

Accident Investigation Training

How to Conduct a Workplace Accident Investigation

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Goals for this Training

- Learn simple tools that can be used to investigate simple and complex accidents.
- Learn the importance of root cause analysis.
- Walk away with resources that can help minimize the occurrence of accidents in your department.

What is an Accident?

- Unplanned and unwanted event that disrupts work processes by causing injury or damage.
- Accidents are caused occurrences, rarely due to an a random happening or “Act of God.”
- Accidents are preventable and even predictable events.



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Why Investigate?



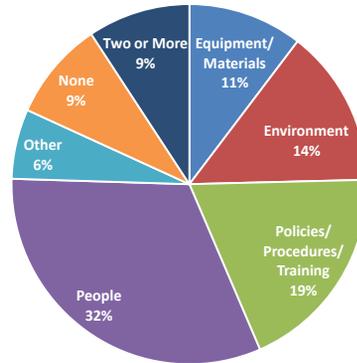
- Investigations can uncover deficiencies in procedures and training or draw attention to needed repairs/maintenance.
- Investigations lead to corrective actions that prevent reoccurrence of accidents.
- Investigations are required by law for serious accidents (WAC 296-800-32020).

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Leading Root Causes at UW

- Online Accident Reporting System (OARS) reports from 2013 (N = 1,086), excluding Medical Centers, were categorized by the causes identified by the supervisor.
- The leading root causes for accidents reported at UW are people, policies/procedures/training, and environmental causes.
- “People” includes inattention, lack of awareness, rushing, or failure to follow established procedures.
- Only 9% of accidents have more than one cause identified.



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Supervisor Comments

- “Carelessness”
- “Human error”
- “Inattention”
- “Rushing”
- “N/A”
- “Accidental injury? I wasn't present.”

“When the determinations of the causal chain are limited to the technical flaw and individual failure, typically the actions taken to prevent a similar event in the future are also limited: fix the technical problem and replace or retrain the individual responsible. Putting these corrections in place leads to another mistake: The belief that the problem is solved. –
Columbia Investigation Board, NASA 2003”

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Accident Investigation Process

1. Preserve and document the scene.
2. Collect facts through interviews.
3. Develop event sequence.
4. Initiate online report.
5. Determine causes.
6. Recommend improvements
7. Complete report.



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1. Preserve and Document the Scene

- Take immediate action to prevent injury or damage.
- Secure and preserve the scene. until the investigation is complete.*
- Communicate with employees in the area.
- Take (many) photos from various view points.



*For injuries that result in hospitalization or fatality, it is against the law to move any equipment until L&I gives the okay *unless* you must move the equipment to remove victims or prevent further injury.

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“Employee was shocked by electrical outlet while unplugging cord.”



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2. Collect Facts Through Interviews

- Interview affected employee(s) and witnesses as soon as possible.
- Interview at the accident scene, if possible.
- Keep the purpose of the investigation in mind. Make sure the interviewee understands as well.
- Ask for the interviewee's suggestions.

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3. Develop the Sequence of Events

- Analyze the accident by breaking down
 - Events prior to accident
 - Events during
 - Events immediately after
- Identify gaps in your timeline and gather additional facts and information as needed.

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4. Initiate Report

- Accidents at the university are reported via the Online Accident Reporting System (OARS).
- Report all accidents within 24 hours.
- OARS serves several purposes:
 - Meeting reporting requirements
 - Documenting your investigation
 - Requesting assistance from EH&S, if needed
- Accidents resulting in a fatality or hospitalization must be reported by calling EH&S at 206.543.7262

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4. Determine the Causes

- **Direct Cause** – The immediate source of the accident, often quickly identified
- **Indirect Cause** – An unsafe action or condition
- **Root Cause** – Policies, decisions, environmental or personal factors

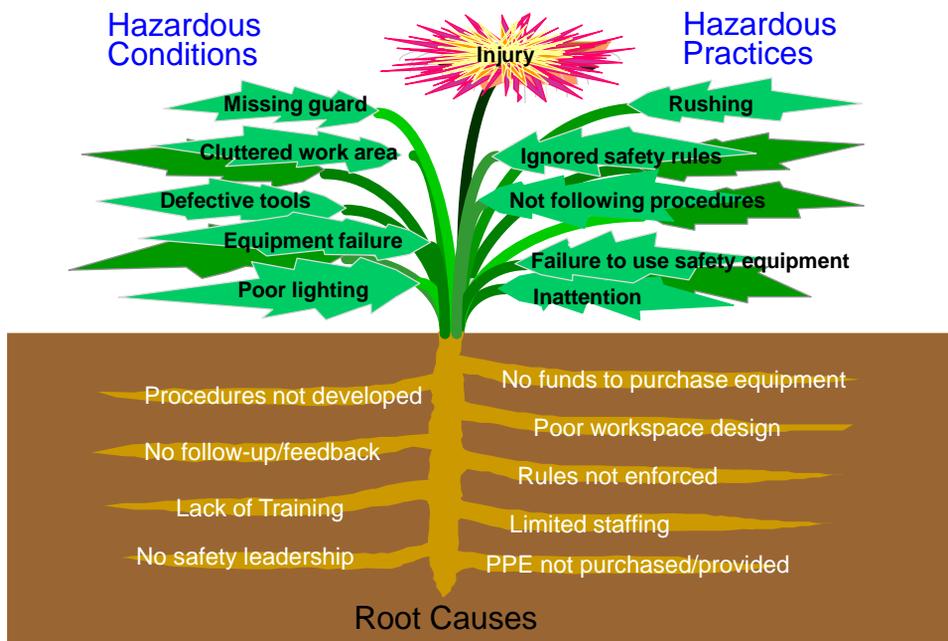
“Accidents usually result from multiple and interacting causal factors that may have organizational, cultural, technical or operational systems origins. If accident investigations do not relate to actual causal factors, corrective actions taken will be misdirected and ineffective.”
(Manuele, 2011)

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Manuele, F. (2011). Reviewing Heinrich: Dislodging Two Myths From the Practice of Safety. *Professional Safety*, 51-61.

