



COMPREHENSIVE
CANCER CENTER

Bow Tie Method Risk Assessment

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THE UNIVERSITY OF NEW MEXICO COMPREHENSIVE CANCER CENTER

Something New...

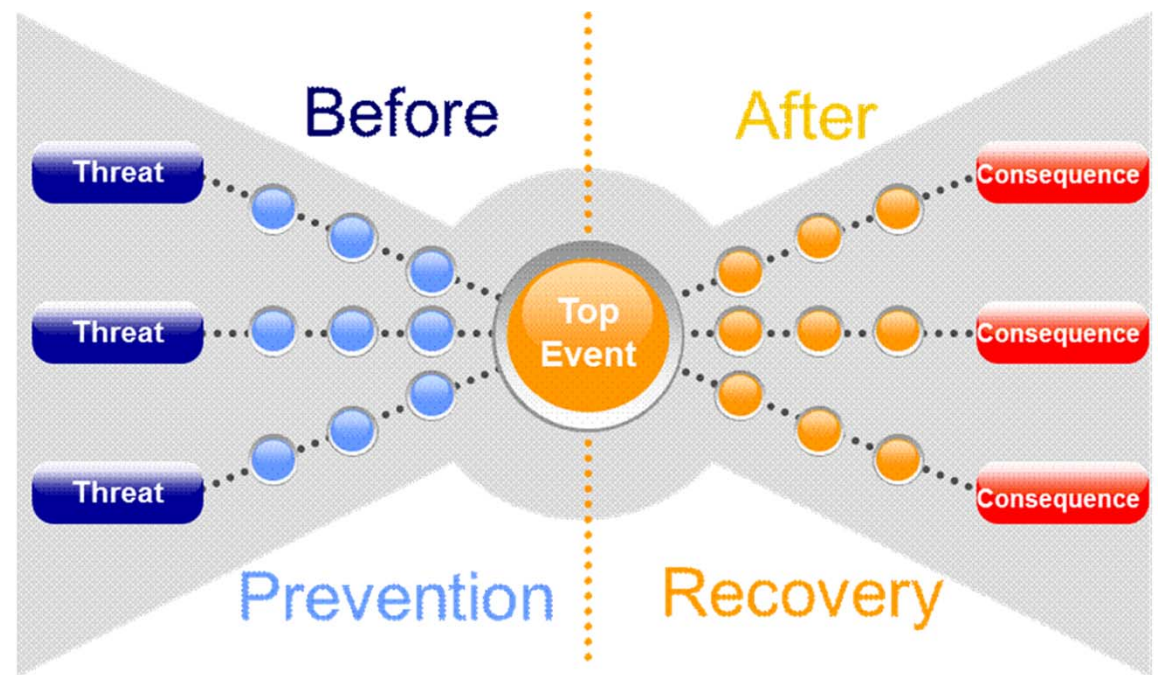
Courage is the main quality of leadership, in my opinion, no matter where it is exercised. Usually it implies some risk – especially in new undertakings.

-Walt Disney



What is the Bow Tie Method?

- Risk evaluation method that is named for the shape of the diagram created
- Visual tool of risks and controls



Many Different Applications

- Problem Solving on Hot Topics
 - Assess a particular event
- Debriefing Aid
 - Running a safety event through to appreciate severity/risk
- Incident Investigation
 - Facilitates systems approach
- Hazard Identification and Risk Assessment
 - Identify threats and top events, as well as assessment of controls

History of Bow Tie

1979 - University of Queensland

1988 - Piper Alpha Platform oil rig disaster

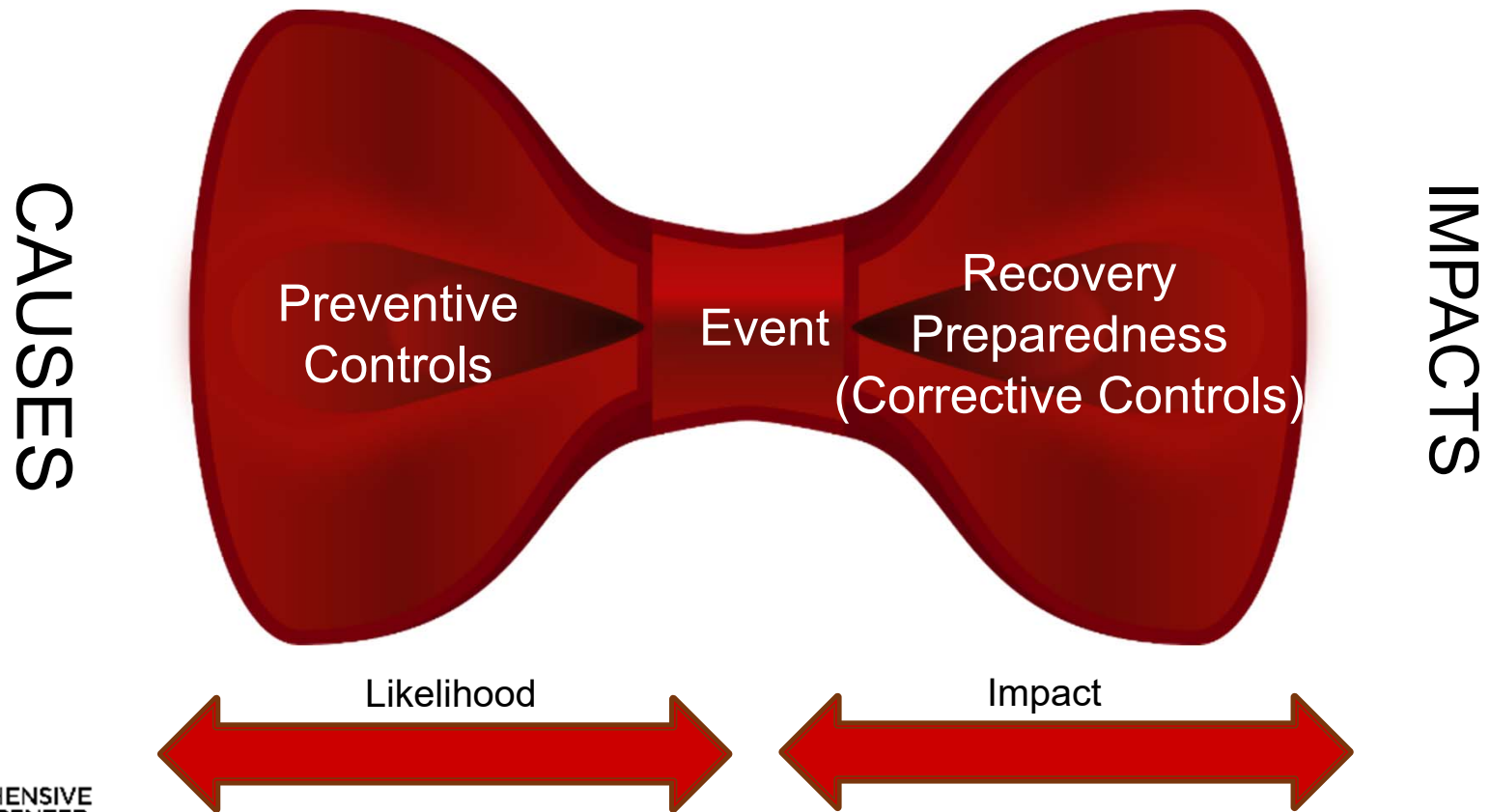
1990-Royal Dutch/Shell group adopted Bow Tie

