

**WINCHESTER/FREDERICK COUNTY REGIONAL  
HAZARDOUS MATERIALS RESPONSE TEAM  
EMERGENCY MEDICAL SERVICES  
POLICY AND PROCEDURES**

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The mission of the Winchester/Frederick County Regional Hazardous Materials Team Emergency Medical Service is to provide a quality and economical comprehensive E.M.S. program for all team members and victims of chemical related incidents. This will be accomplished through intensive training, pre-incident planning, on scene evaluations and treatment, and post-incident evaluations. This program will be delivered under the direction of the Team Medical Director and will consistently provide state of the art evaluations and treatment, so as to lessen the chemical exposure impact on the Winchester/Frederick County Regional Hazardous Materials Response Team and will adhere to the general policies of the team and will answer to the Hazardous Materials Incident Commander through the Team Medical Officer.

## **GENERAL STATEMENT**

1. The Winchester/Frederick County Regional Hazardous Materials Response Team will have a major section designated as the E.M.S. Section. This section's primary responsibility is to provide a medical surveillance and initial treatment program for all hazardous materials team members who are dealing with chemicals that pose a potential life or property loss or deterioration.

A secondary responsibility for this section will be to assist the initial responding E.M.S. agencies with patient care and technical expertise. At all times adequate E.M.S. section personnel shall be available for its primary responsibility.

2. All E.M.S. evaluations and care provided for team members shall be under the direction of the Team's Medical Director. The Medical Director will give guidance on providing a comprehensive E.M.S. program. The Medical Director shall give input, review, and approve all policies and procedures as they relate to the E.M.S. program. Acceptable vital sign parameters, treatment protocols, and required training will also be at the Medical Director's discretion. The Medical Director will serve as a liaison between the team and the base hospital. The Medical Director shall be notified in the following instances:

- A. Injury or death to team members.
- B. Incidents over twelve (12) hours duration.
- C. Large number of civilian injuries or any deaths.
- D. When special hazards exist or for unusual responses.
- E. When a live victim has been exposed to a rapidly terminal chemical.

3. The team will operate with Winchester Medical Center being the teams base hospital. This hospital will serve as a focal point for team medical care and surveillance. During incidents every attempt shall be made to utilize our base hospital as the Medical Control Center. Communications should be established using one or a combination of the following systems:

- A. Med Radio
- B. H.E.A.R. Radio System (155.340)
- C. Phone Patch
- D. Cellular Telephone
- E. Telephone

This base hospital/poison control center shall be contacted as soon as the medical area is established at an incident. An up-date should then follow every thirty (30) to sixty (60) minutes. This contact shall be made on every incident.

## **MEMBERSHIP AND TRAINING**

4. The E.M.S. Section of the team will consist primarily of Cardiac Technicians and Paramedics. Any City of Winchester or County of Frederick Cardiac Technician or Paramedic may be assigned by the department and training will be provided. All other team personnel will be E.M.T.-B's or E.M.T.-S.T.'s under this section and will perform at the direction of the A.L.S. person in charge of patient care, the Team E.M.S. Officer, or the Team Medical Director. All medical section personnel will coordinate E.M.S. duties with the Team E.M.S. Officer. Each person in the E.M.S. section will be expected to have additional training in Hazardous Materials E.M.S. procedures. This training will include but not be limited to:
  - A. Rescuer Protection
    1. S.C.B.A. and Filter Masks.
    2. Protective clothing up to Level B protection.
    3. E.M.S. care with protective clothing on.
    4. Hospital delivery protocols.
  - B. Emergency Care of Chemical Emergencies
  - C. Decontamination
  - D. E.M.S. Reference Sources
    1. Poison Control Centers
    2. Textbooks
    3. Additional information sources
  - E. Equipment Protection Methods
    1. Medical care equipment
    2. Ambulances
  - F. Hazardous Materials Awareness and Operations  
Hazardous Materials Technician or Specialist
  - G. Incident Command/Public Relations
  - H. Advanced Drug Therapy (Cardiac & Paramedic Levels)
  - I. Comprehensive Entry and Exit Surveys
  - J. Rehabilitation
  - K. Hazardous Materials Documentation/Record Keeping
  - L. Procedures for death due to hazardous materials exposure
  - M. Triage
  - N. Emergency Room Procedures

## **PROGRAM COMPONENTS**

The medical program will consist of several distinct areas. The areas are listed below and each will be addressed in depth:

1. Baseline/Entry Physical
2. Pre-Incident Entry Survey
3. Pre-Incident Entry Survey Components
4. Post-Incident Survey
5. Emergency Care
  - A. Non-Life Threatening Injury
  - B. Life Threatening Injury
  - C. Dead On Arrival (Scene) Patients
  - D. Multiple Contaminated Patients
6. Rehabilitation
7. Yearly Physicals
8. Exposure Physicals
9. Exit Physicals
10. Medical Records
11. Hazardous Materials E.M.S. Vehicle
12. Team Emergency Medical Services (E.M.S.) Officer
13. Team Medical Officer
14. Resource and Research For Emergency Medical Services Appendixes

These fourteen (14) areas represent some of the most important areas of any hazardous materials incident.

The program is designed to take numerous precautions to insure that each member of the team will be as free as possible from side effects due to hazardous materials exposure. In order for this to happen, each team member needs to take all aspects of this program seriously. At times it may be easy to take shortcuts, this can only be detrimental to all those involved. The following areas are guidelines for the medical program. They are to be used to help us meet our mission of a top-quality E.M.S. program.

