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Management of a Blood Exposure in Healthcare



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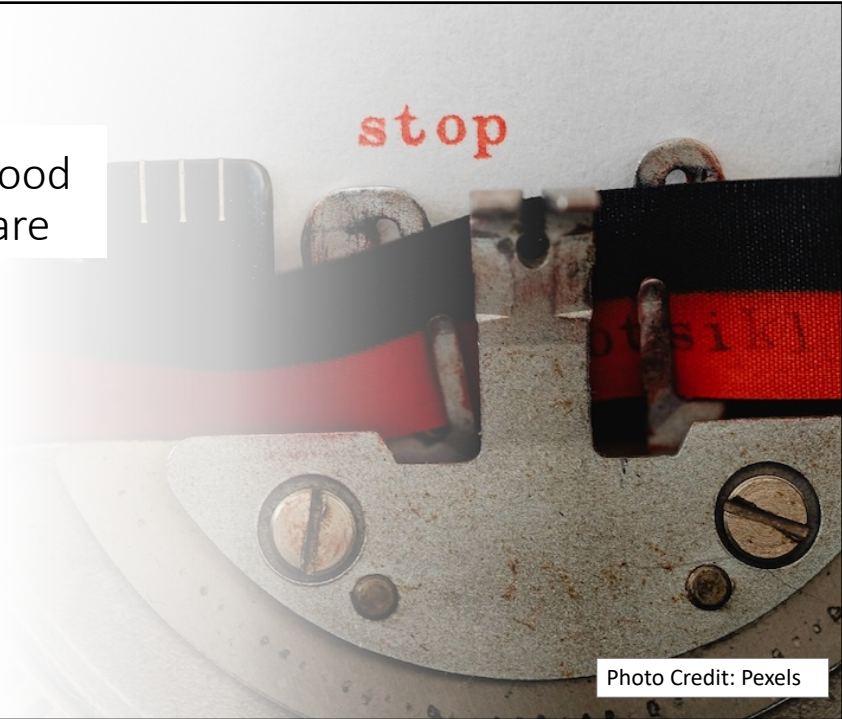


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Disclosure

Honorarium

- Hu-Friedy
- SciCan/Coltene

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Learning Objectives

- List the most common bloodborne pathogens.
- Identify different types of exposures occurring in the delivery of oral healthcare.
- Discuss the post exposure process for the source patient and exposed worker.

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Risk
of
Exposure

Worker to patient

Patient to worker

Patient to patient

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Requirements of BBP Standard

Written Exposure Control Plan ← Required

Hep B vaccination at no cost to the employee ← Required

Labels and signs to communicate hazards

PPE

Enforcement of work practice controls

Use of engineering controls

Post exposure follow-up ← Required

Record keeping



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Worker Safety:
Focus on
Prevention

Training

Hepatitis B Vaccination

Hazard Assessment

Sharps Safety

Photo Credit: KKG

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Hepatitis B Vaccine

- After training
- Within 10 working days of assignment
- Titer for at-risk employees
- *Repeat* series if no documentation



Photo Credit: PP

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Hepatitis B and Healthcare Personnel



IAC answers frequently asked questions about how to protect healthcare personnel

Experts from the Immunization Action Coalition (IAC) answer your questions about hepatitis B (HepB) vaccine. You'll find additional Q&As about hepatitis B vaccine on the "Ask the Experts" section of immunize.org at www.immunize.org/askexperts/experts_hepb.asp

Hepatitis B Vaccination

Which people who work in healthcare settings need hepatitis B vaccine?

The Occupational Safety and Health Administration (OSHA) requires that hepatitis B vaccine be offered to healthcare personnel (HCP) who have a reasonable expectation of being exposed to blood or body fluids on the job. This requirement does not include personnel who would not be expected to have occupational risk (e.g., general office workers).

Enerix-B (GSK) or Recombivax HB (Merck) may be completed with HepBisay-B. However, data are limited on the safety and immunogenicity effects when HepBisay-B is interchanged with hepatitis B vaccines from other manufacturers. When feasible, the same manufacturer's vaccines should be used to complete the series. However, vaccination should not be deferred when the manufacturer of the previously administered vaccine is unknown or when the vaccine from the same manufacturer is unavailable.

The 2-dose hepatitis B vaccine series only applies when both doses in the series consist of HepBisay-B. Series consisting of a combination of 1 dose of HepBisay-B and a vaccine from a different manufacturer should consist of 3 total vaccine doses and should adhere to the 3-dose schedule minimum intervals of 4 weeks between dose 1 and 2, 8 weeks between dose 2 and 3, and 16 weeks between dose 1 and 3. Doses administered at less than the minimum interval should be repeated.

should be vaccinated against hepatitis B if they haven't been previously vaccinated. Receipt of the vaccine is not a reason to discontinue breast-feeding.

