

Incident Management Procedure

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Office of the Chief Risk Officer

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Version Control Table

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1. Document Background

Purpose and scope of document

The Incident Management Procedure (hereafter known as “the procedure”) outlines the University of Ottawa (also known as “uOttawa”) procedure for managing incidents that occur on uOttawa premises and workspaces.

For situations and procedures related to:

- Workplace harassment – refer to Policy 67A
- Sexual violence – refer to Policy 67B

The procedure applies to uOttawa employees and is extended as a reference for other stakeholders at uOttawa. The procedure does not outline the independent requirements and potential risks or challenges specific to any projects, workspaces, or situations, but rather is intended to serve as a framework to build a fit-for-purpose approach for managing the applicable risks.

Terms and definitions

Refer to the [OHS Glossary](#) for the OHS terms and definitions that apply to documents within the management system.

Additional terms and definitions specific to this procedure are listed below.

“Joint Health and Safety Committee” – 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, specifically the Joint Occupational Health and Safety Committee (JOHSC), which acts solely as the multi-site health and safety committee. There are three additional functional OHS subcommittees, which are predominantly concerned with issues related to their fields of activity. The three subcommittees are:

- Alta Vista OHS Committee
- Faculty and Laboratory OHS Committee
- Administration and Facilities OHS Committee

“Root Cause Analysis (RCA)” – the process of determining the originating, main factor(s) and cause(s) of a near miss, incident, or accident in order to identify and implement appropriate corrective action(s) to prevent a recurrence

Responsibilities

With respect to this procedure, the responsibilities of supervisors and workers are detailed in the [General OHS Program Manual](#) and [Administrative Procedure 14-1](#) (Internal Responsibility Procedure for Health and Safety Issues).

In addition to the roles and responsibilities outlined in Procedure 14-1, additional responsibilities specific to this procedure include:

Supervisor

- Report accidents and incidents according to this procedure.

- Ensure that fatalities, serious and critical injuries are immediately reported to Protection Services.
- With assistance from Protection Services, ensure that the scene of an accident where a fatality, serious injury or critical injury has occurred is preserved such that there is no interference, disturbance, destruction, alteration or removal of anything at the scene until an investigation is conducted and the OCRO indicates that the cleaning or moving of evidence from the scene is permitted.
- Ensure that Protection Services and/or a designated first aid responder are contacted immediately for assistance in providing first aid to injured persons.
- Investigate 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.
- Ensure that telephones for emergencies are in working order and accessible in University laboratories where risks are higher 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.

Worker/Student

- Report known health and safety hazards or any violation of the applicable health and safety legislation or University procedures to their supervisor.
- Report accidents, incidents, or unsafe acts/conditions to their supervisor; complete and submit the University [Accident, Incident, Occupational Illness or Near Miss form](#) within 24 hours of the occurrence.

Contractors

- Comply with uOttawa safety requirements (e.g., permits)
- Where multiple contractors are working on a site and an incident occurs, the prime contractor shall manage the incident.
- Report any accident, incident, or unsafe act/condition that occurs outside of a construction project site to their uOttawa representative within 24 hours of occurrence. The general contractor (GC) is responsible for health and safety on their construction site. If an accident, incident, or unsafe act/condition occurs on the GC's project site, the GC is responsible for responding to, investigating, and taking appropriate and necessary action. If a critical injury or death occurs, the GC is responsible for notifying the MLITSD, JHSC or H&S representative and trade union, in accordance with OHS and O. Reg. 420/21 requirements. The GC must also provide written notice to their uOttawa representative if a critical injury or death occurs.

Reference documents

- [General OHS Program Manual](#)
- [Hazard Identification and Risk Assessment Procedure](#)
- [Policy 66 – Violence Prevention](#)

- [Policy 67a – Prevention of Harassment and Discrimination](#)
- [Policy 67b – Prevention of Sexual Violence](#)

2. Procedure

Procedural Steps

The following procedural steps **must be followed** when responding to, or managing, an incident:

1. Respond to the incident
2. Record and investigate incident details
3. Manage corrective actions
4. Share lessons learned from the investigation

Additional steps may be required based on the project or work scope.

STEP 1 Respond to the incident

Key activities

- Verify and notify that an incident has occurred (including verbally notifying the supervisor and Protection Services, where relevant)
- Control incident hazards and risks
- Secure the area
- Escalate the incident response

Contextual Details

Notification of Incident

If you identify a hazard, incident, or injury, you must clearly and quickly report it to the appropriate University authority (e.g., supervisor, Protection Services, Facilities or other designated uOttawa authority) to correct the condition(s) leading to the incident, to prevent its reoccurrence, and to minimize any impact. You must also ensure that applicable legislative reporting requirements are met (e.g., WSIB, Ministry of Labour, Immigration, Training and Skills Development, etc.).

