



Risk Identification and Strategic Mitigation

Presented By BHHC Loss Control

July 2026

Safety Dilemma

I'm willing to spend whatever it takes to prevent all accidents



I need to reduce risk in a manner that ensures we meet our organizational goals

How do you make safety decisions and solve safety problems in your workplace?

Objectives

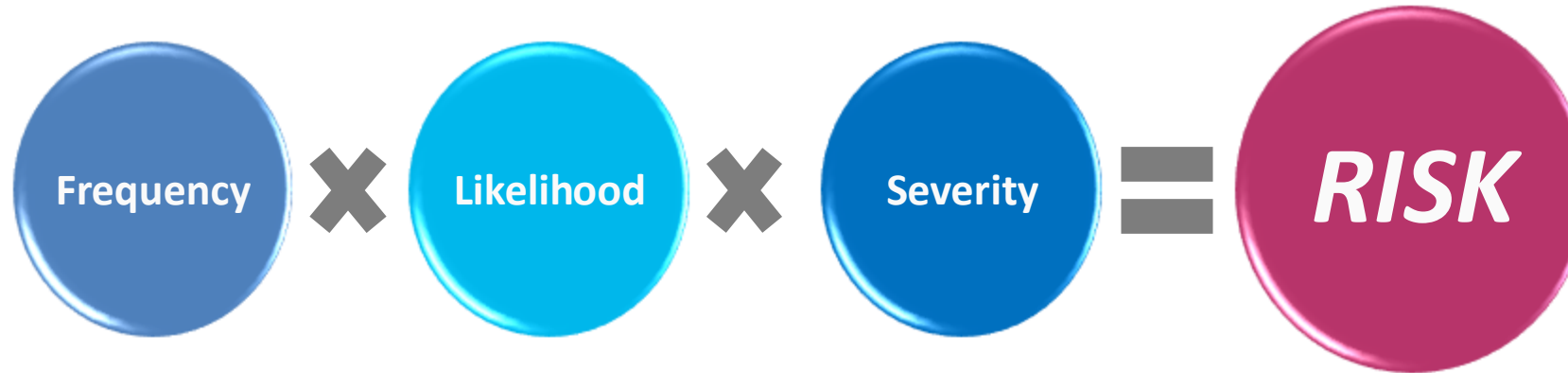
07/22/2026

When you are finished with this training, you will be able to:

1. Apply Risk Based Decision Making to Safety
2. Implement a six-step process to solving safety problems
3. Develop Strategic Solutions for Hazard Control
4. Integrate Risk Identification into Leadership Practice

