

Ce-M-M-

Research Center for Molecular Medicine
of the Austrian Academy of Sciences



Development of a Situation- based Lab Safety Training Program

Gabriel Ó Ríordáin
ABSA, New Mexico
October 2017

www.cemm.at



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



CeMM Research Centre for Molecular Medicine



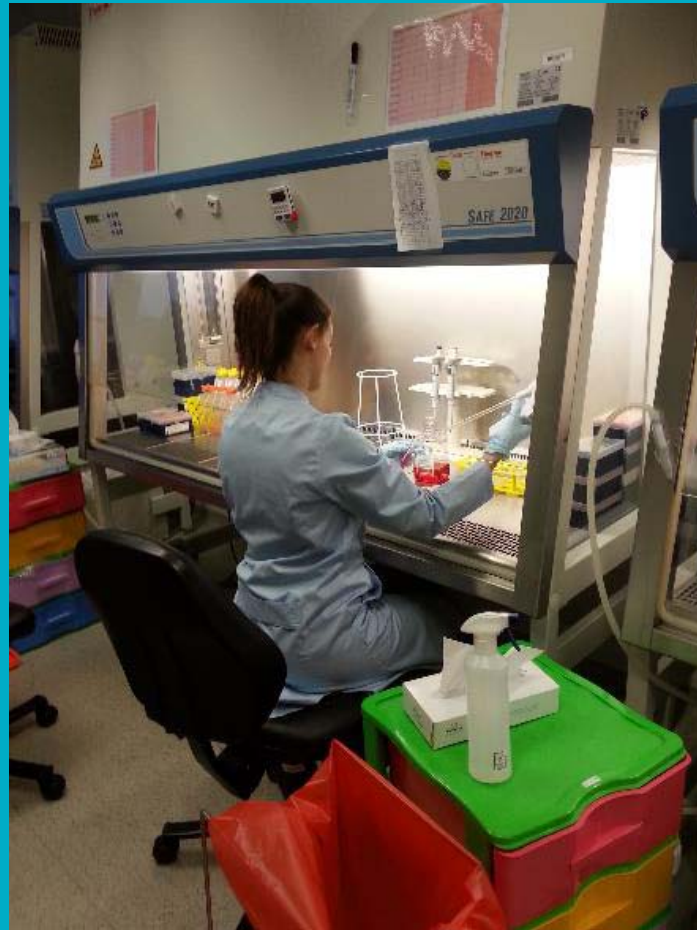
Situation-based Safety Training

- Change the name – Safety skills session