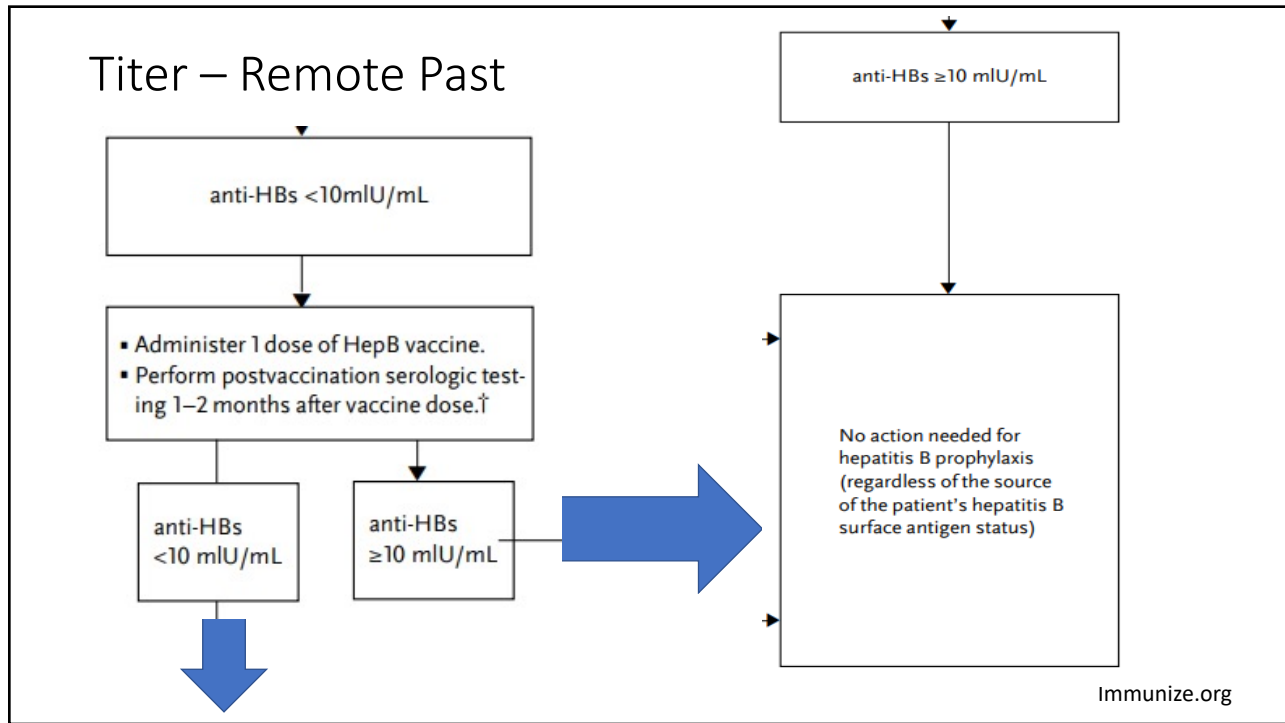
There are no clinical studies of HepBisay-B in pregnant women. Available human data on HepBisay-B administered to pregnant women are insufficient to assess vaccine-associated risks in pregnancy. Until safety data are available for HepBisay-B, providers should continue to vaccinate pregnant women needing hepatitis B vaccination with a vaccine from a different manufacturer.

Is there a recommendation for routine booster doses of hepatitis B vaccine?

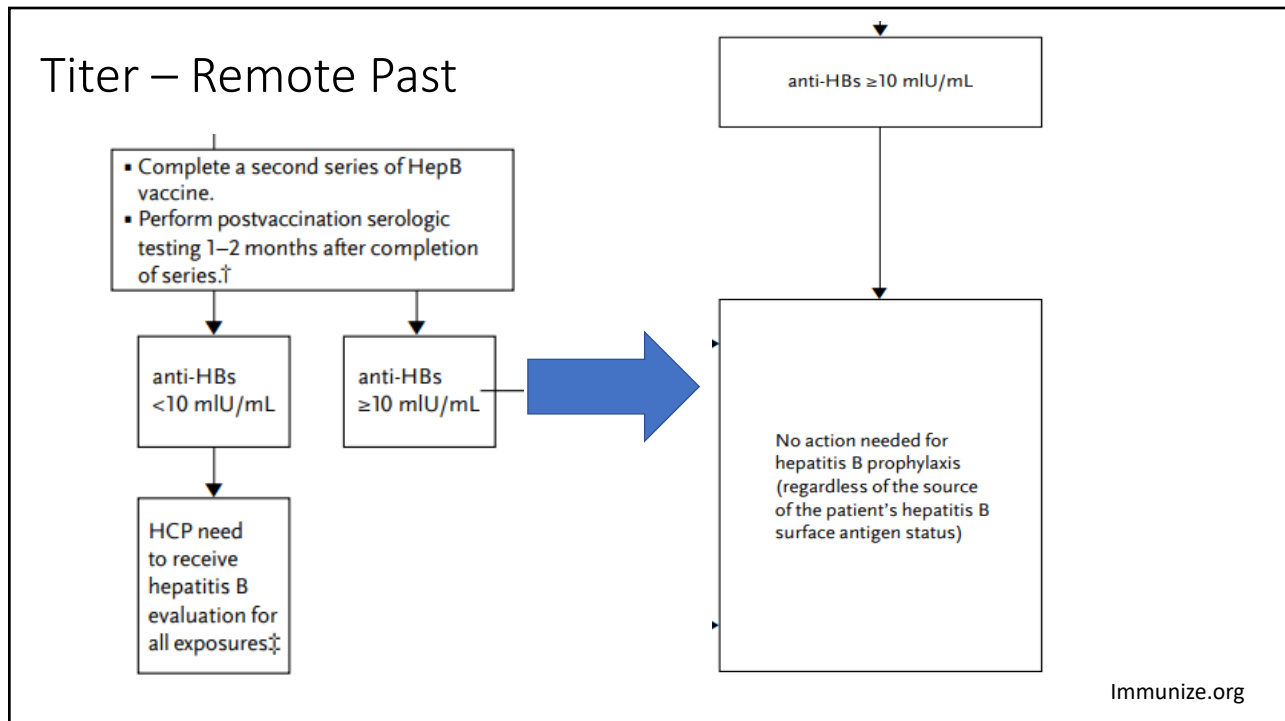
No. HCP who have documentation of receiving a complete series of hepatitis B vaccine and who subsequently tested positive for anti-HBs (defined as anti-HBs of ≥ 10 mIU/mL) are considered to be immune to hepatitis B. Immunocompetent persons who also have followed the protocol have long-term pro-

