

Supervisor Accident / Incident Investigation

Office of Risk Management

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SCOPE

This document, which applies to all uOttawa supervisors, outlines the process of investigating physical workplace accidents, occupational illnesses, incidents and actual or potential health and/or safety concerns.

The term “incident investigation” is used throughout this document to refer to investigations of situations that involve injuries, as well as situations that do not involve injuries.

For situations and procedures related to:

- Workplace harassment – refer to [Policy 67A](#).
- Sexual violence – refer to [Policy 67B](#).

PURPOSE

The purpose of an incident investigation is to address and correct situations in the workplace that have caused injury or property damage, or had the potential to do so. An investigation should focus on finding facts rather than finding fault. This is not to say that investigators should not assign responsibility when failure, action or inaction has caused injury, or that individuals should not be held accountable for their actions or inactions. Rather, the incident investigation itself should be primarily concerned with finding factual information on what that led to, or contributed to, the incident.

If further actions are required, such as sanctions or disciplinary action, these actions should be conducted outside the incident investigation process and should be conducted in accordance with the uOttawa policies, procedures and collective agreement(s) governing the work.

Further reasons for conducting an incident investigation include:

- Determining the underlying and root cause(s) of the incident
- Correcting and/or preventing similar incidents in the future
- Determining the direct and indirect cost(s) associated with the incident
- Building a positive health and safety culture
- Processing worker compensation claims
- Fulfilling legal and organizational responsibilities

It is important to note that “accidents” are not random events, but rather preventable occurrences. All occurrences must be investigated – regardless of their severity – and corrective measures must be instituted, where applicable. A common outcome of an incident investigation is the discovery of previously unreported incidents.

DEFINITIONS

Accident – means an unexpected event causing injury, illness or even death (see also critical injury), or involving a person’s exposure to harmful substances.

Critical Injury – as defined in [Regulation 834](#), an injury of serious nature that:

- a. Places life in jeopardy
- b. Produces unconsciousness

- c. Results in substantial loss of blood
- d. Involves a fracture of a leg or arm, but not a finger or toe
- e. Involves the amputation of a leg, an arm, a hand or a foot, but not a finger or toe
- f. Consists of burns to a major part of the body
- g. Causes the loss of sight in an eye

Incident (near-miss) – means an undesired event resulting in damage to property or the environment; for example, a fire, spill, or breakage of material. An incident may also be referred to as a “near-miss”.

Investigation – means to search out and methodically examine a particular situation in an attempt to learn the facts about the chronology of events leading to the accident, incident, or occupational illness. An investigation identifies direct and indirect causes of a situation and may recommend corrective action(s) to correct a deficiency and/or prevent a recurrence.

Joint Health and Safety Committee – means a committee of worker and employer representatives working together to improve health and safety in the workplace. At uOttawa, there is a single joint occupational health and safety committee, namely the University Joint Occupational Health and Safety Committee (UJOHSC), which acts solely as the Multisite Health and Safety Committee. There are three additional functional subcommittees, which are predominantly concerned with issues related to their fields of activity. The three subcommittees are:

- Office Health and Safety Committee
- Laboratory Health and Safety Committee
- Facilities and Protection Health and Safety Committee

Occupational Illness – means a condition that results from exposure in a workplace to a physical, chemical or biological agent to the extent that normal physiological mechanisms are affected and the health of the worker is impaired. It includes an occupational disease for which a worker is entitled to benefits under the [Workplace Safety and Insurance Act](#).

Supervisor – means a person who has charge of a workplace or authority over a worker or another person. Depending on the workplace relationship, a supervisor may include, for example, the president, vice-presidents, directors, deans, managers or principle investigators. The determination as to whether a person is a supervisor does not depend on that person’s job title. It depends on whether the person is responsible for a location (for example, an office or laboratory) where the work is performed on a paid or unpaid basis or whether the person gives direction to complete the work performed by workers, students, visitors, volunteers or learners.

Unsafe act – an activity conducted in a manner that may threaten the health and/or safety of individuals or cause damage. An unsafe act may include using defective equipment, operating equipment without training or authorization, use of tools/equipment for other than their intended purposes, etc.

Unsafe condition – a condition or situation in the workplace that may threaten the health and/or safety of individuals or cause damage. An unsafe condition may include inadequate guards or warning systems, congestion in the workplace, etc.

Worker – means any of the following:

- a. a person who performs work or supplies services for monetary compensation. This means a University employee and includes a person who performs work or supplies services for monetary compensation. Students hired by the University to perform paid work-study program duties or co-operative education placement duties for the University are considered workers
- b. a high school student who performs work or supplies services for no monetary compensation under a work experience program authorized by the school board that operates the school in which the student is enrolled
- c. a person who performs work or supplies services for no monetary compensation under a program approved by a college of applied arts and technology, university or other post-secondary institution
- d. a person who receives training from an employer, but who, under the Employment Standards Act, 2000, is not an employee for the purposes of that Act because the conditions set out in subsection 1 (2) of that Act have been met
- e. such other persons as may be prescribed who perform work or supply services to an employer for no monetary compensation

DUTIES

Workers

Workers are responsible for health and safety issues in the performance of their duties. Additionally, workers must:

- a) Work in compliance with the provisions of the applicable health and safety legislation and all health and safety procedures and practices that are made known to them
- b) Use or wear equipment, protective devices or clothing as required by the University, and report the absence of, or defect in, any equipment or protective device which may endanger themselves or other workers to their supervisors
- c) [Report all known health and safety hazards](#) or any violation of the applicable health and safety legislation or University procedures to their supervisor
- d) Not use or operate any equipment, machine, device, item or work method in a manner that endangers themselves or other workers
- e) Not remove or make ineffective any protective device required by the applicable health and safety legislation or by University procedure, without providing an adequate temporary protective device; once the removal of the protective device is no longer required, the original protective device must be reinstalled immediately
- f) Not engage in any prank, contest, feat of strength, unnecessary running or rough and boisterous conduct, or otherwise endanger their co-workers or themselves
- g) [Report accidents and incidents to their supervisor; complete and submit the **University Accident, Incident or Occupational Disease** form within 24 hours of the occurrence](#)
- h) Attend mandatory safety training sessions related to their work environment

