



Langley Research Center

LPR 1800.3B

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BLOODBORNE PATHOGENS

National Aeronautics and Space Administration

PREFACE

P.1 PURPOSE

a. Langley Research Center (LaRC) is committed to providing a safe and healthy work environment for all of its employees. In pursuit of this goal, the following plan is provided to eliminate or minimize occupational exposure to bloodborne pathogens in accordance with OSHA standard 29 CFR 1910.1030, "Occupational Exposure to Bloodborne Pathogens."

b. Given that NASA LaRC has a level of occupational exposure different from a traditional healthcare environment (the intent of the entire OSHA standard), the scope of this requirement addresses the unique needs of this Center. This applies to the occupational exposure of responders to workplace emergencies and incidents where the involvement of employees in the response is rendered only as a collateral duty. This will be consistent with OSHA's compliance directive CPL 02-02-069, "Enforcement Procedures for the Occupational Exposure to Bloodborne Pathogens."

c. The workplace environment of some employees involves occupational exposures that are not collateral, which means that they render assistance on a regular basis (i.e., occupational health professionals).

(1) When employees have occupational exposures that are not collateral, their organization of assignment must develop additional procedures to address unique exposures.

(2) Category 1 and 2 employees, as identified in the Exposure Control Plan within this document, who are reasonably expected to come in contact with blood or other potentially infectious materials, will be provided training according to OSHA standards, and shall be offered Hepatitis B vaccination series at no cost to the employee. These employees have been identified as at risk for occupational exposure and are encouraged to get the Hepatitis B vaccination series within the first 10 days of initial work assignment. If declined by the employee, the Hepatitis vaccination series will still be offered to them at any time upon request and at least during each subsequent protocol/surveillance examination.

d. The purpose of this Exposure Control Plan is to assist the Center in implementing and ensuring compliance with established standards designed to protect employees from serious injuries or illnesses caused by occupational exposure to bloodborne pathogens. This document addresses:

- (1) Explanations/definitions of terms
- (2) Responsibilities
- (3) Exposure incidents
- (4) Recordkeeping

- (5) Training/communications

P.2 APPLICABILITY

This requirement is applicable to all on-site employees: civil service, military, contractor, NASA exchange personnel, grantees, and research associates.

P.3 AUTHORITY

- a. 29 CFR 1910.1030, "Occupational Exposure to Bloodborne Pathogens."
- b. CPL 02-02-069, "Enforcement Procedures for the Occupational Exposure to Bloodborne Pathogens."
- c. NPD 1800.2 "NASA Occupational Health Program."

P.4 APPLICABLE DOCUMENTS AND FORMS

- a. NPR 1800.1C, "NASA Occupational Health Program Procedures."
- b. LPR 1845.1, "Automated External Defibrillator Program."
- c. LF 8, "Exposure Report Form."
- d. LF 53, "Hepatitis B Vaccination Consent/Documentation/Declination Form."

P.5 MEASUREMENT/VERIFICATION

None

P.6 CANCELLATION

LPR 1800.2, dated March 7, 2008

Original signed on file

David E. Bowles
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1. PROGRAM ADMINISTRATION

1.1 Center Director

The chain of responsibility for ensuring that there is a safe work environment at NASA LaRC starts with the Center Director and flows downward through management and supervisors to the employees.

1.2 Center's Occupational Health Officer

a. The Center's Occupational Health Officer (OHO) in consultation with Center Medical Director (CMD) will be responsible for implementing this program. He/she will maintain, review, and update the plan whenever necessary to include new or modified tasks and procedures.

b. The OHO shall ensure that all medical actions required under this program are performed and that appropriate employee health and OSHA records are maintained in a secure location.

1.3 Supervisors and Managers

a. Supervisors and managers shall be responsible for implementing applicable regulations, thereby enhancing a safe work environment under their control. It is their responsibility to provide resources and direction for compliance with OSHA regulations and this plan. Essential functions include:

(1) Providing training during initial employee orientation in adherence to Universal Precautions when rendering first aid.

(2) Referring employees with occupational exposures to bloodborne pathogens to the Occupational Medicine Clinic for evaluation and consultation.

(3) Performing and coordinating required investigations of exposure incidents, using LF 8, "Exposure Report Form."

(4) Provide annual and supplemental training in Universal Precautions and Bloodborne Pathogens to employees, to include:

(a) An explanation of what constitutes an exposure incident.