Immunize.org

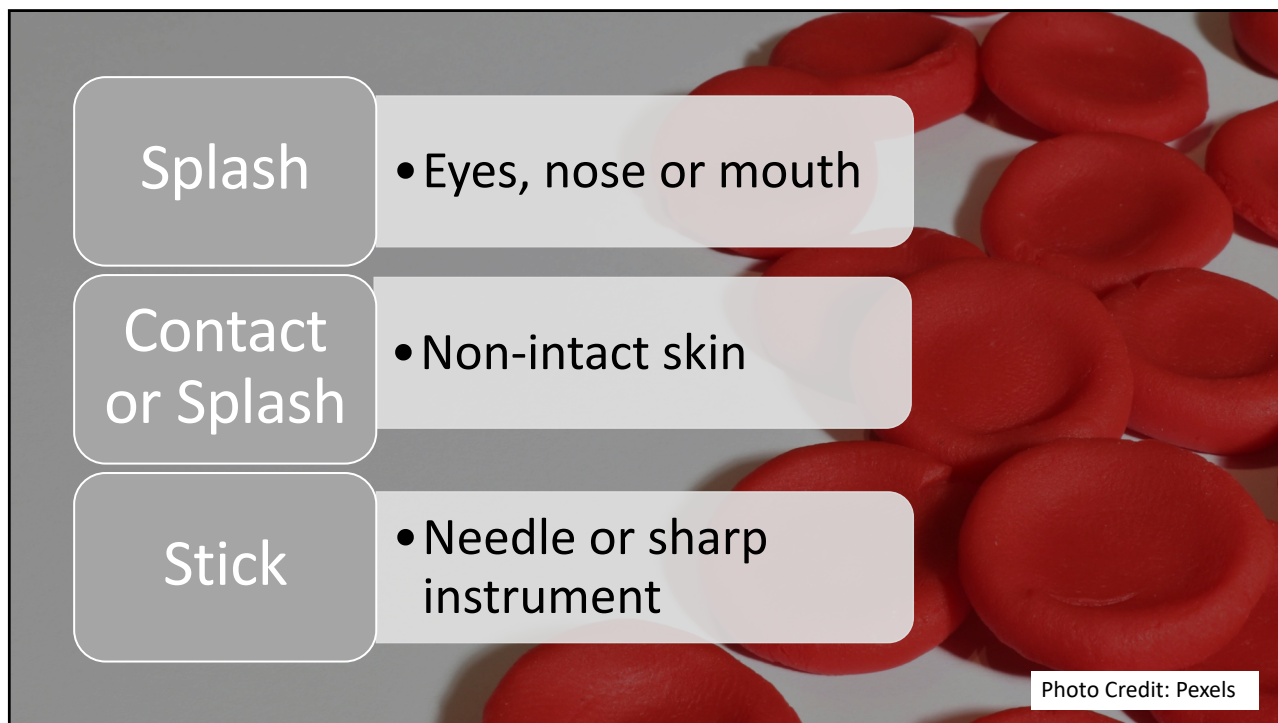
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Splash

- Eyes, nose or mouth

Contact or Splash

- Non-intact skin

Stick

- Needle or sharp instrument

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Exposure or *EXPOSURE*?

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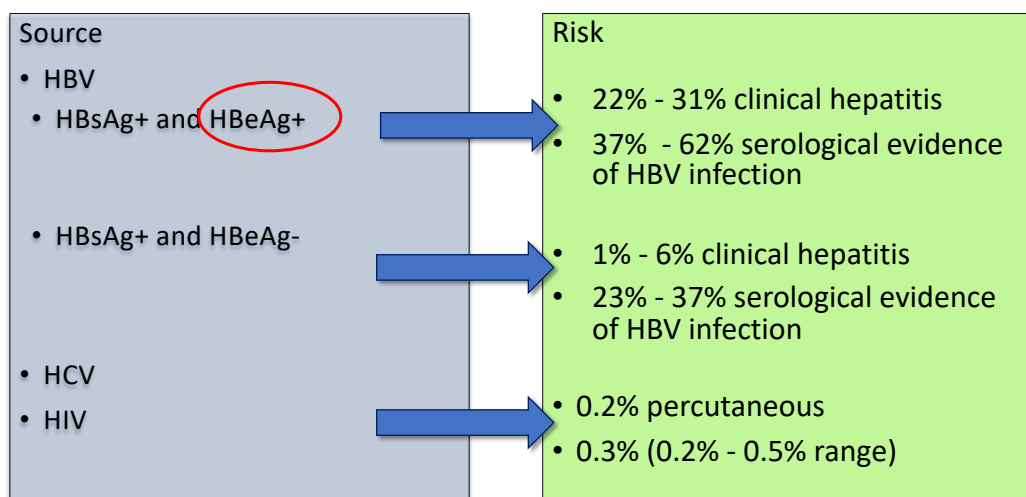
Determination of Risk

