



Laboratory Incidences and Emergency Response Programs

2020



Objectives

- Discuss Incidents & Emergency
- State Goal of Incident Management
- Highlights Key concepts to responses
- Discuss emergency Response drills

Incidents Are Not Necessarily Emergencies



- Incident - an event that's likely to have adverse consequences
- Emergency - unanticipated circumstances resulting in need for immediate action



Goals of Incident Management



- ▣ Tool to prevent incidents
 - Preplanning
 - Anticipate incidents
 - Implement preventive measures
- ▣ Enhance ability to respond to incidents
 - Know what to do
 - Minimize panic
- ▣ Attempt to minimize loss or injury
- ▣ Enhance ability to recover from incidents





Incident Response: Steps to Preparation

- Risk Assessment (again!)
- Risk mitigation
- Pre-plan: procedures and personnel
- Integration with facility plans
- Cooperation with local responders
- Training and drills
- Response, report, and review



Chance favors only the prepared mind --Louis Pasteur, 1854

Considerations



- Plan for all possible contingencies
 - Inception to termination
 - Minor incidents to major catastrophes
- Take advantage of existing plans
- Use a team approach
- Common terminology
- Resources for assistance
 - Government agencies
 - Emergency response personnel
 - Hospitals



- Training
 - Roles
 - Responsibilities
 - Policies
 - Procedures
 - Familiarity with facility
- Memorandum of understanding (MOU)
- Authority
 - BSO
 - Lab Manager
- Media
 - Use to your advantage
 - Control information to media
- Have a backup plan

Incident Response



Slides borrowed from Ren Salerno, Sandia labs

Incident Response



Don't make it worse!



Don't make it worse!



Incident Response



Incident Response



Incident Response



Incident Response





**Learn from
past
incidents to
improve
your response
SOPs**



Class Activity



- Laboratory B experienced a massive fire outbreak last month. The laboratory could not contain the fire as it lacked fire extinguishers. The local fire brigade finally came to rescue.
- Normally, staff kept chemicals such as flammables, oxidizers, acids and alkali together. Some bottle tops of chemicals were not tightly stoppered. The gas cylinder was always located near the chemicals cupboard. Staff worked with open flames nearby.
- Lessons learnt?



Emergency Responses



**Front line response
begins at the local
level**

Key Concepts



- Pre-Planning
- Establishing Procedures
- Practicing Established Procedures
- Risk Mitigation
- Training
- Procedural Review

Emergency Pre-Planning

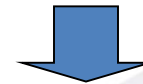


- Determine the level of required preparation through the risk assessment
- The risk assessment indicates the breadth of hazardous materials that could be spilled or released into the environment
- Establish the response parameters
- Determine who is required to respond and when and how they must respond

Risk Mitigation: Emergency Planning



Utilizing the results of the risk assessment, determine the critical points where an emergency may Occur.



Establishing Procedures



- Enlist the input of
 - Lab manager/Director,
 - Local emergency response team,
 - Representation from interested parties
- Use your Risk Assessment to mitigate the highest probability
- Review literature, best practices

Emergency Response



- Develop plan before the emergency
- Include all appropriate parties in planning
- Inform and involve community-based responders
- Conduct drills & after-incident reviews
- Emergency Response

Integrate throughout the Organization



The emergency response plan should cover all contingencies, describe response procedures for all potential natural or man-made emergencies;

- Medical Emergencies
- Spills
- Breaches in containment
- Physical events (fire, utility outage, ...)
- Natural events (storms, earthquakes, ...)

Personnel Involved in a Potential Exposure



- Personnel Involved in a Potential Exposure should report to a health clinic as soon as possible
 - First Aid
 - Prophylaxis
 -
- The Lab Chief should be contacted immediately, or if unavailable, the lab manager
- The Lab Chief should then contact safety personnel or the Biosafety Committee

Training



- Train and re-train
- Repetition creates a stronger training memory = Reaffirmation
- Provides another opportunity to refine procedures
- Establish a regular drill schedule
- Vary HOW training is done



Procedural Review



Annually and after every “event”

Ask yourself,

- Where did the “Plan go wrong”?
- What went as planned?
- What can be enhanced?
- Where is training lacking?

Emergency Response Drill



Potential emergencies:

1. Theft /loss of agents or organisms
2. Inventory discrepancies of agents/organisms
3. Fire
4. Flood
5. Explosion
- 6.

Emergency Response Drill (Contd.)



6. Security breaches including information system
7. Work place violence
8. Bomb threats
9. Suspicious packages
10. Strikes and political unrest.



Key Messages

- Incidents are not necessarily emergencies
- The goal of incident management is to
 - Preplan
 - Anticipate incidents
 - Implement preventive measures
- Learn from past incidents to improve your response SOPs



Questions?