(b) An explanation of the use and limitations of work practices and personal protective equipment (PPE).

(c) An explanation of the types, uses, locations, removal, handling, decontamination, and disposal of PPE.

(d) Information on the appropriate actions to take and persons to contact in an emergency involving blood or other potential infectious materials (OPIM).

(e) An opportunity for interactive questions and answers with a trainer familiar with teaching lay personnel about the delivery of emergency care.

(5) Provide PPE and training in its use appropriate to the work environment. Latex gloves and disposable cardiopulmonary resuscitation (CPR) face shields are located with Automated External Defibrillators (AED's) on the Center.

(6) Training records shall be completed for each employee after training. These records are kept for a minimum of three (3) years by the employer and include the dates of the training sessions; the contents or a summary of the training sessions; the names and qualifications of trainers; and the names and job titles of all persons attending the training sessions.

1.4 Employees

a. Employees are responsible for conducting tasks and procedures in a manner that minimizes risk to themselves and others. All employees shall:

(1) Attend training.

(2) Use caution when assisting injured individuals to prevent contact with the injured individual's blood or body fluids.

(3) Report mishaps to the immediate supervisor and Center emergency response personnel. Do not clean up areas that have been contaminated with blood or other body fluids, as they will be cleaned by properly trained staff. If exposure to blood or other potentially infectious material (OPIM) occurs, seek medical care and evaluation at the occupational medicine clinic.

(4) Adhere to engineering and work practice controls.

(5) Use available PPE, observing the following precautions:

(a) Remove PPE after it becomes contaminated and before leaving the work area.

(b) Wash hands immediately or as soon as feasible after removing gloves or other PPE.

(c) Used PPE will be disposed of by transferring it to emergency medical service (EMS) personnel upon their arrival at the scene. PPE will not be disposed of in standard trash receptacles.

(d) If available, wear protective gloves if hand contact with blood or OPIM is reasonably anticipated, and when handling or touching contaminated items or surfaces. Replace gloves if torn, punctured, or contaminated, or when their ability to function as a barrier is compromised.

(e) Never wash or decontaminate disposable gloves for reuse.

(f) When available, use CPR shields/masks with a one-way barrier device when providing rescue breathing.

(g) Remove immediately or as soon as feasible any garment contaminated by blood or OPIM, in such a way as to avoid contact with the contaminated surface.

(h) Any waste product with blood or OPIM shall be transferred to EMS when they arrive to transport a victim. Labeling of infectious waste generated at the scene will be conducted by EMS as part of the transfer procedure.

(i) Any personal garments contaminated with blood or OPIM must be laundered by a service that is certified to handle such items.

1.5 Occupational Medicine Clinic

a. The Occupational Medicine Clinic staff shall advise LaRC management on matters concerning bloodborne pathogens, and provide medical management support during exposure incidents. The Clinic shall:

(1) Provide medical support to employees who experience occupational exposure to bloodborne pathogens. Appropriate post-exposure evaluation, prophylaxis, and follow-up will be provided. When requested, confidential psychological counseling is available to government employees through the Employee Assistance Program. Hepatitis B vaccine shall be offered within 24 hours to all government employees who are unvaccinated first aid responders (i.e. AED/CPR) and who render assistance in any situation involving the presence of blood or OPIM, regardless of whether an actual "exposure incident" occurred. LF 53 shall be filled out on each person offered Hepatitis B vaccine and kept with medical records.

(2) Assist in investigating/managing exposure incidents and reporting findings to LaRC management and agencies as required.

(3) Maintain medical records:

(a) Medical records are maintained for each employee with an occupational exposure in accordance with 29 CFR 1910.1020, "Access to Employee Exposure and Medical Records." A written statement that the exposed employee has been informed of the results of the evaluation and about any exposure-related condition that requires additional assessment and treatment will be provided to the employee.

(b) These confidential records shall be retained for 30 years post-employment.

(c) A copy of an employee's medical record shall be provided to the employee or a designated recipient upon written consent from the employee within 15 working days.

(d) Requests for copies of employee medical records must be sent to the Occupational Medicine Clinic, Building 1216, Mail Stop 409.

(e) The Office of Chief Counsel shall be consulted regarding content, disclosure, and release of medical records.

(4) Transfer relevant medical records to health care provider(s) designated by an exposed person with written consent.