Examples of incidents include, but are not limited to:

- Fatalities, critical injuries or workplace injuries (physical or psychological), including on campus grounds or while working in a remote location (e.g., teleworking or field research) as part of employment.
- Diagnosed illnesses that may be related to work (even if diagnosed after leaving, or retiring from, the University).
- Near misses, including actual or potential hazards, that could have caused harm to someone.
- Spills or environmental releases of chemical, biological, radiological, unknown, or other hazardous substances.

- Damage to University infrastructure or equipment.
- Fires or explosions.
- Incidents of workplace violence, bullying, harassment, or sexual violence.

If there is immediate threat to life, safety, property, the environment, or a fatality or critical injury, call Protection Services (ext. 5411 or 613-562-5411) or 911.

For physical hazards detected in public areas of the University (such as exterior grounds or hallways), contact the facility manager or call Facilities at ext. 2222 (unless otherwise instructed by a supervisor).

For personal threats or workplace violence, call Protection Services at ext. 5411 or 613-562-5411. Refer to Policy 66 – Violence Prevention and the Workplace Violence Prevention Program.

For harassment or discrimination, refer to Policy 67a – Prevention of Harassment and Discrimination and the associated procedures: [36-1 \(Complaints initiated by students\)](#) and [36-2 \(Complaints initiated by employees\)](#).

If the situation is resolved without supervisor involvement, be sure to inform the supervisor of the hazard and the action taken, especially if the area involved is under their direct responsibility.

Controlling Hazards and Risks

Responsibility for properly controlling and containing reported workplace hazards in a timely fashion rests with the appropriate University authority (e.g., supervisor, facility manager, etc.). The authority must also inform the hazard reporter of the action taken and results obtained.

Ensure that the initial response protects the safety of workers, the public, the environment, the site, and the assets, and that it prevents further losses. An injured worker should seek, and the supervisor must ensure, first aid or medical care appropriate to the circumstances.

Ensure that protection of people takes precedence over other response actions. Deploy emergency equipment (e.g., fire extinguisher, spill containment equipment) to control the hazard, **only if safe to do so and equipment users have been trained in its usage.**

Securing the Area

For critical incidents, secure the area to prevent contamination or loss of evidence that may be required during an investigation until a Ministry of Labour, Immigration, Training and Skills Development inspector tells the University of Ottawa to release it. Exceptions to this occur to:

- Save a life or relieve human suffering
- Maintain an essential public utility or transportation system
- Prevent unnecessary damage to equipment or other property

If safe to do so, the incident reporter or designated incident reporter will document details as soon as possible since the incident scene may be subject to rapid change or destruction. Gather

information which may assist in determining the causal factor/immediate cause(s) and root cause(s) of the incident. This information may include:

- Chronological order of events
- Sketches, maps, photographs, measurements, videos, plot/site plans, etc.
- Potential witnesses and their statements (including their contact information)
- Position and/or state of equipment (e.g., hoists, vehicles)
- Position of materials (e.g., chemicals, loads)
- Preventative devices in use (e.g., guards and protective devices)
- Ergonomic conditions (e.g., lighting levels, position of equipment controls)
- Environmental conditions (e.g., weather conditions)
- Housekeeping (e.g., debris or clutter)

The supervisor shall complete an initial assessment of the incident to determine what has occurred and what immediate actions were taken to mitigate the potential for significant loss or exposure to a hazard (including imminent hazards).

Escalate the Response

For critical incidents, the supervisor or managers shall obtain additional support from Protection Services for managing the incident, where required. Protection Services will contact the Office of the Chief Risk Officer (OCRO), as necessary. The OCRO will notify the Ministry of Labour, Immigration, Training and Skills Development immediately. The Health and Wellness sector of Human Resources will notify the Workplace Safety and Insurance Board (WSIB), as required, within 72 hours. Delays in reporting can incur administrative penalties, such as fines.

Determine if the incident meets the definition of an emergency; if so, immediately contact (by telephone or other direct means) Protection Services. For additional information on uOttawa's emergency procedures, refer to [Emergency | University of Ottawa \(uottawa.ca\)](#).

STEP 2 Record and investigate incident details

Key activities

- Enter initial incident record, including details and incident classification
- Determine investigation approach requirements based on severity of the incident
- Initiate detailed investigation including root cause analysis (RCA)
- Collect evidence to support the investigation
- Document investigation

Contextual Details

Entering an Incident Record

Record the detailed incident information in the [Accident, Incident, Occupational Illness or Near Miss reporting form](#) and notify the supervisor within 24 hours of the occurrence. Include all immediate actions taken following the incident.

