

RISK ASSESSMENT

**DR. ALAN LE SERVE
LEAD CONSULTANT
COSHE**

WHAT IS RISK ASSESSMENT?

- A risk assessment is simply a careful examination of your workplace^{M1} to see what could cause harm to workers.
- You then weigh up whether you have taken enough precautions to prevent any harm coming to workers.
- If not, what other precautions should you take?

Slide 2

M1

added: 'place'
Michael, 07/11/2011

WHAT IS THE AIM OF A RISK ASSESSMENT?

- The aim of any risk assessment is to make sure that no one gets injured at work or becomes ill because of the conditions at work.
- Accidents and ill health at work can ruin lives and affect your business too if output is lost.
- In some countries you are legally required to assess the risks in your workplace.

RISK ASSESSMENT – TWO QUESTIONS

The most important things you have to decide on are:-

1. Is the hazard significant?
2. Have you taken sufficient precautions so that the risk to workers is low?

M2

Slide 4

M2

changed 'small' to 'low'

Michael, 07/11/2011

DEFINITIONS

- **HAZARD** – means anything that can cause harm to workers.
- **RISK** – is the chance, high or low, that somebody will be harmed by the hazard.

WHY DO WE NEED TO BOTHER?

- ILO estimates more than 2.3 million fatalities every year due to occupational accidents and work-related diseases.
- It is also estimated that more than 337 million workers sustain injuries and there are over 160 million cases of work-related diseases.
- Many accidents at work go unreported and most occupational diseases go undiagnosed, (SMEs and the informal sector) – there is gross under-reporting.
- It is estimated to cost countries 4% of GDP.
- The cost to workers and their families is incalculable!

SOME HAZARDS ARE OBVIOUS



WORKERS UNLOADING CEMENT FROM THE HOLD OF A SHIP



THE LOAD IS HEAVIER THAN THE WORKER



POOR HOUSEKEEPING ON BUILDING SITES AND INADEQUATE FOOTWEAR = INJURY AND POSSIBLE INFECTION.



UNGUARDED MACHINES ARE OBVIOUS



UNGUARDED MACHINES, DUST, WRONG FOOTWEAR, NO PPE

THE RESULTS ARE ALSO OBVIOUS AS SHOWN HERE



NO GUARD



SEWING NEEDLE IN THE FINGER

WORKER MIXING PESTICIDE WITHOUT PPE



THESE YOUNG WORKERS IN A BRAKE LINING FACTORY ARE USING ASBESTOS

SOME HAZARDS ARE NOT SO OBVIOUS – SUCH AS WITH THESE GARMENT WORKERS?



ALL LOOKS OK AT FIRST, BUT THERE IS DUST, LIGHTING AND ERGONOMIC HAZARDS, AND UNGUARDED MACHINES

THE NEXT SLIDE SHOWS SOME WOMEN WORKERS

DETERMINE WHO IS MOST AT RISK ?

- The worker who is spot cleaning in a garment factory?
- The worker sorting coal?
- The textile worker?
- The wood worker?
- The factory worker?
- Or the weaver?

GARMENT WORKER



SPOT CLEANING - SHE IS SPRAYING TRICHLOROETHYLENE WITH NO PPE. HER CLOTHES ARE SOAKED AND SHE IS PREGNANT.

COAL WORKER



LACKS PERSONAL PROTECTIVE EQUIPMENT.

TEXTILE WORKER



NO PPE AND COTTON WOOL IN EAR AS NOISE LEVELS > 85dBA.

WOOD WORKER



NO GUARD.

FACTORY WORKER



WEAVER



NO LOWER BACK SUPPORT.

FOR THESE WELDERS WHAT ARE THE MAIN HAZARDS AND WHO IS MOST AT RISK?



WHO'S ROLE IS IT TO IMPROVE OSH?

- The inspectorate from the Ministry/Department of Labour
 - Management
 - Workers
-
- In reality everyone has a role to play but, it must be stressed that it is the employers' responsibility to provide a safe and healthy workplace.

WHAT IS THE SITUATION IN THE CARIBBEAN?

- How many workplace accidents are there?
- How many industrial diseases are recorded? In many countries, most accidents and diseases at work go unrecorded. Some reasons are:
 - obsolete legislation covering few workers;
 - lack of awareness by employers and workers;
 - too few inspectors; and
 - lack of OSH training and equipment.

IN TRUTH, NO ONE KNOWS THE TRUE PICTURE.

AT WORK YOU SHOULD BE:



PROMOTION

PREVENTION

PROTECTION

REMEMBER – A HEALTHY AND SAFE WORKER IS
A MORE PRODUCTIVE WORKER!

WHAT TYPE OF HAZARDS ARE FOUND AT WORK?

