Why Employee Health & Safety is a Bottom-Line Business Activity

2025 WORK RELATED Injuries Workshop

MICHAEL B. AMSTER PE, CIH, CSP, CHMM, FAIHA

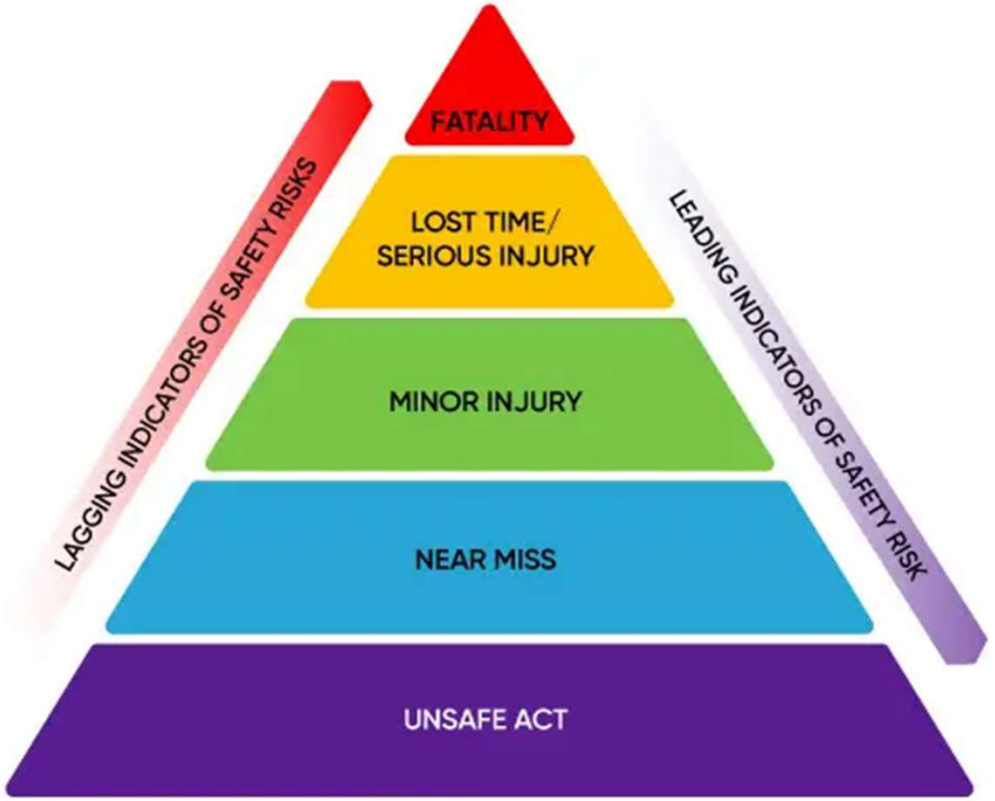
PH. 978-764-2251

MICHAEL@MBAMSTER.COM

Why Is This Person Getting Hurt?

Leading and Lagging Indicators

Heinrich's Triangle Theory



Heinrich Triangle Theory

Relationship between different types of workplace accidents. Theory helps to prevent industrial accidents.

How it works:

- **For every major injury/fatality, 29 minor injuries and 300 near-miss incidents.**
- **Focusing on reducing minor injuries and near-misses, organizations can reduce the number of major injuries and fatalities.**

Accident vs Incident

- **Accident -**

Random event that "oh, well, it just happened" and could not have been prevented.

- **Incident -**

Vast majority of harmful workplace events do not just happen. Most harmful workplace incidents are wholly preventable.

Regardless of size or impact, need to be investigated even near misses - To determine what happened and why.

Do not have to occur. Can be prevented by addressing shortcomings in the programs that manage health and safety in the workplace.

Incident Response

Trained response team following a predetermined documented process

1 - Preserve/Document the Scene

Cordon Off / Pictures / Preserve Incident Details

2 - Collect Information

EH&S Staff, Area-Supervision, SMEs, Medical - Interviews, Equipment Insp.

i.e. Operational Details, Manuals, Policies and Procedures, Training Records

3 - Determine the Root Causes

Asking WHY, not to determine fault or blame

4 - Implement Corrective Actions

Program Level Improvements, Demonstrated Upper Management Support.

