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About IOSH



At IOSH, we're committed to creating a world of work which is safe, healthy and sustainable.

We're not just the biggest health and safety membership organisation in the world, we're also the only Chartered body for health and safety professionals.

And because we're a world leader in health and safety training, every year over 160,000 people take our courses.

Our shared objective is a world where work is safe and healthy for every working person, every day.

About Stockwell Safety



Stockwell Safety provide training that focuses on delivering courses of the highest standard. We also offer consultancy services to businesses who need support and assistance with the development and implementation of robust and effective health and safety management systems, policies and procedures.

We make sure our courses are interesting and engaging. We use a range of delivery methods to get the course content across and we live by the rule that if something doesn't add value, it gets dropped or replaced by something better.

About the 'Working Safely' course

AIMS

1. To provide learners with an understanding of how their actions in the workplace contribute to safety and health
2. To ensure that learners clearly understand their safety and health responsibilities

LEARNING OBJECTIVES

The learner will be able to:

1. Identify why it is important to work safely
2. Identify everyone's responsibilities in relation to safety, health and wellbeing in the workplace
3. Define key terms in safety and health
4. Identify workplace hazards and risks, their impact and how to control them
5. Identify ways safety, health and wellbeing are managed and improved within the workplace

SUMMATIVE ASSESSMENT

Based on the learning objectives, all learners will be assessed in two ways:

Knowledge and comprehension

Learners are required to complete a standard assessment under examination conditions, which consists of 20 questions in a variety of formats. Each paper has a maximum of 33 marks.

Practical application of learning

This consists of four hazard-spotting questions plus four questions about harm caused by hazards and the best ways to control it. Each paper has a maximum of 16 marks.

Pass marks	Knowledge	Practical application
Minimum mark required for each Part	20/33	10/16
Minimum overall mark required	30	

Module 1: Introducing Working Safely

Learning Outcomes:

- Identify why it is important to work safely
- Identify everyone's responsibilities in relation to safety, health and wellbeing in the workplace

WHY IT IS IMPORTANT TO WORK SAFELY

Society exerts pressure through three overlapping and interacting spheres of influence: moral, legal and financial.

Moral

Morals are the codes of conduct, or rules of behaviour imposed by a society regarding what is right and wrong.

For people to be killed, or seriously injured, or to suffer illness because of work is clearly wrong.

Although, in the UK there are generally good standards of workplace health and safety a lot of harm is still caused each year.

Legal

There are two systems of law that influence the management of health and safety.

The **criminal law** establishes a set of rules for acceptable behaviour. In the workplace, the main duties are covered by the Health and Safety at Work Act 1974 and the Management of Health and Safety at Work Regulations 1999.

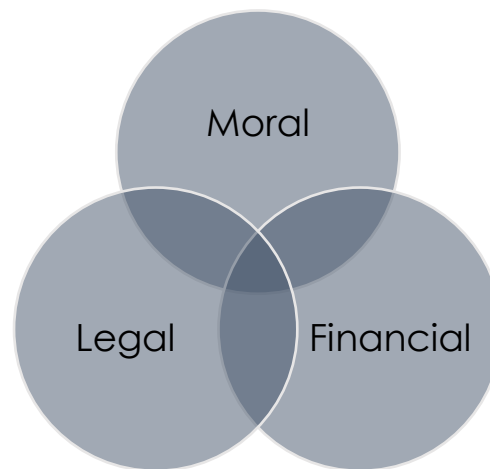
If the necessary standards are not met the enforcement agencies (either the HSE, the Office of Rail and Road – ORR, or the local authority environmental health department, depending on the nature of the work) may take action to secure improvements and / or punish offenders for breaking the rules.

The **civil law** allows an injured person to sue a third party for compensation for their injury or loss if the injury was caused through the third party's negligence.

Financial

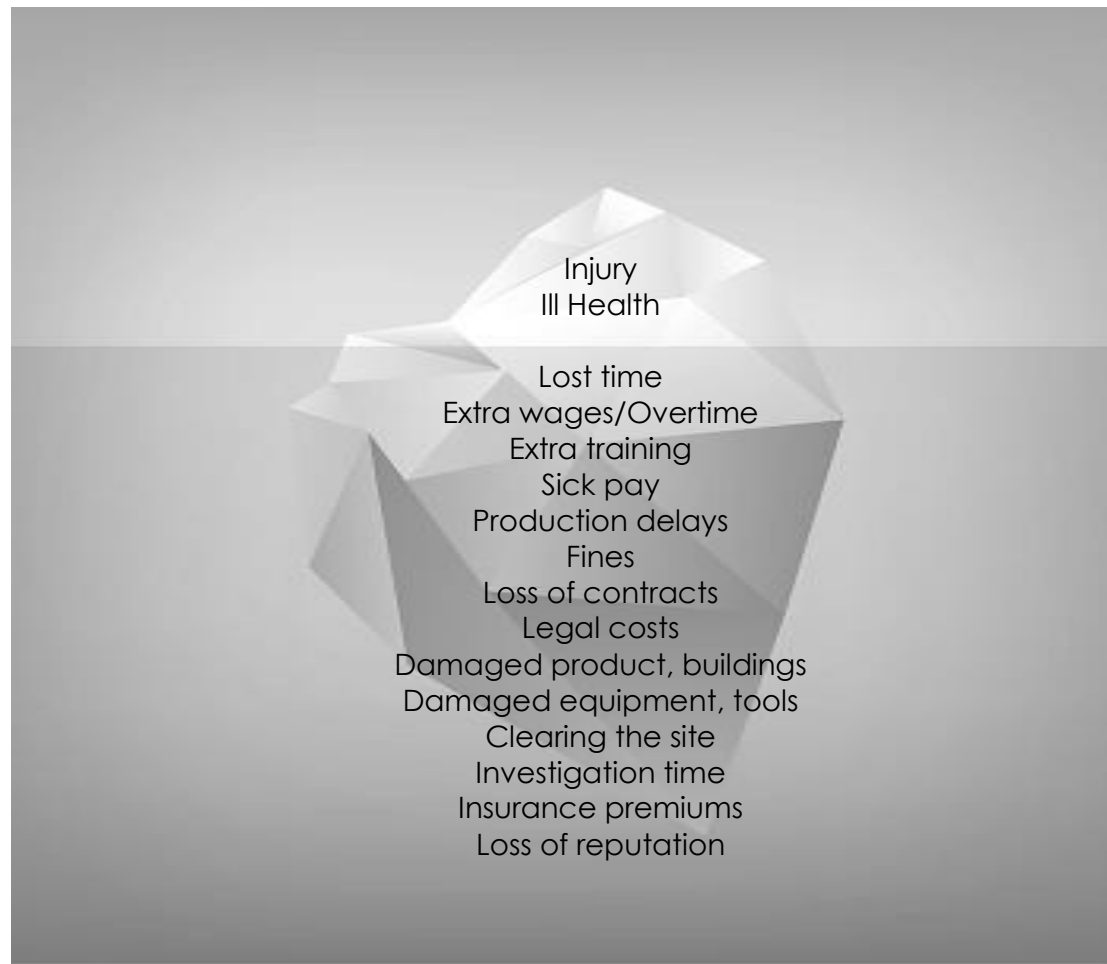
Accidents clearly cost money: (injured people, damaged plant and machinery, wasted product etc.)

As every business and every incident are different the only accurate way of determining costs is to measure them.



The 'Drivers' for Health & Safety

HSE Guidance on the real costs of accidents at work indicates that the uninsured costs of an accident may be more than 10x the insurance premiums paid. This is often illustrated via the 'Accident Cost Iceberg'.



The Accident Iceberg

WHO IS RESPONSIBLE FOR SAFETY AND HEALTH IN THE WORKPLACE

All workers are entitled to work in environments where risks to their health and safety are properly controlled. Under health and safety law, the primary responsibility for this is down to employers.

Workers have a duty to take care of their own health and safety and that of others who may be affected by your actions at work. Workers must cooperate with employers and co-workers to help everyone meet their legal requirements.

As a worker, if you have specific queries or concerns relating to health and safety in your workplace, talk to your employer, manager/supervisor or a health and safety representative.

AN ORGANISATION'S RESPONSIBILITIES FOR SAFETY AND HEALTH

What employers must do for you:

- Decide what could harm you in your job and the precautions to stop it. This is part of risk assessment.
- In a way you can understand, explain how risks will be controlled and tell you who is responsible for this.
- Consult and work with you and your health and safety representatives in protecting everyone from harm in the workplace.
- Free of charge, give you the health and safety training you need to do your job.
- Free of charge, provide you with any equipment and protective clothing you need, and ensure it is properly looked after.
- Provide toilets, washing facilities and drinking water.
- Provide adequate first-aid facilities.
- Report major injuries and fatalities at work.
- Have insurance that covers you in case you get hurt at work or ill through work. Display a hard copy or electronic copy of the current insurance certificate where you can easily read it.
- Work with any other employers or contractors sharing the workplace or providing employees (such as agency workers), so that everyone's health and safety is protected.

WHO HAS RESPONSIBILITY FOR WORKER ACTIONS

What you must do:

- Follow the training you have received when using any work items your employer has given you.
- Take reasonable care of your own and other people's health and safety.
- Co-operate with your employer on health and safety.
- Tell someone (your employer, supervisor, or health and safety representative) if you think the work or inadequate precautions are putting anyone's health and safety at serious risk.

Employers are 'vicariously liable' if their worker(s) harms someone due to their actions (or omissions). This means that employers also have some responsibility for worker actions.

Module 2: Defining Hazard and Risk

Learning Outcomes:

- Define key terms in safety and health
- Identify workplace hazards and risks, their impact and how to control them

THE SIX HAZARD GROUPS

Hazards are things in the workplace that have the potential to cause harm. This course categorises hazards as follows:

- mechanical
- physical
- chemical
- environmental
- biological
- organisational

HAZARDS THAT ARE NOT EASY TO IDENTIFY

Some hazards are easy to identify (an open container of a corrosive substance), others are not easily identifiable.

This can be because the harm that some hazards cause is not immediate, but occurs instead over a long period of time. By the time the harm is apparent, it may be too late to reverse the effects. An example is deafness caused by long exposure to only moderately loud noise, or exposure to certain dusts that could cause asthma.