# 1. **BASELINE/ENTRY PHYSICAL**

- A. Each full team member who has a possibility of taking offensive action or wearing an encapsulated suit on an incident shall have a complete hazardous materials physical. This physical shall not be at the member's expense.
- B. New members shall serve a six (6) month probationary period. At the next onset of that six-month period, the new member shall receive a baseline physical, but shall not be placed in a position to take offensive action until all necessary training has been completed.
- C. The content of the hazardous materials physical shall include but not be limited to the following:
  - 1. Physical Examination
  - 2. Multiple Blood Chemistry Levels (See Attached)
  - 3. Blood Lead Level and Blood Type
  - 4. Heavy Metals Screening
  - 5. Pulmonary Function Test (Spirometry)
  - 6. Chest X-Ray, PA and Lateral Views
  - 7. Resting Electrocardiogram (E.K.G.)
  - 8. Stress Test
  - 9. Eye Examination and Audiometric Test
  - 10. See Appendix for complete breakdown
- D. The results of the tests can be released to the following:
  - 1. City of Winchester Fire & Rescue Chief
  - 2. County of Frederick Fire & Rescue Director
  - 3. Team Operational Medical Director
  - 4. Team Emergency Medical Services Officer
  - 5. Hazardous Materials Response Unit in a locked file
- E. All test results will be forwarded to each member along with a summary. This summary shall indicate the member's medical condition as related to working in a hazardous environment.
- F. If the physical shows that a person has a deficiency in a particular area of the physical the following will occur:
  - 1. The physician will make a recommendation as to what degree the person can participate in the team.
  - 2. The Team Medical Director, Team E.M.S. Officer, or the ranking official shall determine the appropriate actions based on the physician's report. The Team Medical Director shall have the final say.
- G. All baseline physicals shall comply with OSHA requirements.

## 2. PRE-INCIDENT ENTRY SURVEY

- A. Prior to any physical functions of hazardous materials members involved in entry evolutions, a pre-incident entry physical examination must be completed. The hazardous materials E.M.S. personnel will perform these exams. In the absence of any E.M.S. section personnel, the highest medically trained person should evaluate the team.
- B. Due to the physical and mental demand of hazardous materials responses, it is imperative that the pre-incident survey is completed thoroughly, yet in a timely fashion. The results of this survey will indicate which functions, if any, the hazardous materials team member may perform.
- C. The pre-incident exam was developed and approved by the Hazardous Materials Medical Director. In order to adequately track each member's condition, each section of the exam has been developed to place the hazardous materials responder into one (1) of four (4) possible categories as listed below:

**Status 0** - No condition exists that prevents the responder from performing any task on a hazardous material incident.

**Status 1** - A minor condition exists that will need to be reevaluated in fifteen (15) - twenty (20) minutes. During this time period, the responder will stay at rest and have no assignments placed on them. If after 15 - 20 minutes this evaluation does not change or if it worsens, the responder will be placed into Status 2.

**Status 2** - A condition is present that will not allow a responder to perform any more demanding or stressful work. This person will be reevaluated in fifteen (15) - twenty (20) minutes to be assured that the condition does not worsen. If after 15- 20 minutes the condition does not change or if it worsens, the responder will be placed into Status 3.

**Status 3** - A serious condition exists that excludes the responder from any physical functions. The hazardous materials EMS personnel should consider whether this person should be transported to the hospital. Any person placed in this status will have at least a 12-hour period of no hazardous materials activity. At that time, they may be reevaluated and appropriate assignments made.

### 3. PRE/POST-INCIDENT PHYSICAL SURVEY - COMPONENTS

- A. Blood Pressure
- Systolic
    - 100-150 Status 0
    - Less than 100 Status 1
    - Greater than 150 Status 1
  - Diastolic
    - Less than 90 Status 0
    - 90-100 Status 1
    - Greater than 100 Status 2
- B. Pulse
- 50-120 Status 0
  - Less than 50 Status 1
  - Greater than 120 Status 1
- C. Respiration's
- 12 - 28 Status 0
  - Less than 12 Status 1
  - Greater than 28 Status 1
- D. Temperature
- 96-100 Status 0
  - Less than 96 Status 2
  - Greater than 100 Status 2
- E. Weight - To be recorded while responder is in shorts or coveralls. (Allow one (1) pounds for coveralls.)
- F. Skin - Check appearance for any rashes or abnormalities. Document size and location of rashes. It will be per the discretion of the E.M.S. personnel to determine whenever the rash, abnormality, etc. will allow the member to perform certain tasks.
- G. Eyes - Check pupils for size and reactivity. Check eyes for appropriate movement. Comparisons should be made to baseline exam for abnormalities. If gross differences exist, refer to physician. Status 3
- H. Lungs - Listen for wheezes, rales, bilateral equal sounds. If wheezes, rales, unequal breath sounds exist, the responder will be placed in Status 2 or Status 3 per the discretion of the E.M.S. personnel.
- I. Heart - Any chest pain Status 3  
Cardiac arrhythmia (with the exception of sinus arrhythmia) Status 3
- J. Abdomen - Any abdominal pain Status 2  
Nausea or vomiting Status 2  
Diarrhea Status 2
- K. Mental Status Exam  
See attached worksheets

Score 29 - 30  
Score less than 29

Status 0  
Status 1

- L. Musculoskeletal  
At the discretion of the EMS personnel, any recent or ongoing injury may be placed into Status 2.
- M. Recent Medical History  
If a member of the hazardous materials team has had a condition that required that person to be off work within 48 hours of the response, a Status 2 is indicated.
- N. Other - Any other components or findings not listed above will be categorized per the discretion of the E.M.S. personnel.
- O. If a member of the hazardous materials team has had a condition that prevented them from working for three (3) or more days within the past seven (7) days that member shall not be put in a position that requires protective clothing. If a member was on sick leave the day of a response, that person shall not participate in the incident.
- P. If a member of the hazardous materials team has a condition that requires them to wear a cast, brace, etc. that team member shall not participate in a combat type position (unless cleared by a physician). Consideration will be given to working in a command function.
- Q. A pre-incident exam worksheet (attached) will be completed on all members going through the exam. It will be held on file for comparison to the post-incident exam. All findings are to remain confidential.