- Type and amount of body substance
- Type of exposure
- Infection status of the source
- Susceptibility of the exposed person



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Risk After Needlestick



URL : <https://stacks.cdc.gov/view/cdc/6853>

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Post Exposure Evaluation and Follow-up

(3) Following a report of an exposure incident, the employer shall make **immediately available** to the exposed employee a **confidential medical evaluation and follow-up**, including at least the following elements:

- (i) Documentation of the route(s) of exposure, and the circumstances under which the exposure incident occurred;
- (ii) *Identification and documentation of the source individual*, unless the employer can establish that identification is infeasible or prohibited by state or local law;
- (iii) Collection and testing of blood for HBV and HIV serological status;
- (iv) Post-exposure prophylaxis, when medically indicated, as recommended by the U.S. Public Health Service;
- (v) Counseling; and
- (vi) Evaluation of reported illnesses.

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Photo Credit: KKG

Checklist

- ✓ Qualified healthcare provider
- ✓ Accredited laboratory for testing
- ✓ Establish the relationship in advance
 - ✓ Rapid HIV testing
 - ✓ Post exposure medication
 - ✓ Payment
 - ✓ Hours of operation
 - ✓ Wait times
 - ✓ Most recent guidance?

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Next Steps

- Wash
- Flush
- Irrigate eyes
 - Where is the closest eyewash?
 - Do workers know how to use it?
- Report
- Document



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Incident Report Details

- Date and time
- Details of the procedure performed
- Details of the exposure
- Details on known health issues
 - Source
 - Worker
- Postexposure management

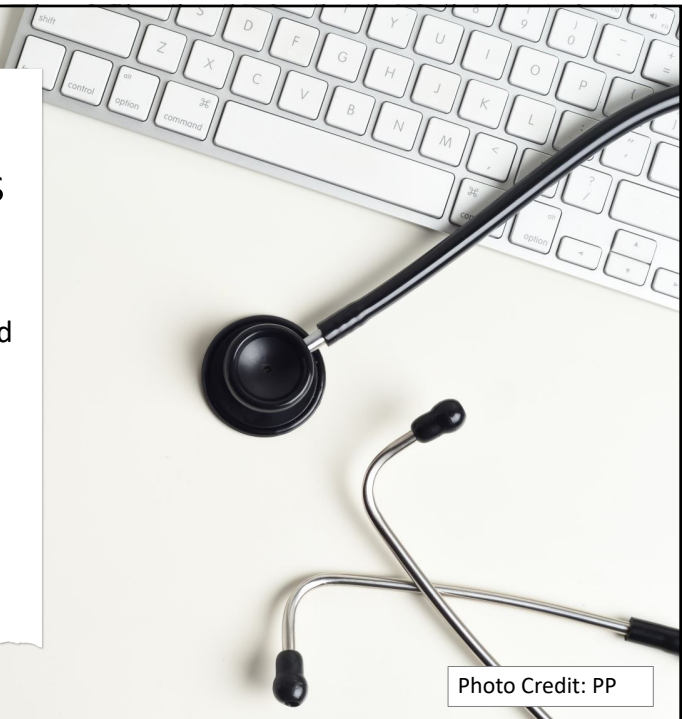


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First Line Resources

- Clinicians' Post Exposure Prophylaxis (PEP) Line at 1-888-448-4911 or go to: <https://nccc.ucsf.edu/>
- Updated US Public Health Service guidelines for the management of occupational exposures to human immunodeficiency virus and recommendations for postexposure prophylaxis. Nov 2013, Update (May 23, 2018). <https://stacks.cdc.gov/view/cdc/20711>
- CDC Guidance for Evaluating Health-Care Personnel for Hepatitis B Virus Protection and for Administering Postexposure Management. Dec 2013. <https://www.cdc.gov/mmwr/preview/mmwrhtml/rr6210a1.htm>
- Moorman AC, de Perio MA, Goldschmidt R, et al. Testing and Clinical Management of Health Care Personnel Potentially Exposed to Hepatitis C Virus — CDC Guidance, United States, 2020. MMWR Recomm Rep 2020;69(No. RR-6):1–8. DOI: <http://dx.doi.org/10.15585/mmwr.rr6906a1>

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Source Patient Testing

- Obtain patient consent based on State law
- HIV Antibody
 - Rapid HIV test
 - Rapid HIV not available, expedite HIV test
- Hepatitis B Surface Antigen (HBsAG)
 - **Source patient testing is not indicated if exposed worker has documented immunity**
- Hepatitis C
 - *Nucleic acid test (NAT) for hepatitis C virus (HCV) RNA*
 - Anti-HCV with reflex to NAT if positive.