Supervisors

In accordance with [Procedure 14-1](#) made under [Policy 77 – Occupational Health and Safety](#), a supervisor has several legal obligations under the applicable health and safety legislation, including ensuring that workers comply with the [Occupational Health and Safety Act](#); informing workers about hazards; and providing instruction on preventative procedures. The list below summarizes some of the supervisor's legal duties. Supervisors must:

- a) Stay informed of the health and safety needs of workers under their authority
- b) Initiate the necessary preventive measures to control health and safety hazards associated with activities under their authority
- c) Incorporate preventive measures into all functions and activities that presents a risk of some incident or accident with health-related consequences
- d) Ensure that workers under their authority work in the required manner, and with the protective devices, measures and procedures required, under the applicable health and safety legislation
- e) Ensure the safety of people or workplace areas under their authority
- f) Before commencing new work or a new task, ensure that health and safety orientation, instruction and information are provided by a competent person to people under their authority
- g) Ensure that workers under their authority use or wear the equipment, protective devices or clothing required
- h) Ensure that mandatory safety training is provided by a competent person to people under their authority prior to conducting the task
- i) Provide safety training opportunities for all their staff or people under their responsibility
- j) Where health and safety-related training has been provided, maintain an updated list of all those who have received the training, the name(s) of the person(s) who provided the training, the date on which the training was given, and the type of training provided
- k) Monitor the safety performance of their workers
- l) Provide assistance and co-operation to the UJOHSC and to the functional occupational health and safety committee members in carrying out their functions as stipulated by the terms of reference under which they must act
- m) Report accidents and incidents according to the [internal procedure](#)
- n) Ensure that fatalities and serious and critical injuries are immediately reported to Protection Services. Protection Services will immediately inform the ORM, which will inform the Ministry of Labour
- o) Ensure, with the assistance of Protection Services, that the scene of an accident where a fatality, serious injury or critical injury has taken place is preserved such that there is no interference, disturbance, destruction, alteration or removal of anything at the scene until an investigation is conducted and ORM indicates that the cleaning or moving of evidence from the scene is allowed; (see the procedures outlined above in section m)
- p) Ensure that Protection Services and/or a designated first-aid responder are contacted immediately for assistance in providing first-aid to injured persons
- q) Investigate all accidents and incidents to ensure appropriate and necessary action is taken Follow-up in a timely fashion and ensure that the hazard giving rise to the report is eliminated, mitigated or controlled**

- r) Immediately investigate any work refusal process
- s) Ensure that telephones for emergencies are in working order and accessible in University laboratories with increased risk due to the presence or use of hazardous materials in quantities capable of causing injury, or where the type of activity performed is at a level where there is a risk of injury, or where a room is isolated from public areas and there is limited access to a telephone
- t) Where an external contractor has been hired, require that the external contractor adhere to applicable health and safety legislation
- u) Where supervisors are hosting visitors, volunteers or learners, monitor to ensure that such visitors, volunteers or learners adhere to applicable health and safety legislation

ASSOCIATED INVESTIGATIONS

While investigations are the primary responsibility of the direct supervisor, an investigation may be conducted both in conjunction and in parallel with other parties both internal and external to the workplace. Example of parties conducting workplace investigations include:

Health and Wellness

The Health and Wellness sector within Human Resources is responsible for (among other things) assisting workers who have sustained a work-related injury or illness. In situations where the Workplace Safety and Insurance Board (WSIB) requires a report, the Health and Wellness sector submits the report; additional information from the worker or supervisor may be required in order to file the report. Health and Wellness will contact the injured worker to obtain information regarding their injury, their ability to return to work, and any assistance they can provide to the injured worker and supervisor during the return-to-work process to facilitate an expedited, safe and productive return to work.

Health information is confidential and the Health and Wellness sector will only provide information regarding the worker's functional limitations to the worker's supervisor or work unit to initiate the return-to-work process. For example, functional limitations may include weight lifting restrictions, bending and standing or repetitive movements. The Health and Wellness sector will not disclose a diagnosis and the supervisor should not ask the worker to disclose the diagnosis.

Office of Risk Management

The Office of Risk Management conducts regulatory reporting of workplace accidents, incidents and occupational illnesses that involve uOttawa personnel or occur on uOttawa grounds. Reporting requirements are defined by the Occupational Health and Safety Act and enforced by the Ontario Ministry of Labour (MOL). The Office of Risk Management also maintains relevant data associated with the accident/incident/occupational illness (including investigation results, associated evidence, recommendations, etc.) as part of the institution's incident management program. The Office of Risk Management is available to assist supervisors conducting an incident investigation.

Health, Safety and Risk Managers

Representatives from uOttawa faculties and services work with the Office of Risk Management. Each unit listed below has a dedicated Health, Safety and Risk Manager (HSRM) to provide full-time support with regard to risk, environmental, and health and safety issues.

- Faculty of Science
- Faculty of Engineering

- Faculty of Medicine
- Faculties of Arts, Education, Health Sciences, Housing Services, Law, School of Management and Social Sciences
- Facilities

Joint Health and Safety Committee

The Joint Health and Safety Committees at uOttawa are involved in the investigation of workplace accidents as part of their duties under the *Occupational Health and Safety Act*. The investigations are typically concurrent with those conducted by other workplace parties; however, the committee has the power to conduct its own investigation into a workplace accident, incident or occupational illness. The committees regularly report on workplace-related accidents, incidents and occupational illnesses at their regular committee meetings with the reports focusing solely on the situation leading to the hazardous condition rather than the individuals involved. The committees may also make recommendations to uOttawa in order to improve worker health and safety.

