HAZARD MANAGEMENT
Postgraduate Research Students

adelaide.edu.au

seek LIGHT

Definitions

- **HAZARD:** Is something visible or invisible, that has the potential to cause death, injury, illness or property damage.
- **RISK:** The possibility that harm (death, injury or illness) might occur when exposed to a hazard.
- **RISK ASSESSMENT (RA):** The process of evaluating the probability (likelihood) and consequence of injury or illness from exposure to an identified hazard or hazards.
- **RISK CONTROL:** Take action to eliminate risks as reasonably practical, and if not possible to minimise the risk.
- **SAFE OPERATING PROCEDURE (SOP):** Instructions on setting out the requirements to carry out work in a safe and healthy manner.
- **SAFETY DATA SHEETS (SDS):** Important document that provides information on the properties of hazardous chemicals and how they can affect your health and safety.

Hazard Management: WHY

1. To ensure you and your colleagues remain safe
2. To prevent major interruptions to your work
3. It is part of the planning process – pro-active
4. It is a SafeWork SA (Workcover) requirement under the performance standards
5. It is a legal obligation

People/companies are held accountable and convicted

eg 29/1/15 HUNGRY JACKS convicted and fined $90,000 for a 17 year old employee sustaining burns to arms and torso when slipped into deep fryers.

2014/2016 – 2 identical deaths at the nRAH, ongoing investigations

Hazard Management: When and Who

When should we do it

- initial setup stages of a process or activity etc,
- as new things are introduced to an existing process

Who should do it

– the people who best understand the process
i.e. personnel undertaking the task in consultation with the supervisor, HSO or Faculty HSW administrators

What is the Hazard Management Process?

- Hazard Identification
- Risk Assessment
- Risk Control
- Monitor, Review & Reassess

Put it all together,
it's just a planning tool

Hazard Identification

The process is to use a checklist to help identify the hazards eg RA Long Form
http://www.adelaide.edu.au/hr/hsw/handbook/hazard/

Other sources of information

- Supervisor/colleagues
- SDS for chemicals
- Visual inspection of plant/equipment

HSW Handbook

Appendix C1 (Page 1 of 4)

HAZARD MANAGEMENT – RISK ASSESSMENT(LONG FORM)

Stage 1: Hazard Identification

Residual risk rating L, M, H, VH

Name or description of the activity(s) to be assessed	
Area, School/Branch Building/Room	
Workers completing the risk assessment. Name and contact details	Mobile/Phone
	Mobile/Phone
	Mobile/Phone

- This template or equivalent template can be used. Please note that this list is not exhaustive, but can be used as the basis for your initial hazard identification.
- If you tick yes to any of the hazards listed below, then the hazard is to be transferred and addressed on Appendix C2.

Where a number of activities have the same hazards, they may be grouped together on the same assessment and the same control measures applied to each.

Consider – is there potential for, or identified exposure to any of the following, as part of a process/activity

Physical/Environmental Hazards	Plant and Equipment hazards
☐ Animals (e.g. hazardous wild animals, bees, snakes)	☐ Mobile lifting equipment or farm machinery
☐ Confined space entry (e.g. pit, tank, silo, entry through a hatch)	☐ Pressurised vessels/systems (e.g. autoclave, boiler)
☐ Fall from a height (e.g. ladder, elevated platform, cliff, scaffolding)	☐ Hazardous levels of heat or vibration (to whole or part body)
☐ Fire (potential for uncontrolled fire due to ignition sources)	☐ Hazardous plant (e.g. lathes, lasers, microtomes, cryostats, or operations could result in amputation, eye injury, serious laceration, crushing injury)
☐ Flying or moving items/plant/vehicles, falling object(s)	
☐ Hazardous terrain or environment including wet/slippery surfaces	
☐ Lighting/visibility is compromised and hazardous	Radiation hazards
☐ Noise or sound levels > 85dB(A) or peak level of greater than 139 dB(C) for any period of time	☐ Sealed sources or unsealed sources ☐ Artificial sources (UV)
☐ Temperature or weather extremes (e.g. hypothermia, major burns)	Biological hazards (e.g. via inhalation, contact, digestion)
☐ Isolation (e.g. work in a remote area, difficult to access work site, or a rescue effort would be difficult in the event of an emergency	☐ Contamination (e.g. pathogens, body fluids) ☐ Animal handling (e.g. bites, allergies)
☐ Boating and/or Diving (e.g. risk of drowning)	☐ Other
Communications	Chemical hazards
☐ Communication problems (e.g. by virtue of location or isolation)	☐ Explosive substances
Electrical	☐ Flammable substances, gas, airborne contaminants
☐ Electric shock	☐ Toxic or asphyxiate gas (e.g. CO_2 including dry ice, liquid N_2)
Ergonomic/Hazardous Manual activity/task(s)	☐ Respiratory irritants (e.g. nanotech, dust, asbestos)
☐ Work requiring repetitive force or movement	☐ Chemical spraying (e.g. agricultural, pesticides)
☐ Sustained force/posture or awkward posture	☐ Prohibited and restricted carcinogens requiring a permit
☐ Working with animals, unpredictable/unbalanced loads	☐ Hazardous chemicals (not included above)
☐ Transfer of item(s) up or down stairs, using both hands or requiring the use of lifting equipment from one level to another	☐ Other
	Activity combines a number of different hazards, and the impact/results of interaction is unknown e.g. mixing chemicals or recognised as a risk e.g. water and electricity.
Stress/Duress hazards	☐ Specify:
☐ Personal threat e.g. aggressive behaviour, abuse, threat, assault (includes home visits)	High Risk Travel
☐ Fatigue e.g. from excessive work related mental/physical exertion	☐ Destination is rated [FCO Travel Advice] (High/Extra High)
Remote work location or working in isolation	High risk work licence required in accordance with WHS Regs
☐ Medical emergency, difficult to administer/obtain first aid gain assistance e.g. access to medical facilities	☐ Boom-type elevating work platform, scaffolding, dogging, crane and hoist operation, roads stackers, forklift operation, pressure equipment operation.
Other	
☐	
☐	
☐	☐ No hazards identified. No risk assessment required.

