

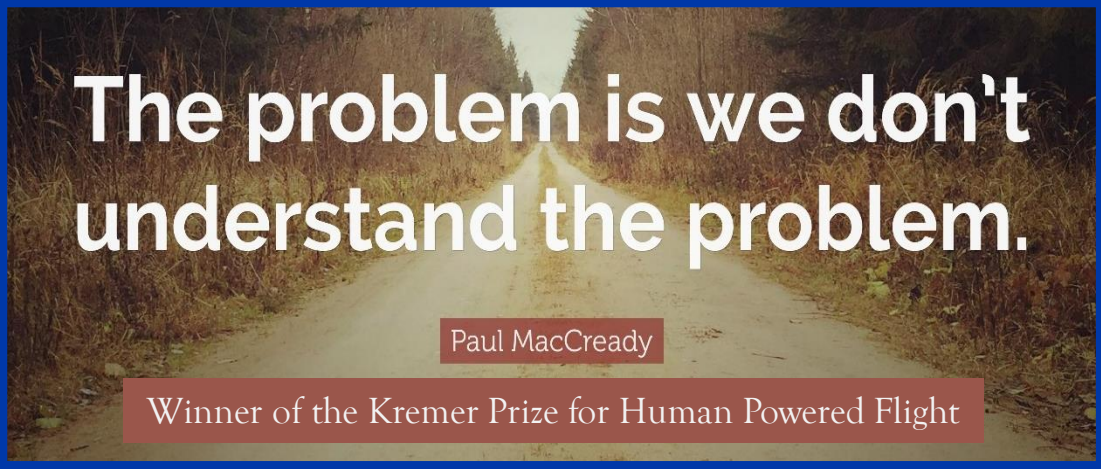
Thank you for your interest in the content slides from Don Wilson's presentation:

Reducing Serious Injuries & Fatalities

In addition to the slides, an in studio video recording of this session as presented by Don is available at the link below that you can share or review with other leaders at your organization.

<https://event.on24.com/wcc/r/2122378/F9F488B7CD8290B2EA5CF1BE18502872>

Reducing Serious Injuries & Fatalities (SIFs)



The problem is we don't understand the problem.

Paul MacCready

Winner of the Kremer Prize for Human Powered Flight

Three Influence Approaches and Their Effectiveness



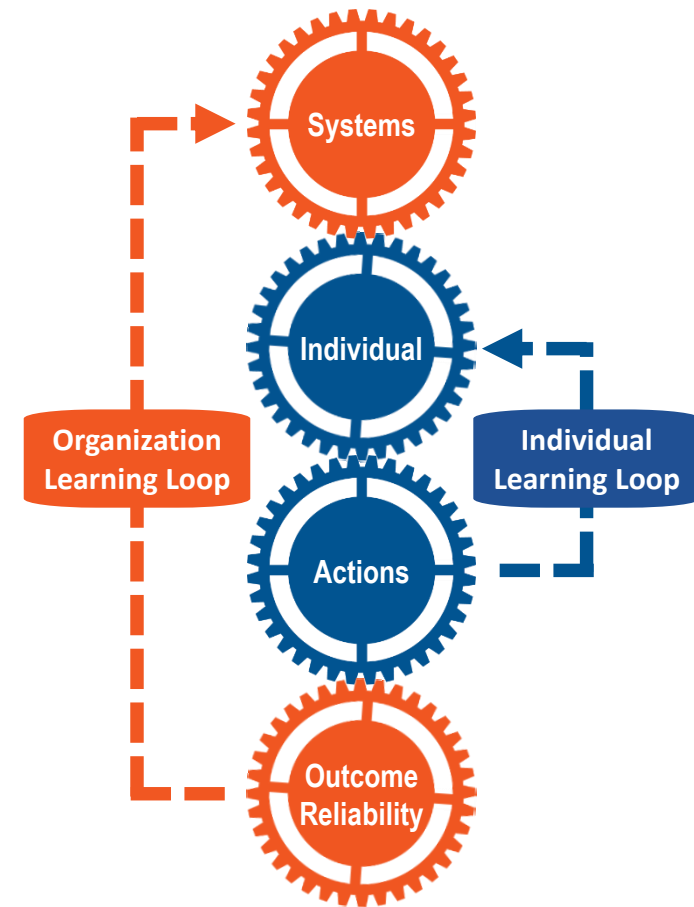
“A problem well stated is a problem half-solved”

Charles Kettering

The SafeStart “Human Factors” Approach

A Framework for Culture, Safety, & Performance

1. Drive engagement by helping individuals to develop a personal 24/7 commitment to safety for themselves & their families
2. Provide people with easy & portable tools and techniques for reducing unintentional safety errors and improving human performance “in the moment”
3. Improve group communication skills by introducing a simple, common and positive language for discussing safety & risk
4. Utilize these new communication skills, tools & techniques to provide more and better predictive inputs (leading indicators) for improving both outcome reliability in workplace systems **and** driving improvements in overall climate/culture