WHAT IS MEANT BY THE TERMS ‘HAZARD’ AND ‘RISK’

Hazard	Risk
Anything that may cause harm, such as chemicals, electricity, working from ladders, or an open drawer	The chance, high or low that somebody could be harmed by a hazard, together with an indication of how serious the harm could be

WHAT IS MEANT BY THE TERM ‘RISK ASSESSMENT’

The HSE has defined risk assessment as...

“simply a careful examination of what, in the workplace, could cause harm to people, so that a decision can be made as to whether the precautions taken are satisfactory or whether more should be done to prevent harm”.

A risk assessment is not about creating huge amounts of paperwork, but rather about identifying sensible measures to control the risks in the workplace.

It looks at what an organisation does and asks the right questions to establish

whether workers will be safe and to decide on what else it needs to do to make workers safe if it's not satisfied with existing controls.

WHAT IS MEANT BY THE TERMS 'LIKELIHOOD' AND 'CONSEQUENCE'

Risk is the combination of the **likelihood** of an occurrence of a hazardous event or exposure and the **consequence** in terms of severity of injury or ill health that can be caused by the event or exposure.

Risk assessment is a process of evaluating the risk arising from a hazard, considering the adequacy of any existing controls, and deciding whether the risk is acceptable.

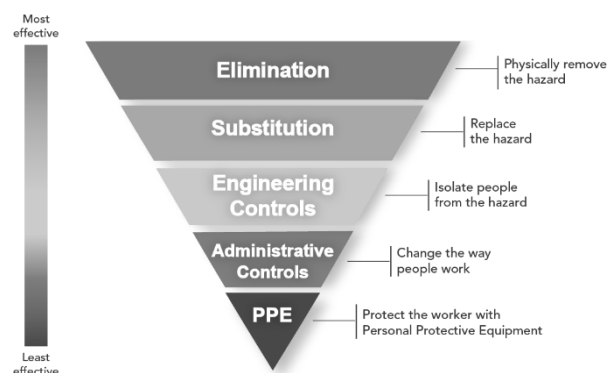
An acceptable risk is a risk that has been reduced to a level that the organization is willing to assume with respect to its legal obligation, its health and safety policy and its health and safety objectives.

DECIDING ON WHAT ACTIONS TO TAKE TO CONTROL RISK

If new or improved controls are required, their selection should be determined by the principle of the hierarchy of controls, i.e. the elimination of hazards where practicable, followed in turn by risk reduction (either by reducing the likelihood of occurrence or potential severity of injury or harm), with the adoption of personal protective equipment (PPE) as a last resort.

The following provides examples of implementing the hierarchy of controls:

1. **Elimination** - Redesign the job or substitute a substance so that the hazard is removed or eliminated.
2. **Substitution** - Replace the material or process with a less hazardous one.
3. **Engineering controls** - for example use work equipment or other measures to prevent falls where you cannot avoid working at height, install or use additional machinery to control risks from dust or fume or separate the hazard from operators by methods such as enclosing or guarding dangerous items of machinery/equipment. Give priority to measures which protect collectively over individual measures.
4. **Administrative controls** - These are all about identifying and implementing the procedures you need to work safely. For example:



Risk Control Hierarchy

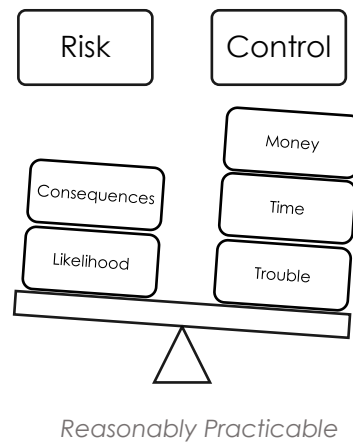
reducing the time workers are exposed to hazards (eg by job rotation); prohibiting use of mobile phones in hazardous areas; increasing safety signage, and performing risk assessments.

5. **Personal protective clothes and equipment** - Only after all the previous measures have been tried and found ineffective in controlling risks to a reasonably practicable level, must personal protective equipment (PPE) be used. For example, where you cannot eliminate the risk of a fall, use work equipment or other measures to minimise the distance and consequences of a fall (should one occur). If chosen, PPE should be selected and fitted by the person who uses it. Workers must be trained in the function and limitation of each item of PPE.

WHAT IS MEANT BY THE TERM 'REASONABLY PRACTICABLE'

This means balancing the level of risk against the measures needed to control the real risk in terms of money, time or trouble. However, you do not need to act if it would be grossly disproportionate to the level of risk.

The concept can be visualized as a 'balancing' of risk against control.



Module 3: Identifying Common Hazards

Key learning points:

- Identify workplace hazards and risks, their impact and how to control them

Hazards are things with the potential to cause harm. The range of hazards present will vary from workplace to workplace. Hazards can be categorised per their characteristic or properties. A hazard might well fall into more than one of these categories.

MECHANICAL

Plant and Machinery

Work equipment is any equipment which is used by an employee at work e.g. hammers, knives, ladders, drilling machines, power presses, circular saws, photocopiers, lifting equipment (including lifts), dumper trucks and motor vehicles.



All work equipment should be:

- suitable for the intended use, and for the conditions in which it is used;
- safe for use, maintained in a safe condition and, in certain circumstances, inspected to ensure this remains the case; and
- used only by people who have received adequate information, instruction and training.

Machinery hazards may be mechanical or non-mechanical.

Mechanical hazards

These include: entanglement, traps (crushing, shearing; and drawing in), impacts, contacts (friction or abrasion cutting or severing and stabbing or puncture) and ejection (including high pressure fluid injection).

Non-mechanical hazards

These include: chemical and biological hazards; electricity; dust and fumes; noise and vibration; fire and explosion.

Vehicles and Transport

'Workplace transport' refers to any vehicle or piece of mobile equipment, used in any work setting, apart from travelling on public roads.

There are around 70 workplace transport fatalities each year and around 1000 major injuries.

Most transport-related accidents involve being:

- hit or run over by moving vehicles;
- falling from vehicles;

- struck by objects falling from vehicles (usually part of the load); or
- injured as a result of vehicles overturning.

The Workplace (Health Safety and Welfare) Regulations 1992 require that all road surfaces are maintained in good order and that every workplace is organised in such a way that pedestrians and vehicles can circulate in a safe manner.

A workplace transport risk assessment should identify all work activities involving vehicles. Activities may include:

- arrival and departure;
- travel within the workplace;
- loading, unloading and securing loads;
- sheeting;
- coupling; and
- vehicle maintenance work.

The assessment should consider hazards associated with the vehicle, the workplace, and the environment.

Vehicle

- Is it the correct vehicle for the job?
- Is it maintained in good working order?

Workplace

- Are the roadways maintained in good condition?

People

- Are drivers competent
- Are drivers controlling the pace of work or are they under pressure to meet deadlines?
- Are other people segregated from workplace transport operations, either physically by barriers or by space or time?

Vibration

Hand Arm Vibration (HAV)

Hand arm vibration is vibration transmitted into the hands and arms when using handheld powered work equipment.

Regular users of handheld or hand guided power tools and machines such as: concrete breakers, sanders, grinders, disc cutters, hammer drills, chainsaws, powered mowers, scabblers or needle guns.

Workers holding work-pieces which vibrate while being processed by powered machinery such as pedestal grinders

Hand Arm Vibration Syndrome (HAVS) affects the nerves, blood vessels, muscles and joints of the hand, wrist and arm. It includes vibration white finger (VWF), which can cause severe pain in the affected fingers

HAV can also cause carpal tunnel syndrome - a nerve disorder which may involve pain, tingling, numbness and weakness in parts of the hand

Risk factors:

- Frequency of the vibration
- 2 to 1,500 Hz is potentially damaging
- 5 to 20 Hz is most dangerous
- Magnitude of the energy measured in m/s^2
- Strength of the grip and other forces necessary to hold or guide the tool or work-piece
- Duration of exposure
- Frequency of exposure
- Low temperature
- Individual factors, e.g. smoking, susceptibility to vibration energy, age, health and general well-being

Controls:

- Eliminate the need for a worker to hold vibrating equipment, e.g. automate a process
- Minimise the required force or grip on the tool or work piece
- Provide suitable low vibration tools
- Ensure the right tool is used for each job
- Ensure tools have been properly maintained to avoid increased vibration caused by faults or general wear, and keep cutting tools sharp so that they remain efficient
- Reduce the amount of time vibrating tools are used (work scheduling / job rotation / rest breaks)
- Use of dose monitors / limiters
- Keep workers warm and dry (provide gloves, a hat, waterproofs and heating pads if required)
- Provide workers with information and training on the risks and precautions

Whole Body Vibration (WBV)

Whole-body vibration is the shaking or jolting of the human body through a supporting surface (usually a seat or the floor), e.g. when driving or riding a vehicle along an unmade road.

Regular operators and drivers of off-road machinery e.g. construction, mining and quarrying machines and vehicles, tractors and other agricultural and forestry machinery.

Some short-term symptoms are back pain, abdominal pain or general feeling of discomfort, including headaches, chest pain, nausea and loss of balance. Some long-term symptoms are disc displacement, degenerative spinal changes, lumbar scoliosis, degenerative disorders of the spine and disorders of the gastrointestinal system.

The HSE view is that WBV is unlikely on its own to cause back pain but can aggravate a back problem caused by another activity, e.g. a muscle strain caused by an accident

The risk factors are unusually high vibration or jolting or the vibration is uncomfortable for a long time on most working days

Controls:

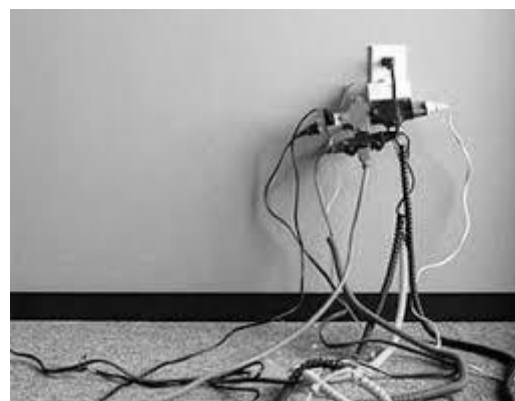
- Select vehicles and machines with the appropriate size, power and capacity for the work and the ground conditions
- Maintain vehicle suspension systems correctly (e.g. cab, tyre pressures, seat suspension)
- Make sure that paved surfaces or site roadways are well maintained, e.g. potholes filled in, ridges levelled, rubble removed
- Train and instruct operators and drivers to be able to adjust seat positioning and driver weight setting on suspension seats

PHYSICAL

Electricity

Electricity refers to the energy made available by the flow of electric charge through a conductor.

