#### **FIRE DISTRICT EXPOSURE CONTROL PLAN**

### INTRODUCTION AND PURPOSE

#### These policies and procedures are set forth to address the ongoing concern regarding the possibility of contracting an infectious disease through contacts. These policies apply to all Fire District personnel.

All calls present the potential for the presence of infectious disease and proper precautions must be taken at all times. Fire District recognizes the potential of exposure to infectious disease to its employees in the performance of their duties. The infectious disease status of all contacts is frequently unknown to personnel. Body Substance Isolation (BSI) shall be observed to prevent contact with blood, body fluids, or other potentially infectious materials (OPIM).

1. **Purpose of the Plan**
	1. To meet the standards of the Department of Labor, Occupational Safety and Health Administration (OSHA 29 CFR 1910.1030), OR-OSHA Regulations OAR 437-1 91 and the Center for Disease Control recommendations.
	2. To identify all employees at risk of exposure to blood borne pathogens.
	3. To establish polices and implement procedures for controlling employee exposure to body fluids or considered being sources of blood borne pathogens.
	4. To establish procedures for the evaluation of circumstances surrounding exposure incidents.
	5. To provide appropriate treatment and counseling should an employee be exposed to bloodborne pathogens.
	6. To establish training programs for all employees.
	7. To establish and maintain record keeping procedures.
2. **General Program Management Responsibilities**

There are seven major "Categories of Responsibility" that are central to the effective implementation of this Exposure Control Plan they include but are not limited to:

* 1. The Chief of Fire and EMS Services
	2. Exposure Control Officer or \_\_\_\_\_\_\_ County Fire EMS
	3. District’s Preventative Health and Disease Program
	4. Rescue Paramedics, EMTs and First Responders
	5. Training Officer
	6. Fire Officers and Shift Commanders

The following sections define the roles played by each of these personnel in carrying out this plan.

1. **Fire/EMS Chief**

The tasks of managing the Department's Exposure Control program is

 delegated to appropriate staff officers and other Departments as noted below. The ultimate responsibility for the health and welfare of all personnel, however, remains that of the Fire/EMS Chief.

1. **Exposure Control Officer**

The Exposure Control Officer will be responsible for overall management and support of the Department's Blood Borne Pathogens Compliance Program. Activities, which are delegated to the Exposure Control Officer, include, but are not limited to:

1. Overall responsibility for implementing the Exposure Control Plan for the entire Fire District.
2. Working with Administration, Fire District EMS Supervisor, Designated Health Care Professional, supervisors and other personnel to develop and administer any additional blood related policies and practices needed to support the effective implementation of this plan.
3. Collecting and maintaining a suitable reference library on the Blood Borne Pathogens Standard and Blood Borne Pathogens Safety and Health information.
4. Knowing current legal requirements concerning blood borne pathogens and OPIM.
5. Acting as department liaison during Department of Safety inspections and to healthcare infectious disease specialists as needed.
6. Conducting annual department audits to maintain an up-to-date Exposure Control Plan.
7. Conduct spot inspections of on-scene and station operations to ensure compliance with department exposure.
8. Coordinate the HBV immunization program with the designated departmental Medical Director
9. **Preventative Health and Disease Program**

 The District’s preventative health and disease program will work with the Exposure Control Officer at Fire District to do the following:

#### Working with Administration, Fire District EMS Supervisor, Designated Health Care Professional, supervisors and other personnel to develop any additional blood related policies and practices needed to support the effective implementation of this plan.

1. Knowing current legal requirements concerning blood borne pathogens and OPIM.
2. Conducting annual department audits to maintain an up-to-date Exposure Control Plan.
3. Coordinate the immunization program.
4. Follow up on any exposures and advise the employee of status.
5. Help Employee determine the appropriateness of Post Exposure Prophylaxis.
6. Conduct training in Blood Borne Pathogens and OPIM.
7. In conjunction with the Training Division, maintain accurate roster of personnel who have received required training and develop suitable education programs.
8. **Fire rescue First Responders, EST's and Paramedics**

As with all of the department's activities, these personnel have the most important role in the blood borne pathogens compliance program. The ultimate execution of much of this Exposure Control Plan rests in their hands. Activities that are delegated to those individuals include, but are not limited to:

1. Knowing the tasks they perform that have a potential for exposure.
2. Successfully completing the blood borne pathogens and training sessions.
3. Knowing and following the work practice controls outlined in the Exposure Control Plan.
4. Planning and conducting ail operations in accordance with the

 work practice portion of the Exposure Control Plan.

1. Developing good personal hygiene habits, Hand washing and equipment decontamination as a minimum post every patient contact.
2. Promptly reporting any suspected occupational exposure to infectious disease the Duty Officer and the Exposure Control Officer.
3. **Training Officer**

The Fire Chief or Exposure Control Officer will designate the Training Officer. They will be responsible for coordinating training objectives with the Exposure control Officer and assist in record keeping with regard to training. The Training Office will:

* 1. Maintain an up-to-date list of department personnel who have received the required training;
	2. Work with the Exposure Control Officer to insure appropriate training is planned.
1. **Fire Officers and Commanders**

Fire Officers and Shift commanders are responsible for exposure control in their respective areas. They work directly with the Exposure Control Officer and their personnel to ensure that the proper exposure control procedures are followed and significant exposures are documented.

