

BLAST INJURIES

Post-Exposure Prophylaxis for Bloodborne Pathogens



Background

Victims presenting from the scene of an explosive event, as well as those participating in recovery and transport efforts, including first responders, are at risk of exposure to bloodborne pathogens via body fluids and foreign bodies such as bone, contaminated weapon fragments, or other debris. For victims near the scene of an explosive event, biological foreign bodies such as bone can become projectiles that contribute to the spectrum of blast injury.

As noted in the U.S. Public Health Service guidelines for occupational exposure of health care workers, exposure to blood and other body fluids increases the risk of exposure to hepatitis B virus (HBV), hepatitis C virus (HCV), and human immunodeficiency virus (HIV).

Clinical Presentation

Individuals presenting from the scene of a bombing can subsequently be categorized into one of three major risk categories for exposure to blood or bodily fluids:

- Category 1. Penetrating injuries or nonintact skin exposures
- Category 2. Mucous membrane exposures
- Category 3. Superficial intact skin exposures without mucous membrane involvement

Initial Management

- HBV post-exposure prophylaxis (PEP) is recommended for individuals presenting from the scene with nonintact skin or mucous membrane exposure (Categories 1 and 2). The hepatitis B vaccination series (age-appropriate dose and schedule) should be initiated as soon as possible, preferably within 24 hours and not later than 7 days after exposure. The vaccine should be administered to those who:
 - Lack a reliable history of immunization against HBV; and
 - Have no previous history of contraindication to immunization against HBV.
- There is no prophylaxis recommended for HCV. Consider testing (immediately or during follow-up referral) if exposure is to a known or likely HCV-infected source or multiple sources. If testing is performed, obtain baseline (within 7–14 days) and follow-up (4–6 months) anti-HCV and ALT (Category 1; generally no action for Category 2).
- Generally, no PEP is warranted for HIV—consider action ONLY if exposure is to a known or highly likely HIV-infected source (Categories 1 and 2).
- No PEP or testing is recommended for those individuals presenting from the scene with possible superficial skin exposure (Category 3).

See Table 1 for summary.

Table 1. Recommended post-exposure management by risk category and specific pathogen

Risk Category	HBV	HCV	HIV
Category 1.	INTERVENE	CONSIDER TESTING	GENERALLY NO ACTION
Category 2.	INTERVENE	GENERALLY NO ACTION	GENERALLY NO ACTION
Category 3.	NO ACTION	NO ACTION	NO ACTION

Special Considerations regarding PEP Recommendations

Consultation from health care specialists knowledgeable about HBV, HCV, and HIV is ideal, in particular for pediatric patients and pregnant women. Health care professionals should be knowledgeable about consulting existing guidelines and recommendations regarding contraindications and precautions, counseling and education, testing, medical follow-up and, if PEP is initiated, management of adverse events. In addition, it should be recognized that following these recommendations in response to a mass casualty event could create a hepatitis vaccine demand that exceeds local resources.

Special Considerations regarding HIV PEP Recommendations

- HIV PEP should be rarely indicated; if it is indicated, start as soon as possible after exposure
- If indicated, do not delay PEP for HIV test results
- Collect specimens for baseline testing: HIV, CBC, LFTs, creatinine, pregnancy test
- Test in accordance with applicable state/local laws
- Consult experts: local infectious disease, hospital epidemiology, or occupational health consultant; local, state, or federal public health authorities
- PEpline 24-hours/day: 888-448-4911 (preferred) or <http://www.ucsf.edu/hivcntr/Hotlines/PEpline.html> Or HIV/AIDS Rx information service <http://aidsinfo.nih.gov>
- Continue for 4 weeks
- Discharge with written information, a 5–7 day supply of medication, and a follow-up appointment
- HIV specialist should reassess within 72 hours

This fact sheet is part of a series of materials developed by the Centers for Disease Control and Prevention (CDC) on blast injuries. For more information, visit CDC on the Web at: www.emergency.cdc.gov/BlastInjuries.