

Root cause analysis worksheet

The working record of the analysis step for one incident, near miss or nonconformance that has already been reported. It starts where the incident report or the nonconformance report hands over and does not repeat them: first aid, notification and the first account of the event stay on those forms, and this sheet points to them by number. Here the team logs its evidence, puts events and conditions in order, tests each answer in a why-chain against that evidence, sorts candidate causes by category, separates causal factors from the root causes that allowed them, and sets actions that close only when a check shows they work. It looks for what allowed the event to happen, not for someone to blame. The order of steps follows public guidance (HSE's HSG245, OSHA's guide for employers, DOE's root cause guidance, CCOHS); the categories, codes and example lines, from an invented goods-in dock case, are ours. Named methods such as TapRoot® and ICAM are not reproduced here; their output can be attached. A general template, not legal advice.

1 Event and investigation set-up

Investigation reference	Opened on	Report due by	Status ☐ Open ☐ Report issued ☐ Actions open ☐ Closed
Handed over from (tick and write the number; the facts stay on that record) ☐ Incident report no. _____ ☐ Nonconformance report no. _____ ☐ Complaint, audit or other: _____			
Event date and time	Location (site, area, exact place)	Work being done at the time	
What happened: one or two sentences of fact, as on the source record _____ _____			
Actual outcome (no medical detail)	Worst credible outcome if it happened again	Level of investigation (HSG245's four levels) ☐ Minimal ☐ Low ☐ Medium ☐ High	
Lead investigator (name, role)	Team members and roles: include someone who knows the work and a worker or safety representative	Manager with authority to act on the findings	
Terms of reference: the questions this investigation must answer, and what it leaves out _____			

HSG245 sets the level by the worst credible consequence and how likely the event is to happen again, not by the harm done this time: from a supervisor's look into a minimal-risk event to a team investigation overseen by senior management. Choose the depth before the work starts, and record a change of level with its reason.

2 Evidence log

Ref.	Evidence: what it is	Type	Collected by, date and time	Kept where	Basis	What it shows, and its limits
E1	Example: fixed-blade knife from the dock 2 tool board, bagged and tagged	P	Example: EHS lead, 14 Mar 10:55	Example: EHS cabinet	F	Example: worn blade, no guard; does not show who brought it to the dock

Type: **P** physical item or the scene, **D** document or record, **I** interview, **M** photo, video, sketch or measurement. **Basis,** so each conclusion can be checked as CCOHS suggests: **F** fact shown directly by an item or a record, **W** witness account, **A** assumption. Record first what can change (the scene, positions, settings), interview witnesses apart and soon, then gather records: procedures, risk assessments, permits, maintenance and training records, earlier incidents and earlier actions. Keep names and contact details on the incident report and use roles here.

3 Timeline of events and conditions

[illegible]

Put earlier events first and write conditions (a stock-out, a changed supplier, a vacancy) as well as actions. The 'different from normal' column is a simple change analysis, as DOE's guidance describes it: compare with the last time the task went right. A gap in the timeline is a question for the evidence log, not a guess.

4 Why-chain, tested against the evidence

Start from the event or from one causal factor. If the incident or nonconformance report already has provisional why lines, copy them here as hypotheses and test them; they are not findings yet. Each answer needs evidence from section 2, or it stays open. HSG245 keeps asking why until the answers stop being meaningful, and OSHA warns against stopping at 'careless' or 'did not follow the procedure': ask what made that the easy or normal thing to do. When an answer splits in two, run the second branch on a copy of this table.

This chain starts from (the event, or causal factor no.)				Chain no.		Worked on by, and date	
Step	Why? (the question asked)	Because (the answer)	Evidence ref.	Basis F, W or A	Confirmed, rejected or open	If open: what would test it	
Ex.	Example: why was a fixed blade in use?	Example: no safety cutters in stores since 6 March	E3	F	Confirmed		
Why 1							
Why 2							
Why 3							
Why 4							
Why 5							
Why 6							

Explanations rejected, and the evidence that ruled each one out (keep them: they show what was considered)

5 Candidate causes by category (fishbone)

Write each candidate cause on its bone with its evidence reference and a status: **C** confirmed by evidence, **R** ruled out (say why in section 4), **?** still open. A candidate is not a finding until the evidence log supports it. The six headings are ours, drawn from the four areas HSG245 checks for immediate causes (place, plant, process, people) and CCOHS's five categories (task, material, environment, personnel, management); a 6M set or your own headings work as well, as long as every question is asked.