#### 4. POST-INCIDENT SURVEY

- A. Any hazardous materials team member who has exited the "Hot Zone" into the "Warm Zone" will have a post-incident exam performed on them. As with the pre-exam, only hazardous materials EMS personnel will perform the survey. The same E.M.S. person should evaluate the same members so as to provide consistency.
- B. When personnel assigned to work in the "Warm Zone" either leave into the "Cold Zone" or work in the "Warm Zone" for three (3) hours, a post-incident exam will be performed.
- C. The post-incident exam was developed and approved by the Medical Director. In order to adequately track the ongoing condition of the hazardous materials responder, each section of the exam has been developed to place the member into one (1) of four (4) possible categories listed below:

**Status 0** - No condition exists or has developed that would present the member from continuing to perform.

**Status 1** - A minor condition has developed that will need to be reevaluated in 15-20 minutes. During this time period, the responder will stay at rest and have no assignments placed on them. If after 15-20 minutes the condition does no change, or worsen, the member will be placed in Status 2.

**Status 2** - A condition has developed that will not allow a responder to perform any further demanding or stressful work. This person will be reevaluated in 15-20 minutes. If after this time period, the condition does not change or worsens, the responder will be placed in Status 3.

**Status 3** - A condition has developed that will exclude the responder from any further functions. These members will be taken to the hospital for a medical evaluation.

#### D. Post-Incident Physical Survey - Components

- 1. Blood Pressure - Same parameters as pre-exam.
- 2. Pulse - Same parameters as pre-exam.
- 3. Respirations - Same parameters as pre-exam.
- 4. Temperature - Same parameters as pre-exam.
- 5. Weight - To be recorded in same attire as the pre-exam. Sweat laden clothing to be removed.

97% - 100% of pre-exam

Status 0

Below 97% of pre-exam

Status 2

**WEIGHT LOSS PERCENTAGE CHART**

<b><u>Individual Weight</u></b>	<b><u>Loss of &gt;3%</u></b>
250	<242
225	<218
200	<194
175	<169
150	<145
125	<121

6. Skin - Check for any worsening appearance of rashes. Any new rash should be documented. If toxic specific Status 3
7. Eyes - Abnormal pupils or movement Status 3
8. Lungs - Any wheezes, rales, or diminished breath sounds Status 3
9. Heart - Any chest pain Status 3  
           Cardiac arrhythmia (excluding sinus arrhythmia) Status 3
10. Abdomen - Any abdominal pain Status 2  
               Nausea or vomiting Status 2  
               Diarrhea Status 2
11. Mental Status Exam  
       Score 29 - 30 Status 0  
       Score less than 29 Status 2
12. Other - Any complaints or irregularities not previously noted will be documented. Further screening may be required.

E. A post-incident exam worksheet (attached) will be completed on all members who have been examined. It will be held on file for future comparisons. All findings are to be confidential.

## 5. EMERGENCY CARE

- A. Emergency care shall be given to team members and victims when the situation permits. It should be understood that some chemical exposures can be non-treatable and appropriate action shall be carried out. This action shall be verified in at least two (2) resources, a poison control center, with our base hospital medical control and the Team Medical Director or his/her designee. Appropriate notifications shall be made and all actions documented in cases such as these.
- B. The Medical Officer, Safety Officer, Decontamination Officer, and an A.L.S. Technician will determine the necessary decontamination procedures on a case by case basis. Patient care should begin during decontamination, if feasible. Emergency Medical Service personnel should not expose themselves unnecessarily. Every attempt should be made to thoroughly decontaminate every patient prior to advanced procedures being initiated. As a general rule **"ALL PATIENTS GO THROUGH DECONTAMINATION"**

The following actions should be carried out if the product is not water reactive and a full decontamination is required. Rescuers shall wear S.C.B.A. or filter masks (depending on the chemical) and the proper protective clothing at all times while decontaminating patients. The Safety Officer and the Medical Officer will make this determination.

- C. The A.L.S. Technician will determine if the patient has a non-life threatening injury, life-threatening injury, or is Dead On Arrival (D.O.A.). Appropriate actions shall be performed as follows:
- D. At times initial rescuers may be contaminated. These rescuers have now become victims. All patient care procedures should be carried out with these victims after proper decontamination.
- E. Patients who have been exposed to a hazardous material without protection or with breached protection should be evaluated at a medical facility. In the event that a victim refuses transport, document the refusal and confer with the Hazardous Materials Safety Officer for further directions.
- F. E.M.S. personnel should wear a compatible chemical protective suit and gloves while transporting patients. Appropriate respiratory protection shall be worn. The resource materials or base hospital should determine the level. A S.C.B.A. shall be worn if indicated or working with an unknown chemical.
- G. All necessary portable equipment shall be protected as well as possible. Enclosing the equipment in clear plastic bags and having only the end of cables, tubing, etc. exposed should do this. Tape the bag to the cables, tubes, etc. with duct tape.
- H. When transport to a hospital is anticipated, that hospital should be notified as soon as possible. Direct facts must be relayed to the hospital as to what has

occurred. The hospital will need to have some means of decontaminating patients. If no designed areas for decontamination are built, the morgue may be an option. The E.M.S. personnel should advise the receiving hospital of the necessary staff protection. If the hospital has no equipment or decontamination facilities, an alternate hospital should be given consideration. At no time should we send a known **non-decontaminated** patient to a hospital. Likewise, the protection of hospital staff should be considered as to protective clothing for receiving personnel.

