SEGMENT FOUR - Risk Assessment

After studying this segment you should have a greater understanding of the risk assessment and its role in managing health & safety.

AIMS OF THE SEGMENT

The main aim of this segment is to help you to understand that Risk Assessment is an important technique for accident and work-related ill health prevention and be able to:

- Define what is meant by term 'hazard' and give examples;

- Define what is meant by the term 'risk', and give examples of factors which are likely to increase risk;

- Outline the risk assessment process;

- Give examples of control measures and the varying degrees of effectiveness, including *tackling risks at source*[2];

- State that specialised assessments are required in certain circumstances.

INTRODUCTION

Risk Assessment is key to health & safety. Risk Assessment is, in many ways the starting point for managing health & safety at work and while it is primarily the responsibility of the employer to carry out these assessments, we can all contribute to the risk assessment process.

These Risk Assessments must be carried out whether you are (or work for) a large business, a small business or even if you are just a one-person operation.

So, whether you are a large supermarket, a small fishmonger shop or a mobile fish sales van operation you need to carry out Risk Assessments.

If we accept that a thorough risk assessment is the most effective way of improving health & safety, then how do we go about assessing the risks and what should we do with Risk Assessments once they have been produced?

To answer those two questions you will first have to understand two terms, hazard

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[2] The workplace must be made safe without risks to health. So far as is reasonably practicable, accidents and work related health damage should be prevented by tackling risks at source, using engineering solutions rather than systems of work. Personal Protective Equipment only being acceptable if no other suitable controls are available.. [MHSW, ACoP].

and risk.

HAZARD

What is a hazard?
A hazard is something that could cause harm. That doesn't mean that it is likely to cause harm, only that it could.

Hazards usually occur when carrying out some kind of activity. For example, a sharp filleting knife could cause harm, but not when it's put away on a rack. It's much more likely to cause harm when it's being used. And this introduces the main source of hazards in the workplace – people.

There are many hazardous substances, equipment and processes in the workplace, but it's usually people who are the trigger.

Typical hazardous substances in the seafood workplace are corrosive cleaning chemicals used for deep cleaning and descaling. Their potential for causing harm is multiplied when you combine these chemicals with untrained staff.

Hazards can also include:

- conditions in the workplace – poor lighting, wet slippery floors, defective equipment, poor working practices, etc;

- condition of workplace equipment – sharps (knives, bandsaws etc), chemicals (cleaning or processing), extreme temperatures (both hot and very cold), moving equipment;
- activities and behaviour of people – poor load carrying practices, working from heights, not wearing protective equipment, not following the rules, carelessness and untidiness.
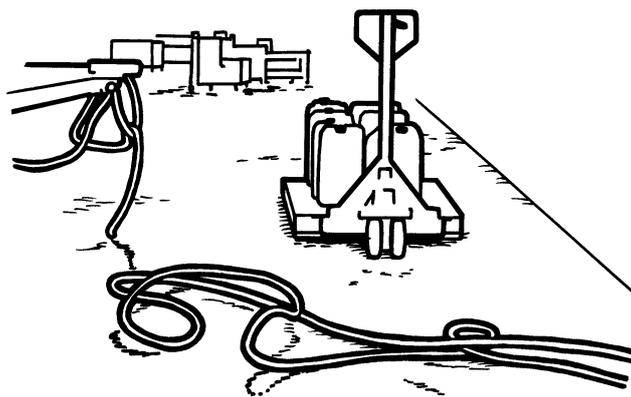
There are hazards to be found in all workplaces. As I sit at my desk writing this, there are hazards from the use of a computer and sitting at a desk for long periods of time. There will be hazards in your workplace, whether that is a fish and chip shop, seafood counter, fish processing factory, fish market, restaurant or somewhere else in the seafood industry. How good are you at identifying hazards?

In the space below list five hazards each for the workplace, equipment and people.

SAQ.

Workplace	Equipment	People

The final segment of this open learning module contains guidance specific to each sector. You can look at this segment later to see what specific hazards are listed for you sector.