Our Journey to a Human Factors Approach

1960

1970

1980

1990

2000

Vocational Training Systems
for “Experiential” Learners



Typical HOC
Based H&S
Management
Solutions

- Hazard Elimination
- Job Safety Analysis
- Accident/Incident Investigations
- Written Procedures
- Pre-use Equipment Checklists/Permits
- Safety Training

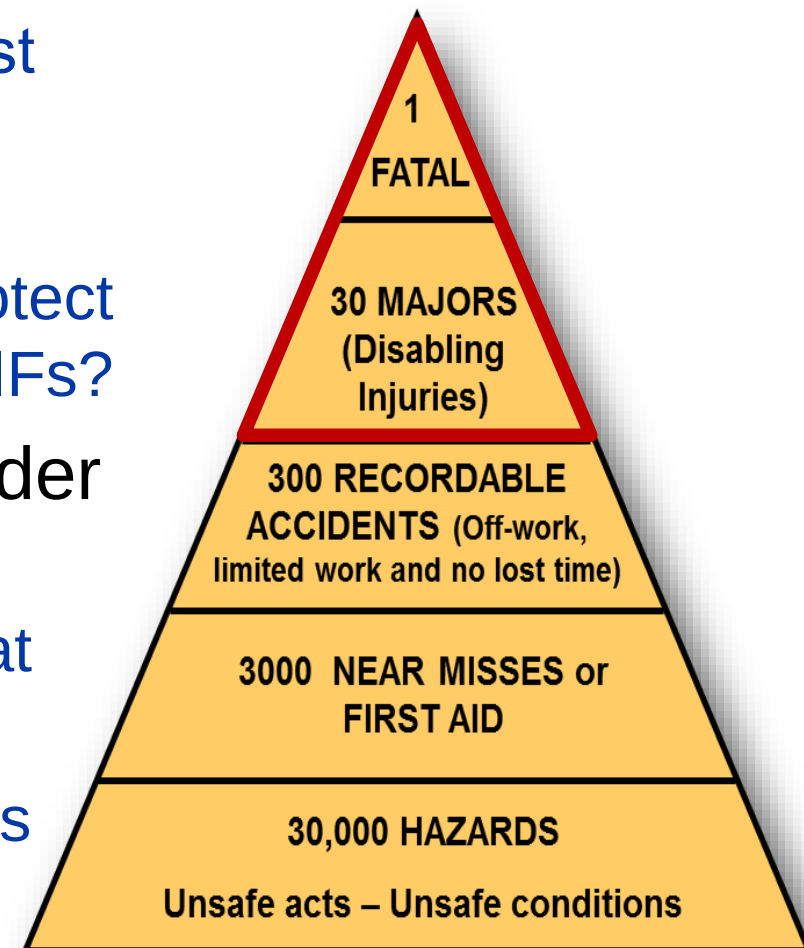
Behavior Based
Safety (BBS)
Observation &
Feedback Process



These Traditional Tools Didn't Solve the
24/7 Safety/Performance/Culture Problems

The Problem in Using Traditional Tools for SIFs

- Group Question
 - What is your organization's most valuable asset?
 - Is the **primary** purpose of your H&S program to **effectively** protect that asset (your people) from SIFs?
- Individual Questions to Consider
 - Think about how many times in your life you had an incident that **“Could have killed you!”**
 - **Where** did most of those injuries and close calls take place?



Three Influence Approaches Available for All Problems Involving People (Human Factors)

Structural Motivation & Ability

- Does the environment encourage the right behaviors?
- Does the environment provide resources to support the right behaviors?

Social Motivation & Ability

- Do others encourage the right behaviors?
- Do others provide help/information/resources?

Personal Motivation & Ability

- Do you want to do it?
- Do you have the necessary knowledge & skills?





Factors Influencing Employee Safety

Physical
Environment &
Controls of the
Workplace
(HOC)

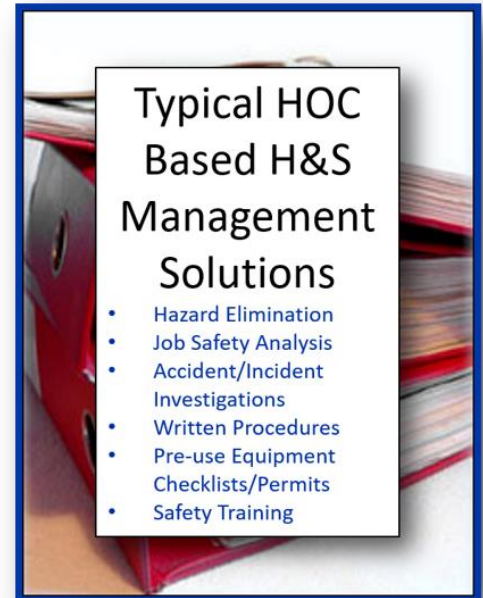
Personal
Commitment,
Awareness &
Safety Skills
(SafeStart)

