

COLUMBIA FIRE DEPARTMENT

Infection Control OPS-022

Standard Operating Guidelines Manual

RESCINDS: SOG #10-001 issued 12/15/92

PURPOSE: To provide a comprehensive infection control system which maximizes protection against communicable diseases for all Fire Department personnel and for the public that we serve.

SCOPE: This policy applies to all personnel within the Columbia Fire Department, Columbia-Richland Fire Service, both career and volunteer, who are involved in fire fighting, hazardous material incident control, rescue, or emergency medical services which involve occupational exposure to blood or other potentially infectious materials.

The Department recognizes the potential for transmission of certain bloodborne infections to firefighters through contact with blood and body fluids and requires that specific precautions to minimize the risk of exposures. Universal precautions will be used where there is blood or body fluids to protect firefighters, patients, and citizens against the spread of infectious diseases.

This plan will be reviewed annually beginning on December 15, 1994 and as needed to reflect changes in procedures, policies or work rules.

POLICY: The Department recognizes that communicable disease exposure is an occupational health hazard. Communicable disease transmission is possible during any aspect of operations including emergency response, training and while in the station.

It is the Department's policy to,

- A. Provide services to all persons requiring them without regard to known or suspected diseases in any patient.
- B. Regard all patient contacts as potentially infectious and to take universal precautions at all times.
- C. Provide Department personnel with the necessary training, immunizations and protective equipment to reduce the risk to firefighters and members of the public.
- D. Recognize the need for infection controls in the workplace.

E. Prohibit discrimination of any Department member based on infection with HIV or HBV virus.

F. Regard all medical information on Department personnel as confidential.

DEFINITIONS:

Blood - Human blood, human blood components and products made from human blood.

Bloodborne Pathogens - Pathogenic microorganisms that are present in human blood that can cause disease in humans. These pathogens include, but are not limited to Hepatitis B Virus (HBV) and Human Immunodeficiency Virus (HIV).

Contaminated - The presence or the reasonably anticipated presence of blood or other potentially infectious material on an item.

Contaminated Laundry - Laundry which has been soiled with blood or other potentially infectious materials or that may contain sharps.

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 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 work place.

Exposure Incident - A specific eye, mouth, other mucus membrane, non-intact skin, or other contact with blood or potentially infectious materials that result from the performance of duties.

Firefighter - Any paid or volunteer employee of the Columbia Fire Department or Columbia-Richland Fire Service, of any rank or job title, who is involved in fire fighting, hazardous material incident control, rescue, or emergency medical services.

HBV - Hepatitis B Virus

HIV - Human Immunodeficiency Virus

Occupational Exposure - Reasonably anticipated skin, eye, mucus membrane or parenteral contact with blood or other potentially infectious materials that may result from performance of an employee's duties.

Other Potentially Infectious Materials (OPIM) -

A. The following human fluids: semen, vaginal secretions, cerebrospinal fluid, synovial fluid, pleural fluid, pericardial fluid, peritoneal fluid, amniotic fluid, saliva in dental procedures, any body fluid that is visibly contaminated with blood, and all body fluids where it is difficult or impossible to differentiate between body fluids.

B. Any unfixed tissue or organ (other than intact skin) from human (living and dead).

C. HIV containing cell or tissue cultures, organ cultures, and HIV or HBV containing medium or other solutions; and blood, organs, or other tissues from experimental animals infected with HIV or HBV.

Parenteral - Piercing mucus membranes or the skin barrier through needlesticks, human bites, cuts, abrasions, etc.

Personal Protective Equipment - Specialized clothing or equipment worn for protection against a communicable disease.

Source Individual - An individual, living or dead, whose blood or other potentially infectious materials may be a source of exposure.

Sterile - The use of a physical or chemical procedure to destroy all micro-organisms including highly resistant bacteria.

