SCOPE

This guideline applies to all South Metro Fire Department personnel responsible for emergency response.

PURPOSE

The purpose of this plan is to eliminate or minimize employee occupational exposure to infectious diseases. This plan identifies job classifications/assignments and their corresponding tasks for which it can be reasonably anticipated that an exposure to blood, other body fluids, or other potentially infectious materials may occur. This plan establishes a schedule for implementing comprehensive infection control that includes training requirements, specific precautions and work practices to be followed, personal protective equipment to be used, housekeeping procedures, Hepatitis A and B vaccinations, Hepatitis C titer tests, annual Mantoux testing, post-exposure evaluation and follow-up protocols, record-keeping requirements and compliance/monitoring evaluation methods. This plan establishes the procedure for evaluating circumstances surrounding exposure incidents. Finally, this plan is intended to meet all relevant State and Federal mandates and requirements.

PROCEDURE

All employees shall be provided a copy of this policy at the time of their hiring as part of their orientation. This policy shall be annually reviewed and updated by the Fire Chief and/or their designee as necessary.

EXPOSURE DETERMINATION

A. All emergency response personnel are at risk and specifically the following job classifications and assignments are reasonably anticipated to involve exposure to blood, body fluids or other potentially infectious substances in the performance of their duties:

1. The following tasks/procedures are reasonably anticipated to involve exposure to blood, body fluids or other potentially infectious materials:

a. Provision of emergency medical care to injured or ill patients:

1. airway care
2. assisted breathing techniques
3. oxygen administration
4. bleeding control
5. obstetrical care
6. spinal immobilization
7. splinting techniques
8. EKG application
9. defibrillation
10. intravenous therapy
11. blood glucose procedures
12. administration of medications
13. chest decompression
14. chest tube maintenance
15. urinary catheterization maintenance
16. cleaning of ambulances and equipment

b. Rescue of victims from hostile environments, including burning structures or vehicles, water situations or oxygen deficient atmospheres.

c. Extrication of persons from vehicles, machinery or collapsed structures or excavations.

d. Recovery and/or removal of bodies from any situation cited above.

e. Response to hazardous material emergencies, both transportation and fixed-site, involving potentially infectious substances.

IMPLEMENTATION

INFECTION CONTROL TRAINING

A. All employees providing emergency services will be required to complete:

1. Initial infection control training at the time of assignment to tasks where occupational exposure may occur.

2. Refresher infection control training at least annually thereafter.

B. All infection control training curricula will be appropriate in content and vocabulary to the educational level of employees being trained.

1. Training will be in compliance with OSHA Regulation 29CFR Part 1910.1030 and NFPA 1581 and shall include:

a. An accessible copy of 29 CFR Part 1910.1030 and an explanation of its contents (See Appendix A).

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

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

d. An explanation of the department's Exposure Control Plan.

e. An explanation of the appropriate methods for recognizing tasks that may involve exposure to blood and other potentially infectious materials.

f. Information on the types, proper use, location, removal, handling, decontamination and disposal of personal protective equipment (PPE).

g. An explanation of the basis for selection of appropriate PPE.

h. An explanation of the proper methods for cleaning and decontaminating equipment, vehicles and facilities when exposed to blood or other potentially infectious materials.

i. Information on Hepatitis A and B vaccines and Hepatitis C and Mantoux titer testing, including efficacy, safety and the benefits of being vaccinated; notification that the immunization/testing series will be provided at no charge and an explanation of how to request and proceed with the vaccines.

j. An explanation of what constitutes a significant exposure, the appropriate actions to take and persons to contact if a significant exposure incident occurs, including the method of reporting the incident and the medical follow-up that will be made available.

k. Information on the post-exposure evaluation and follow-up that the department is required to conduct following an exposure incident.

l. An explanation of the signs, labeling and coloring coding required for biohazard materials; information on the proper storage and disposal of biohazard materials.

m. Opportunity for interactive questions and answers.

n. Other recommendations from Medical Director.

2. Infection control trainers shall be knowledgeable in all of the program elements listed above.

3. Written records of all training sessions will be permanently maintained. Training records will include:

   a. The dates and length of service.
   b. The contents or a summary of the training sessions.
   c. The names of qualifications of employees conducting the training.
   d. The names and job titles of all employees attending the training sessions.