- (5) Provide initial evaluation and first aid treatment of contractors. Contractors who perform tasks that may result in an occupational exposure shall comply with their employer's Bloodborne Pathogens Exposure Control Plan. After an "exposure incident," contractor personnel are authorized to have an initial evaluation and first aid treatment at the occupational medicine clinic. Contractors shall be assisted in obtaining follow up evaluation and treatment by an outside provider or facility if required.
- (6) Provide confidential medical evaluations and follow-up care for civil servants:
- (a) Document the routes of exposure and how the exposure occurred.
 - (b) Identify and document information about an individual(s) who may be the source of an exposure (source individual) unless identification is infeasible or prohibited by state or local law.
 - (c) Obtain consent and make arrangements to have the source individual tested as soon as possible to determine HIV, HCV and HBV infectivity; document that the source individual's test results were conveyed to the employee's health care provider. If the source individual is already known to be HIV, HCV, and/or HBV positive, new testing is not performed.
 - (d) Assure that an exposed employee is provided with the source individual's test results and with information about applicable disclosure laws and regulations concerning the identity and infectious status of the source individual (e.g., laws protecting confidentiality).
 - (e) After obtaining consent, collect an exposed employee's blood as soon as feasible after an exposure incident, and test for HBV and HIV serological status.
 - (f) If an employee refuses HIV serological testing during collection of blood for baseline testing, preserve the baseline blood sample for at least 90 days. If the employee changes his/her mind and elects to have the baseline sample tested during this waiting period, perform testing as soon as feasible.
- (7) Evaluate all exposure incidents to determine if the case meets OSHA's recordkeeping requirements (29 CFR 1904). At a minimum, an electronic NASA Langley Form 95 via Incident Reporting Information System shall be completed when a recordable injury results from an accident/incident or exposure to bloodborne pathogens occurs and:
- (a) Is a work-related injury that involves loss of consciousness, transfer to another job, change in working conditions or duty restrictions or
 - (b) Results in a recommendation for medical treatment beyond first aid (for example, gamma globulin, Hepatitis B immune globulin, Hepatitis B vaccine, etc) regardless of dosage, or
 - (c) Results in a disease process.

1.6 Contracting Officer's Technical Representative/Occupational Health Officer/Center Medical Director

- a. The Occupational Health Officer is responsible for the implementation of this plan, providing oversight to the occupational medicine clinic, and serving as a resource

on bloodborne pathogen issues. The Occupational Health Officer and Center Medical Director:

- (1) Advises and assists, on request, organizations in the development of their bloodborne pathogens exposure control plan.
- (2) Provides health care professional(s), after an exposure incident, with the following:
 - (a) A description of the employee's job duties relevant to the exposure incident.
 - (b) Route(s) of exposure.
 - (c) Circumstances of exposure.
 - (d) If possible, results of source individual blood test.
 - (e) Relevant employee medical records, including vaccination status.
- (3) Provides an affected employee with a copy of the evaluating health care professional's written opinion within 15 days after completion of the evaluation.
- (4) Reviews the circumstances of all exposure incidents to determine:
 - (a) Engineering controls in use at the time (if applicable).
 - (b) Work practices followed.
 - (c) A description of the device being used (tool, machinery, AED, etc.).
 - (d) Protective equipment or clothing that was used at the time of exposure incident (gloves, CPR shields/masks, etc.).
 - (e) Disposition of contaminated PPE and garments.
 - (f) Location of the incident (office, parking lot, cafeteria, shop, etc.)
 - (g) Procedure being performed when the incident occurred (performing CPR, rendering wound care, etc.).
 - (h) Employee's documented training (first aid, CPR, AED, etc.).
- (5) Ensures that appropriate changes are made to this plan.
 - (a) Changes may include an evaluation of safer devices, implementation of revised OSHA guidelines, changes in work practices, etc.
 - (b) Annual review and update of this plan, or more frequently, to reflect any new or modified tasks and procedures that affect occupational exposure.

2. Exposure Control Plan

a. OSHA requires employers to perform an exposure determination of all employees who may incur occupational exposure to blood or OPIM. The exposure determination is made without regard to the use of PPE (employees are considered to be exposed even when they wear PPE). Employees designated as category I or II according to risk of exposure to blood or OPIM as determined by their supervisor. Category 1 and 2 employee shall be provided Hepatitis B vaccination series with 10 days of initial work assignment. Employees shall be given a declination LF 53 by Medical Clinic licensed nurse. The Employee may request antibody testing.