1. **Approved Medical Director**
	1. Acts as a Liaison with medical Community
	2. Acts as a Resource for Control Officer
2. **Availability of Control Plan to Personnel**

To help them with their compliance efforts, the Department's Exposure Control Plan is available to all personnel at anytime. Personnel are advised of this availability during their educational training sessions. Copies of the Exposure Control Plan are kept in the following locations:

* 1. Fire Station Biohazard Station
	2. Employee's SOG Manual
	3. Each Fire Station
	4. Fire Department SOG Manual
1. **Exposure Tracking Forms**

Exposure Tracking Forms, Consent Forms for Index patients, and Exposure Reporting Forms shall be available in adequate supply on all ALS Units. They will also be kept with the Exposure Control Plans in other locations.

1. **Review and update of the plan**

Fire District recognizes that it is important to keep this Exposure Control Plan up-to-date. To ensure this, the plan will be reviewed and updated under the following circumstances;

* 1. Whenever Federal, State or Local Laws mandate a change to the plan.
	2. Whenever new or modified tasks and procedures are implemented which affect occupational exposure of department personnel.
	3. Whenever the EMS Supervisor of Fire District recommends changes.
	4. Recommended changes by the Center for Disease Control.
	5. Annually reviewed by the compliance officer.

**6. Exposure Determination**

It has been determined that personnel in the following job classifications have a risk of occupational exposure through the provision of either providing basic life support, advanced life support, or rescue operations during the course of providing Emergency Medical Services: Firefighters, EMT Basic, Intermediate and Paramedics, Rescue Personnel, Fire Officers, First Responders and Support Personnel

**FIRE DISTRICT EXPOSURE PROTOCOL**

#### This policy outlines protective measures that Fire and EMS personnel and affiliate responders shall take when treating all patients. These protective measures shall be taken even if the patient does not have symptoms of an infectious disease. It will be the individual employee's responsibility to initiate protective measures as designated in the protocol and the Department's responsibility to provide the necessary equipment, training and inspections to ensure compliance.

It is understood that while it is the responsibility of Fire District to keep its employees informed on infectious diseases, it is equally as important for each and every employee to make every effort to remain up-to-date on the latest information available in the area of infectious disease and infectious disease control practices. Due to the almost daily updates and changes on this topic, Fire District will find it difficult to remain the employee's only source of information and guidance. Each employee must accept a portion of the responsibility for their own protection and continuously update their knowledge in this area.

1. **Infectious Disease Transmission**

All viral agents must penetrate the body's defense to cause illness. The cell each type of viral agent attacks tends to be specific for that virus. The virus in its attack does not immediately kill the cell, rather, the virus takes over the reproductive process of the cell in order to reproduce daughter virus particles. Viral agents live without the host cell.

Infection Control has three objectives:

* + Reducing the risk of contamination to the employee.
	+ Reducing the risk of contamination to the patient.
	+ Reducing the risk of cross contamination from patient to employee to patient.

Generally, the skin acts as a barrier against exposure to infectious contaminants. If, however, the skin has open sores, cuts, or abrasions, this protective barrier's compromised. Infectious contaminants can also enter the body through the mucus membranes of the eye, nose and mouth. Once inside the body, viruses can then be absorbed into the blood stream. Some of these viruses are capable of stimulating the body to produce antibodies to defend against it. If an exposure has occurred in the past to some viruses, the person may be immune to any later exposures.

For illness to occur there must be the following:

* Blood or other body fluids containing the virus.
* An opening to the inner part of the body.
* A means of getting the virus inside that opening.
* An adequate amount (dose) of virus.
* An immune system incapable, for any reason, of adequately responding to the special infective challenge.

People who cough, sneeze spit around or on an employee also increase the risk of infection. A puncture wound resulting from sharps that have been in contact with the blood possess a significant risk to employees.

Among the general public, and in the hospital setting, the most efficient route of transmission is directly from the infected person, not through an intermediary. In other words, for the employee to take an infection home to a family member, the employee would have to first get the infection except in the setting of unusual infections such as Ebola virus. This agent is not found in the U.S. as of yet. Hands and clothing would not be expected to be an efficient means of transfer. Hand washing is the number one deterrent for transmitting infectious diseases.

Tasks and procedures in which occupational exposure to blood borne pathogens may occur include but are not limited to:

**During emergency conditions:**

* Performing CPR
* Conducting patient assessment
* Providing supplemental oxygen therapy
* Maintaining airway control
* Obtaining intravenous access
* Obtaining a blood sample
* Placing and oropharyngeal device
* Placing a nasopharyngeal device
* Placing a cambi-tube device
* Placing an endotracheal intubation device
* Cricothyrotomy
* Pleural decompressions
* Controlling hemorrhage
* Bandaging wounds
* Splinting fractures
* Packaging and handling patients
* Child birth

**During non-emergency conditions:**

* Decontamination procedures and transportation of biohazardous waste
* General housekeeping procedures
* Collection/handling and transportation of biohazardous waste

1. **Infectious Disease Prevention**

The objective of prevention is to establish protective measures to prevent or reduce the risk to employees of direct exposure to infectious diseases. Fire rescue responders on emergency responses may find it difficult to determine if a patient has an infectious disease. Just as it is appropriate to ask a person about their medical history at a medical call, it is appropriate to ask a person if they have any infectious diseases. Personnel should be aware of the following:

* + People may not know they have an infectious disease.
	+ People may not be honest in their responses to questions.

The level of protective precautions taken by personnel should be based on an evaluation of a patient's medical status and good judgment. All blood and OPIM should be treated as if known to be infectious for HIV, Hepatitis, or other bloodborne pathogens.

1. **Definition of Occupational Exposure**

OSHA defines a **"significant exposure"** as "a specific eye, mouth, other mucous membrane, non-intact skin, or parental contact with blood or other potentially infectious materials that result from the performance of an employee’s duties." In other words, this would be either a percutaneous injury such as a needle stick, a cut with a sharp object, or contact of mucous membranes with blood or other OPIM. Significant exposure requires immediate reporting and consideration of post exposure prophylaxis.