RISK

When is a hazard not a hazard? When it's a risk.
If a hazard is something that could cause harm, then a risk is a hazard that's been measured and quantified. If this doesn't make a great deal of sense then don't worry. This is probably the hardest bit of health & safety to understand, but once you do it will all seem clear.

To turn a hazard into a risk you have to ask yourself two questions.

How likely is it that this hazard could actually happen in the workplace?
And
If the hazard actually happened, how bad would it be – how much harm could it cause?

Once you have answered those two questions you are much closer to being able to manage hazards.

Risk Rating Matrix
There are usually four answers to the question How likely is it that this hazard could actually happen in the workplace?

There are also usually four answers to the question If the hazard actually happened, how bad would it be?

Likelihood could be - improbable - possible - occasional - regular

Severity could be - trivial - minor - major - death

Combining these responses into a grid gives us 16 possible combinations.

		Trivial	Minor	Major	Death
Likelihood	Regular	Likely to happen but unlikely to injure	Likely to happen and likely to injure	Likely to happen and likely to badly injure	Likely to happen and likely to kill
	Occasional				
	Possible				
	Improbable	Not going to happen and won't hurt anyway	Unlikely to happen but could cause slight injury	Unlikely to happen but could be serious if it did	If it did happen it could easily kill
		Trivial	Minor	Major	Death

Severity

When assessing the extent of the risk of a particular task you should take into account the current controls that are in place and what would be reasonable behaviour from anyone involved in the activity.

It is not, for example, reasonable behaviour for someone to run around the workplace waving a knife in the air, so it wouldn't be necessary to take this into account when assessing the risks. However, if filleters are expected to carry knives across a work space then you would need to assess the risks this presents.

Once you start thinking about hazards and the potential likelihood and severity of the results you quickly realise that there are many factors that can multiply the size of the risk, and sadly many of these factors are all too avoidable, if only we used more common sense.

THE RISK ASSESSMENT PROCESS

This can be a four step, five step or seven step process. I like to keep it simple and I think five steps are enough.

Step one
Look at a particular task or activity and accurately identify all the hazards that may

arise from that task or activity.

Step two
Identify anyone who might be affected by these hazards. This includes anyone carrying out the task. It also could include other persons working near them, visitors and others.

Step three
What existing control measures are in place? Are there guards around dangerous machinery? Are people properly trained? Do they wear protective equipment?

Step four
Quantify the risk by working out the likelihood and severity.

Step five
Decide what further action is necessary to reduce the level of risk, and prioritise this action.

Some people say the next step is to record your findings. If more than five persons are employed in the business then the Law requires that the significant findings are recorded. My advice is record everything, even if it wasn't that significant or you don't employ more than five persons. After all, how else can you really prove that you considered a particular hazard and didn't think it significant if you don't write it down somewhere.

We have talked about Hazard and Risk and looked at a few examples. The persons involved in step two should be fairly obvious, but what about existing controls, what do we mean by this?

Existing Controls
Steps one and two recognise where harm could occur and who could be affected by it. Step three examines what measures are already in place to prevent or minimise the chance that harm might actually happen. These measures are the existing controls and can include:

- Staff training;
- Approved procedures and methods of working;
- Supervision
- Regular housekeeping and maintenance;
- Barriers and guards around machinery;
- Protective clothing.

Existing controls will have an impact on both the likelihood and severity of a particular hazard and on the overall risk rating.

Risk Rating
Looking back to the risk matrix we can group the 16 combinations of likelihood and

severity into risks that range from trivial through to intolerable, like this:

Likelihood		Severity			
	Regular	Substantial	Intolerable		
	Occasional	Moderate	Substantial	Intolerable	
	Possible	Tolerable	Moderate	Substantial	Intolerable
	Improbable	Trivial	Tolerable	Moderate	Substantial
		Trivial	**Minor**	**Major**	**Death**

It's not enough to come up with a risk rating. Risk Assessment requires that you decide what you will do about it.