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The “Accident Weed”



Accident Scenario

Ellen tripped and fell on the stairs, spraining her ankle.

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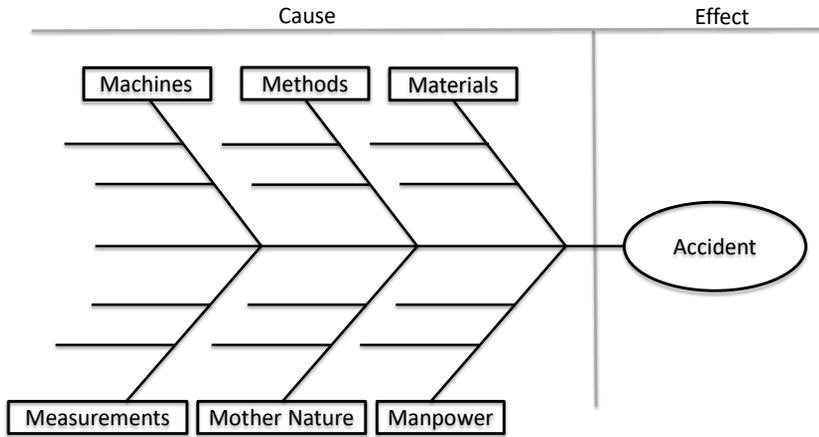
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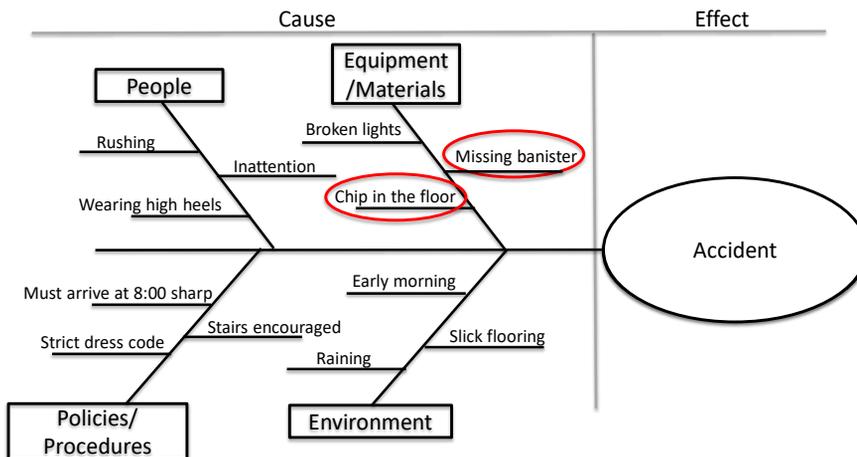
Ishikawa (Fishbone) Diagram



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Ishikawa (Fishbone) Diagram



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The Five Whys

Repeatedly asking the question “Why” may lead you to the root cause of an accident. You will find that the most obvious cause will only lead to more questions.

Example: You are on your way to work and your car stops in the middle of the road.

Why did your car stop?

Because it ran out of gas.

Why did it run out of gas?

Because I didn't buy gas on my way to work.

Why didn't you buy gas on your way to work?

Because I didn't have any money.

Why didn't you have any money?

Because I lost it all during a poker game last night.

Why did you lose at poker?

Because I'm terrible at bluffing.



Accident Scenario

Employee was lifting equipment into truck and injured back.

5. Recommend Improvements

- Using your root cause analysis, look ahead to see how the risk of similar incidents can be reduced.
- Identify solutions that are practical, specific, effective, and based on consultation.
- Rank your solutions in order of priority.
- Make a plan and take the first step.
- Follow-up.

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6. Complete the Report

- Document your findings in the OARS report.
- Set a target date to complete your suggested corrective actions.
- Once you complete the corrective actions or take the first step to completing the corrections, the report can be closed.
- Continue to follow-up and make steps towards improvement.

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EH&S and Investigations

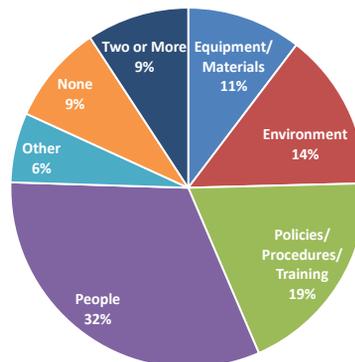
- EH&S may assist with the investigation when an accident involves a:
 - Hospitalization or fatality
 - Chemical spill and/or exposure
 - Bloodborne pathogen exposure
 - Recombinant/synthetic DNA exposure or spill.
 - Fires
 - Physical hazard such as a damaged sidewalk

EH&S is available to assist with an investigation upon request.

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Room to Improve



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Resources

- EH&S website: <http://ehs.washington.edu/>
 - Online Accident Reporting System (OARS)
<http://ehs.washington.edu/ohsoars/index.shtm>