(1) Category I - All employees in the following job classifications have occupational exposure.

- (a) Medical Technologists
- (b) Nurses
- (c) Providers
- (d) Contractor Spill Response Team

(2) Category II - Job classifications in which some employees have occupational exposure.

- (a) Childcare Workers
- (b) Radiology Technologists, when positioning a patient for x-ray in the presence of blood or OPIM

b). Organizations required to have sub-exposure plans include Occupational Medicine, Exchange Child Development Center, and contractor for the Spill exposure team.

3. Post-Exposure Management

a. In the event of any known or suspected occupational exposure to blood or potentially infectious materials, the exposed employee must report promptly to a supervisor and the LaRC Occupational Medicine Clinic for medical aid and consultation. After regular work hours, the employee will call 911 from any Center telephone or 864-2222 from a cellular telephone (LaRC Dispatch Office) for appropriate first aid and decontamination, or assistance in reporting to a local hospital emergency room and report to the LaRC Occupational Medicine Clinic upon reporting for duty on the next regular work day. The scene may be preserved, if appropriate, for accident investigation, while preventing subsequent exposure risk.

b. The supervisor is responsible for ensuring the exposed employee receives all appropriate medical care, investigating the incident, and taking immediate and ultimate corrective actions.

c. If the source individual is known or can be identified, it is appropriate for the supervisor to suggest that the individual report to the LaRC Clinic for consultation/treatment, without discussion of blood testing. These proceedings should be documented; however, the source individual may not be named in the record without written consent.

e. It is the supervisor's responsibility to enable the employee(s) to schedule and attend convenient appointments for consultation, treatment, and counseling.

f. An immediately available confidential medical evaluation and follow-up shall be conducted by the Center Occupational Medicine Clinic. Following initial first aid (clean the wound, flush eyes or other mucous membrane, etc.), the following activities shall be performed:

- (1) Document the routes of exposure and how the exposure occurred.
- (2) Identify and document the source individual (unless the employer can establish that identification is infeasible or prohibited by state or local law).
- (3) Obtain consent and arrange to have the source individual tested as soon as possible to determine HIV, HCV, and HBV infectivity; document that the source individual's test results were conveyed to the employee's health care provider.
- (4) Test the source individual for HIV, HCV, and/or HBV, unless already known.
- (5) Assure that the exposed employee is provided with the source individual's test results and with information about applicable disclosure laws and regulations concerning the identity and infectious status of the source individual (e.g., laws protecting confidentiality).
- (6) Collect exposed employee's blood, after obtaining consent, as soon as feasible after exposure incident, and test blood for HBV and HIV serological status.
- (7) Preserve the baseline blood sample for at least 90 days if the employee refuses HIV serological testing during the collection of blood; if the exposed employee elects to have the baseline sample tested during this waiting period, perform testing as soon as feasible.
- (8) Recommend and offer follow-up testing at three (3), six (6), and twelve (12) months after incident. Subsequent follow-up shall be offered in accordance with current and/or newly implemented recommendations of the CDC, OSHA, and the LaRC Occupational Medicine Services Medical Director.

g. The Occupational Health Officer and Medical Director shall ensure that health care professional(s) responsible for employee's Hepatitis B vaccination and post-exposure evaluation and follow-up are given a copy of OSHA's bloodborne pathogens standard.

h. The Medical Director shall ensure that the health care professional evaluating an employee after an exposure incident receives the following:

- (1) A description of the employee's job duties relevant to the exposure incident.
- (2) Route(s) of exposure.

- (3) Circumstance of exposure.
 - (4) If possible, results of the source individual's blood test.
 - (5) Relevant employee medical records, including vaccination status.
- i. The employee receives a copy of the evaluating health care professional's written opinion within 15 days after completion of the evaluation.
- j. The Occupational Health Officer and Medical Director shall review the circumstances of all exposure incidents to determine:
- (1) Engineering controls in use at the time (if applicable).
 - (2) Work practices followed.
 - (3) A description of the device being used (including type and brand).
 - (4) Protective equipment or clothing that was used at the time of the exposure incident (gloves, CPR masks, etc.).
 - (5) Disposition of contaminated PPE.
 - (6) Location of the incident (office, parking lot, shop, cafeteria, etc.).
 - (7) Procedure being performed when the incident occurred.
 - (8) Employee's training.