PRECAUTIONS AND WORK PRACTICES

A. Station Environment

1. Storage, decontamination and disposal areas:

   a. All stations will designate separate areas for:

      1. Equipment cleaning, decontamination and disinfection.
      2. Storage of clean patient care equipment and infection control PPE.
      3. Storage of biohazard waste.

   b. Under no circumstances will kitchens, bathrooms or living areas be used for decontamination or storage of patient care equipment or infectious waste.

   c. Decontamination areas will be marked with biohazard signs and will be equipped with:

      1. Sink constructed of nonporous materials.
      2. Proper lighting and adequate ventilation.
      3. Adequate counter areas constructed of nonporous materials.
      4. Adequate rack space to allow air-drying of equipment.
      5. Appropriate containers for disposal of biohazard waste.
      6. Facilities for safe storage, use and disposal of cleansing and disinfecting solutions.
      7. Appropriate PPE for the use of disinfecting solutions.
      8. Contaminated sharps will be stored in closed puncture-resistant red containers (sharps boxes) with appropriate biohazard markings.
      9. Other contaminated materials will be stored in red leak-proof bags with appropriate biohazard markings. If outside contamination of a disposal bag is a possibility, an identical second bag will be placed over the first.
      10. Reusable containers used to store biohazard waste will be inspected weekly and emptied when no more than ¾ full. These containers shall be cleaned and disinfected each time they are emptied and immediately if outside contamination is present.
      11. All disposal of biohazard waste will be in accordance with EPA and OSHA regulations and will be disposed of at the hospital in accordance with their disposal policies.

12. Each time a medical waste container and/or sharps container is disposed of at the hospital, the disposing employee shall record the disposal on the daily vehicle inspection checklist.

2. Laundry/Cleaning Areas

   a. All stations shall provide hand-washing facilities readily available near the vehicle area.

   b. All contaminated work uniforms should be washed in the station to prevent possible spread of both infectious and chemical contamination.

   c. All employees should maintain a clean extra work uniform in the station to ensure potentially contaminated uniforms can be exchanged immediately upon return to the station.

   d. Contaminated hospital linens will be exchanged by the medical facility receiving the patients. Under no circumstances will contaminated hospital linens be washed in station laundry facilities.

   e. All stations should be equipped with a separate washing machine designated for cleaning items with potential infectious and chemical contamination.

3. Kitchen Eating Area

   a. Food and drink shall not be consumed or stored in refrigerators, freezer, shelves, cabinets or on countertops or bench tops where blood or other potentially infectious materials are present.

B. <u>Personal Protective Equipment</u>

1. Specification, purchase, storage and issue of personal protective equipment (PPE):

   a. Standards for PPE will be Fire Department approved and updated or modified as needed.

   b. The department is responsible for the supply, repair, replacement, cleaning and safe disposal of infection control PPE, including all costs associated with it.

   c. The Fire Department will determine proper stock supply levels of PPE for both stations and vehicles.

   d. The amount, type and location of PPE will be standardized on all emergency response vehicles. (Disposable gloves shall be stored in the cabs of all first response vehicles and patient treatment areas of all ambulances. Pocket masks, face masks/shields and waterless antiseptic hand cleansers shall be stored in all first aid kits and airway kits.)

   e. Available PPE (in addition to PPE for structural firefighting) will include properly fitting disposable gloves, utility gloves for disinfecting/decontamination purposes, face masks, eye protectors, full face shields, fluid-impervious gowns, sharps containers, leak-proof disposal bags, pocket masks with one-way valves and waterless antiseptic hand cleanser or towelettes.

   f. Any hand lotion used by an employee shall be water based only to prevent possible degradation of disposable gloves.

   g. Hypoallergenic gloves will be made available to employees demonstrating allergic reaction from use of the standard issued gloves.

h. Sharps containers will be closeable, leak-proof puncture resistant. Containers will be red, labeled as a biohazard and immediately accessible at the scene where sharps are used and in the patient treatment area of all ambulances. Sharps containers shall be disposed of when they are no more than ¾ full.

i. Red leak-proof biohazard waste disposal bags will be stored in all emergency response vehicles.