- I. Air transport for hazardous materials patients should not be a priority. The pilot of each craft will make a decision of a fly or no fly based on each situation. The basic policy is not to fly hazardous materials patients other than petroleum based exposure that have been decontaminated. Consider air transport for needed medical expertise or supplies. Air transport may be considered after thorough decontamination at a medical facility if it is still indicated.
  
- J. When transporting an exposed or potentially exposed patient to Winchester Medical Center the decon corridor should be set up by Winchester Medical Center personnel under the ambulance entrance. The corridor shall lead personnel to the decon room for additional patient decontamination and treatment. Pre-hospital personnel should attempt to transfer patient care while remaining outside to prevent cross examination. Winchester Medical Center may request the medic to assist with patient care, it is imperative that the medic be decontaminated prior to entering the decon room.

## **NON-LIFE THREATENING INJURY**

1. Determine material(s) involved and action if any.
2. Rescue/primary assessment - determine non-life threatening injury.
3. Gross decontamination - remove all clothing.
4. Wash - soap and tepid water - be careful of wounds and in-juries.
5. Rinse - tepid water.
6. Wash
7. Rinse
8. Perform secondary survey and decontaminate hair, ears, nose, mustache, beard, groin, armpits - remove all rings, watches, earrings, bracelets, etc. Place these valuables in a plastic bag and mark for identification. This decontamination should be done as gently as possible with brushes and sponges.
9. Provide appropriate care.
10. The patient shall then be dried and given a Tyvek suit to wear if they are walking wounded or dried off and wrapped in two (2) disposable blankets or in a body bag. Place a B/P cuff on the patient and keep the bulb and gauge outside the blankets. Keep the patients lying down. Place a disposable shower cap over exposed head hair, put large goggles on the patient and apply oxygen with a non-rebreathing mask if oxygen is indicated.
11. Monitor patient and transport to a fully informed hospital.
12. Protective clothing, gloves, and boots or shoe covers shall be worn until the patient is turned over to the hospital. Respiratory protection shall be worn if a respiratory hazard exists.
13. Decontaminate equipment and rescuers discard all disposable suits and isolate equipment until decontaminated.

## **LIFE THREATENING INJURY**

1. Determine material(s) involved and action, if any.
2. Rescue/primary assessment - determine if D.O.A.
3. Gross decontamination - remove all clothes, wash with water or brush off water reactives.
4. Wrap patient in disposable blankets or body bag and deliver as in non-life threatening patients.
5. Treat any further injuries.
6. Monitor patient and transport.
7. Advise hospital of situation and to have a chemically protected team receive patient.
8. Isolate equipment and personnel until thoroughly decontaminated.

## **DEAD-ON-ARRIVAL (SCENE) PATIENTS**

1. Determine material(s) involved and action, if any.
2. Rescue attempt/primary assessment.
3. D.O.A. is determined. Reference materials should back up this determination. Contact the base hospital/poison control center for consultation.
4. Document actions.
5. Have entry team cover body with disposable blanket.
6. Local Medical Examiner should be notified.
7. When body is released by Medical Examiner, body should be decontaminated by the same procedure as non-life threatening injury.
8. All personnel shall remember that a dead body still has chemicals on it and **all** precautions should be adhered to. Place the body into a black body bag for transport.
9. The morgue or funeral home should be notified as to the nature of the death. Expect some difficulty in the morgues or funeral homes wanting to accept these patients. If a problem arises, contact the Medical Examiner for advice.

## **MULTIPLE CONTAMINATED PATIENTS**

1. Determine material(s) and action - request appropriate mutual aid agencies.
2. Designate patient staging area.
3. Triage - non-contaminated patients shall not be mixed with contaminated patients.
4. Utilize a "Car Wash Approach" to decontamination. In dirty-out clean.
5. Use disposable items.
6. Documentation.
7. Post-decontamination triage of patients.
8. Follow all procedures for specific type of injury, as above.
9. Transport to informed facility.



## 6. REHABILITATION

- A. Entry into a hazardous environment or doing strenuous activity should be followed by a rehabilitation period. This is required, not optional. The Safety Officer can place anyone in the rehabilitation area at their discretion.
- B. Medical monitoring, fluid replenishing (preferably Gatorade or water) food, cool down, or warm ups, and relaxation should take place during rehabilitation.
- C. When a team member goes into rehabilitation, the medical monitor must release the member before they can be put back in service. If a member exceeds the recommended vital sign parameters as set forth by the pre-entry exam, they will be monitored longer. If there is still a problem after one (1) hour, a medical evaluation should be conducted at a hospital.
- D. The following is a guideline that shall be used in determining when a team member will not leave rehabilitation to go back into an encapsulated suit:

### Outside Temperature

### Maximum Time In Suit/8 Hours

> 90 Degrees F	15 minutes
85 - 90 Degrees F	30 minutes
80 - 85 Degrees F	60 minutes (1 hour)
70 - 80 Degrees F	90 minutes (1.5 hours)
60 - 70 Degrees F	120 minutes (2 hours)
50 - 60 Degrees F	180 minutes (3 hours)
30 - 50 Degrees F	300 minutes (5 hours)
< 30 Degrees F	480 minutes (8 hours)

- E. The emergency incident rehab worksheet shall be completed by the E.M.S. officer who has the authority to enforce all established criteria.

## **7. YEARLY PHYSICALS**

- A. After the baseline physical, a yearly schedule will be set up for all team members. This physical will be similar to the baseline physical. Each member will take a physical once a year until they are no longer a team member.
- B. Each yearly physical will be compared to previous physicals. Changes will be noted and a physician will discuss significant changes with the team member and appropriate action shall follow at the Team Medical Director's discretion.
- C. Members should take their chemical exposure record with them to all physicals. This record can be obtained from the Team E.M.S. Officer.
- D. All physicals will be released to the same people/institutions as the baseline physicals are.