Example - Paper Mill

Incident Investigations

- **Focus on programs, not behaviors.**
- **If safety rule/procedure not followed - WHY?**

  Example - Cart down the hall, excellent worker wanted to save time
- **Did production pressure play a role? If so WHY was it permitted?**

  Example - Kitchen
- **Was procedure out of date or training out of date? If so, WHY was it not previously identified or if it had been identified Why wasn't it addressed?**

  Example - Out of date documentation, MSDS vs SDS
- **Employees do what they are told/allowed to do or perceive as their task.**

  Example - Golf course

Cost of Injury

- **Direct Costs**

  Medical Costs

  Indemnity Payments

  Clean-Up Cost

- **Indirect Costs (Lost of Productivity) Include**

  Replacement Staff / OSHA Inspections

  Spoiled Product / Schedule Delays

  New Employee Training / Legal Fees

  EMR / Insurance Costs / Lost Business Opportunities

  Talent Restrictions

Full Cost

Direct Cost x (~4x20) = Indirect Cost

Cost of an Incident

- **Direct Cost = $10,000**
- **Indirect Cost = 4 x $10,000 = $40,000**
- **Total Cost = $50,000**

- **Insurance Deductible - Out of Pocket**
- **Assume Net Profit Margin – 10%**
- **Sales Required for a Profit of $50,000**

>>>>>>>> $500,000 <<<<<<<<

Resources

Websites:

- **Occupational Safety and Health Administration (OSHA)**
- **American Industrial Hygiene Association (AIHA)**
- **American Society Safety Professionals (ASSP)**
- **National Safety Council (NSC)**

Root Cause Analysis:

Identifying and Addressing the Underlying Causes Behind Incidents

E. TUCKER O'DAY, MS, MSPT, CCM
PH. 781-534-8994
TUCKER_ODAY@COMCAST.NET

Just Culture

- **Individuals should not be held accountable for system failings** over which they have no control
- **Competent professionals make mistakes**
- **Even competent professionals will develop unhealthy norms** (shortcuts, “workarounds”)
- There is **zero tolerance for *reckless* behavior**
- Events considered **opportunities to inform methods for managing both system and behavioral risk**

Root Cause Analysis (RCA)

Goal:

- PREVENT future harm (risk) by performing review that results in ACTION that creates SUSTAINABLE IMPROVEMENT and CHANGE

Guiding Principles:

- All of us come to work every day to **do our best**
- **Humans are imperfect** and make mistakes
- **Focus is on:**
  - **Understanding the system** and the perspective of individuals functioning within the system
  - **Understanding how the system caused or contributed** to the event will help us design safer systems and organizations
  - **Process(es)** NOT people

What is NOT Root Cause?

The immediate or direct cause or what appears to be the cause that most directly led to an accident (e.g., worker slips and falls due to water on floor – *is water on the floor the root cause*?)

Getting Started:
Who Should Be Involved?

Staff

- Staff directly involved in the event
- Staff working in the area/process being studied
- Staff familiar with related policies/procedures

Subject Matter Experts

- Subject matter expert(s) on the process being evaluated
- Subject matter expert on the RCA process