Mechanical (machines, layout, housekeeping, etc)

Physical (noise, vibration, light, temperature, radiation, etc)

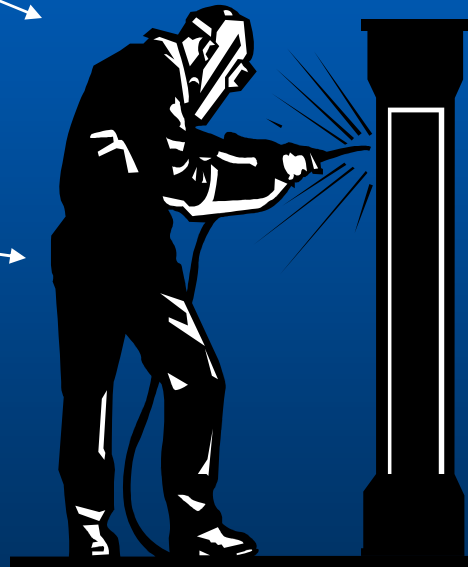
Chemical (dusts, fumes, vapours, etc)

Ergonomic

(Sitting, standing, lifting, etc.)

Biological (bacteria, viruses, etc)

Psycho-social (stress, etc)



HOW TO ASSESS THE RISKS IN YOUR WORKPLACE

There are five steps:

1. Look for hazards.
2. Decide who might be harmed and how.
3. Evaluate the risks and decide whether the existing precautions are adequate or whether more should be done.
4. Record your findings.
5. Review how successful the assessment is and revise if necessary.

STEP 1 – LOOK FOR HAZARDS

- Walk around the workplace and see what are the potential dangers that can harm workers.
- Ignore the trivial and concentrate on the most serious hazards which could result in major injury or affect several workers.
- It is good if managers and workers' representatives do this together – ask workers what they think and if they have noted any problems.
- Obtain manufacturers' instructions and MSDSs if possible.

STEP 2 – DECIDE WHO MIGHT BE HARMED AND HOW

- Young workers, new workers/trainees, expectant mothers, etc. are usually most at risk.
- Cleaners, visitors, maintenance workers who are not in the workplace all the time.
- Members of the public.

M3

Slide 20

M3

Changed: 'at risk most' to 'most at risk'

Michael, 07/11/2011

STEP 3 - EVALUATE THE RISKS

- Consider each hazard in turn and decide on the significant ones.
- For each hazard, you then have to decide whether the risk is *high, medium* or *low*.
- Consider if you can get rid of the hazard altogether or eliminate it totally.
- If you cannot eliminate the hazard totally, what is the best way to control the risk so that workers would not be harmed.

SIMPLE RISK ESTIMATION

The effect of a hazard may be rated:

- 3 *Major* – death or major injury;
- 2 *Serious* – injuries cause worker to be off work for 3+ days; and
- 1 *Slight* – all other injuries – not serious. Little time off work.

- The likelihood of harm may be rated:
 - 3 *High* – where it is certain or near certain that harm will occur;
 - 2 *Medium* – where harm will occur frequently; and
 - 1 *Low* – where harm will seldom occur.
- **RISK = HAZARD X LIKELIHOOD OF SEVERITY OCCURENCE**

Where more workers are involved, multiply by that number. The higher the number the greater the risk.

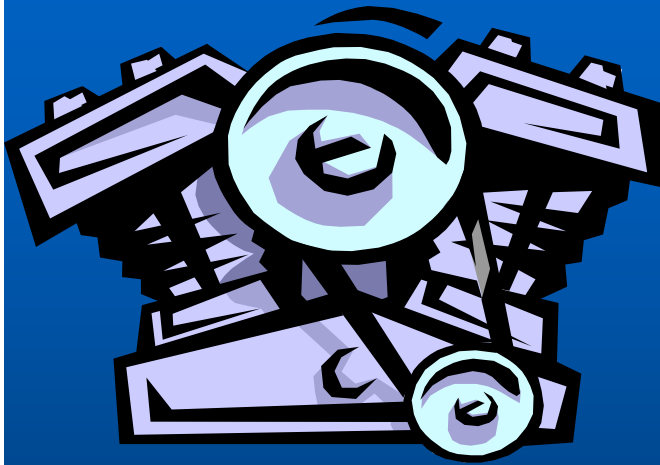
CONTROLLING RISKS

If you cannot completely eliminate the risk or put in a safer substitute, then:

- try to control the hazard at source such as with machine guards. If not, try to place barriers along the route to prevent the hazard reaching the worker. These are types of engineering controls;
- organize work to reduce exposure to the hazard. These are known as administrative controls;
- issue personal protective equipment; and
- provide proper washing and first aid facilities.

METHODS OF CONTROL

SOURCE



PATH



WORKER



The most effective way of controlling hazards is at source. However, PPE is often selected as it is the cheapest alternative.

IF YOU DO USE PPE

- make sure it is the best available;
- make sure that it is the correct PPE for the hazard;
- make sure that the PPE is well maintained; and
- make sure workers know how to use it correctly.