1. **Method of Compliance**

The Department understands that there are a number of areas that must be addressed in order to effectively eliminate or minimize exposure to blood borne pathogens. The Plan calls for the following:

* + Establishing appropriate Engineering and Work Practice Controls i.e. sharps boxes.
	+ The use of Body Substance Isolation and necessary PPE (Personal Protective

 Equipment) gloves.

* + Implementing appropriate Housekeeping Procedures i.e. germicidal agent,

 providing red and yellow bags, and all cleaning equipment.

* + Establishment, enforcement and review of Operational Procedures

Each of these areas is reviewed with employees during their blood borne pathogens related training and at the time of their initial orientation.

### Personal Protective Equipment

The most important factor is protecting the employee and carefully following infectious control guidelines. Any person's blood or OPIM must be infected. This means that personal protective equipment (PPE) such as gloves, gowns, masks, and eye protection must be worn or be available to the **EMT** when the likelihood of through-the-skin, mouth, nose or eye exposure to the person's blood or OPIM exists.

* + PPE consisting of gloves and combination surgical mask/fluid shield, at a minimum should be worn in the following situations:
1. Whenever approaching a medical or trauma patient where the presence of OPIM is unknown;
2. Whenever an Intubation is being performed;
3. Whenever assisting with airway control, such as use with a BVM;
4. When assisting with Childbirth;
5. When traumatic Injuries result in significant contact
6. When other types of calls (i.e. significant GI bleed or veni-puncture) result in potential exposure to

The 3M NIOSH rated masks will be worn whenever a patient is actively coughing, sneezing or spitting and there is potential for aerosol or sputum exposure to the crew. It is appropriate to also place either an oxygen face mask with oxygen flow or a surgical mask on the patient. Follow the TB Protocol whenever respiratory infection may exist.

The care provider should put on PPE before beginning patient contact. It is much easier to remove PPE if it is not necessary than to attempt to put it on during a situation or emergency. Every attempt should be made to limit the number of rescuers having actual physical contact with a potentially infectious person. Every effort should also be made to limit the exposure time of all rescuers.

* 1. Gloves

Wearing gloves is mandatory during direct patient care with any patient. Change contaminated gloves before touching other patients, uncontaminated equipment, or touching one's own body. Gloves must be worn when cleaning potentially contaminated equipment such as suction units, MAST suits, backboards, or when cleaning up blood or OPIM on surfaces of apparatus. Remember to remove contaminated gloves before touching other surfaces of your exposed skin. Never reuse disposable gloves.

To avoid cross contamination when dealing with multiple patients, multiple pairs of gloves may be appropriate. Double gloving may be useful if dealing with extreme amounts of blood or OPJM. Grossly contaminated gloves should be removed prior to entering the patient compartment once the initial on-scene treatment has been completed. Non-latex gloves are available for any provider who is suspect that they may be allergic to latex.

* 1. Barriers for Airborne Infectious Diseases

 A specific protocol for dealing with Tuberculosis and other respiratory diseases is

#### listed below.

c. Disposable Resuscitation Equipment Disposable BVM bags will be used. Equipment not intended for reuse should be disposed of properly and not reused.

1. **Infectious Disease - Handling of Sharps**

All personnel must take precaution to prevent injuries that can result when using, handling, cleaning, or disposal of needles, scalpels and other sharp instruments. Needle sticks are one of the leading causes of significant exposure to health care workers. Needles and other sharp instruments must be disposed of in sharps containers as soon as possible after use. Sharps containers must be kept closed at all times. These containers are recommended by the Center for Disease Control (CDC) as the only safe disposal means for sharps disposal. When disposing of sharps in a sharps container, sharp edge should face downward. Always directly observe sharps dropping into the container. Jump kits now have sharps containers so that sharps may be handled when away from the medic unit.

Current, Fire District policy is that sharps are not to be recapped. FD is using the protective IV Catheter made by Johnson and Johnson where the needle is not exposed after Insertion. However, it is understood that situations can arise where recapping is necessary.

Two methods for handling used needles. The first is the "Zorro" technique. When using a needle, remove the needle from the protective sheath and place the sheath within arms reach. After the injection is finished, reach with one hand and scoop the protective sheath up with the contaminated needle and click the needle securely into the sheath by pressing the tip of the sheath against a hard surface.

A second alternative is to set the protective sheath on the ground nearby before starting the injection. When finished, step on the protective sheath and slide the needle into the sheath, locking it with an audible click. This method is only safe wearing leather shoes or boots where an accidental puncture through the thick leather is highly unlikely.

Each of these methods allows for a relatively safe means of temporarily handling contaminated needles or IV Catheters. Never attempt to re-sheath a needle with two hands or leave a needle unsheathed unless it can be immediately placed into an approved sharps container. Never attempt to remove the needle by hand from a syringe or vaccutainer. It should be disposed of in a sharps container.

Sharps boxes will be inspected to ensure that they are less than % full and will be replaced at that time. When a Sharps container is found full, it should be sealed shut, removed from service and taped closed. A sealed sharps container can be placed into regular biohazardous waste.

If sharps are recapped, such as Morphine, Valium or Demoral where multiple doses may be given from the same syringe, tape the cap in place and place the syringe in a secure location, not on ones own body. It should be placed in the clipboard or the jump kit prior to moving the patient.

1. **Infectious Disease -Disposal of Biohazardous Waste**

Biohazardous waste is any solid or liquid waste, which may present a threat of infection. All biohazardous waste shall be placed in red plastic disposable bags provided by supply. Each unit will have a supply of red biohazardous bags. After each call, the red bags should be placed in the biohazard storage container at each station. When full, these containers will be brought to station 90 for pick up by our biohazard collector. Red bags are for disposal only.