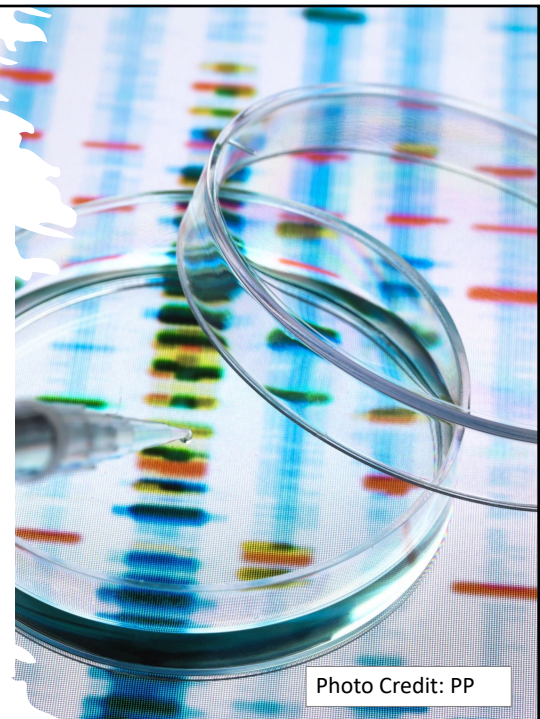


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Morbidity and Mortality Weekly Report (*MMWR*)

Recommendations and Reports / July 24, 2020 / 69(6);1-8

Anne C. Moorman, MPH¹; Marie A. de Perio, MD²; Ronald Goldschmidt, MD³; Carolyn Chu, MD³; David Kuhar, MD⁴; David K. Henderson, MD⁵; Susanna Naggie, MD⁶; Saleem Kamili, PhD¹; Philip R. Spradling, MD¹; Stuart C. Gordon, MD⁷; Mark B. Russi, MD⁸; Eyasu H. Teshale, MD¹ ([View author affiliations](#))

[View suggested citation](#)

Summary

Exposure to hepatitis viruses is a recognized occupational risk for health care personnel (HCP). This report establishes new CDC guidance that includes recommendations for a testing algorithm and clinical management for HCP with potential occupational exposure to hepatitis C virus (HCV). Baseline testing of the source patient and HCP should be performed as soon as possible (preferably within 48 hours) after the exposure. A source patient refers to any person receiving health care services whose blood or other potentially infectious material is the source of the HCP's exposure. Two options are recommended for testing the source patient. The first option is to test the source patient with a nucleic acid test (NAT) for HCV RNA. This option is preferred, particularly if the source patient is known or suspected to have recent behaviors that increase risk for HCV acquisition (e.g., injection drug use within the previous 4 months) or if risk cannot be reliably assessed. The second option is to test the source patient for antibodies to

Article Metrics

Altmetric:



Citations: 0

Views: 4,989
Views equals page views plus PDF downloads

Metric Details

Updated Hepatitis C Testing

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Testing Definitions

- HCV NAT for HCV RNA
 - **HCV RNA** in blood, obtained by nucleic acid testing (**NAT**), is a marker for **HCV viremia** and is **detected only in persons who are currently infected**. Persons with reactive results after **HCV antibody testing** should be evaluated for the presence of **HCV RNA** in their blood.
 - Detected within 1 – 2 weeks after exposure.
- Anti—HCV
 - The **HCV antibody test**, sometimes called the **anti-HCV test**, looks for antibodies to the **hepatitis C virus** in blood. Antibodies are chemicals released into the bloodstream when someone gets infected.

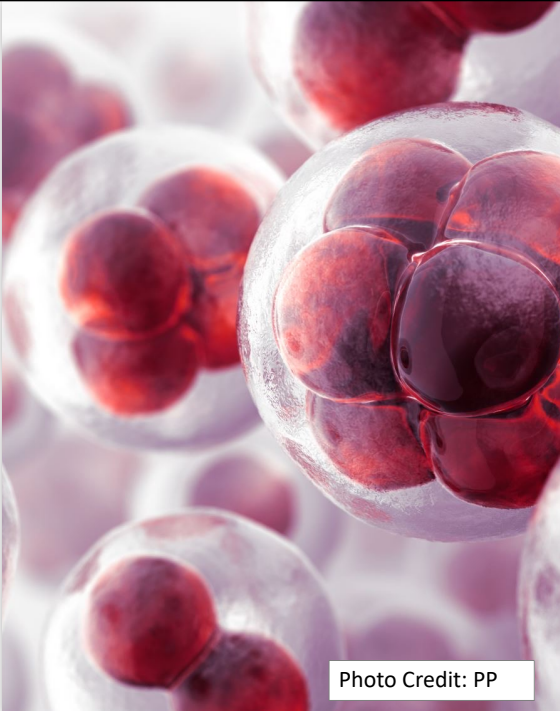


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Rapid HIV Test

Therefore, an employer's failure to use rapid HIV antibody testing when testing as required by paragraph 1910.1030(f)(3)(ii)(A) *would usually be considered a violation of that provision.*

OSHA Standard Interpretation

“Rapid HIV testing of source patients facilitates timely decision making regarding the need for administration of HIV PEP after occupational exposures to sources whose HIV status is unknown.”

Updated U.S. Public Health Service guidelines for the management of occupational exposures to HIV and recommendations for postexposure prophylaxis. 9.25.13

