



# **Safety CME: Laboratory injuries and incidents**

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# Learning Objectives

- ▶ Recognise common lab hazards: sharps injuries, spillage and chemical splashes
- ▶ Respond correctly to an exposure
- ▶ Apply safe work practices

# Example 1: Lab-related injury

## Cut sustained during microtomy of fatty tissue

### Incident

- Staff accidentally cut his left index finger when it came too close to the microtome blade while obtaining a fatty tissue section

### Root Cause

- Distracted - talking to colleague
- Used bare hands to go near blade to take tissue section

### Rectification

- Staff counselled regarding handling of sharps
- Sharps safety carried out



# Management of Sharp Injury or Body Fluid Exposure

Encounter sharps injury / body fluid exposure

## Perform First Aid

### For Sharp Injury:

- Wash wounds or skin thoroughly with soap and water.
- Mucous membrane exposure - rinse delicate areas such as nose, mouth or skin immediately with copious water.
- Irrigate eyes with clean water, saline, or sterile irrigant.

### For Body Fluid Exposure:

- Rinse mouth and eyes with copious amount of water. If wearing contact lenses, remove them first.
- Wash non intact skin thoroughly with soap and water and/or antiseptic solution (e.g. Chlorhexidine / iodine).

Inform supervisor / manager / reporting officer immediately

Consult doctor (for assessment & blood tests)

Report Incident in official institutional Incident Reporting System

### Other Safe Work Procedures

- Know what to do when an incident/accident has occurred
- Avoid distractions when handling sharps (always be mindful of surroundings)
- Use of tools such as forceps when close contact with sharps is required

## Example 2: Spillage in lab

### Formalin from specimen container leaked out

#### Incident

- Specimen sent from OT had formalin leakage
- Minor spillage of formalin occurred

#### Root Cause

- Bag of specimen was not properly sealed from OT

#### Rectification

- Incident report raised against OT
- Big specimen received from OT should be placed in container during reception to contain possible spills

#### Other Safe Work Procedures

- Know how to handle minor spillage/how to neutralize
- Always inspect specimen bags before opening for reception
- Always don PPE before touching computers at receiving area

# Spillage – Safety considerations

## Spillage occurs

- Is the spill containable?
- Can I clean it up myself?
- Does it require neutralization?

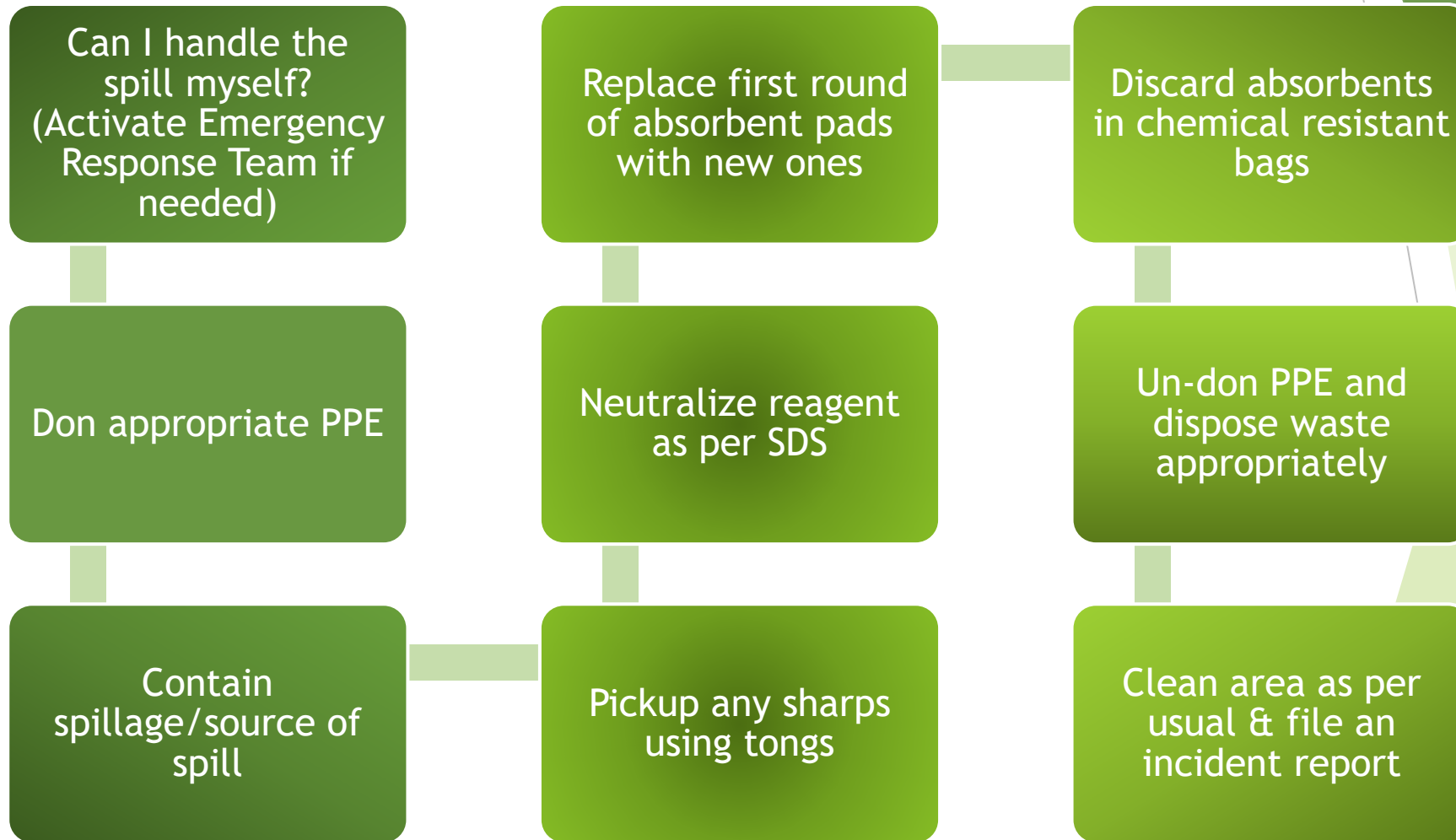
## Cleanup

- How do I clean up the spillage?
- Does the area need to be wiped down again before continuing work after soaking up spill?