Executive Sponsor

- Senior leader who is able to facilitate changes that may be needed

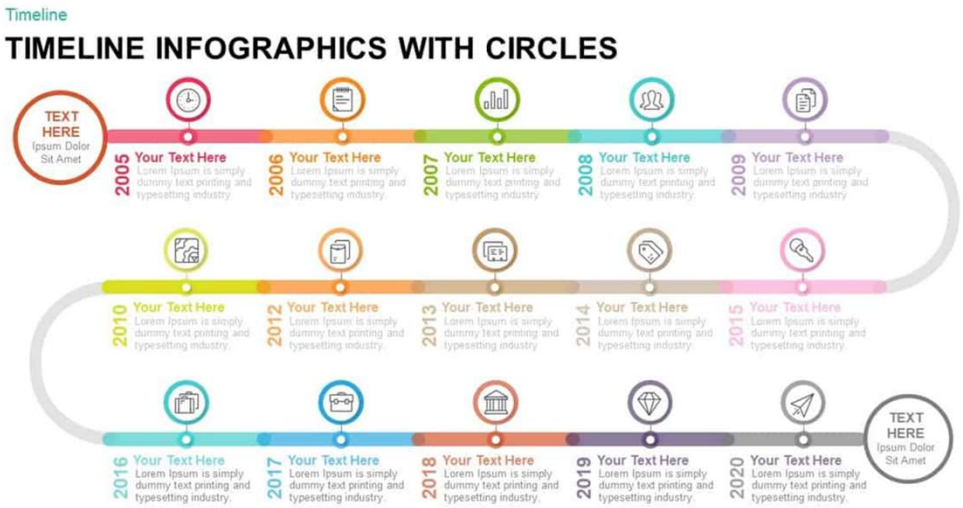
Getting Started:
Ground Rules

- All information discussed **confidential – peer-protected**
- Discussion **content should remain within the group**
- Focus of discussion is on **SYSTEM issues**, not on INDIVIDUALS
- Each **human error (i.e., mistake) must have a cause** - focus is on WHY not the mistake itself
- **Negative descriptors are not used** as part of cause (i.e., policy *poorly* written)
- **Deviations in procedures must have a preceding cause** – the deviation is not the cause
- Failure to act is *only causal* when there was a pre-existing duty to act

Getting Started:
Timeline

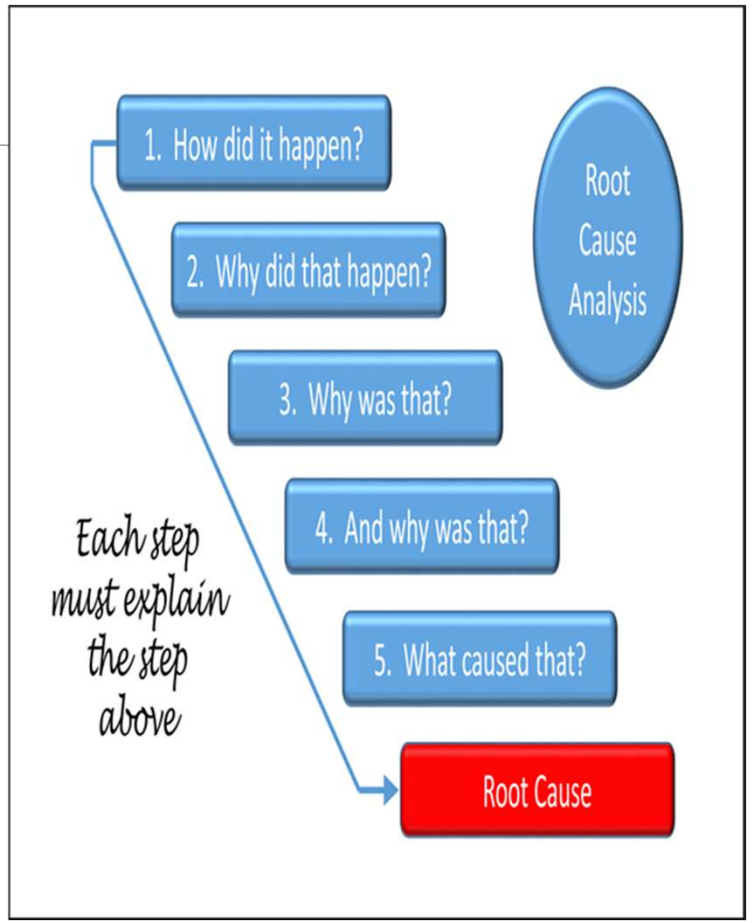
Establish timeline or chronology of events leading up to concern under review

- Individual conversations
- Group conversation
- Both



Using the “Five Whys”

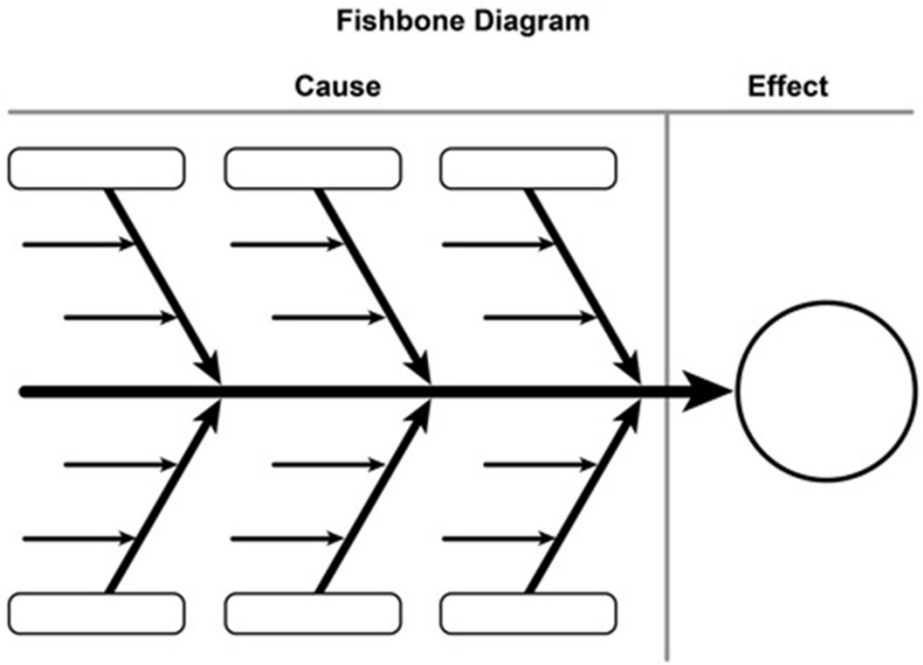
- Ask “Why” five times (may need more or less)
- Don’t accept first impressions
- **Problem-solve**
  - Avoid assignment of blame
- **Analyze your system(s)**
- **What allowed the event to take place?**
  - Systems
  - Behaviors
- Use to formulate action plan to prevent future incidents



