CONCEPT

# Root Cause Analysis and CAPA: 8D, 5 Whys and Fishbone Problem Solving

# Root Cause Analysis and CAPA: 8D, 5 Whys and Fishbone Problem Solving

**Technical depth:** Practitioner · **Practical mode:** Case study

## Introduction

The same defects, complaints and service failures return because corrective actions treat symptoms. Investigations stop at "human error", root causes are asserted rather than verified, and CAPA logs fill with actions that are closed but never checked for effect. This Core Concept course equips quality and operations staff to run disciplined investigations with the 8D method, the 5 Whys, the Fishbone diagram and supporting data tools, and to prove that the chosen actions work. Participants investigate cases from several sectors and leave with an 8D Report and CAPA Plan for a live problem in their own workplace.

## Course Objectives

- Define a problem precisely with 5W2H and Is/Is Not analysis before searching for causes
- Lead an 8D investigation from team formation and containment through to closure and recognition
- Apply Fishbone, 5 Whys, Pareto and fault tree analysis to identify and verify occurrence and escape root causes
- Select permanent corrective actions and mistake-proofing measures that prevent recurrence
- Verify corrective action effectiveness with data and update FMEA and control plans accordingly
- Produce an 8D Report and CAPA Plan for a live problem in the participant's own workplace

## Target Audience

- Quality engineers and quality officers who investigate nonconformities and customer complaints
- Production and operations supervisors who own recurring process problems
- Supplier quality staff who review and approve suppliers' 8D reports
- Maintenance and process engineers who investigate equipment and process failures
- Service delivery team leaders who handle repeat service failures

## Course Outline

## Day 1: Problem-Solving Foundations and Nonconformity Context

- Nonconformity, Correction, Corrective Action and Preventive Action Definitions in ISO 9001:2026
- IEC 62740:2015 Root Cause Analysis Process and Technique Selection
- Cost of Poor Quality Estimation for Recurring Problems
- Problem Statement Writing with 5W2H
- Current-State Review of an Existing CAPA Log

## Day 2: The 8D Method and Supporting Frameworks

- 8D Disciplines D0 to D8 Under AIAG CQI-20 and VDA 8D Guidance
- Team Formation and Containment Planning for D1 and D3
- Is/Is Not Analysis for Problem Boundary Definition
- Kepner-Tregoe Problem Analysis: Distinctions and Changes
- A3 Problem-Solving Report Structure

## Day 3: Root Cause Tools in Practice

- Ishikawa Fishbone Diagram Using the 6M Categories
- 5 Whys Chains for Occurrence and Escape Root Causes
- Pareto Analysis and Check Sheet Data Collection
- Fault Tree Analysis to IEC 61025:2006
- Root Cause Verification Through Data, Trials and Turn-On/Turn-Off Testing

## Day 4: Corrective Action, Pitfalls and Effectiveness

- Weak Root Cause Statements: Human Error, Symptom Stopping and Blame Bias Checks
- Permanent Corrective Action Selection with a Weighted Decision Matrix
- Mistake-Proofing Poka-Yoke Levels for Recurrence Prevention
- FMEA and Control Plan Updates Under IEC 60812:2018 and the AIAG-VDA FMEA Handbook
- Effectiveness Verification with Shewhart Control Charts and Closure Criteria

## Day 5: Case Work and the 8D Report

- Automotive Supplier Case Study: Customer Complaint Worked Through 8D
- Hospital Pharmacy Case Study: Dispensing Error Analysed with Fishbone and 5 Whys
- Logistics Case Study: Repeat Delivery Failures Prioritised with Pareto
- 8D Report and CAPA Plan Drafting for an Own Problem
- Peer Review of Root Cause Evidence and Report Defence

## Skills You Will Gain

- Structured Problem Solving
- Cause-and-Effect Analysis
- Root Cause Verification
- Containment Management
- Mistake-Proofing Design
- Corrective Action Effectiveness Review
- Supplier 8D Evaluation

## Why Attend This Course

- Return with an 8D Report and CAPA Plan for a real problem, with root cause evidence already challenged by peers
- Stop closing actions that treat symptoms while the same problem returns a month later
- Review a supplier's or colleague's 8D report and spot a weak root cause statement quickly
- Compare problem-solving practice with colleagues from manufacturing, healthcare, logistics and service organisations

## Conclusion

A corrective action is only as good as the root cause it addresses and the evidence that it worked. This course moves from precise problem definition and the 8D structure, through the Fishbone, 5 Whys, Pareto and fault tree tools, to the pitfalls, mistake-proofing and effectiveness checks that decide whether a problem stays solved. The final day applies the full sequence to cases and to each participant's own problem, producing an 8D Report and CAPA Plan ready for review at work.