Unions and Associations

Each union and association at uOttawa is represented on the Joint Health and Safety Committees and, is therefore involved in the investigations conducted by these committees. The respective union or association of the worker(s) concerned may decide to conduct their own independent incident investigation.

Ministry of Labour

Where a provision of the Occupational Health and Safety Act has been, or may have been, violated, the Ministry of Labour will investigate the matter further and, if warranted, issue further direction. Subsequent direction may include orders to comply, monetary fines issued to corporations and/or individuals, or formal regulatory charges. It is important to note that the Ministry of Labour has significant powers under the *Occupational Health and Safety Act*, Section 54.

In the event that a Ministry of Labour Inspector is on site at a uOttawa workplace, contact the Office of Risk Management at ext. 5892.

Civil Authorities

Municipal services, such as police and fire services, may also conduct investigations following a work-related accident, incident or occupational illness. If warranted, police have the power to criminally charge individuals for workplace-related negligence under provisions of the *Criminal Code of Canada*. Section 217.1 states:

217.1 Every one who undertakes, or has the authority, to direct how another person does work or performs a task is under a legal duty to take reasonable steps to prevent bodily harm to that person, or any other person, arising from that work or task.

Cooperation during Investigations

Supervisors are expected to provide assistance during any incident investigation. Obstruction of parties conducting investigations related to workplace accidents, incidents or occupational illnesses may lead to disciplinary (or other) action, in accordance with the collective agreement governing work, the applicable uOttawa policy, or via formal charges issued by the authority having jurisdiction.

INVESTIGATION RATIONALE

A properly conducted incident investigation will identify unsafe conditions, acts, or procedures that may have contributed to the injury, illness, or situation giving rise to the report. The investigation will normally produce recommendations for corrective actions intended to prevent other personnel from being injured or affected in the same (or similar) manner.

Conducting an incident investigation is a provincial and organizational requirement for all reported incidents (i.e. injuries, illnesses, spills, property damages, etc.).

INCIDENT CAUSES

It is important to note that there is rarely a single cause that yields a single outcome. It is likely that there are multiple factors contributing to an incident, which in turn, produce multiple different outcomes. In some cases, the outcomes can be neutral or, in rare cases, even desirable.

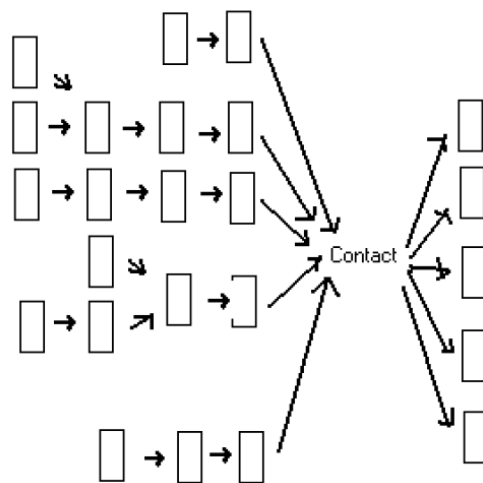


Figure 1 - Multi-Causation Model

The direct cause of the incident needs to be identified and corrected; but why did the direct cause exist? The investigation should extend beyond the obvious and into more tangentially related causes. For example, if an investigation concludes that an incident was due to the “carelessness of a worker”, how can a supervisor correct “carelessness” in a reasonable fashion? In this case, the investigation has failed to obtain answers to subsequent questions, such as:

- Why was the worker “careless”?
- Was the worker distracted? If so, why?
- Was a safe work procedure in place? Was it being followed? If not, why?
- Were the protective devices and equipment in order and/or used? If not, why?
- Was the worker trained? If not, why?

An investigation that pursues these types of questions – i.e. those questions that remain following the identification of a direct cause – is likely to reveal conditions that are more reasonably correctable than attempts on the part of the supervisor (and by extension, uOttawa) to prevent “carelessness of a worker”.

INCIDENT INVESTIGATION STEPS

At the forefront of this process is the wellbeing of an injured or ill person. It is very important to ensure that an injured or ill person receives the appropriate first aid or medical care. First aid stations are located throughout campus and Protection Services is available to provide assistance and/or make the necessary arrangements for civic authorities (i.e. paramedics) on campus. When necessary, eliminate immediate hazards to minimize risk of further injury (or property damage) to an injured individual or first responders.

When a person is killed or is critically injured, no person shall interfere with, disturb, destroy, alter or carry away any wreckage, article or thing at the scene of or connected with the occurrence until permission to do so has been given by a Ministry of Labour inspector, except for the purpose of,

- a. Saving life or relieving human suffering;
- b. Maintaining an essential public utility service or a public transportation system; or
- c. Preventing unnecessary damage to equipment or other property.

Report the Incident

All incidents must be reported, regardless of their severity or perceived impact. Situations requiring immediate medical care are to be reported to Protection Services at ext. 5411 (or via cell phone – 613-562-5411) or 911. Protection Services will create a report to document **their intervention**; however, it is a common misconception that Protection Services also files incident reports – this is not accurate. **The injured person or supervisor is required to submit an incident report. This electronic form is [available online](#).**

Once the report has been electronically submitted, a PDF copy is created, which must be printed, signed and sent to the Health and Wellness office (TBT 017) at Human Resources. If an employee will miss time from work as a result of a workplace injury, or if modified duties are required, Health and Wellness will conduct further follow-up with the supervisor and the injured person. The supervisor is encouraged to proactively contact the [Health and Wellness office](#) to initiate this process. The supervisor should be prepared to offer modified work duties, namely duties that the person could potentially conduct as part of their work, even with restrictions. Health and Wellness will provide information on any limitations. The intention is to have the worker return to work as quickly and as safely as possible.

Investigate the Incident

Information Gathering

Once the situation has been reported – either verbally or in writing – the supervisor gathers the facts surrounding the incident and establishes a chronology of events to determine what occurred. The facts of the incident must be measurable and quantifiable; do not speculate or assume actions. Ensure that a formal report is submitted.

