

School of Engineering
Guidance on Completing a Risk Assessment
Based on HSE Five steps to risk assessment INDG163(rev2)

What is risk assessment?

A risk assessment is simply a careful examination of what, in your work, could cause harm to people, so that you can weigh up whether you have taken enough precautions or should do more to prevent harm. Staff, students and others have a right to be protected from harm caused by a failure to take reasonable control measures.

Accidents and ill health can ruin lives and affect the University too if output is lost, machinery is damaged or insurance costs increase. It is a legal requirement that risks are assessed in the workplace and plans put in place to control the risks.

The law does not expect all risks to be eliminated, but requires that people be protected as far as 'reasonably practicable'. This guide tells you how to achieve that with a minimum of fuss.

How to assess the risks in your workplace

Follow the five steps in this leaflet:

- **Step 1 - Identify the hazards**
- **Step 2 - Decide who might be harmed and how**
- **Step 3 - Evaluate the risks and decide on precautions**
- **Step 4 - Record your findings and implement them**
- **Step 5 - Review your assessment and update if necessary**

When thinking about your risk assessment, remember:

- A **hazard** is anything that may cause harm, such as chemicals, electricity, working from ladders, an open drawer etc;
- the **risk** is the chance, high or low, that somebody could be harmed by these and other hazards, together with an indication of how serious the harm could be.

Step 1: Identify the hazards

First you need to work out how people could be harmed. When you work in a place every day it is easy to overlook some hazards, so here are some tips to help you identify the ones that matter:

- **Walk around** your workplace and look at what could reasonably be expected to cause harm.
- **Consider** the equipment you are to use in your experimental work and how you intend to use it.
- **Ask your supervisor**, technician or fellow students what they think. They may have noticed things that are not immediately obvious to you.
- **Visit the HSE and the University's safety websites** both of which provide practical guidance on where hazards occur and how to control them.
- **Check manufacturers' instructions** or data sheets for chemicals and equipment as they can be very helpful in spelling out the hazards and putting them in their true perspective.
- **Remember to think about long-term hazards to health** (eg high levels of noise or exposure to harmful substances) as well as safety hazards.

Step 2: Decide who might be harmed and how

For each hazard you need to be clear about who might be harmed; it will help you identify the best way of managing the risk. That doesn't mean listing everyone by name, but rather identifying groups of people (eg 'people working in the laboratory' or 'passers-by').

In each case, identify how they might be harmed, ie what type of injury or ill health might occur. For example, 'shelf stackers may suffer back injury from repeated lifting of boxes'.

Remember:

- Some staff or students have particular requirements.
- Extra thought will be needed for some hazards;
 - cleaners, visitors, contractors, maintenance workers etc, who may not be in the workplace all the time;
 - members of the public, if they could be hurt by your activities;

- If you share your workplace, you will need to think about how your work affects others present, as well as how their work affects you – talk to them; and
- ask your supervisor or technician if they can think of anyone you may have missed.

Step 3: Evaluate the risks and decide on precautions

Having spotted the hazards, you then have to decide what to do about them. The law requires that everything 'reasonably practicable' is done to protect people from harm. You can work this out for yourself, but the easiest way is to compare what you are doing with good practice.

There are many sources of good practice – your supervisor, the technician and various websites listed at the end of this guidance will all help.

So first, look at what you're already doing, think about what controls you have in place and how the work is organised. Then compare this with the good practice and see if there's more you should be doing to bring yourself up to standard. In asking yourself this, consider:

- Can I get rid of the hazard altogether?
- If not, how can I control the risks so that harm is unlikely?

When controlling risks, apply the principles below, if possible in the following order:

- try a less risky option (eg switch to using a less hazardous chemical or method);
- prevent access to the hazard (eg by guarding);
- organise work to reduce exposure to the hazard (eg put barriers between pedestrians and traffic);
- use personal protective equipment (eg clothing, footwear, goggles etc).

Involve your supervisor and other staff and students working in the area, so that you can be sure that what you propose to do will work in practice and won't introduce any new hazards.

Step 4: Record your findings and implement them

Putting the results of your risk assessment into practice will make a difference when looking after yourself and others.

Writing down the results of your risk assessment, and sharing them with staff and students in the laboratory, encourages you to do this.

When writing down your results, keep it simple, for example 'Tripping over rubbish: bins provided, staff instructed, weekly housekeeping checks', or 'Fume from welding: local exhaust ventilation used and regularly checked'.

A risk assessment is not expected to be perfect, but it must be suitable and sufficient. You need to be able to show that:

- a proper check was made;
- you asked who might be affected;
- you dealt with all the significant hazards, taking into account the number of people who could be involved;
- the precautions are reasonable, and the remaining risk is low; and
- you involved appropriate staff or their representatives in the process.

If, like many, you find that there are quite a lot of improvements that you could make, big and small, don't try to do everything at once. Make a plan of action to deal with the most important things first and consult your supervisor and the technician as appropriate.

A good plan of action often includes a mixture of different things such as:

- a few cheap or easy improvements that can be done quickly, perhaps as a temporary solution until more reliable controls are in place;
- long-term solutions to those risks most likely to cause accidents or ill health;
- long-term solutions to those risks with the worst potential consequences;
- arrangements for training employees on the main risks that remain and how they are to be controlled;
- regular checks to make sure that the control measures stay in place; and
- clear responsibilities – who will lead on what action, and by when.

Remember, prioritise and tackle the most important things first. As you complete each action, tick it off your plan.

Step 5: Review your risk assessment and update if necessary

Few workplaces stay the same and sooner or later, you will bring in new equipment, substances and procedures that could lead to new hazards. It makes sense, therefore, to review what you are doing on an ongoing basis and to formally review where you are, to make sure you are still improving, or at least not sliding back.

Look at your risk assessment again. Have there been any changes? Are there improvements you still need to make? Have your workers spotted a problem? Have you learnt anything from accidents or near misses? Make sure your risk assessment stays up to date.

When you are running an important experiment it's all too easy to forget about reviewing your risk assessment – until something has gone wrong and it's too late. Why not set a review date for this risk assessment now? Write it down and note it in your diary as a to-do event.

During the experimental period, if there is a significant change, don't wait. Check your risk assessment and, where necessary, amend it. If possible, it is best to think about the risk assessment when you're planning your change – that way you leave yourself more flexibility.

Writing it all down and recording the risk assessment

The risk assessment should be completed on a computer and not handwritten. The School has a risk assessment template based on suggestions from the HSE the following is the procedure required to record the risk assessment:

- Complete risk assessment in consultation with PI/Supervisor and technical staff as appropriate.
- Risk assessment checked and signed by PI/Supervisor
- A copy or scan of the signed document to be given to the lab technician, School Safety Adviser and PI/Supervisor.

NOTES:

- No laboratory work is to commence without a risk assessment signed by the PI/Supervisor.
- The risk assessment must be reviewed when any changes are made to the equipment, materials, procedure or personnel.
- Technical staff can stop work if no risk assessment is in place or if, in their opinion, there is a risk to safety.
- Examples of how to complete this form are available at www.hse.gov.uk/risk/casestudies/

Further information

University safety website: www.abdn.ac.uk/safety

Health and safety Executive (HSE): www.hse.gov.uk