## **8. EXPOSURE PHYSICALS**

- A. When a team member is exposed by inhalation, absorption, ingestion, injection, etc. to a chemical for whatever reason, an exposure physical shall be given. This will be at no cost to the team member.
- B. The Team Medical Director will determine what tests are necessary based on the exposure. These tests will be conducted at the base hospital if at all possible. The test results will become a part of each members file and shall have the same distribution as the baseline physicals.
- C. When an exposure occurs, the E.M.S. section will document the method and time period of exposure, type of injury, shielding, material involved, concentration, signs and symptoms, and post-entry evaluation. This information shall be put in report form and submitted to the Team E.M.S. Officer, Team Medical Director, Chief of the respective Fire and Rescue Department, and initial attending physician as soon as possible. This time frame shall never exceed 24 hours.

## 9. **EXIT PHYSICALS**

- A. When a member quits the team, an exit physical will be given to that member if a hazardous material response has been performed since their last department physical. This physical will be conducted as soon as it is administratively feasible.
- B. These records will be kept by the same people and institutions as the baseline physicals, and any changes noted from the baseline physical will be documented.
- C. Once a member exits out with a physical, they will be ineligible to be a team member in the future.
- D. If the exiting member wants additional tests, above and beyond the exit physical, the cost will be the exiting members responsibility.

## 10. MEDICAL RECORDS

- A. Each team member shall have an individual medical record. The record can be made available to the respective member. The records can be kept by the Chief of the respective Fire and Rescue Department, the Team E.M.S. Officer, the Team Medical Director, the teams' base hospital, and the hazardous materials unit.
- B. Each member should maintain a copy of his or her own medical record and team activity.
- C. Each E.M.S. team member should keep a record of his or her activities with the team.
- D. The medical records should include:
  - 1. Baseline physical.
  - 2. Yearly physicals.
  - 3. Exposure physicals.
  - 4. Pre and post-entry surveys for each entry.
  - 5. Chemicals exposed to.
  - 6. Any medical notes on members during incidents.
  - 7. Medical care due to hazardous materials incidents.
  - 8. Medical summaries.
  - 9. Exit physical.
  - 10. Other pertinent medical related items or notes.
- E. The Haz Mat Medic will have access to the personnel's baseline and most recent physical. These records will be maintained in a lockable container, sealed with a railroad seal and stored in the drug box cabinet.

## **11. HAZARDOUS MATERIALS E.M.S. VEHICLE**

- A. A WFRD ALS transport vehicle will serve as the E.M.S. sections primary vehicle. This vehicle will respond on any incident that the Regional Hazardous Materials Team responds on. The ambulance should be dispatched along with the hazardous materials unit. All responses shall be an emergency response unless otherwise directed by Headquarters or the Hazardous Materials Officer.
- B. The emergency medical agency that is first due in an area will respond as usual. The hazardous materials ambulance will respond primarily for team support and to provide hazardous materials expertise and advice to first due crews.
- C. Winchester/Frederick County personnel who are interested in this program will be given specialized training in Hazardous Materials E.M.S. and the Winchester/Frederick County Regional Hazardous Materials Response Team standard operating procedures. The Team Medical Director will work with the crew to guarantee top quality medicine for hazardous materials incidents.
- D. When the unit is dispatched, trained personnel will respond to an incident and report to the Hazardous Materials Team Medical Officer for assignment and placement. If the Medical Officer is not designated, the unit shall report to the Hazardous Materials Officer or in his/her absence, the Hazardous Materials Incident Commander.
- E. The unit's primary goal will be to set up for pre-entry surveys, post-entry surveys, and to provide emergency care. These shall be done in accordance with the appropriate sections of the E.M.S. policies and procedures. The unit's personnel will work with the Team Medical Officer to develop a comprehensive plan for delivery of E.M.S. care on the scene of all hazardous materials incidents.
- F. Upon arrival of the hazardous materials ambulance, this unit should become the base for E.M.S. care for the team. All E.M.S. section personnel should report to that unit for deployment.
- G. The Team's E.M.S. Officer will work with representatives for the respective E.M.S. agencies to create an excellent working relationship between all parties involved. Problems that arise on either side should be taken to the agency representative in this program to discuss with the other agencies representative.

I. The hazardous materials EMS transport unit must meet all Commonwealth of Virginia, Department of Health regulations and remain licensed as a Class B/C vehicle. In addition to the required equipment and supplies, the following items will be kept on the unit. These additions shall be on the unit for all responses:

1. Medical radio with specific PL frequency capabilities
2. Lifepak 12 - monitor/defibrillator or equivalent
3. W.F.R.D. Hazardous Materials Medication Box
4. M.A.S.T. suit (adult and pediatric)
5. One set of binoculars
6. A reference manuals (on Hazardous Materials Unit)
  - A. Current D.O.T. Emergency Response Guidebook
  - B. Hazardous Materials Injury: A Handbook For Pre-Hospital Care (3rd Edition)
  - C. First Aid For Chemical Emergencies
  - D. Emergency Care For Hazardous Materials Exposures
7. Haz. Mat. Medical monitoring forms – 50 (on Hazardous Materials Unit)
8. Eight Saranax suits (on Hazardous Materials Unit)
9. One box of Latex examination gloves
10. Four Tyvek suits (on Hazardous Materials Unit)
11. Surgical mask
12. Six pairs goggles
13. Four rolls duct tape (on Hazardous Materials Unit)
14. One roll barrier tape (on Hazardous Materials Unit)
15. One box/50 clear plastic garbage bags (on Hazardous Materials Unit)
16. Twenty pair Neoprene gloves (on Haz. Mat. Unit)
17. Two long handle dust brushes (on Hazardous Materials Unit)
18. One box Betadine scrubs
19. Four disposable blankets (on Hazardous Materials Unit)
20. One box disposable wipes (on Hazardous Materials Unit)
21. One box trash bags (on Hazardous Materials Unit)
22. Ten shower caps (on Hazardous Materials Unit)
23. Two body bags - heavy black bags with handles
24. Two thermometers (on Hazardous Materials Unit)
25. One set scales (on Hazardous Materials Unit)
26. One carrying box
27. Six towels
28. Two Blood Pressure Cuffs
29. Two stethoscopes
30. Two clipboards
31. One box gallon size freezer bags (on Hazardous Materials Unit)
32. Five non-rebreathing masks/five nasal cannulas
33. Five 1000 cc normal saline I.V. solution bags (Haz Mat IV Box)