The investigation of the incident should begin as soon as possible, since evidence may – and often does – disappear or deteriorate with time, including the accurate recollection of those involved in, or witnesses to, the incident. Moreover, there may not be a single event or situation leading to the injury or illness; the incident may have occurred gradually over time.

The investigator can obtain information in several ways, including by:

- **Visiting the scene of the incident.** Personal observation provides the investigator with a first-hand appreciation of the incident scene, rather than a potentially skewed interpretation from an incident report form, witness observations, or pre-existing recollections.
- **Checking environmental conditions.** Environmental conditions are the physical conditions of the incident scene and how such conditions interacted during the incident. Additionally, if the incident occurred outdoors, weather conditions may also have influenced the incident. If the incident occurred outdoors, consider visiting the scene of the incident and comparing conditions with historical weather data from [Environment Canada](#).
- **Interviewing witnesses.** Speak with the individuals who were directly involved, including the injured or affected person as well as any person who witnessed the incident. Employees who were indirectly affected, such as equipment operators, can also provide information on equipment history and operations, recent maintenance activities, etc.
- **Gathering physical evidence.** Preserve materials that contributed to the incident, especially the identified failure mechanism (if any). Further examination of physical materials may be required to confirm a hypothesis. The material may also be required for insurance or regulatory investigations. Document the collection of evidence under a chain of custody process, including a date/time of collection, description of the item, model/serial number, where the item originated, its relation to the incident, its physical condition, its collection and handling method (i.e. cut pipe ten (10) centimeters from both ends and stored in XYZ location), etc. In some cases, gathering physical evidence may not be possible; it is highly recommended that investigators arrange to take photos of situation and maintain a collection log, similar to the above.
- **Taking photos, videos and notes.** Photos provide visual support to the notes taken about the incident scene and how materials interacted with one another. Photos provide the reader of the investigation report with further context and are a valuable inclusion in any incident investigation.
- **Drawing diagrams and sketches.** Supporting diagrams need not be Rembrandts; aim to describe the layout of the area, incident area, hot/cold zones (as applicable), as well as visually highlight any relevant factors pertinent to the incident investigation.
- **Consulting reports, documentation, inspection and training records, manuals, logbooks, etc.** Is this equipment or tool subject to inspection before use? Does a manual contain relevant information? Were the equipment's users properly (and recently) trained? Does the equipment or task have a safe operating procedure assigned to it? Checking these types of documents may provide an indication of a failure mechanism and/or underlying cause of an incident.
- **Safely re-enacting the events leading to the incident.** Can the events leading up to the incident be safely re-enacted without causing harm or damage? A controlled re-enactment may help to identify direct and indirect causes of an incident.

Interviews

When interviews are conducted, it is good practice to interview those involved in the incident (i.e., injured worker, supervisor, witnesses, etc.) separately to provide them with a non-threatening, distraction-free environment. The investigator should ask open-ended questions that allow the

respondent to answer to the best of their own recollection, experiences and thoughts. In contrast, closed-ended questions can often be answered with short, single word/phrases.

Try asking a series of questions that can reveal detailed facts about the problem, for instance:

- **What** – What is the complaint? What equipment was being used, what work or task was being conducted? What is the impact or extent of the incident (injury, lost time, equipment downtime, reduced output, etc.)?
- **Who** – Who was involved in the incident? Who was injured/affected? Did anyone see what occurred? Describe the situation witnessed.
- **When** – When did the event occur? At what time? During what part of the process?
- **Where** – Where exactly on campus did the incident occur? In which building, faculty, service, department, room, etc.?
- **How** – How did the incident occur? How was the equipment/individual affected? Describe the injuries or the impact of damage.
- **How much/many?** – How many individuals or components were affected?

When collecting information during interviews remember to keep the following key points in mind:

- 1) **Protect the confidentiality of any injured person.** A workplace injury/illness can be a very sensitive topic. In the course of fulfilling your responsibilities, you may become privy to confidential or private information, which you must be careful to protect and not share or disclose to unauthorized personnel. The information must only be shared on a need-to-know basis.
- 2) **Avoid accusatory questions.** It is common for people to feel ill-at-ease during an investigation. The goal of the investigation is to identify the factors that caused the incident, not to identify who caused the incident. Although critical questioning can help you understand a particular situation, be especially careful when asking “why...” questions, which could be interpreted as accusatory by the interviewee. Maintain the focus of the investigation on identifying the facts and causes of the incident.
- 3) **Avoid leading questions.** A leading question is one that is worded such that it produces a desired response. Leading questions generally do not aid the investigation and should be avoided at all times. For example:
 - A. “How fast was the red car going when it crashed into the black car?”
 - B. “How fast was each car going when the incident occurred?”

Question A leads a respondent to the conclusion that the red car hit the black car and, thus caused a vehicular accident. Question B does not speculate on what occurred and asks the respondent to specify. Question B is neutral and allows the respondent to answer with what they observed. Conclusions can be drawn following the response; therefore, Question B is preferred.

- 4) **Confirm your understanding with the interviewee.** Repeat what the interviewee states to confirm your understanding of the situation.
- 5) **Maintain records.** Keep written documentation of all actions, decisions and conversations.

Once you have collected information, it is recommended that you establish a formal timeline of the event, including the date, time and description of each entry. A timeline will help establish the events leading to the incident.

Analysis

Once the investigator has collected as much information about the incident as possible, he or she must sift through the data. During the analysis, the investigator may notice several situations that, while they may be relevant to the workplace, may not necessarily be linked to the incident. While unrelated findings are not necessarily a negative outcome, and should be recorded to be addressed later, a good investigation should concentrate on the abnormalities and hazards that contributed to the incident for which the investigation has been convened.

To determine if an abnormality or hazard is actually part of the incident, the investigator needs to ask whether the incident would have occurred in the same manner had the abnormality or hazard not been present. If the answer is no, then the abnormality/hazard is indeed a contributing factor and should be addressed or corrected.