Risk Based Decision Making

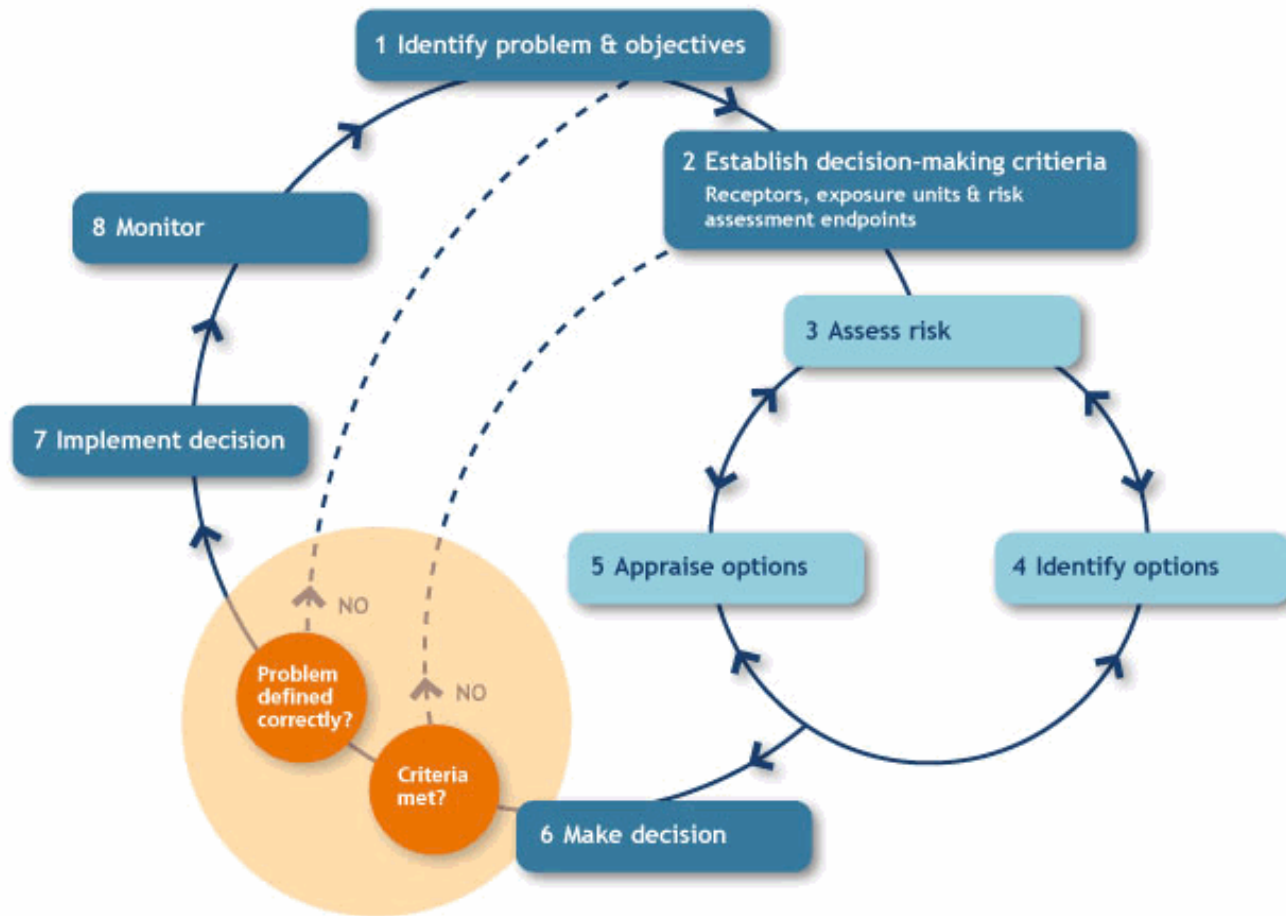
BHHC Risk Assumptions



- **Frequency** – number of times exposed to hazard
- **Likelihood** – chance that severity will be realized
- **Severity** – consequences of hazard being realized

Risk can't be eliminated BUT it can be identified, quantified and reduced

Assumed Risk by Default



- Assuming risk due to:
 - Unaware
 - Incorrect assessment
- Most dangerous as organization fails to plan
- Formal process needed

The Risk, uncertainty and decision-making framework was developed in 2003 by the Environment Agency's Centre for Risk and Forecasting and UKCIP, with funding from Defra.

Residual Risk

ONLY way to eliminate risk is to eliminate stairway!

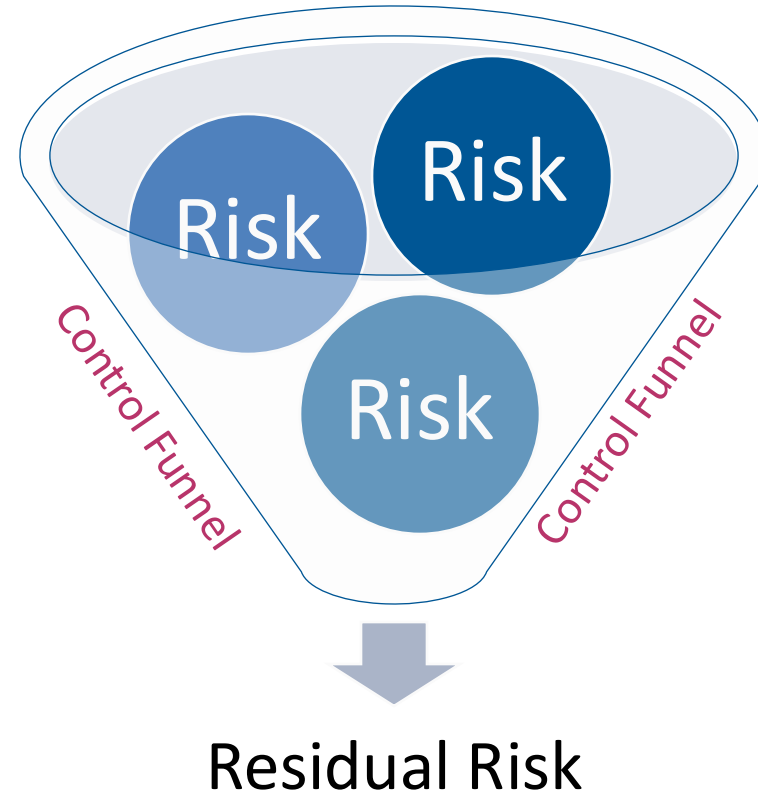
Stairs Hazard Controls

- Building codes
- OSHA standards
- Handrails
- Mid rails
- Kick plates
- Anti-slip treads
- Rules & procedures



