



Take **Health & Safety** with you – wherever you go.

Health & Safety in the Workplace: Know the Facts

Workplace Health,
Safety and Compensation
Commission
of New Brunswick

WHSCC
CSSIAT

Commission de la santé, de la
sécurité et de l'indemnisation
des accidents au travail
du Nouveau-Brunswick

Offert en français

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Purpose of the document

The intent of this document is to provide New Brunswick educators with the fundamentals of occupational health and safety. In ***Health & Safety In The Workplace: Know The Facts***, educators and young workers will find a question and answer format, which addresses common health and safety issues. It is the goal of the WHSCC to provide the future worker with the knowledge to stay safe on the job, to ask questions that relate to their health and safety, to be aware of their rights and responsibilities, to stop and think about the risks and hazards and to take a personal responsibility for health and safety within their daily activities.

Health & Safety In the Workplace: Know The Facts is available in both French and English by contacting the WHSCC at 1-800-442-9776.

Section 1 All About WHSCC

- ***What is the WHSCC?***

The Workplace Health, Safety and Compensation Commission of New Brunswick (WHSCC) is an amalgamation of the former Workers' Compensation Board and the Occupational Health and Safety Commission. The WHSCC is administered by a Board of Directors whose members represent the interests of employers, workers, government and the general public.

The WHSCC is dedicated to the promotion of a safe and healthy work environment and the provision of services to workplaces, employers and the injured workers of New Brunswick.

- ***The WHSCC mandate is:***

1. to create an environment in which workplaces view all accidents as being preventable;
2. to provide insurance and related services to the employer community;
3. to provide rehabilitation benefits, including compensation, medical, vocational and counselling services to injured workers.

- **What workplace legislation is the WHSCC responsible for?**

New Brunswick law protects employers' and employees' rights under the following three pieces of legislation.

1. The **Workplace Health, Safety and Compensation Commission Act** sets the framework for the board of directors that administer the three acts. The *WHSCC Act* confers upon the board the responsibility to operate the Commission and administer the acts.
2. The **Occupational Health and Safety (OHS) Act** is based on the premise that every worker is entitled to a safe and healthy workplace. The *OHS Act* places primary responsibility for health and safety issues in the hands of the people in the workplace and gives them three basic and fundamental rights. (*Refer to page 17 for the three fundamental rights*).

Regulations under the *OHS Act* include:

- ◆ General Regulation (91-191)
- ◆ Code of Practice for Working with Material Containing Asbestos (92-106)
- ◆ Workplace Hazardous Materials Information System (88-221)
- ◆ Code of Practice for Working Alone (92-133)
- ◆ Underground Mine (96-105)

The *General Regulations (91-191)* address specific situations in the workplace. For example, lighting, noise, mobile equipment and scaffolding. Refer to page 74 for a complete listing of topics covered.

3. The **Workers' Compensation Act** protects workers from a loss of earnings if they are injured while doing their jobs. In turn, employers are provided a no-fault liability insurance program and are protected from legal action by injured workers.

To order a copy of the *Act* or any *Regulation*, contact the Queen's Printer for New Brunswick (refer to Appendices for an order form), or visit www.gov.nb.ca/justice for an on-line copy.

- ***Some services offered by the WHSCC:***

Prevention Services

Under the *Occupational Health and Safety (OHS) Act*, both workers and employers are responsible for identifying workplace hazards and resolving health and safety issues. When workplace disputes cannot be resolved by labour or management, or legislated minimum standards are not met, WHSCC staff can help.

Health and Safety Officers:

- ◆ conduct workplace inspections;
- ◆ investigate potential hazardous situations;
- ◆ conduct accident investigations;
- ◆ provide support to joint health and safety committees;
- ◆ certain officers specialize in areas such as forestry or mining.

Education Consultants:

- ◆ provide consulting services to workplaces to assist in the application of safety policies and programming.
- ◆ provide support to joint health and safety committees;
- ◆ research and provide educational materials;
- ◆ offer educational workshops to workplace settings.

Ergonomics Consultants:

- ◆ conduct ergonomic evaluations;
- ◆ deal primarily with the physical environment of the workplace;
- ◆ recommend changes to the physical working environment based on measurement and assessment.

Health and Safety Consultants:

- ◆ perform health and safety assessments in workplaces identified for focused interventions;
- ◆ provides assistance to the workplace in the planning, organising and implementation of health and safety practices.

Occupational Hygienists:

- ◆ monitor indoor air quality, laboratory safety, noise levels, radiation, heat and cold stress and infectious disease exposure.

Youth Programs Coordinator:

- ◆ works with New Brunswick schools in the development and delivery of occupational health and safety education to youth.

Compensation and Rehabilitation Services

When claims are made for workplace injuries, occupational diseases and fatalities, WHSCC administers payments of health care benefits, wage loss, pensions, funeral costs and support for dependants.

The WHSCC also provides rehabilitation assistance to injured workers, including medical, vocational and counselling services. At the Workers' Rehabilitation Centre in Grand Bay, injured workers are provided with services of a diverse team of health care specialists. These professionals work with injured workers to help get them back to work quickly and safely.

Finance and Administrative Services

The WHSCC's Assessment Services Department is responsible for delivering insurance services to the employer community. Every year, employers must provide the Commission with an estimate of their payroll. This information is used to establish annual assessment rates for all employers. The assessments collected are the Commission's source of revenue; they are used to fund the WHSCC's prevention and health and safety initiatives, as well as its compensation and rehabilitation activities.



- **Where are the WHSCC offices located and how can they be contacted?**



Grand Falls

T: (506) 475-2550

Toll free: 1 800 222-9775

Moncton

T: (506) 867-0525

Toll free: 1 800 222-9775

Saint John (Head office)

T: (506) 632-2200

Claims inquiries

Toll free: 1 800 222-9775

Assessment services

Toll free: 1 800 222-9645

Bathurst

T: (506) 547-7300

Toll free: 1 800 561-2524

Fredericton

T: (506) 453-2467

Toll free: 1 800 442-9776

Grand Bay office and Workers' Rehabilitation Centre

T: (506) 738-8411

Toll free: 1 800 222-9781

Section 2 All Workplace Accidents are Preventable

- **Definition of accident**

An accident is an unplanned event which results in interruptions of the orderly flow of the job and which results in property damage and/or injury or ill health to people.

- **Definition of injury**

An injury is damage to the body that restricts activity and/or causes hurt, as a result of action or inaction.



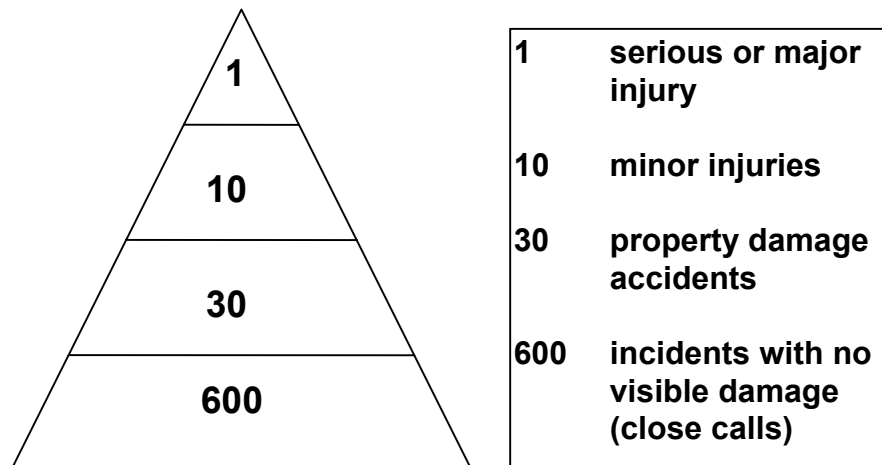
- **Definition of incident**

An incident is an event which could result in harm or damage (from a safety perspective). An incident is similar to an accident, however an incident does not result in damage, harm or loss. An incident is often called a **near miss**. Incidents are just as important to recognize, as they are potential accidents.

- **Why should we pay attention to all incidents or close calls even those which do not result in damage or loss?**

Research would indicate a direct relationship between incidents, accidents and injuries in the workplace. The following diagram represents the ratio of serious injuries in the workplace to minor injuries, property damage incidents and incidents with no visible damage (close calls). For every 600 incidents, there are 30 property damage accidents, 10 minor injuries and one serious accident.

Clearly, if a workplace only investigates serious accidents, workers and employers are not getting an accurate picture of their workplace safety record. Investigation of incidents or **near misses** can show where the workplace needs to improve its policies and procedures.



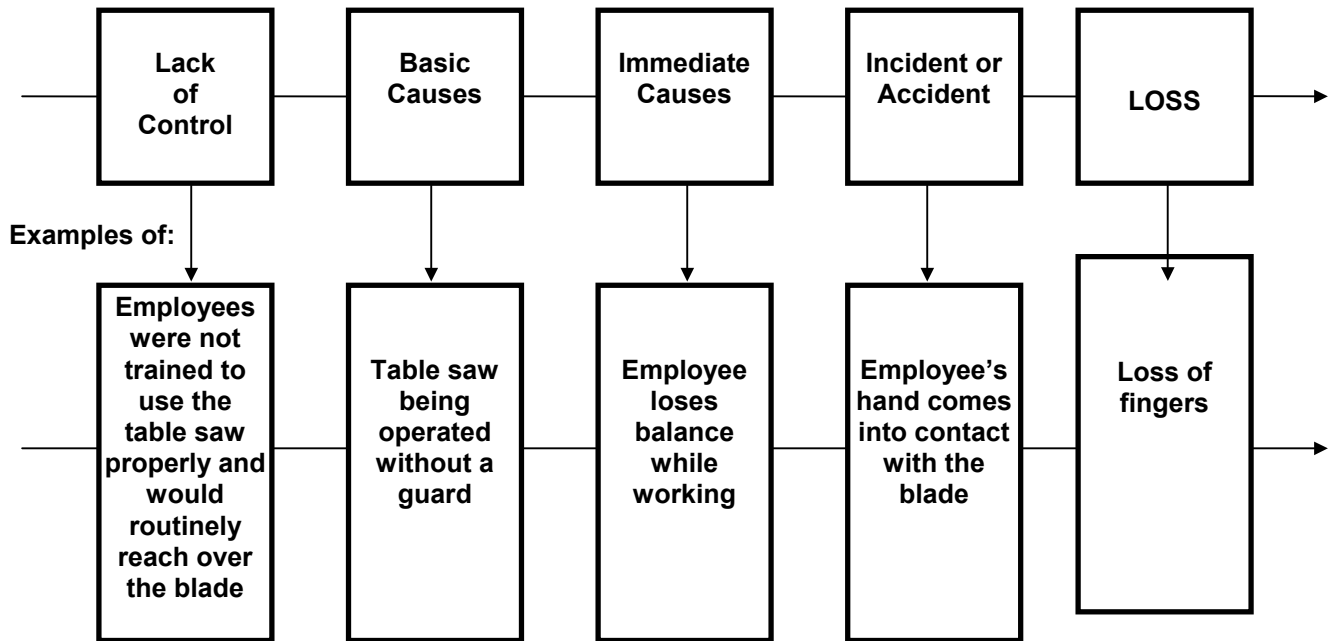
Bird, FE, Germain, GL. *Practical Loss Control Leadership*, (Revised edition). Det Norske Veritas (U.S.A.), Inc., 1996.