STEP 4 – RECORD YOUR FINDINGS

- It is very important to record your findings. In that way you know what has been done or what needs to be done!
- For example: *Machine guarding – all guards found to be secure and in good condition – none are missing, or Fume from welding – local exhaust ventilation provided and regularly checked.*
- Use a checklist (e.g. machine guarding).

Do workers know how to switch off the machine in case of emergency? Are ON/OFF and cut-off emergency switches clearly marked?

Are all workers trained to use the machines safely prior to operation?

Are robust, fixed guards attached to dangerous moving parts of machines and power transmission equipment?

Are these machine guards and other protective devices regularly checked and maintained by a qualified person?

Have any of the machine guards been removed or are missing?

Is the area around the machine clean, tidy and free from obstruction?

Are supervisors informed if machines are not working properly?

Do any workers have dangling chains, loose clothing, gloves, rings or long hair which could get caught in moving parts of machines?

Are workers wearing appropriate PPE when working with such machines?

STEP 5 – REVIEW AND REVISE

- In all workplaces, changes are made over time, for example new machinery or work processes are introduced. These could lead to new hazards.
- Therefore it is essential to regularly review and revise your risk assessments.

**HERE IS A RISK ASSESSMENT FLOW
CHART FOR A FIRE HAZARD.**

Identify fire hazards

- sources of ignition
- sources of fuel
- work processes



Identify the location of people at significant risk in case of fire

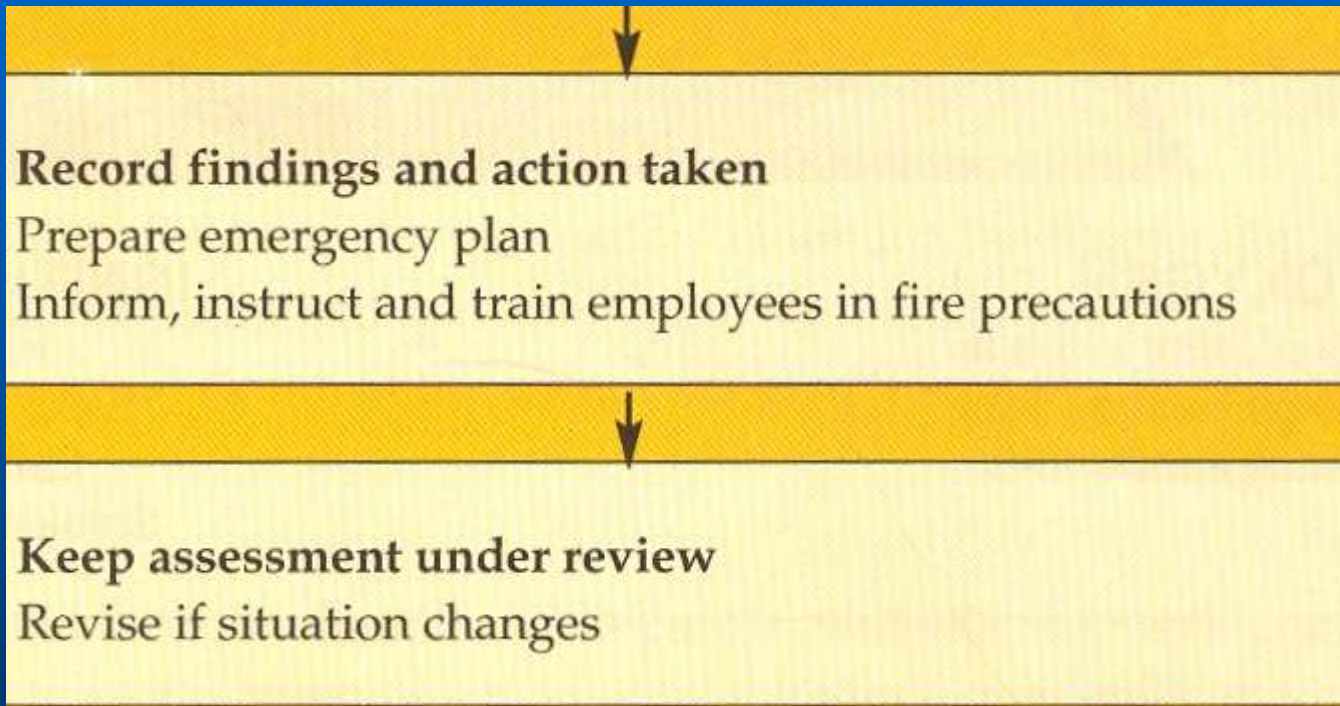


Evaluate the risks

Are existing fire safety measures adequate?

- control of ignition sources/sources of fuel
- fire detection/warning
- means of escape
- means of fighting fire
- maintenance and testing of fire precautions
- fire safety training of employees

Carry out any improvements needed



CAN YOU FIND 52 HAZARDS IN THIS PICTURE?