Residual Risk

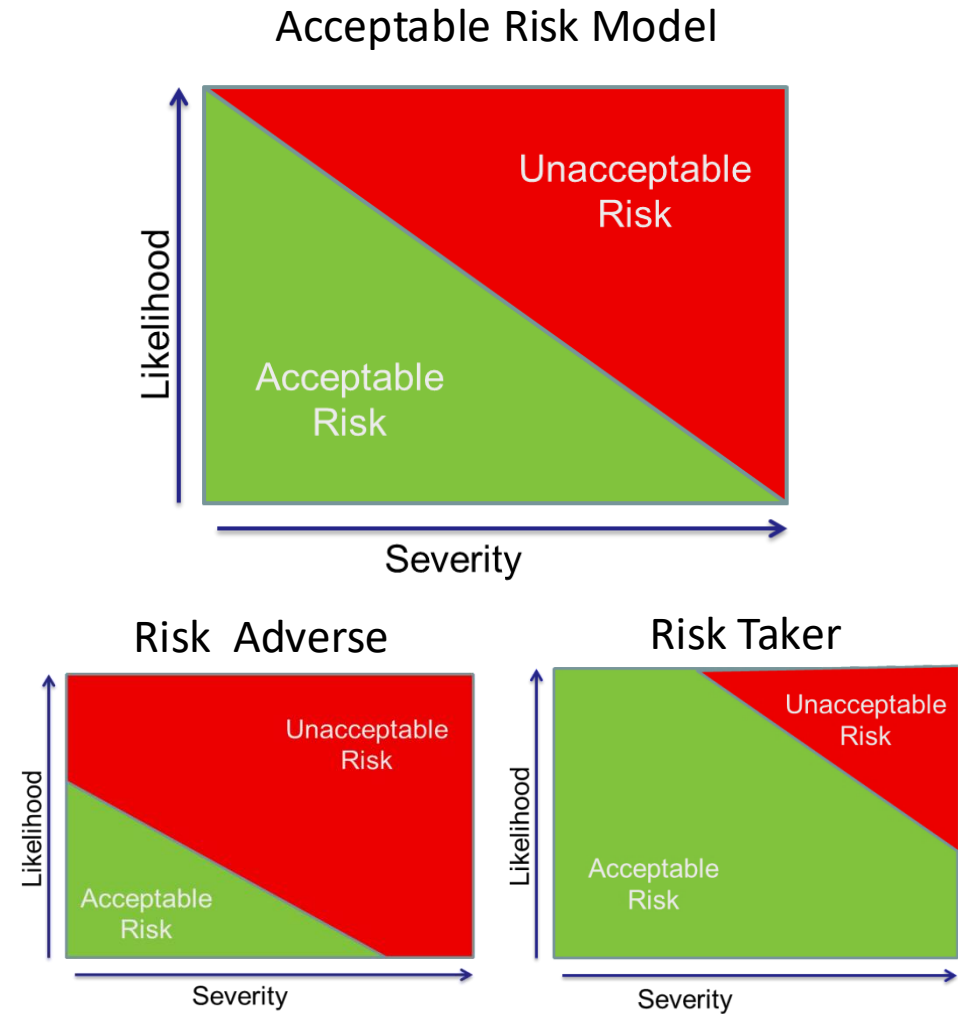
- Remains after hazard control measures are taken
- Present in every job task



Residual Risk and Acceptable Risk are not the same.

Acceptable Risk

- Organization establishes level of acceptable risk
- Lack of planning causes assumed risk by default
- Frequency of exposure to activities increases organizational risk