Universal precautions - An approach to infection control which calls for all human blood and certain body fluids to be treated as if they are known to be infectious for HIV, HBV and other pathogens.

Work Place Controls - Controls that reduce the likelihood of exposure by altering the manner in which a task is performed.

OCCUPATIONAL EXPOSURE CONTROL PLAN

I. Exposure Determination - All personnel within the Columbia Fire Department, Columbia-Richland Fire Service, both career and volunteer, who are involved in fire fighting, hazardous material incident control, rescue, or emergency medical services may be exposed to blood and other potentially infectious materials. Volunteer and career positions affected include

Firefighter

Relief Fire Equipment Operator

Fire Equipment Operator

Lieutenant

Captain

Assistant District Chief

District Chief

Battalion Chief

Shift Staffing Officer

Assistant Chief

Deputy Chief

Chief of Department

Deputy Fire Marshal

Fire Investigator

Fire Marshal

Training Officer

Chief of Training

Laborer I

Materials Inventory Clerk

Hydrant Maintenance Worker

Building Maintenance Worker

SCBA Technician

Logistics Supervisor

II. Methods of Compliance

A. Universal precautions shall be observed to prevent contact with blood and other potentially infectious materials. All body fluids shall be considered potentially infectious materials.

B. Work Practices

1. Gloves will be worn for all patient/victim contact. Gloves will be worn for touching blood and body fluids, mucus membranes or non-intact skin of all patients, for handling items soiled with blood or body fluids, and for performing all cleaning of soiled surfaces. Gloves are to be removed and hands washed after contact with each patient or each use for cleaning or handling potentially infectious materials.

2. All firefighters will wash hands and exposed skin with soap and water when feasible, or flush mucus membranes with water as soon as practical following contact with potentially infectious materials.

3. Hands must be washed for a minimum of 15 seconds after doffing gloves, before

eating or preparing food, and after contact with body fluids, mucus membranes or broken skin.

4. When hand washing is not possible, firefighters will clean their hands with an antiseptic towelette or hand cleanser, and then wash their hands with soap and water at the earliest possible time.

5. Any other skin, mucus membrane, or body area that has come in contact with potentially infectious material must be washed as soon as possible.

6. Immediately after use, sharp items such as needles and lancets shall be placed in a leak-proof, puncture-resistant container. Contaminated sharps shall not be recapped or otherwise manipulated by hand. Whenever possible firefighters will leave handling and disposal of sharps to EMS. When firefighters must dispose of sharps or contaminated broken glassware, all handling will be with tongs or forceps. Also glass can be cleaned up with a brush and dustpan.

7. All procedures involving blood or OPIM shall be performed to minimize splashing and spattering.

8. Infectious waste, any disposable item which comes in contact with body fluids, shall be handled with gloves and shall be placed in an impermeable red bag.

9. No potentially infectious waste will be left at the scene of an incident.

C. Personal Protective Equipment (PPE)

1. When PPE is removed it shall be, decontaminated or disposed of in an appropriate container.

2. Personnel in contact with patients/victims will have examination gloves and goggles with them at all times.

a. These are available on each engine and ladder truck.

b. Gloves will be worn for all patient/victim contact. Gloves must be worn for touching blood and body fluids, mucus membranes or non-intact skin of all patients/victims, and for cleaning of soiled surfaces.

c. Gloves are to be removed and hands washed after contact with each patient or each use for cleaning or handling potentially infectious items.

d. Structural fire fighting protective clothing will be worn for all incidents requiring this protection. Additionally latex gloves will be worn under the firefighters gloves when infectious materials may be encountered such as during vehicle extrication. Because of the potential for burns, latex gloves should not be worn under fire fighting gloves where there is exposure to extreme heat.

3. Masks shall be worn in combination with goggles or glasses with solid side shields whenever droplets of blood or OPIM may be splashed in the eyes, nose, or mouth. Face shields on structural fire fighting helmets shall not be used for exposure control; however, SCBA masks are acceptable.