1. **Infectious Disease -Decontamination and Disinfecting**

It is important to remember that there are two steps in this process: cleaning and disinfecting. A contaminated object must first be cleaned with soap and water and then disinfected.

Disinfecting solutions need to be able to attack viruses and bacteria; however, they can not penetrate oils and other surface contaminates. This is the task of cleaning agents such as soap.

* 1. Hand Washing

The CDC states that hand washing before and after a contact is the single most important means of preventing the spread of infection, washing hands with soap and water is necessary to rid them of protein matter, blood and OPIM. Employees are to wash their hands vigorously with soap and water as soon as possible after a contact, whether or not protective gloves are worn. It is recommended that hand washing take a minimum of ten seconds. A soft soap that produces lather is preferred to an abrasive type. The use of a special disinfectant soap is not necessary. When immediate access to a sink is unavailable, or if the situation does not allow time due to an emergency situation, the use of a waterless hand cleaner is acceptable. As soon as possible, wash hands with soap and water. Waterless hand cleaner is available for employees to use on each piece of apparatus.

* 1. Uniform Cleaning

Uniforms and personal clothing that has been contaminated with a biohazard will be bagged at the scene in a YELLOW bag. The bag will be sealed with 2" medical tape and labeled with a tag attached to the bag with name, contaminant and where on the clothing the contamin ant i s. T hen return it to the laundry closet at Station 90. **NO CONTAMINATED PERSONAL UNIFORMS OR CLOTHING SHALL BE TAKEN HOME PRIOR TO BEING LAUNDERED AT THE FIRE STATION.**

Cleaning procedure: Follow these procedures and notify the Shift Commander for replacement and notification to the laundry service.

**Clothing**

**Small amounts of contaminate:** Wash off with water and soap. Place in turnout washer and wash with normal laundry soap as per the manufacture's general washing instructions to garment specification.

**Large amounts of contaminate:** Place in the large YELLOW bag, tag, and send to the laundry service to clean. The garment will be sent to the cleaners in the large YELLOW bag and returned to you the following week.

**Leather uniform boots/belts or accessories**

Remember, soles and heels of footwear can become contaminated with blood or OPIM.

**Small amounts of contaminate:** Washed off with water and soap. Spray with HDQC2 let stand wet for 10 minutes and wash again with water and soap. Allow to air dry completely.

**Large amounts of contaminate:** Place in the large YELLOW bag, tag, and send to the laundry service to clean. The garment will be sent to the cleaners in the large YELLOW bag and returned to you the following week.

**Turnout Cleaning Coat and Pants**

If you contaminate your turnouts, follow these procedures and notify the Shift Commander for replacement and notification to the laundry service.

**Small amounts of contaminate:** Washed off with water and soap. Then separate the shell from the liner, wash them in the turnout washer, liners first than the shell. Allow to completely air dry prior to being worn again.

**Large amounts of contaminate:** The garments will be sent to the cleaners in the YELLOW bag. Place in the large YELLOW bag, tag, and send to the laundry service to clean. The garment will be sent to the cleaners in the large YELLOW bag and returned to you the following week.

**Helmet**

**Small amounts of contaminate:** Washed off with water and soap. The liner

and chinstrap will be removed and washed in the turnout washer. Spray the shell with HDQC2 let stand wet for 10 minutes and wash again with water and soap. Allow to air dry completely.

**Large amounts of contaminates:** The shell and the liner of the helmet will be left in the YELLOW bag placed in the Bio Hazard trash box to be destroyed. The person will be issued a new helmet.

**Boots**

**Small amounts of contaminate:** Washed off with water and soap. Spray HDQC2 with let stand wet for 10 minutes and wash again with water and soap.

**Large amounts of contaminate:** Washed off with water and soap. If contaminates are found inside the boot, the boot will be left in the YELLOW bag and the YELLOW bag will be placed in the biohazard trash box and be destroyed. The person will be issued a new set of boots.

**Gloves (leather)**

Leather gloves **CANNOT** be cleaned of biohazard contaminates. Place the leather gloves in a RED bag and place them in the biohazard trash box to be destroyed. The person will be issued new gloves.

**Hood**

Small amounts of contaminates will be washed off with water and soap. The hood will then be washed in the turnout washer. Allow to air dry completely.

* 1. Equ·ipment

Since most non-disposable pre-hospital equipment does not interface directly with the person's cardiovascular or respiratory system, sterilization and high-level disinfection are not required. Decontamination can be accomplished in most cases by thorough cleaning with a detergent and then disinfection with a germicidal product. Cleaning should be followed by disinfection. Gloves should be worn for all cleaning and decontamination procedures. Eye protection and facemasks are required if there is a possibility that contaminants or cleaning/disinfection agents may splash.

* 1. Large Items

Large items must be thoroughly cleaned and then disinfected with the germicidal agent to remove all protein matter. Equipment cleaning should be completed as soon as possible after use. After washing, equipment should be disinfected and air dried.

e. Respiratory Equipment

Non-disposable equipment should be completely cleaned and disinfected after each use.

f. Delicate Equipment

Delicate equipment such as radios should be disinfected using an approved disinfectant following the manufacturer's instructions. Thoroughly dry all surfaces after disinfecting is completed. Remember that many disinfectants are corrosive to metals and will degrade many materials. Never immerse these times in a disinfectant If in doubt, place these times in a yellow bio-hazard bag an contact the Exposure Control Officer before proceeding with cleaning/disinfecting procedures.

1. Transport Vehicle

The interior of the vehicle must be kept clean and sanitized at all times.