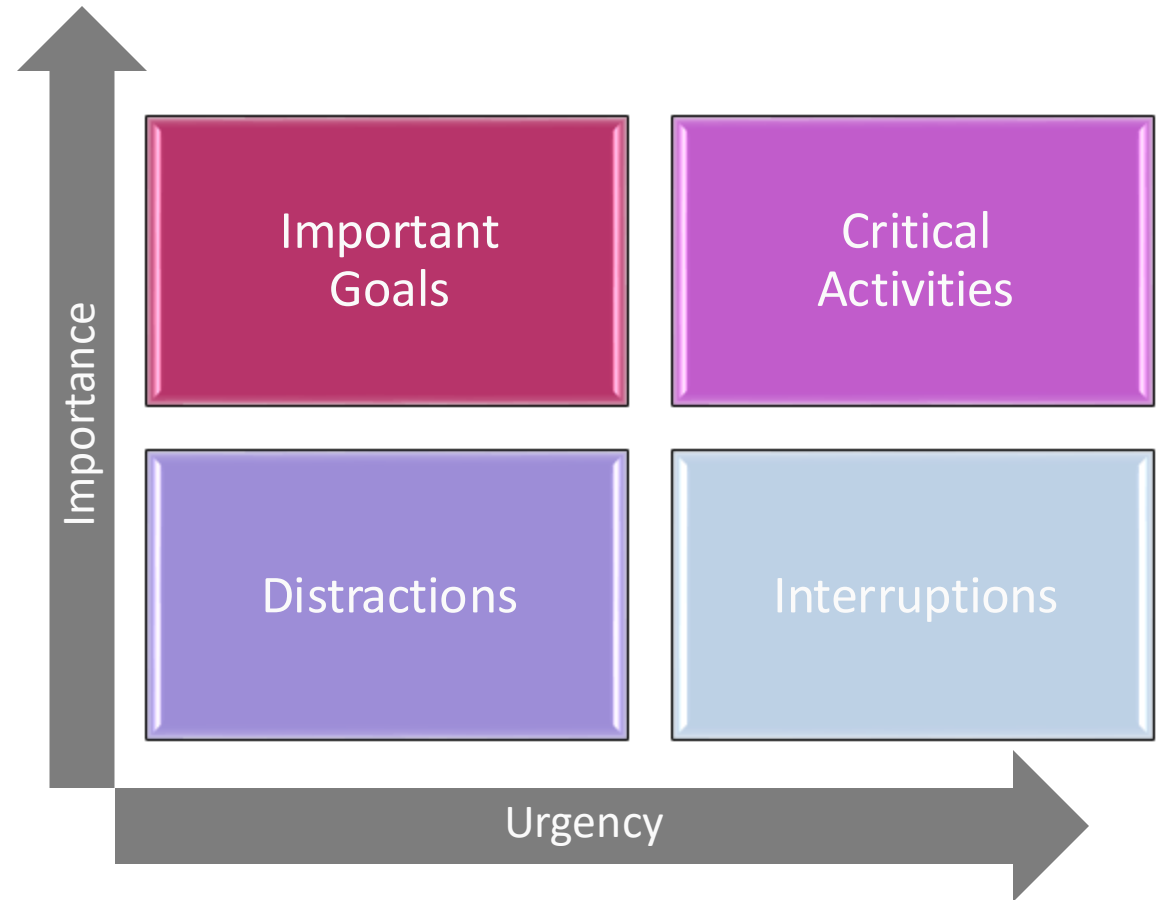
Acceptable Risk Decision Making

		Severity of harm			
		Negligible	Minor	Serious	Critical
Probability of occurrence	Frequent	Investigate further risk reduction	Investigate further risk reduction	Intolerable risk	Intolerable risk
	Probable	Broadly acceptable risk	Investigate further risk reduction	Intolerable risk	Intolerable risk
	Occasional	Broadly acceptable risk	Investigate further risk reduction	Investigate further risk reduction	Intolerable risk
	Remote	Broadly acceptable risk	Broadly acceptable risk	Investigate further risk reduction	Intolerable risk
	Improbable	Broadly acceptable risk	Broadly acceptable risk	Investigate further risk reduction	Investigate further risk reduction

- Determine acceptable organizational risk levels
- Create matrix for Risk-based decisions
- Develop and prioritize list using risk scores

Risk Prioritization

- Hard to intuitively evaluate risk
- Scoring Risk
 - Objective prioritization
 - Demonstration of risk reduction
 - Additive scoring of multiple risks
- BHHC Risk prioritization worksheet



Risk Quantification Worksheet

- Uses Peterson Risk Assessment Model criteria
- Weights scores by percentage of total FTE time related to exposure
- Scores can be used to prioritize

Location:					Date:	
Consultant:					# Emp	50
Contact:					# Units	
Weighted Score	-		Total Raw Score	495		

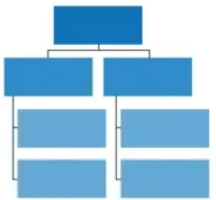
Risk Area	# of Employees	% of Total Time	Frequency	Likelihood	Severity	Score
Materials Handling	0	0%	Occasionally -- from once per week to once per month	Would be remotely possible has been known to occur	Extremely Serious Injury (PPD), damage \$1000 - \$100,000	45
Comments						
Falls - Same Level	0	0%	Continuously (or many times a day)	Would be an unusual sequence or coincidence	Extremely Serious Injury (PPD), damage \$1000 - \$100,000	450
Comments						
Falls - Elevation	0	0%				0
Comments						
Struck By or Against	0	0%				0
Comments						
Exposure to Environmental	0	0%				0
Comments						
Cumulative Trauma	0	0%				0
Comments						
Occupational Disease	0	0%				0
Comments						
Caught in Under or Between	0	0%				0
Comments						
Motor Vehicle Accident	0	0%				0
Comments						
Hand Tools - Manual or Powered	0	0%				0
Comments						
Contact with Electrical	0	0%				0
Comments						
Workplace Violence or Misconduct	0	0%				0
Comments						
Litigation and Fraud	0	0%				0
Comments						

Six Steps to Safety Problem Solving

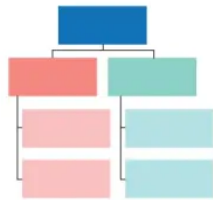
Principles of Problem Solving

Types of organizational structures

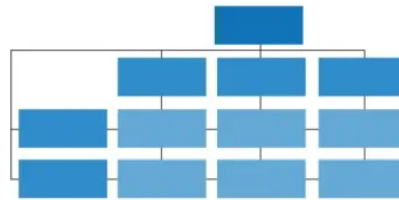
Hierarchical Structure



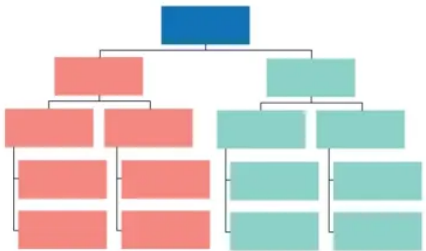
Functional Structure



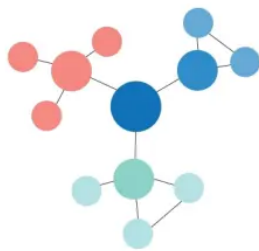
Matrix Structure



Divisional Structure



Network Structure



Team-based Structure



Horizontal/Flat Structure



- Be a learning organization
- Involve everyone
- Create an environment that values analysis and inquiry
- Use both rational and intuitive approaches

Rational and Intuitive Approaches



- Rational Approach
 - Data
 - Logic
 - Scientific methods
- Intuitive Approach
 - Gut feeling
 - Emotions
 - Creative methods