2. Selection and Use of Personal Protective Equipment:

a. Emergency response is often unpredictable and uncontrollable. While blood is the single most important source of HIV and HBV infection in the workplace, it is safest to assume all body fluids are infectious. For this reason, PPE will be selected and worn to provide barrier protection against all body fluids (body substance isolation – BSI).

b. In general, employees should select PPE appropriate to the potential for spill, splash or exposure to body fluids. No standard operating procedure or PPE ensemble can cover all situations. Common sense based on training and experience must be used. When in doubt, select maximal rather than minimal PPE. (See Appendix B.)

c. Disposable gloves shall be worn during any patient contact when potential exists for contact with blood, body fluids, non-intact skin, or other infectious materials.

d. Gloves will be replaced as soon as possible when soiled, torn or punctured. Wash hands after glove removal.

e. Disposable gloves will not be reused or washed and disinfected for reuse.

f. Where possible, gloves should be changed between patients in multiple casualty situations.

g. Structural firefighter gloves shall be worn when sharp or rough edges are likely to be encountered.

h. Heavy-duty utility gloves shall be used for the handling, cleaning, decontamination or disinfection of potentially contaminated patient care equipment and vehicles.

i. Facial protection should be used in any situation where splash contact with the face is possible including arterial bleeding, emergency childbirth, endotracheal intubation and suctioning if splashing is likely. Facial protection may be afforded by using both a face mask and eye protection, or by using a full-face shield. When treating a patient with a suspected or known airborne transmissible disease, face masks will be used. The first choice is to mask the patient; if this is not feasible, the employee shall be masked.

j. Face shields on structural firefighting helmets will not be used for infection control purposes.

k. Fluid-resistant gowns are designed to protect clothing from splashes. Structural firefighting gear also protects clothing from splashes and is preferable in fire, rescue or vehicle extrication activities. Gowns may interfere with, or present a hazard to, the employee in these circumstances. Structural firefighting gear will always be worn for fire suppression and extrication activities. Structural firefighting gear (impervious boots, helmets) also may be used for barrier protection.

3. Summary
   a. If it's wet, it's infectious – use gloves.
   b. If it could splash onto your face, use eye shields and mask or full-face shield.
   c. If it's airborne, mask the patient or yourself.
   d. If it could splash on your clothes, use a gown or structural firefighting gear.

e. If it could splash on your head or feet, use appropriate barrier protection.

C. Scene Operations

1. The blood, body fluids and tissues of all patients are considered potentially infectious and Universal Precautions/Body Substance Isolation procedures will be used for all patient contact.

2. The selection of personal protective equipment is specified in Section B of this plan. Employees are strongly encouraged to use maximal rather than minimal PPE for each situation.

3. While complete control of the emergency scene is not possible, scene operations should attempt to limit splashing, spraying or aerosolization of body fluids as much as possible.

4. The minimum number of employees required to complete the task safely will be used for all potentially infectious operations. Employees not immediately needed should remain a safe distance from operations where communicable disease exposure is possible or anticipated.

5. Employees shall follow all precautions against exposure to infectious diseases as listed in the most current Dakota County EMS protocols.

6. Hand washing is the most important infection control procedure.

   a. Employees will wash their hands:

      1. After removing PPE.
      2. After each patient contact.
      3. After handling potentially infectious materials.
      4. After cleaning or decontaminating equipment.
      5. After using the bathroom.
      6. Before eating.
      7. Before and after handling or preparing food.

   b. Hand washing with soap and water will be performed for 10-15 seconds. If soap and water is not available at the scene, a waterless antiseptic handwash should be used, provided that a soap and water wash is performed immediately upon return to quarters or hospital.

7. Eating and drinking are not allowed in the patient compartment of the ambulance at any time.

8. Eating and drinking are allowed in the ambulance cab only if the employees and their clothing are free of all possible infectious material and the employee has washed his hands following any patient contact or contact with potential infectious material.

9. Used needles and other sharps shall be disposed of in approved sharps containers. The next common occupational blood exposure occurs when needles are recapped. Needles shall not be recapped, resheathed, bent, broken or separated from disposable syringes.