2000 + - Spread to other industries including healthcare, aviation, chemical and maritime

1988 Piper Alpha Oil Rig Explosion



The Bow Tie



Bow Tie Vocabulary



Bow Tie Vocabulary: HAZARD

Hazard
Identification

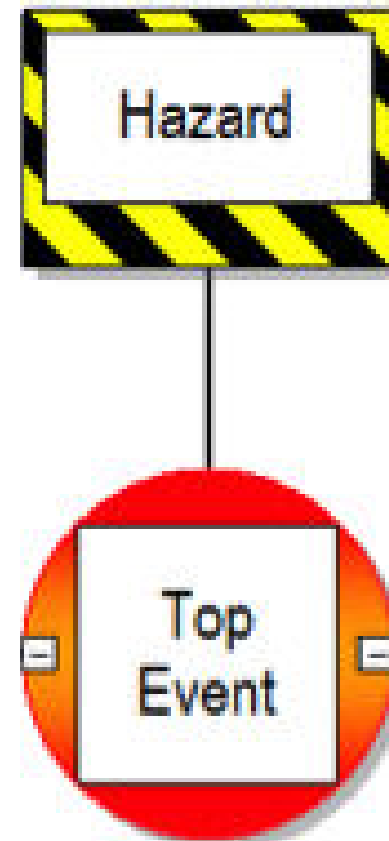
- Potential to cause injury or damage

Hazard

Bow Tie Vocabulary: TOP EVENT

Identifying
top event

- Moment when control is lost