Rational Decision Making

Pro – Brings Structure and Clarity

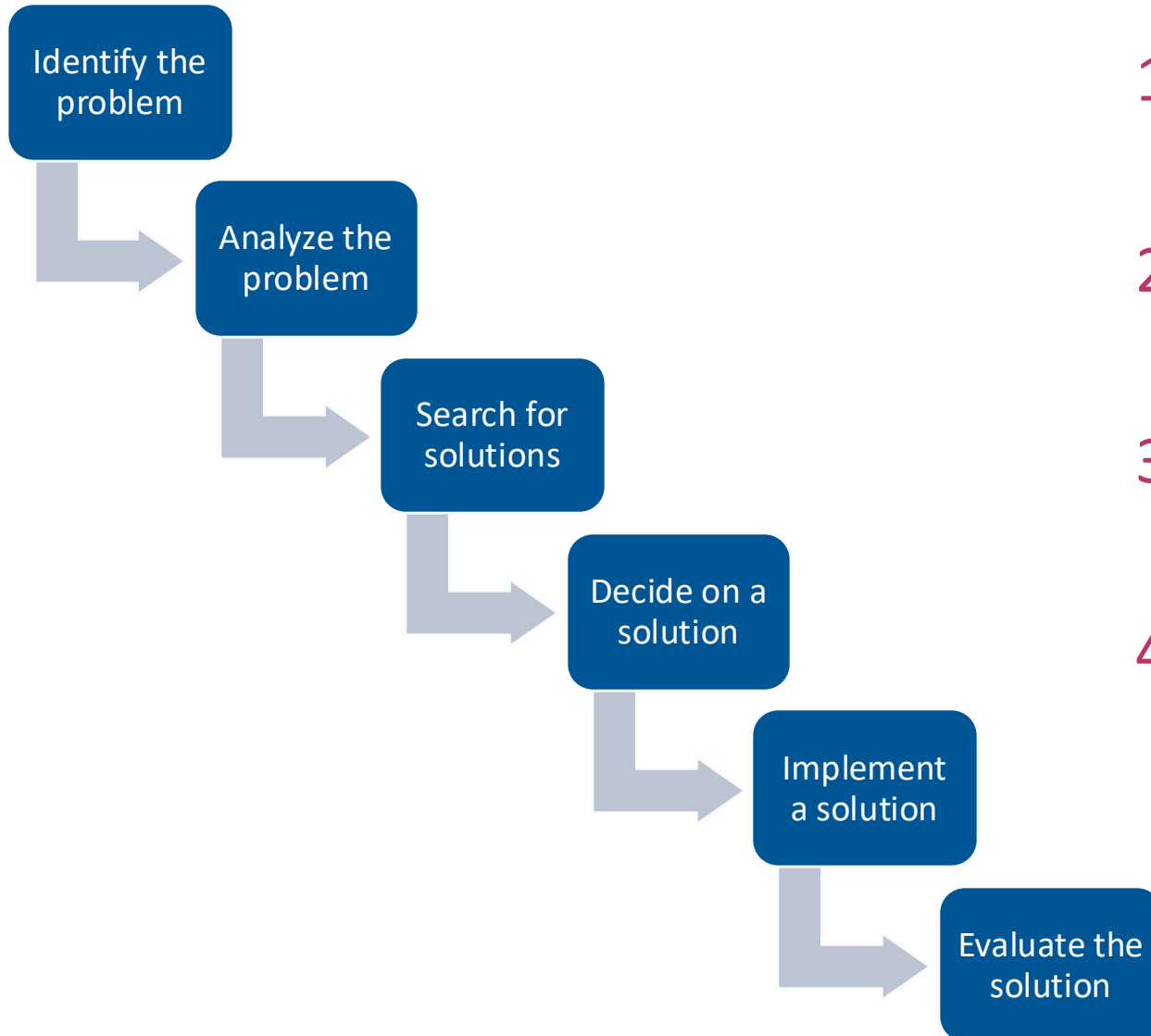
Con – Slow, Infeasible where speed is needed and overlooks intangibles