- **Definition of safety**

Safety is the quality or state of being safe; freedom from harm or danger. Safety is the collaboration between stakeholders on the identification, prioritizing, management of risks to people, property and process.

- **How do accidents happen?**

There are many factors which lead to an accident, therefore there are many opportunities for the accident to be prevented. The following diagram and explanation represents only one model of many.



Accident pathway

- Lack of control on the part of management; failure to plan, organize, lead or control.
- Basic causes, including personal and job factors that are the actual origin of the accident.
- Immediate causes, which are symptoms of a greater problem, rather than the true cause of an accident. Immediate causes can be seen or sensed (unsafe acts and conditions).
- Incident, which causes harm or damage.
- Loss, which is the result of an accident; harm to people, property or process.

Bird, FE, Germain, GL. *Practical Loss Control Leadership*, (Revised edition). Det Norske Veritas (U.S.A.), Inc., 1996.

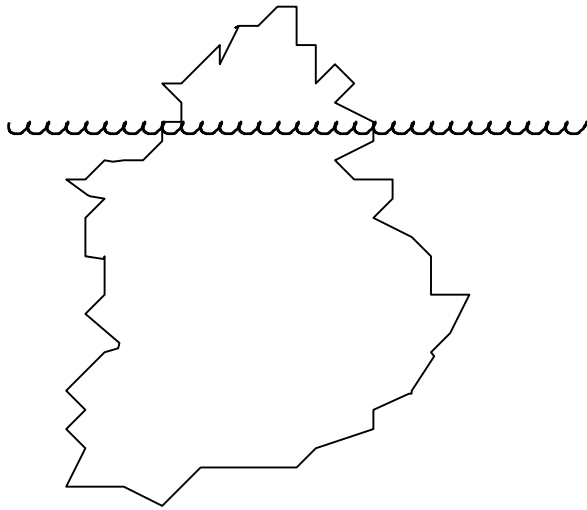
- ***What are the effects of accidents?***

It is only natural that when an accident happens, attention and concern is focused on the injuries to the person/people involved. An accident can affect a person in varying degrees, for varying lengths of time. For instance, a cut finger may heal and be forgotten after a week, whereas an injured back may disrupt a person's daily routine for years.

Some people do not realize that a workplace injury effects a person's quality of life. Family life, recreational activities and financial comfort can all be negatively impacted by injury. The injured employees self-esteem may even be diminished as they become frustrated with their reduced role.

Along with the impact an injury may have on the individual, the family and activities on and off the job, a workplace accident can result in many hidden damages and costs. The following iceberg image portrays the

obvious effects of accidents (above the water line), as well as many other related effects (below the water line), which represent hidden costs and may be less obvious.



Injury and Illness Costs

- Medical
- Compensation costs

Costs of Property Damage

- Damage to:
 - Building
 - Tools and equipment
 - Raw materials or finished product
- Production delays
- Legal expenses
- Emergency supplies
- Equipment rentals
- Investigation time

Miscellaneous Costs

- Wages for time lost
- Hiring/training/supervisory costs
- Overtime
- Decreased output of injured worker upon return
- Loss of business and goodwill

Bird, FE, Germain, GL. *Practical Loss Control Leadership*, (Revised edition). Det Norske Veritas (U.S.A.), Inc., 1996.

Section 3 **We ALL have Rights and Responsibilities**

- ***Definition of employee***

- a) a person employed at a place of employment, or
- b) a person at a place of employment for any purpose in connection to the place of employment.

- ***Definition of employer***

- a) a person who employs one or more employees,
- b) a manager, superintendent, supervisor or any person having authority over another, or
- c) an agent of any person referred to in (a) or (b).

- ***What are my rights as an employee?***

No matter what job responsibilities a worker may have, all workers have the following three fundamental rights.

1. Right to know

All employees have a right to receive the training needed to do the job safely. All employees, new, transferred or experienced, should be made aware of:

- ◆ workplace hazards
- ◆ safe work procedures
- ◆ emergency procedures

If at any time employees are unsure about task they have to complete on the job and/or are concerned about personal safety or the safety of others, they should talk to their supervisor about receiving additional on-the-job training.

2. Right to participate

All employees have a right to participate in solving health and safety problems and in the identification and control of workplace hazards. In workplaces with 20 or more employees, joint health and safety committees (JHSC) are formed to address health and safety concerns. It is a good idea for employees to know who the workplace JHSC representative(s) are in case they have a question or concern related to workplace health or safety.

3. Right to refuse dangerous work

All workers have a right to refuse work they believe is dangerous to their health or safety, or to that of others. If workers are unsure about their safety at work, they should use the following steps.

STEP 1: report the safety concern to the supervisor. If the problem is resolved, return to work. If not, then...

STEP 2: report the matter to the joint health and safety committee or to the safety representative. If still not resolved, then...

STEP 3: call the WHSCC and explain the situation. Return to work only when the situation is no longer dangerous.

* In all cases, stay at work until your shift is finished.

- **What should an employee expect from the employer?**

Under the **Occupational Health and Safety Act**, the employer must:

1. take reasonable health and safety precautions in the workplace;
2. comply with the *OHS Act*;
3. ensure employees comply with the *OHS Act*;
4. maintain equipment in good working order;
5. advise workers of all workplace hazards;
6. provide appropriate health and safety training and on the job supervision of employees;
7. provide personal protective equipment (not necessarily pay for it but ensure its use and accessibility);
8. co-operate with the joint health and safety committee (JHSC) or safety representative;
9. register with the WHSCC if three or more people are employed on either a part-time or full-time basis, at any time during the year;
10. post a copy of the *OHS Act* and *Regulations* in a prominent place where workers can see them;
11. draft and implement policies and procedures which become the safety program in the workplace. If the workplace has 20 or more employees, the company's safety policy must be submitted to the WHSCC.



- ***What are the responsibilities of employees with respect to health and safety?***

All employees must:

1. comply with the *OHS Act and Regulations*;
2. conduct themselves in a safe manner and not put themselves or others at risk;
3. report any workplace hazards;
4. wear the appropriate personal protective equipment;
5. co-operate with the joint health and safety committee (JHSC) or safety representative;
6. co-operate with the WHSCC and their health and safety officers.

- ***What is a joint health and safety committee (JHSC)?***

A joint health and safety committee is a group of worker and employer representatives working together to identify and solve health and safety problems at the work site.



- ***Who is required to have a JHSC?***

Any workplace that regularly employs 20 or more employees, by law, must have an active JHSC in place. The *Occupational Health and Safety Act* requires a minimum of two members on the committee with equal number of employees and employers.

Workplaces with more than five but fewer than 20 employees may appoint a health and safety representative. The representative is also committed to improving health and safety conditions in the workplace.

- ***What is the role of the JHSC?***

The joint health and safety committee is an important communication link between employer and employees. Employees who are active and involved can help create and maintain interest in health and safety and establish positive attitudes throughout the work force.

An effective JHSC can help reduce losses resulting from accidents and occupational illness. Committees identify potential health and safety problems and bring them to the employer's attention. The JHSC helps stimulate awareness of safety issues, recognize workplace risks and deal with these risks. Recommendations and suggestions are expected from the JHSC and management must give each concern careful consideration.

A functional JHSC:

- holds regular meetings (at least once every month);
- conducts workplace inspections;
- investigates health and safety related complaints;
- investigates accidents in the workplace.

The JHSC is responsible for ***recommending*** how health and safety problems might be solved, not for carrying out the necessary changes.

- ***The importance of workplace orientation***

Unfortunately, younger and new employees are at higher risk of getting injured on the job. Many times, such workers lack experience, are unaware of the workplace hazards or have not received adequate training for the job they are doing. Many new workers are aiming to please and may feel too intimidated to ask questions or to resolve concerns. Unfortunately, there may be a fear that asking questions may affect the employer's assessment of their suitability for the job.



Some jobs have greater risks and job hazards than others. Nonetheless, all new employees should receive enough training that they feel comfortable doing the task at hand and have a sense that their safety and the safety of others is not being compromised. Employees should never be afraid to request more training or instruction if they are unsure of the proper procedures or methods. All employees have a ***right to know*** how to do the job safely. Seeing it done properly a second time is well worth the time and effort.

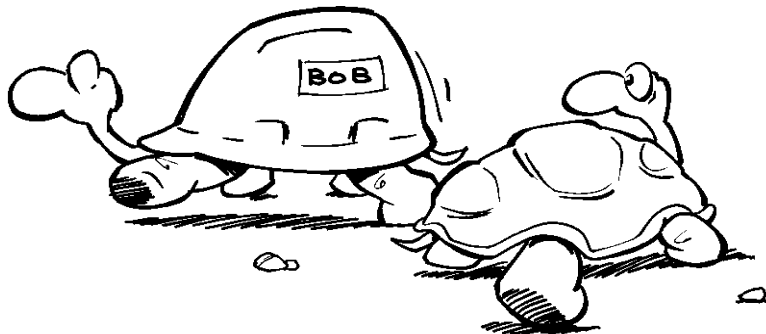
- ***Are experienced workers at a lower risk of getting injured on the job?***

Experienced employees are not shielded from health and safety hazards on the job. Such workers may become so familiar with their daily tasks, that they become oblivious to the inherent hazards and risks. Even though their methods to date have not caused harm, unsafe decisions increase the risk of causing damage. Habits are hard to break. There is a danger in job familiarity and routine. Experienced workers need to update their skills periodically and as the workplace changes, receive training to adapt to an ever-changing workplace.

- ***What is meant by due diligence and what does it have to do with safety in the workplace?***

In the dictionary, the word ***due*** means ‘that should be rendered or given; proper.’ ***Diligence*** is defined as ‘persistent application to one’s work or duty; proper care’. In the context of safety, the term ***due diligence*** requires that the workplace prepare for those risks which can be foreseen by a reasonably thoughtful person.

It is the employer’s responsibility to develop, implement and document an occupational health and safety program to prevent workplace injury, illness and disease. If employers have good health and safety programs and are attentive to health and safety practices, they are likely to be successful in avoiding accidents. Should an accident occur, the employer may well be successful in establishing a legal defence: that of due diligence.



- ***What is the standard of due diligence?***

Due diligence simply means taking all reasonable care to protect the well-being of employees or co-workers. To meet the standard of due diligence, everyone in the workplace must take reasonable precautions when carrying out their duties and their health and safety responsibilities. This is the standard of care required to comply with the *Occupational Health and Safety Act and Regulations*.

