



Emergency Preparedness and Responses for Research Laboratories

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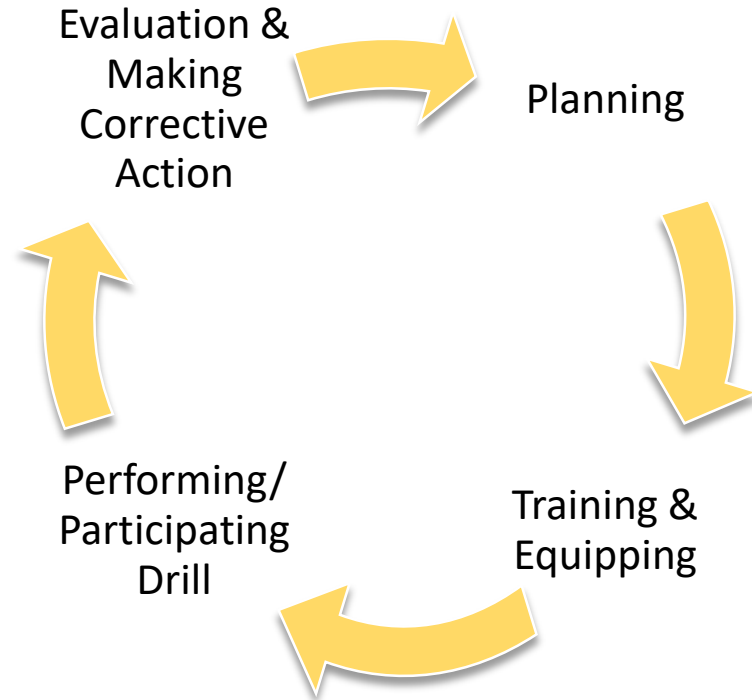
Outline of Talk

- What is Emergency Preparedness?
- Common Emergency Situations in Laboratories
- Affected Parties
- Emergency Scenarios & Responses



What is Emergency Preparedness?

- Steps taken to ensure the responder is safe before, during and after an emergency





Fire



Gas Leakage



Power Outage



Biological, Radioactive
or Chemical Spill

Possible Emergency Situations in Laboratory



Medical Emergency



Explosion

Affected Parties



Visitors/ Public



Researchers



Students



Cleaners/ Contractors

Scenarios & Responses

**ARE YOU
READY?**

Scenario 1

- The glass of the door from the lift lobby to the laboratory had shattered on MD1 Level 16. An injured person was found on the floor. Blood was sighted on the broken glass, floor and wall.
- How will you respond?

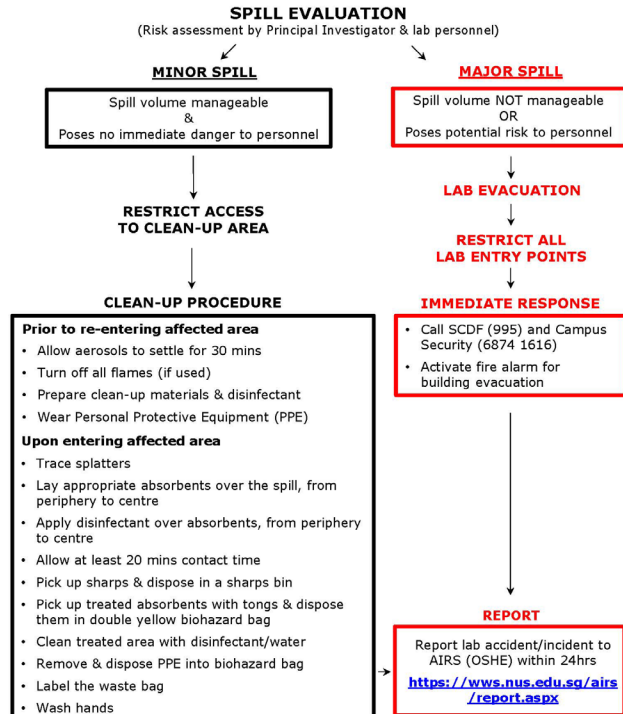


Proposed Response

- Call First Aider for help. Call ambulance & OCS.
- Cordon off area and place signage. Allow 30 minutes for aerosol to settle.
- Don appropriate PPE (gloves, lab coat, eye-wear, etc).
- Lay spill socks around perimeter of spill.
- Apply disinfectant on affected area. Allow at least 20 minutes contact time.
- Clean up any broken glass on the floor (using tongs or broom) & dispose in sharps bin.
- Clean treated area with disinfectant/water.
- Remove & dispose PPE into double yellow biohazard bag.
- Label waste bag/bin. Dispose as biohazardous waste via a licenced toxic waste collector.