1. Linen

Although soiled linen has been identified as a source of large numbers of micro-organisms, the actual risks of disease transmission is negligible. Soiled linen should be handled as little as possible and with a minimum amount of agitation to prevent gross contamination. Linen contamination with blood or OPIM during treatment or patient contact should be placed and transported in a yellow bio-hazard bag to prevent contamination of other areas and/or equipment

L Spills of blood or OPIM

An absorbent material shall be used for liquid spills of blood or OPIM. The area should then be sanitized with liquid germicide product after absorption. A red biohazard plastic bag shall be used to hold the absorbent material. Upon return to the station the red bag will be placed in the bio-hazard storage box.

1. **Disease -Exposure and Tracking**
	1. **Exposure Reporting**

The Exposure Control Officer shall maintain an accurate medical record for each employee with an occupational exposure. If a compensable injury should arise from the exposure, an 801 Claim Form will then be filed. It is not necessary to document the reason of claim if the employee wishes to maintain confidentiality.

The employee should upon return to the station after exposure:

* + 1. Contact \_\_\_\_\_\_\_\_\_ preventative Health and Disease Program at \_\_\_\_\_\_\_\_\_ for counseling and to determine what level of exposure took place and if the PEP program is warranted.
		2. Fill out an exposure packet which includes a personnel exposure report and if applicable a Tuberculosis Exposure Record. The forms must be faxed to \_\_\_\_\_\_\_ preventative Health and Disease Program at \_\_\_\_\_\_\_\_\_\_\_\_ the original must be sent to the Exposure Control Officer. Make a copy and keep it for your own record.
		3. Fill out a preliminary injury report.

It is, of course, our goal to avoid exposures when possible. An exposure form shall be completed and maintained in the employee's medical file. All exposure test results will be confidential and the employee can choose not to release any testing to the Fire District.

The exposed employee must be provided with a post exposure prophylaxis (PEP) program first within 2 hours of the exposure. Employees are to report to \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Preventative Health Program at \_\_\_\_\_\_\_\_\_\_\_\_\_for counseling and to determine if the PEP program is warranted. The exposed employee shall undergo HIV testing time of exposure to determine a baseline and at 3 and 6-month intervals. If the employee cannot make a rational decision, at this point in time, regarding the initiation of drug therapy, you may benefit from starting treatment and then reconsider your options when the employee has had time to review the written material. The medications administered *vary,* but usually AZT and 3TC would be used.

Training shall be provided to the employee regarding the drugs side effects during the blood borne pathogens training program. For more information upon exposure the exposure packet contains some information that may be helpful.

Personnel can call \_\_\_\_\_\_\_\_\_\_\_\_\_ anytime for information regarding the PEP program. Trained personnel are available 24 hours a day.

\_\_\_\_\_\_\_\_\_ preventative Health and Disease Program will maintain confidential records of each exposure which will include, date and time of exposure, details of exposure including type of fluid, counseling, post exposure management and follow-up which will include testing according to CDC guidelines.

* 1. **Immunization and Testing**

The Department shall make available or ensure that employees who have been identified as having a potential for exposure to infectious disease have access to an appropriate immunization program, including vaccination against Hepatitis B virus at no charge to the employee. Hepatitis B vaccination will be made available to all newly assigned employees within 10 days of assignment. All employees that decline the Hepatitis B vaccination will sign a statement of declination.

Hepatitis B vaccinations will be done through Preventative Health and Disease Program. Recombivax HB is the vaccine type used.

Each employee will be required to complete the Hepatitis B Release form. It will document that the responder wishes to have the Hepatitis B series, has already completed the series or wishes to refuse immunization at this time. \_\_\_\_\_\_\_\_\_\_\_\_ preventative Health and Disease Program will maintain those records.

Tuberculosis screening will also be offered prior to assignment and when the employee feels that they may have been exposed and annually.

* 1. **Training and Education**

The District will conduct training and education programs on infectious diseases that pose a potential occupational health risk for all members of the Fire District that are at risk. The training program will include proper use of PPE, standard SOP's for safe work practices in infection control, proper methods of disposal of contaminated articles and medical waste, and exposure management and medical follow-up. The education program will provide the information on epidemiology, modes of transmission and prevention of diseases including, but not limited to, hepatitis, human immunodeficiency virus, tuberculosis and herpes viruses.

Training on Tuberculosis will be conducted using course objectives recommended by the CDC. Training will be provided within 20 days of initial assignment and updated yearly. The Training Officer and will maintain training records.

* 1. **Infectious Disease - Legal Aspects**
		1. **Confidentiality**

The identity of individuals tested for HIV and the results of those tests shall remain confidential. No persons shall have access to records containing HIV test results. The identity of HIV test subjects and test results may be disclosed only under specific circumstances, and only to those who can demonstrate a legal "need to know." HIV test results may be provided to persons with a significant exposure after the significant exposure has occurred.

* + 1. **Informed Consent**

No person shall perform a test to identify HIV, or its antigen or antibody without obtaining the informed consent of the person upon whom the test is being performed, except as specified elsewhere in the law. Informed consent shall be preceded by an explanation of the test, including its purpose, potential uses, limitations and the meaning of its results.

1. **Undergoing Decontamination or Repair**

Uniforms or equipment may have to be repaired or decontaminated either for hazardous materials or blood borne pathogens. Blood borne decontamination will be done in house per existing protocol; hazardous material decontamination may require outside assistance and repair will require that the article to be sent off for repair.