Cause and Effect Diagram

(Fishbone/Ishikawa Diagrams)

- Identifies **possible causes** of an "effect"/issue
- Recognizes that are **often many causes** behind a problem
- Used to sort ideas of possible causes into **categories**
- Effective when used as a **brainstorming tool for a team**



Action Plan Hierarchy

Strength	Action Plan Type
Strong	- Forcing Functions - Constraints - Physical changes to the environment - Simplifications/removal of unnecessary steps - Standardization
Intermediate	- Increase staffing/decrease workload - Reduce distractions - Checklist/cognitive aids/decision support - Enhance communication - Hearback, readback - Feedback from devices - Redundancy
Weak	- Train/retrain - Blame/reprimand - Write a new procedure/plicy - Add another step - Add more technology - Double checks

Key Takeaways

Just Culture

- Shifts our attention from retrospective judgment of others, focused on the severity of the outcome**,** to **real-time evaluation of behavioral choices** in rational and organized manner
- Provides a **systematic and uniform process designed to support best practices**, identify system issues and corrective actions and…..
- **Implies psychological safety** represents an organization's climate and culture
- Simply put, **is more "just" for employees**

Root Cause Analysis

- Done well, **recognizes there may be multiple causes vs single cause** behind an event

Case Discussion

Case Study 1: Floor care tech with contusion of left elbow

- **History of Injury:**
  - 51 yr old male long-term custodial employee working third shift
  - While operating walk-behind floor buffer, machine reportedly malfunctioned when put into reverse, employee elbow slammed i wall, pinned between machine and wall
- **Treatment:**
  - Initial – ED
    - X-rays, elbow x 3 views (negative)
    - Prescribed ibuprofen (600 mg) and ice
    - Diagnosis: Olecranon bursitis, left elbow
  - Seen in Occupational Health Service (OHS) next day
    - On exam – L elbow edematous, TTP over olecranon process, limited ROM
    - Continued anti-inflammatory measures including elevation a provided elbow sleeve for compression
    - F/U with OHS in five days

Case Study 1: Floor care tech with contusion of left elbow

- **Treatment (continued):**
  - Seen in OHS x 6 additional visits with continued anti-inflammatory measures recommended
  - EE returned to work on light duty @ 4 weeks post-injury (department never confirmed they could accommodate and did not let OHS know that they had brought him back on light duty)
  - EE returned to work at full duty @ 5 weeks post-injury

- **Costs (Direct and Indirect):**
  - Direct medical costs: $2,550
  - Indirect medical costs (4-10x direct costs): $10,200 - $25,500

Timeline

- Upon arriving at work, EE did not swipe his badge and his department did not know that he had started his shift
- EE obtained machine and immediately began cleaning
- While operating machine, machine malfunctioned, “jerked,” and forced EE into wall, pinning his arm between the machine and wall
- EE contacted co-worker who suggested going to local ED
- EE went to local ED
- EE reported injury to Occupational Health Service (OHS) next day
- EE continued to treat with both OHS and PCP
- EE returned to work four weeks post-injury but OHS was unaware
- OHS cleared EE to return to work full duty at five weeks