Bow Tie Vocabulary: THREATS

Threats

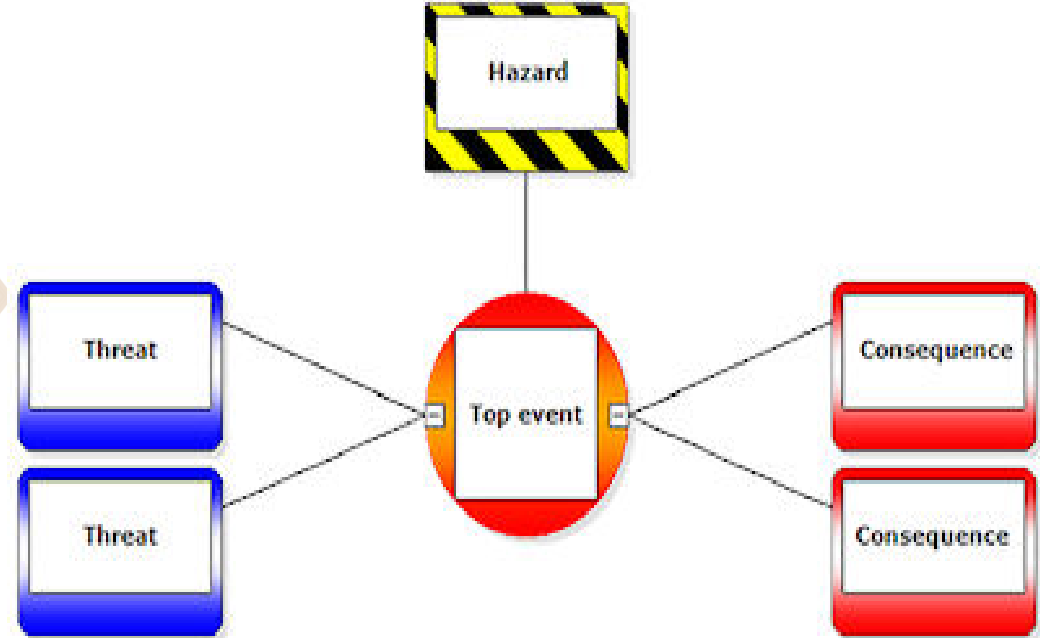
- Whatever will cause top event



Bow Tie Vocabulary: CONSEQUENCES

Consequences

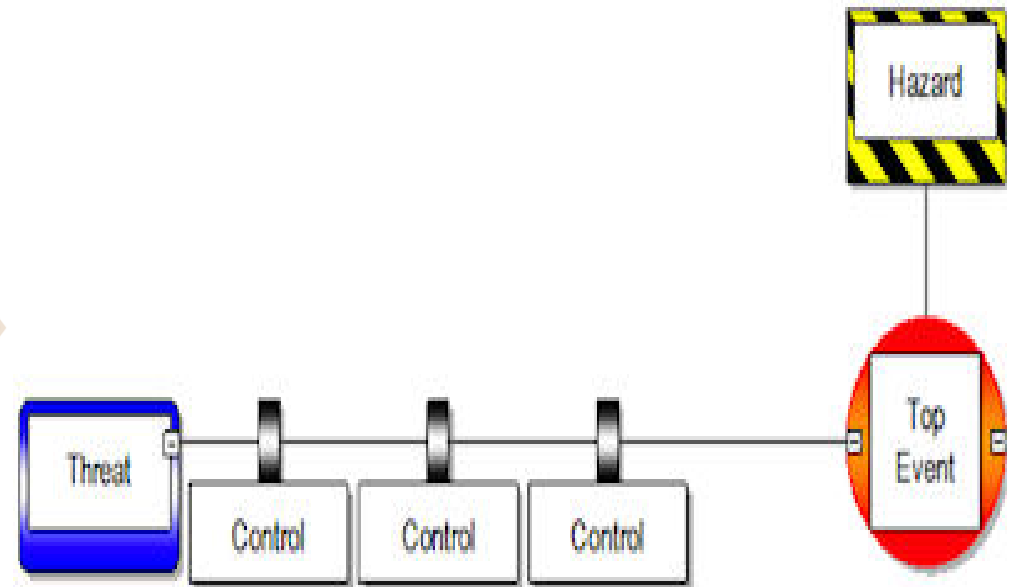
- Results from top event



Bow Tie Vocabulary: PREVENTION CONTROLS

Prevention Controls

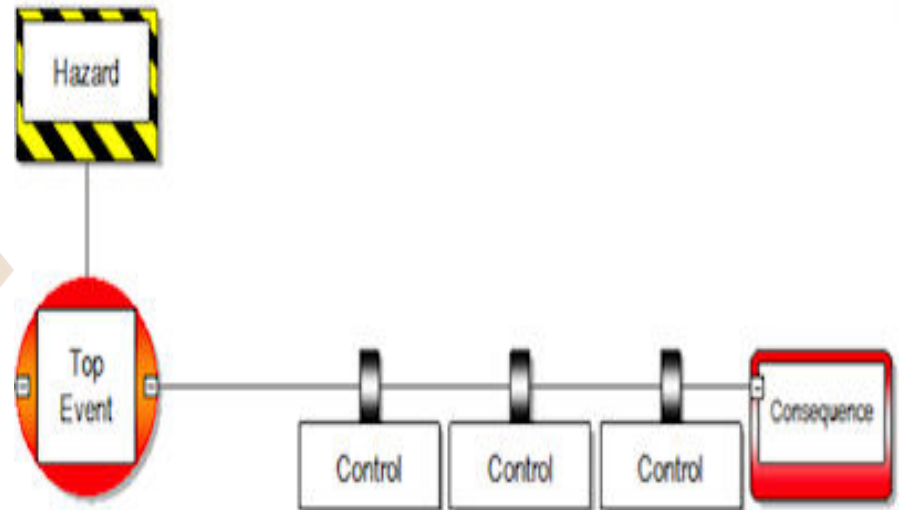
- Interrupts loss of control