There are five major harms associated with the hazard of electricity:



Burns	From contact with a live conductor.
Shock	Mains electricity (230V AC) can kill.
Arcing	Arcing occurs when electricity flows through the air from one conductor to another. Arcing may cause burns or shock if a person is the second conductor or is close to the arc. Arcing produces intense heat which may cause a fire or explosion.
Fire and Explosion	Electricity could be the source of ignition in a potentially flammable or explosive atmosphere.

(These can be remembered as **B-SAFE**).

There are many things that can be done to manage the risks from electrical equipment in the workplace:

Ensure that the electrical installation is safe

- install new electrical systems to a suitable standard, and thereafter maintain them in a safe condition.
- provide enough socket-outlets - overloading socket-outlets by using adaptors can cause fires.

Provide safe and suitable equipment

- eliminate electrical risks by using air, hydraulic or hand-powered tools.
- choose equipment that is suitable for its working environment.
- ensure that equipment is safe when supplied and then maintained in a safe condition.
- provide an accessible and clearly identified emergency cut off switch near each fixed machine.
- for portable equipment, use socket-outlets which are close by so that equipment can be easily disconnected in an emergency.
- electrical equipment used in flammable/explosive atmospheres should be designed to stop it from causing ignition. You may need specialist advice.

Reduce the voltage

One of the best ways of reducing the risk of injury when using electrical equipment is to limit the supply voltage to the lowest needed to get the job done, such as:

- temporary lighting can be run at lower voltages, e.g. 12, 25, 50 or 110 volts;
- battery operated tools; and
- portable tools are readily available which are designed to be run from a 110 volts centre-tapped-to-earth supply.

Provide a safety device

If equipment operating at mains voltage (230 volts) or higher is used, a residual current device (RCD) can provide additional safety.

RCDs for protecting people have a rated tripping current (sensitivity) of not more than 30 milliamps (mA).

Carry out preventative maintenance

All electrical equipment and installations should be maintained to prevent danger.

Appropriate systems are required for visual inspection and, where necessary, testing of electrical equipment and systems, by a competent person.

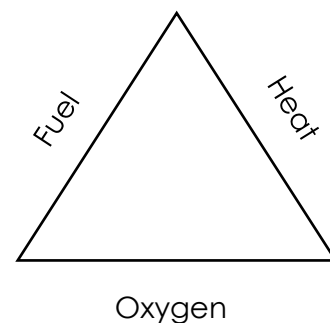
Fire

Fire comes from a chemical reaction between oxygen (usually from the air) and a fuel (e.g. wood or petrol). For the reaction (combustion) to occur the fuel must be heated to its ignition temperature.

Once the combustion process is underway it is self-perpetuating. The heat of the flame itself keeps the fuel at the ignition temperature, so it continues to burn if there is fuel and oxygen around it.

For a fire to start the three components of fuel, oxygen, and heat must be present. To put out a fire one of the three components must be removed. This is often presented as a 'fire triangle'.

Fire safety is managed through a process of risk assessment and management. A fire safety management system will typically have three lines of defence:



The Fire Triangle

- **Fire prevention** – measures to prevent fires starting in the first place;
- **Fire protection** – measures to protect people, the premises and contents from the effects of fire; and
- **Emergency evacuation** – systems to facilitate safe escape from a fire.

Fire prevention

Fire prevention measures look to eliminate, reduce, or effectively manage sources of:

- Fuel:**
 - Combustible fixtures fittings and stored goods
 - Highly flammable or explosive substances e.g. LPG
- Heat energy:**
 - Hot work
 - Friction from mechanical parts
 - Exothermic chemical reactions
 - Lighting
 - Electrical equipment
 - Smokers materials
 - Arson
- Oxygen:**
 - Oxidising chemicals
 - Oxygen in cylinders

Fire Protection

Buildings are constructed of fire resistant materials and designed with structural compartments which control the spread of fire and smoke and protected escape routes to enable safe escape.

Systems can also be installed to automatically detect fire and raise the alarm so that people can escape and/or automatically suppress the fire (e.g. sprinkler systems) to protect the building structure.

Portable fire-fighting equipment is specified according to likely fuel sources and scale of fire.

Emergency evacuation

The primary objective of emergency evacuation is to ensure that in the event of a fire, the occupants of a building can reach a place of ultimate safety outside the building. The best way to evaluate the effectiveness of the emergency plan is to perform a fire drill. Every member of staff should participate in a fire drill at least annually.

Manual Handling

Manual handling is defined as:

“the transporting or supporting of loads by hand or by bodily force”

More than a third of ‘over-three-day’ injuries reported each year to HSE and local authorities are caused by manual handling.

The Manual Handling Operations Regulations require employers to:

- **avoid** the need for hazardous manual handling, so far as is reasonably practicable;
- **assess** the risk of injury from any hazardous manual handling that can't be avoided; and
- **reduce** the risk of injury from hazardous manual handling, so far as is reasonably practicable.

The employer has the duty to risk assess manual handling activities. In practise, it is important to consult and involve the workforce. The employees and their representatives know first-hand what the risks in the workplace are and are best placed to offer practical solutions for controlling them.

A Manual handling risk assessment considers risk factors associated with the **Task**, the **Individual**, the **Load**, and the **Environment** (remember **TILE**).

Tasks

Do they involve:

- holding or manipulating loads at distance from trunk?
- unsatisfactory bodily movement or posture, especially:
- twisting the trunk?
- stooping?
- reaching upwards?
- excessive movement of loads, especially:
- excessive lifting or lowering distances?
- excessive carrying distances?
- excessive pushing or pulling of loads?
- risk of sudden movement of loads?
- frequent or prolonged physical effort?
- insufficient rest or recovery periods?
- a rate of work imposed by a process?

Individual

Does the job:

- require unusual strength, height etc?
- create a hazard to those who are pregnant or have a health problem?
- require special information or training for its safe performance?

Loads

Are they:

- heavy?
- bulky or unwieldy?
- difficult to grasp?

- unstable, or with contents likely to shift?
- sharp, hot or otherwise potentially damaging?

Environment

Are there:

- space constraints preventing good posture?
- uneven, slippery or unstable floors?
- variations in level of floors or work surfaces?

Employees also have duties and are required to:

- follow appropriate systems of work laid down for their safety;
- make proper use of equipment provided for their safety;
- co-operate with their employer on health and safety matters;
- inform the employer if they identify hazardous handling activities; and
- take care to ensure that their activities do not put others at risk.

Slips and Trips

Slips occur when the foot and floor cannot make effective contact, usually when something has been spilled, or when the shoe sole and floor finish are unsuited.



Trips occur when an obstruction prevents normal movement of the foot resulting in loss of balance, usually caused by objects on the floor or uneven surfaces.

Slips and trips consistently account for around 1 in 3 non-fatal major injuries, and for over 1 in 5 'over 3 day' injuries in workplace areas throughout Great Britain. <http://www.hse.gov.uk/statistics/causinj/slips-trips-and-falls.pdf>

HSE statistics suggest that most of these accidents are slips, most of which occur when floor surfaces are contaminated with water, talc, or grease etc.

Environment

The workplace should be properly designed in the first instance to ensure adequate space, planned walkways, and adequate lighting.

Contamination/Obstructions

Contamination is not limited to liquids, dust or loose particulate can also cause slip hazards due to loss of grip. Obstructions from lack of storage or poor housekeeping create the corresponding trip hazard. Required precautions include:

Good housekeeping to keep the workplace free of clutter and obstructions;

Suitable cleaning materials, methods and equipment to properly clean up spills and other contaminants; and

Management control of cleaning and maintenance activities to ensure no additional hazards are introduced.

Suitable floor materials

Flooring should be specified to ensure that it has sufficient slip resistance to cope with its intended use.

Where floor surfaces of different slip resistance join it should be visually apparent. A pedestrian going from a high to low friction surface is more likely to slip if they do not adjust their gait accordingly.

Footwear

'Sensible footwear' policies, specifying flat shoes to maximise sole/floor contact and friction, have been shown to be effective in reducing the numbers of slip incidents.

Use

Floors likely to be used by 'high risk' groups (such as the very young, the very old, disabled or infirm) should offer a greater slip resistance.

Floors used for transporting of significant loads by pulling or pushing should also offer a greater frictional resistance as workers will need good traction to gain momentum. Monitoring for wear and tear will also be important.

Behaviour

Inappropriate behaviour such as running or horseplay can be a major contributing factor in a slip on an otherwise safe floor. Managers should look to lead by example, demonstrating expected behaviours, and also to ensure that employees are properly informed and trained in understanding their roles and responsibilities under safe systems of work and regular workplace inspections are undertaken to ensure issues are identified and addressed address them.

SUBSTANCES (CHEMICAL & BIOLOGICAL)

Asbestos

Breathing in air containing asbestos fibres can lead to asbestos-related diseases, mainly cancers of the lungs and chest lining. Asbestos is only a risk to health if asbestos fibres are released into the air and breathed in. Past exposure to asbestos currently kills around 4500 people a year in Great Britain.

Workers who carry out building maintenance and repair are particularly at risk.

There is usually a long delay between first exposure to asbestos and the onset of disease. This can vary from 15 to 60 years. Only by preventing or minimising these exposures now can asbestos-related disease eventually be reduced.

It is now illegal to use asbestos in the construction or refurbishment of any premises, but many thousands of tonnes of it were used in the past and much of it is still in place. There are three main types of asbestos that can still be found in premises, commonly called 'blue asbestos' (crocidolite), 'brown asbestos' (amosite) and 'white asbestos' (chrysotile). All of them are dangerous carcinogens, but blue and brown asbestos are more hazardous than white. Despite their names, you cannot identify them just by their colour.

Any buildings built or refurbished before the year 2000 may contain asbestos. As long as the asbestos-containing material (ACM) is in good condition, and is not being or going to be disturbed or damaged, there is negligible risk. But if it is disturbed or damaged, it can become a danger to health, because people may breathe in any asbestos fibres released into the air.