4. Gowns, waterproof aprons or structural fire fighting gear shall be worn during procedures that are likely to generate splashes of blood or other body fluids.

D. Equipment Cleaning

1. Routine cleaning of equipment will be done on a daily basis.
2. Vehicles, tools and other equipment that is exposed to body fluids will be cleaned with an antiseptic cleaner followed by soap and water.

E. Contaminated Sharps

1. A sharps container is carried in each fire suppression Battalion Chief's vehicle.
2. The sharps container must be kept in an upright position when used and shall be replaced immediately after the first use, not used until full.
3. Sharps will only be picked up with pliers or tongs, never by hand.
4. Sharps containers should be closed to prevent spillage, placed in a second container if leaking, and handled with care.
5. Used sharps containers shall be capped, taped, and dated for disposal.
6. Richland County EMS shall be called to pick up sharps from Battalion Chiefs and to provide new sharps containers.

F. Contaminated materials shall be handled as little as possible. When handling contaminated linen or towels, firefighters will wear latex gloves and other appropriate PPE. All soiled linen shall be placed in red bags that prevent leakage.

G. Disposal of Waste

1. All waste will be placed in red plastic bags or labeled sharps containers.
2. Whenever possible, contaminated waste will be given to an on-scene EMS crew for disposal.
3. Waste not given to an on-scene EMS crew will be transported back to the fire station in a non-passenger area of the vehicle. No more than 50 lbs of waste material may be transported.
4. The waste will then be double bagged, the bags sealed and placed in the station's outside trash container.
5. Heavily soiled waste materials, those with unabsorbed body fluids, will be double bagged, placed out of living areas and traffic areas at the fire station, and EMS shall be called to remove the waste.
6. EMS will respond to remove heavily soiled waste and sharps within 24 hours.

G. Hepatitis B Vaccination

1. All personnel who are at risk to occupational exposure will have the Hepatitis B vaccination, post exposure evaluation and follow up made available at no cost.
2. The Hepatitis B vaccination will be available after the firefighter receives training on the Hepatitis B vaccine, its safety, method of administration, the benefits of being vaccinated, and within ten working days of initial shift assignment (career personnel) or station acceptance (volunteer personnel). The vaccination will not be given to anyone who has received the complete Hepatitis B vaccination series, or if antibody testing shows that the firefighter is immune. If the individual is allergic to

yeast, an alternate Hepatitis B vaccine will be offered.

3. Each firefighter must sign a consent/refusal form verifying that this vaccination was offered to him/her (See Appendix A).

4. Hepatitis B Vaccine Schedule.

a. The first dose will be given within 10 days of initial assignment to a position where there is potential for exposure.

b. The second dose will be given one month following the first injection.

c. The third dose will be given six months following first injection.

5. All injections are to be given into the upper arm muscle (deltoid) using a Hepatitis B recombinant vaccine unless otherwise specified by a physician.

H. Post-Exposure Evaluation and Follow-up

1. Following exposure, an exposure report will be completed to include the routes of exposure, the circumstances under which the exposure occurred, and, if known, identification of the source individual.

2. The source individual's blood shall be tested for HBV and HIV as soon as possible. When the source individual is already known to be infected with HBV or HIV testing need not be repeated.

3. Results of the source individual's testing will be made available to the exposed firefighter. The firefighter shall be informed

of applicable laws and regulations concerning disclosure of the identity and infectious status of the source individual.

4. The firefighters's blood shall be collected as soon as possible after consent is obtained. If the firefighter does not desire immediate baseline testing, his/her blood will be maintained for a period of 90 days for the purpose of baseline HIV testing.

5. See the Post-Exposure Protocol in this SOG for the complete procedure.

I. Communication of Hazards to Personnel

1. Warning labels shall be affixed to containers of regulated waste containing blood or OPIMs.

2. Potentially infectious waste will be placed in red plastic bags.

J. Information and Training

1. All personnel with the potential for occupational exposure shall participate in an exposure control training program.

2. The training will be provided on initial assignment to a position that has potential for exposure and annually after that.