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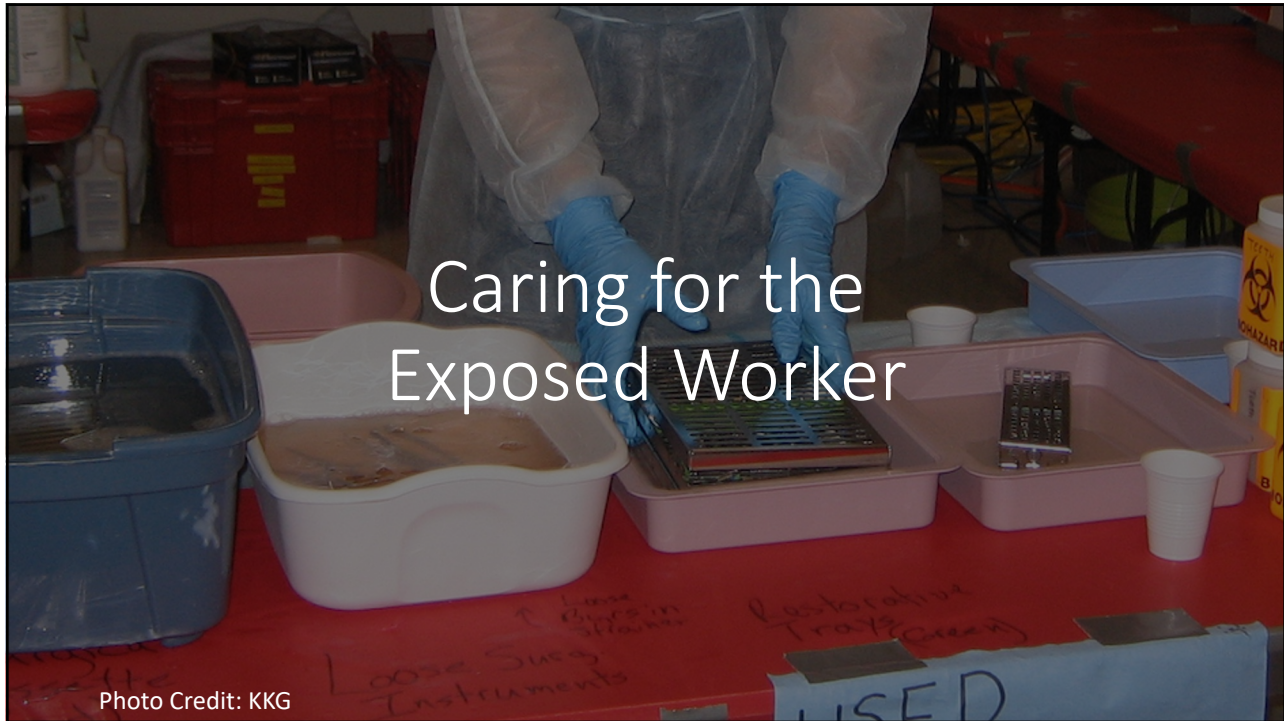
Source Declines?

- Have provider explain.
- Required by state law?
- Focus on the worker.



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HCP Exposure Testing Process

- Conduct baseline testing for all exposures:
 - HIV Antibody
 - Hepatitis B Surface Antigen (HBsAG)
 - Testing of employee is not indicated, if documented immunity to hepatitis B.
 - Anti-Hepatitis C Virus (Anti-HCV)
- Or
 - Anti-Hepatitis C Virus (Anti-HCV)
 - HIV/Hep B: Test only if source patient testing positive or in an unknown exposure
- Follow-up for any indication of illness with additional testing for worker for up to 6 months.

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Worker Testing

Test for the virus
in the blood



- Baseline testing for anti-HCV with reflex to a NAT if positive should be conducted ASAP (preferably within 48 hours) after the exposure and may be simultaneous with source-patient testing.
- If follow-up testing of HCP is recommended based on the **source-patient's status**, test with a NAT at 3–6 weeks postexposure.
- If the HCP is NAT negative at 3–6 weeks postexposure, a final test for anti-HCV at 4–6 months postexposure is recommended.
- A source patient or HCP who is positive for HCV RNA should be referred to care.

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Post Exposure Prophylaxis Hepatitis B

- HBIG
- Hepatitis B vaccination



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Post Exposure Prophylaxis HIV

- Determine the HIV status of the source patient.
- Start PEP medication regimens as soon as possible after occupational exposure to HIV and continue them for a 4-week duration.
- New Recommendation: PEP medication regimens should contain 3 (or more) antiretroviral drugs.
- Provide close follow-up for exposed personnel that includes counseling, baseline and follow-up HIV testing, and monitoring for drug toxicity.
- Follow-up appointments within 72 hours of an HIV exposure.



Updated US Public Health Service guidelines for the management of occupational exposures to human immunodeficiency virus and recommendations for postexposure prophylaxis. Nov 2013, Update (May 23, 2018).

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HCP Follow-up Testing Process IF Exposed to a Virus or Unknown Exposure National Clinician Consultation Center

Virus	First follow-up	Final follow-up
Hepatitis B		6 months
Hepatitis C	3 – 6 weeks	4 – 6 months
HIV	6 weeks	3 months

<https://nccc.ucsf.edu/clinical-resources/pep-resources/pep-quick-guide-for-occupational-exposures/>

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Exposure to HIV + Hep C Positive Source

- Extended HIV testing to 12 months is indicated only for HCP who actually acquire HCV infection after exposure to an HCV-HIV co-infected source person.
- If SP cannot be tested for HIV or SP is unknown, testing should be as above.
- Symptoms of acute HIV should prompt immediate evaluation

<https://nccc.ucsf.edu/clinical-resources/pep-resources/pep-quick-guide-for-occupational-exposures/>

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Worker Declination

- I have been fully trained on the Exposure Control Plan, and I understand I may have contracted an infectious disease such as HIV, HCV or HBV. I also understand the implications of contracting these diseases.
- I have been offered follow-up medical testing and counseling free of charge by my employer to determine whether or not I have contracted an infectious disease such as HIV, HCV, or HBV.
- Despite all the information I have received, I freely decline this post-exposure evaluation and follow-up care.