- ***What is the defence of due diligence?***

In prosecutions for violations of health and safety laws, the prosecutor must prove that the accused committed a prohibited act. To be acquitted, the accused must then establish that, on a balance of probabilities, all reasonable precautions were taken in the circumstances to comply. This is the defence of due diligence. The standard the courts apply in determining whether an accused has exercised due diligence is not absolute – the employer is not expected to anticipate and prevent every possible accident. However, the employer must take all the precautions that a reasonable and prudent person would take in the circumstances.

There is no simple answer as to how much care is required to avoid health and safety offences and prevent accidents. The most definite thing that can be said is: It depends upon the circumstances. Therefore, it is important to understand what constitutes ‘reasonable care’.

- ***What is meant by reasonable care?***

The care warranted in a given situation is principally governed by the:

- ◆ gravity of potential harm;
- ◆ available alternatives;
- ◆ likelihood of harm;
- ◆ skill required to perform the task;
- ◆ extent to which the accused could control the elements of the offence.

Reasonable care implies a sliding scale of caring. The greater the likelihood that an offence may occur, and the more serious the offence should it occur, the more stringent the system for monitoring and controlling the risks. Under such circumstances, there can be less tolerance for error.

Industry standards may be used as a benchmark. However, simply asserting that a worker was the cause of an accident is not enough.



The *Occupational Health and Safety Act* and its *Regulations* do not cover the information in the following section on employment standards, nor is it enforced by the WHSCC. It has been included to inform the reader; please address any inquiries to the resources listed.

- ***What employment standards should workers be aware of?***

There are a number of employment standards workers should be familiar with before entering the workplace. The following are some of the important employment standards that exist within New Brunswick:

- ◆ payroll and rules of payment;
- ◆ minimum wage and weekly rest period;
- ◆ paid public holidays;
- ◆ notice of dismissal;
- ◆ layoff or termination;
- ◆ vacations and vacation pay;
- ◆ unfair employer action;
- ◆ equal pay for equal work;
- ◆ bereavement leave;
- ◆ maternity leave and child care leave.

For additional information on employment or other standards, contact the New Brunswick Department of Training and Employment Development, Employment Standards Branch (1 888 452-2687).

Section 4 Recognizing the Hazards

- ***What is the difference between a hazard and a risk?***

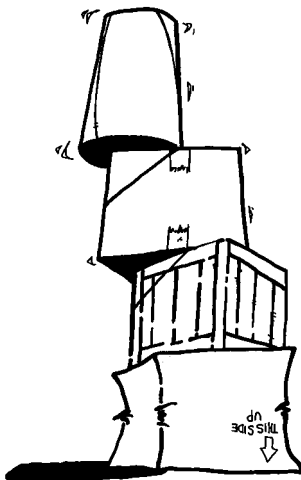
A **hazard** is a condition or practice which has the potential to lead to an accident or loss.

Risk is the probability or chance of an accident or loss.

Often, the hazards cannot be changed, but one can influence the level of risk.

For example, people wear seat belts because driving can be a hazardous task, meaning there is the potential for loss. With respect to personal injury, seat belts can decrease risk - the severity of an injury can be minimized or a life can be saved. The hazards inherent in the task of driving have remained constant, but the risk of injury has been substantially decreased due to seat belt use.

- ***How do risks and hazards affect people?***



Every day people take risks. There are various types and degrees of risk. It is important to be able to differentiate between a high risk and a low risk decision or action.

Some risks may have a positive result or impact: starting a business, flying in a plane or buying a new product. Other risks may have a negative impact as they could result in harm, damage or feelings of regret: diving off a bridge, not wearing a seat belt or drinking and driving.

- **What types of hazards exist?**

1. **Chemical hazards**

Examples of chemical hazards include:

- liquids (office supplies, cleaning products, paints, acids);
- vapours and fumes;
- gases (oxygen, propane, carbon monoxide);
- flammable, combustible and explosive materials.
- Chemical hazards can enter the body through inhalation, ingestion, absorption, or injection.

2. **Physical hazards**

Examples of physical hazards include:

- machinery (exposure to moving parts);
- electricity;
- vibration;
- noise;
- temperature (heat and cold);
- dust;
- fibres;
- radiation.

3. **Biological hazards**

- A biological agent is any living substance that can cause illness or disease.
- Bacteria, moulds, mildew, fungus and viruses are examples of biological agents.
- Biological hazards are in workplace settings which involve food or food preparation, animals (e.g. animal bites), plants (e.g. poisonous plants), sewage or sanitation.
- They can also be found in hospitals or childcare settings and with improperly stored medical waste.

4. Ergonomic hazards

- Ergonomics is defined as fitting the task to the worker.
 - The ergonomics of a workplace can have a significant impact on one's physical well-being.
 - To alleviate stresses and possibilities for error, consider the lighting, workstation layout, video display, impact of shift work, controls, physical task demands and many other factors.
 - For additional information, refer to Section 7, Using your Body as a Tool.
-
- ***Where are hazards found in the workplace?***

Every workplace is unique. Individual and workplace safety is dependent on recognizing and controlling the hazards that exist and taking the necessary measures to eliminate or reduce their potential for harm.

Before deciding how to deal with hazards and decrease risk, one needs to go through the process of hazard identification. There are four areas in the hazard identification process: people, equipment, materials and environment (PEME). When analyzing their operations, a workplace may ask: What are the circumstances and situations presented? How might this cause loss of efficiency, quality, safety or production? What emergencies may occur?

PEOPLE

- What is present in the workplace that could cause injury, illness, stress or strain?
- Could the worker:
 - Be caught in, on or between?
 - Be struck by? Fall from / fall into?
- What kind of training do new workers receive?
- Are supervisors competent individuals who enforce our safety rules and policies?

EQUIPMENT

Think about the maintenance, use and selection of:

- tools;
- machines;
- vehicles;
- personal protective equipment.

MATERIALS

- chemicals and hazardous materials;
- raw materials - what goes into our process?
- products - what do we make and how do we deal with it?

ENVIRONMENT

How is work affected by:

- poor housekeeping;
- noise;
- lighting levels - too dull or too bright;
- heat and cold;
- ventilation;
- radiation.

Hazards are identified by informed employees performing daily tasks. The JHSC conducts inspections of the premises on a regular basis and makes recommendations for improvement to the employers. WHSCC health & safety officers visit worksites and may order changes if the *Occupational Health and Safety Act* is not being followed.

- Refer to the Appendices for further tools in hazard identification:

1) *Health and Safety Checklist, Suggested Guidelines for Evaluating the Workplace, page 69*

2) *Health and Safety, Evaluating the Workplace, page 71*

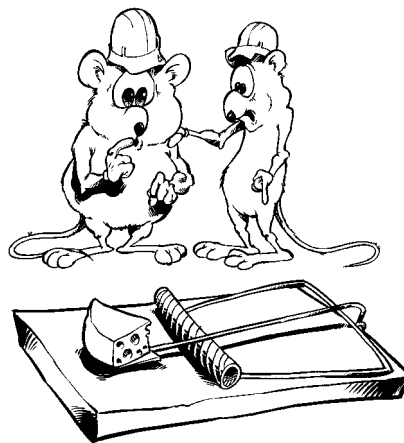
- **Once the hazard is identified, what next?**

Now that the workplace hazards have been identified, there are several ways they can be addressed.

The first and most effective way is to **eliminate the hazard** from the workplace. Obviously this would be best: no hazard, no accident! However, this is not always possible. Would it be feasible to ask a sawmill to eliminate all machinery from their facility that has the potential to cause harm? Probably not. Remember people, materials, equipment and environment (PEME). Some questions to ask may be:

- ◆ Is this hazardous chemical needed in the process or has another equivalent product been developed?
- ◆ What about materials that are being used?
- ◆ Is workplace training adequate for the hazards?

If the hazard cannot be eliminated, the workplace can **restrict access** to it. If a task in the workplace has been determined to be dangerous, a small percentage of the workforce can be assigned intensive training related to that task. Upon successfully completing the training, workplace policy would state that only these trained individuals may do that task. In this way, the workplace attempts to protect all employees.



Using **personal protective equipment (PPE)** protects individuals from hazards in the workplace which cannot be changed. Gloves, goggles, safety glasses, hard-hats, safety boots and hearing protection are just a few examples of PPE which may be assigned in the workplace. Depending on the job, employees may also require coveralls, fall arrest equipment or respirators. The use of PPE is a legislated responsibility for all employees in New Brunswick. Workplace safety policies must ensure the use of PPE in the workplace and discipline those who do not comply. *(Refer to page 42 for additional information on PPE).*

Employee training should be used in conjunction with all other means of reducing risk. All employees must be instructed thoroughly in the tasks they must accomplish in a workday: equipment to be worn, procedures to follow, emergency contact people and departments. When safety is made an integral part of that instruction, a consistent message is sent to the workplace. Periodic re-training and assessment of skills will also have to be part of the company's safety policy.



- ***Why is it important to know about slips, trips and falls?***

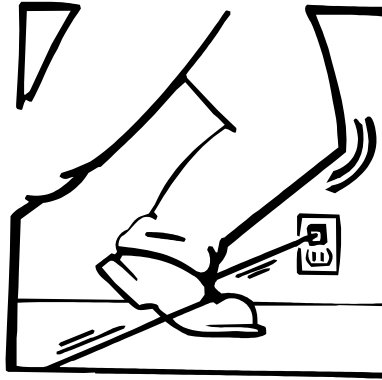
The severity of falls is often underestimated; serious injuries or death can result from falls of less than three meters. Falls associated with the operation of vehicles and equipment, as well as falls from elevated surfaces, are often the result of a combination of slips, loss of balance and misjudging surface or step height.



- ***What are some causes of slips, trips and falls?***

Examples of unsafe acts and conditions:

- ◆ horseplay, running, climbing, overreaching;
- ◆ wearing improper footwear;
- ◆ wearing loose clothing around moving parts;
- ◆ unsafe handling of materials - blocked vision, heavy or awkward load;
- ◆ poor housekeeping - spills, obstacles in path or walkways;
- ◆ not using fall arrest/restraint equipment when working at heights;
- ◆ not following safe procedures or using the proper equipment - using a box to stand and reach or the unsafe use of a ladder.



- ***How can slips, trips and falls be prevented?***

- ◆ Wear appropriate footwear and keep walking surfaces clean.
- ◆ Use the proper equipment to do the job.
- ◆ Know your limitations and abilities.
- ◆ Be aware of potential accidents 'waiting to happen' and make the necessary corrections to prevent an incident.
- ◆ Walking surfaces should be suitable for the pushing, pulling and carrying tasks performed on them. They should provide adequate foot grips, but allow wheels to roll freely.
- ◆ Use safe ladders.
- ◆ Keep as few objects as possible on walking and working surfaces.
- ◆ Eliminate abrupt changes in walking and working surfaces.
- ◆ Where possible, replace stairs with ramps between levels. Be aware that when a ramp angle increases to 20 degrees or more, the friction or slip resistance of the surface must increase approximately threefold in order to prevent slips.
- ◆ Don't carry loads in front of your face.
- ◆ Even though it may take longer, do things the safe way.
- ◆ Use fall arresting equipment if working at a height greater than three meters.