Record the preliminary risk/severity level according to the risk matrix (Table 3) in the [Hazard Identification and Risk Assessment Procedure](#).

Investigation Approach

While a supervisor is responsible for conducting the incident investigation, he or she may request additional support, if required, from:

- Faculty Health and Safety Risk Managers (HSRMs)
- Office of the Chief Risk Officer
- Health and Wellness, Human Resources

The investigative approach is chosen based on the actual (and potential) severity of the incident. In cases of incidents of moderate-to-high actual (or potential) severity, the HSRM (or OCRO) will automatically trigger an investigation and will support the investigation team in conducting detailed root cause analysis (e.g., Tripod-beta or TapRoot) evidence collection and reporting.

Incidents of low-to-moderate actual (or potential) severity should be critically evaluated to ensure that the correct root cause analysis technique is applied (e.g., 5-Why) and that evidence is collected and reported thoroughly.

Incident Investigation

The supervisor shall initiate a detailed root cause analysis RCA (e.g., TapRoot) investigation for incidents of moderate-to-high actual or potential severity.

For minor incidents of low/low-to-moderate actual or potential severity, a simplified (5-Why) investigation may suffice.

Redacted incident reports will be sent to faculty health and safety resources (where applicable) to coordinate and/or conduct the investigation in conjunction with the supervisor. Where there is no local faculty safety resource, each work group, faculty or service is required to maintain a group of qualified investigators. They will be assigned to complete investigations as coordinated by a manager or the CAO. OCRO is available as a resource to support the investigators.

Note that while direct supervisors are primarily responsible for investigations, an investigation may be conducted both in conjunction with, and parallel to, another investigation conducted by other parties, both internal and external to the workplace. Examples of other parties conducting workplace investigations include:

- Health and Wellness
- Office of the Chief Risk Officer
- Health, Safety and Risk Managers
- Joint Health and Safety Committee
- Unions and associations
- Ministry of Labour, Immigration, Training and Skills Development
- Civil authorities

For detailed descriptions of each investigation party listed above and their respective investigations, refer to Appendix 1.

For critical incidents, the resources assigned must be independent from the business function.

Collect Evidence

The investigation of the incident should begin as soon as possible, since evidence may - and often does - disappear or deteriorate with time. This includes gathering the accurate recollections 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
- Checking environmental conditions
- Interviewing witnesses
- Gathering physical evidence
- Taking photos, videos and notes
- Drawing diagrams and sketches
- Consulting reports, documentation, inspection and training records, manuals, logbooks, etc.
- Safely re-enacting certain events leading to the incident

Detailed information on each step in the investigation (including gathering evidence, interview guidance, and causal factors) can be found in Appendix 2.

Investigation Documentation

The supervisor should also identify and record the outcome(s) of the incident investigation. A Supervisor Investigation Form will be provided by the HSRM or OCRO and should be used to capture investigation details. Outcomes need to be formally documented as part of the investigation, regardless of whether these outcomes are negative (i.e., time lost, injury, damage to equipment,) or not.

Once the investigation is complete, a copy of the report should be sent to the following parties:

- The worker(s) involved in the incident
- The Facility Manager (for physical hazards)
- The Functional Occupational Health and Safety Committee (via Office of the Chief Risk Officer)

Note: Some information (i.e., personal and confidential information) will need to be redacted for confidentiality purposes prior to submitting the final report.

The supervisor must maintain 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

Documents and reports shall meet the documentation standards set out in [General OHS Program Manual](#).

STEP 3 Manage corrective actions

Key activities

- Develop and assign actions
- Complete and review corrective action

Contextual Details

Assigning and Developing 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. Using the information gathered in the investigation (including root cause, incident outcome etc.) corrective actions must be developed and assigned to the appropriate parties.

The principal criteria for choosing corrective actions include:

- 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 be implemented within a reasonable time
- Quality control: actions should lend themselves to easy evaluation and monitoring
- Cost: actions should be reasonably cost effective

Corrective actions must address the investigation's findings and recommendations, identify individuals who are accountable for implementing actions, and be tracked for progress by individuals or other working groups.

Note: in some circumstances, interim corrective actions to address imminent or immediate hazards may be required before permanent corrective action(s) can be implemented. Examples of such interim actions include:

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

Additional considerations for corrective actions are presented in Appendix 3.

