

<b>Johns Hopkins Safety Manual</b>	<i>Policy Number</i>	<b>HSE 037</b>
<i>Subject:</i> <b>Emergency Equipment: Eye Wash, Drenching Hose and Shower Equipment</b>	<i>Last Review Date</i>	09/01/09
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## POLICY

It is the policy of Johns Hopkins that all employees exercise appropriate precautions to assure eye, face and body protection. When there is a reasonable probability of a hazardous or injurious eye, face and/or body exposure, all employees and students shall be required to utilize approved and appropriate protective eye, face and body equipment (HSE 007). Hazardous materials are found on East Baltimore campus, Homewood, Green Spring, Montgomery County and White Marsh. **Emergency eye wash and/or shower equipment are not used in lieu of appropriate protective eye, face and body equipment.**

OSHA requires that in locations “where the eyes or body of any person may be exposed to injurious corrosive materials, suitable facilities for quick drenching or flushing of the eyes and body shall be provided within the work area for immediate emergency use. In addition, anyone who may be exposed to toxic or infectious materials needs to have emergency equipment available.

Additional guidance in determining need for emergency equipment in a given location can be obtained from Material Safety Data Sheets or the pharmacy information on medications

Emergency equipment must be within ten (10) seconds travel time from the recognized hazard.

ANSI establishes minimum performance and use standards for emergency equipment. The most recent standard for emergency equipment is ANSI 358.1 – 2004.

Eyewashes and drench hoses shall be activated weekly for at least three minutes. Activation, performance and cleaning must be documented on a log sheet.

The water temperature in emergency eye wash and shower equipment shall be “tepid.”

Employees and students shall be trained to use the emergency equipment located in their work and/or class area.

Emergency Eye Wash and Shower Equipment will be inspected by Facilities for conformance with ANSI Z358.1 annually.

## REFERENCES

ANSI Z87.1-2003 Occupational and Educational Personal Eye and Face Protection Devices.

ANSI Z358.1-2004 Emergency Eye Wash and Shower Equipment

APIC Text of Infection Control and epidemiology, First Edition 2000.

29 CFR 1910.151c – Medical and First Aid

29 CFR 1910.1030 – Bloodborne Pathogens Standard

29 CFR 1910.1450 – Occupational Exposure to Hazardous Chemicals in Laboratories.

Department of Energy Health Hazard Information Bulletin: Potentially Hazardous Amoebae Found in Eyewash Stations, December 23, 1986

Johns Hopkins Safety Manual: Bloodborne Pathogen Exposure Control Plan, HSE 501

Johns Hopkins Safety Manual: Section VII Chemical Safety

Maryland Occupational Safety and Health - MOSH Instructions 99-2

## DEFINITION

**ANSI** – American National Standards Institute.

**Drench hose** – A supplemental device consisting of a flexible hose connected to a flushing fluid supply and used to provide fluid to irrigate and flush face and body areas.

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**Certified** – A system whereby a certification organization determines that a manufacturer has demonstrated the ability to produce a product that complies with the requirements of this standard, authorizes the manufacturer to use a label on listed products that comply with the requirements of this standard, and establishes a follow-up program conducted by the certification organization as a check on the methods the manufacturer uses to determine continued compliance of labeled and listed products with the requirements of this standard.

**The International Safety Equipment Association (ISEA)** certifies emergency eye washes, drench hoses, and safety showers.

**Emergency Equipment** – for this policy this term means eye wash station, emergency shower, Eye/Face Station, Drench Hose and Combination Eye Wash/Shower.

**Emergency shower** – A device specifically designated and intended to deliver flushing fluid in sufficient volume to cause that fluid to cascade over the entire body.

**Eye wash** – A device used to provide fluid to irrigate and flush the eyes.

**Eye/face wash** – A device used to provide fluid to irrigate and flush both the face and the eyes simultaneously.

**“Grandfather Clause”** – a clause creating an exemption based on circumstances previously existing.

**HSE** – Health, Safety & Environment

**“Tepid water”** – defined as water with a temperature between 60° F. and 100° F. by ANSI.

**PROCEDURES:**

1. Any employee or student coming in contact with any hazardous material shall have a local orientation to the actual chemicals and emergency equipment in use at their site:
  - A. Be trained in the proper use of the emergency equipment at their site prior to participating in a situation where they have a possible exposure to injurious corrosive materials.
  - B. Be trained to consult the information on Material Safety Data Sheet for information on how long to flush skin or eyes when exposed to a specific chemical.
  - C. This training is the responsibility of the person in charge of the laboratory, pharmacy, supervisor in charge of EVS workers or the nurse in charge of a unit or clinic. This responsibility may be delegated. The person delegating is still ultimately responsible if the training is not completed.
  - D. This training will be documented on the Emergency Equipment Training Log.
    1. The original training record goes to the HSE.
    2. The training shall include the use of Emergency Equipment located in halls adjacent to laboratories.
    3. A copy of the training records will be kept in the local area until two (2) years has elapsed from training or whenever all people on that training record no longer work in that laboratory/work area—whichever is the longer period of time.
    4. These records will be kept with the Emergency Equipment Maintenance Logs. (See attached log.)
2. Criteria for emergency equipment are as follows:
  - A. Stay on activation. The purpose of this requirement is to allow the injured person to use both hands for disrobing or holding the eyes open.
    1. Some emergency equipment is operating without stay on activation under a “grandfather clause.”
    2. As soon as emergency equipment without stay on activation is broken and can not be repaired, it must be replaced with emergency equipment with stay on activation.
  - B. Dual head for spray pattern of Eye wash Stations.