Asbestos insulation board (AIB)



Unscrewing AIB ceiling boards



Asbestos rope and lagging



Asbestos cement down-pipe, hopper and sheeting



Sprayed "limpet" asbestos



Damaged asbestos lagging

Asbestos

Three main types have been used in Great Britain:

- Crocidolite (blue);
- Amosite (brown); and
- Chrysotile (white).

Exposure to blue and brown asbestos poses a greater health hazard than exposure to white asbestos, but all types can cause asbestos-related diseases.

The use of new materials containing blue and brown asbestos was banned in 1985. In 1999 the new use of building materials containing white asbestos was also banned. However, asbestos could still be found in any building built or refurbished before 2000.

Asbestos containing materials (ACM) in good condition are safe unless asbestos fibres become airborne, which happens when materials are damaged.

Working on or near damaged asbestos-containing materials or breathing in high levels of asbestos fibres, (hundreds of times environmental levels) greatly increases the chance of getting an asbestos-related disease.

Asbestos related diseases are responsible for around 5000 deaths a year. There are four main diseases caused by asbestos:

Disease	Symptoms	Prognosis
Mesothelioma	Cancer of the pleura and peritoneum (the linings of the chest and abdominal cavities).	Always fatal
Lung cancer	Same as lung cancer caused by cigarette smoking	Almost always fatal
Asbestosis	Scarring of the lung tissue. Progressive disease causing shortness of breath	Very debilitating. Fatal in extreme cases
Diffuse pleural thickening	The lining of the lung (pleura) thickens and swells causing shortness of breath and discomfort in the chest	Not fatal

The person in control of maintenance activities in non-domestic premises, (e.g. occupier, landlord, or managing agent) has a **duty to manage** the risk from asbestos in the premises, and to ensure that a suitable and sufficient assessment is carried out as to whether asbestos is or is liable to be present in the premises.

The duty to manage requires the duty holder to:

- take reasonable steps to find out if ACM are present and if so establish the amount, its condition and location;
- presume materials contain asbestos unless there is strong evidence that they do not;
- make, and keep up-to-date, records of the location and condition of the ACM and presumed ACM;
- assess the risk of anyone being exposed to fibres from the materials identified;
- prepare a plan that sets out in detail how the risks from these materials will be managed;
- take the necessary steps to put the plan into action;
- periodically review and monitor the plan and the arrangements to act on it so that the plan remains relevant and up-to-date; and
- provide information on the location and condition of the materials to anyone who is liable to work on or disturb them.

Chemicals

The Control of Substances Hazardous to Health Regulations (CoSHH) requires the management of risks associated with chemicals, products containing chemicals, fumes, dusts, vapours, mists and gases, and biological agents (bacteria and viruses etc.) in use or otherwise affecting the workplace if deemed to be 'hazardous to health'.



CoSHH doesn't cover lead, asbestos or radioactive substances because these have their own specific regulations.

What is a hazardous substance?

- Any substance or mixture which is classified as dangerous for supply;
- Any substance which has a Workplace Exposure Limit (WEL);
- Any biological agents used at work;
- Any dust other than one with a WEL at a concentration in air above 10 mg/m³ averaged over 8 hours, or any such respirable dust above 4 mg/m³ over 8 hours; or

- Any other substance that creates a risk to health because of its properties and the way it is used or is present in the workplace

There are five main '**routes of entry**' into the human body:

- **Breathing in** Once breathed in, some substances can attack the nose, throat or lungs while others get into the body through the lungs and harm other parts of the body, e.g. the liver.
 - **Skin contact** Some substances damage skin, while others pass through it and damage other parts of the body. Skin can get contaminated: by direct contact with the substance, e.g. if you touch it or dip your hands in it; by splashing; by substances landing on the skin, e.g. airborne dust; or by contact with contaminated surfaces – this includes contact with contamination inside protective gloves.
 - **Swallowing** People transfer chemicals from their hands to their mouths by eating, smoking etc without washing first.
 - **The eyes** Some vapours, gases and dusts are irritating to eyes. Caustic fluid splashes can damage eyesight permanently.
- Skin puncture** Risks from skin puncture such as butchery or needle-stick injuries are rare, but can involve infections or very harmful substances, e.g. drugs.

Hierarchy of Practical Control Measures

- Eliminate the use of a harmful product or substance and use a safer one;
- Use a safer form of the product, e.g. paste rather than powder;
- Change the process to emit less of the substance;
- Enclose the process so that the product does not escape;
- Extract emissions of the substance near the source;
- Have as few workers in harm's way as possible; and
- Provide personal protective equipment (PPE) such as gloves, coveralls and a respirator. PPE must fit the wearer.

If several control measures are implemented steps should be taken to ensure they all work together.

Drugs and Alcohol

The misuse of drugs (illegal, prescription, or industrial substances such as solvents) and alcohol can damage individual health and cause difficulties for employers because of increased absenteeism and reduced productivity.



The approach to tackling workplace problems with drugs and/or alcohol involves:

- A clear policy (introduced after consultation with the workforce);
- Screening; and
- Support and/or discipline.

Policy

A drugs and alcohol policy applying to all staff should form part of the overall health and safety policy. As a minimum, the policy should:

- Clearly state the standards of acceptable behaviour expected of all employees;
- Apply equally to all management levels;
- Address issues in the workplace that may contribute to increased levels of drug / alcohol use;
- Be primarily non-punitive;
- Clearly state the behaviours likely to lead to disciplinary action;
- Provide for rehabilitation and treatment of affected employees;
- Be communicated effectively to all employees; and
- Be periodically reviewed and amended as necessary.

Screening

Screening can be a very sensitive issue. No one can be tested against their will, however once testing has been introduced, a refusal can lead to disciplinary action.

Careful consideration needs to be given to arrange of issues including:

- the availability of suitable, reliable screening techniques;
- who will be screened and when (totally random, after an incident, suspicious behaviour); and
- what happens in the case of a positive result?

Support and/or Discipline

The balance between support and discipline must be consistent with the messages in the policy. In general the approach should be supportive rather than punitive.

Support services include:

- Tackling workplace stress issues that might be leading to substance misuse;
- Counselling and rehabilitation; and
- Referrals for specialist medical support.

There will however be circumstances in which a breach of the drugs and alcohol policy would be deemed misconduct or gross misconduct, and these circumstances and the potential disciplinary consequences should be clear. The drugs and alcohol policy will need to coordinate with the organisations disciplinary policy.

ENVIRONMENTAL

Carbon Monoxide (CO)

Exposure

Carbon monoxide (CO) is a colourless, odourless, tasteless, poisonous gas produced by incomplete burning of carbon-based fuels, including gas, oil, wood and coal. It is a by-product of mining, smelting, foundry work, and petrochemical processes.

Health Effects

Haemoglobin in the red blood cells bonds with carbon monoxide (in preference to oxygen) to create carboxyhaemoglobin resulting in a diminished capacity to carrying oxygen within the blood.

Early symptoms of carbon monoxide (CO) poisoning can easily be confused with food poisoning, 'flu', or tiredness. Symptoms include: headaches, breathlessness, nausea, dizziness, collapse, loss of consciousness, tiredness, drowsiness, vomiting, chest pains, stomach pains, erratic behaviour and visual problems.

Prolonged exposure to high levels of CO can cause paralysis, brain damage and death.

Control measures

- The use of gas safe registered heating engineers to install, service, modify, and maintain gas fired heating equipment;
- Ensuring that exhaust disperse to atmosphere;

- Working in well ventilated areas; and
- The use of CO alarms to provide early warnings.

Computer Workstations

Display Screen Equipment is a broad term covering any work equipment with a screen that displays information. A common example is the visual display unit (VDU) or computer screen.

There are a range of ergonomic hazards associated with the use of desktop and laptop computer equipment, notably: poor posture; repetitive keyboard use; and the distance between the user's eyes and the screen.

Health surveys have found that high proportions of DSE workers report aches, pains or eye discomfort. Mostly these conditions are not serious, but as so many people are potentially affected it makes sense to avoid them as far as possible.

The main types of harm caused by computer use are:

- Musculoskeletal disorders including back pain and work related upper limb disorders (WRULDS) (also known as repetitive strain injury or RSI);
- Visual fatigue; and
- Mental stress.

The Display Screen Equipment Regulations require employers to:

Analyse workstations, and assess and reduce risks

The assessment should consider:

- the whole workstation including equipment, furniture, and the work environment;
- the job being done; and
- the individual staff, and their specific needs.

Employees or their representatives should be encouraged to participate in risk assessments. Where risks are identified, the employer should take steps to reduce them.

Ensure workstations meet minimum requirements

Basic good features that should be found in a workstation, such as adjustable chairs and suitable lighting are set out in a schedule to the Regulations, covering screens, keyboards, desks, chairs, the work environment and software.

- Adequate lighting
- Adequate contrast, no glare or distracting reflections
- Distracting noise minimised
- Leg room and clearances to allow postural changes
- Window covering if needed to minimise glare
- Software: appropriate to task, adapted to user, providing feedback on system status, no undisclosed monitoring
- Screen: stable image, adjustable, readable, glare/reflection-free
- Keyboard: usable, adjustable, detachable, legible
- Work surface: with space for flexible arrangement of equipment and documents; glare-free
- Chair: stable and adjustable
- Footrest if user needs one



Computer Workstation

Plan work so there are breaks or changes of activity

The Regulations do not specify the timing or length of rest breaks or activity changes.

However, in general terms, short, frequent breaks are better than longer, less frequent ones, and where possible the individual should have some discretion over when to take breaks.

On request arrange eye tests, and provide spectacles

Any employee who works regularly with display screen equipment can ask their employer to provide and pay for an eye and eyesight test.

Employers also have to pay for spectacles if special ones (e.g. prescribed for the distance at which the screen is viewed) are needed and normal ones cannot be used.

Provide health and safety training and information

Employers have to provide employees with training on how to set up and safely use all equipment provided within the workstation and health and safety information detailing the concerns and the precautions to be taken.

Confined Spaces

A 'confined space' is a space which is substantially (though not always entirely) enclosed; and presents one or more 'specified risks'.