10. Sharps containers will be easily accessible at the scene.

11. Disposable resuscitation equipment will be used whenever possible. For CPR and respiratory arrest the order of preference is:

    a. Disposable bag-valve mask.
    b. Demand valve resuscitator with disposable mask.
    c. Disposable pocket mask with one-way valve.

d. Mouth-to-mouth resuscitation.

12. Mouth-to-mouth resuscitation may be performed only as a last resort if no other equipment is available. All emergency vehicles will carry pocket masks with one-way valves to minimize the need for mouth-to-mouth resuscitation. Disposable resuscitation equipment will be kept readily available during on-scene operations.

13. Patients with suspected or confirmed airborne communicable diseases will be transported wearing a face mask whenever possible. Ambulance windows will be open and ventilation systems turned on full whenever possible.

14. Personal protective equipment will be removed after leaving the work area and as soon as possible if contaminated.

15. After use all PPE, resuscitation items, and other potentially contaminated equipment will be placed in designated red leak-proof bags, marked as a biohazard, and transported for appropriate disposal or cleaning/decontamination and reuse. If a possibility exists that contamination may pass through the bag, the items will be double bagged.

16. On scene public relations will be handled by the department's Public Information Officer (PIO), if available. The senior officer, or his designee, will assume this function in the absence of the PIO. The public should be reassured that infection control PPE is used as a matter of routine for the protection of all fire department employees and the victim's they treat. The use of PPE does not imply that a given victim may have a communicable disease.

17. No medical information will be released at the scene. Media queries will be referred to the department PIO. Patient confidentiality will be maintained at all times.

D. Post-Response

1. Upon return to quarters, all contaminated equipment will be removed and replaced with clean equipment if available. Supplies of PPE on response vehicles shall be replenished as soon as possible. Any damaged equipment will be cleaned and disinfected before being sent out for repair.

2. If the transporting ambulance and/or its equipment has been significantly contaminated by blood and/or body fluids, a backup ambulance should be placed in service, if available, until the contaminated ambulance is properly decontaminated.

3. Contaminated equipment will be stored only in the decontaminated area. Cleaning and decontamination will be performed as soon as practical.

4. All contaminated items shall be placed and transported in biohazard waste bags.

5. Disposable equipment and other biohazard waste generated during on-scene operations will be stored in the designated biohazard disposable area in appropriate leak-proof containers with tight fitting lids labeled as "Biohazard." These containers shall be lined with designated biohazard waste liners, red in color and labeled accordingly at all times. These containers shall be emptied when ¾ full and disposed of properly at the base hospital according to their policies.

6. Sharps containers when ¾ full shall be securely closed and disposed of at the hospital.

7. Gloves will be worn for all contact with contaminated equipment or materials. Other PPE (masks, eyewear, gowns) will be used depending on splash or spill potential. Heavy-duty gloves shall be used for all decontamination procedures. These gloves are reusable and should be washed off and decontaminated

after each use provided the integrity of the glove is not compromised. However, these cleaning gloves must be discarded and replaced if they are cracked, peeling, torn, punctured, or exhibit other signs of deterioration.

8. Eating, drinking, smoking, handling contact lenses, or applying cosmetics or lip balm is prohibited during cleaning or decontamination procedures.

9. All visible contamination should be removed prior to cleaning with solutions. Disinfection will be performed with approved warm water solutions containing one of the following: commercial disinfectant or bleach (concentration 1:10, one part household bleach to 10 parts of water). The manufacturer's guidelines will be used for cleaning and decontamination of all equipment. Unless otherwise specified:

    a. Reusable instruments (e.g., laryngoscope blades, Magill's forceps, etc.) will be washed with hot soapy water, rinsed with clear water, and be soaked for 15-45 minutes in a warm water disinfectant solution. After soaking, rinse thoroughly with clean water and air dry.

    b. Durable equipment (e.g., backboards, splints, stethoscopes, etc.) will be washed with hot soapy water, rinsed with clean water and disinfected with an approved solution. The equipment will then be rinsed thoroughly with clean water and be allowed to air dry.

    c. Delicate equipment (e.g., radios, defibrillators, etc.) will be wiped clean of any debris using hot soapy water, wiped with clean water, then wiped with an approved disinfecting solution. The equipment will then be wiped with clean water and be allowed to air dry.

    d. Work surfaces (e.g., ambulance seats and floors, counters used for cleaning, etc.) will be decontaminated with an approved disinfecting solution after completion of all procedures and after any spillage or contact with blood or potentially infectious materials. Seats, floors and all working surfaces in ambulances shall be cleaned and disinfected after any contamination, suspected contamination and on a weekly basis.