Identify Hazards, Causes and Outcomes

Once the investigator has analyzed the data and focused on incident-related items, the investigator can then identify the incident hazards.

Types of Hazards

Although there are many different types of hazards, they can be broken down into five (5) main categories:

- Chemical – Conditions that can lead to contamination by harmful or potentially harmful substances. Examples include toxic gases, noxious fumes, corrosive liquids or powders, etc.
- Biological – Conditions where living organisms can pose a threat to human health. Examples include syringes carrying potentially infected blood, specimen containers with potentially infected materials, viruses spread by HVAC systems, etc.
- Physical – Conditions in which objects, materials or structures can cause material or bodily harm. Examples include objects or substances that are flammable, explosive, noisy, conduct electricity (shock), or hazardous environments involving extreme hot or cold, radiation, slippery surfaces, low ceilings, etc.
- Biomechanical – Conditions that cause biomechanical (body and movement) stress on workers. Examples include workbench height, chair design, workstation set-up, etc.
- Psychosocial – Conditions that can affect the thoughts, behaviour and mental well-being of workers. Examples include stress from using equipment without proper training or instruction, or from being coerced into using defective tools or materials; burnout or depression from constant exposure to high-stress situations, etc.

Incident Causes

Given that an incident occurred, a hazard was permitted to exist – i.e., a cause. The investigator must establish the *immediate (or direct) causes* of the incident. The direct causes are often at the forefront of the incident.

Once the investigator has identified the direct hazards and causes, he or she must establish what led to the direct causes; that is, the investigator must identify *underlying* causes of the incident. The underlying causes, while not directly contributing to the incident itself, allowed the direct causes to exist and, thus, underlying causes need to be addressed and/or corrected. The more in-depth the investigation, the more in-depth the causes.

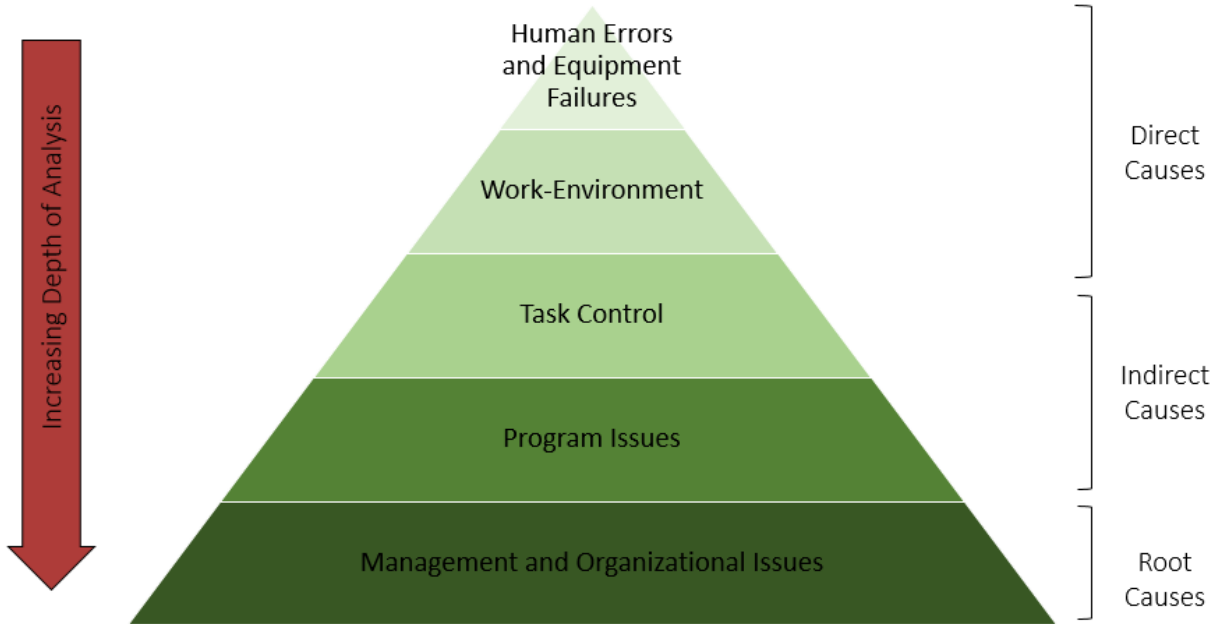


Figure 2 - Depth of Incident Causes

Causes and contributing factors can be further categorized to aid in summarizing and prioritizing corrective actions. An example list of categories that can be used to classify both direct and indirect causes is illustrated below.

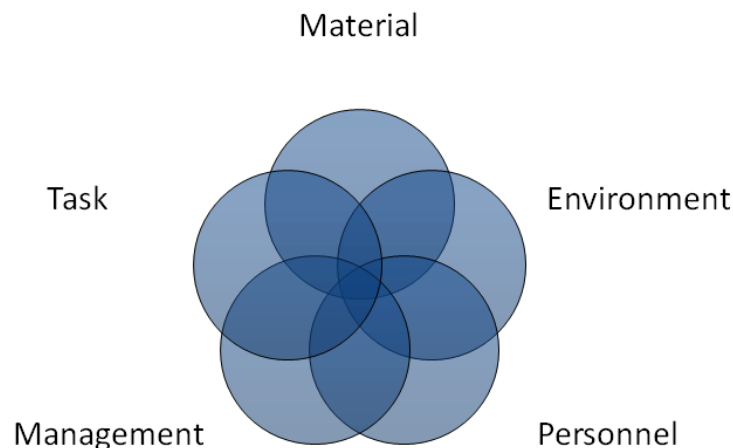


Figure 3 - Incident Categories and Their Potential Interaction

- Materials –includes the failure of equipment and/or tools used during the task, the design of particular equipment, loading / unloading processes, etc.
- Environment – includes the physical work environment, and especially sudden changes to that environment. The situation at the time of the incident is what is important, not what the “usual” conditions were. Environmental conditions may include weather, general workplace housekeeping, brightness, noise, hazardous materials, etc.
- Personnel – includes the physical and mental condition of those individuals directly involved in the incident, as well as the psychosocial environment they were working in. Causes may include lack of training, individual fitness for work, use of protective devices and equipment, violation of established procedures, acts of others, etc.
- Management – includes the role, presence of, and implementation of management systems. Management system failure is often found to be the direct or indirect cause of incidents and may include the lack of established procedures to safely perform work, inadequate supervision, the improper hazard identification or equipment maintenance, etc.
- Task – includes an examination of the actual work procedure at the time of the incident and the manner in which it was conducted, the technique used by the worker, the design of the process, etc.

