Development of a Situation-based Lab Safety Training Program

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Problem

- Training
- Safety
- PowerPoint
- Legal obligation
Problem

- Large group
- Valuable time
- Different abilities
Solution

- Relevant
- Practical
- Variable
- Time Efficient
- Visual
- Memorable
How?
Goal

Design & run situation-based safety training at any facility
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Situation-based Safety Training

- Change the name – Safety skills session
Situation-based Safety Training

- Get management on board
- Get management to attend
How does it work?

- Divide people into groups
- Send them around various stations with scenarios
- Must evaluate what to do at each station
- Group discussion of rights and wrongs
Identify Important Information

- Reminder of important information
- Demonstrating significance visually
- Imparting new info
Develop Scenarios with Volunteers

- Involve staff directly
Situation-Based

- Demonstrating an air quality alarm & how to react to it
Tools

- Fake blood
- Make-up
- Fluorescent dye
- Fluorescent powder
- UV torch
- Handwashing training gel
- Flour
- Coloured paper & liquid
Use Visual Tools

- Fake blood for needlestick incident
- Non-toxic & washable
Develop Scenarios for Stations

- Biosafety
- Chemical safety
- Emergency equipment
- Personal safety
- General safety
Examples of Scenarios

- Demonstrating aerosols: showing aerosols on gloves after vortexing & opening a microtube of fluorescent dye
Examples of Scenarios

• Using fluorescent dye to highlight the spread of a 96-well plate spill
Examples of Scenarios

- Correct disposal of biological waste (BSL 1 & 2)
Examples of Scenarios

- Explaining packaging guidelines for transporting biological materials
Examples of Scenarios

- Chemical compatibility & storage options
Examples of Scenarios

• How to deal with a fire & call the fire fighters
Examples of Scenarios

• Using an emergency eyewash
Examples of Scenarios

- Administering first aid & calling an ambulance
Details

- Identify information to be imparted
- Identify stations (scenarios)
- Identify volunteers
- Identify locations & tools
- Prepare map of locations of stations (each station a different colour)
Details

- Fix the date with management
- Invite all
- On the day - divide people into groups
- Need same number of groups as stations
- Each group/station has a colour
- Up to 10 scenarios with groups of 15
- Time allowed: 90 minutes (5 minutes per station)
Possible Scenarios with Chemicals

- Storage of chemicals & compatibility
- Chemical splash in eye
- Chemical spill in centrifuge/weighing scales
- Chemical powder on keyboard & MSDS
- Correct disposal of chemicals
Possible Biosafety Scenarios

- Vortexing a microtube & aerosol creation
- Biological liquid spill on floor
- Dropping a 96 well plate
- Correct waste containers for biological waste
- Biological spill in centrifuge
- Use of biohazardous safety caps in centrifuge
- Biosafety cabinet demonstration
Scenarios about Personal Safety

Needlestick injury / cut finger
Eye splash
Burn from microwave spill
Unconscious person on the floor
Hand washing
Removing gloves safely
Removing a mask safely
CeMM Safety Program

- Safety Manual (written guidelines)
- Basic Safety Training
- Safety Skills Session annually
- Risk Assessments ongoing
- Individual Specialist Training
Safety Skills Session

- In the labs
- Using authentic scenarios
- Challenging situations requiring reaction & evaluation
- Uses instructors/volunteers
Safety Skills Session

- Efficient time-wise
- Scalable (large numbers of participants possible)
- Adaptable
- Memorable
Safety Skills Session

• Ask for feedback
• Ask for ideas for new scenarios
• Change and improve continually

• Get creative
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