Intuitive Decision Making

Pro – Act quickly, creatively and look at intangibles

Con – Biased, infeasible for complexity and difficult to justify

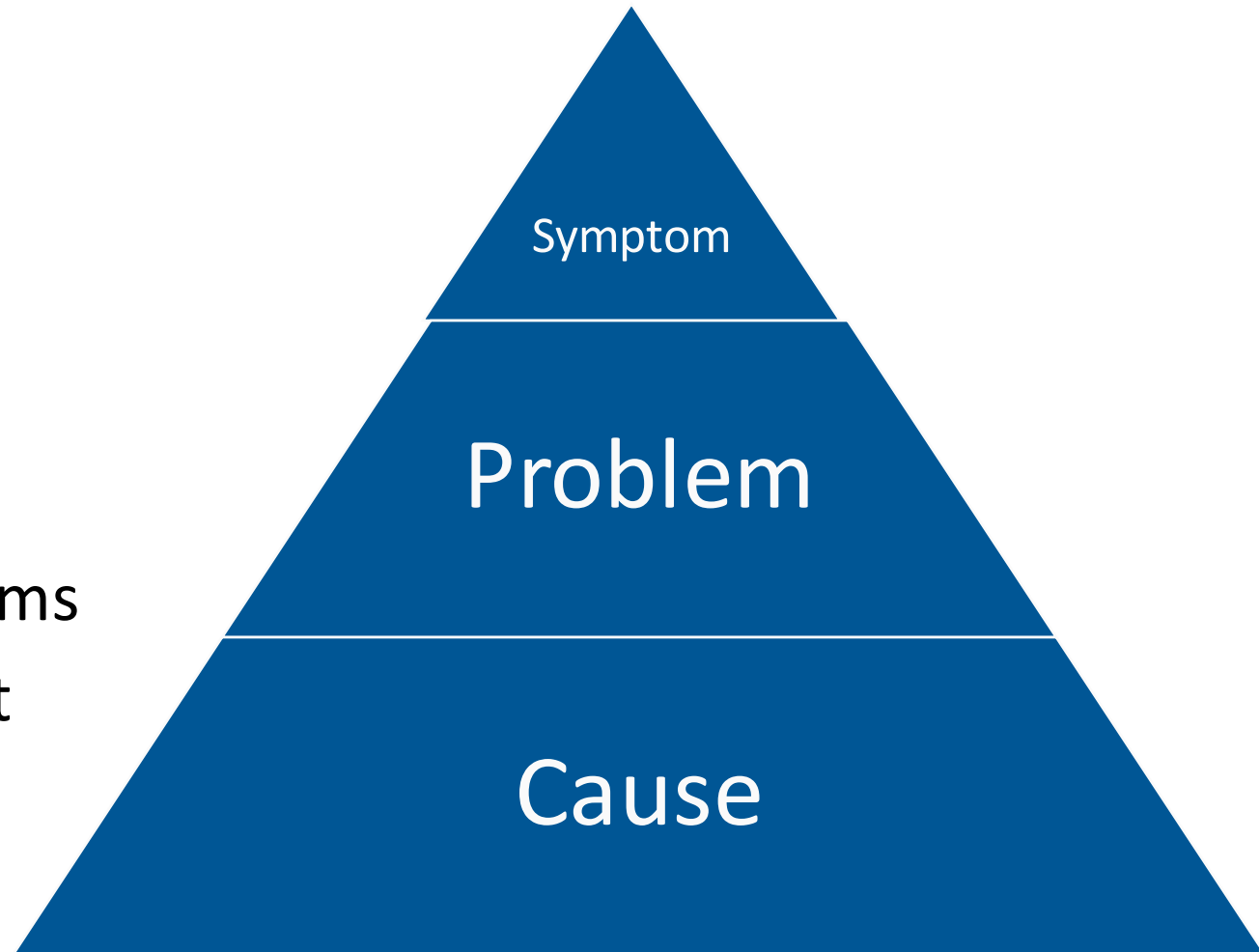
Six Steps to Effective Problem Solving



1. Structured problem solving creates strong solutions
2. Mastering processes improves problem solving in your organization
3. Can be applied to most problems, not specific to safety
4. Helps to ensure problems are addressed with less “shoot from the hip” results

Step 1: Identify the Problem

- Use a systematic approach
 - Root Cause Analysis
 - Fault Tree Analysis
 - Audits
- Separate problems from symptoms
- Select problems with the highest impact



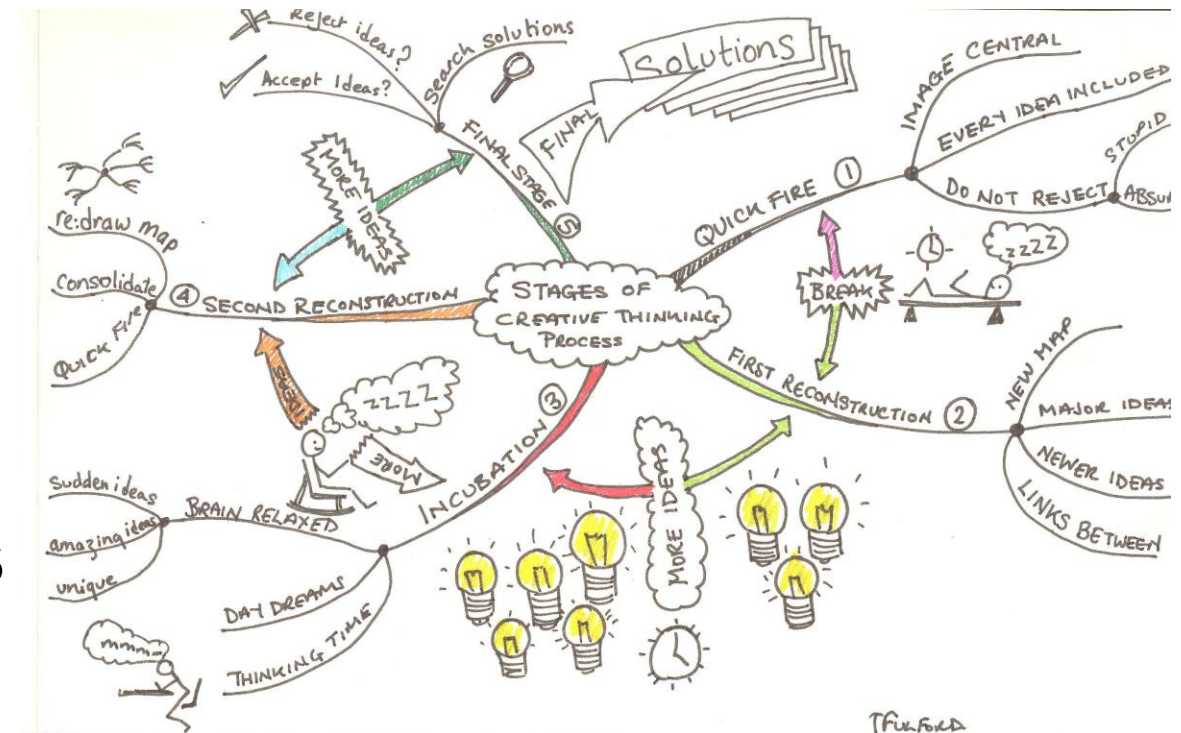
Step 2: Analyze the Problem

- Find facts and information relating to the problem
- Use problem analysis tools
- Don't rush this step
- Don't jump to solutions



