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Post-Exposure Prophylaxis (PEP) in Pediatrics/Adolescents

September 2014

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There are no official guidelines for prophylaxis of non-occupational HIV exposure in Pediatrics/Adolescents. This resource was developed utilizing the references below.

Information summarized in this resource includes management of exposures, study findings related to exposure, important discussion points when assessing the exposed individual, recommended antiretroviral (ARV) regimens for post-exposure prophylaxis (PEP) of HIV, ARV adverse effects, hepatitis B PEP, and hepatitis C post-exposure management.

The mode of HIV exposure potentially includes: acute sexual assault, chronic sexual abuse, bites or other trauma causing bleeding, and puncture wounds from needles found in the environment. Child Protection Teams (CPT), schools, youth athletic programs, juvenile justice centers, and other entities that include participation of children and adolescents may find guidance on this topic helpful.

While data from occupational post-HIV exposure prophylaxis, perinatal exposure prophylaxis, and animal studies on transmission prevention cannot be directly extrapolated to non-occupational exposure, it is reasonable to assume that a similar response to ARV therapy post-HIV non-occupational exposure also would be seen. As with adults receiving medications for HIV exposure, this prophylaxis is recommended to continue for 28-days/4 weeks.

Seek immediate attention from your doctor or the local Health Department. For victims of crime without insurance or medication coverage in the State of Florida, the **Florida Attorney General's Division of Victim Services** at **1.800.226.6667** may be able to assist with coverage for the ARV drugs.

References:

1. New York State Department of Health AIDS Institute. HIV Prophylaxis following Non-Occupational Exposure. Albany, NY: NYSDOH AIDS Institute; 2004. Updated July, 2013. Available at: *http://www.hivguidelines.org/wp-content/uploads/2013/09/hiv-prophylaxis-following-non-occupational-exposure.pdf*. Accessed September 5, 2014.
2. New York State Department of Health AIDS Institute. HIV Post-Exposure Prophylaxis for Children Beyond the Perinatal Period. Albany, NY: NYSDOH AIDS Institute; 2004. Available at: *http://www.hivguidelines.org/wp-content/uploads/2013/10/hiv-post-exposure-prophylaxis-for-children-beyond-the-perinatal-period.pdf*. Accessed September 5, 2014.
3. Centers for Disease Control and Prevention (CDC). *Sexuallly Transmitted Diseases Treatment Guidelines*. 2010. Available at: *http://www.cdc.gov/std/treatment/2010/sexual-assault.htm*. Accessed September 5, 2014.
4. Panel on Antiretroviral Therapy and Medical Management of HIV-Infected Children. Guidelines for the Use of Antiretroviral Agents in Pediatric HIV Infection. Available at: *http://aidsinfo.nih.gov/contentfiles/lvguidelines/pediatricguidelines.pdf*. Accessed September 5, 2014.
5. New York State Department of Health AIDS Institute. HIV Prophylaxis for Victims of Sexual Assault. Albany, NY: NYSDOH AI; 2013. Available at: *http://www.hivguidelines.org/wp-content/uploads/2013/11/hiv-prophylaxis-for-victims-of-sexual-assault.pdf*. Accessed Accessed September 5, 2014.
6. CDC. Antiretroviral postexposure prophylaxis after sexual, injection-drug use, or other non-occupational exposure to HIV in the United States: recommendations from the U.S. Department of Health and Human Services. *MMWR*, 2005;54(RR-2), 1-19. Available at: *http://aidsinfo.nih.gov/contentfiles/NonOccupationalExposureGL.pdf*. Accessed Accessed September 5, 2014.

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Estimated Risk of HIV Transmission Following Different Types of Exposures

New York State Department of Health AIDS Institute: HIV Prophylaxis following Non-Occupational Exposure. Albany, NY: NYSDOH AIDS Institute; 2004. Available at: *http://www.hivguidelines.org/wp-content/uploads/2013/09/hiv-prophylaxis-following-non-occupational-exposure.pdf*. Accessed September 5, 2014.