- ***What other types of risks can be encountered in the workplace?***

Confined Spaces

Sometimes, employees are required to enter spaces or structures where people do not usually go. Some examples would be entering sewer lines, cleaning holding tanks and entering large chemical containers. In such spaces, there is potential for a person to become disoriented by trapped gasses and even to become unconscious. Accident statistics suggest about 60% of deaths in confined spaces result from oxygen deficiency and lack of air quality testing. ***More than half of those who die in confined spaces do so while trying to rescue fellow workers.***

Under the *Occupational Health and Safety Act, General Regulation (91-191)*, Sections 262-272, it is required that a workplace provide training and appropriate monitoring, communication and personal protective equipment for any employees who enter confined spaces.

Working Alone

If a job requires working alone at night or going to remote locations alone, there has to be some way to get help should a worker become injured or trapped in any way. *Regulation 92-133 of the Occupational Health and Safety Act* requires that an employer write a ***code of practice*** for employees who work alone. This would include how the employee accesses emergency assistance and any procedures required to minimize risk.

Working at Heights

Fall arrest or travel restricting systems are required when an employee is:

- ◆ working from an unguarded work position more than three meters above the nearest safe level;
- ◆ positioned above a surface or thing that may cause injury upon contact;
- ◆ in an unguarded work area that is above any open top tank, pit or vat;
- ◆ on a staging or platform more than three meters above a safe level that may fall or tip.

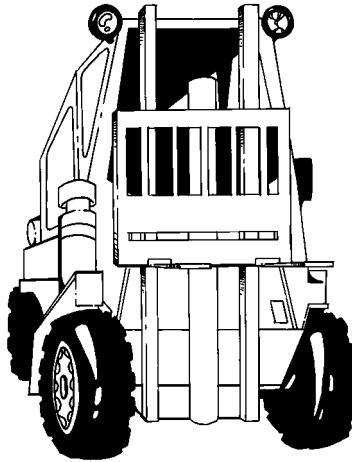
Sections 49 and 50 in the *General Regulation (91-191)* of the *Occupational Health and Safety Act* cover requirements for fall-arrest systems.

Mobile Equipment

Mobile equipment can refer to many types of construction equipment, fork trucks in a warehouse setting, as well as regular cars and trucks.

Workers on foot working around mobile equipment should:

- ◆ know how to work safely around trucks and operating equipment;
- ◆ understand the effect of blind spots and avoid entering or standing in blind spots;
- ◆ make eye contact with the driver or operator before approaching equipment;
- ◆ signal intentions to the driver or operator;
- ◆ avoid standing and talking near vehicle paths, grading operations and other activities which require heavy equipment to move back and forth;
- ◆ continue to wear or use the PPE required for the area.



Drivers and operators of mobile equipment should:

- ◆ always obey the signaler or spotter. If more than one person is signaling, stop the vehicle and determine which one to obey;
- ◆ remain in the cab if possible when near other equipment that is likely to be backing up;
- ◆ make sure all mirrors are intact, functional and properly adjusted for the best view;
- ◆ blow the horn twice before backing up;
- ◆ stop the vehicle, get out and quickly walk around the vehicle when no spotter is present. If the way is clear, back up at once;
- ◆ stop the vehicle when a spotter, worker or anyone else disappears from view;
- ◆ ensure back-up alarms are functioning properly.

Electrical Safety

Electrical hazards can be avoided by maintaining safe working conditions and using safe work practices. Electrical hazards occur when contact is made with a conductor (substances that can pass electricity) carrying current.

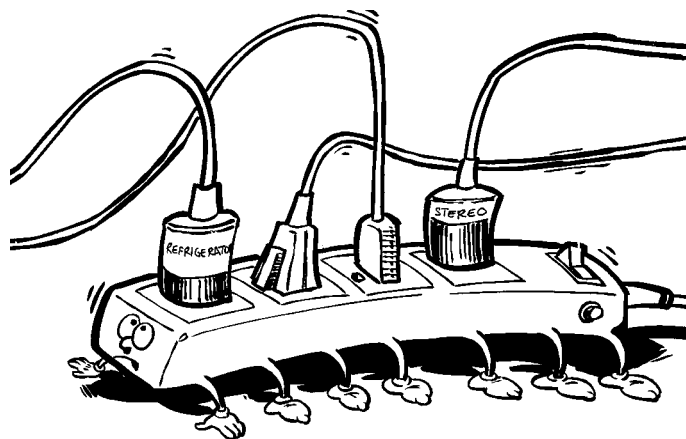
- ***How are shocks caused?***

A **shock** is caused by an electrical current passing through the body. Electricity flowing through a conductor, in this case the human body, is like water flowing through a pipe.

- ***How can electrical shock be prevented?***

Things to remember:

- ◆ any type of moisture may provide a conductive path resulting in a deadly shock;
- ◆ atmospheric hazards may cause an explosion or fire from a mere spark (e.g. flammable vapours, excess oxygen);
- ◆ always use proper lighting, clothing and personal protective equipment;
- ◆ don't overload electrical outlets;
- ◆ keep ladders clear from electrical wiring;
- ◆ keep electrical appliances away from water;
- ◆ discard electrical cords that are damaged;
- ◆ stay clear of surrounding power lines and energy sources.



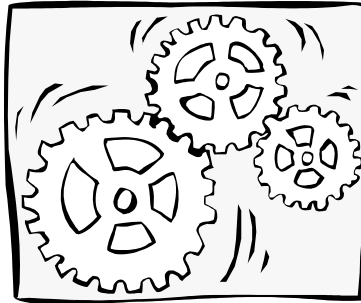
Many fatalities occur up to fifteen minutes after a shock due to the disruption of heart rhythms. Warning signs (from serious to fatal) are as follows:

- ◆ tingling in area where contact was made;
- ◆ numbness;
- ◆ dizziness and palpitations;
- ◆ irregular heartbeat (a sign to call for help).

It is important for anyone who has experienced an electrical shock to consult a physician as soon as possible.

Lockout for Moving Parts

Chains, pulleys and conveyors can all be used to move materials and objects in the workplace from one spot to another. In textile mills and sawmills for example, tools and machines with cutting edges to change the shape and size of raw materials are used. To perform maintenance or to clear jams in these types of machines, *General Regulation (91-191)* Sections 235-243 requires that a machine be in a **zero energy state** and under **lockout** before either of these tasks are attempted.

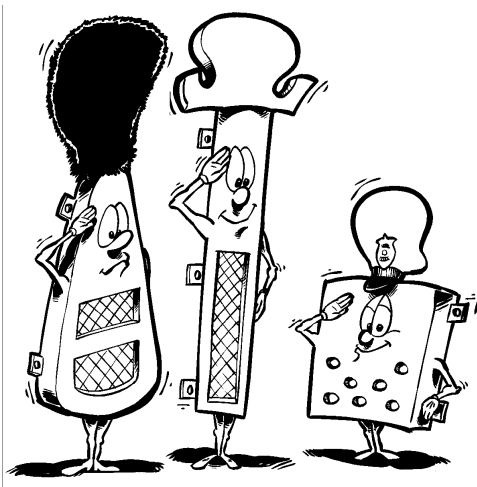


Zero energy state means 'a state in which all energy sources are locked out, blocked, isolated or drained so that the machine is incapable of spontaneous or unexpected action'. **Lockout** means 'to render a machine or electrical equipment inoperative and prevent it from being activated by using a locking device to isolate the power sources'.

Many accidents in sawmills and other manufacturing facilities happen when workers fail to lockout the machine they are repairing.

Machine Guards

Any machine part, function or process, which may cause injury to a worker, must be safeguarded. A guard is a physical barrier that prevents access to dangerous areas of the machine.



A guard on a machine should be designed and constructed so that it:

- cannot be easily tampered with or removed;
- does not create interference with the operation of the machine;
- keeps all human parts out of danger;
- prevents equipment or tools from falling into the moving machinery.

Section 5 Protecting Yourself and Others

- ***How can workers be sure that a workplace cares about health and safety?***

The following are health and safety issues that a new employee should become familiar when starting a new job. Workers can ask these questions during new employee orientation or during the job interview, to be sure that the workplace cares about the health and safety of the employees.

- ◆ What type of training will be offered? Is safety training and WHMIS training available or mandatory?
- ◆ What type of personal protective equipment will be required? Is it supplied by the workplace or purchased by the employee?
- ◆ What are the duties and responsibilities of the job?
- ◆ Is there a joint health and safety committee and/or how are health and safety concerns addressed?
- ◆ What company health and safety rules or policies should an employee know to do the job safely?
- ◆ What are the hazards in the job? Are there other hazards in the workplace that I should be aware of?
- ◆ Where are the fire extinguishers, first aid kits and other emergency equipment located?
- ◆ What type of emergency procedures does this workplace have in place? What training is required (e.g. fire, chemical etc.)?
- ◆
- ◆ What is the process for reporting a workplace injury?



- ***How can workers ensure their own safety as well as that of others in the workplace?***

It is important to differentiate between safe and unsafe decisions and behaviours to help increase an understanding of the importance of making safe choices.

No two workplaces are alike. Every job and workplace has unique and specific responsibilities and hazards. It is important to recognize the hazards of each workplace and develop the appropriate work habits to create a safe and healthy working environment for all.

- ***What is the role of the workplace in ensuring safety of the workers?***

Accidents are caused by unsafe acts or unsafe conditions or by a combination of unsafe acts and unsafe conditions. A key activity of an occupational health and safety (OHS) program is to assess hazards to prevent harmful events in the future. “Foreseeability” is also a critical factor in the due diligence standard.

The workplace should be routinely inspected and any unsafe conditions or poor work practices should be identified and corrected as soon as possible. Poor judgment and poor work practices cause or contribute to many accidents. In some cases, the disciplinary procedure may have to be enforced to ensure that safety rules are observed. Supervisors, managers and senior managers should also be disciplined for failing to carry out their health and safety responsibilities.

An OHS program must include activities designed to prevent the recurrence of accidents - analyzing jobs and work procedures to identify hazards and taking steps to eliminate or reduce those hazards. The employer should have a written health and safety program including policies, procedures and codes of practice.