Bow Tie Vocabulary: RECOVERY CONTROLS

Recovery
Controls

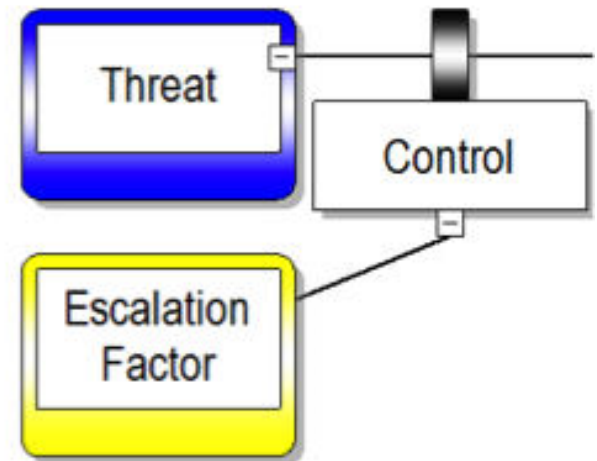
- Mitigates consequences



Bow Tie Vocabulary: ESCALATION FACTORS

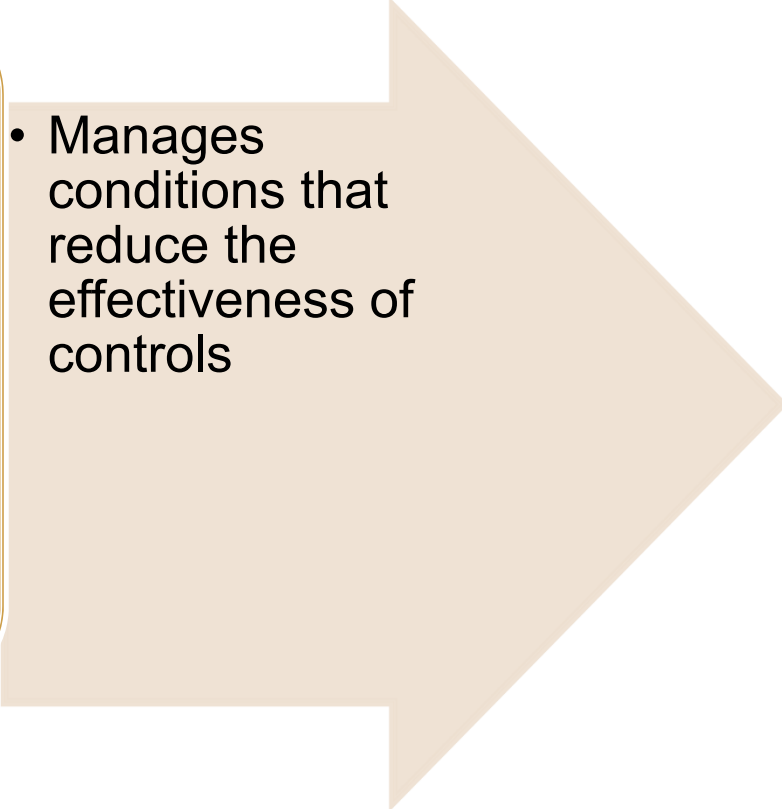
Escalation factors

- Anything that can make a control fail

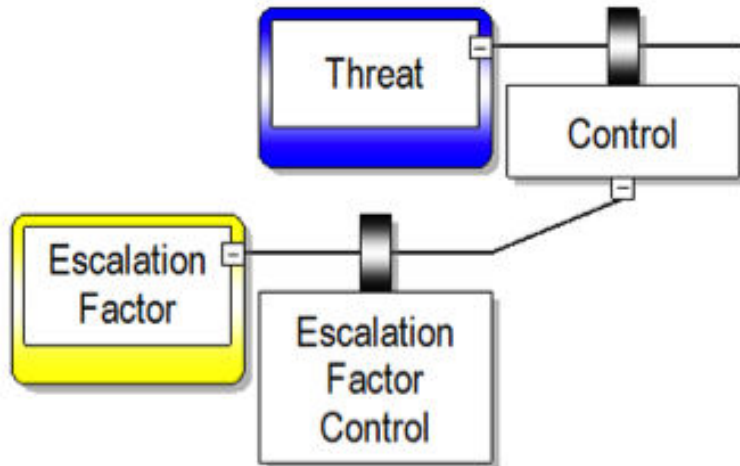


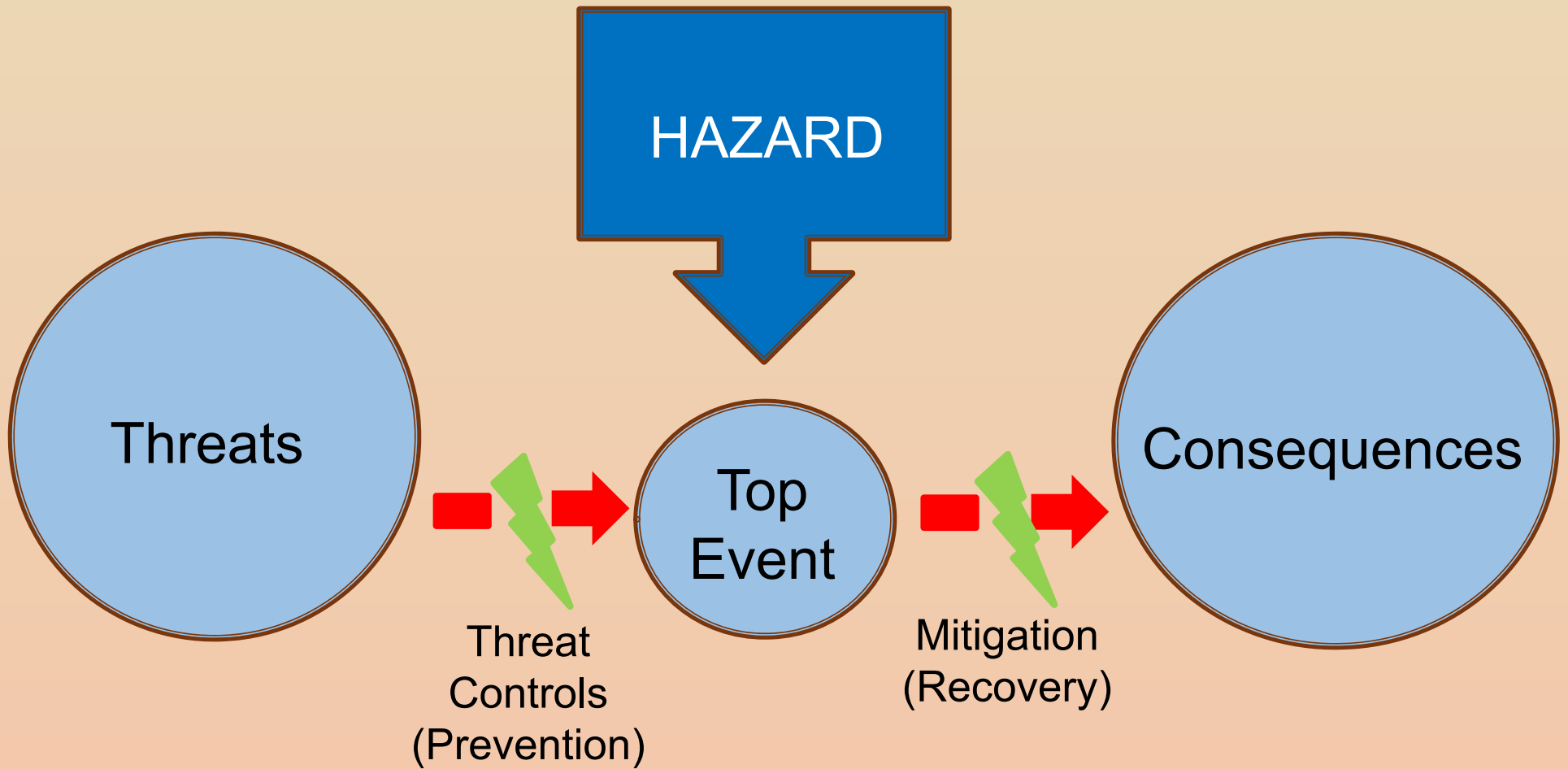
Bow Tie Vocabulary: Escalation Factor Controls

