

RiskTopics

Accident Investigation Matters

Accident investigation can influence events from recurring and can identify root causes to help mitigate future occurrences both internally and externally.

Introduction

Accidents are unplanned, unwanted events that stop the normal course of action resulting in property damage, personal injury, or a fatality.^{1,4} Accident investigations matter, because they can reveal the chain of events that occurred and explain why that particular chain of events had a disastrous result. This valuable data is then used by industries and governments to improve products, processes and intervention strategies to mitigate known risks and hazards to prevent similar accidents in the future.³

Discussion

Employers have many reasons to conduct workplace investigations²:

- To protect the company's most vital assets – the employees
- To determine the core reason or cause behind the accident
- To determine the costs of an accident (i.e., property damage, workers' compensation)
- To determine compliance with applicable safety regulations
- To fulfill the legal/insurance requirements
- To protect the company's reputation

Accidents can be broken down through a systemic root cause analysis that's comprised of: direct causes, indirect causes, and root causes.⁴ When accidents are investigated, the emphasis should be concentrated on finding the facts and root cause(s) of the accident rather than placing blame on any one person or event.⁴

A best practice before an accident occurs is a prepared accident investigation plan to implement right away that includes emergency contacts, an accident investigator's kit, and a communication plan.

Guidance

What are the steps of an accident investigation?

There are three primary tasks associated with accident investigation and reporting. An investigator should have a clear understanding of the process and the six steps involved in conducting a formal investigation. The process is broken down as follows:

- Gather the information
 - Secure the scene
 - Collect the facts
- Analyze the facts
 - Develop the sequence
 - Determine the cause
- Implement solutions
 - Recommendations (lessons learned/corrective actions)
 - Write the report

Any workplace should have a consolidated list of emergency numbers for police, fire, hospitals, poison control and all other relevant agencies. This list should be placed in strategic areas including an accident investigator's kit for easy access at the time of an accident.

An accident investigator's kit is pre-assembled for immediate access to grab and go when needed. Keeping in mind that a live drill should be conducted periodically to make sure all parties understand what to do in the event of a live accident. Listed below are some items that may be considered to include in an accident investigation kit:

- | | |
|---------------------------------|---|
| • Camera or phone | • Tape Measure |
| • Clipboard, paper, pencils | • Utility Knife |
| • Respirator | • First-Aid Kit |
| • Bloodborne Pathogen (BBP) kit | • Flashlights |
| • Warning Tape | • Appropriate Personal Protective Equipment |
| • Emergency Contact List | • Self Contained Breathing Apparatus (SCBA)*
*(may be required in certain instances) |

This item list can be modified by management to meet the company's needs and line of business.

The last step in effective preparedness is a communication plan. This plan can determine who should be notified of the accident, determine who conducts the accident investigation, who reports a claim to the

insurance carrier, and establishes timetables for conducting the investigation and follow-up corrective actions such as hazard correction.

What are the steps to determine a root cause analysis?

There are five steps involved in determining root cause of an accident once all key participants are involved. These steps include:

1. Analyzing the injury event to identify and describe the direct and indirect causes of injury/illness
2. Analyzing events occurring just prior to the injury event to identify those conditions and behaviors that caused the injury (primary causes) for the accident
3. Analyzing conditions and/or behaviors to help better determine if there are other causal factors
4. Analyzing each contributing condition and behavior to determine if weaknesses in carrying out safety policies, programs, training, plan, processes, procedures and practices (inadequate implementation) exist
5. Determining implementation flaws to determine the best path towards mitigating future losses

Root Cause Analysis Example:

One way to determine the root cause is to follow the industry standard 5 “Why” process. You can find detailed information on this process on the OSHA.gov website. This root cause analysis approach requires you to question how the sequential causes arose and identify the cause-effect path. Start with the incident statement (direct cause): An employee fell off a ladder changing a light bulb and incurred a shoulder injury striking against/impacting the concrete floor.

Next, start asking a series of “why” questions to reveal the indirect causes and eventually illuminate a root cause:

Why did this event occur?

Why (1): The step ladder gave way and collapsed.

Why (2): The step ladder had a crack in the rear rail near the base.

Why (3): A defective ladder was in active service.

Why (4): There was no process in place to inspect the ladder prior to use or train employees on safe ladder usage.

Why (5): A defective ladder was allowed to be in use due to no company process to inspect, remove or replace damaged ladders.

If your investigation is pointing toward a group or a written plan, policy, or procedure, it is probably a root cause. Through a basic 5-“Why” process, the root cause of the employee injury concludes that a defective ladder was allowed to be used by the employee. The “Why” process can end at five, but can continue longer if needed. The purpose of the 5-“Why” is to showcase that there is more to an accident than its direct cause.

A sample corrective action in this scenario is to ensure that any damaged ladder be removed from the location and establish a set training and inspection schedule for employees.

After completing the accident investigation, the next step is to recommend corrective actions and discuss lessons learned.

Remember: For accident investigation to be effective, management must consider the findings and develop an action plan for taking corrective action and making system improvements. Finally, periodic evaluation of the quality of accident investigation and report is critical to maintaining an effective program.

Conclusion

Accident investigation is a fact-finding process, not fault-finding. Through effective accident investigation efforts, employers can prevent accident recurrence, improve work methods or processes, control costs and most importantly protect the company's vital assets – the employees.

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November 2017

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