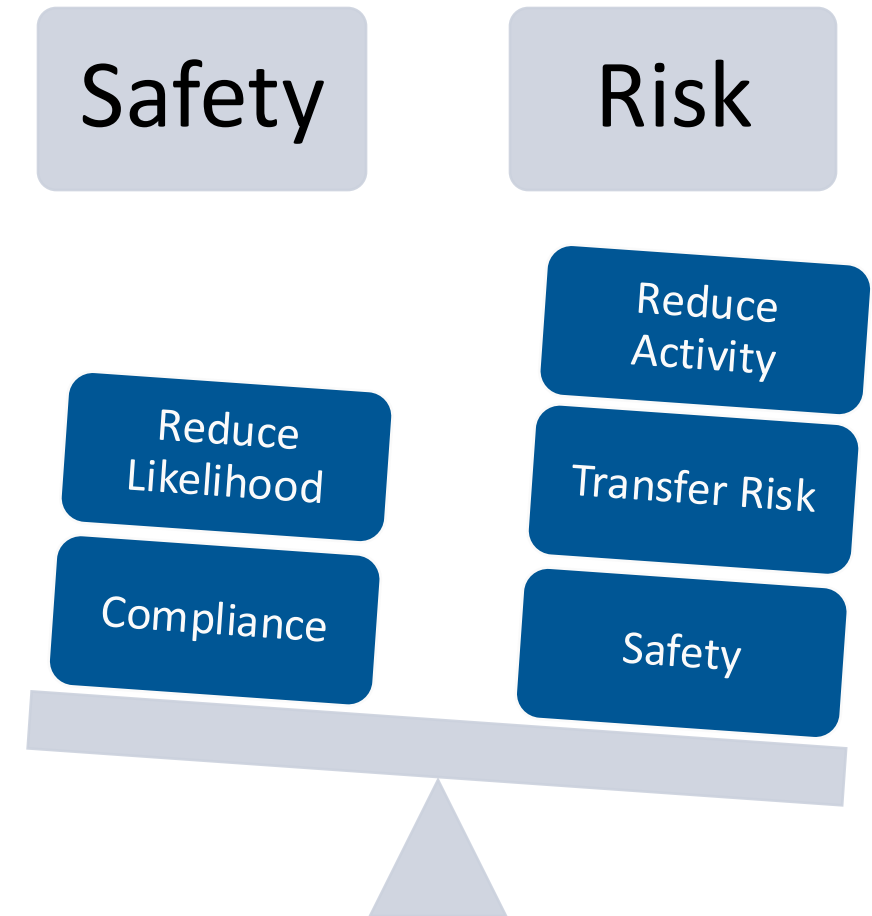
Step 3: Search for Solutions

- Be a pioneer
- Refrain from boundaries
- Accept all possibilities
- Reach for the outrageous
- Judge not this step



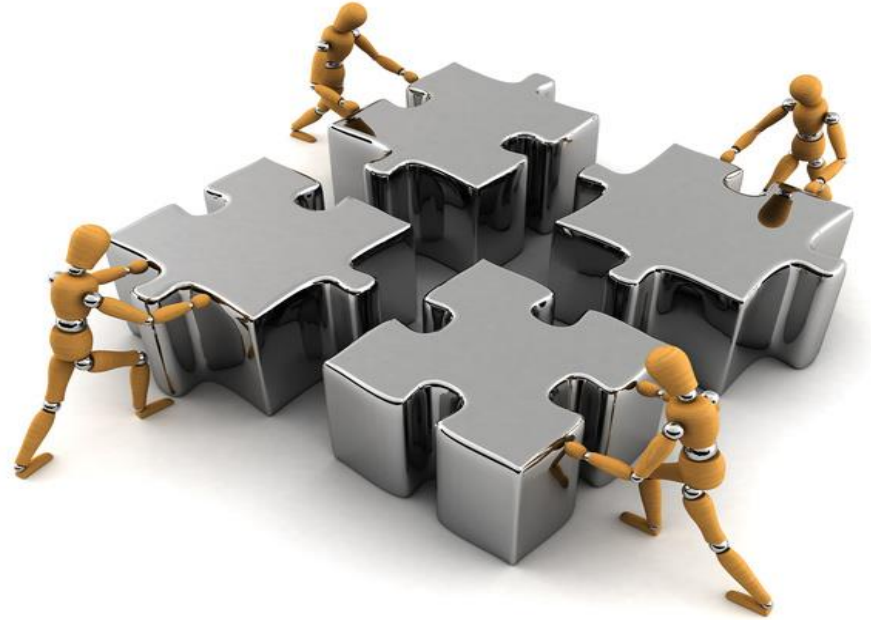
Criteria for Decision Making

- Time to implement
- Time to use
- Cost to implement
- Cost to use
- Return-on-investment
- Space
- Compatibility with current equipment/system
- Morale
- Hazard to employee



Step 4: Decide on a Solution

- Determine your criteria
- Screen solutions to separate practical from unrealistic ones
- Measure your potential solutions against your criteria
- Seek input on potential solutions to determine what others think



Step 5: Implement the Solution



- Determine what needs to be done to implement the solution
- Determine who will do what
- Determine time frames
- Put it in writing