I. If the unit is dispatched on a regional response, the unit will respond to the designated meeting point and wait for the hazardous materials unit so as to respond as a group. This would be done unless otherwise directed by Headquarters or the Hazardous Materials Officer.

- J. When the unit is on a response, a detailed list of equipment used shall be maintained. This list must be at the Team Leader's office no later than 48 hours past the incident. This is needed to have the used items cost reimbursed. If the crew on other responses uses hazardous materials equipment or supplies, the crew should replace that equipment or supply.
  
- K. If the vehicle is involved in accident from the time it leaves the station until it is back in, notify the Team E.M.S. Officer and appropriate local duty officer or their designee immediately. This will assure the proper documentation and notifications are made.
  
- L. When a regional response is requested, the unit and members should report to the designated meeting area. If no members are available to respond, effort should be made to have the unit brought to the meeting area. A switch should be made, and an E.M.S. section member would respond the unit and the local non-team member would get transportation back to the building. If a problem in responding arises, contact the Hazardous Materials Officer or the Hazardous Materials Team E.M.S. Officer or designees for directions.
  
- M. When the Hazardous Materials E.M.S. unit is out of service the following should occur:
  - 1. If the WFRD unit will not be able to respond, contact should be made with the Hazardous Materials Officer, Hazardous Materials Team E.M.S. Officer, or the on-call duty officer. They will take appropriate actions to continue a response.
  
  - 2. If no other City of Winchester or County of Frederick vehicle is available, the E.M.S. section personnel will respond with the team and the medical box. The E.M.S. section personnel shall request a local E.M.S. agency to stand-by and will work with that agency to meet our objectives.

## 12. TEAM EMERGENCY MEDICAL SERVICES (E.M.S.) OFFICER

**Purpose:** The Hazardous Materials Team E.M.S. Officer is responsible for planning, coordinating, and managing the E.M.S. programs for the hazardous materials team. This position is primarily and administrative position but can be used in any incident at the direction of the Hazardous Materials Incident Commander. Any problems that arise with the E.M.S. program should be brought to this person so the problems can be investigated.

**Typical Duties:**

1. Coordinates the E.M.S. program with the Team Medical Director and the base hospital.
2. Develops and maintains policies and procedures for the E.M.S. section.
3. Coordinates E.M.S. training for all section personnel.
4. Serves as liaison with E.M.S. agencies that interact with the hazardous materials team.
5. Maintains medical records for team members.
6. Reviews medical documentation for all responses.
7. Serves on various committees as they relate to hazardous materials.
8. Keeps and maintains response records for E.M.S. hazardous materials.
9. Identifies and evaluates potential hazards.
10. Is knowledgeable of hazardous materials operations.
11. Provides guidance as to the safety of planned operations.
12. Serves as contact on hazardous materials medical related questions.
13. Other duties as assigned by the Hazardous Materials Officer(s).

**Required Background:** Must be certified as a Cardiac Technician or Paramedic, certified as a Hazardous Materials Technician or Specialist. Must attend or be certified at Hazard Materials Incident Management. Must have some level of instructor training. Must be certified in Hazardous Materials for the E.M.S. Provider. Must be a full member of the hazardous materials team. Must have training in program administration.

### 13. **Haz-Mat EMS OFFICER (on scene)**

- A. The Team Medical Officer will be responsible to coordinate and integrate the patient care problems with team operations. This will be a management position and not a patient care position.
- B. The Team Medical Officer can work with or serve as the Medical Research Officer.
- C. The following is an overview of the Team Medical Officer's position.

**Function:** Make sure adequate medical care is rendered to both exposed victims and personnel. Determine health and safety hazards of substances involved.

**Responsibilities:**

**Primary:** Determine health and safety hazards of substances involved. Oversee medical care rendered to victims and personnel. Complete a hazard assessment through resources from Research Officer and possibly manufacturer.

**Secondary:** Maintain accurate exposure and treatment records. Maintain accurate personnel medical records. Work directly for the Hazardous Materials Team Leader. Work cooperatively with Research, Safety, Equipment, and Decontamination Officers. Is directly in charge of Hazardous Materials E.M.S. personnel.

**Points To Consider:**

- 1. Job is not giving medical aid; you are there as an advisor to Hazardous Materials Medical Personnel, Decontamination, and Safety Officers.
- 2. Contact with incident medical officer to advise of a situation.
- 3. Possible liaison to fixed medical facilities.
- 4. Assist Hazardous Materials Safety Officer with monitoring of personnel in protective gear.
- 5. Make sure individuals placed in encapsulated suits receive fluids.
- 6. Make sure vital signs are taken and recorded prior to entering the "Hot Zone."
- 7. Make sure same is done upon exiting "Hot Zone."
- 8. Advise Hazardous Materials Team Leader of any injuries immediately.