If replacement uniforms or equipment is needed during the time the uniform or equipment is out of service, the following procedure will be followed:

1. The on-duty shift commander will be advised of the incident and will meet the employee at Fire District Central Station.
2. New equipment will be issued to the employee.
3. Once the contaminated uniform or equipment has been cleaned or the damaged item repaired and returned, all temporary equipment issued to the employee will be returned.
4. Should the contaminated uniform or equipment not be able to be cleaned or repaired the employee will be issued the new equipment permanently.
	1. **Employee's Responsibility**
		1. The employee will bring the contaminated uniform and equipment to the Fire District Central Station. The uniform and equipment will be cleaned according to CDC and NFPA 1581 recommendations.
		2. The employee will place the contaminated uniform and equipment in a yellow plastic bio­ hazard bag, seal with 2" tape and tag the bio-hazard bag by writing employee' s name and contaminating material on a label on the outside of the bag. Washable clothing must be separated from other equipment.
		3. Employee's handling contaminated uniforms and equipment will use gloves and gown. If there is any potential for splashing of contaminants, full surgical mask with fluid shield will also be worn.
	2. **Employee's responsibility for contaminated vehicles**
5. Wipe all areas with germicidal disinfectant solution. Allow adequate drying time (about five minutes) or EPA Recommendations. Pre-wash if area is soiled.
6. Equipment such as radios can be wiped down with the disinfectant solution. A towel may be sprayed with the cleaner and the piece of equipment wiped down.
7. Employee's will use gloves and gowns when washing vehicles. If there is any potential for splashing of contaminants, full surgical mask with fluid shield will also be worn.
8. **Employee's daily responsibility for vehicles**
	1. Check and refill disinfectant bottles if any,
	2. Check sharps boxes and replace if needed.
	3. Check waterless hand cleaners and replace if needed
	4. Check Personal Protective Equipment (PPE) stock
	5. Check to see if red and yellow biohazard bags are present. At least three of each.
	6. Empty any red or yellow filled biohazard bags at or during the shift.

**TUBERCULOSIS (TB) EXPOSURE CONTROL PLAN**

**Overview of Control Plan**

* + 1. Purpose

The purpose of this plan is to establish guidelines and polices for reducing the risk of transmission of TB to employees. The TB Exposure Control Plan is available to all employees. Employees are advised of this availability during orientation and mandatory annual update education/training sessions.

* + 1. Background

The prevalence of TB is not distributed evenly throughout all segments of the U.S. population. Some subgroups or persons have a higher risk for TB either because they are more likely than other persons in the general population to have been exposed to an infected person with Mycobacterium Tuberculosis or because their infection is more likely to progress to active TB after they have been infected. In some cases, both of these factors may be present. Groups of persons known to have a higher prevalence of TB infection include contacts of persons who have active TB, foreign-born persons from areas of the world with a high prevalence of TB, medically underserved populations, homeless persons, current or former correctional-facility inmates, alcoholics, injecting­ drug users, and the elderly. Groups with a higher risk for progression from the latent TB infection to active disease include persons who have been infected recently within the previous 2 years), children years of age, persons with fibrotic lesions on chest radiographs, and infection, silicosis, gastrectomy or jejuno-ileal bypass, being below ideal body weight, and chronic renal failure.

1. Tuberculosis is carried in airborne particles, or droplet nuclei, that can be generated

when persons who have pulmonary or laryngeal TB sneeze, cough, speak, or sing. The particles are estimated 1-5 Micron in size, and normal air currents can keep them airborne for prolonged time periods and spread them throughout a room or building, Infection occurs when a susceptible person inhales droplet nuclei containing M. Tuberculosis, and these droplet nuclei traverse the mouth or passages, upper respiratory tract, and bronchi to reach the alveoii of the lungs. Usually within 2-10 weeks after initial infection with M. Tuberculosis, the immune response limits further multiplication and spread of the tubercle bacilli, however, some of the bacilli remain dormant and viable for many years. This condition is referred to as latent TB infection. Persons with latent infection usually have positive purified protein derivative tuberculin skin-test results, but they do not have symptoms of active TB, and they are not infectious.

In general, persons who become infected with M. Tuberculosis have approximately a 10% risk for developing active TB during their lifetimes. This risk is greatest during the first 2 years after infection. immuno-compromised persons have a greater risk for the progression of latent TB infection to active TB disease: HIV infection is the strongest known risk factor for this progression. Person with latent TB infection who become coinfected with HIV have approximately a 10% risk per year of developing active TB. HIV-infected persons who are already severely immunosuppressed and who become newly infected with M. Tuberculosis have *even* a greater risk for developing active TB.

The probability that a person who is exposed to M. Tuberculosis will become infected depends primarily on the concentration of infectious nuclei in the air and the duration of exposure. Characteristics of the TB patient that enhance transmission include:

* + disease in the lungs, airways, or larynx
	+ presence of acid-fast bacilli (AFB) in the sputum
	+ failure of the patient to *cover* the mouth and nose when coughing or sneezing
	+ presence of cavitation on chest radiograph
	+ inappropriate or short duration of chemotherapy
	+ administration of procedures that can induce coughing or cause aerosolization of

 M. Tuberculosis (e.g. intubation).

Environmental factors that enhance the likelihood of transmission include:

* + exposure in relatively small, enclosed spaces
	+ inadequate local or general ventilation that results in insufficient dilution
	+ removal of infectious droplet nuclei

Characteristics of the persons exposed to M. Tuberculosis that may affect the risk for becoming infected are not as well defined. In general, persons who have been infected previously with M. Tuberculosis may be less susceptible to subsequent infection. However, reinfection can occur among previously infected persons, especially if they are severely immune compromised. Vaccination with Bacille of Calmette and Geerin (BCG) probably does not affect the risk for infection, rather, it decreases the risk for progressing from latent TB infection to active TB. Finally, although it is well established that HIV infection increases the likelihood of progressing from latent TB infection to active TB, it is unknown whether HIV infection increases the risk for becoming infected if exposed to M. Tuberculosis.