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1. Single head eye wash stations are operating under a “grandfather clause.”
  2. As soon as the single head eye wash station is broken and can not be repaired, it must be replaced with a dual head eye wash station.
- C. Nozzles of Eye Wash Stations shall be protected from airborne contaminants and the removal of the eye wash covers shall not require a separate motion by the operator when activating the unit.
1. Eye wash stations with covers which are not removed as part of the activation are operating under a “grandfather clause”.
  2. As soon as the eye wash station breaks and is not capable of being repaired, the replacement will be a model that removes the eye wash covers as part of the activation of the eye wash.
- D. Water temperature.
1. Emergency Equipment without tepid water is operating under a “grandfather clause”.
  2. All new and replacement Emergency Equipment will include a mixing valve to provide tepid water.
- E. Location of emergency equipment:
1. Emergency equipment location must be based on the estimated time of travel of a person with compromised vision.
  2. No more than ten (10) seconds shall be required to reach the emergency equipment from the site of the hazard.
  3. It shall be located on the same level as the hazard and the path of travel shall be free of obstructions that may inhibit the immediate use of the equipment. A door is considered to be an obstruction. If the hazard is not a corrosive, one intervening door can be present between hazard and emergency equipment so long as:
    - a. The door opens in the same direction of travel as the person attempting to reach the emergency equipment.
    - b. The door is equipped with a closing mechanism that cannot be locked to impede access to the emergency equipment.
  4. No obstructions, protrusions, or sharp objects shall be located within sixteen (16) inches from the center of the water spray pattern of the emergency showers or within six (6) inches from the center of the water spray pattern of the eye wash station.
  5. No electrical apparatus, telephones, thermostats, or power outlets should be located within eighteen (18) inches of either side of the emergency shower or eye wash.
  6. Under the emergency showers mark a three square feet area with, “Keep area clear” for the use of the emergency shower.
  7. The lighting will be adequate to facilitate the use of the emergency equipment.
  8. Combination showers with eye and eye/face wash shall be connected to a system capable of supplying adequate flushing fluid to meet the requirements of each component when all components are operated simultaneously. Combination units will be positioned so they can be used simultaneously by the user under the shower.
  9. To facilitate the easy identification of the location(s) of Eye Wash Stations, a green and white sign will be posted in the vicinity of the eye wash station. These signs are available through HSE.
3. Emergency Equipment Maintenance Log
- A. All emergency equipment (with exception noted below in 4.b.) must be activated for at least three (3) minutes each week or until the water runs clear, whichever is longer. The purpose is to remove stagnant water, verify proper operation and remove sediment from the emergency equipment.
1. People working in Laboratories are encouraged to routinely use the emergency equipment to clean equipment. If the emergency equipment is run for at least three minutes at this time, it can count as the weekly activation, if such activation is documented on the Emergency Equipment Maintenance Log.
  2. Pharmacy staff, Outpatient Department staff, Emergency Department Staff and other clinical

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- sites which contain eye wash stations and other Emergency Equipment are encouraged to determine other routine reasons for using the eye wash station,
- a. If this use involves running the Emergency Equipment for at least three minutes, it can count as the weekly activation as long as it is documented on the Emergency Equipment Maintenance Log.
  - b. Using the eye wash station to irrigate the eyes of patient/staff can also count as the weekly activation.
3. The activation is the responsibility of the head of the laboratory or the person in charge of the unit, clinic or pharmacy.
    - a. They can delegate this responsibility.
    - b. They are encouraged to assign this duty on a rotating basis so that all staff are familiar with the activation of the Emergency Equipment.
  4. Facilities is responsible for the activation of Emergency Equipment located in the halls. All hall units consisting of Emergency Shower units or eye wash/emergency shower combination will be activated every six months.
  5. The inside of all caps for eye wash stations shall be cleaned with alcohol wipes weekly at the same time the eye wash station is activated. If a cap is broken or missing, a work order must be submitted to Facilities Engineering for a replacement cap.
  6. If an eye wash station has its own basin, this should also be cleaned weekly.
- B. Emergency Equipment Maintenance Logs will be used to document that eye wash and showers are activated weekly, that they appear to be functioning correctly and that the covers for Eye Wash Stations were cleaned weekly.
    1. These logs must be kept for two years.
    2. These logs must be kept on the unit where the emergency equipment is located with the exception of the logs for the Emergency Equipment located in halls.
    3. The logs for Emergency Equipment in the halls will be maintained in facilities.
4. All emergency eye wash and shower equipment purchased by Johns Hopkins is certified.
    - A. ANSI standards include items such as requiring that the force with which the water would come out of the eye wash will be low enough to be non-injurious to the user.
    - B. When Facilities installs emergency eye wash or shower equipment, they test the equipment after installation to make sure it meets ANSI standards.
    - C. Facilities will inspect each piece of emergency equipment annually to assure continued conformance with ANSI Z358.1 Section 4 requirements.
    - D. D. HOSPITAL AND OUTPATIENT DEPARTMENTS ONLY
      1. Facilities maintains a master list of eye wash stations in JHH.
      2. They supply this list to HSE for the Environmental Monitoring Rounds (EMRs).
      3. If HSE staff performing EMRs locate emergency equipment which is not listed on the master list, they will notify facilities so it can be added to the master list.