New York State Department of Health AIDS Institute. HIV Post-Exposure Prophylaxis for Children Beyond the Perinatal Period. Albany, NY: NYSDOH AIDS Institute; 2004. Available at: *http://www.hivguidelines.org/wp-content/uploads/2013/10/hiv-post-exposure-prophylaxis-for-children-beyond-the-perinatal-period.pdf*. Accessed September 5, 2014.

Types of Exposure	Estimated Risk
Needle-sharing exposure to an infected source	0.67% (1 in 150)
Receptive anal intercourse with an infected source	0.5% (1 in 200) / 3.0% (6 in 200)
Receptive vaginal intercourse with an infected source	0.1% (1 in 1000) / 0.2% (2 in 1000)
Insertive anal intercourse with an infected source	0.065% (1 in 1500)
Insertive vaginal intercourse with an infected source	0.05% (1 in 2000)
Oral sex with ejaculation with an infected source	Conflicting data-however, risk is considered to be low

Types of Exposures and PEP Recommendations

New York State Department of Health AIDS Institute: HIV Prophylaxis following Non-Occupational Exposure. Albany, NY: NYSDOH AIDS Institute; 2004. Available at: *http://www.hivguidelines.org/wp-content/uploads/2013/09/hiv-prophylaxis-following-non-occupational-exposure.pdf*. Accessed September 5, 2014.

New York State Department of Health AIDS Institute. HIV Post-Exposure Prophylaxis for Children Beyond the Perinatal Period. Albany, NY: NYSDOH AIDS Institute; 2004. Available at: *http://www.hivguidelines.org/wp-content/uploads/2013/10/hiv-post-exposure-prophylaxis-for-children-beyond-the-perinatal-period.pdf*. Accessed September 5, 2014.

Types of Exposures that DO NOT Require HIV PEP

- Exposure to needles or sharps that have not been in contact with a HIV-infected or at-risk person
- Human bites not involving blood
- Kissing
- Oral sex without ejaculation or blood exposure
- Oral to oral contact without mucosal damage

HIV PEP is Recommended for the Following:

- Direct contact of vagina, anus, penis, or mouth with semen, vaginal fluid or blood of the alleged perpetrator with or without visible injuries, tissue damage, or blood
- Injuries with exposure to blood from a source known to be HIV-infected
- Injuries with exposure to blood from a source of unknown HIV status (including needlesticks, human bites, accidents)
- Needle sharing
- Victim's broken skin or mucous membranes were in contact with blood, vaginal fluid, or semen of the alleged perpetrator

Discussion with Family/Child/Adolescent Prior to Starting ARVs

- Assess whether or not a significant exposure occurred during sexual assault or other injury exposure
- If HIV status and age of alleged perpetrator is known or not
- Child/Adolescent's readiness to take ARVs for 28 days
- Importance of adherence
- Importance of clinical and laboratory follow-up
- Potential risk and benefits of ARV post-exposure prophylaxis
- Prevalence of HIV in community/facility
- Recognition that HIV prevalence in sexual assailants may be higher than that of the general population
- Signs of retroviral syndrome: fever, pharyngitis, lymphadenopathy, rash, hepatosplenomegaly (HSM)

1. Paediatr Child Health. Needle stick injuries in the community. Mar 2008; 13(3): 205–210. Available at: *http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2529409/*.
2. Becker, C., et al. Occupational infection with human immunodeficiency virus (HIV). Risks and risk reduction. Ann Intern Med 110(8):653-6, 1989. Available at: *http://www.aidsmap.comRisk-of-infection/page/1324549/*. Accessed September 5, 2014.

Considerations for Needle Sticks in the Community

CDC. Antiretroviral postexposure prophylaxis after sexual, injection-drug use, or other non-occupational exposure to HIV in the United States: recommendations from the U.S. Department of Health and Human Services. *MMWR*, 2005;54(RR-2), 1-19. Available at: *http://aidsinfo.nih.gov/contentfiles/NonOccupationalExposureGL.pdf*. Accessed September 5, 2014.

