10.1086/672271>. 4. CDC. Information for Healthcare Personnel Potentially Exposed to Hepatitis C Virus (HCV): Recommended Testing and Follow-up. November 2016. Available online at <https://www.cdc.gov/hepatitis/pdfs/testing-followup-exposed-hc-personnel-3d.pdf>. All accessed March 3, 2017.






Note: See sections on HBV, HCV, and HIV of this resource for additional details including PEP

Source	
Baseline	HIV Ag/Ab ¹¹ , hepatitis B serology ¹² , hepatitis C antibody ¹³ (for sexual exposures also test for gonorrhea/chlamydia ^{14,15} , syphilis ¹⁵)
Exposed Persons	
Baseline	HIV Ag/Ab ¹¹ , hepatitis B serology ¹² , hepatitis C antibody ¹⁶ , pregnancy test ¹⁷ , serum creatinine ¹⁸ , AST/ALT ¹⁸ (for sexual exposures also test for gonorrhea/chlamydia ^{14,15} and syphilis ¹⁵)
4-6 weeks	HIV Ag/Ab ¹¹ , pregnancy test ¹⁷ , serum creatinine ¹⁸ , AST/ALT ¹⁸ , hepatitis C RNA ¹⁹ (for sexual exposures also test for gonorrhea/chlamydia ^{14,15,20} and syphilis ¹⁵)
3 months	HIV Ag/Ab ¹¹
6 months	HIV Ag/Ab test ^{11,21} , hepatitis B serology ^{22,23} (for sexual exposure also obtain syphilis serology if indicated ^{15,23})

11. Ag/Ab test preferred, antibody test can be used if Ag/Ab test not available; use of oral test is not recommended. If using Ag/Ab test, can consider discontinuing HIV testing at 3-4 months. Obtain HIV viral load and HIV genotype if determined to have HIV infection at any visit. Follow-up HIV testing should be done even if the exposed person declines PEP.
12. Hepatitis B serology: HBsAg, quantitative HBsAb, HBcAb Total or IgG. Occupational exposure guidelines recommend only HBsAg testing in the source and all serologies listed for the exposed person.
13. If source is IDU or is immunocompromised, consider adding HCV viral load testing
14. Nucleic acid amplification test (NAAT) recommended. Men reporting insertive vaginal, anal, or oral sex (urine specimen), women reporting receptive vaginal sex (vaginal [preferred] or endocervical swab or urine specimen), men and women reporting receptive anal sex (rectal swab), men and women reporting receptive oral sex (oropharyngeal swab for gonorrhea)
15. See the [Sexually Transmitted Diseases Guidelines, 2015](http://www.cdc.gov/mmwr/pdf/rr/rr5011.pdf) from the CDC for recommendations for treatment and follow-up if any STI is diagnosed.
16. If positive, reflex to HCV RNA viral load. If viral load positive, refer to care for pre-existing chronic HCV infection.
17. Woman of reproductive age, not using effective contraception, with vaginal exposure to semen
18. If prescribed PEP, oPEP guidelines recommend repeating at 2 weeks and also recommend CBC even though current preferred oPEP regimens are not associated with hematologic toxicity. Further testing may be indicated if abnormalities are detected.
19. If positive, refer to care for Hepatitis C infection. If unable to do HCV RNA, check Hepatitis C antibody with reflex to HCV RNA at 6 months.
20. If not provided presumptive treatment at baseline or if symptomatic at follow-up visit
21. Delayed HIV seroconversion has been seen in persons who simultaneously acquire HIV and HCV infection. The oPEP guidelines recommend HCP undergo repeat HIV AG/AB testing at 12 months.
22. If susceptible to HBV at baseline. See Post-Exposure Prophylaxis for HBV section for testing following vaccination.
23. If determined to be infected with syphilis and treated, should undergo serologic syphilis testing 6 months and 12 months after treatment. See the [Sexually Transmitted Diseases Guidelines, 2015](http://www.cdc.gov/mmwr/pdf/rr/rr5011.pdf) from the CDC.

Preferred Antiretrovirals Recommended for oPEP and nPEP (Dosage Forms and Important Points)

Refer to Appendix B of the [Adult/Adolescent Antiretroviral Guidelines](http://www.hivguidelines.org/pep-for-hiv-prevention/occupational/#tab_6) for a complete and updated source for antiretroviral medications to include: dosing, renal or hepatic insufficiency dosage adjustments, side effects, drug interactions, and warnings/contraindications.

DRUG	USUAL ADULT DOSAGE FORMS	IMPORTANT POINTS
 Dolutegravir (DTG, Tivicay [®])	50 mg tab	<ul style="list-style-type: none"> • Take with or without food • Take 2 hrs before or 6 hrs after certain medications (e.g. cation-containing antacids or laxatives, sucralfate, oral iron or calcium supplements, multivitamins with minerals) containing polyvalent cations (e.g. Mg, Al, Fe, Ca). DTG may be taken with calcium or iron supplements if taken together with food. • Adverse Effects: headache and insomnia most common. Hypersensitivity reaction including rash, constitutional symptoms and organ dysfunction (e.g. liver injury) have been reported.
 Emtricitabine (FTC, Emtriva [®])	200 mg cap, 10 mg/mL oral solution (soln)	<ul style="list-style-type: none"> • Take with or without food • Abrupt withdrawal can cause chronic active HBV flares • Adverse effects: generally well-tolerated, ↑ pigmentation of palms/soles (> in black and Hispanic pts)
 Raltegravir (RAL, Isentress [®])	400 mg tab, 100 mg chewable tabs	<ul style="list-style-type: none"> • Take with or without food • Avoid Al or Mg-containing antacids. No separation needed when given with CaCO₃ antacids. Take 2 hrs before or 6 hrs after other medications (e.g., cation-containing antacids or laxatives, sucralfate, oral iron or calcium supplements, multivitamins with minerals) containing polyvalent cations (e.g. Mg, Al, Fe, Ca). • Adverse effects: diarrhea, nausea, headache, and pyrexia; ↑ ALT, AST, creatine phosphokinase; myopathy and rhabdomyolysis have been reported, rare severe skin reactions (SJS/TEN) and systemic hypersensitivity reaction with rash, and constitutional symptoms +/- hepatitis
 Tenofovir disoproxil fumarate (TDF, Viread [®])	300 tab, 40 mg/1g oral powder	<ul style="list-style-type: none"> • Take tabs with or without food; take powder with food • Abrupt withdrawal can cause chronic active HBV flares • Do not use for PEP in pts with estimated CrCL < 60 mL/min • Adverse effects: flatulence, headache, renal insufficiency, Fanconi Syndrome (rare), ↓ PO₄
 Tenofovir disoproxil fumarate/Emtricitabine (TDF/FTC, Truvada [®])	TDF 300mg / FTC 200 mg tab	<ul style="list-style-type: none"> • See individual components