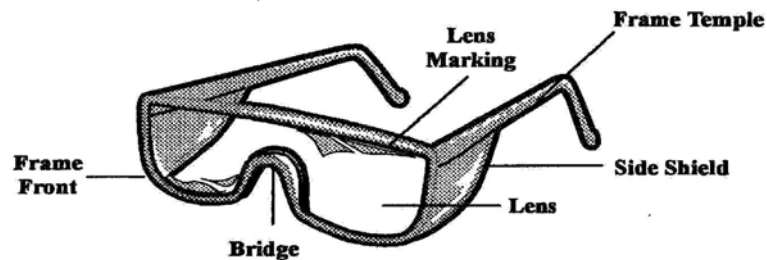
- **What is personal protective equipment or PPE?**

PPE is equipment worn to minimize exposure to hazards by acting as a barrier and shielding a person from potential hazards. A hazard cannot be reduced by PPE, but the risk of injury can.

There are many different types of PPE, some specific for the workplace, others for leisure activities, but all share the common goal of protecting various parts of the body. Proper safety clothing for work should be worn from head to toe.

Examples of PPE: respirator, mask, gloves, fall protection, protective clothing, hard hat, eye wear, hearing and foot protection.

Check to ensure that the PPE has CSA (Canadian Standards Association) approval.



- **How can workers be sure that they are using the PPE effectively?**

For personal protective equipment to effectively reduce the risk of injury, workers must know:

- when to wear PPE;
- the proper PPE for the job;
- how to properly wear and adjust the PPE for a proper fit;
- the limitations of the PPE;
- the proper care, maintenance and life span of the PPE.

Note: Employers are required to make PPE available, ensure its use by employees and employees are required to wear it.

Section 6 Types of Stress in the Workplace

- *Where does stress fit into everything?*



Every day people deal with stress in their lives. There are many different sources of stress in the workplace which may impact the health, well-being and safety of the worker. Job demands and time constraints, financial difficulties, harassment or the demands of shift work are just a few examples of stress in the workplace. Stress affects people differently. Stress can affect thinking and job performance, making people more prone to mistakes.

It is one's reaction to stress that can affect one's health and well being, not the stressful situation itself. The secret to alleviating stress and reducing the risk of stress affecting work performance is knowing oneself and understanding how the body responds to stressful situations. There are positive and negative stress reducers. Some stress-survival skills include:

- ◆ pacing your activities;
- ◆ listening to your body and slowing things down when necessary;
- ◆ switching tasks;
- ◆ getting enough rest;
- ◆ eating properly (e.g. reducing caffeine intake);
- ◆ exercising regularly;
- ◆ taking the time to unwind.

Effective stress management has to do with trying your best to enjoy life and keeping a positive attitude about the challenges that come your way.

- ***What effect can extreme temperatures have on a person's work performance?***

Extreme temperatures of heat or cold can place undue stress on workers' well-being and performance. Unfortunately, with the various seasons and diversity of workplace locations and duties, many workers may face extreme temperatures in the workplace. Workers should watch for the signs and symptoms, taking care of themselves and listening to their bodies to protect against the dangers of extreme temperatures on the job.

Cold Stress

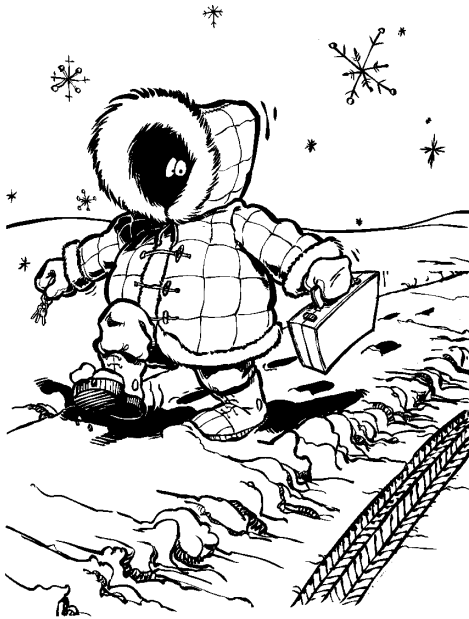
- ***Definition of hypothermia***

Hypothermia is caused by exposure to cold atmospheric temperatures or water. Hypothermia results when normal body temperature cannot be maintained and the body's core temperature drops below 35°C. The temperature of skin and blood drops quickly while the temperature of heart, brain and vital organs declines more gradually.

- ***Signs and symptoms of hypothermia:***

- ◆ trouble breathing;
- ◆ inability to use hands; impaired coordination;
- ◆ slurred speech;
- ◆ uncontrollable shivering or absence of shivering;
- ◆ lips and fingernails turn blue;
- ◆ lethargy; confusion;
- ◆ irritability;
- ◆ possibility of unconsciousness or death due to heart failure.

- **Responding to an emergency situation related to hypothermia:**



- ◆ Get the victim out of cold water or weather as soon as possible.
- ◆ Shelter the victim from cold temperatures; if possible start a fire.
- ◆ Change the victim into dry clothes or wrap him/her in a blanket.
- ◆ Warm up the victim's body gradually.
- ◆ Help the victim drink warm fluids.
- ◆ Seek emergency assistance if the victim is weak and dizzy.

Victims of mild hypothermia should be re-warmed in a warm bath or with warming packs and blankets. Victims of severe hypothermia **must** receive immediate medical attention.

- **Preventing hypothermia:**

- ◆ Wear the proper clothing: rain gear, wool clothes, hat, gloves, proper footwear and personal floatation device.
- ◆ Carry high energy foods.
- ◆ Drink sweet, warm, caffeine and alcohol-free beverages and soups.
- ◆ Be prepared for any type of situation such as change in temperatures or emergency situations.
- ◆ Work breaks to warm up should increase in frequency as the temperature drops.

Heat Stress

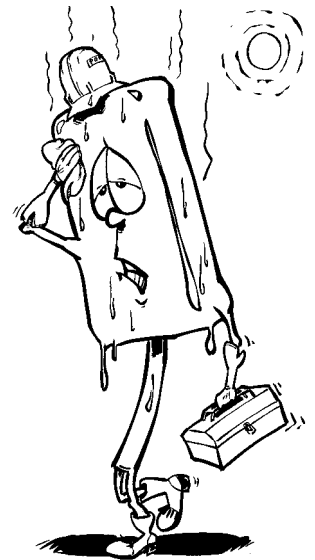
- ***What are the dangers of heat in the workplace?***

High temperatures can cause stress to the human body. When the body's cooling system has to work too hard to reduce heat, it can strain itself. This physical strain, combined with other stresses - work, loss of fluids, fatigue - may lead to heat disorders, disability or even death. Heat disorders are often referred to as ***hyperthermia***.

The body always generates internal heat, but the amount of heat that stays stored in the body depends on the surroundings, level of physical activity, type of work, time spent working and recovery time between rest periods.

- ***Signs and symptoms of hyperthermia:***

- ◆ dizziness or fatigue;
- ◆ clammy, moist skin;
- ◆ muscle cramps;
- ◆ abdominal pain;
- ◆ physical discomfort;
- ◆ irritability;
- ◆ poor judgment, lack of attention, slow mental and physical job reaction;
- ◆ intense thirst;
- ◆ heavy or absence of sweating (absence of sweating is an important sign and indicates the need for ***immediate*** medical attention);
- ◆ headache;
- ◆ nausea.



As internal heat rises, surface blood vessels get bigger, increasing the pulse rate, putting a strain on the heart and circulatory system.

- ***Responding to signs of heat exhaustion or heat stress?***
 - ◆ Move victim into cool, shaded area or out of the exposure zone.
 - ◆ Loosen or remove clothing and shoes.
 - ◆ Cool the victim as soon as possible by applying moist compresses to the head, face, neck, underarm and groin areas.
 - ◆ Provide victim with lightly salted water to drink.
 - ◆ Stay with victim.
 - ◆ Rest the body and massage limbs.
 - ◆ Provide ventilation with fans, location changes, etc.

- ***Reducing the dangers of high temperatures in the workplace:***
 - ◆ Alternate light and heavy work, indoors and outdoors if possible.
 - ◆ Eat cool meals (hot food adds directly to body heat).
 - ◆ Eat light meals (heavy foods reduce ability to get rid of heat because they redirect blood flow to your digestive tract instead of your skin surface).
 - ◆ Drink lots of cold water (cold water is absorbed better than warm water).
 - ◆ Increase salt intake slightly.
 - ◆ Acclimatize yourself - get used to the work and climate.
 - ◆ Prepare your body for the demands of the job and be in good physical condition.
 - ◆ Wear proper clothing (tight clothes and synthetic materials restrict circulation and keep air from flowing over the skin).

Violence in the Workplace

- ***What form does violence take in the workplace?***

Violence can be defined as an aggressive behaviour aimed at inflicting harm or discomfort upon its victims, whether they be intentional targets or bystanders involved accidentally. Violence can take on mental or physical forms in the workplace: hitting, shoving, pushing, kicking, sexual assault, threats, harassment, abuse or intimidation.

There are two types of violence in the workplace, internal and external. Internal violence comes from within the workplace, from another employee or the employer. External violence comes from clients, customers or people from outside of the workplace. Some workplaces are more susceptible to external violence than others, such as retail establishments, taxis, restaurants, bars, correctional facilities, health care facilities and convenience stores.

- ***How do you deal with violence in the workplace?***

Employers should have a policy in place for dealing with workplace violence. Violence should not be ignored. Workers should pay attention to the warning signs or any potentially violent behaviour and report any verbal or physical violence that occurs in the workplace. Details of the violent act or behaviour should be documented. If the violence is external, workers should control their emotions: no arguing or accusing, keeping calm and explain how you can help. Workers must never hesitate to ask for assistance from their supervisor, co-workers or authorities when necessary. Employers who deal routinely with potentially violent clientele should ensure their employees are appropriately trained.

If someone is physically or sexually assaulted, the incident should be immediately reported to the local police force. Only the victim can press charges against the assailant – not the employer.

Substance Abuse

- ***How does drug and alcohol abuse affect the workplace?***

Using drugs and alcohol can adversely impact work and personal life. There are many effects and consequences of using drugs on the job, some of which are listed below:

- ◆ decline in job performance and productivity;
- ◆ increased accidents and mistakes;
- ◆ risk of injury to oneself and others;
- ◆ emotional instability;
- ◆ impact on employee morale;
- ◆ decreased alertness and lack of concentration;
- ◆ theft;
- ◆ increased absenteeism and lateness;
- ◆ problems with physical health.

All employees have a right to a safe and healthy workplace. If the actions of a co-worker are putting other employees at risk, the supervisor should be notified.

Section 7 Using your Body as a Tool

- ***What is manual material handling?***

Manual material handling can be defined as *'any activity requiring the use of force by a person to lift, lower, push, pull, carry, move, hold or restrain a person, animal or object.'* In essence, it is the use of one's body as a tool to accomplish a task.

- ***Preventing back injuries***

Many people suffer from back injuries and pain as a result of improper body mechanics used for work and leisure activities. Obesity, stress, lack of exercise and poor posture can all be sources of back pain.