You will find a list of example causes in the example Supervisor Investigation Form (Appendix 1).

Outcomes

The supervisor should also identify and record the outcome(s) of the incident. Frequently, outcomes in an incident investigation are considered to be negative, including time lost, damage to equipment, reduction in service, etc. While negative outcomes affect everyone, there are situations in which the incident may produce positive or desired outcomes.

All outcomes, regardless of whether they are negative or not, need to be formally documented as part of the investigation. One way to record outcomes is by using a bow tie diagram, where the incident is positioned at the centre of the bow tie, with causes (both indirect and direct) on the left and outcomes (both positive and negative) on the right. An example is provided below.

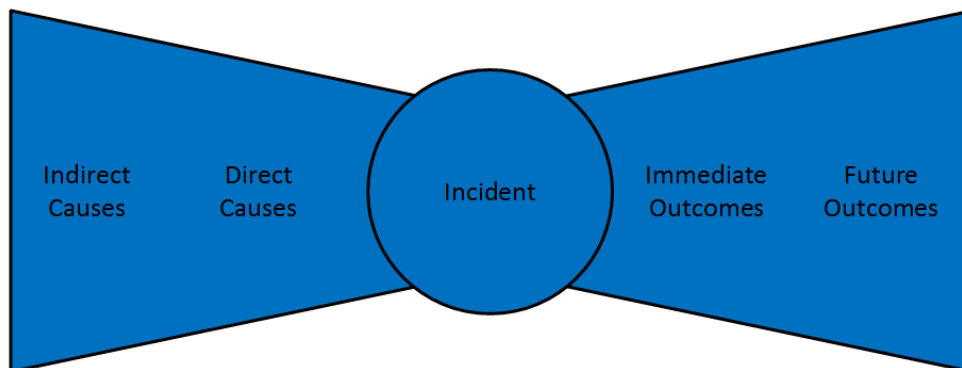


Figure 4 - Example of a Bow Tie Diagram

Formulate Recommendations for Corrective Action

NOTE: Interim corrective actions to address imminent or immediate hazards may be required prior to implementing permanent corrective action(s). Examples of interim actions include:

- Suspending operations for an area/equipment
- Modifying a work practice
- Using personal protective equipment until more permanent corrective actions are implemented

Evaluate if interim action is required to address immediate hazard(s).

The principal criteria for choosing corrective actions are:

- **Stability and durability** – actions should be reliable and permanent to the extent possible
- **Practicality** – actions should blend readily into work processes and not increase workloads
- **Implications** – actions should not have negative repercussions or side effects
- **Scope** – actions should apply to the largest possible number of workstations or areas
- **Speed of implementation** – actions should take reasonable time to implement
- **Quality control** – actions should lend themselves to easy evaluation and control
- **Cost** – actions should be reasonably cost effective

Hierarchy of Hazard Control

Ideally, control actions follow a hierarchy, with the **elimination** of the hazard to the extent possible being the most preferred. If the hazard does not exist, it cannot cause harm. Where the removal of the hazard is not possible, **substitution** of the hazard with a less-hazardous alternative is the next best option.

Although eliminating the hazard is desirable, it is understood that sometimes, work needs to be conducted with hazardous materials and/or in hazardous conditions; therefore, hazard elimination and substitution are not always feasible or realistic. Nonetheless, hazard controls still follow a hierarchy. **Engineering controls**, or controls implemented at the source of the hazard, are the next most desired – and typically the next most effective – as they usually do not require further intervention by the end user(s); the control exists indefinitely. Some examples of engineering controls includes lockout devices, dual operation controls, fume hoods, etc.

If the implementation of engineering controls is not feasible or practical, the next most desired control measures are **administrative controls**. In other words, the way the work is conducted is augmented or modified to reduce the extent of the hazard or exposure to it. Some examples of administrative controls include: reducing the time that the worker is exposed to the hazard, modification of work practices, training programs, etc.

If none of the above hazard control options can be implemented, **personal protective equipment** (PPE) is a reasonable hazard control option. Remember that PPE does not actually remove or reduce the hazard – it only protects against the hazard for those individuals wearing properly selected and fitted PPE. As a result, PPE is the least desired control method, although it can still be effective. Example of personal protective equipment includes hearing protection, protective eyewear, fall arrest harnesses, respiratory protection, and protective footwear.

It is also possible that a combination of hazard control measures may be required to achieve reasonable worker protection; it is not uncommon for hazard control measures to overlap to ensure that workers are adequately protected. For example, a worker conducting work inside a fume hood may also be required to wear respiratory protection due to the acute toxicity of a certain hazardous substance.