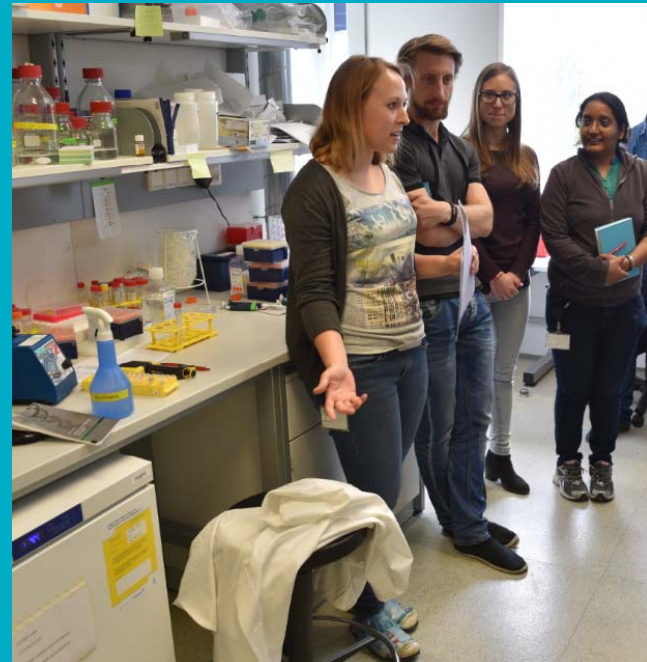
Situation-based Safety Training

- 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



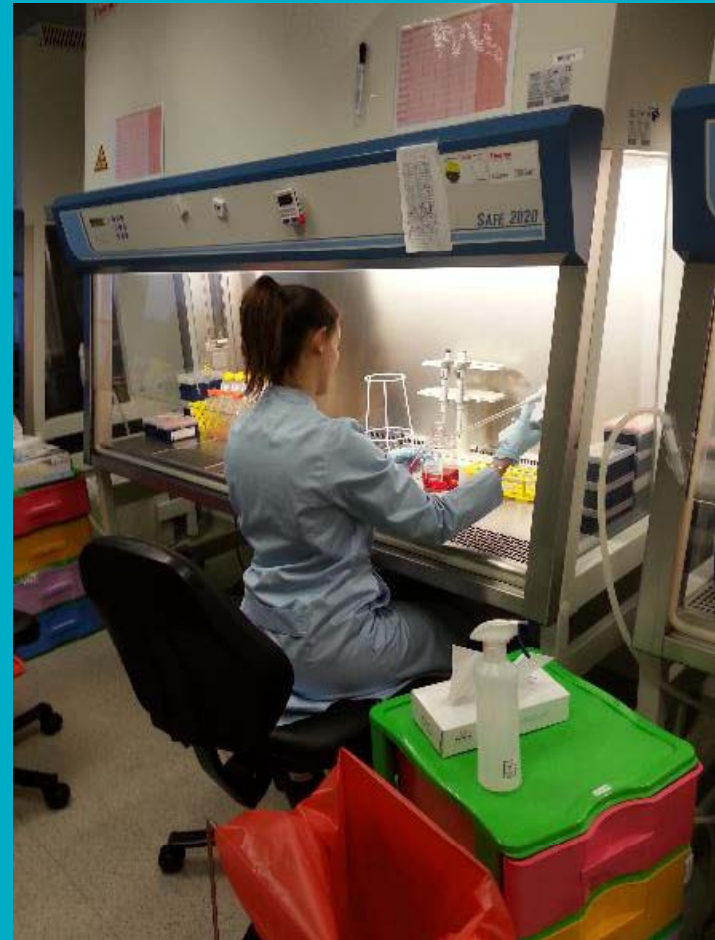
Use Visual Tools

- Fake blood for needlestick incident
- Non-toxic & washable



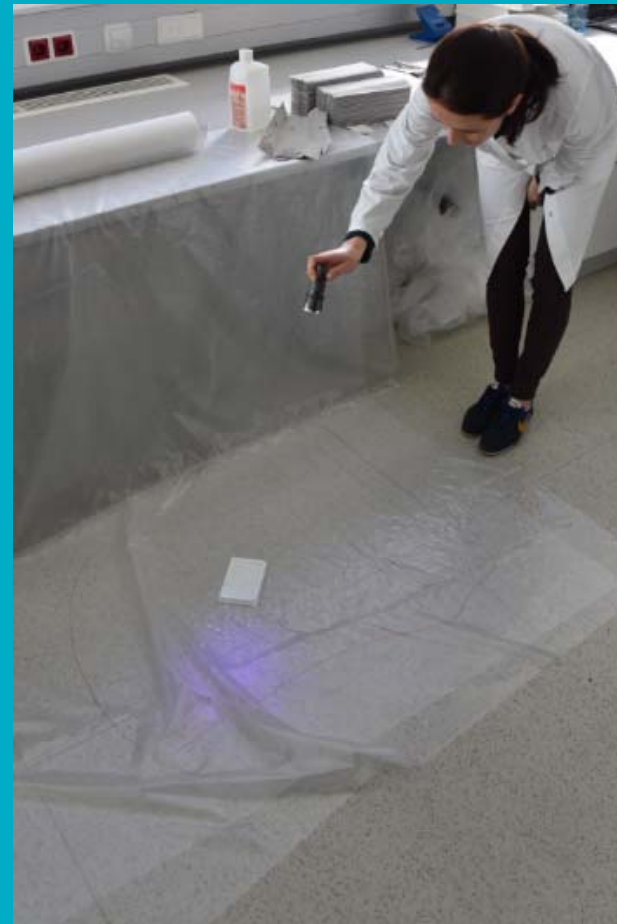
Develop Scenarios for Stations

- Biosafety
- Chemical safety
- Emergency equipment
- Personal safety
- General safety