Escalation Factor Controls

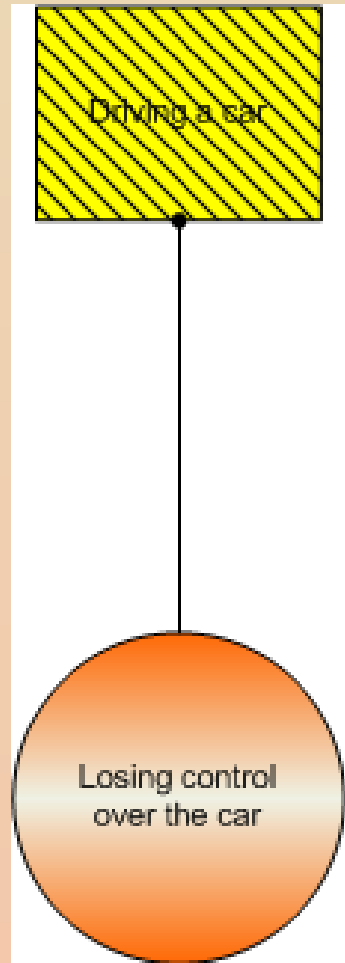


- Manages conditions that reduce the effectiveness of controls



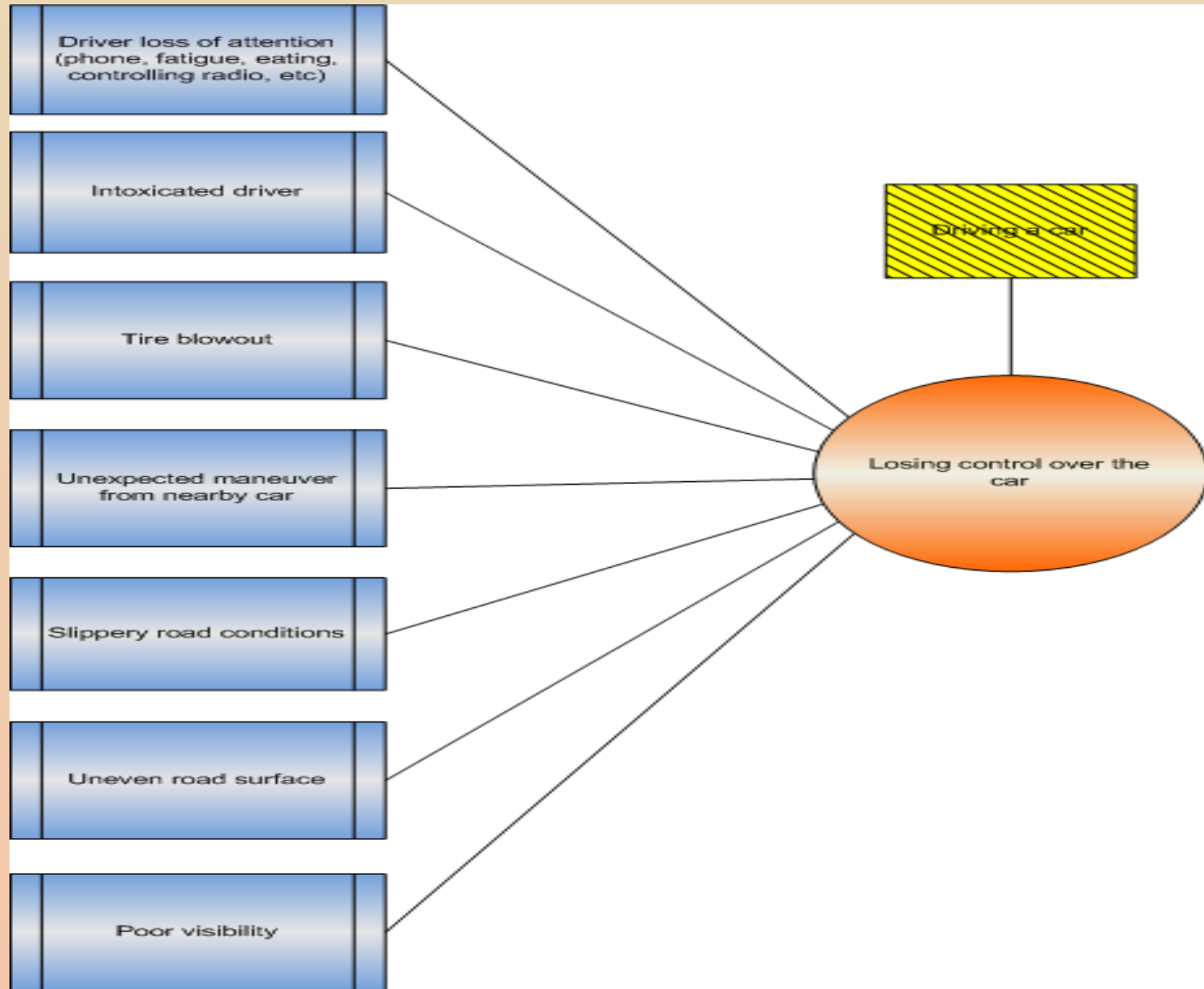


HAZARD

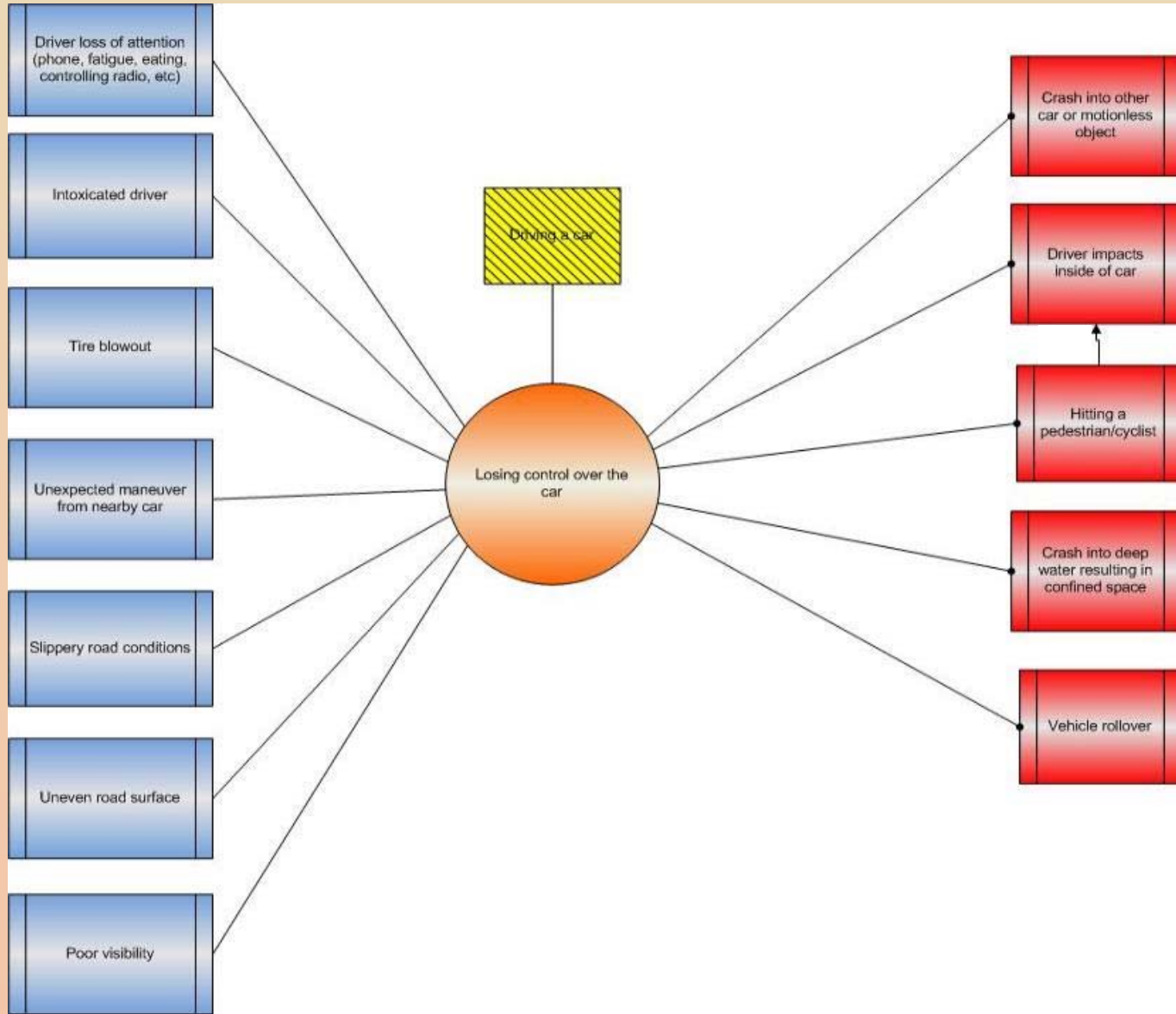


TOP EVENT