10. Contaminated department blankets/linens, etc., should be handled as little as possible and with minimum agitation to prevent gross contamination of the air and the person(s) handling the items. These soiled articles owned by the department should be washed separately using normal laundry procedures. All contaminated hospital linens should be placed in a biohazard waste bag and disposed of at the receiving hospital.

11. Contaminated work clothing (uniform shirts and pants, t-shirts, jumpsuits) will be removed and exchanged for clean clothes. These uniforms will be laundered at the station according to manufacturer's recommendations found on attached labels. Under no circumstances will contaminated work clothing be laundered at home by any employee. The employee will shower as soon as possible after returning to the station if body fluids were in contact with skin under work clothing.

12. Contaminated boots and leather goods will be brush-scrubbed with a hot solution of soapy water, disinfected, rinsed with clean water and allowed to air dry.

13. Structural firefighting gear contaminated by potentially infectious materials will be cleaned according to manufacturer's instructions found on attached labels. Turnout gear will be air dried. Chlorine bleach may impair the fire-retardant properties of structural firefighting gear and shall not be used.

14. All soiled cleaning equipment will also be cleaned and decontaminated. Disposable equipment and materials will be bagged and placed in the medical waste containers at the station.

15. All employees will wash their hands properly following all cleaning and decontamination operations.

A. Post-Exposure Protocols

1. Any employee exposed to potentially infectious material will wash the exposed area with soap and water, or flush mucous membranes with water immediately or as soon as feasible following contact.

2. All reports necessary to process an exposure will be found in a Significant Exposure Packet envelope. These envelopes shall be carried on all department ambulances and stored at all stations.

3. The employee shall notify the physician or nurse of the receiving medical facility that a communicable disease exposure took place and request an infectious disease determination as provided under the Ryan White Act of 1990. If circumstances prevent this immediate reporting, the receiving facility should be informed verbally of the exposure and the form delivered as soon as possible. If the patient is dead at the scene or arrives dead on admission, testing will be requested to be conducted by the Medical Examiner's office. Results of this determination shall be requested to be forwarded to the South Metro Fire Department Medical Director.

4. An employee shall immediately notify the supervisor and complete the Communicable Disease exposure Report Form and the Employee Report of Injury in the event of any of the following exposures:

   a. Any puncture of the skin by a needle or other sharp object that has had contact with a patient's blood or body fluids.

   b. Splash of blood or other potentially infectious material onto mucous membranes or eyes.

   c. Contact of open skin (cuts, abrasions, blisters, open dermatitis) with blood, vomitus, saliva, amniotic fluid, urine, fecal material or any other body fluid contaminated with blood. (Bite wounds are also included.)

5. The Employee Report of Injury shall include details of the task being performed, the means of transmission, the area exposed and the type of PPE in use at the time.

6. The supervisor shall review the completed Employee Report of Injury and complete the First Report of Injury and the Supervisor's Investigation of Accident reports. The supervisor shall assure all procedures are followed as defined in the South Metro Fire Department's accident and injury reporting guidelines. The supervisor will forward a copy of each of the forms to the Fire Chief and/or their designee.

7. When the supervisor receives a report of an exposure, the supervisor will refer the employee to the Medical Director or his designee for counseling and testing. This initial evaluation and appropriate treatment should be completed as soon as possible and shall be completed within 24 hours in all cases. It is the employee's option to accept or decline the referral.

8. The South Metro Fire Department will bear the expense of all testing and counseling necessary in the event of an exposure.

9. Testing results of the source patient and employee will be made available to the employee and the counseling physician for use in counseling the exposed employee. These test results will be confidential and only made available to the Medical Director or his designee for counseling or as mandated by law.

10. Under the Ryan White Act, medical treatment facilities will notify the department Infection Control Officer of any patient transported by employees of the department with a diagnosis of an airborne transmissible disease. When so notified, the Infection Control Officer will contact employees involved and refer them for medical evaluation with the Medical Director or his designee.