Five Whys Method

What Should Happen	What Did Happen	Why?	Why?	Why?	Why?	Why?
EE swipes in upon arrival and time logged in system	EE did not swipe his badge and his department did not know that he had started his shift	Dept in process of converting to new timekeeping system and keeping paper records in between	Machine stored in building to be cleaned so EE could go directly to building and begin working	EE running late for work and did not want to take the time to go to office to sign in on paper	Commuter train was delayed	Bad weather
Safety inspection before operating machine	EE obtained machine and immediately began cleaning	EE running late and department short-staffed that evening so had more areas to clean than typical	Co-workers had called out due to bad weather	EE long-term and knew layout of departments well and knew he could cover his co-workers' areas but would have to be fast to finish	EE liked his employer and wanted to help out and do a good job	

Five Whys Method

What Should Happen	What Did Happen	Why?	Why?	Why?	Why?	Why?
Machine taken out of service	While operating machine, machine malfunctioned, "jerked," and forced EE into wall	Machine known to malfunction in past but still used	Department staff knew of machine issues and difficulty controlling but used anyway, no adverse events had occurred	Dept had submitted request for new machine but budget cut and not approved	Organization had lost money in last fiscal year	Multi-factorial – lower reimbursement rates, lower patient volume, higher expenses
EE contacts Supervisor to report injury/concern and Supervisor directs EE	EE contacted co-worker who suggested going to local ED	EE tried to reach Supervisor but no answer	Supervisor had called out	Unable to get in due to bad weather	EE contacted Supervisor next day	
Occ Health follows EE recovery and helps to coordinate care	EE worked with department to determine when to return to work and did not involve Occ Health	Department interested in having EE return to job asap and did not suggest going to OHS	Organizational policy: EE's returning to work post-injury be cleared by Occ Health before returning	Ensure EE return to work safely to avoid re-injury	Department leadership and OHS did not see "eye to eye"	

Cause and Effect/Contributing Factors

Sub-Issue: Processes and Procedures	Sub-Issue: Environment	Sub-Issue: Staffing/People	Sub-Issue: Equipment	Sub-Issue: Other
Contributing Factors	**Contributing Factors**	**Contributing Factors**	**Contributing Factors**	**Contributing Factors**
Need for employee and supervisor understanding of injury reporting processes	Multiple buildings across campus that did not connect to one another	3rd shift - fewer staff members on-site	Despite known issues, machine continued to be used (no "lock out/tag out")	Bad weather caused staff to call out
Unclear in real-time who to report to re: incident	Where EEs had to swipe (or hand-write their time) in/out was not located close to building where incident occurred	Many staff, including Supervisor, had called out due to weather	Equipment stored on-site in buildings to save travel time and wear and tear	
Need for clear communication between dept and Occ Health and recognition of organizational policies		EE home department leadership and OHS did not have a solid relationship	Safety inspections were not regularly conducted prior to use	

Action Plan

Strength	Action Plan Type
Strong	• Purchase and install adequate number of time clock stations in buildings where employees typically work vs one central location (once paper based temporary system no longer needed) • Budget in ongoing replacement equipment over time vs waiting for issues to occur and then replace
Intermediate	• Clear communication among department personnel, including verbal and written documentation – everyone on "same page" • Central #/pager in Occupational Health for staff who are impacted by these types of events off hours (provide algorithm) – requires staffing of pager • Establish back-up plan and reporting tree should department staff call out • 24-48 hours de-brief after event (multi-disciplinary)
Weak	• Annual organizational training on incident and injury reporting, RTW procedures for Supervisors and Front-line Staff • Departmental level training for EEs on reporting procedures

2025
WORK RELATED
Injuries Workshop

Thank you!

Resources

Just Culture and Psychological Safety

- https://www.justculture.com/
- https://www.linkedin.com/pulse/just-culture-psychological-safety-dr-klaus-affholderbach-wh1qf/
- https://hbr.org/2023/02/what-is-psychological-safety
- https://www.ccl.org/articles/leading-effectively-articles/what-is-psychological-safety-at-work/?msclkid=8b433157bbf511ec9ebd94d91e88868d

Root Cause Analysis

- https://online.hbs.edu/blog/post/root-cause-analysis
- http://www.ihi.org/resources/Pages/Tools/RCA2-Improving-Root-Cause-Analyses-and-Actions-to-Prevent-Harm.aspx
- https://www.cms.gov/medicare/provider-enrollment-and-certification/qapi/downloads/fishbonerevised.pdf
- https://www.uml.edu/research/cph-new/healthy-work-participatory-program/toolkit.aspx