Transmission of M. Tuberculosis is recognized risk in health-care facilities. The magnitude of the risk varies considerable by the type of health-care facility, the prevalence of TB in the community, the patent population *served ,* the health care worker's (HCW) occupational group, the area of health-care facility in which the HCW works, and the effectiveness of TB infection-control interventions. The risk may be higher in areas where patients with TB are provided care before diagnosis and initiation of TB treatment and isolation precautions (e.g. in pre-hospital care settings) or where diagnostic or treatment procedures that simulate coughing are performed. Nosocomial transmission of M. Tuberculosis has been associated with close contact with persons who have infectious TB and with the performance of certain procedures endotracheal intubation and suctioning). Aerosol treatments that include coughing may also increase the potential for transmission of M. Tuberculosis.

* + 1. Fundamentals of Tuberculosis Exposure Control Program

An effective TB infection control program requires early identification and isolation of persons who have active TB. The primary emphasis of this TB Exposure Control Plan is to achieve these goals by three measures:

* + - * The use of administrative measures to reduce the risk for exposure to person who *have* infectious TB.
			* The use of engineering controls to prevent the spread and reduce the concentration of infectious droplet nuclei,
			* The use of personal respiratory protective equipment where there is a risk for exposure to M. Tuberculosis.

Specific steps taken to reduce the risk of transmission of M. Tuberculosis will be:

* Assigning to specific person within the Department the supervisory responsibility for designing, implementing, evaluating and maintaining TB

Exposure Program.

* Developing and implementing policies and protocols to ensure early identification of patients who may have infectious TB.
* Developing, implementing, maintaining and evaluating a respiratory protection program.
* Educating and training employees about TB, effective methods for preventing transmission of M. Tuberculosis and the benefits of medical screening programs.
* Developing and implementing a program for routine periodic counseling and screening of employees for active TB and latent TB infection.
	+ 1. Responsibilities of Exposure Control Officer
			- List all tasks and procedures where occupational exposure may occur and the employees who perform the tasks.
			- Insure that personal respiratory protection equipment is available in accessible locations, used by employees when appropriate and stored properly when not in use.
			- Monitor and evaluate employee compliance by observation of work practices related to appropriate use of respiratory equipment. Failure to comply with TB work practice controls will be immediately reported which will determine need for policy change, employee education, and/or recommended for disciplinary action.
			- Initiate, review and continue to implement the PPD testing program.
			- Maintain records regarding PPD testing.
			- Compile yearly analysis of conversion rates and exposures.
			- Coordinate and implement all required in-service for applicable employees.
			- Coordinate and implement training and education for respiratory users.
			- Maintain records of all educational in-service received regarding respiratory

polices and protocols for all employees.

* + - * Upon verification of any news of any staff PPD conversion, of the development of consistent with suspect TB, or the development of a positive pulmonary MTB culture in an employee, the Officer will determine if the policies, protocols or procedures need to be modified.
			* Work with expert medical resources in the community to ensure that all policies and protocols meet current Federal and State regulations and appropriate medical policies and procedures.
		1. Educations and Training

All employees will receive education regarding TB that is relevant to their response protocol. The need for additional training will be reevaluated annually. The training will address the following elements as listed in the Centers for Disease Control and Prevention's Guidelines for Preventing the Transmission of Mycobacterium Tuberculosis in Health-Care Facilities, 1994.U

* + - * The basic concepts of M. Tuberculosis transmission, pathogenesis, and diagnosis, including the difference between latent TB infection and active TB disease, the signs and symptoms of TR, and the possibility of reinfection.
			* The potential for occupational exposure to person who have infectious TB in the community and situations with increased risk for exposure to M. Tuberculosis.
			* The principals and practices of infection control that reduce the risk for transmission of M. Tuberculosis, including information concerning the hierarchy of TB infection control measures and written policies and procedures for the Department.
			* The purpose of PPD skin testing, the significance of positive PPD test results, and the importance of participating in the skin-test program
			* The principles of preventive therapy for latent TB infection. These principals include the indications, use effectiveness, and the potential adverse effects of the drug.
			* Employee's responsibility to seek prompt medical evaluation if a PPD test conversion occurs or if symptoms develop that could be caused by TB. Medical evaluations will enable employees who have TB to receive appropriate therapy and will help to prevent transmission of M. Tuberculosis to patients and other employees.
			* The principals of drug therapy for active TB.
			* The responsibilities of the Department to maintain the confidentiality of the employee while ensuring that the employee who has TB receives appropriate therapy and is noninfectious before returning to duty.
			* The higher risks associated with TB infection in persons who have HIV infection or other causes of severely impaired cell-mediated immunity, including:
				+ The more frequent and rapid development of clinical after infection with M. Tuberculosis.
				+ The differences in clinical presentation of disease.
				+ The high mortality rate associated with MDR-TB in such persons.
			* The potential development of cutaneous energy as immune function declines.
			* Information regarding the efficacy and safety of BCG vaccination and the principles of PPD screening among BCG recipients.
		1. Employee Counseling, Screening and Evaluations Counseling of employees will include the following points:
			- The relationship between TB and HIV infection (or any immunocompromising condition that employees may have).
			- The need to follow infection control recommendations.

Any employee who has a persistent cough (i.e. a cough lasting >3 weeks), especially in the presence of other signs or symptoms compatible with active TB (e.g. weight loss, night sweats, bloody sputum, anorexia, or fever) should be evaluated promptly for TB. The employee should not return to the work place until a diagnosis of TB has been excluded or that individual is on therapy and a determination has been made that the employee is non-infectious. All employees with newly recognized positive PPD tests will be evaluated promptly for active TB.