Completing and Reviewing Corrective Actions

The incident is not considered closed or concluded until corrective actions have been implemented and the situation has been revisited. Corrective actions must be completed by the timeline set out in the investigation report, and evidence of completed actions must be attached to the report. Corrective action timelines should consider the associated risk; the higher the risk or more frequent the potential incident, the more urgent the completion of associated corrective action.

Once the final report has been submitted, and corrective actions have been implemented and completed, 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?

If the corrective actions have proven ineffective or are creating tangential issues (either in terms of health and 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) and any supplementary information is recorded as an addendum to the investigation report.

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.

STEP 4 Share the lessons learned from the incident

Key activities

- Summarize the lessons learned from the incident
- Communicate these lessons
- Conduct an analysis of data and trends (continuous improvement)

Contextual Details

Summarizing Learnings

Each incident is the result of a unique set of circumstances and actions that combine to create the conditions for an incident to occur. To reduce the likelihood that such conditions and actions could lead to another incident, the supervisor must summarize the lessons learned from the investigation, taking care to remove personal and confidential information, and shared this information with:

- The workers involved in the incident
- The Facility Manager (for physical hazards)
- Office of the Chief Risk Officer
- The Functional Occupational Health and Safety Committee (via OCRO)

In the summary, the supervisor should highlight any points that could benefit the wider University audience and potentially reduce the likelihood of such an incident in future.

Communication of Learnings

Once the supervisor has submitted the summary to OCRO, the Office shall ensure that confidential information has been redacted from the incident and choose the appropriate channels for distributing the information to the broader University audience.

Trending and Data Analysis

If a supervisor notes that a given workplace under their supervision is generating a large number of incidents, the supervisor must endeavour 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

Appendix 1: Associated and Additional Workplace Investigations

Health and Wellness

The Health and Wellness sector of Human Resources is responsible for assisting workers who have sustained a work-related injury or illness. In situations where the provincial worker's compensation board (e.g., Workplace Safety and Insurance Board (WSIB)) requires a report, the Health and Wellness sector submits the report, but additional information from the worker or supervisor may be required 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 abilities to the worker's supervisor or work unit to initiate the return-to-work process. For example, functional abilities may include restrictions on lifting, 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 the Chief Risk Officer

The Office of the Chief Risk Officer (OCRO) 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, Immigration, Training and Skills Development. Additional notifications to other regulatory bodies (such as Public Health Agency of Canada, Canadian Nuclear Safety Commission, etc.) are similarly managed by the OCRO. Refer to the applicable program manual. The OCRO also maintains relevant data associated with the accident, incident, or occupational illness (including investigation results, associated evidence, recommendations, etc.) as part of the institution's incident management program. The OCRO may also assist supervisors conducting an incident investigation.

Health and Safety Risk Managers

Health and Safety Risk Managers (HSRMs) are dedicated safety resources. They are OHS representatives from uOttawa faculties and services who work with the OCRO. The following units have a dedicated HSRM to provide full-time support on health and safety, risk, and environmental issues:

- Faculty of Science
- Faculty of Engineering
- Faculty of Medicine
- Facilities

Joint Health and Safety Committee

The Joint Health and Safety Committee (JHSC) at uOttawa is involved in investigating workplace accidents as part of their duties under the *Occupational Health and Safety Act*. Typically their investigations are concurrent with those conducted by other workplace parties; however, the JHSC has the power to conduct its own investigation into a workplace accident, incident or occupational illness. The JHSC regularly reports on workplace-related accidents, incidents and occupational

illnesses at the regular committee meetings; their reports tend to focus solely on the situation leading to the hazardous condition rather than the individuals involved. The JHSC may also make recommendations to uOttawa to improve worker health and safety.

Unions and associations

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

Ministry of Labour, Immigration, Training and Skills Development

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

If an Inspector from the Ministry of Labour, Immigration, Training and Skills Development is on site at a uOttawa workplace, contact the Office of the Chief Risk Officer.

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:

- “everyone 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 assist 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.

Appendix 2: Incident Investigation Guidance

Information gathering

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 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; if so, we highly recommend that investigators arrange to take photos of situation and maintain a collection log, like 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: 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: could 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

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 or 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 or 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 or illness can be a very sensitive topic. While 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 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 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, they must sift through the data. During the analysis, the investigator may notice several situations that while 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 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.

Types of Hazards

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, they must establish what led to the direct causes; that is, the investigator must identify the 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.