3. Training will be provided when changes occur, such as modifications of procedures, and with the use of new products that may affect occupational exposure.

4. The training program shall contain at least the following elements.

a. Information on the location of the Federal Register, Volume 56, #235, Friday, December 6, 1991, Rules and Regulations. (29 CFR

1910.1030) This is available for review in the Training Bureau's office located at Fire Station 1.

b. A general explanation of the symptoms of bloodborne diseases.

c. An explanation of the modes of transmission of bloodborne pathogens.

d. An explanation of this exposure control plan and fact that a copy of the policy will be included in the SOG manual located in the watch room of each fire station.

e. Training in recognizing activities that may involve exposure to blood or OPIMs.

f. An explanation of methods and their limitations for reducing exposure including appropriate engineering controls, work practices, and PPE.

g. Information on the types, proper use, location, removal, handling, decontamination and disposal of PPE.

h. Instruction on how to select PPE for different situations.

i. Information on the Hepatitis B vaccine, including its effectiveness, safety, method of administration, the benefits of being vaccinated, and the fact

that the vaccination is offered at no charge to firefighters.

j. Information on the appropriate actions to take and persons to contact in an emergency involving blood or OPIMs.

k. An explanation of the procedure to follow if an exposure incident occurs, including the method of reporting the incident and the medical follow-up that will be made available.

l. Information on the post-exposure evaluation and follow up provided for the firefighter following an exposure.

m. An explanation of the labels and color coding required by the exposure control plan.

n. An opportunity for interactive questions and answers with the person conducting the training session.

K. Record keeping

1. The Columbia Fire Department maintains a record for each employee who has occupational exposure in accordance with 29 CFR 1910.20. The record includes,

a. The name and social security number of the firefighter, a copy of the firefighter's Hepatitis B vaccination status including

the dates of all hepatitis vaccinations and any medical records relative to the firefighter's ability to receive the vaccination.

b. A copy of all results of examinations, medical testing, and follow up procedures as required.

c. The employer's copy of the health care professional's written opinion.

d. A copy of the information provided to the health care professional.

2. Medical records shall be kept confidential and shall not be disclosed to any person within or outside the Department, except as required by law, without the employee's written consent.

3. The records shall be maintained for the duration of employment plus 30 years in accordance with 29 CFR 1910.20.

L. Training Records

1. Training records shall include the following information:

a. The dates of the training.

b. A summary of the training.

c. The names and qualifications of the persons conducting the training.

d. The names and job titles of all persons attending the training.

2. Training records shall be maintained for three years from the date on which the training occurred.

3. Firefighter training records will be provided upon request to the individual firefighter, and to anyone having written consent of the individual in accordance with 29 CFR 1910.20.

III. Responsibilities

A. The Chief of Department has overall responsibility for the operation of the Fire Department and for the Exposure Control Plan.

B. The Safety Committee has responsibility for reviewing and updating this plan, for reviewing administration of the infection control program and for making recommendations to the Chief of Department for improvements in procedures, equipment and training that will minimize the risk of occupational exposure.

1. The Committee is chaired by the Safety Officer and includes representatives of Fire Suppression Bureau, Training Bureau, Logistics Bureau, and Fire Prevention Bureau.

2. Members of the Safety Committee are appointed by the Chief of Department.

3. The committee will meet at least quarterly to review the status of the infection control program and more often as needed.

4. Written notes of all meetings will be maintained.

C. The Safety Officer is the Department's Infection Control Officer, and is responsible for administering the Department's Safety and Training programs and for ensuring that the Exposure Control Plan is current, all personnel with the potential for exposure are trained and understand the plan, and that training records are maintained properly.