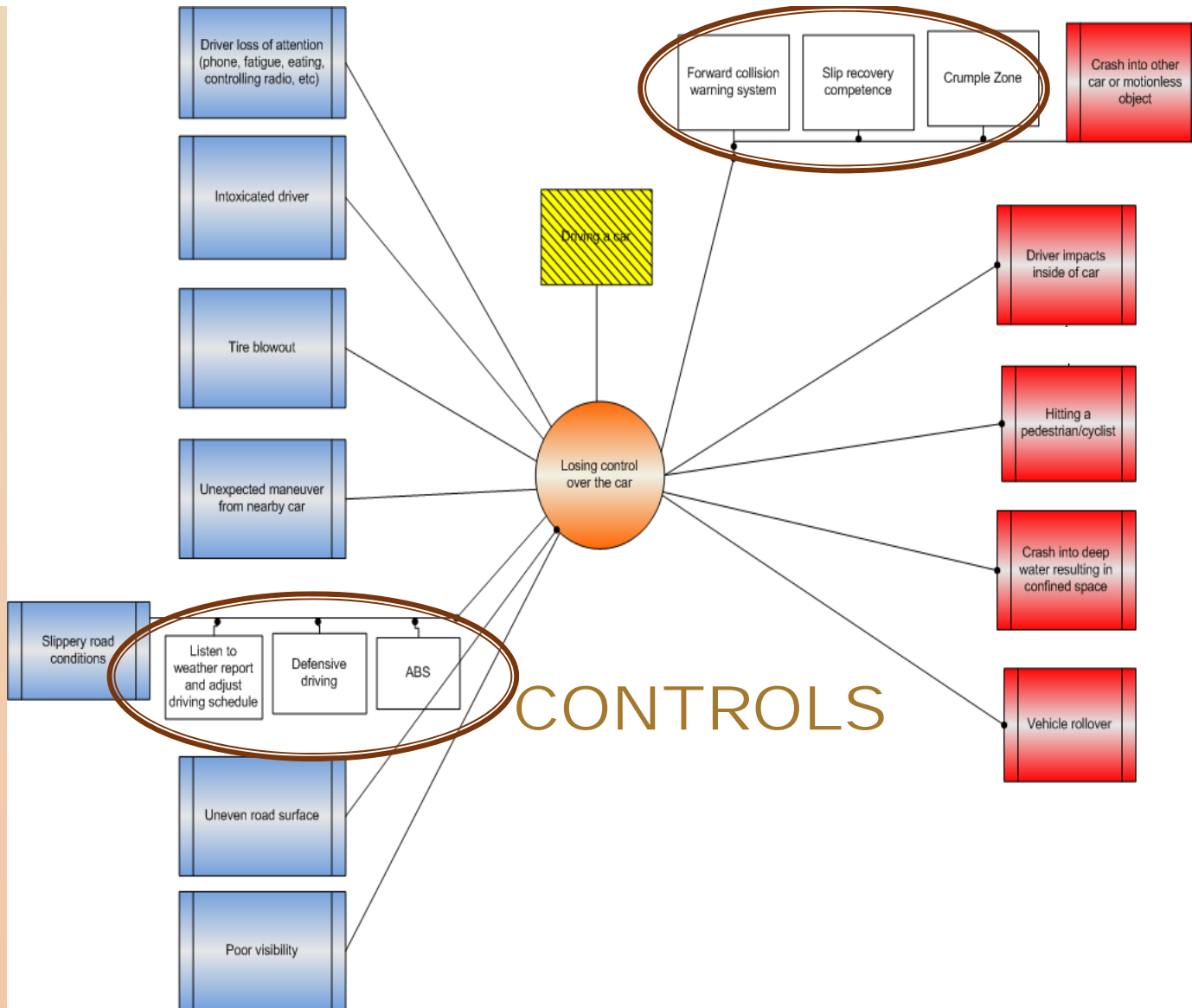
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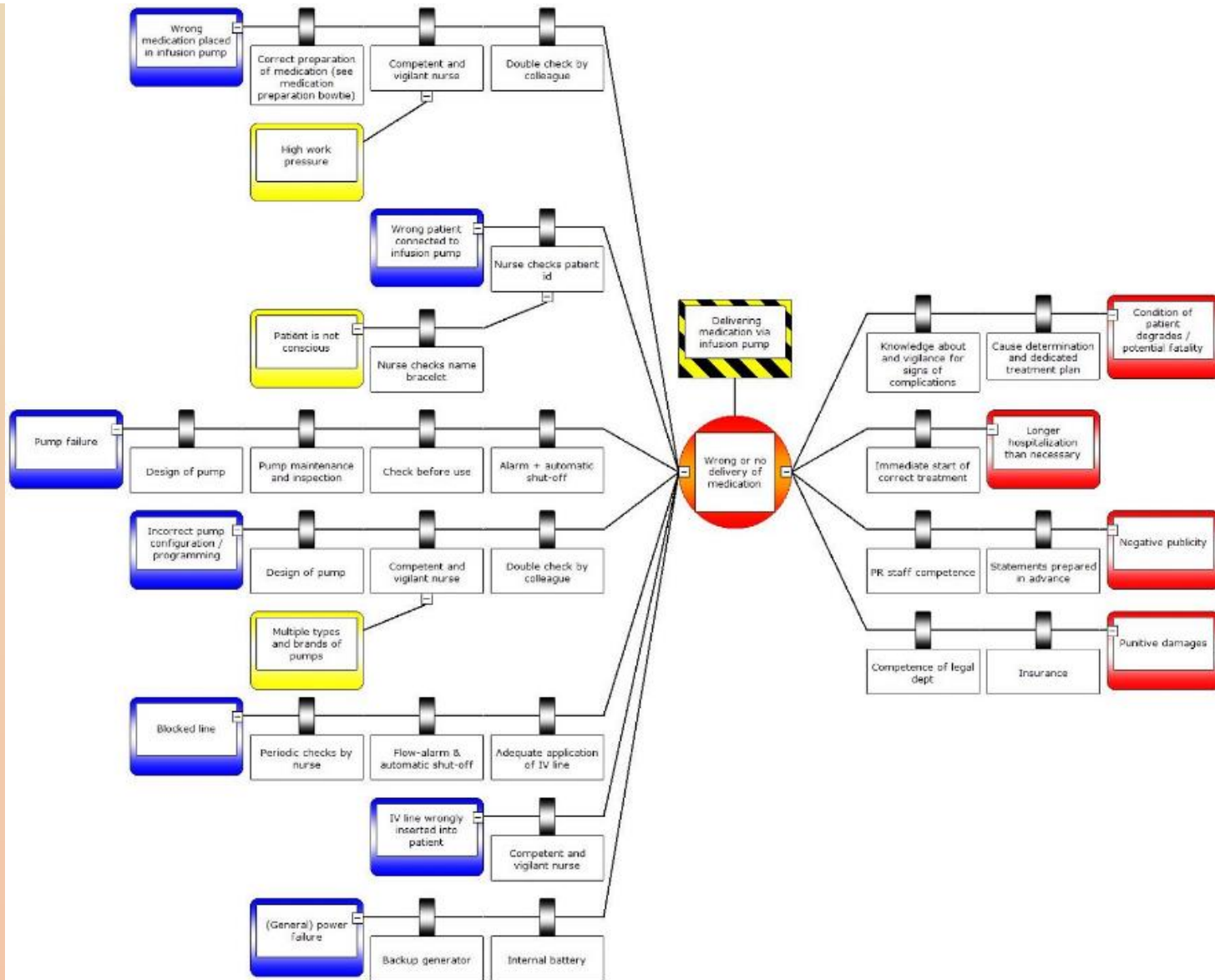