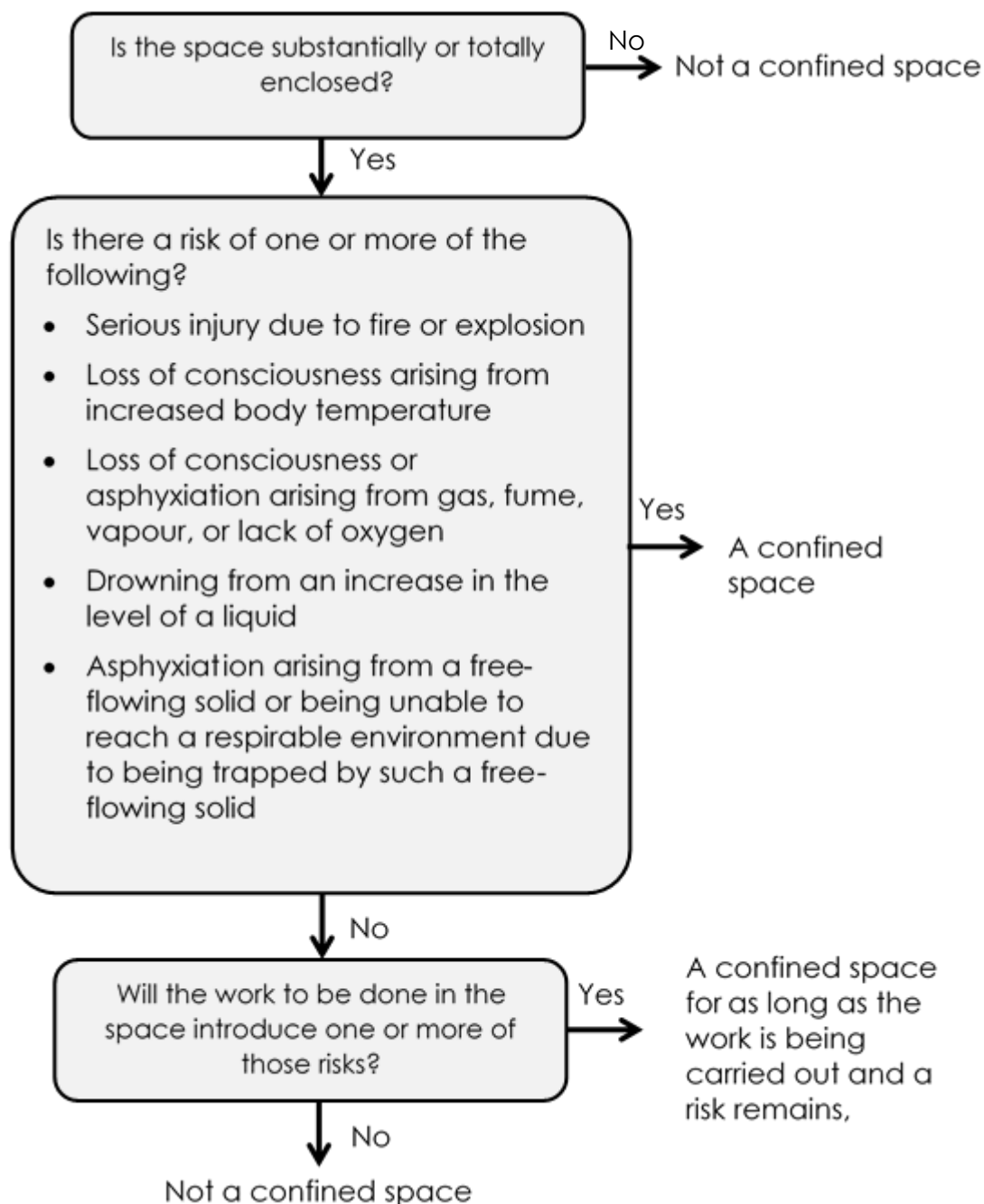
Examples of confined spaces include:

- Ducts, culverts, tunnels, boreholes, bored piles, manholes, shafts, excavations and trenches, sumps, inspection and under-machine pits;
- Freight containers, ballast tanks, ships' engine rooms and cargo holds;
- Buildings, building voids and some enclosed rooms (particularly plant rooms) and compartments within them; and
- Interiors of machines, plant or vehicles.



As for all work activities, a suitable and sufficient risk assessment must be made of all works to be undertaken within a confined space. If the risk assessment identifies any risks of serious injury from work in confined spaces, such as those highlighted above, the following key steps must be taken:

- avoid entry to confined spaces, e.g. by doing the work from outside;
- if entry to a confined space is unavoidable, follow a safe system of work; and
- put in place adequate emergency arrangements before the work starts.



Getting In and Out (Access and Egress)

The Health and Safety at Work Act places a general duty on employers to ensure, so far as is reasonably practicable, a safe means of access to and egress from any workplace

This covers the basic means of entering or leaving a workplace, be it an office, factory or construction site including the journey between the site access or staff car park and reception.

The following will therefore require consideration:

- Suitability of external lighting;
- Conditions of roads and pathways;
- Provision of signage;
- Safety of visitors;
- Safety of disabled persons;
- Protection of pedestrians from vehicles;
- Procedures for dealing with snow and ice; and
- Emergency situations.

The general duty also applies to safe means of access to and from specific places of work within the general workplace, e.g. a confined space, work at height such as on a rooftop, or a work vehicle.

Heights

The Work at Height Regulations 2005 state that a place is 'at height' if a person could be injured falling from it, even if it is at or below ground level.



Falls from height are the biggest work place killer and the second biggest cause of major accidents in the UK. Typically there are around 40 fatalities and over 4000 major injuries caused by falls from height each year. Almost 90% of major injuries are caused by low falls, i.e. those less than 2 metres.

The main types of fall from height accidents reported to the HSE are:

- Falls from ladders;
- Falls from machinery;
- Falls from open edges;
- Falls through roof lights; and
- Falls through fragile roofs.

Investigations show that the causes of fall from height accidents are usually attributable to poor management control rather than equipment failure.

The most common factors involve failure to:

- recognise a problem;
- provide safe systems of work;
- ensure that safe systems of work are followed;
- provide adequate information, instruction, training or supervision;

- use appropriate equipment; and
- provide safe equipment.

Employers are required to do all that is reasonably practicable to prevent anyone falling. This is achieved through ensuring that:

all work at height is properly planned and organised;

- those involved in work at height are competent;
- the risks from work at height are assessed and appropriate work equipment is selected and used;
- the risks from fragile surfaces are properly controlled; and
- equipment for work at height is properly inspected and maintained.

There is a simple hierarchy for managing and selecting equipment for work at height:

- avoid work at height where it can be avoided;
- use work equipment or other measures to prevent falls where working at height cannot be avoided; and
- where the risk of a fall cannot be eliminated, use work equipment or other measures to minimise the distance and consequences of a fall should one occur.

Housekeeping

Housekeeping is not just cleanliness. It includes:

- keeping work areas neat and tidy;
- keeping walkways free of slip and trip hazards; and
- removing of waste materials (e.g., paper, cardboard) and other fire hazards from work areas.



It also requires attention to be paid to workplace design and layout; the adequacy of storage facilities; and maintenance.

The Workplace (Health, Safety and Welfare) Regulations requires that:

- Workplace floors be kept free from obstructions and from any article or substance that may cause a person to slip, trip or fall;
- walls, floors, furniture and fittings be kept clean; and

- that waste materials are not allowed to accumulate in a workplace except in suitable receptacles.

Most of these requirements are addressed elsewhere within the course.

Lighting

Good lighting at work is important to ensure the efficient identification and avoidance of hazards in the workplace.

Poor lighting can cause eyestrain, migraine and headaches, and is also linked to Sick Building Syndrome in new and refurbished buildings.



Different levels of lighting are required for different types of work. In general, the more detailed the task, the greater the light requirement. A process control room should be lit at an illuminance of 300 lux, a corridor or walkway may only require 50 lux, whilst studying an engineering drawing may require 750 lux.

Noise

Noise is any sound that is loud, unpleasant, or undesired, where sound is vibration energy that passes through air (or other media) and is received by the ear, stimulating the auditory nerves and producing the sensation of hearing.

The energy produced when something vibrates produces sound waves that have a definite pattern.

The wave length determines the pitch of the sound. Long, slow waves are a low pitch (like a fog horn). Short, fast waves are a high pitch (like a whistle). Frequency is measured in hertz (Hz), or waves per second. The slowest, lowest sound a human can hear is approximately 20 Hz. The highest sound a human can hear is approximately 20,000 Hz (or 20 kilohertz - kHz).

The strength or loudness of a sound is determined by the amplitude or height of the sound waves. Tall waves are loud; short waves are quiet. Tall, fast waves are a rattle. Short, long waves are a hum.

Loudness is measured in decibels (dB). The scale runs from 0 (zero) which is the threshold of hearing to 140 which is the threshold of pain.

The decibel scale is logarithmic in nature. This means that a 10dB increase is actually 10x louder, so 80dB is 10x louder than 70dB; and a 3dB increase is a doubling in loudness so 73dB is twice as loud as 70dB.

Health Effects of Noise

Noise at work can cause hearing loss that can be temporary or permanent.

Temporary deafness is often experienced after leaving a noisy place. Although hearing typically recovers within a few hours it should not be ignored. Continued exposure to high levels of noise can permanently damage hearing.

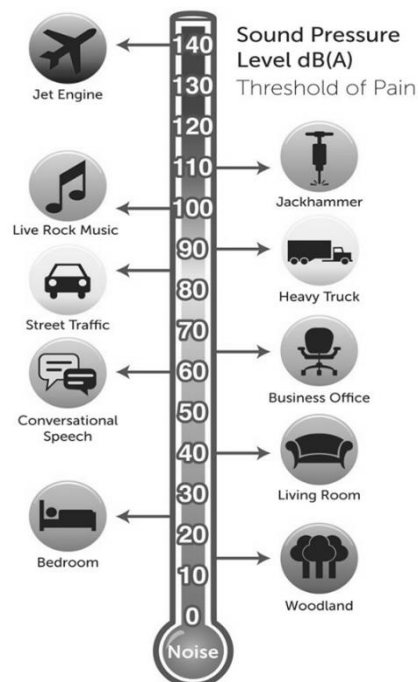
Permanent hearing damage can be caused in two ways:

- Sudden, extremely loud, explosive noises, e.g. from cartridge-operated machines can cause immediate permanent damage. This is often referred to as blast deafness or acoustic trauma.
- Usually hearing loss occurs gradually because of prolonged exposure to noise. It may only be when damage caused by noise over the years combines with hearing loss due to ageing that people realise how deaf they have become.