Figure 5 illustrates the hierarchy of hazard control

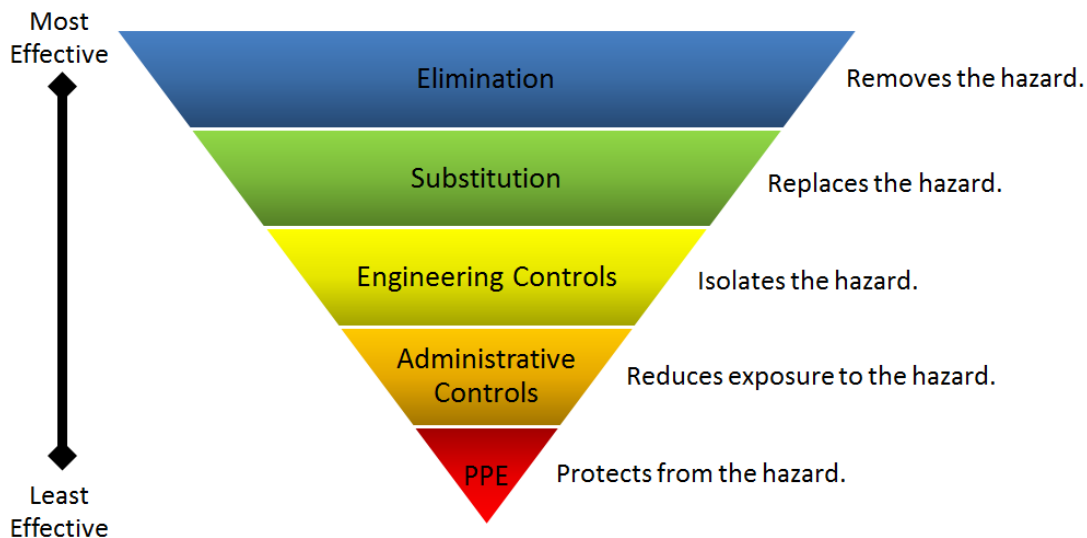


Figure 5 - Visual Representation of Hazard Control

Regardless of the recommendation or hazard control measure proposed, it must be reasonable: that is, the recommendations are not expected to be excessive or address every single potential, tangential problem, but rather address direct and underlying causes associated with the incident. Any recommendation and action item should be specific, explicit, assigned to a responsible party and set within a timeline for implementation.

Implement the Corrective Actions

Where recommendations for corrective action are included in the incident investigation, there must be a plan to implement them. The supervisor will play a key role in implementing corrective actions and must support the recommendations to ensure that they become, and remain, effective.

Report the Findings of the Investigation

It is important to note that the investigation of an incident is of little use if the results are never shared. No matter the outcome, the results of the investigation must be formally presented to those affected; this is typically achieved via a written investigation report.

The report should be written in a way that ensures that anyone can fully understand what occurred – including the circumstances surrounding the incident, causes and recommendations to prevent or mitigate a recurrence. Although the report needs to be comprehensive, it must also be clear and concise.

A formal investigative report should include the following information:

- Date/time of incident(s)
- Location of incident(s)
- Persons involved (including witnesses) in the incident, as well as their affiliation with uOttawa (name, faculty/service, position title, etc.)
- A chronology of the incident
- A list of contributing factors
- A description of both the direct and underlying causes
- A series of corrective and/or preventive measures
- A list of people or units in charge of designing the corrective action plan, carrying it out, and following up on it
- Deadlines to implement permanent corrective actions and, where necessary, the list of interim actions currently in effect
- Conclusion
- Relevant appendices that include pictures, documentation, sample results, etc.

Submit a copy of the final investigation report to:

- The worker(s) involved in the incident;
- The Building Management Agent (for physical hazards);
- The Office of Risk Management;
- The Functional Occupational Health and Safety Committee (via Office of Risk Management).

Note – Some information (i.e. names) may be redacted for confidentiality. A sample report is included as Appendix 2.

Evaluate the Effectiveness of Corrective Action

The incident is not considered concluded until the situation has been revisited after corrective actions have been implemented. Once the final report has been submitted and corrective actions have been implemented, the supervisor must ask and answer questions such as: Were the corrective actions effective in controlling the hazard? Have the corrective actions introduced unintended consequences or processes? Has the effectiveness (or lack thereof) of the corrective actions created other hazards?

A good supervisor will talk to workers and ask for their input on how to control the hazard and how corrective actions have changed or affected their work. These post-incident discussions must be included in subsequent incident investigation follow-up.

Naturally, if the corrective actions have proven ineffective, or are creating tangential issues (either in terms of health/safety or otherwise), they need to be re-assessed and re-evaluated. The supervisor is responsible for this re-assessment and for making the necessary changes to ensure continuous improvement. If alternate corrective actions are selected, they must provide reasonable worker protection.

The supervisor must ensure that the evaluation of the corrective action(s) is recorded as an addendum to the investigation report.

RECORDS

The supervisor must maintain all relevant records associated with the incident. Records are not simply limited to the final investigation report and may include:

- Draft versions of the investigation report
- Photographs, illustration, drawings, etc.
- Email correspondence/distribution lists
- Further correspondence associated with the incident
- Evaluation of corrective actions

TREND ANALYSIS

If a supervisor notes that a particular workplace under his/her supervision is generating a large number of incidents, the supervisor must endeavor to determine the reasons. Trend analysis is an important tool in detecting problems that, if left unchecked, may lead to future, larger incidents.

Supervisors should look for:

- Recurring themes common across a range of independent incidents
- A distribution of incidents with repeated regularity or anomalies
- Procedural activities shifting towards unsafe acts/conditions

RESOURCES

While a supervisor is responsible for conducting the incident investigation, he or she may count on other resources, if required. A supervisor may contact any of the following resources for additional assistance:

- Faculty / Service Health, Safety and Risk Managers (HSRMs)
- Office of Risk Management
- Health and Wellness, Human Resources

APPENDIX 1 – SUPERVISOR INVESTIGATION FORM

Supervisor Incident/Accident Investigation Form

Where a worker has reported to his or her supervisor an injury or hazard (or potential hazard), the supervisor is responsible for promptly investigating the matter and implementing the necessary corrective action(s). The supervisor must complete the form below and return it to the parties in question. Refer to the [Hazard Reporting Procedure](#) for additional information.

Supervisor

1. Name: ____
2. Position: ____
3. Department: ____
4. Phone: ____
5. Email: ____

Has an Injury Occurred?