Consider giving hepatitis B Immune Globulin (HBIG) and hepatitis B vaccine for children and adolescents who have not completed their hepatitis B vaccine series

Consider vaccinating against tetanus

Considerations for assessing risk for HIV and need for PEP:

- It is extremely unlikely that HIV infection would occur following an injury from a needle discarded in a public place[1]
- Estimated risk of HIV transmission from needles found in community (0.32%)[2]
- Depth of skin penetration
- Potential source of needle
- Type of needle
- Presence of blood
- Prevalence of HIV in community/facility
- Prevalence of IV drug use in community
- NO NEED TO HAVE NEEDLE TESTED FOR HIV

National Clinicians' Post-Exposure Prophylaxis Hotline
888.HIV.4911 (448.4911)

HIV Prevention Program

This program provides resources to assist with HIV/AIDS prevention initiatives.

For more information, please visit:
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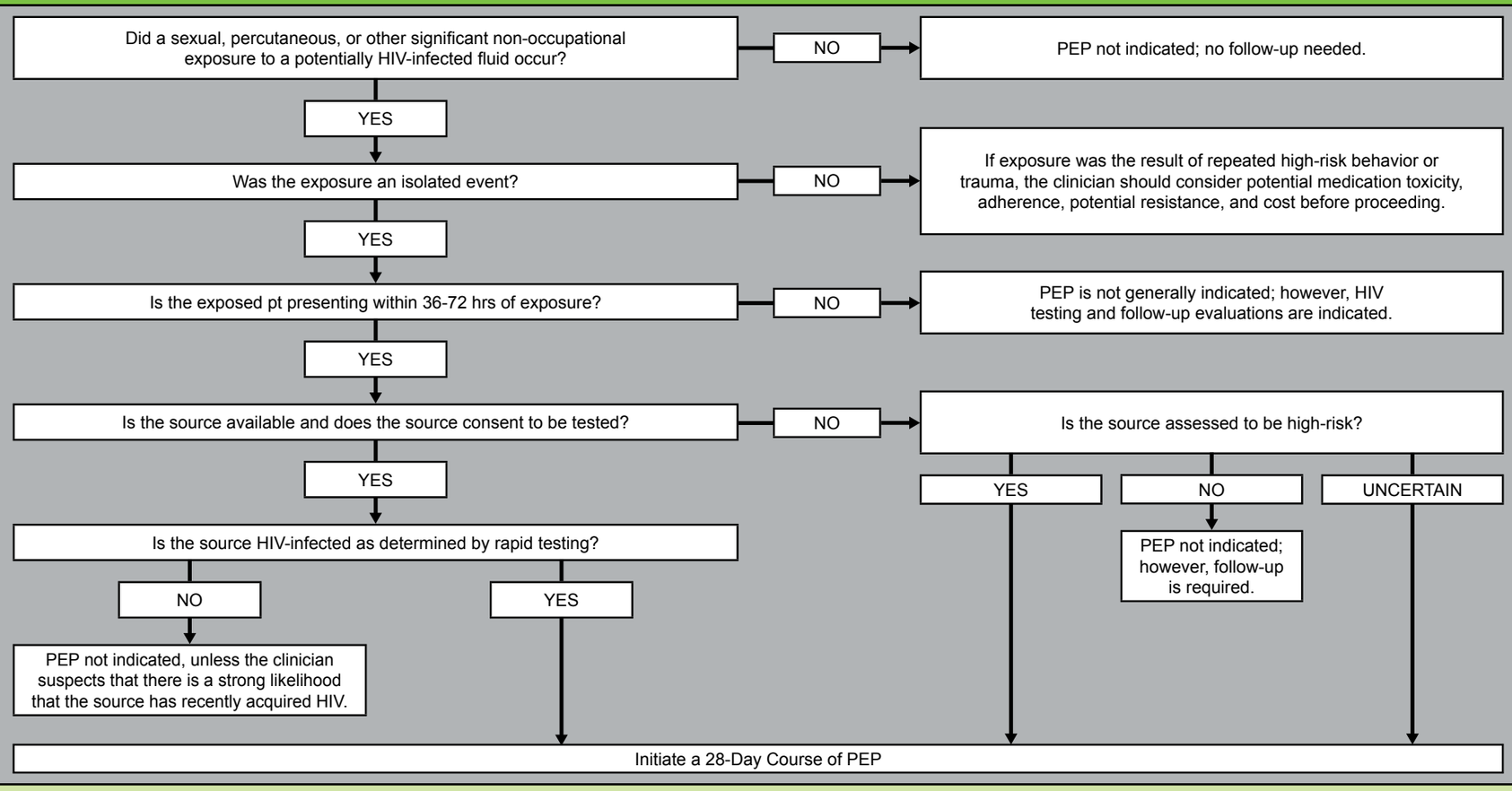
Treatment of Sexually Transmitted Diseases (STDs) in HIV-Infected Patients
Treatment of Tuberculosis (TB) in HIV/AIDS