Tinnitus (ringing, whistling, buzzing or humming in the ears), may also be caused as a result of exposure to workplace noise.

Noise Action Levels

There are three noise action levels defined in the Noise at Work Regulations. At each level the employer is required to take certain steps to reduce the harmful effects of noise on hearing.



The Decibel Scale

Noise Action Levels	Daily / weekly average	Employers Duties
Lower exposure action value	80 dB(A)	• Provide information and training • Make hearing protection available
Upper exposure action value	85 dB(A)	• Take reasonably practicable measures to reduce noise exposure (engineering controls / technical measures) • Provision of mandatory hearing protection pending engineering controls and, where necessary, after engineering controls
Exposure limit value	87 dB(A)	• This level must not be exceeded, taking hearing protection into account

Noise Action Values

Control Measures

Noise control strategies involve controls at

- the source,
- the pathway and
- the receiver.

Control the noise at **source**:

- Replace the machine with one with lower noise emissions;
- Move the machine to an area with fewer employees;
- Ensure the machine is being properly maintained; and
- Modify parts of the machine, e.g. by replacing components with ones designed to operate more quietly:
- Isolate panels or add damping materials to them;
- Isolate the machine from the building with isolation mounts or isolated foundations; and
- Fit appropriate silencers to air inlets and exhausts.

Control the **path** of the noise:

- Fit a suitably designed enclosure around a machine if it does not require 'hands on' operation;

- Provide a noise haven for employees supervising the operation of large machines where enclosing the whole machine would be difficult;
- Erect barriers or screens between different elements in the production process, separating quiet operations from noisy ones; and
- Add absorptive materials to the building to reduce reverberant noise (echoes).

Control noise at the **receiver**:

The receiver can be protected from the effects of noise by: positioning (distance); reduction of the time exposed; or provision of PPE.

- Position the worker further away from the source of noise (Doubling the distance can reduce the effect of the noise by 3 to 6 dB). Noise energy diminishes in accordance with the inverse square rule.
- Except for very loud noises (130dB+) it is the accumulated dose that causes hearing loss. Halving the time exposed will reduce the dose received by half (3dB).
- Personal hearing protection (PHP) should be provided quickly on discovering a risk to health due to noise. It is not an alternative to technical and organisational noise controls but a means of managing the immediate risk pending the development of other control measures. Longer term, it should be used where there is for additional protection beyond what has been achieved through noise control. Hearing protectors should be CE marked, in good condition, the correct size and worn properly.

Solar Radiation

Exposure to ultraviolet (UV) radiation from the sun can cause skin damage including sunburn, blistering, skin ageing and in the long term can lead to skin cancer. Skin cancer is the most common form of cancer in the UK, with over 40 000 new cases diagnosed each year. UV radiation should be considered an occupational hazard for people who work outdoors.

The Sun Protection Six-Point Guide

1. Keep your top on. Clothing forms a barrier to the sun's harmful rays – especially tightly woven fabrics.
2. Wear a hat with a brim or flap that covers the ears and the back of the neck – these areas can get easily sunburnt.
3. Stay in the shade whenever possible, during your breaks and especially at lunchtime.
4. Use a high factor sunscreen of at least SPF15 on any exposed skin. Apply as directed on the product.

5. Check your skin regularly for any unusual moles or spots. See a doctor promptly if you find anything that is changing in shape, size or colour, itching or bleeding.

Temperature

The Workplace (Health, Safety and Welfare) Regulations 1992 state that:

"During working hours, the temperature in all workplaces inside buildings shall be reasonable."

What is reasonable depends on the nature of the workplace, e.g. expectation in an office will be different than in a warehouse.

The ACoP states that the

"temperature in workrooms should normally be at least 16°C unless much of the work involves severe physical effort in which case the temperature should be at least 13°C. These temperatures may not, however, ensure reasonable comfort, depending on other factors such as air movement and relative humidity."

Thermal comfort is affected by more than just the room temperature. Whether a person feels too hot or too cold depends on a combination of environmental factors, including the temperature, sources of heat and relative humidity and personal factors such as the level of physical activity and the amount of clothing being worn.

The HSE have defined thermal comfort in the workplace, as:

"An acceptable zone of thermal comfort for most people in the UK lies roughly between 13°C (56°F) and 30°C (86°F), with acceptable temperatures for more strenuous work activities concentrated towards the bottom end of the range, and more sedentary activities towards the higher end."

The further outside this range the working temperature is the more likely that harm will be caused. Heat stress and cold stress can both result in serious health problems.

Control measures for maintaining thermal comfort include:

- Appropriate timing – if the temperature fluctuates between comfortable and uncomfortable;
- Climate control by air warming, cooling or conditioning;
- Local heating, cooling or ventilation equipment;
- Suitable thermally protective clothing;
- Rest facilities with means for warming or cooling; and
- Work planning (e.g. task rotation) to limit the time that individual workers are exposed to uncomfortable temperatures.

ORGANISATIONAL

Aggression and Violence

The HSE has defined work-related violence as:

“any incident in which a person is abused, threatened or assaulted in circumstances relating to their work.”

Workers who deal directly with clients or customers may face aggressive or violent behaviour including verbal abuse, threats of violence and physical attacks. Fortunately physical attacks are comparatively rare.

Workers engaged in the following areas of work are most at risk of occupational violence:

- Giving a service;
- Caring;
- Education;
- Cash transactions;
- Delivery/collection;
- Controlling; and
- Representing authority.



Effects of Workplace Violence

Workplace violence can have negative effects for the victim but also for the employing organisation.

For employees

- Pain, distress and even disability or death.
- Psychological effects following violence may include:
 - Insomnia;
 - Stress;
 - Anxiety;
 - Irritability;
 - Loss of confidence;
 - Agoraphobia.

For employers

- Poor morale.
- Poor corporate image.
- Difficulty with staff recruitment and retention.
- Extra costs from absenteeism, higher insurance premiums and compensation payments.

Managing Workplace Violence

The first stage of a programme for managing workplace violence is to determine whether there is a problem, and if there is to assess the level of risk.

This can be accomplished through discussions with staff and the introduction of systems for the reporting and recording of violent incidents.

If there is a problem appropriate control measures should be devised, introduced and monitored to assure effectiveness.

Control measures will usually involve a combination of measures to:

- Improve the working environment;
- Designing the job to reduce risk; and
- Providing staff with appropriate information and training.

Controls will vary depending on the areas of work. Some examples of effective control measures are given below.

Environment	Job Design	Training and Information
In hospital A&E waiting rooms comfortable seating, better lighting, pleasant décor, means of passing the time and regular updates on waiting times has been seen to be effective. In banks and bookmakers, the design of service counters can have an impact with wider counters and raised floors on the staff side of the counter offering staff improved protection. Physical security measures such as video cameras, alarm systems and coded security locks on doors may also be useful.	Reducing the levels of cash handled and stored will reduce the risk of robbery. Avoiding lone working situations and improving systems for tracking field based staff	Information systems can be used to forewarn staff of potentially violent clients. Training can be given to enable staff to understand the triggers for violent behaviour, to avoid confrontation, to defuse situations, and if necessary to physically defend themselves or restrain an aggressor.

Bullying

ACAS (Advisory, Conciliation and Arbitration Service) has defined bullying as:

"offensive, intimidating, malicious or insulting behaviour, an abuse or misuse of power through means intended to undermine, humiliate, denigrate or injure the recipient."



The TUC (Trades Union Congress) has identified several bullying behaviours, including: shouting at staff; deliberately excluding someone from work activities; blocking promotion; setting up someone to fail through unrealistic targets or deadlines; and regularly making someone the butt of jokes.

Stress

A degree of stimulation or pressure in the workplace is beneficial; however, when that pressure is excessive and results in ill-health stress occurs.

The HSE (2007) have defined stress as:



"Stress is the adverse reaction people have to excessive pressures or other types of demand placed on them."

Research provides strong links between stress and:

1. Physiological (or physical) effects such as heart disease, back pain, headaches, gastrointestinal disturbances or various minor illnesses;
2. Emotional effects such as moodiness, irritability, anxiety and depression; and
3. Behavioural effects including eating more or less; sleeping too much or too little; procrastinating or neglecting responsibilities; using alcohol, cigarettes, or drugs to relax; and nervous habits (e.g. nail biting, pacing).

The HSE have developed management standards to help reduce levels of occupational stress. The Management Standards define the characteristics of an organisation where the risks from work-related stress are being effectively managed. The standards cover six primary sources of stress at work.

Demands

Management standard

- employees indicate that they can cope with job demands; and
- systems are in place locally to respond to any individual concerns

Desirable conditions

- realistic and achievable demands for the agreed hours of work;
- skills and abilities are matched to the job demands;
- jobs are designed to be within the capabilities of employees; and
- employees' concerns about their work environment are addressed

Control

Management standard

- employees indicate that they can have a say about the way they do their work; and
- systems are in place locally to respond to any individual concerns

Desirable conditions

- employees have control over their pace of work;
- employees are encouraged to use their skills and initiative;
- the organisation encourages employees are encouraged to develop new skills and undertake new challenges
- employees have a say over when breaks can be taken; and
- employees are consulted over their work patterns

Support

Management standard

- employees indicate that they receive adequate information and support from their colleagues and superiors; and
- systems are in place locally to respond to any individual concerns

Desirable conditions

- policies and procedures are in place to adequately support employees;
- systems enable and encourage managers to support their staff;
- systems enable and encourage employees to support their colleagues;
- employees know what support is available and how to access it;
- employees know how to access resources to do their job; and
- employees receive regular and constructive feedback

Relationships

Management standard

- employees indicate that they are not subjected to unacceptable behaviours, e.g. bullying at work; and
- systems are in place locally to respond to any individual concerns.

Desirable conditions

- the organisation promotes positive behaviours at work to avoid conflict and ensure fairness;
- employees share information relevant to their work;
- policies and procedures are in place to prevent or resolve unacceptable behaviour;
- systems enable and encourage managers to deal with unacceptable behaviour; and
- systems enable and encourage employees to report unacceptable behaviour.

Role

Management standard

- employees indicate that they understand their role and responsibilities; and
- systems are in place locally to respond to any individual concerns.