Step 6: Evaluate the Solution



- Collect relevant data
- Measure for improvements
- If successful, pick a new priority and start problem solving process again
- If not successful, start the problem solving process using same problem

Developing Strategic Solutions

Evaluate the Controls

Control	Examples
<i>Elimination</i>	<i>Redesign job to remove hazardous activity</i>
<i>Substitution</i>	<i>Substituting chemical with lower hazard</i>
<i>Isolation</i>	<i>Card key access to restricted area</i>
<i>Engineering Control</i>	<i>Point of operation guard on punch press</i>
<i>Administrative Control</i>	<i>Providing training on equipment and processes</i>
<i>Personal Protective Equipment</i>	<i>Providing gloves, mask and glasses to prevent exposure to blood and OPIM</i>

- Best practice – compliance – informal
- Higher up the ladder the better
- Include control items such as:
 - Compliance (OSHA programs and related procedures)
 - Behavioral safety and safety culture
 - Engineering
 - Administrative
 - PPE & training
 - Organizational

"Best in Class" Control Hierarchy

Falls from Elevation

Substitution of processes to reduce the frequency and likelihood of falls

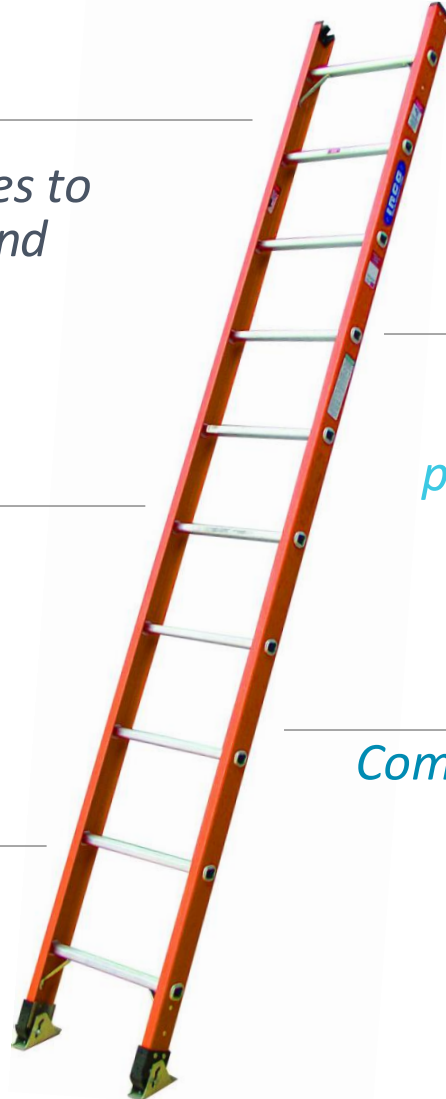
100% Tie off when feet 6' off the ground

Limited controls – training only & PPE

Elimination of fall exposures

Installation of permanent anchorage points, fixed permanent work platforms

Compliance based – OSHA fall protection standard



"Best in Class" Control Hierarchy

Manual Material Handling

Process adjustment to move lifts into power zone (knee to Shoulder) including adjustable height tables, pallet levelers, etc.

*50# Weight Limits
(vendors not permitted to use larger boxes) for Staff combined with 18" Rule*

Limited controls – training only & Back Belts



*Process Automation
eliminates need for
lifting*

*Use of MMH Aids such as
Forklifts and Pick Trucks to
reduce lifting*

*Compliance based –
Housekeeping*

"Best in Class" Control Hierarchy

Chemical Exposure - MDI

Modify to less hazardous isocyanate (TDI, IPDI) or pre-polymerized product

Eliminate the use of isocyanate by replacing with alternative packaging method

Local Exhaust Ventilation, gun maintenance, and control # exposed

New Guns reduce monomer and ensure higher % MDI polymerized

Compliance based – Haz Com, Respirators, and Maintenance

Limited controls – training only & Respirators



Integrating Risk into Leadership

Risk in Leadership Decisions - Informal

- Define Risk in the Context of Organizational Goals
 - Start with strategic objectives (growth, safety, profitability, reputation)
 - Ask: “What could prevent us from achieving this?”
- Quantify and Prioritize Risk
 - Risk matrices, Heat maps, Scenario modeling
 - Focus - High impact + high likelihood risks, Low likelihood but catastrophic risks (black swans / tail risks)

Risk in Leadership Decisions - Informal

- Align Risk Appetite and Tolerance
 - Risk appetite: overall willingness to take risk to achieve goals
 - Risk tolerance: acceptable variation around objectives
- Embed Risk into Decision
 - What's the upside vs downside?
 - What assumptions must hold true?
 - What could go wrong—and how bad?
 - What's the cost of being wrong?

Putting it Together



When deciding, use this quick checklist:

- What are we trying to achieve?
- What could go wrong?
- How likely and how severe is it?
- What's our risk appetite?
- What are the best/worst case scenarios?
- What's the risk-adjusted best option?
- How do we mitigate?
- How will we monitor?

Making it More Formal



- Failure Modes and Affects Analysis
- Fault Tree Analysis
- Risk Models and Scoring
- Cost Benefit Justification
- Including Risk in Process Mapping

Incorporating risk into leadership decision-making is about **discipline and intentionality**:

1. Make risk explicit
2. Evaluate it systematically
3. Align it with strategy
4. Act with informed confidence

Objectives

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