Risk Assessment (RA)

- All processes, whether it be the use of chemicals, plant (equipment) or task (human trials), **must** be **Risk Assessed** and potential hazards identified.

Consider the item or task:

- What could go wrong?
- How could it hurt you? (or somebody else)
- Is there anything you can't control?

Document the hazards using the RA Long Form.

Risk Assessment

INHERENT RISK :
The risk before controls
e.g. home visits without consultation with Supervisor/HSO

RESIDUAL RISK :
After the controls are in place
e.g. follow Homevist Protocol, GPS Duress Device.

Risk Assessment Tables – likelihood + consequence =????

Likelihood Table

CATEGORY	DESCRIPTION
Almost certain	There is an expectation that an event/incident will occur.
Likely	There is an expectation that an event/incident **could occur** but not certain to occur.
Slight	This expectation lies somewhere in the midpoint between "could" and "improbable".
Unlikely	There is an expectation that an event/incident is doubtful or **improbable** to occur.
Rare	There is no expectation that the event/incident will occur.

Consequences Table

CATEGORY	DESCRIPTION
Severe	Injury resulting in death, permanent incapacity.
Major	Injury requiring extensive medical treatment, hospitalisation, or activities could result in a Notifiable occurrence.
Moderate	Injury requires formal medical treatment (hospital outpatient/doctors visit etc), activities could result in an Improvement Notice.
Minor	Injury requires first aid.
Negligible	Injury requires minor first aid (e.g. bandaid), or result in short term discomfort (e.g. bruise, headache, muscular aches etc), no medical treatment.

Risk matrix

Likelihood	Consequences				
	Negligible	Minor	Moderate	Major	Severe
Almost Certain	Medium	High	Very High	Very High	Very High
Likely	Medium	Medium	High	Very High	Very High
Slight	Low	Medium	High	High	Very High
Unlikely	Low	Low	Medium	Medium	High
Rare	Low	Low	Low	Medium	Medium

If the level of risk is assessed as high or very high

- Stop the activity; or
- Tag out the plant/equipment; or
- Secure any chemical; and
- Determine if the activity is to:
  - continue; or
  - cease

in consultation with your Manager/Supervisor.

Assessment outcome

Descriptor	Action
Very High **Almost certain to kill, maim or hospitalise** OR Likely to cause hospitalisation	Cease activity immediately. Implement controls and reassess. If activity remains Very High notify Manager/Supervisor Head of School permission required to proceed with activity. If residual risk the VC will have to sign off before the start of this process.
High	Stop the process until controlled or implement short term safety controls if process cannot be temporarily ceased. THEN Conduct risk assessment and apply controls as required. Notify Manager/Supervisor. If residual risk then the Head of School will need to sign off before the start of this process
Medium	Conduct risk assessment and apply controls as required
Low	No action required but if controls are available make it safer - record assessment and monitor

Hierarchy of Control
how to control/reduce risk

Ideal

Elimination (remove the hazard)

Substitution (something less hazardous)

Engineering (trolleys, duress alarms)

Administration (induction, training, SOPs, SDS)

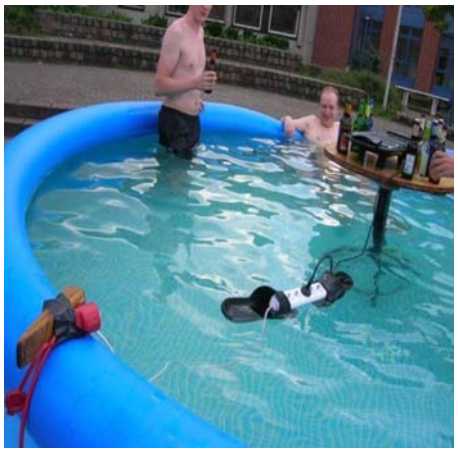
Personal Protective Equipment (gloves, lab coat, vaccinations)

Multiple

Last resort

Monitor, Review & Reassess

- Are your controls appropriate?
- Has your research changed?
- Has there been an incident?



Low Risk Research

- health and safety measures of low risk research is not the same as '*low risk research*' for ethics
- Low risk research as defined with ethics can have medium to high hazards for the researcher

Eg interviewing elderly in their homes is low risk research with ethics approval, but a medium risk for researcher

Useful Links

Health, Safety & Wellbeing website
http://www.adelaide.edu.au/hr/hsw/

Hazard Management
https://www.adelaide.edu.au/hr/hsw/handbook/hazard/

Information Session
Hazard Management (face-to-face or online sessions)
https://www.adelaide.edu.au/hr/hsw/training/general/#hazman

Contacts – Faculty HSW Administrators

Linda Knobben - linda.knobben@adelaide.edu.au
Betty Reinboth - betty.reinboth@adelaide.edu.au

Questions?