11. Supervisors should place a backup ambulance with called back off-duty personnel if necessary to allow for proper evaluation, testing and counseling for the exposed worker(s) when exposure is from a source positive patient or when the reporting, evaluation, testing and counseling require the employee(s) to be unavailable for approximately two hours or longer.

B. Health Maintenance

1. No employee will be assigned to emergency response duties until an entrance physical assessment has been performed by the department physician or his designee, and the employee has been certified as fit for duty.

2. Work restrictions for reasons of infection control may be initiated by the department. These may be temporary or permanent. As an example, employees with extensive dermatitis or open skin lesions on exposed areas may be restricted from providing patient care or handling and/or decontamination of patient care equipment.

3. All employees will be offered immunization against Hepatitis A and B (including titer testing) prior to assignment to emergency response duties. The risks and benefits of immunization will be explained to all employees and informed consent obtained prior to immunization. This immunization series and post-vaccination testing will be provided at no cost to the employee. Employees will also be offered Hepatitis C and Mantoux testing at no cost to the employee.

4. All employees will be required to complete a Hepatitis A and B Vaccination Status Form and/or Declination Statement if applicable.

5. The Hepatitis A and B immunization series will be performed under the supervision of the Medical Director and administered according to current pharmaceutical manufacturer, Minnesota Department of Health and the U.S. Public Health Service recommendation for high risk employees.

C. Recordkeeping

1. The Fire Chief and/or their designeeand Medical Director will establish and maintain records in accordance with OSHA's CFR 29, Part 1910.1030. An accurate record on each employee will include:

   a. Name and social security number.

   b. Hepatitis A and B vaccination status including dates of all Hepatitis A and B vaccinations. Also included are titer checks for Hepatitis A, B and C and Mantoux testing.

   c. Circumstances of exposure to communicable disease.

   d. Post-exposure medical evaluation, treatment and follow-up including the health care professional's written opinion and a copy of the information provided to the health care professional.

2. The Infection Control Officer shall ensure that these medical records are kept strictly confidential. These records shall not be released or disclosed without the employee's expressed written consent to anyone within or outside the department except as required by this section or as required by law. The law specifically makes no exceptions to this for department administration, city administration or insurance companies.

3. These medical records shall be maintained permanently.

4. Employees may examine their own medical records and may request that copies be sent to their personal physician after completing a Medical Information Release Form.

5. Abstracts of medical records without personal identifiers may be made for quality assurance, compliance monitoring, or program evaluation purposes, provided the identity of individual employees cannot be determined from the abstract.

6. Training records shall be established and maintained by the Fire Chief and/or their designee. These written records of all training sessions will be maintained permanently and will include:

   a. The dates of the sessions.
   b. The contents or a summary of the sessions.
   c. The names and qualifications of instructors conducting the training.
   d. The names and job titles of all employees attending the training sessions.

7. Employee training records will be available for examination and copying to employees, employer, employer representatives, the department Medical Director and/or their designee and the Minnesota Department of Health.

EVALUATION OF EXPOSURE INCIDENTS

A. The procedure for evaluating and investigating circumstances surrounding incidents of exposure to blood, other body fluids, or other potential infectious materials is detailed in Section II, E. Post-Exposure Protocols. Medical follow-up, documentation, recordkeeping and confidentiality requirements are also defined in Section II.

1. The Fire Chief and/or their designee will collect compliance and quality monitoring data including:

   a. Inspections of station facilities.
   b. Observance of on-scene activities.
   c. Observance of post-response operations.
   d. Analysis of reported exposures to communicable diseases.

2. A semi-annual quality and compliance report will be made by the Fire Chief and/or their designee.

3. An annual report will be submitted by the Fire Chief and/or their designee for publication in the department’s OSHA report.

4. The Exposure Control Plan will be re-evaluated at least annually by the Safety Committee and the EMS Committee to ensure that the plan is both appropriate and effective.

5. The Exposure Control Plan will be re-evaluated as needed to reflect any significant changes in assigned tasks or procedures, medical knowledge and technology related to infection control, or in regulatory matters.