A healthy back has three natural curves; the cervical (neck), thoracic (upper back) and the lumbar curve (lower back). The goal in all activities, especially those which involve manual handling, is to maintain these curves and therefore distribute the force throughout the spine.

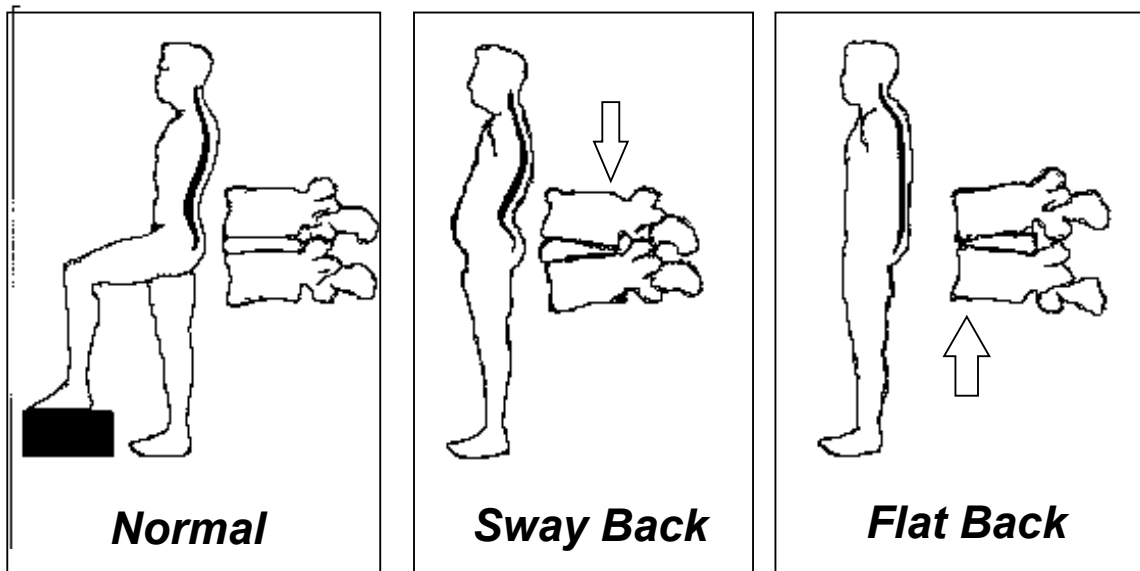
Exercise plays an important role in achieving this goal. Many studies have shown that people who stretch and exercise regularly have far fewer problems with back pain.



- ***How can stretching and exercise help to keep a back healthy?***

Maintaining the spinal curves requires the co-operation of muscle groups on the front and back of the body. Strength and flexibility are both important and a lack of these two things can have a great impact on posture over time.

Weak stomach muscles and tight back and thigh muscles can result in 'sway back'; where the lumbar curve of the spine is exaggerated. Weak back muscles and tight hamstrings can flatten the lumbar curve. Both of these conditions will cause back pain; the awkward posture of the spine results in the muscles working too hard, a lack of blood flow and increased pressure on the joints.



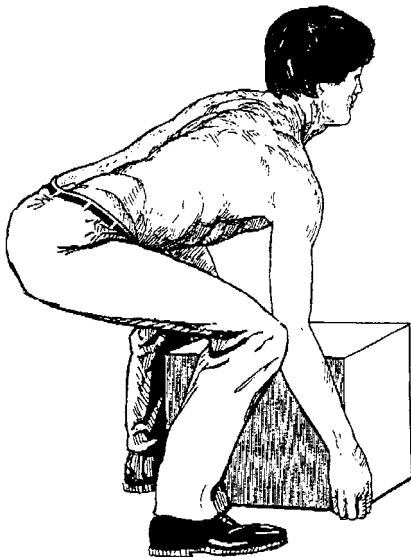
A regular stretching and strengthening program, coupled with an active lifestyle can go a long way toward maintaining back health.

You can also be conscious about how you use your back throughout your daily activities. For example, standing fatigues abdominal muscles and promotes tightness in the low back. To re-establish those spinal curves, especially the lumbar curve, it may help to put one foot on a low stool.

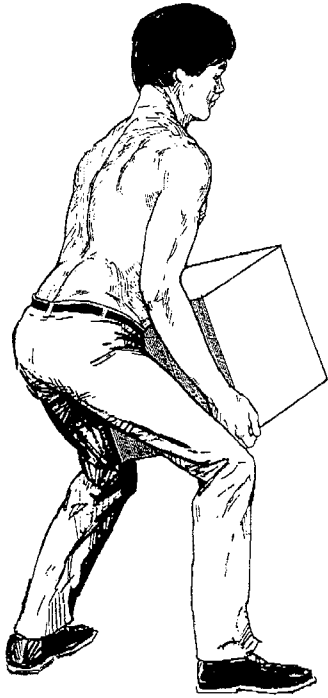
Also, be aware that certain actions will add to the stress on the spine and its supporting muscles:

- ◆ grasping or holding a load at a distance from the body;
- ◆ twisting the body while supporting or lifting a load;
- ◆ lifting or lowering objects placed below the knee or above shoulder height;
- ◆ lifting or moving a load through great vertical or horizontal distances;
- ◆ holding or carrying a load for long periods;
- ◆ lifting or carrying frequently;
- ◆ lifting while seated.

- ***What is the safest way to lift an object?***



1. Be sure to have firm footing, with a wide base of support, before lifting.
2. Keep the load close to your body. The further the object is from you, the more pressure you will be putting on your lower back.
3. Flex at the knees and at the hips (see diagram at left). Simply bending your knees will not protect your back. Flexing at your hips will allow you to keep your spine in alignment as you lower yourself to the load.



4. Maintain your low back curve throughout the activity.
5. Take your time.
6. Always get help if the load is too much for one person.

- ***What is ergonomics?***

Ergonomics is fitting the work to the worker, rather than requiring the person to adjust to fit the work. Ergonomics involves designing the working environment so that people can function effectively and safely. A work area fitting the shape, size and height of the worker makes a task less physically and mentally demanding. Designing a worktable for a person who is 5'3", performing tasks associated with woodworking, would be very different than for a 6'2" goldsmith.

- ***Why is ergonomics so important in the workplace?***

A work area that does not fit the worker causes physical stress and puts the individual at high risk for a repetitive strain injury. Improper design can affect the productivity, comfort, health and safety of the worker.

- **Definition of soft tissue injury (STI)**

Soft tissue injuries occur both from an acute incident or develop gradually over time as a result of repeated wear and tear of muscles, tendons, ligaments or other soft tissues.

Soft tissue injuries may also be referred to by other names, such as cumulative trauma disorders or musculoskeletal injuries.

- **What are some of the common causes of STIs?**

STIs occur as a result of tasks which require one or more of the following:

- ◆ **Static exertions** result in lack of blood flow to working muscles (standing or sitting for prolonged periods; working with arms outstretched or above the head);
- ◆ **Awkward positions** require muscles to work excessively to perform tasks (wrists bent or extended; bending over; shoulders or arms elevated);
- ◆ **Repetitive motions**;
- ◆ **Forceful movements** especially if the force is being generated by smaller muscle groups, such as those in the hand and forearm;
- ◆ **Contact stresses** such as an object applying force to the body in some manner (sharp edge on a container or on a counter surface).

- ***What are the signs and symptoms of this type of injury (STI)?***

The progressive signs and symptoms of an STI can be seen and felt in the neck, shoulder, back, elbow, wrist or fingers, depending on the task being performed. Signs and symptoms may include:

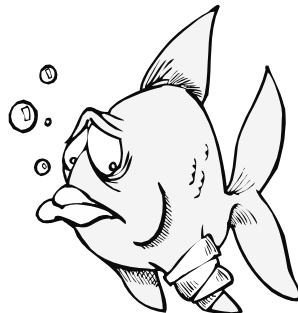
- ◆ tenderness;
- ◆ swelling;
- ◆ weakness;
- ◆ numbness;
- ◆ pain;
- ◆ disturbed sleep.

Stage 1: the pain experienced is a dull ache or discomfort which disappears with rest. Aching and fatigue is felt in the affected area during working hours, but diminishes at night and on weekends.

Stage 2: characterized by a reduced capacity for work and a decreased ability to perform repetitive tasks. Recurring fatigue and aching occur shortly after work begins and persists after work ends. Pain at night is intermittent, often causing disturbed sleep and fatigue.

Stage 3: an inability to perform even light duties which affects lifestyle. Persistent aching, fatigue and weakness is present at rest, PLUS pain with non-repetitive movements.

If left long enough some STIs, such as carpal tunnel syndrome, require surgical intervention to alleviate pain. Even after the surgery, hand function may still be compromised.



- ***Preventing soft tissue injuries***

Understanding the actions and situations which can cause an STI can increase awareness of the effects on the body. The earlier the signs and symptoms of STI are recognized and treated, the easier it is to make a full recovery.

STIs are treated with movement restriction (could be a splint or a brace), heat and/or ice (depending on how acute the situation is), physiotherapy (including an exercise component), medication and sometimes surgery. The treatment for the STI depends on how far the symptoms have advanced.

Do not forget the importance of ergonomics. If the workstation is contributing to the worker's discomfort, a re-design of the workstation may have to take place before treatment can be effective.

- ***What should I do if I am noticing these signs and symptoms?***

Be sure to report your discomfort to your supervisor as your symptoms may progress to the point that you can no longer work. Having this documentation at your workplace will ease your application for compensation coverage, should the need arise.

You should also see a doctor immediately; he/she may prescribe pain medication or recommend physiotherapy or an ergonomic assessment.

Section 8 Hazardous Signs & Symbols

- ***What type of warning signs and symbols exist to help people recognize hazards?***

Symbols are often used on products to help identify potential hazards. These pictograms are easily recognizable and when combined with a training program, can provide important safety information, no matter what the literacy level or language preference of the user.