## **14. RESOURCE AND RESEARCH FOR EMERGENCY MEDICAL SERVICE**

- A. On any response of the E.M.S. section of the hazardous materials team, one person should be designated as the Medical Research and Information Officer. This function will be responsible for researching all medical information on the involved chemicals.
- B. The Medical Research person will confer with the Team Re-search Officer as to product identification and known information at that time. This information shall be recorded and a time written down.
- C. The Medical Research person shall reference at least two medical manuals, one generic chemical manual and the poison control center. This shall be done on every response and prior to an entry of the team members. Page numbers and telephone numbers will be recorded.
- D. A composite list and plan of the common items from the manuals shall be prepared on the forms provided. An antidote for the chemical will be noted if it is available.
- E. All personnel in the medical section will be aware of the hazards involved, emergency treatment and care, and special rescuer precautions.
- F. The Medical Research Officer will brief the Hazardous Materials Incident Commander, Safety Officer, Decontamination Officer, and Medical Officer on the medical hazards and possibilities of the chemical(s).
- G. Resource manuals will be as follow:
  - 1. Current D.O.T. Emergency Response Guidebook
  - 2. First Aid Manual For Chemical Accidents
  - 3. Hazardous Materials Injury: A Handbook For Pre-Hospital Care (3rd Edition)
  - 4. Emergency Care For Hazardous Materials Exposure
- H. The poison control centers to contact in order are as follows:
  - 1. Blue Ridge Poison Control Center 800-451-1428  
University of Virginia Hospital 804-924-5543  
Charlottesville, Virginia
  - 2. National Capital Poison Control Center 202-625-3333  
Georgetown University Hospital  
Washington, District of Columbia
  - 3. Central Virginia Poison Control Center 804-786-9123  
Medical College of Virginia Hospital  
Richmond, Virginia

## APPENDIX

1. The following is a list of hospitals in alphabetical order that are within the boundaries of the Winchester/Frederick County Regional Hazardous Materials Response Team jurisdiction. The information below contains the hospitals name, address, and the direct line telephone number to the emergency department.

- |    |   |                                  |
|----|---|----------------------------------|
| A. | Culpeper Memorial Hospital<br>Sunset Lane (P. O. Box 592)<br>Culpeper, Virginia 22701   | (540) 829-4189                   |
| B. | Fauquier Hospital<br>500 Hospital Drive<br>Warrenton, Virginia 22186                    | (540) 349-0530                   |
| C. | Loudoun Memorial Hospital<br>224 Cornwall Street, Northwest<br>Leesburg, Virginia 22075 | (540) 771-2832                   |
| D. | Page Memorial Hospital<br>2 Memorial Drive<br>Luray, Virginia 22835                     | (540) 743-4561                   |
| E. | Rockingham Memorial Hospital<br>235 Cantrell Drive<br>Harrisonburg, Virginia 22801      | (540) 433-4393                   |
| F. | Shenandoah Memorial Hospital<br>Route 11 South<br>Woodstock, Virginia 22664             | (540) 459-6430<br>(540) 459-6431 |
| G. | Warren Memorial Hospital<br>1000 North Shenandoah Avenue<br>Front Royal, Virginia 22630 | (540) 636-3272                   |
| H. | Winchester Medical Center<br>1840 Amherst Street<br>Winchester, Virginia 22601          | (540) 667-0609                   |

## APPENDIX

### 2. OPERATIONAL POLICIES FOR TRANSPORT OF PATIENTS EXPOSED TO A HAZARDOUS MATERIALS INCIDENT BY HELICOPTER MEDEVAC SERVICES IN THE COMMONWEALTH OF VIRGINIA.

The following operational policies have been developed by the State Medevac Committee representing the following helicopter medevac services licensed and/or operating in the Commonwealth of Virginia:

ARIES - Fairfax County Police Department (Fairfax)  
INOVA - Fairfax Hospital (Fairfax)  
Lifeguard 10 - Roanoke Memorial Hospital (Roanoke)  
Med Flight I - Virginia State Police (Chesterfield)  
Med Flight II - Virginia State Police (Abingdon)  
MEDSTAR - Washington Hospital Center (Washington, DC)  
Nightingale - Sentra Norfolk General Hospital (Norfolk)  
Pegasus - University of VA Hospital (Charlottesville)  
U.S. Park Police - Washington, D.C.

These policies were approved unanimously by the State Emergency Medical Services Advisory Board on January 29, 1988 and become effective immediately.

1. Helicopter medevac services licensed and/or operating in Virginia will transport patients contaminated with gasoline, diesel, or other motor fuels only after clothes have been removed and the patients have been decontaminated with soap and water.
2. No other contaminated patients will be transported by these helicopter medevac services. If the duty flight crew determines, based on available information, that there is no risk in transporting such patient, they may transport at their discretion.
3. Helicopter medevac service will insure their flight crews are trained to Level I in hazardous materials.
4. Each helicopter medevac service will make contact, coordinate, and exchange information with the nearest regional hazardous materials response team:

Henrico	Med Flight I
Fairfax	ARIES, INOVA, MEDSTAR, U.S. Park Police
Newport News	Nightingale
Roanoke City/County/Salem	Lifeguard, Med Flight II
Harrisonburg/Rockingham/Augusta	Pegasus

5. Aviation Recommendations.
  - A. Staging area should be established three (3) to five (5) miles upwind or a safe distance, at pilot's discretion, to assure no contact with any element of the hazardous material.
  - B. Flight routes will be selected to avoid downwind danger zones.

6. Strict dispatching protocols will be established.
7. Consideration should be given to adopting standardized check lists.
8. Personal contamination records should be filled out on each crew member. (Baseline physicals are important for comparative analysis on all hazardous material responders.)