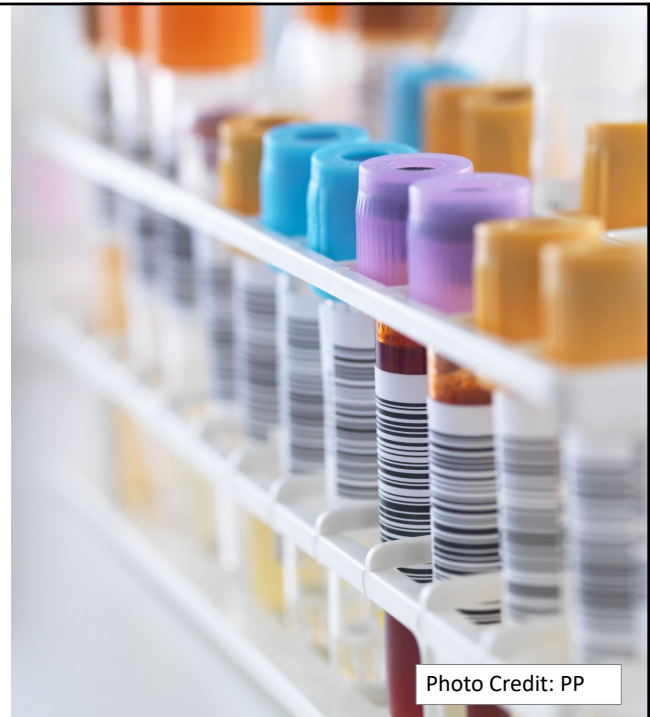


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Provide Documents to HCP

- Bloodborne Pathogen Standard
- Job description
- Incident report
- Medical records of the worker
- Source individual's blood testing results if available

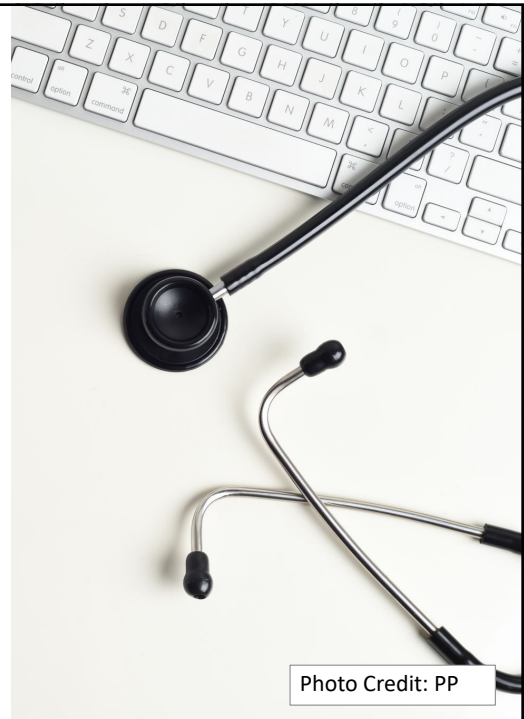


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Written Letter of Opinion

- Employer obtains + provides employee a copy within 15 days.
- Hepatitis B vaccination: whether Hepatitis B vaccination is indicated for an employee, and if the employee has received such vaccination.
- Post-exposure evaluation and follow-up:
 - Employee informed of the results of the evaluation;
 - Employee told about any medical conditions resulting from exposure requiring further evaluation or treatment.
- All other findings or diagnoses are confidential.

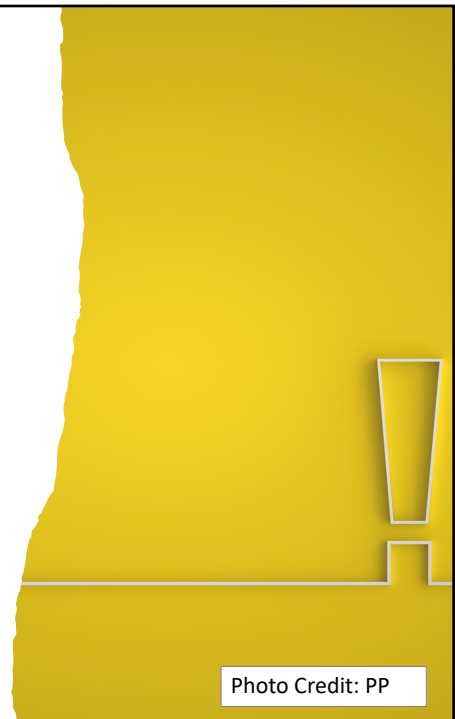


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Employee Confidentiality

- Exposed worker – source patient results
- Doctor is both the employer and the evaluating healthcare professional
- Medical information is not to be discussed with or revealed to others

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Confidential Medical Record

- Name and social security number
- HBV vaccination status, incident reports, exam results
- Information provided to HCP
- Written letter of opinion
- 30 years past last date of employment
- Records requested provide a copy:
 - Employee or anyone with the employee's written consent
 - Director of NIOSH or HHS and/or Assistant Secretary of Labor