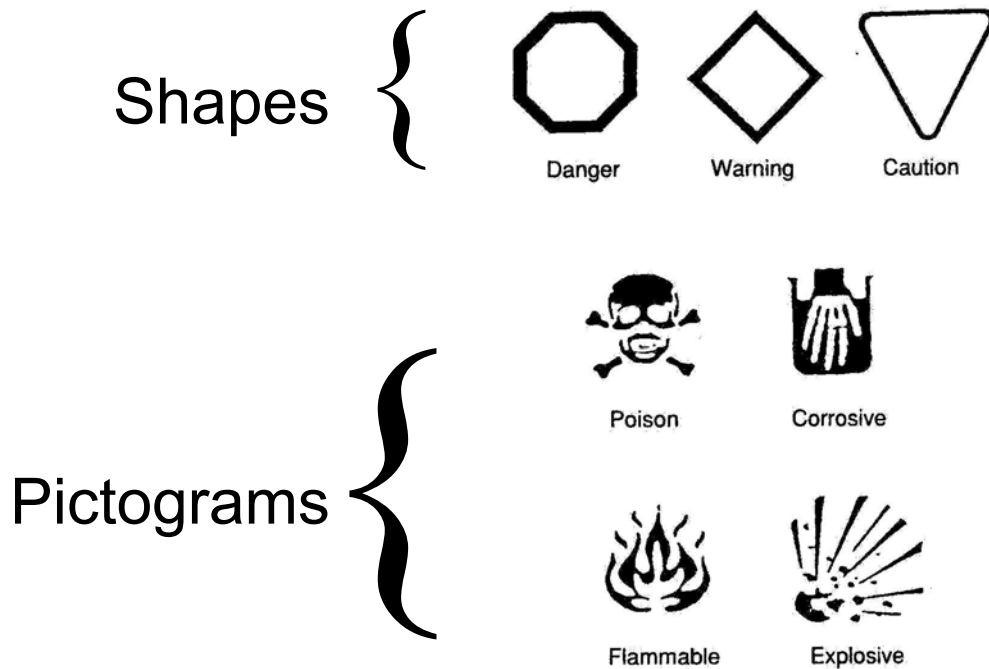
The Workplace Hazardous Materials Information System (WHMIS) requires specific symbols be included on product labels for hazardous materials in the workplace. Consumer restricted product symbols are found on products used at home. The goal of all safety labels is to reduce the risk of injuries or exposure to health hazards and to provide basic first-aid instructions in case of emergency.

Although the symbols may differ between the workplace and home, it is important to recognize all safety labels as warnings and to understand that caution is needed.



- ***What kind of information is on consumer product labels?***

Hazardous products found around the home (e.g. aerosols, bleaches, adhesives) have warning symbols on their labels. These hazard symbols all have a specific shape which indicates the degree of risk and a pictogram which indicates the kind of risk.



- ***Definition of Workplace Hazardous Materials Information System (WHMIS)***

WHMIS is Canada-wide legislation created to provide workers with vital information on hazardous materials found in the workplace.



- ***How does WHMIS work?***

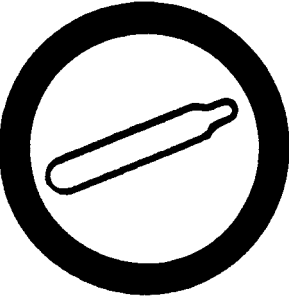


There are three important parts to WHMIS:

1. **Warning labels** inform workers that the container's contents are hazardous and alert them to the dangers associated with the product. Labels also include basic safety precautions. Warning labels are developed by the supplier for the original container, but a workplace label must be applied to any container into which the product is transferred.
2. **Material safety data sheets (MSDS)** are technical bulletins that provide detailed hazard information on the product, such as how to use it, how to handle it and what personal protective equipment to wear while handling it. Suppliers must provide an MSDS for every hazardous product and employers must make the MSDS available to workers at all times. The MSDS must be replaced at least every three years to ensure the information it contains is up-to-date.
3. **Worker education and training.** By law, employers must train and educate all employees who work with, or in proximity to, hazardous materials. Training must be detailed and specific information must be given on the hazards and safe work procedures for each product used in the workplace and must be reviewed on a yearly basis.


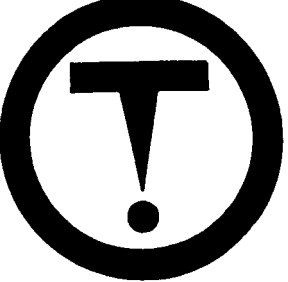

- ***How can a worker be affected by a WHMIS product?***

To find out how a hazardous product is most likely to enter the body system, consult the supplier label and the MSDS sheet. In addition to information on potential for inhalation, ingestion and absorption of the product, the MSDS will also outline the personal protective equipment required.



WHMIS Symbols, Properties, and Cautions

| This symbol represents: | Properties of the material: | Cautions: |
|---|---|--|
|  Compressed Gas • Class A | <ul style="list-style-type: none"> • poses an explosion danger because the gas is under pressure • may cause its container to explode if heated in a fire, or dropped • keep tightly closed as liquefied compressed gasses can cause severe burns from frostbite | <ul style="list-style-type: none"> • handle with care; do not drop cylinder • keep cylinder away from potential sources of ignition • store the containers in the area designated by your supervisor |
|  Combustible and flammable material • Class B | <ul style="list-style-type: none"> • will burn and is therefore a potential fire hazard • may burn at relatively low temperatures; flammable materials catch fire at lower temperatures than combustible materials • may burst into flame spontaneously in air or release a flammable gas on contact with water • may cause a fire when exposed to heat, sparks, or flames or as a result of friction | <ul style="list-style-type: none"> • keep the material away from heat sources and other combustible materials • never smoke when working with or near the material • store the material in a cool, fire-proof area, as designated by your supervisor |
|  Oxidizing Material • Class C | <ul style="list-style-type: none"> • poses a fire and/or explosion risk in the presence of flammable or combustible material • may cause fire when it comes into contact with combustible materials such as wood • may react violently when it comes into contact with combustible materials such as fuels • may burn skin and eyes upon contact | <ul style="list-style-type: none"> • keep the material away from combustible materials and store in the areas designated by your supervisor • keep the material away from sources of ignition • never smoke when working near the material • wear the proper protective equipment, including eye, face and hand protection and protective clothing |

WHMIS Symbols, Properties, and Cautions

| This symbol represents: | Properties of the material: | Cautions: |
|--|---|---|
|  <p>Poisonous and infectious material: immediate and serious toxic effects</p> <ul style="list-style-type: none"> • Class D, Division 1 | <ul style="list-style-type: none"> • is a potentially fatal poisonous substance • may be fatal or cause permanent damage if it is inhaled or swallowed or if it enters the body through skin contact • may burn eyes or skin upon contact | <ul style="list-style-type: none"> • handle the material with extreme caution • avoid contact with skin and eyes by wearing the proper protective equipment and clothing • avoid inhaling by working in well-ventilated areas and/or wearing respiratory protective equipment • wash and shower thoroughly after using • store the material in designated areas only |
|  <p>Poisonous and infectious material: other toxic effects</p> <ul style="list-style-type: none"> • Class D, Division 2 | <ul style="list-style-type: none"> • is a poisonous substance that is not immediately dangerous to health • may cause death or permanent damage as a result of repeated exposures over time • may be a skin or eye irritant • may be a sensitizer, which produces a chemical allergy • may cause cancer, birth defects, or sterility | <ul style="list-style-type: none"> • avoid skin and eye contact by wearing all protective equipment necessary, including eye, face and hand protection and protective clothing • avoid inhaling by working in well-ventilated areas and/or wearing respiratory protective equipment • store the material in designated areas only |
|  <p>Poisonous and infectious material: biohazardous, infectious material</p> <ul style="list-style-type: none"> • Class D, Division 3 | <ul style="list-style-type: none"> • may cause a serious disease resulting in illness or death | <ul style="list-style-type: none"> • take every measure to avoid contamination • handle the material only when fully protected by the proper designated equipment • handle the material in designated areas where engineering controls are in place to prevent exposure |

WHMIS Symbols, Properties, and Cautions

| This symbol represents: | Properties of the material: | Cautions: |
|--|--|---|
|  <p>Corrosive material</p> <ul style="list-style-type: none"> • Class E | <ul style="list-style-type: none"> • causes severe eye and skin irritation upon contact • causes severe tissue damage with prolonged contact • may be harmful if inhaled | <ul style="list-style-type: none"> • keep containers tightly closed • avoid skin and eye contact by wearing all necessary protective equipment, including face, eye and hand protection and protective clothing • avoid inhaling by using in well-ventilated areas and/or wearing the proper respiratory equipment, as designated by your supervisor |
|  <p>Dangerously reactive material</p> <ul style="list-style-type: none"> • Class F | <ul style="list-style-type: none"> • is very unstable • may react with water to release a toxic or flammable gas • may explode as a result of shock, friction or an increase in temperature • may explode if heated when in a closed container • undergoes vigorous polymerization | <ul style="list-style-type: none"> • keep material away from heat • open containers carefully, do not drop them • store the material in a cool, flame-proof area, as designated by your supervisor |

Section 9 In Case of Emergency

- ***How should a workplace prepare for emergencies?***

Having an emergency plan helps us to respond quickly to unexpected events using the best methods for that situation.

Employers should develop, implement and communicate to each employee an emergency plan which outlines the following:

- ◆ duties and responsibilities of each individual in case of emergency;
- ◆ a step-by-step procedure on how to get help;
- ◆ detailed procedures for evacuating the building or site.



The emergency plan should include methods for dealing with:

- ◆ hazardous material spills;
- ◆ fire control;
- ◆ personal injury;
- ◆ occupational exposure.

These plans and procedures should be practiced and reviewed on a regular basis to ensure that everyone understands and can execute their role.

- ***Are first aid kits mandatory at a workplace?***

The *Occupational Health and Safety Act* requires workplaces to provide first aid kits adequate for the number of employees at a worksite. If the workplace employs more than 100 workers, a first aid room is required. The kits should be stocked with materials appropriate for the types of injuries most likely to be encountered at that workplace. For example, an office environment and a logging operation would have very different requirements for first aid.



- ***How should I respond in an emergency situation involving a WHMIS product?***

Read the label and the MSDS. WHMIS regulations require the label on a hazardous product to include first aid instructions. More complete first aid information, which may be detailed for a specific entry route of the product, can be found in the MSDS. It is this type of information which should be included in a workplace's in-house WHMIS training.

- ***Who should I call in an emergency?***

As part of your company's emergency action plan, appropriate emergency contacts such as the fire department, ambulance and hazardous materials professionals should be prominently posted and included in the written procedures.

- ***Do all accidents, injuries and/or emergencies have to be reported?***

There are two separate reporting requirements:

1. The *Workers' Compensation Act* requires an injured worker to report an accident to his/her employer as soon as possible and before the worker has voluntarily left the employment in which the injury occurred. To initiate a compensation claim, medical reports from any attending physicians should be sent to the WHSCC and a Form 67 should be completed jointly by the employer and the employee. The *Workers' Compensation Act* requires the employer to report all accidents to the WHSCC within three days from the date of happening or from the date of receiving notice from the injured worker.
2. The *Occupational Health and Safety Act* requires an employer to immediately report to the Prevention Services Division of the WHSCC an accident in which a worker is injured in a manner that causes, or may cause, a fatality, loss of limb or occupational disease, or that requires or may require admission to hospital. It is necessary to immediately report an accident so that a WHSCC Health and Safety officer may be dispatched to investigate as quickly as possible. In the case of an accidental explosion or an accidental exposure to a biological, chemical or physical agent at a workplace, the Chief Compliance Officer must be notified.

After giving first aid and reporting the accident, the employer must provide transportation to the nearest doctor, hospital or the worker's home depending on the severity of the injury.

If a workplace accident is **not** reported to the WHSCC, the employer could be prosecuted under the *Occupational Health and Safety Act*. If an employee does not file a claim with the WHSCC when an accident happens, it may be difficult to obtain compensation should future complications of the same injury prevent the employee from working.