Desirable conditions

- the organisation ensures that, as far as possible, the different requirements it places upon employees are compatible;
- employees are clearly informed of their role and responsibilities;
- the organisation ensures that, as far as possible, the requirements it places upon employees are clear; and
- employees can raise concerns about any uncertainties or conflicts they have in their role and responsibilities.

Change

Management standard

- employees indicate that the organisation engages them frequently when undergoing an organisational change; and
- systems are in place locally to respond to any individual concerns.

Desirable conditions

- timely information is provided to enable employees to understand the reasons for proposed changes;
- employees are adequately consulted on changes and given opportunities to influence proposals;
- employees are aware of the probable impact of any changes to their jobs and given necessary support and training to adapt;
- employees are aware of timetables for changes; and
- employees have access to relevant support during changes.

Module 4: Improving Safety Performance

Learning Outcomes

- Identify everyone's responsibilities in relation to safety, health and wellbeing in the workplace
- Define key terms in safety and health
- Identify ways safety, health and wellbeing are managed and improved within the workplace

WHAT AN ORGANISATION CAN DO TO MANAGE AND IMPROVE SAFETY AND HEALTH IN THE WORKPLACE

Planning is the key to ensuring health and safety arrangements really work. It helps to think through the actions set out in the policy and work out how they will happen in practice. An organisation should consider:

- What it wants to achieve, e.g. how it will ensure that its employees and others are kept healthy and safe at work;
- How it will decide what might cause harm to people and whether it is doing enough or needs to do more to prevent that harm;
- How it will prioritise the improvements it may need to make;
- Who will be responsible for health and safety tasks, what they should do, when and with what results;
- How it will measure and review whether it has achieved what it set out to do.

WORKER RESPONSIBILITIES FOR IMPROVING SAFETY AND HEALTH IN THE WORKPLACE

Workers can contribute to the improvement effort by being aware of their legal responsibilities:

- Follow the training you have received when using any work items your employer has given you.
- Take reasonable care of your own and other people's health and safety.
- Co-operate with your employer on health and safety.
- Tell someone (your employer, supervisor, or health and safety representative) if you think the work or inadequate precautions are putting anyone's health and safety at serious risk.

HOW ATTITUDE AND BEHAVIOUR CAN AFFECT SAFETY AND HEALTH IN THE WORKPLACE

People are involved in all aspects of work. Human factors are concerned with three interrelated areas:

- What people are being asked to do (the job and its characteristics);
- Who is doing it (the individual and their competence);
- Where they are working (the organisation and its attributes).

The organisation

This includes work patterns, the culture of the workplace, resources, communications, leadership etc. Such factors are often overlooked during the design of jobs but have a significant influence on individual and group behaviour.

The job

This includes the nature of the task, the workload, the working environment, the design of displays and controls, and training to carry out the job.

The individual

This includes their competence, skills, personality, attitude, and risk perception.

Individual characteristics influence behaviour in complex ways. Other things that can influence attitude and behaviour are levels of supervision, time allowed for work, peer pressure etc.

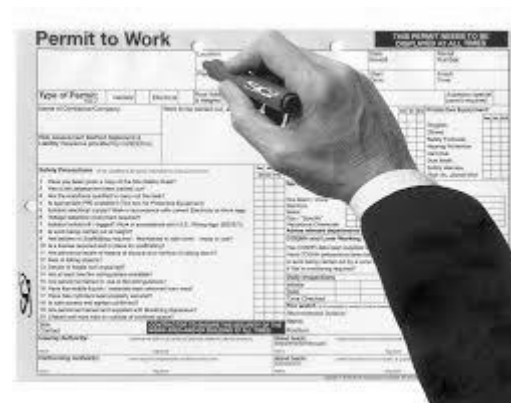
WHAT A SAFE SYSTEM OF WORK IS

A safe system of work is a procedure that results from a systematic examination of a working process, that identifies hazards and specifies work methods designed either to eliminate the hazards or controls and minimise the relevant risks. It's a guide or set of instructions for doing a task right, first time, every time.

WHAT A 'PERMIT TO WORK' IS

A permit-to-work system is a formal recorded process used to control work which is identified as potentially hazardous. It is also a means of communication between site/installation management, plant supervisors and operators and those who carry out the hazardous work.

The terms 'permit-to-work', 'permit' or 'work permit' refer to the paper or electronic certificate or form which is used as part of an overall system of work, and which has been devised by a company to meet its specific needs.



HOW SAFETY SIGNS CAN PLAY AN IMPORTANT PART IN COMMUNICATING SAFETY AND HEALTH INFORMATION

Employers must provide safety signs if there is a significant risk that can't be avoided or controlled in any other way, such as through safe systems of work or engineering controls.

There is no need to provide safety signs if they don't help reduce the risk or if the risk isn't significant. This applies to all places and activities where people are employed.

Employers must, where necessary:

- Use road traffic signs in workplaces to regulate road traffic;
- Maintain the safety signs they provide;
- Explain unfamiliar signs to their employees and tell them what they need to do when they see safety signs.

Types and Colours

Write what each sign denotes in the space below:









USING PERSONAL PROTECTIVE EQUIPMENT (PPE)

Personal protective equipment (PPE) is equipment that will protect the user against health or safety risks at work. It can include items such as safety helmets, gloves, eye protection, high-visibility clothing, safety footwear, safety harnesses and respiratory protective equipment (RPE).

PPE should only be used as a last resort. Making the workplace safe includes providing instructions, procedures, training and supervision to encourage people to work safely and responsibly. Even where engineering controls and safe systems of work have been applied, some hazards might remain. PPE is needed in these cases to reduce the risk.

General advice on PPE:

- Products should be CE marked in accordance with the Personal Protective Equipment Regulations 2002.
- Equipment should suit the user – consider the size, fit and weight of the PPE. If the users help choose it, they will be more likely to use it.
- Never use your own PPE from home or from your last job.
- Never allow exemptions from wearing PPE for those jobs that 'only take a few minutes'.
- If more than one item of PPE is worn at the same time, make sure they can be used together, e.g. wearing safety glasses may disturb the seal of a respirator, causing air leaks.
- Workers should be instructed and trained in how to use it, e.g. train people to remove gloves without contaminating their skin. Tell them why it is needed, when to use it and what its limitations are.

PERSONAL HYGIENE

Substances can be a hazard to health when they are transferred from workers' hands onto food, cigarettes etc and so taken into the body. This can be avoided by good personal hygiene, eg by:

- washing hands and face before eating, drinking and smoking and before, as well as after, using the toilet;
- eating, drinking and smoking only away from the work area.

In cases where clothing may become contaminated, people should change out of this clothing before eating and drinking.

Those at risk should be informed about the hazards. They should be provided with good washing facilities and somewhere clean to eat meals. Good clean welfare facilities can play an important part in protecting the health of everyone involved in the work.

THE SAFETY AND HEALTH OF OTHER PEOPLE WHO MAY COME ON SITE, INCLUDING CONTRACTORS, VISITORS AND MEMBERS OF THE PUBLIC

An organisation is responsible for the safety and health of **anyone** who is on its premises. If there are contractors working on site, then both the organisation and the contractor will have duties under health and safety law. This also applies when a contractor employs subcontractors.



When conducting risk assessments, organisations need to consider:

- Maintenance workers, contractors and other visitors or members of the public who could be exposed to hazards.
- People who could be exposed accidentally, e.g. while cleaning, or what happens if controls fail.

THE ROLE OF SAFETY COMMITTEES AND WORKER REPRESENTATIVES IN SAFETY AND HEALTH

Workplaces where employees are involved in taking decisions about health and safety are safer and healthier. Collaboration with employees helps to manage health and safety in a practical way by:

- Helping spot workplace risks;
- Making sure health and safety controls are practical;
- Increasing the level of commitment to working in a safe and healthy way;
- Providing feedback on the effectiveness of health and safety arrangements and control measures.



Organisations must consult employees, in good time, on health and safety matters. In workplaces where a trade union is recognised, this will be through union health and safety representatives. In non-unionised workplaces, organisations can consult either directly or through other elected representatives.

Representatives' main role is to talk to their employer about issues affecting the health and safety of employees they represent in the workplace. Organisations should ensure that any representatives receive paid time off during normal working hours so they can carry out their duties. They should also receive suitable training and access to any facilities needed to help them in their role.

Consultation involves employers not only giving information to employees but also listening to them and taking account of what they say before making decisions on health and safety. Organisations have to give employees or their representatives information to allow full and effective participation in consultation. This should include:

- risks arising from their work;
- proposals to manage and/or control these risks;
- what to do if employees are exposed to a risk;
- the best ways of providing information and training.

TYPES OF WORKPLACE INSPECTIONS

Formal inspections can take different forms and organisations and their representatives will need to agree the best methods for their workplace. Here are some of the ways inspections can take place.



- Safety tours - general inspections of the workplace
- Safety sampling - systematic sampling of dangerous activities, processes or areas
- Safety surveys - general inspections of dangerous activities, processes or areas
- Incident inspections carried out after an accident causing a fatality, injury, or near miss, which could have resulted in an injury, or case of ill health and has been reported to the health and safety enforcing authority.

EMERGENCY PROCEDURES

Workplaces need a plan for emergencies that can have a wider impact. Special procedures are needed for emergencies such as serious injuries, explosion, flood, poisoning, electrocution, fire, release of radioactivity and chemical spills.

Quick and effective action may help to ease the situation and reduce the consequences. However, in emergencies people are more likely to respond reliably if they:

- are well trained and competent;
- take part in regular and realistic practice;
- have clearly agreed, recorded and rehearsed plans, actions and responsibilities.

Organisations should write an emergency plan if a major incident at the workplace could involve risks to the public, rescuing employees or co-ordinating emergency services.

Where an organisation shares a workplace with another employer, it should consider whether emergency plans and procedures should be co-ordinated.

WHAT IS MEANT BY THE TERMS 'INCIDENT', 'ACCIDENT' AND 'NEAR MISS'

The investigation and analysis of work-related accidents and incidents forms an essential part of the management of health and safety. Learning lessons from experience is critical to preventing future accidents and incidents.

Carrying out an accident investigation provides a deeper understanding of the risks associated with work activities. Learning what went wrong enables improvements to risk control measures, and management arrangements for supervision and monitoring etc.