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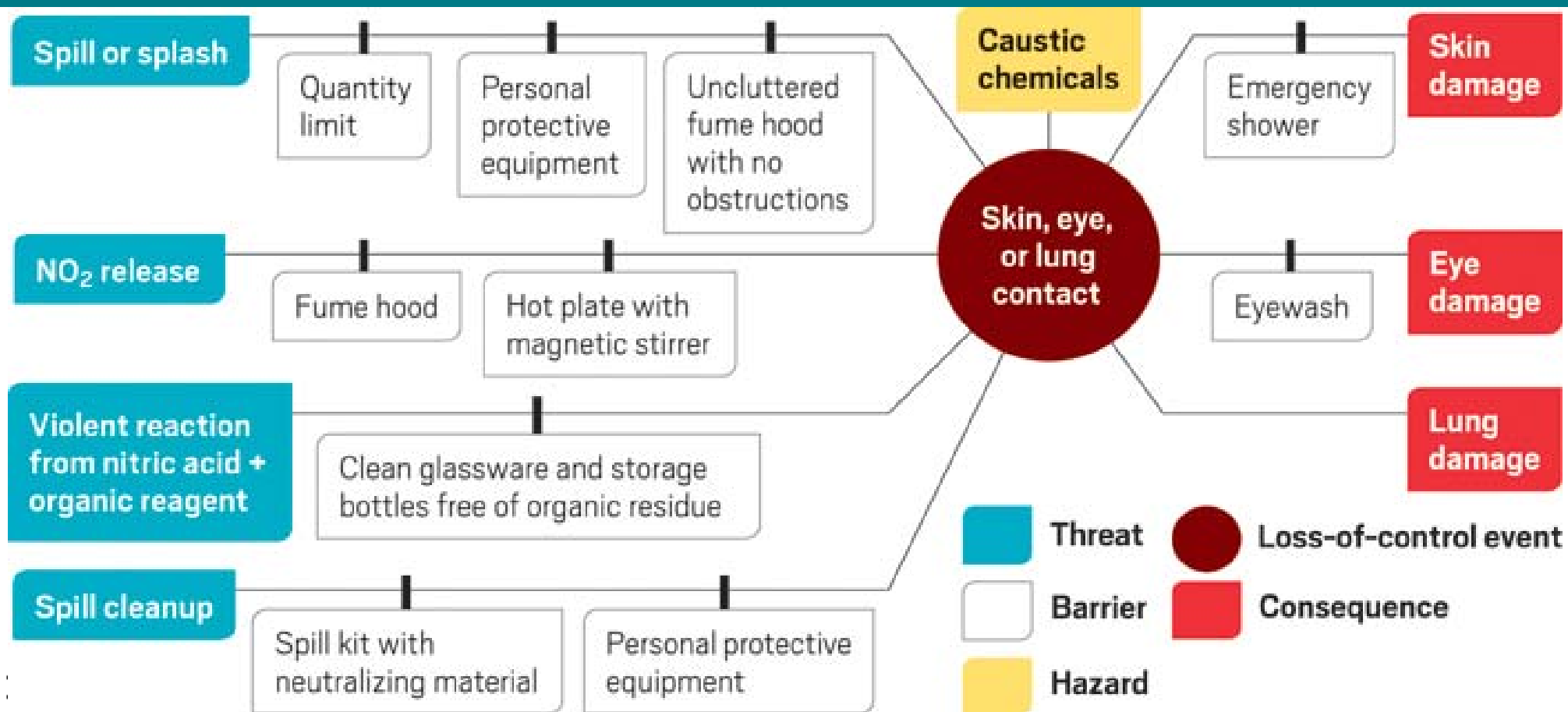


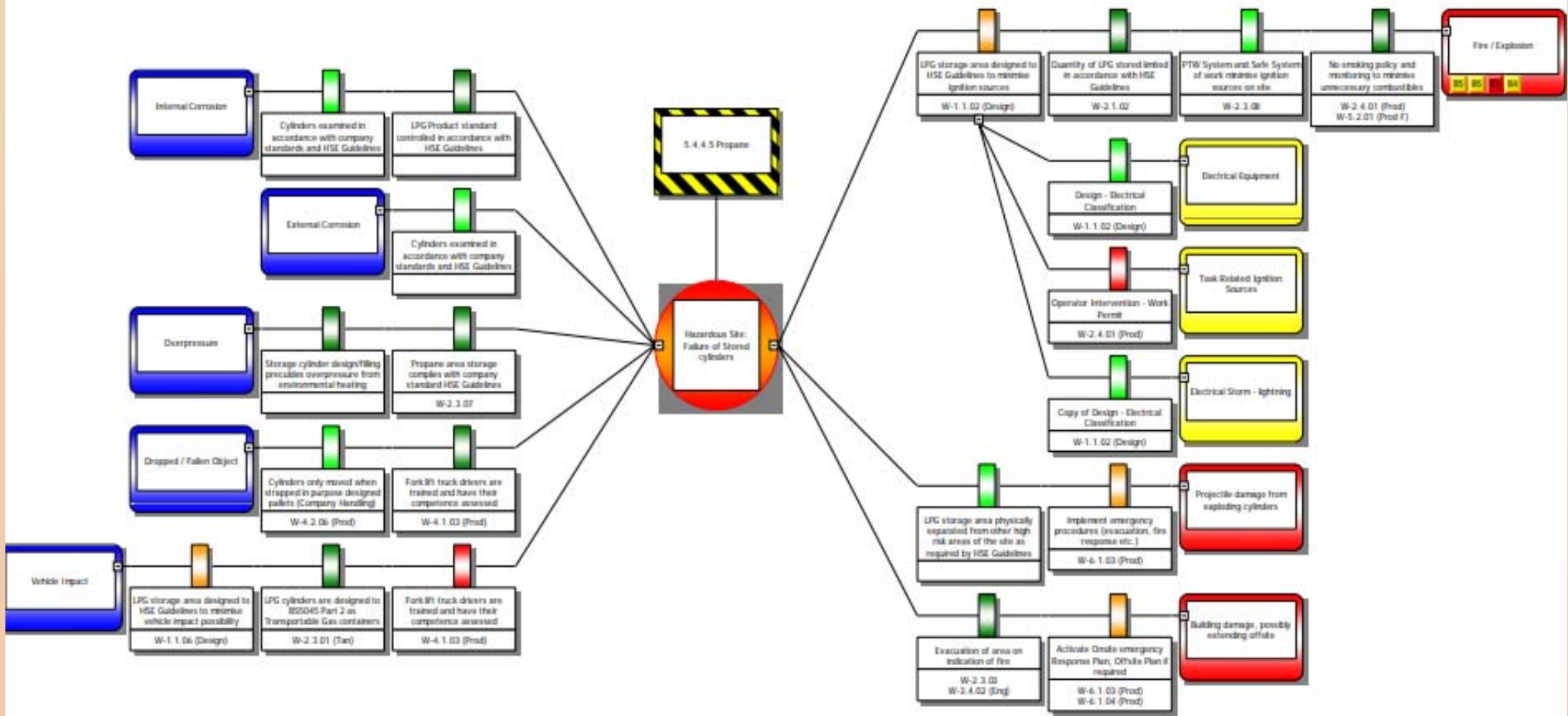
The Value of the Bow Tie

Ease of understanding:

- Risks and controls
- **The why** of risks and controls
- Methodical analysis
- Appreciation of upstream and downstream impacts and effects
- Identifying and assessing key controls
- Visually documenting and communicating risks and controls

American Chemical Society: How educators are teaching students to assess risk in the lab





In Summary...

Bow Tie Methodology helps
achieve Operational
Excellence...

Understanding processes
leads to more focused
decision making and
creates value

And...



1. What is your hazard?