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**RESPONSIBILITIES**

HEIC	<p>Shall notify HSE of the need to change this policy because of recommended changes in infection control measures related to emergency equipment.</p> <p>Enforce policy.</p>
HSE	<p>Shall have responsibility for assessing updates of ANSI Z358.1 and notifying HEIC of the need of an update due to changes in this standard.</p> <p>Shall educate employees and students on emergency equipment during Orientation to Hazardous Materials</p> <p>Enforce policy</p> <p>The HSE employees doing Environmental Monitoring Rounds in the Hospital will assess the eyewashes and emergency showers for the bar code. IF it is missing they will notify Facilities Engineering.</p>
HSE and HEIC	<p>Share responsibility for maintenance for this policy.</p>
Lab Supervisors, Nurse Supervisors & Pharmacy Supervisors and other Supervisors	<p>Are responsible for the local orientation which includes the operation of the specific emergency equipment and education on the chemicals/pharmaceuticals used in the work/laboratory site. They are also responsible for the documentation of the weekly activation of the emergency equipment</p>
Facilities Engineering	<p>Is responsible for the annual maintenance of emergency equipment and for documentation of the six month activation of emergency equipment located in the hallways.</p> <p>The Facilities Engineering employees doing Environmental Monitoring Rounds will assess the eyewash for temperature of the water, proper functioning and presence of the bar code.</p>

**REVIEW CYCLE**

Yearly and whenever ANSI issues an update on Z358.1-2004

# TRAINING LOG

## Emergency Equipment Training

Instructor \_\_\_\_\_ ID Number \_\_\_\_\_ Date \_\_\_\_\_

## Location

Campus \_\_\_\_\_ Building \_\_\_\_\_ Room \_\_\_\_\_ Phone \_\_\_\_\_

## Equipment Covered

- |  |   |
|--|---|
| <input type="checkbox"/> Eye Wash Station            | <input type="checkbox"/> Drench Hose      |
| <input type="checkbox"/> Eye/Face Station            | <input type="checkbox"/> Emergency Shower |
| <input type="checkbox"/> Combination Eye Wash/Shower | <input type="checkbox"/> Other _____      |

## Summary Of Training – Note: this is site specific training

- Demonstration by supervisor on activation of Emergency Equipment in use in this site and return demonstration by person(s) being trained to activate Emergency Equipment
- Training on how to clean eye wash caps and return demonstration:  Done  N/A
- Training on how to judge whether emergency equipment is operating correctly:
- 

	Chemical Name <input type="checkbox"/> N/A	Specific Action Needed for Exposure
1.	_____	_____
2.	_____	_____
3.	_____	_____
4.	_____	_____

- Taught to complete Emergency Equipment Maintenance Log and how to submit work order if emergency equipment is not working correctly

## Attendance

Name	Badge Number	Signature
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

Signature of Supervisor providing training: \_\_\_\_\_ Date: \_\_\_\_\_

## Training Records

Retain this form in the lab/office for two years or until all employees have left JH employment.  
Fax a copy to the Health, Safety and Environment office at 5-5929

# MAINTENANCE LOG

## Emergency Equipment Maintenance Log

Location: \_\_\_\_\_ Year: 200\_\_  
 Facilities assigned number, if applicable (bar code number) : \_\_\_\_\_

Eye wash station  Drench Hose  Eye/Face Station  Emergency shower  Combination eye wash/Shower

- **Equipment must be run WEEKLY for 3 minutes, and until water is sediment-free.**
- **Inside of eye wash cap must be cleaned WEEKLY with alcohol.**
- Water must come on within one second of activation
- Water must feel tepid (if so equipped).
- Water must have adequate pressure (based on hand and visual inspection).
- Eye wash caps must be present and in working condition.

Week #	Date checked	Checked flow? Cleaned cap?	Equipment Okay? Y or N*	Corrective action taken (with date) or N/A	Initials of person performing maintenance	Signature of person performing maintenance
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						
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17						
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22						
23						
24						
25						
26						

**\* IF EQUIPMENT IS NOT OPERATING PROPERLY, PROBLEM MUST BE REPORTED TO FACILITIES**

Facilities perform annual maintenance assessment on all emergency equipment. If Emergency Equipment is located in a hallway, Facilities is also responsible for the additional maintenance documented on this sheet.

**MAINTAIN COMPLETED EMERGENCY EQUIPMENT MAINTENANCE LOGS FOR TWO YEARS.  
 START NEW LOG EVERY JANUARY.**