* + 1. Respiratory Protection Program
1. Goal

To prevent transmission of infectious airborne agents. As outlined in the introduction, tuberculosis is an infectious airborne disease. There are other infectious diseases such as influenza, which may be prevented by the use of a respirator. These are not specifically addressed in this protocol but should be considered if a patient's medical history and physical evaluation indicate the possible presence of an infectious disease.

1. Mask use indication

The respirator will be worn whenever there is confirmation or a suspicion due to a patient's medical history or physical condition that an airborne infectious disease exists. If a patient has obvious droplet expression due to coughing or sneezing, for example, a mask should be worn. In addition, the attached Patient Medical History Evaluation below provides assessment criteria, which will assist in making the decision of whether or not a mask should be worn. If worn, it should be worn for the duration of patient care and treatment after being donned. TB respirators need to be available to the employee.

1. Procedure Guidelines
	1. Putting on the Mask
		1. Obtain the mask in the appropriate size.
		2. Remove the mask from its wrapper.
		3. Hold the respirator in its flat, folded format. Keeping the respirator closed, bend the nose clip to from a shape that matches your nose. Be careful so that there is minimal handling inside the respirator.
		4. To check the fit, place both hands completely over the respirator and exhale forcefully. A positive pressure should be felt inside the respirator. If air escapes around the nose, readjust the nose clip. If air leaks at the respiratory edges, adjust the straps to obtain a better fit. If you are unable to achieve a proper fit, DO NOT enter the contaminated area.
2. Removing the mask
	1. Remove the mask from the face using the head straps only.
	2. Discard the mask into the appropriate bio-medical waste bag if it has:
		* Been used with a patient with documented respiratory infection.
		* Been contaminated with blood or OPIM.
		* Been damaged so that the structure integrity is compromised.
3. Wash hands either with soap and water or a waterless hand cleaner. Hands should be washed with soap and water at completion of treatment or call.
4. Additional considerations
	* In areas where sinks are not readily available, a waterless antiseptic hand cleaner may be used between tasks that would normally require hand washing unless hands are visibly soiled, Hands should be washed with soap and water at the first opportunity.
	* When a potential infectious respiratory exposure exists, be certain to put your mask on before entering the area surrounding the patient. Be sure that hands are as clean as possible before putting on a facemask.
	* Be sure the covers the nose and mouth while performing treatment or for the patient.
	* If the becomes wet, change it. Masks become ineffective when moist.
	* Do not let the hang around the neck.
	* Before changing a facemask, wash hands.
	* Do not remove the mask while performing treatment or services for the patient.
	* Mask may be reused if they are not contaminated by blood or OPIM; the structural integrity is not compromised, and not worn around a patient documented to have respiratory infection.
	* Never touch the mask while it is in use.
	* Do not use with beards or other facial hair or conditions that prevent direct contact between the face and the edge of the respirator.
5. Patient Medical History Evaluation To Determine Respirator Use
	* The following questions will be asked of any patient or contact presenting with a cough, which has persisted for longer then two weeks:
	* Have you experienced any of the following (answers yes or no):
	* Coughing up blood?
	* Weight loss?
	* Decreased appetite?
	* Persistent fever?
	* Night Sweats?
	* Worked with anyone with symptoms as above?
	* Had a positive TB test?
	* Been treated for TB?
	* Have a condition that could weaken your immune system (i.e. cancer, kidney disease, HIV, AIDS, receiving cortisone or steroid therapy, receiving chemotherapy, diabetes, alcoholism, Silicosis, or had a stomach surgery)?

If any of the above is answered "yes" a respirator should be worn for the duration of that contact.

1. PPD Testing Program

All employees are encouraged to have a PPD test for tuberculosis done on an annual basis. The test is paid for by the Department and is performed by Preventative Health and Disease program.

Following any significant exposure to M. Tuberculosis, employees will be sent for baseline testing and follow up testing at 8-10 weeks post exposure. It should be noted that under the Presumptive Illness Legislation, employees who are diagnosed after January 1996 to have TB will be presumed to have become infected while performing duties for the Department; however, they may be required to produce baseline testing demonstrating non-infection prior to that exposure. Therefore, annual baseline testing should be done.

*OPERATIONAL GUIDELINE*

*DIVISION: SECTION:*

*SUBJECT:*

*REVISION DATE:*

# OPERATIONAL GUILDELINE

*HEPATITUS B VACCINATION*

## The Fire District offers the hepatitis B vaccination and follow-up boosters to all its personnel as part of its on-going policy to minimize the risk of contracting and spreading communicable diseases.

Personnel wishing to obtain the hepatitis B vaccination will have multiple opportunities to start and complete the series during our annual Blood Borne Pathogens lecture and subsequent follow-up injections and testing through our Wellness Contract with \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

Personnel choosing not to receive the vaccinations must sign an employee declaration declining the vaccination and return it to Administration for placement in their files.

## FIRE CHIEF DATE DATE

**EMPLOYEE DECLARATION DECLINING THE HEPATITUS B VACCINATION**

#### I understand that due to my occupational exposure to blood or other potentially infectious materials, I may be at risk of acquiring hepatitis B (HBV) infection I have been given the opportunity to be vaccinated with hepatitis B vaccine, at no cost to myself, however, I decline hepatitis 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 1 want to be vaccinated with hepatitis B vaccine, I can receive the vaccination series at no cost to me.

#### Signed Date

NOTE:

The purpose of requiring our personnel to sign a declination is to encourage greater participation in the vaccination program. This is also required by the Oregon OSHA Blood Borne Pathogen standard.