D. The City Safety Officer is responsible for coordinating the initial phase of training on bloodborne pathogens for career personnel, for ensuring that Hepatitis B vaccinations are offered to career employees who have potential for exposure, for coordinating post exposure protocols for career personnel and for administering exposure records.

E. The Richland County Emergency Services Department, Regulation Compliance Officer, is responsible for coordinating the initial phase of training on bloodborne pathogens for volunteer personnel, for ensuring that Hepatitis B vaccinations are offered to volunteer firefighters who have potential for exposure, for coordinating post exposure protocols for volunteer personnel and for administering exposure records.

F. Career and volunteer supervisors are responsible within the chain of command for following and enforcing infection control procedures in all phases of their areas of control.

G. All other personnel are responsible for complying with the infection control plan and with the training received.

POST EXPOSURE PROTOCOL

When a firefighter has an exposure to blood or OPIM, and when there is an indication that broken skin was exposed, or that he/she received a splash to the eye or another route for transmission of a bloodborne pathogen, the individual will receive treatment as recommended by the U.S. Public Health Service.

I. Hepatitis B Vaccination (HBV) Precautions

A. Conduct an HBV screening.

B. If the screen is positive (the patient has immunity), there is no need to give the Hepatitis B Immunodeficiency Globulin (HBIG), but the remainder of the protocol must be followed.

C. If the screen is negative, administer the HBIG as soon as possible. This must be done within 10 days of exposure.

C. Administer the Hepatitis A, Non-A, Non-B, and C Globulin.

II. Human Immunodeficiency Vaccination Precautions

A. Conduct a HIV screening

1. Do an Elisa test. If reactive, perform a Western Blot test to confirm the Elisa results.
2. Repeat the test six weeks, 12 weeks and six months after the exposure.

B. Keep HIV antibody testing confidential.

C. Initiate counseling.

1. Fear of AIDS can have a psychological impact on the firefighter and his/her family. All involved must be sensitive to individual's concerns.
2. Counseling should be initiated before the HIV testing and should be continued as needed throughout the testing period.
3. In addition to support and reassurance, counseling helps to prevent transmission to others if the disease is present.
4. HIV Facts
 - a. Hepatitis B and HIV are transmitted in the same manner and precautions are the same.
 - b. The rate of transmission of HIV from a needlestick exposure to blood from an unknown source is extremely low. The concentration of AIDS virus in the blood of infected persons is much lower than the concentration of Hepatitis B virus.

c. Individuals who become infected with the AIDS virus show changes in their blood tests in 6-12 weeks following exposure.

D. To protect others, the following information should be given to exposed employees by the treating physician.

a. The potential risk is extremely low.

b. Do not make blood donations.

c. Use appropriate protection during sexual intercourse.

d. Seek medical attention for any acute fever that occurs within 12 weeks of the exposure.

e. Reports will be handled confidentially.

f. The individual may already be immune to Hepatitis B due to a prior illness or a previous vaccine series. If screening tests show immunity, there is no need for the immunization series to be given, or in the case of exposure, no need for the Hepatitis B Immunodeficiency Globulin to be given. However, the remainder of the exposure protocol must be carried out.

APPENDIX A

SECTION 1910.1030

HEPATITIS B VACCINE DECLINATION

(MANDATORY)

I understand that due to my occupational exposure to blood or other potentially infectious materials I may be at risk of acquiring Hepatitis B Virus (HBV) infection. I have been given the opportunity to be vaccinated with Hepatitis B vaccine at no charge to myself. However, I decline Hepatitis B vaccination at this time. I understand that by declining this vaccine, I continue to be at risk of acquiring Hepatitis B, a serious disease. If in the future I continue to have occupational exposure to blood or other potentially infectious materials and I want to be vaccinated with Hepatitis B vaccine, I can receive the vaccination series at no charge to me.

EMPLOYEE SIGN _____ DATE _____

WITNESS SIGN _____ DATE _____