6. Ensure that the worker obtains the first aid treatment and medical care required.
 - 6.1 Maintain a record of the first aid provided: use Appendix 1 of the [Designated First Aider Guidelines](#).
 - 6.2 If a [critical injury](#) or injury requiring further medical assistance has occurred, contact **Protection Services** at ext. 5411.
7. Complete a [Accident, Incident, Occupational Disease or Near Miss Form](#)
 - 7.1 The report reference number (located at the middle-right of the first page) is: ____

Time lost

8. Did, or will, the worker miss time from work because of the incident?
 - 8.1 Choose an item.
9. If yes, will the worker miss more time than the time missed on the day of the incident?
 - 9.1 Choose an item.
10. Can the worker perform modified duties?
 - 10.1 Choose an item.
 - 10.2 If you answered “yes” or “uncertain” to 10.1, contact [Health and Wellness](#) to assist in expeditiously returning the worker to regular duties.

Incident Details

11. To the best of your knowledge, briefly describe the incident giving rise to the report. What was being done immediately prior to, and at the time of, the incident? Describe any equipment and/or processes involved.
 - 11.1 ____
12. Have witnesses (co-workers, colleagues, etc.) provided an account of the incident? Attach the account of the incident to this form.
 - 12.1 Choose an item.
13. Which of the following may have contributed to the accident, incident or occupational illness? The list below is not exhaustive and represents only a snapshot of potential contributing factors,



many of which may fall into multiple causal categories. Select all that apply and add other factors if necessary.

Material

- Equipment failure
- Equipment design
- Hazardous materials
- Loading
- Lifting

Environment

- Weather conditions
- Housekeeping
- Temperature
- Noise
- Lighting
- Contaminants
- Obstructed view
- Slippery surfaces
- Ventilation

Personnel

- Training
- Fitness for work
- Stresses
- PPE
- Contravention
- Authorization
- Acts of others

Management

- Policies
- Procedures
- Enforcement
- Supervision
- Hazard identification
- Maintenance
- Inspections
- Work schedule

Task

- Work conditions
- Work technique
- Tools/equipment
- Storage
- Process design
- Speed

Other ____

14. Was a similar incident previously identified or reported?

14.1 ____

15. To the best of your knowledge, have there been previous near-misses prior to this incident?

15.1 ____

16. What has been identified as the direct cause(s) of the incident?

16.1 ____

17. What has been identified as the indirect cause(s) of the incident?

17.1 ____

18. What has been, or will be, done to prevent a reoccurrence of the accident, incident or occupational illness? Explain in detail the proposed (or current) corrective actions.

18.1 ____

19. Who is responsible for implementing the corrective action(s)?

19.1 ____

20. When can we expect corrective action to be implemented?

20.1 ____

21. What is the likelihood of reoccurrence?

21.1 Choose an item.

22. What is the severity of reoccurrence?

22.1 Choose an item.

23. As a supervisor, you are responsible for ensuring that the necessary corrective action is implemented and that an investigation report is written, updated and distributed to the parties involved. Pictures, reports, test results or other supporting documentation may be included in the written report. You must communicate the results of the incident investigation to:

- Persons affected by the incident (i.e., the worker(s) involved)
- Department chair/manager (where applicable)
- [Faculty Health, Safety and Risk Manager](#) (where applicable)
- Office of Risk Management (via incident@uOttawa.ca)

APPENDIX 2 – SAMPLE INCIDENT INVESTIGATION REPORT

Date and time of the incident

- Include all known dates and times that relate to the incident(s). Specify (if known) when a given situation occurred.
 - o October 1, 2016 at 4:05 p.m.

Location of the incident

- Include all known locations of the incident(s). Specify (if known) where a given situation occurred.
 - o Colonel By Hall, room A123

Persons involved, and their role, in the incident

- List the names and positions of personnel involved in the accident, incident, or occupational illness. Include their relationship to the situation (i.e. uOttawa employee, contractor, witness, etc.).
 - o Christina Boisvert; lab technician, Faculty of Engineering; injured person
 - o Lisa Fortin; Department Chair, Faculty of Engineering; supervisor of injured person
 - o James Smith; technical officer, Faculty of Engineering; witness
 - o Andre Sabourin; technician, Faculty of Engineering; first-aider

Nature of the incident

- Provide a short summary of the incident, which will serve as the report's abstract. The summary should list the core reasons for the report.
 - o Supervisor was notified that a worker had sustained a fracture to the right forearm. The worker reported slipping and falling at the entrance of the lab, located at Colonel By Hall, Room E04. Andre Sabourin, the nearest first-aider, initially provided first aid. Meanwhile, Protection Services was contacted and additional assistance was requested. Protection Services contacted City of Ottawa paramedics, who arrived on scene to assist. The worker was transported to the General Hospital. The scene of the incident was secured, with assistance from Protection Services.

Description of the incidence

- This description can best be described as the "story" of the incident. This section should explicitly describe, in sequence, everything that occurred from immediately prior to the incident to the initial conclusion of the incident; that is, the time at which the situation was first deemed safely "controllable".

Investigation

- In light of this being a "controllable" incident, what has been, or is being, done about this situation? What was done once the University became aware of the situation? Were interviews, site visits, or other measures undertaken? Who conducted this follow-up? What were the results?

Recommendations



uOttawa

Université d'Ottawa | University of Ottawa

Rapport d'enquête – accident, incident ou maladie professionnelle

Investigation Report – Accident, Incident or Occupational Illness

- Are interim actions required to address an immediate hazard? What recommendations would prevent or correct this situation? Is a physical change required? Do personnel require formal training? Did users understand the requirements of XYZ? Was there a safe work procedure in place for the task? What needs to change to eliminate or reduce the risk of injury or damage?

Conclusion

- A brief recap of the incident itself, as well as the recommendations and corrective actions needed.

Report Author

- The name and title of author/worker's supervisor.

Appendices

- Attach appendices to the report to include relevant documentation, such as measurements, photos, training records, etc.