PEP Following Non-Occupational Exposure Including Sexual Assault

New York State Department of Health AIDS Institute. *HIV Post-Exposure Prophylaxis for Children Beyond the Perinatal Period*. Albany, NY: NYSDOH AIDS Institute 2004. Available at: *http://www.hivguidelines.org/wp-content/uploads/2013/10/hiv-post-exposure-prophylaxis-for-children-beyond-the-perinatal-period.pdf*. Accessed September 5, 2014.



Adverse Effects for ARVs

Most common adverse effects of ARVs when used for 28-day course for PEP are malaise and GI disturbances (e.g., nausea, vomiting, diarrhea)

Nucleoside Reverse Transcriptase Inhibitors (NRTIs)	
Emtricitabine	Generally well-tolerated, ↑ pigmentation of palms/soles (> in black and Hispanic pts), exacerbation of hepatitis may occur after discontinuation if hepatitis B infected[3]
Tenofovir	Exacerbation of hepatitis may occur after discontinuation if hepatitis B infected[4]
Integrase Strand Transfer Inhibitors (INSTIs)	
Raltegravir	Psychomotor hyperactivity, abnormal behavior, insomnia[5]
Protease Inhibitors (PIs)	
Atazanavir	GI disturbances, jaundice/scleral icterus, rash, hyperbilirubinemia, nephrolithiasis, and cholelithiasis[6]
Darunavir	GI disturbances, rash, headache[7]
Ritonavir	Dysgeusia (may mix liquid formulation with chocolate milk, chocolate pudding, or ice cream to disguise taste), GI disturbances, and lipid elevations (usually well tolerated when used in low doses for boosting)[6,7]

3. Emtriva® [package insert]. Foster City, CA: Gilead Sciences, Inc.; Revised November, 2012.
4. Viread® [package insert]. Foster City, CA: Gilead Sciences, Inc.; Revised October, 2013.
5. Isentress® [package insert]. Whitehouse Station, NJ: Merck & Co., Inc.; Revised April 2014.
6. Reyataz® [package insert]. Titusville, NJ: Janssen Therapeutics; Revised June, 2014.
7. Prezista® [package insert]. Titusville, NJ: Janssen Therapeutics; Revised April 2014.

Antiretroviral Regimens for Pediatric/Adolescent HIV Post-Exposure Prophylaxis

While no official Pediatric/Adolescent non-occupational HIV post exposure prophylaxis regimens are published, our team selected the ARV PEP regimen based on recommendations from NY AIDS Institute guidelines, DHHS Pediatrics guidelines, tolerability, potency, and limited drug interactions.
Our team suggests the preferred regimen based on the ARVs' site of action (prior to HIV incorporating itself into the host CD4 cell nucleus) & the drugs' tolerability with few side effects.

Based on recommendations from the DHHS Guidelines on *Antiretroviral postexposure prophylaxis after sexual, injection-drug use, or other nonoccupational exposure to HIV in the US* and the AIDS Institute's *HIV Prophylaxis for Victims of Sexual Assault.*

New York State Department of Health AIDS Institute. *HIV Prophylaxis following Non-Occupational Exposure*. Albany, NY: NYDOH AIDS Institute; 2004. Available at: *http://www.hivguidelines.org/wp-content/uploads/2013/09/hiv-prophylaxis-following-non-occupational-exposure.pdf*. Accessed September 5, 2014.

New York State Department of Health AIDS Institute. *HIV Post-Exposure Prophylaxis for Children Beyond the Perinatal Period*. Albany, NY: NYSDOH AIDS Institute; 2004.
Available at: *http://www.hivguidelines.org/wp-content/uploads/2013/10/hiv-post-exposure-prophylaxis-for-children-beyond-the-perinatal-period.pdf*. Accessed September 5, 2014.