Risk Rating	What to do about it
Intolerable	ALL possible action may be necessary to avoid this risk. This may well include not undertaking the activity at all. Cost is not a factor to be considered, either fix the problem or stop doing it.
Substantial	The risk must be reduced if at all practicable, even if this is very costly.
Moderate	Risk should be reduced. Cost-effective measures should be considered and a balance sought between cost and risk reduction.
Tolerable	Simple measures may be introduced to reduce risk further if possible. Otherwise simply record the assessment and monitor the effectiveness of existing controls.
Trivial	No action required.

Risks that are trivial and tolerable usually require no further action as existing controls are adequate.

Risks that are moderate or substantial, even with controls in place, require you (or your employer) to take further action to reduce the level of risk.

Further action could include:

- Eliminating the hazardous equipment, activity or substance entirely;
- Using something less hazardous instead;

- Controlling the risk by changing the activity, or process, or way of working;
- Separating the risk from the people;
- Providing personal protective equipment.

Now, for a worked example. Bandsawing blocks of frozen cod into fish fingers using a bandsaw is a risky business. The likelihood of harm is high and the severity harmful. The risk is either substantial or moderate.

The first step in reducing risk could be to fit suitable guarding. Staff training and supervision will also help to reduce the likelihood of an accident. Bandsaws should also be regularly maintained to ensure everything works safely. Operators should be issued with personal protective equipment in the form of gauntlets and protective gloves.

If, after addressing the process, engineering and people factors, the level of risk is still too high, then the final solution is to move the people away from the risk and to use automated bandsawing to produce fish fingers, untouched by human hands.

Some controls are more effective than others. Perhaps the most effective of all is to eliminate the hazard altogether by not doing it at all or doing it in a completely different way.

Elimination is one of three ways of preventing a hazard.
Substitution is another, while the third is **Isolation**.

Reduce by substitution – using something less harmful instead. Using processing equipment powered by compressed air rather than electric motors, 12 volt lighting rather than 240v around a wet fish counter.

Isolation – keeping people away from the hazard, using guards (chippers in fish and chip shops for instance) on dangerous machinery.

If prevention is better than a cure, then its also better than control. But if you cannot prevent a hazard then you should seek to control it.

The three ways of controlling a hazard are **using controls, Personal Protective Equipment (PPE) and discipline**.

Controls can include engineering controls such as:

- ventilation to reduce fumes,

Controls to reduce exposure to the hazard can include;

- job rotation to avoid fatigue or repetitive strain (common on packing lines).

Other controls can focus on the person, such as:

- training, instruction and supervision;
- safe system of working;

- monitoring exposure.

Personal protective equipment can be as simple as warm clothing in a fish factory or as complex as positive pressure helmets when prawn peeling. Gloves, goggles, overalls, ear defenders and ear plugs are all common forms of PPE.

The final control is discipline – rules, regulations, signage, posters and appeals to common sense are all forms of discipline.

In order of effectiveness in reducing the likelihood and severity of a hazard we have a useful reminder ERICPD or **ERIC P**revents **D**eath or

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ELIMINATE
REDUCE BY SUBSTITUTION
ISOLATE
CONTROL
PPE
DISCIPLINE

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Risk assessment is something that all employers have a responsibility to carry out and to review every now and then – it's a general requirement of health & safety legislation.

There are several specific instances in which these general risk assessments must be redone to consider the risks to specific groups of people.

Young Persons and **Children** are one such group. Because of their youth they are likely to behave differently from adults. They have different physical abilities and as they are still growing, they are at some risk from biological and chemical agents. There are legal restrictions on them operating equipment and machinery.

When carrying out a risk assessment involving young persons or children you will need to understand how their lack of experience, immaturity and lack of awareness can contribute to the greater risks which they may be exposed to.

The other group are new and expectant mothers. This not only includes those women who are aware of their pregnancy but also women who could potentially be pregnant. The risk assessment of activities involving women must pay special attention to physical and biological agents that can have an increase affect on pregnant women and their unborn child.