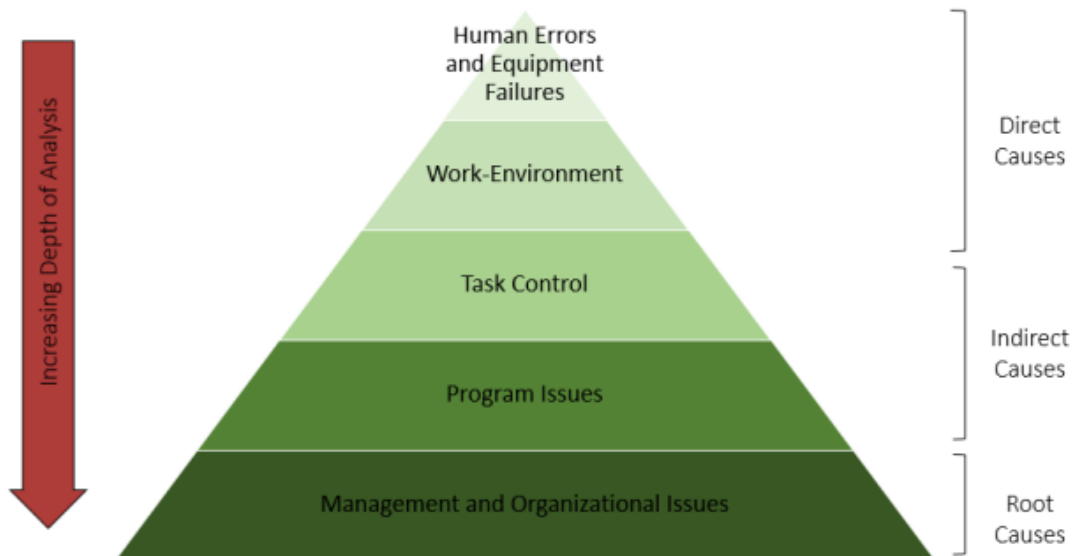


Figure 1: Depth of incident causes.

Causes and contributing factors can be further categorized to help summarize and prioritize corrective actions, including:

- Materials – includes the failure of equipment and/or tools used during the task, the design of 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 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 way it was conducted, the technique used by the worker, the design of the process, etc. Examples of such causes are listed in the Supervisor Investigation Form.

Appendix 3: Corrective Action Considerations

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 be implemented in a reasonable time
- Quality control: actions should lend themselves to easy evaluation and control
- Cost: actions should be reasonably cost effective

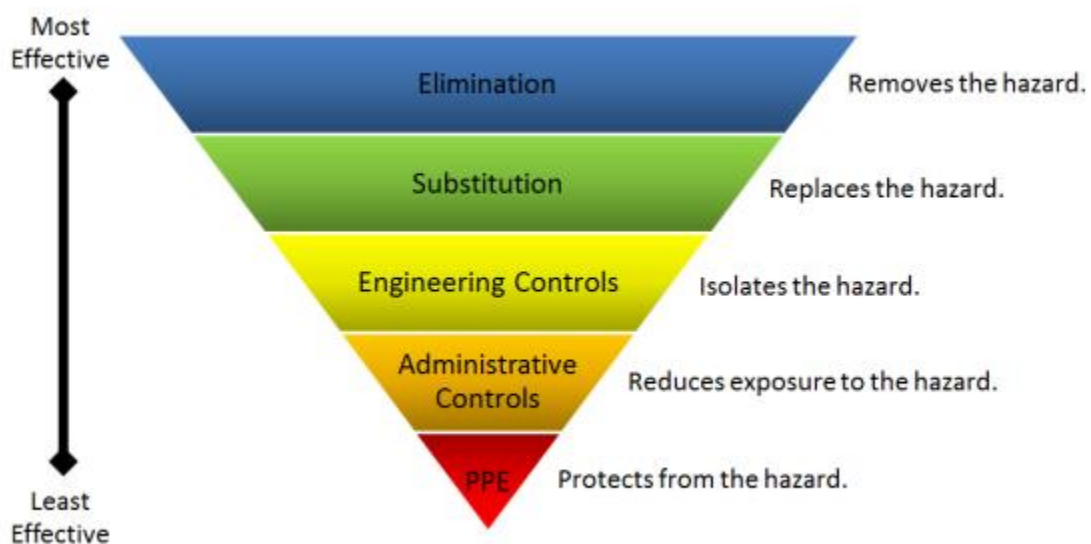


Figure 2: Hierarchy of hazard controls.

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 control still follows a hierarchy. Engineering controls, or controls implemented at the source of the hazard, are the next most desired – and typically the next most effective – since they usually do not require further intervention by the end user(s); the control exists indefinitely. Some examples of engineering controls include 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 workers are 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. Examples of personal protective equipment include: 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.

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 the 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.