Harbilas W., Lawrence R., Mahmoudi S., Editors. [brochure]. ARV Therapy in Pediatrics. Tampa, Florida: Florida/Caribbean AETC; 2014. Available at: *www.fcaetc.org/treatment/pedsarv.pdf*. Accessed September 5, 2014.
Consult a pediatric HIV specialist for instances when the regimens listed here cannot be used.

Adolescents Ages ≥ 12 yrs and at least Tanner Stage IV and > 40 kg

Recommended PEP Regimen	Alternative PEP Regimens		
Raltegravir 400 mg by mouth twice daily + Tenofovir 300 mg by mouth once daily + Emtricitabine 200 mg by mouth once daily (these 2 drugs are the same as Truvada® 1 tab po daily)	Atazanavir 300 mg by mouth once daily + Ritonavir 100 mg by mouth once daily + Tenofovir 300 mg by mouth once daily + Emtricitabine 200 mg by mouth once daily	**or**	Darunavir 800 mg by mouth once daily + Ritonavir 100 mg by mouth once daily + Tenofovir 300 mg by mouth once daily + Emtricitabine 200 mg by mouth once daily

Children Ages 2 < 12 yrs or Those Who Cannot Swallow Pills

Recommended PEP Regimens	Alternative PEP Regimens	
Raltegravir + Tenofovir + Emtricitabine	Atazanavir + Ritonavir + Tenofovir + Emtricitabine	Darunavir + Ritonavir + Tenofovir + Emtricitabine

Dosing

Raltegravir:[8]

≥ 4 weeks of age and weighing ≥ 3 kg to < 25 kg:
- See table below for wt-based dosing

Ages 6 to < 12 yrs:
- See table below for wt-based dosing of chewable tabs and oral solution
- Oral suspension: 6mg/kg (max) by mouth twice daily

- If child is at least 25 kg and can swallow pills, one 400 mg film-coated tablet orally twice daily may be used

Weight (kg)	**Dose** (twice daily)	**# of Chewable Tablets or Oral Suspension** (twice daily)[9,10] Chewable tablets and film-coated pills are not equivalent.
3 to < 4	20 mg	1 mL
4 to < 6	30 mg	1.5 mL
6 to < 8	40 mg	2 mL
8 to < 11	60 mg	3 mL
11 to < 14	75 mg if using tablets 80 mg if using suspension	3 x 25 mg or 4mL if using suspension
14 to < 20	100 mg	1 x 100 mg or 5mL if using suspension
20 to < 28	150 mg	1.5 x 100 mg
28 to < 40	200 mg	2 x 100 mg
≥ 40	300 mg	3 x 100 mg

8. Isentress® [package insert]. Whitehouse Station, NJ: Merck & Co., Inc.; Revised August 2014.
9. Wt-based dosing for chewable tablets is based on approximately 6 mg/kg/dose po bid.
10. 100 mg tabs can be divided into halves.

Tenofovir:[11]

Ages 2 to < 12 yrs:
- Give powder or tablet formulation once daily
- See wt-based dosing table below

Weight (kg)	**Scoops of Powder**[12] (once daily)	**Tablets** (once daily)
10 to < 12	2	-
12 to < 14	2.5	-
14 to < 17	3	-
17 to < 19	3.5	150 mg
19 to < 22	4	150 mg
22 to < 24	4.5	200 mg
24 to < 27	5	200 mg
27 to < 29	5.5	27 kg – 200 mg 28 kg – 250 mg
29 to < 32	6	250 mg
32 to < 34	6.5	250 mg
34 to < 35	7	250 mg
≥ 35	7.5	300 mg

11. Viread® [package insert]. Foster City, CA: Gilead Sciences, Inc.; revised October, 2013.
12. Powder formulation (use supplied scoop) should be mixed with 2-4 oz of soft food (e.g. applesauce, yogurt). Ingest immediately to avoid bitter taste. Do not add liquid since powder will float to top.

