

Determining Contributing Factors and Root Causes

Root cause analysis is an important part of the investigation process when there is an incident or hazard in your workplace. Use the analysis process defined below to identify both contributing factors **and** root causes, to tell you what led to the incident or hazard.

This one pager walks you through the steps to perform a root cause analysis. Root cause analysis results can be beneficial to your safety management system, and in preventing the next incident or hazard from occurring in your workplace. Recognizing individual root causes and contributing factors and sharing them with your workforce helps avoid the same or similar events in the future. Use your findings to identify corrective actions for accident prevention purposes.

Contributing Factor:	Root Cause:
Conditions or actions that, if removed, would likely prevent the incident or hazard from happening, or reduce the severity of its consequences. EXAMPLE: AN EMPLOYEE MISTAKENLY SKIPPED A STEP IN THE SAFE WORK PROCEDURE, WHICH CONTRIBUTED TO AN INCIDENT.	The underlying weaknesses ultimately leading to contributing factors in an incident or the existence of a hazard. EXAMPLE: THE EMPLOYEE HAS NOT RECEIVED FORMAL TRAINING ON THE PROCEDURE BECAUSE THE PROCEDURE WAS NOT ADDED TO THE TRAINING CURRICULUM.



STEP 1: COLLECT INFORMATION

Start your analysis by gathering information related to the incident or hazard. Interview people who identified the hazard or who were involved in or witnessed the incident. Do not wait too long to hold interviews; the longer you wait, the more likely your employees are to forget key information. Ask them who, what, when, where, why, and how.

Conduct a visual assessment at the scene of the incident or hazard, if possible. Doing so gives you a better idea about what happened and how it happened. Take pictures for future reference.



Image retrieved from Bing Images

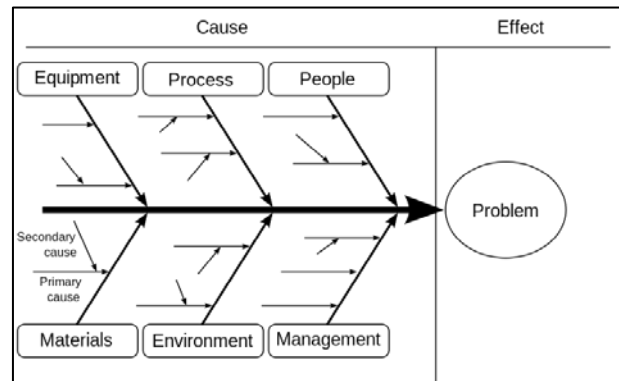
Review documents related to the work performed when the incident or hazard occurred. Examples of documents to review include workplace procedures and policies, training records, and permits. Gather and review incident or hazard-related information too, such as hazard reports, maintenance records, and previous incident reports. You may want to look at past inspection findings to see if anything previously identified led to the incident or hazard.

STEP 2: ANALYZE THE INFORMATION FOR CONTRIBUTING FACTORS

Start reviewing the gathered information to determine why the incident or hazard occurred.

Some examples of common root cause analysis methods you can use include:

- [Five Whys Analysis](#)
- [Fishbone Diagram](#)
- [Fault Tree Analysis](#)
- [Flowchart](#)
- [Failure Mode and Effect Analysis](#)



Fishbone diagram image retrieved from Bing Images.

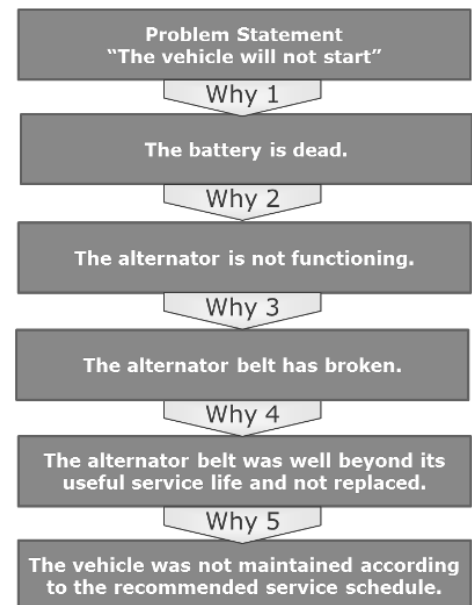
Look for anything contributing to the hazard or incident. Contributing factors can include things such as the equipment, processes, people, materials, environment, and management. It is beneficial to brainstorm as a group to make your list as comprehensive as possible.

STEP 3: IDENTIFY ROOT CAUSES

Now, use your contributing factors to get to the “why” behind the issue. Thoroughly analyze your identified contributing factors to determine what caused each contributing factor to exist.

For example, if one contributing factor is an employee not following procedure, you need to find out why the employee did not follow the procedure. There could be several reasons. Perhaps the employee did not receive training, had management pressure to rush the task, or a supervisor told the employee not to follow the procedure.

In any case, drill down, continuing to ask why until “why” can't be answered anymore. This technique can lead you to the root cause for your incident or hazard. Keep in mind, an incident or hazard may have multiple root causes!



Five Whys graphic retrieved from Google Images.

STEP 4: RECOMMEND SOLUTIONS

Finally, you need to recommend solutions. The solutions you choose to employ must address the contributing factors and root causes identified—it is how you prevent the next incident or hazard!

Think about what you can do to directly address the root causes first. Generally, if you target the root causes you can also eliminate the contributing factors. Make sure the solutions are feasible for your organization and the situation. For example, suppose you had an employee slip on a wet floor and hit their head. Would you rather clean up the water and move on or fix the reason the floor became wet, if possible?

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