Accident	Near miss	Incident
an undesired event that results in injury, ill health, or property damage	an undesired event that had the potential to cause injury, ill health or property damage, but did not	Many organisations use the term incident as a synonym for 'near miss', while other organisations use it as a 'catch all' covering both accidents and near misses. The HSE uses the term to cover near misses and undesired circumstances which are defined as <i>"a set of conditions or circumstances that have the potential to cause injury or ill health, e.g. untrained nurses handling heavy patients."</i>

REPORTING INCIDENTS, INCLUDING NEAR MISSES AND ACCIDENTS

Employers, self-employed persons, and persons in control of work premises, have legal duties under RIDDOR to report and record certain work-related accidents by the quickest means possible.

The following accidents must be reported:

1. Deaths – arising out of or in connection with work;
2. Specified non-fatal injuries – including:
 - a. bone fractures diagnosed by a registered medical practitioner other than to fingers, thumbs or toes; amputation of an arm, hand, finger, thumb, leg, foot or toe;
 - b. any injury diagnosed by a registered medical practitioner as being likely to cause permanent blinding or reduction in sight in one or both eyes; or
 - c. any crush injury to the head or torso causing damage to the brain or internal organs in the chest or abdomen;
 - d. Over-7-day injuries – where an employee or self-employed person is away from work or unable to perform their normal work duties for more than 7 consecutive days (Up until April 2012 this was over 3 day injuries);
 - e. Non-fatal injuries to non-workers - where any person not at work suffers (as a result of a work-related accident) an injury, and that person is taken from the site of the accident to a hospital for treatment in respect of that injury; or a specified injury on hospital premises;
3. Some work-related diseases - including:
 - a. occupational dermatitis, where the person's work involves significant or regular exposure to a known skin sensitiser or irritant;
 - b. Occupational asthma, where the person's work involves significant or regular exposure to a known respiratory sensitiser; or
 - c. Tendonitis or tenosynovitis in the hand or forearm, where the person's work is physically demanding and involves frequent, repetitive movements;
4. Dangerous occurrences – where something happens that does not result in an injury, but could have done, e.g.:
 - a. collapse, failure or overturning of lifting equipment; or
 - b. collision of a train with another vehicle; and
 - c. Gas Safe registered gas fitters must also report dangerous gas fittings they find, and gas conveyors/suppliers must report some flammable gas incidents.

The easiest way to report an accident, in most cases, is via the appropriate online report form at www.hse.gov.uk/riddor.

The form is submitted directly to the RIDDOR database and a copy is provided for the responsible persons records.

A telephone service is available for reporting fatal and major injuries only through the Incident Contact Centre on 0845 300 9923. The service is available during office hours - Monday to Friday 8.30 am to 5 pm.

The HSE has an out of hours duty officer available for responding in emergency situations such as:

- a work-related death;
- a serious accident with a need to collect physical evidence before it is lost with time; or
- a major incident where the severity of the incident, or degree of public concern, requires an immediate public statement from the HSE or government.

A suitable record should be kept of any reportable injury, disease or dangerous occurrence.

The record should include:

- the date and method of reporting;
- the date, time and place of the event;
- personal details of those involved; and
- a brief description of the nature of the event or disease.

The record can be kept in any suitable format, e.g.

- A file of hard copies of report forms;
- Electronic records on a computer; or
- Accident Book entries.

If the incident is reported by telephone or through the HSE web site, the ICC will send a copy of the record held within its database.

FIRST AID PROVISION

Organisations need to assess first-aid requirements to help decide what equipment and facilities are needed, and how many first-aid personnel it should provide. The minimum first-aid provision in any workplace is:

- a suitably stocked first-aid box;

- an appointed person to take charge of first-aid arrangements.

Organisations also need to put up notices telling employees where they can find:

- the first-aiders or appointed persons;
- the first-aid box.

The assessment may also indicate that it should provide a first-aid room, particularly where work involves certain hazards, including some of those found in chemical industries and on large construction sites.

If your work involves driving long distances or you are continuously on the road, the assessment may identify the need to keep a personal first-aid kit in the vehicle.

THE ROLE OF THE SAFETY AND HEALTH ENFORCEMENT INSPECTOR

The enforcement of health and safety depends upon the main activity undertaken at a place of work. The Health and Safety Executive typically enforces at higher risk workplaces such as construction sites and factories. Office of Rail and Road (ORR) enforces on the railways.

Local Authorities (usually Environmental Health Officers) enforce at lower risk premises such as retailers, offices etc.

All authorised inspectors have the same powers, regardless of the area of enforcement. Inspectors can:

- enter any premises which they think it necessary to enter for the purposes of enforcing health and safety law. The power of entry can be exercised without permission or prior notice, at any reasonable time or at any time if dangerous;
- take a police constable with them if they have reasonable cause for thinking they might be seriously obstructed;
- take any other person authorised by their enforcing authority, such as a specialist, and any equipment needed;
- order that areas be left undisturbed; take measurements, photographs and samples, carry out tests on, and/or confiscate articles and substances; and inspect and take copies of relevant documents;
- seize any article or substance which they have reasonable cause to believe presents an immediate danger of serious personal injury and have it made harmless, by destruction if necessary; and
- interview and take written statements from anyone they think might give them information relevant to their examination or investigation.

Inspectors have a range of enforcement options and tools available including:

- Simple Caution;
- Improvement Notice;
- Prohibition Notice; and
- Prosecution.

The best option(s) will be chosen in each case. There is no hierarchical escalation route from informal advice to prosecution.

Simple Caution

Based on level of risk and level of management cooperation an inspector may deal with a situation informally by verbal advice or an explanatory letter. Provided agreed actions are completed on time no formal action will be taken.

Improvement Notice

An improvement notice may be served whenever health and safety legislation is being contravened. An improvement notice will specify the breach of legislation and may specify a means of complying. It has to allow a reasonable time (minimum 21 days) to complete any specified works.

Any appeal against an improvement notice must be made to the Employment Tribunal with 21 days of the date of service. The requirements of the notice would be suspended until the appeal was heard.

The Employment tribunal may uphold, cancel or vary the improvement notice as a consequence of the appeal

Prohibition Notice

A prohibition notice may be issued when the inspector considers that there is a risk of serious personal injury. The notice prohibits the carrying on of the work activity giving rise to the risk of injury.

If the risk of injury is imminent, the notice must take immediate effect and stop the work activity at once. If not, the prohibition notice is deferred, specifying the time by which the work activity must cease.

Any appeal against a prohibition notice must be made to the Employment Tribunal with 21 days of the date of service. The notice would stay in effect until the appeal was heard.

Prosecution

Any breach of legislation may give rise to a prosecution in the criminal courts.

HEALTH SURVEILLANCE AND MONITORING

Health surveillance is any activity which involves obtaining information about employees' health and which helps protect employees from health risks at work.

The objectives for health surveillance are:

- Protecting the health of employees by early detection of adverse changes or disease;
- Collecting data for detecting or evaluating health hazards;
- Evaluating control measures.

As part of this process, workers may need to undergo a health check or complete a questionnaire to do with their health. They must also report any health problems that may be caused or made worse by work.

Employers need to keep an eye on workers long-term health by monitoring the results of health surveillance and monitor the workplace from time from time to assess if workplace measures are working properly.

Appendix 1 – Hazard Spotting Exercise

Identify 5 hazards from the photo on the next page.

Identify five hazards.



1.

2.

3.

4.

5.

Appendix 2 – Hazards and Controls Exercise

On the pages that follow, record some brief details about the hazards included in Module 3. An example has been provided to indicate the level of detail required for this exercise. Please note that this level of detail is for the purposes of the course exercise only – it would not be sufficient for a real risk assessment.

Hazard	Hazard Category Mechanical Physical Chemical Biological Environmental Organisational	Workplace Example	How can the hazard cause you harm?	What is the most suitable way of controlling the risk?
<i>Electricity</i>	<i>Physical</i>	<i>Overloaded sockets</i>	<i>Burns, shock</i>	<i>Install more sockets</i>
Plant & machinery				
Vehicles and transport				
Vibration				
Fire				

Hazard	Hazard Category Mechanical Physical Chemical Biological Environmental Organisational	Workplace Example	How can the hazard cause you harm?	What is the most suitable way of controlling the risk?
Manual handling				
Trips & slips				
Asbestos				
Chemicals				
Drugs and alcohol				
Carbon monoxide				
Computer workstations				

Hazard	Hazard Category Mechanical Physical Chemical Biological Environmental Organisational	Workplace Example	How can the hazard cause you harm?	What is the most suitable way of controlling the risk?
Confined spaces				
Getting in and out				
Heights				
House keeping				
Lighting				
Noise				
Solar radiation				

Hazard	Hazard Category Mechanical Physical Chemical Biological Environmental Organisational	Workplace Example	How can the hazard cause you harm?	What is the most suitable way of controlling the risk?
Temperature				
Aggression & violence				
Stress				

Appendix 3 Further Reading

1. indg163 Risk assessment - A brief guide to controlling risks in the workplace.
<http://www.hse.gov.uk/pubns/indg163.pdf>
2. Health and Safety Regulation...A Short Guide.
<http://www.hse.gov.uk/pubns/hsc13.pdf>
3. Reducing risks, protecting people. HSE's decision-making process.
<http://www.hse.gov.uk/risk/theory/r2p2.pdf>
4. HSG268 The health and safety toolbox
<http://www.hse.gov.uk/pubns/priced/hsg268.pdf>
5. HSG65 Managing for Health & Safety
<http://www.hse.gov.uk/pubns/priced/hsg65.pdf>
6. IOSH Website
<https://www.iosh.co.uk/>
7. HSE Website
<http://www.hse.gov.uk/>

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Appendix 4: Course Feedback

1. Would you recommend this course to others?

Yes

☐

No

☐

2. What's the best way we could improve the delivery, the booking procedure or anything about the course? Be as specific as you like...

--

3. Are there any other comments you would like to add? Please write below...

--

4. Your Name, Job Title and Company (only put this if you're OK with us using the information for testimonials on our website etc.)

Name	Job Title	Company

Intentionally Blank



STOCKWELL SAFETY

NEBOSH National General Certificate in Occupational Health and Safety

IOSH Managing Safely | Working Safely

Legionella Awareness and Control (ACoP L8)

PWTAG Pool Plant Operations | Foundation

Manual Handling

DSE Assessments

COSHH Training

First Aid at Work

Safety Audits

Bespoke health and safety training

We also provide health and safety and leisure water treatment consultancy services

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