Emtricitabine:[13]

Ages 2 to < 12 yrs:
- Oral solution: 6 mg/kg (max 240 mg) by mouth once daily
- Capsule: 200 mg by mouth once daily if wt > 33 kg

13. Emtriva® [package insert]. Foster City, CA: Gilead Sciences, Inc.; Revised November, 2012.

Atazanavir / Ritonavir:[14]

Ages ≥ 6 yrs old:
- Give capsule/tablet formulation once daily with food
- See wt-based dosing table below

Weight (kg)	**Atazanavir Dose** (once daily)	**Ritonavir Dose** (once daily)
15 to < 20	150 mg	100 mg
20 to < 40	200 mg	100 mg
≥ 40	300 mg	100 mg

14. Reyataz® [package insert]. Titusville, NJ: Janssen Therapeutics; Revised June, 2014.

SPECIAL THANKS TO:

Maribel Gonzalez, MSN, ARNP

for her review and contributions

Darunavir / Ritonavir:[15]

Ages ≥ 3 yrs old:
- Give tablet or oral suspension by mouth once daily with food
- See wt-based dosing table below

Weight (kg)	**Tablet Formulation** (once daily)	**Oral Suspension** (once daily)
≥ 10 to < 11	-	Darunavir 3.6 mL + Ritonavir 0.8 mL
11 to < 12	-	Darunavir 4 mL + Ritonavir 0.8 mL
12 to < 13	-	Darunavir 4.2 mL + Ritonavir 1 mL
13 to < 14	-	Darunavir 4.6 mL + Ritonavir 1 mL
14 to < 15	-	Darunavir 5 mL + Ritonavir 1.2 mL
15 to < 30	Darunavir 600 mg + Ritonavir 100 mg	Darunavir 6 mL + Ritonavir 1.25 mL
30 to < 40	Darunavir 675 mg + Ritonavir 100 mg	Darunavir 6.8 mL + Ritonavir 1.25 mL
≥ 40	Darunavir 800 mg + Ritonavir 100 mg	Darunavir 8 mL + Ritonavir 1.25 mL

15. Prezista® [package insert]. Titusville, NJ: Janssen Therapeutics; Revised April, 2014.

Recommended Monitoring After Exposure

New York State Department of Health AIDS Institute. *HIV Prophylaxis following Non-Occupational Exposure*. Albany, NY: NYSDOH AIDS Institute; 2004. Available at: *http://www.hivguidelines.org/wp-content/uploads/2013/09/hiv-prophylaxis-following-non-occupational-exposure.pdf*. Accessed September 5, 2014.

New York State Department of Health AIDS Institute. *HIV Post-Exposure Prophylaxis for Children Beyond the Perinatal Period*. Albany, NY: NYSDOH AIDS Institute; 2004.
Available at: *http://www.hivguidelines.org/wp-content/uploads/2013/10/hiv-post-exposure-prophylaxis-for-children-beyond-the-perinatal-period.pdf*. Accessed September 5, 2014.

	Clinic Visit	Complete Blood Count with Differential/Platelets (CBC w/Diff/Plt)	Comprehensive Metabolic Panel (CMP)	HIV 1,2 Ag/Ab or HIV 1,2 ELISA/WB	Hepatitis B Surface Antibody (HBsAB)	Hepatitis B Surface Antigen (HBsAg)	Hepatitis C Antibody (HCVAb)	Rapid Plasma Reagin (RPR), gonorrhea, chlamydia	Human Chorionic Gonadotropin- urine (uhCG) *Pregnancy for ♀*
Baseline	✕	✕	✕	✕	✕	✕	✕	✕	✕
Week 2	✕	✕	✕						✕
Week 4-6	✕	✕	✕	✕		✕	✕	✕ *RPR only*	✕
3 Months	✕			✕		✕	✕	✕ *RPR only*	
6 Months	✕			✕		✕	✕		

Post-Exposure Prophylaxis for Hepatitis B Virus (HBV)

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.* Accessed: September 5, 2014.

CDC. CDC Guidance for Evaluating Health-Care Personnel for Hepatitis B Virus Protection and for Administering Postexposure Management. *MMWR*, 2013;62(RR-10); 1-19. Available at: *http://www.cdc.gov/Mmwr/preview/mmwrhtml/rr6210a1.htm?s_cid=rr6210a1_w.* Accessed: September 5, 2014.