## Source of spillage

- How should I transport the source of spillage?
- (Specimen reception) How do I proceed to receive specimen?

# Chemical Spillage Workflow



# Example 3: Formalin splash

## Formalin splash sustained during thawing of frozen section

### Incident

- Staff drops the frozen chuck into the formalin bath and a drop of formalin splashed out to land near his eye

### Root Cause

- Staff is not wearing goggles
- Staff was thawing chuck in formalin bath near edge of fume hood

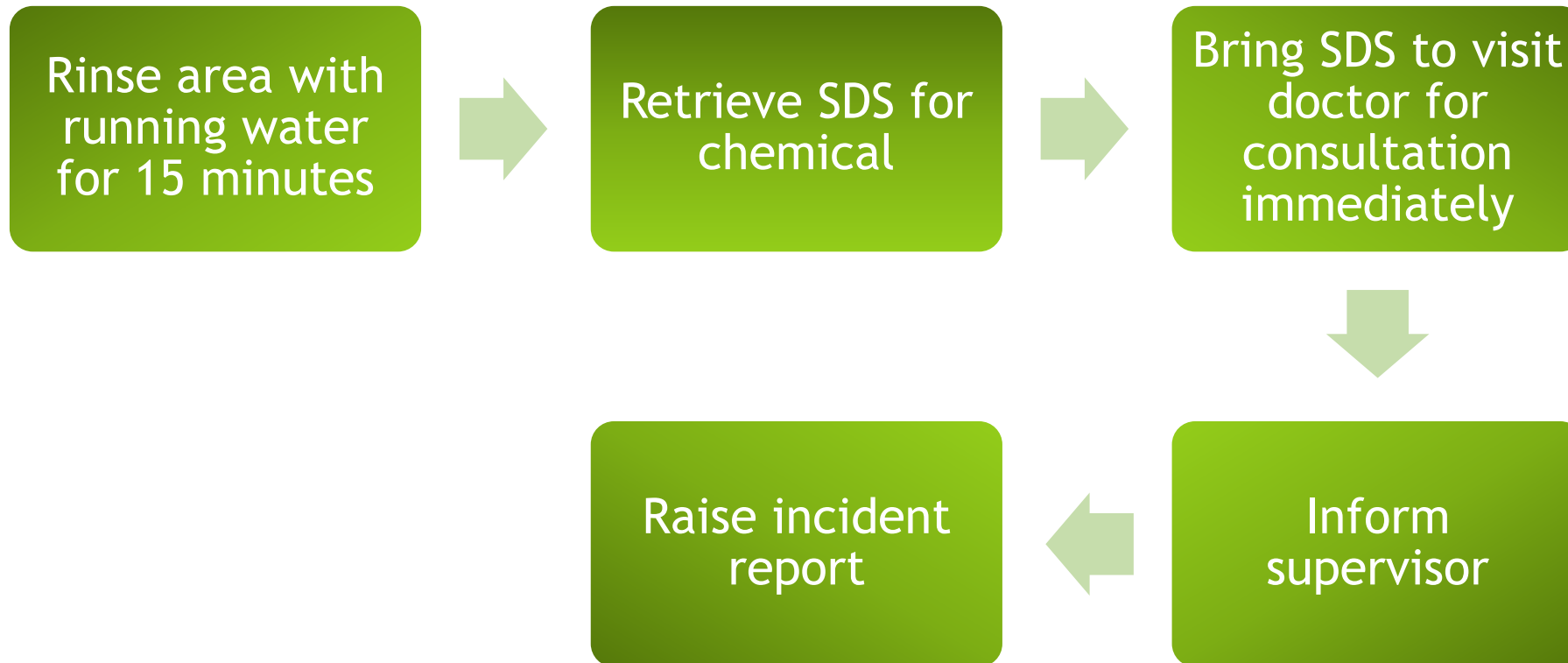
### Rectification

- Staff counselled regarding donning of PPE
- Sign put up to remind all to handle chemicals away from edge of fume hood

### Other Safe Work Procedures

- Don appropriate PPE at all times
- Keep at least 15cm away from edge of chemical fume hood

Amanda, possible to include her protocol to handle splash? Eg eyebath, washing



# What happens after an incident/accident occurs?

- ▶ First, administer first aid
- ▶ Visit Staff Health Clinic/A&E for consultation
  - ▶ Patient sample involved - blood has to be taken from patient
  - ▶ Staff's blood has to be tested on the same day, 6 weeks and 6 months from incident
  - ▶ Prophylaxis medication may be offered in high risk incidents - on an individual bases, due to potential side effects
- ▶ Incident investigation and reporting within dept and institution

**PREVENTION IS ALWAYS BETTER THAN CURE**

# Take Home Points

- ▶ Avoid being distracted, especially when handling sharp instruments
- ▶ Avoid working too close to the edge of biohazard cabinets
- ▶ Be aware of the first aid and clean-up protocols
- ▶ Follow-up testing and prophylaxis are time-sensitive
- ▶ Incident reporting is an important part of lab safety assurance - with attention to root cause analysis and action taken