- ***Why does the WHSCC have to conduct an investigation?***

The WHSCC investigates serious accidents and injuries that occur in New Brunswick workplaces in order to:

- 1) identify the root causes of the accident;
- 2) determine corrective action to prevent reoccurrence.



If the investigation concludes that the accident occurred because some party was not 'duly diligent', it is possible that party may be charged for a violation of the *Occupational Health and Safety Act*.

- ***If I am injured on the job, will I be compensated for my lost time?***

An injured worker or the dependent of a deceased worker must file a claim for benefits under the *Workers' Compensation Act*, by completing a Form 67 available from the employer or from the WHSCC. If the claim is accepted as a work-related injury, then compensation is paid based on the injured worker's earnings. Workers' compensation also pays medical expenses related to the injury.

- ***Definition of no-fault***

No matter how workers become injured, they are covered under workers' compensation providing they were working at the time of the injury or participating in a work-sanctioned activity. For example, if the use of a hard hat is mandatory in the workplace and a worker is injured because he/she was not wearing a hard hat, the worker would still be eligible for worker's compensation.

However, it should be understood that no-fault protection to the employer does not apply where due diligence has not been exercised and could still result in prosecution.

Appendices

HEALTH AND SAFETY CHECKLIST SUGGESTED GUIDELINES FOR EVALUATING A WORKPLACE

| | Yes | No | N/A | ? |
|--|-----|----|-----|---|
| THE WORKPLACE | | | | |
| Does the workplace have a new employee orientation program in place and/or takes the time to train new employees? | | | | |
| Are employees provided with the rules, policies and procedures for doing the job safely? | | | | |
| Are employees provided with contacts to help with questions and concerns regarding health and safety issues in the workplace (e.g. supervisor, joint health and safety committee)? | | | | |
| Is there evidence of good housekeeping in the workplace (e.g. free from items that may cause slips, trips and falls)? | | | | |
| PROPER USE OF EQUIPMENT | | | | |
| Are comprehensive instructions and training provided for using all machines and equipment? | | | | |
| Is instruction provided related to machine guarding (i.e. are moving parts exposed)? | | | | |
| Is instruction provided on the maintenance and storage of machines and equipment? | | | | |
| Is instruction provided on lock out, starting and stopping machines and equipment? | | | | |
| PERSONAL PROTECTIVE EQUIPMENT (PPE) | | | | |
| Is the use of PPE required on the job? | | | | |
| Is PPE supplied by the employer to employees? | | | | |
| Is training provided on the use of PPE? | | | | |
| Is the use of PPE enforced? | | | | |
| HAZARDS IN THE WORKPLACE | | | | |
| Are employees made aware of existing hazards (physical, biological and chemical agents) in the workplace? | | | | |
| Are employees provided with instructions on reducing and controlling the risks and hazards in the workplace? | | | | |
| Are any controlled/toxic products used, handled or stored in the workplace? | | | | |
| Are employees provided with proper instruction and training on handling and disposal of controlled/toxic materials? | | | | |
| Are containers labeled appropriately (i.e. proper use of Workplace Hazardous Materials Information System/ WHMIS)? | | | | |
| Are Material Safety Data Sheets (MSDSs) available and accessible to all employees in the workplace? | | | | |

| | | | | |
|---|--|--|--|--|
| EMERGENCY PROCEDURES | | | | |
| Are there emergency procedures in place? | | | | |
| Are emergency procedures reviewed with employees? | | | | |
| Are fire exits marked and accessible? | | | | |
| Are First Aid kits on site, accessible and maintained? | | | | |
| Are fire extinguishers on site and checked regularly? | | | | |
| Are employees provided with instruction on reporting an injury, incident or dangerous situation? | | | | |
| PROPER USE OF THE BODY <i>(Answering yes to either of the following 2 questions may be an indication that the stage is being set for a repetitive strain injury).</i> | | | | |
| Does the job require a lot of lifting, pushing, pulling or carrying? | | | | |
| Does the job require working in awkward postures (e.g. arms above your head or with a bent back)? | | | | |

Additional comments/observations:

Place of employment: _____

Name of employee: _____

Date: _____

Health & Safety - Evaluating the Workplace

Workplace Health, Safety and Compensation Commission of New Brunswick
'All Accidents are Preventable'
www.whscc.nb.ca

The following are other examples of items that may be included in a checklist used for health and safety inspections.

- ◆ Air quality: dust, gases, temperature, humidity, proper ventilation.
- ◆ Building & structure: windows, doors, floors, exits, aisles, ramps, guard-rails, garbage removal & storage, roof, walls.
- ◆ Fire prevention: smoke alarms, sprinkler system, fire exits lighted and signs, fire exits unobstructed, fire extinguishers exist, are in the proper locations and are checked monthly.
- ◆ Furniture: good condition, no sharp edges, appropriate, proper storage space.
- ◆ Emergency procedures: signs & procedures posted, emergency lighting, employees aware of procedures.
- ◆ First Aid Kits: exist, are in the proper locations, maintained, proper contents, certified first aid personnel are available on all shifts.
- ◆ Walking and work areas: clean, good repair, non slip carpets and mats.
- ◆ Hazardous supplies & materials: proper storage, proper labelling, WHMIS labels & availability of MSDS.
- ◆ Personal protective equipment: provided, enforced, proper type.
- ◆ Guards on all moving parts of machines.
- ◆ Housekeeping: cleanliness in all areas.
- ◆ Proper training provided: to new and transferred employees, regarding WHMIS, general & job specific health and safety, PPE use and maintenance.

- ◆ Proper lighting in all areas: all ceiling lights functioning, protected and intact.
- ◆ Eye wash stations: clean, operating, regular testing.
- ◆ Ladders and climbing devices: properly stored, good condition.
- ◆ Equipment stored neatly when not in use.
- ◆ Carpet and flooring clean and in good repair.
- ◆ No sign of leaks or water on walking surfaces.
- ◆ No sign of tripping hazards (e.g. cords).
- ◆ Equipment is in good repair (no loose or protruding parts).
- ◆ All entrances and exits free from debris and hazards.
- ◆ Telephone working and accessible with emergency numbers listed.
- ◆ All safety rails on stairways secure.
- ◆ Sinks, fountains, bathrooms are sanitary.
- ◆ Cleaning materials stored properly.
- ◆ Attention to environmental conditions (e.g. snow & ice clear from walk ways and roads).
- ◆ Appropriate use of body mechanics for required job tasks.

Training for the New Worker

The following is a list of examples of items that can be included within a health and safety training orientation for a new employee entering the workplace.

-
- ◆ All procedures to do the job safely: rules and policies, workplace-specific training.
 - ◆ Instructions on using all machines and equipment properly: machine guarding, tag and lock out, maintenance, starting and stopping machines/equipment.
 - ◆ Emergency procedures: what to do in case of emergency, who to contact, location of fire exits, First Aid kits, fire extinguishers.
 - ◆ Existing hazards within the workplace: how to reduce and control the risks and hazards.
 - ◆ Handling materials: proper storage, use and disposal, WHMIS & MSDS.
 - ◆ Personal protective equipment: what is needed, when is it needed, who will supply the PPE.
 - ◆ Who can help: answer questions and/or who to report to regarding health and safety issues in the workplace, Joint Health and Safety Committee.
 - ◆ Proper housekeeping in workplace.
 - ◆ Reporting an injury or incident - how and to whom.
 - ◆ Working hours, breaks, schedules.
 - ◆ Legislation related to the job tasks and job-specific safety hazards.
 - ◆ Right to refuse procedures.

Issues Covered
Under the General Regulations, 91-191
(Occupational Health and Safety Act of New Brunswick)

- Sanitation and accommodation (drinking water; toilets; washrooms; eating areas; food and rest periods; work clothes; showers; emergency showers; first aid; occupational health service; general).
- Air quality (ventilation; temperature; extremes of temperature; air contaminants; drilling on surface; methane).
- Illumination.
- Noise.
- Non-iodizing radiation (laser radiation; infra-red radiation; ultraviolet radiation; radiofrequency radiation).
- Protective equipment (general; respiratory protective equipment; hearing protective equipment; fall-arresting systems; water safety equipment).
- Handling and storage of materials (general handling of objects and material; heavy objects; bulk material in bins, hoppers and process vessels; stockpiled bulk material; piled solid material; hazardous substances; storage batteries; portable compressed gas containers).
- Tools (general duties of an owner; general duties of an employer; general duties of a user of a tool; portable power-operated hand tools; power actuated tools).
- Construction and building safety (construction work in compressed air; traffic safety; formwork; structural framework; buildings and structures; trusses, wooden; guardrails; allowable unit stresses; walking surfaces; roofs; openings; access and egress; stairways; ramps; catwalks; fixed ladders).
- Temporary structures (portable ladders; work platforms).
- Explosives (control of blasting operation; general safety; handling; before firing; after firing; misfires; records; warning signs; housekeeping; code of practice).
- Excavations and trenches.

- Pits and quarries (definitions; work procedures for quarries; work procedures for pits).
- Materials handling equipment and personnel carrying equipment (hoisting apparatus; mobile cranes; industrial lift trucks; powered mobile equipment; personnel carrying equipment; general).
- Mechanical safety (starting and stopping machines; lock out; contact with machines; safeguards; abrasive wheels and grinders; cutting or shaping machines; saws; tumbler drums; agitators; gears and sprockets; drive shafts and pulleys; hoses and pipes; conveyors).
- Confined space (definition).
- Welding, cutting, burning and soldering (clothing protection; welding on containers; general).
- Electrical safety (definition).
- Underwater diving operations (definitions; medical requirements; diver training; diver's log book; diving supervisor's daily record; planning a dive; preparation for a dive; diving hazards; use of explosives; contingency planning; breathing mixtures; decompression; diving equipment; communication with diver; equipment for a diving base on the surface; transportation through air-water interface; open diving bells; submersible compression chambers; atmospheric diving systems; scuba diving; surface-supply diving; deep diving).
- Logging and silviculture operations (protective equipment; chain saws, brush saws and clearing saws; felling procedures; delimiting and bucking; safe operation of powered mobile equipment; hauling logs; woods roads; loading operations).
- Arboricultural operations.

References

Bird, FE, Germain, GL. *Practical Loss Control Leadership*, (Revised edition). Det Norske Veritas (U.S.A.), Inc., 1996.

Coastal Video Communications Corporation, VA, U.S.A., 1994

Gage Canadian Dictionary, W.S. Avis et. al., Educational Publishing Company, Canada, 1983

Occupational Health and Safety Act, Chapter O-0.2

Workers' Compensation Act, Chapter W-13

Workplace Health, Safety and Compensation Commission Act, Chapter W-14

Various publications from the WHSCC: for more information, please call your regional office, or visit **www.whscc.nb.ca**.