Biological Spill Clean Up Procedure

BIOLOGICAL SPILL CLEAN-UP PROCEDURE



• Factors to consider:

- Extent of spill
(Minor vs Major)
- Resources / Content of spill kit
- Access to spill kit
- Disinfectant
(Type & Concentration)
- Responders
(Name & Contact)

Incident Sharing

Case @ MD 11



Scenario 2

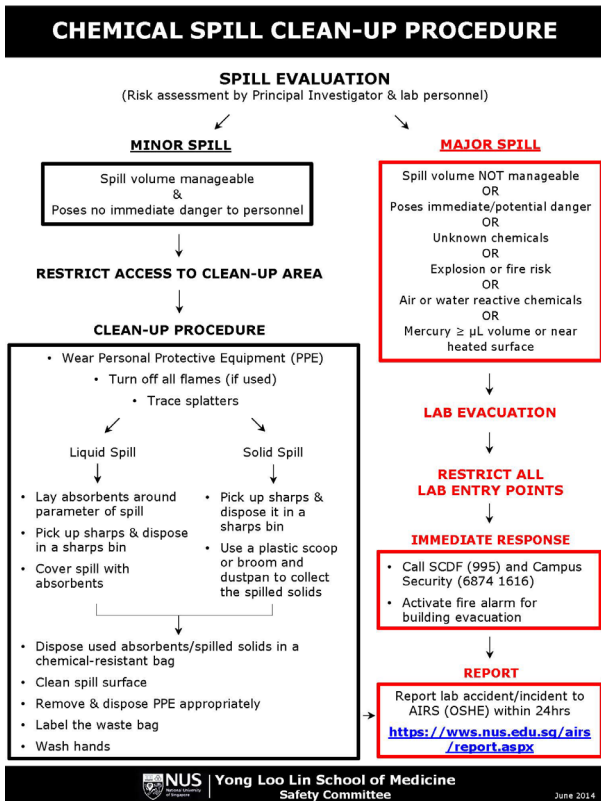
- A loud scream was heard coming out of the chemical store room. Upon investigation, a person with a stunned look was seen sitting on the floor. A “chemical” spill was spotted on the floor around him.
- How will you respond?



Proposed Response

- Determine whether safe to assist person.
- Assess person for spill on body. If required, remove clothing and/or bring person under emergency shower.
- Condon off area and place signage.
- Check chemical's Safety Data Sheet.
- Don appropriate PPEs (gloves, lab coat, eye-wear, etc).
- Lay spill sock/ absorbents around parameter of spill.
- Cover spill with absorbents (from outer edge towards centre).
- Clean up and dispose used absorbents in a chemical-resistant bag.
- Clean spill surface.
- Remove & dispose PPE appropriately.
- Label the waste bag. Dispose as chemical waste via a licenced toxic waste collector.

Chemical Spill Clean Up Procedure



• Factors to consider:

Properties of Chemical

- Flammable/ Corrosive/ Water-reacting / Unknown

Extent of spill (Minor vs Major)

Resources / Content of spill kit

Access to Safety Data Sheets/ Spill kits

Responders (Name & Contact)

Incident Sharing

Case @ CeLs



Scenario 3

- Smoke was seen coming out of the fume hood room and an explosion was heard.
- How will you respond?



Proposed Response

- Alert everyone in the laboratory.
- Activate manual call point to bring on the fire alarm.
- Inform OCS.
- Evacuate from the laboratories.
- Proceed to Assembly Area (Multi-purpose Field).
- Ensure that all lab members are accounted for.

Fire Evacuation Plan



- Briefing to all laboratory users to include:
 - Location of manual call point
 - Routes to Assembly Area
 - All exits in the laboratory

Incident Sharing

Case @ MD 6



Trainings



- Occupational First Aid (Appointment)
- CPR-AED
(CPR & AED Familiarization Programme – OSHE)
Location of AED in NUSMed



- Spill Training (OSHE – IVLE)
- RFM – Hands on Training
(Contact @ medbox50)

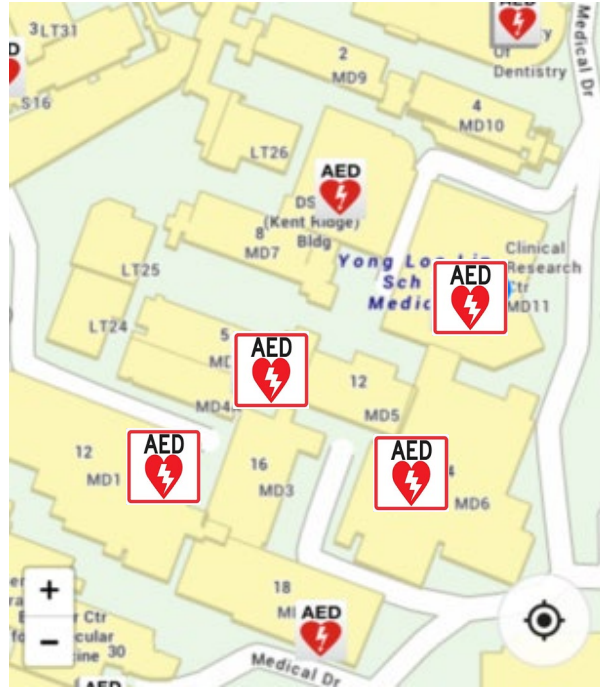


- Fire Safety Trainings (OSHE – IVLE)
- RFM – Hands on Use of fire extinguishers
(Contact @ medbox50)

Location of AEDs in NUSMED

MD 4/4A →

MD 1 →



← MD 11

← MD 6



Summary

- Review existing plans
- Update / New plans
- Assess available resources
- Assign & train key response personnel
- Regular drills or table top exercise



THANK YOU