Management of Exposures to HBV

- Any blood or body fluid exposure to an unvaccinated person should lead to the initiation of the hepatitis B vaccine series, unless they have not responded after a second complete vaccination series (after two 3-dose series)
  - Recombivax HB® 10 mcg or Engerix-B® 20 mcg IM at 0, 1, and 6 months (Consider 40 mcg dose if exposed person is on dialysis or is immunocompromised)
- When hepatitis B Immune Globulin (HBIG) is indicated, it should be administered as soon as possible after the exposure (preferably within 24 hours, but is recommended up to 14 days following an occupational exposure)
  - HBIG can be administered simultaneously with the hepatitis B vaccine, but at a separate site
- Test for hepatitis B surface antibody (HBsAb) 1-2 months after last dose of vaccine series or booster, adequate HBsAb ≥ 10 mIU/mL (>0.99 index value)
- Persons who have HBsAb < 10 mIU/mL, or who are unvaccinated or incompletely vaccinated, and sustain an exposure from a source pt who is HBsAg (+) or has an unknown HBsAg status, should undergo baseline testing for HBV infection as soon as possible after exposure, and follow-up testing approximately 6 months later
  - Baseline testing consists of hepatitis B surface antibody (HBsAb), hepatitis B surface antigen (HBsAg) and hepatitis B core antibody (HBcAb) total
  - Testing at 6 months consists of HBsAg and HBcAb total

EXPOSED PERSON'S IMMUNE STATUS	TREATMENT	
	Source HBsAg (+), HBsAg (unknown) or Not Available for Testing	**Source HBsAg (-)**
Unvaccinated or Incomplete Vaccination	HBIG (0.06 mL/kg IM) x 1 and vaccinate	Vaccinate
Vaccinated-responder (HBsAb ≥ 10 mIU/mL)	No PEP	No PEP
Vaccinated-nonresponder (HBsAb < 10 mIU/mL)	After first vaccination series- HBIG (0.06 mL/kg IM) x 1 and revaccinate[16]	Revaccinate[16]
	After second vaccination series- HBIG (0.06 mL/kg IM) x 2 (at time of exposure and 1 month after exposure)	No PEP
Vaccination Completed (HBsAb response unknown)	Test exposed person for HBsAb. If HBsAb ≥ 10 mIU/mL, no PEP necessary	No PEP
	Test exposed person for HBsAb. If HBsAb < 10 mIU/mL, administer HBIG x 1 and revaccinate[16]	Revaccinate[16]

16. Give vaccine booster dose; check antibody response (HBsAb quantitative) 1-2 months later; give additional 2 doses (for total of 6 doses) if HBsAb remains < 10 mIU/mL and repeat HBsAb 1-2 months later.

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.* Accessed: September 5, 2014.

CDC. Recommendations for the Identification of Chronic Hepatitis C Virus Infection Among Persons Born During 1945-1965. *MMWR*, 2012;61(4) 1-34. Available at: *http://www.cdc.gov/mmwr/pdf/rr/rr6104.pdf*. Accessed: September 5, 2014.

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*. Accessed: September 5, 2014.

Management of Exposures to HCV

- Perform hepatitis C virus antibody test (HCV Ab) for the exposure source[17]; if source is an injection drug user or immunocompromised, consider adding HCV viral load testing
- Perform baseline testing for HCV Ab and alanine transaminase (ALT) activity for the exposed person
- Perform follow-up testing:
  - HCV Ab and ALT activity at 4-6 months **or**
  - HCV viral load at 4-6 weeks for earlier detection
- Confirm HCV Ab results reported positive by testing for HCV viral load

Post-Exposure Management for HCV

- No regimens proven beneficial for PEP
- Early identification of acute HCV and referral to hepatitis C specialist for management if infected

17. "Recommendations for the Identification of Chronic Hepatitis C Virus Infection Among Persons Born During 1945-1965" p.14 "Testing Methods Hepatitis C Antibody Testing" MMWR August 17, 2012 61(4).