APPENDIX A: DEFINITIONS

Blood: Human blood, human blood components, and products made from human blood, including plasma, platelets, serosanguinous fluids (for example, exudates from wounds).

Bloodborne Pathogens (BBP): Pathogenic microorganisms that are present in human blood and can cause disease in humans. These pathogens include Hepatitis B virus (HBV) and human immunodeficiency virus (HIV), and any pathogenic microorganism that is present in human blood and can infect and cause disease in persons who are exposed to blood containing the pathogen. Other examples include Hepatitis C, malaria, syphilis, babesiosis, brucellosis, leptospirosis, arboviral infections, relapsing fever, Creutzfeldt-Jakob disease, Human T-lymphotropic Virus Type 1, and viral hemorrhagic fever.

Contaminated: The presence or the reasonably anticipated presence of blood or other potentially infectious materials (OPIM) on a surface or in an item.

Decontamination: The use of physical or chemical means to remove, inactivate, or destroy bloodborne pathogens on a surface or item to the point where they are no longer capable of transmitting infectious particles and the surface or item is rendered safe for handling, use, or disposal.

Engineering controls: Controls (e.g. sharps disposal containers, self-sheathing needles) that isolate or remove the bloodborne pathogens hazard from the workplace.

Exposure incident: A specific eye, mouth, other mucous membrane, non-intact skin, or parenteral contact with blood or other potentially infectious materials that results from the performance of an employee's duties/activities. Non-intact skin includes skin with dermatitis, hangnails, cuts, abrasions, chafing, etc.

Hand washing facilities: A facility that provides an adequate supply of running potable water, soap, and single-use towels or hot air-drying machines.

HBV: Hepatitis B virus.

HIV: Human immunodeficiency virus.

Occupational exposure: Reasonably anticipated potential for exposure; for example, skin, eye, mucous membrane, or parenteral contact with blood or other potentially infectious materials that may result from the performance of an employee's duties.

Other potentially infectious materials (OPIM): The following human body fluids: semen, vaginal secretions, cerebrospinal fluid, synovial fluid, pleural fluid, pericardial fluid, peritoneal fluid, amniotic fluid, saliva in dental procedures, and all body fluids in

situations where it is visibly contaminated with blood, and all body fluids in situations where it is difficult or impossible to differentiate between body fluids, such as in emergency response. Any unfixed tissue or organ (other than intact skin) from a human (living or dead). HIV-containing cells or tissue cultures, organ cultures, and HIV- or HBV-containing culture media or other solutions; and blood, organs, or other tissues from experimental animals infected with HIV or HBV.

Parenteral: Piercing mucous membranes or the skin barrier through such events as needle sticks, human bites, cuts, and abrasions.

Personal Protective Equipment (PPE): Specialized clothing or equipment worn or used by an employee for protection against a hazard. General work clothes (e.g., uniforms, pants, shirts, or blouses) not intended to function as protection against a hazard are not considered to be personal protective equipment. PPE is located with automated external defibrillators (AEDs) on the Center, and includes latex gloves and a disposable plastic CPR shield.

Source individual: Any individual, living or dead, whose blood or other potentially infectious materials may be a source of occupational exposure to the employee. Examples include, but are not limited to, patients; trauma victims; human remains; donors of blood, blood components or organs; and subjects of emergency resuscitation.

Sterilize: The use of a physical or chemical procedure to destroy all microbial life, including highly resistant bacterial endospores. Sterilization includes procedures regulated by 9 VAC 20-120-280, "Containment and Cleanup Procedures," of the Code of Virginia, "Regulated Medical Waste Management."

Universal precautions: An approach to infection control. According to the concept of Universal precautions, all human blood, and certain human body fluids are treated as if known to be infectious for HIV, HBV, and other bloodborne pathogens. Universal precautions do not apply to feces, nasal secretions, sputum, saliva, sweat, tears, urine, and vomitus, unless they contain visible blood. Adherence to safe work practices and appropriate use of personal protective equipment are essential basic elements of implementation.

Work practice controls: Controls that reduce the likelihood of exposure by altering the manner in which a task is performed (e.g., prohibiting recapping of needles by a two-handed technique).