Examples of Scenarios

- 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



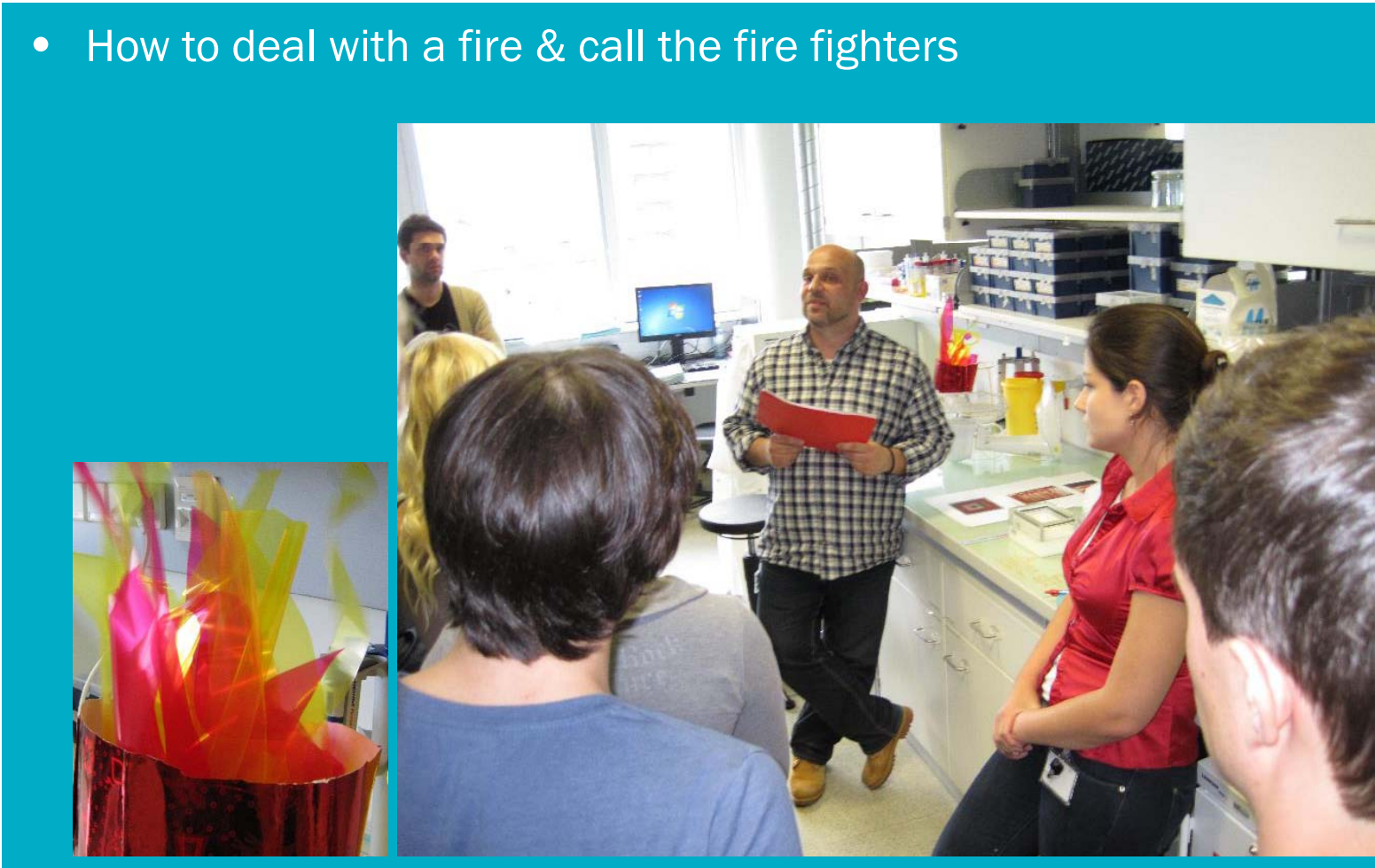
Examples of Scenarios

- 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

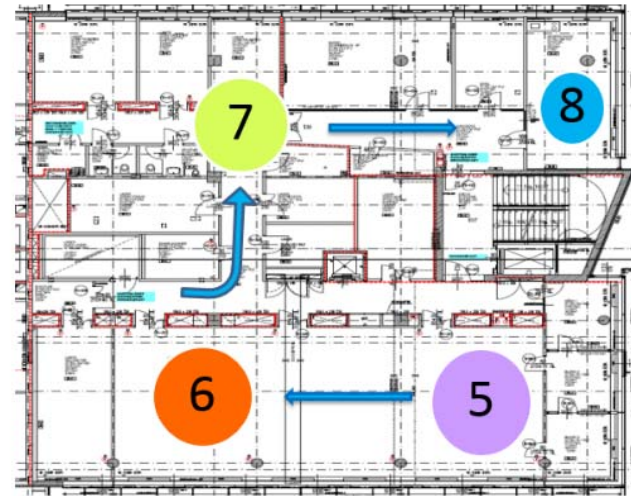


Details

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

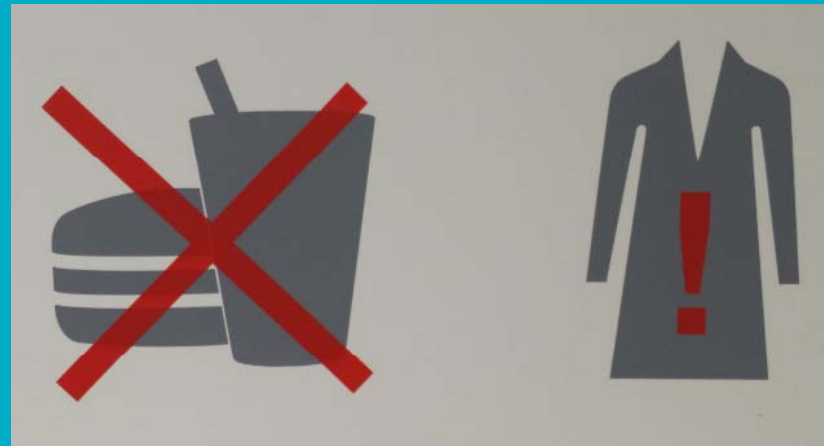


Level 6: Stations 5, 6, 7 & 8



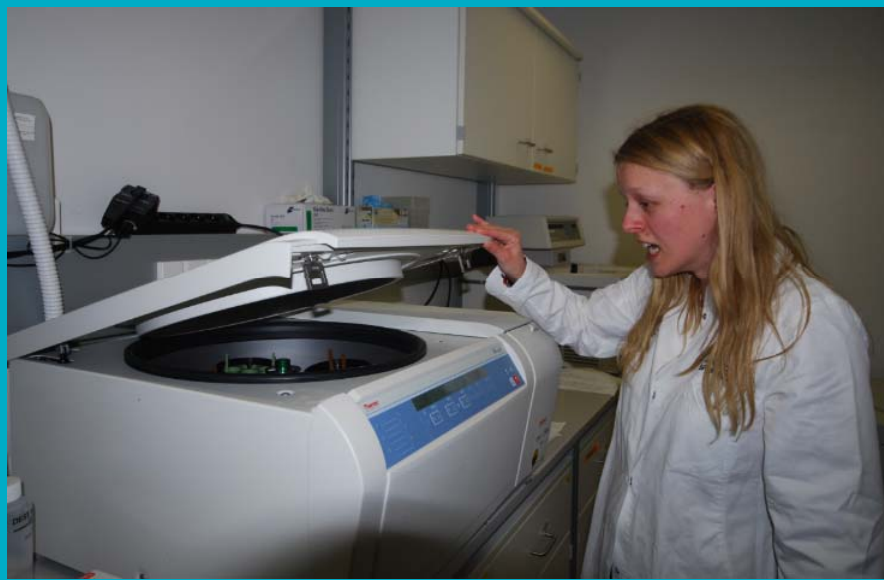
Details

- 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)



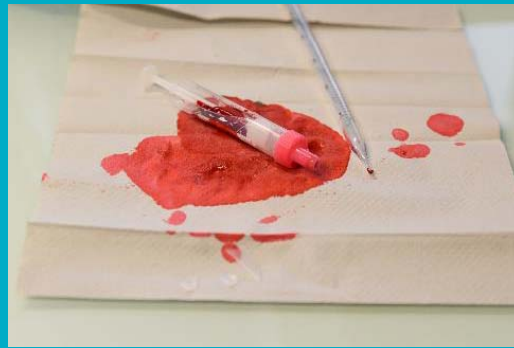
Possible Scenarios with Chemicals

- 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



Ce-M-M-

Research Center for Molecular Medicine
of the Austrian Academy of Sciences



Lazarettgasse 14, AKH BT 25.3
1090 Vienna, Austria
Tel +43-1-40160-70011
Fax +43-1-40160-970000
office@cemm.oeaw.ac.at
www.cemm.at

Gabriel Ó Ríordáin
Head of Scientific Support, CeMM
President EBSA 2017-2019

goriordain@cemm.at