A Place and work environment			B Plant, equipment and tools			C Materials and substances		
Layout, access, space, lighting, noise, heat, weather, housekeeping			Right for the job and the user? Guards, controls, maintenance, defects			As specified? Changed recently? Weight, shape, packaging, hazards		
Candidate cause	Ev. ref.	C, R, ?	Candidate cause	Ev. ref.	C, R, ?	Candidate cause	Ev. ref.	C, R, ?

D Procedures and the task			E People and competence			F Organisation and management		
Was there one, was it current and realistic, was it followed, and if not why?			Training, experience, workload, fatigue, distraction; slips, mistakes, shortcuts: ask why			Supervision, resources, planning, targets, change control, contractors		
Candidate cause	Ev. ref.	C, R, ?	Candidate cause	Ev. ref.	C, R, ?	Candidate cause	Ev. ref.	C, R, ?

The event
as in section 1, in a few words

6 Causal factors

Causal factor		Root cause (section 7)		
An event or condition without which this event would not have happened, or would have been less serious. DOE's guidance calls the one that directly produced it the direct cause and the others contributing causes; HSG245 speaks of immediate and underlying causes. Expect several, each with evidence.		The management, planning or organisational failing that let one or more causal factors exist. DOE describes it as the cause whose correction prevents this and similar events; OSHA and EPA call it a correctable system failure. There is often more than one, and each should be something the organisation can change.		
CF no.	Causal factor (event or condition)	Direct or contributing	Evidence ref.	Control or barrier that was missing, failed or not used
CF1	Example: fixed-blade knife used to cut straps	Direct	E1, E5	Example: safety cutter, specified for the dock, not available

7 Root causes: check the management system, then name them

HSG245 says the root causes of almost all adverse events are failings at management level, groups them under the seven headings below, and asks for this part to be done by people with the authority to change the management system. The questions are our summary.

Heading (HSG245)	What to ask (our summary)	Gap? Y, N, ?	Evidence ref.	RC no.
Control	Was the work supervised so that controls worked as intended? Were contractors overseen?			
Co-operation	Were workers and their representatives involved in the assessment and procedure?			
Communication	Were duties clear, instructions usable and information passed between shifts?			
Competence	Were training needs for this task identified, met and checked?			
Design	Were the workplace and equipment designed with likely human error in mind?			
Implementation	Were staffing, maintenance and defect reporting adequate, and targets realistic?			
Risk assessment	Was the hazard assessed suitably and sufficiently, and were its controls in place?			

RC no.	Root cause (the system failing)	Explains CF no.	Evidence ref.	Fixing it would prevent similar events? Why	In our control? If not, whose
RC1	Example: cutting tools not controlled as safety items: no reorder point, local buys without a check	CF1, CF2	E3, E7	Example: yes, on all three docks and for other tools	Yes

8 Corrective and preventive actions, with an effectiveness check

No.	Action: what will change	For CF or RC	C or P	Kind E, S, H, M	Owner (role)	Due	Done on	Effectiveness check: what, when, by whom	Result
A2	Example: safety cutters on the reorder list with a minimum stock; local buys of cutting tools need EHS approval	RC1	C	M	Example: stores manager	21 Mar	20 Mar	Example: stock and card records, April to June: no stock-out, no local buy; EHS lead, 30 Jun	Example: effective

C corrective, removes the cause here; **P** preventive, removes the same cause where it has not caused harm yet (HSG245 asks whether similar risks exist elsewhere). **Kind**, in HSG245's order of preference: **E** eliminates the risk (an inherently safer product or method), **S** combats it at source (guarding, engineering), **H** relies on people (procedure, training, PPE); **M** changes a management arrangement. Write actions that can be checked: DOE's guidance contrasts revising a named step with 'ensure it is done correctly'. An action closes when its check shows it works, not when it is done; if it does not work, reopen the analysis.

9 Close-out and sign-off

Risk assessments, procedures and training to review (references), and who does it	Similar risks elsewhere (sites, tasks, equipment), and who was told
Earlier similar events (references), and why their actions did not prevent this one	Findings reviewed with the people whose work they affect, contractors included (who, when)

Role	Name	Signature	Date
Lead investigator			
Worker or safety representative			
Manager who approved the action plan			
Closed by (effectiveness checks reviewed)			

Read on 22 October 2026 for this form: HSE, HSG245 (2004); OSHA, Incident [Accident] Investigations: A Guide for Employers (2015), and the OSHA and EPA root cause fact sheet (2016); DOE-NE-STD-1004-92 (1992); CCOHS, Incident Investigation (revised 23 June 2025); the CSB's recommendations FAQ; 29 CFR 1910.119(m). None of them has reviewed this form. TapRoot® (System Improvements) and ICAM are named only.