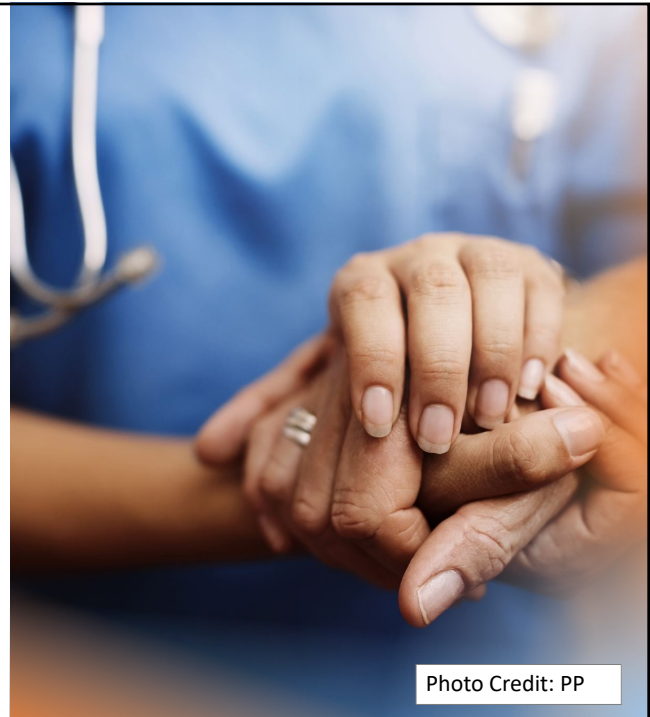
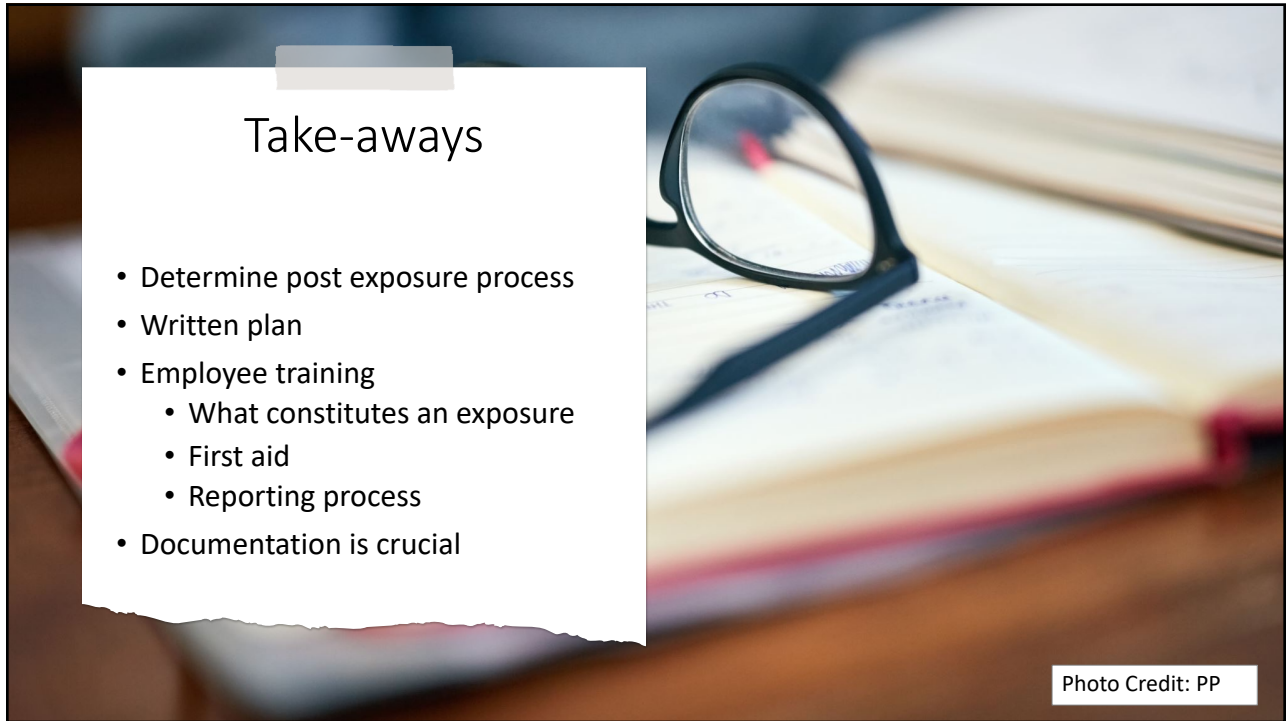


Photo Credit: PP

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Take-aways

- Determine post exposure process
- Written plan
- Employee training
 - What constitutes an exposure
 - First aid
 - Reporting process
- Documentation is crucial

Photo Credit: PP

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Questions?

Thank you!

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Life is short. Do stuff that matters!




Photo Credit: KKG

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Resources/References

- NIOSH Website - Bloodborne Diseases <https://www.cdc.gov/niosh/docs/2007-157/default.html>
- Clinicians' Post Exposure Prophylaxis (PEP) Line at 1-888-448-4911 or go to: <https://nccc.ucsf.edu/>
- Updated US Public Health Service guidelines for the management of occupational exposures to human immunodeficiency virus and recommendations for postexposure prophylaxis. Nov 2013, Update (May 23, 2018).
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- CDC Guidance for Evaluating Health-Care Personnel for Hepatitis B Virus Protection and for Administering Postexposure Management. Dec 2013.
- Moorman AC, de Perio MA, Goldschmidt R, et al. Testing and Clinical Management of Health Care Personnel Potentially Exposed to Hepatitis C Virus — CDC Guidance, United States, 2020. MMWR Recomm Rep 2020;69(No. RR-6):1–8. DOI: <http://dx.doi.org/10.15585/mmwr.rr6906a1>.
- Immunize.org (2023, August 16). *Hepatitis B and Healthcare Personnel*. <https://www.immunize.org>