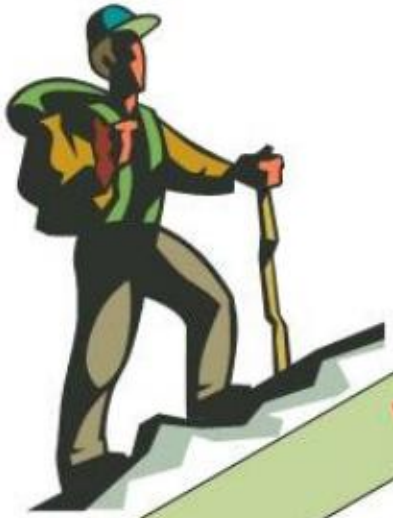
# RCA Process and Tools



RCFA Process

Failure

- Interviews
- Protect Equipment/Parts
- Documents, Records, Diagrams
- Creative Disassembly of Parts
- Expert Investigation

Evidence and Proof

Investigation and Understanding

- Flowchart
- Fishbone Diagram
- Timeline Plots
- Distribution Histograms
- Pareto Charts
- FMEA

Analysis and Identification

- Brainstorming
- Brain Writing
- Is-Is Not Table
- Why Tree (Fault Tree Analysis)
- 5/7 Whys (and test Why Tree)

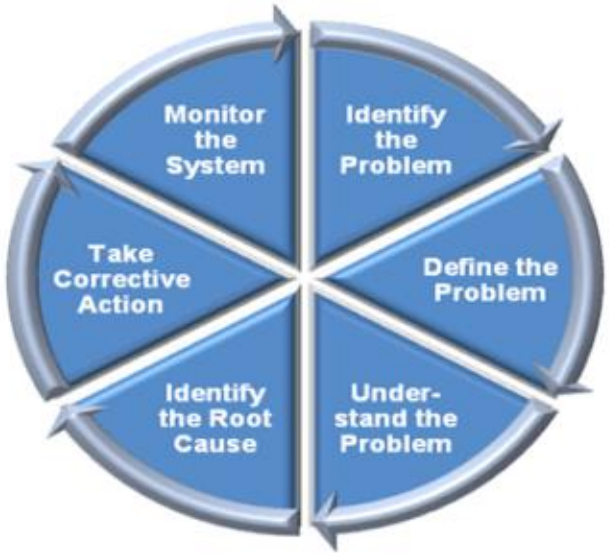
Corrective Action

- Evaluation Table
- Affinity Diagrams
- Relationship Digraph

Implementation

- Project Management

# RCA Process




| Steps | Explanation |
|---|---|
| 1. Identify the event to be investigated and gather preliminary information | Events and issues can come from many sources (e.g., incident report, risk management referral, resident or family complaint, health department citation). The facility should have a process for selecting events that will undergo an RCA. |
| 2. Charter and select team facilitator and team members | Leadership should provide a project charter to launch the team. The facilitator is appointed by leadership. Team members are people with personal knowledge of the processes and systems involved in the event to be investigated. |
| 3. Describe what happened | Collect and organize the facts surrounding the event to understand what happened. |
| 4. Identify the contributing factors | The situations, circumstances or conditions that increased the likelihood of the event are identified. |
| 5. Identify the root causes | A thorough analysis of contributing factors leads to identification of the underlying process and system issues (root causes) of the event. |
| 6. Design and implement changes to eliminate the root causes | The team determines how best to change processes and systems to reduce the likelihood of another similar event. |
| 7. Measure the success of changes | Like all improvement projects, the success of improvement actions is evaluated. |

# RCA Tools Comparison

| Method/Tool | Type | Defines Problem | Defines All Known Causes | Provides A Causal Path To Root Causes | Delineates Evidence | Explains How Solutions Prevent Recurrence | Easy To Follow Report | Score |
|---|---|---|---|---|---|---|---|---|
| Events & Causal Factors | Method | Yes | Limited | No | No | No | No | 1.5 |
| Change Analysis | Tool | Yes | No | No | No | No | No | 1 |
| Barrier Analysis | Tool | Yes | No | No | No | No | No | 1 |
| Tree Diagrams | Method | Yes | No | No | No | No | No | 1 |
| Why-Why Chart | Method | Yes | No | Yes | No | No | No | 2 |
| Pareto | Tool | Yes | No | No | No | No | No | 1 |
| Storytelling | Method | Limited | No | No | No | No | No | 0.5 |
| Fault Tree | Method | Yes | Yes | Yes | No | Yes | No | 4 |
| FMEA | Tool | Yes | No | Limited | No | Limited | No | 2 |
| **RealityCharting®** | **Method** | **Yes** | **Yes** | **Yes** | **Yes** | **Yes** | **Yes** | **6** |

# Types of RCA Methods and Application

| Type | origin |
| --- | --- |
| Safety-based RCA | originated in the fields of occupational safety and health, as well as accidental analysis. |
| Production-based RCA | originated in the field of manufacturing to ensure quality control. |
| Process-based RCA | originated in the fields of business and manufacturing. |
| Failure-based RCA | originated in the fields of business and manufacturing. |
| Systems-based RCA | originated as a combination of all of the above root cause analysis techniques, as well as borrowing concepts from risk management, systems analysis, and change management. |