WINCHESTER-FREDERICK CO.  
HAZARDOUS MATERIALS RESPONSE TEAM  
PRE & POST INCIDENT SURVEY EXAMINATION WORKSHEET

DATE: \_\_\_-\_\_\_-\_\_\_      ACTIVITY \_\_\_\_\_      INCIDENT # \_\_\_\_\_

TEAM MEMBER NAME \_\_\_\_\_      D.O.B. \_\_\_-\_\_\_-\_\_\_

CHEMICAL (S) INVOLVED \_\_\_\_\_

OUTSIDE AIR TEMPERATURE \_\_\_\_\_ °F      LEVEL OF DRESS \_\_\_\_\_

E.M.S. MEMBERS SIGNATURE & CERTIFICATION \_\_\_\_\_

TIME OF EXAM	PRE-ENTRY	STATUS	POST-ENTRY
01. BLOOD PRESSURE :	PRE-ENTRY _____		POST-ENTRY _____
SYSTOLIC :	100 - 150 _____	0	_____
	LESS THAN 100 _____	1	_____
	GREATER THAN 150 _____	1	_____
DIASTOLIC :	LESS THAN 90 _____	0	_____
	90 - 100 _____	1	_____
	GREATER THAN 100 _____	2	_____
02. PULSE :	PRE-ENTRY _____		POST-ENTRY _____
	50 - 120 _____	0	_____
	LESS THAN 50 _____	1	_____
	GREATER THAN 120 _____	1	_____
03. RESPIRATIONS :	PRE-ENTRY _____		POST-ENTRY _____
	12 - 28 _____	0	_____
	LESS THAN 12 _____	1	_____
	GREATER THAN 28 _____	1	_____
04. TEMPERATURE :	PRE-ENTRY _____		POST-ENTRY _____
	96 - 100 _____	0	_____
	LESS THAN 96 _____	1	_____
	GREATER THAN 100 _____	1	_____
05. WEIGHT :	PRE-ENTRY _____ #		POST-ENTRY _____ #
	97-100 % OF PRE-EXAM _____	0	_____
	BELOW 97 % OF PRE EXAM _____	2	_____
06. SKIN : DOCUMENT ABNORMALITIES ON REVERSE	_____	0	_____
	_____	1-3	_____

PAGE #2 HAZ-MAT RESPONSE PRE & POST ENTRY EXAM WORKSHEET

07. EYES :	PERRLA _____	0 _____
	ABNORMAL PUPIL SIZE / REACTIVITY - MOVEMENT	_____
	_____	3 _____
08. LUNGS :	CLEAR & EQUAL BILAT _____	0 _____
	ABNORMALITIES _____	2-3 _____
09. HEART :	NORMAL _____	0 _____
	CHEST PAIN / ARRHYTHMIA ( ATTACH EKG STRIP )	_____
	_____	3 _____
10. ABDOMEN :	NORMAL _____	0 _____
	PAIN / DIARRHEA _____	2 _____
	NAUSEA / VOMITING _____	2 _____
11. MENTAL STATUS EXAM : PRE-ENTRY _____	POST-ENTRY _____	
	( SEE ATTACHED WORKSHEET )	
	18 - 22 _____	0 _____
	LESS THAN 18 _____	1 _____
12. MUSCULOSKELETAL : NORMAL _____	_____	0 _____
	ABNORMALITIES _____	2 _____
13. RECENT MEDICAL HISTORY :	NONE _____	0 _____
	ABNORMALITIES _____	2-3 _____

14. OTHER / DOCUMENT ABNORMALITIES :

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15. ADDITIONAL DOCUMENTATION :

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ATTACH EKG STRIP HERE:

WINCHESTER - FREDERICK COUNTY  
 HAZARDOUS MATERIALS RESPONSE TEAM  
 "MINI - MENTAL STATE WORK SHEET "

DATE : \_\_\_-\_\_\_-\_\_\_      NAME : \_\_\_\_\_      EXAMINER: \_\_\_\_\_

MAXIMUM SCORE	SCORE	<u>ORIENTATION</u>
	PRE / POST	
3	___/___	ORIENTED TO PERSON, PLACE, AND TIME ?

		<u>REGISTRATION</u>
3	___/___	NAME 3 OBJECTS :ONE SECOND TO SAY EACH. THEN ASK THE PATIENT ALL 3 AFTER YOU HAVE SAID THEM. GIVE 1 POINT FOR EACH CORRECT ANSWER. THEN REPEAT THEM UNTIL HE / SHE LEARNS ALL 3. COUNT TRIALS AND RECORD NUMBER.
5	___/___	COUNT SERIAL 7'S . 1 POINT FOR EACH CORRECT ANSWER. STOP AFTER 5 ANSWERS. ALTERNATELY SPELL "WORLD" BACKWARDS.

		<u>RECALL</u>
3	___/___	ASK FOR THE 3 OBJECTS REPEATED ABOVE. GIVE 1 POINT FOR EACH CORRECT ANSWER.

		<u>LANGUAGE</u>
4	___/___	NAME A PENCIL AND A WATCH. (2 POINTS) REPEAT "NO IFS ANDS OR BUTS." (1 POINT) WRITE YOUR SIGNATURE (1 POINT )

PRE-SIGNATURE \_\_\_\_\_ POST-SIGNATURE \_\_\_\_\_

ASSESSMENT LEVEL OF CONSCIOUSNESS THROUGH THIS MENTAL EXAMINATION PROCESS

4	___/___	ALERT (1POINT )
	___/___	DROWSY (1 POINT )
	___/___	STUPOR (1 POINT )
	___/___	COMA (1 POINT )

22	___/___	TOTAL SCORE FOR THIS EXAMINATION
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ADDITIONAL COMMENTS: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_