Motivation &
Mentorship of
Managers and
Leaders
(BBS)

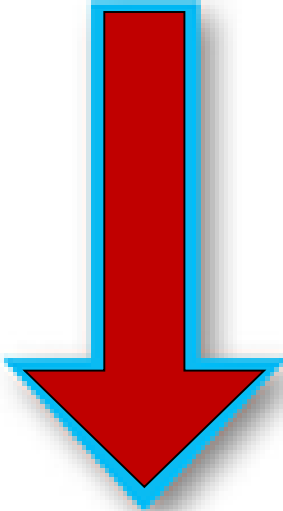
Personal Safety of the Individual

Traditional Safety Management (HOC)

- Engineering and ergonomic controls to eliminate, control, and mitigate negative effects of hazards
 - Written policies and procedures to ensure safe work practices
 - Training of employees about workplace hazards and about procedures
 - New with HOP more direct employee involvement in eliminating hazards and creating new procedures
- ✗ **And yet we still had accidents caused by unsafe conditions and unforeseen hazards**



The Hierarchy of Safety Controls & the Limitations on 24/7 Hazard Elimination

Effectiveness	Type of control
Most effective	Elimination or substitution
	Engineering controls
	Awareness tools (administrative control)
	Training and procedures (administrative controls)
	Least effective Personal protective equipment

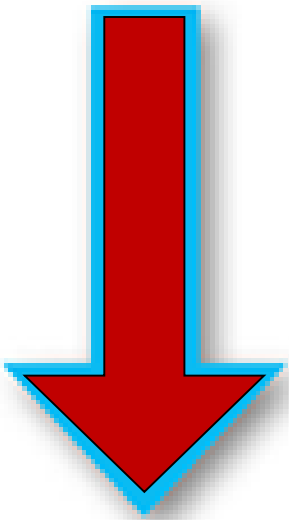


But in the “Real 24/7 World” You Can’t
Always Eliminate the Hazardous Energy

Does Your Neighborhood Look Like This?



The Hierarchy of Safety Controls & the Limitations on 24/7 Hazard Protection

Effectiveness	Type of control
	Elimination or substitution
	Engineering controls
	Awareness tools (administrative control)
	Training and procedures (administrative controls)
	Personal protective equipment
Least effective	



At Work PPE is “A Condition of Employment”



Do You (or Your Spouse) Look Like This in the Kitchen?

What About “Zero Harm” Policies? What Does “Complete Protection” Look Like?



Possible 24/7 Consequences of “Zero Harm” Policies and “Complete Protection” at Work





Factors Influencing Employee Safety

Physical
Environment &
Controls of the
Workplace
(HOC)

Personal
Commitment,
Awareness &
Safety Skills
(SafeStart)

Motivation &
Mentorship of
Managers and
Leaders
(BBS)

Personal Safety of the Individual

Observation & Feedback (BBS)

1. Identify common “unsafe conditions” and “at risk behaviors” - **in the workplace**
2. Train leaders, managers and supervisors to observe people at work for these “conditions and behaviors”
3. Give positive feed back for compliance with rules & regulations and discuss observed “at risk behavior” with workers **(to motivate them to change)**
4. Solicit improvement ideas for systems, hazards & behaviors from the workers **(HOP seeks to increase this area)**
5. HSE committee takes feedback & data and comes up with problem solving strategies **(HOP - front line workers are instrumental in solving all issues)**

ABC Co		Observation Card	
☒ Check if safe	☒ Check if at risk		
☐ Check if not applicable	☐ not discussed		
Initial Actions			
>> ☐ Eyes on Task			
>> ☐ Not Rushing			
>> ☐ Balance Traction Grip			
Line of Fire			
>> ☐ Body Position			
>> ☐ PPE			
>> ☐ Screens Guards Rails			
>> ☐ Lockout			
Body Mechanics (Ergonomics)			
>> ☐ Lifting Bending Twisting			
>> ☐ Repetitive Motions			
>> ☐ Reaching Pulling Pushing			
>> ☐ Standing Sitting Kneeling			
>> ☐ Comfortable			
Procedures & Standards			
>> ☐ Up-to-date Communicated Understood			
>> ☐ Followed			
>> ☐ Obsolescence			
Tools & Equipment			
>> ☐ Correct for Task			
>> ☐ Safe Use			
>> ☐ Safe Condition			

How Effective Can HOC and/or BBS Approaches Be in Today's Service Industry *Workplaces*?



- From an HOC Perspective these Hazards/Systems ARE NOT within the Organization's Control for Modification/Re-engineering!
- From a Traditional BBS Perspective Company Observers Aren't There to Influence Behavior or Decisions!

Do We Really Understand the SIF Problem?

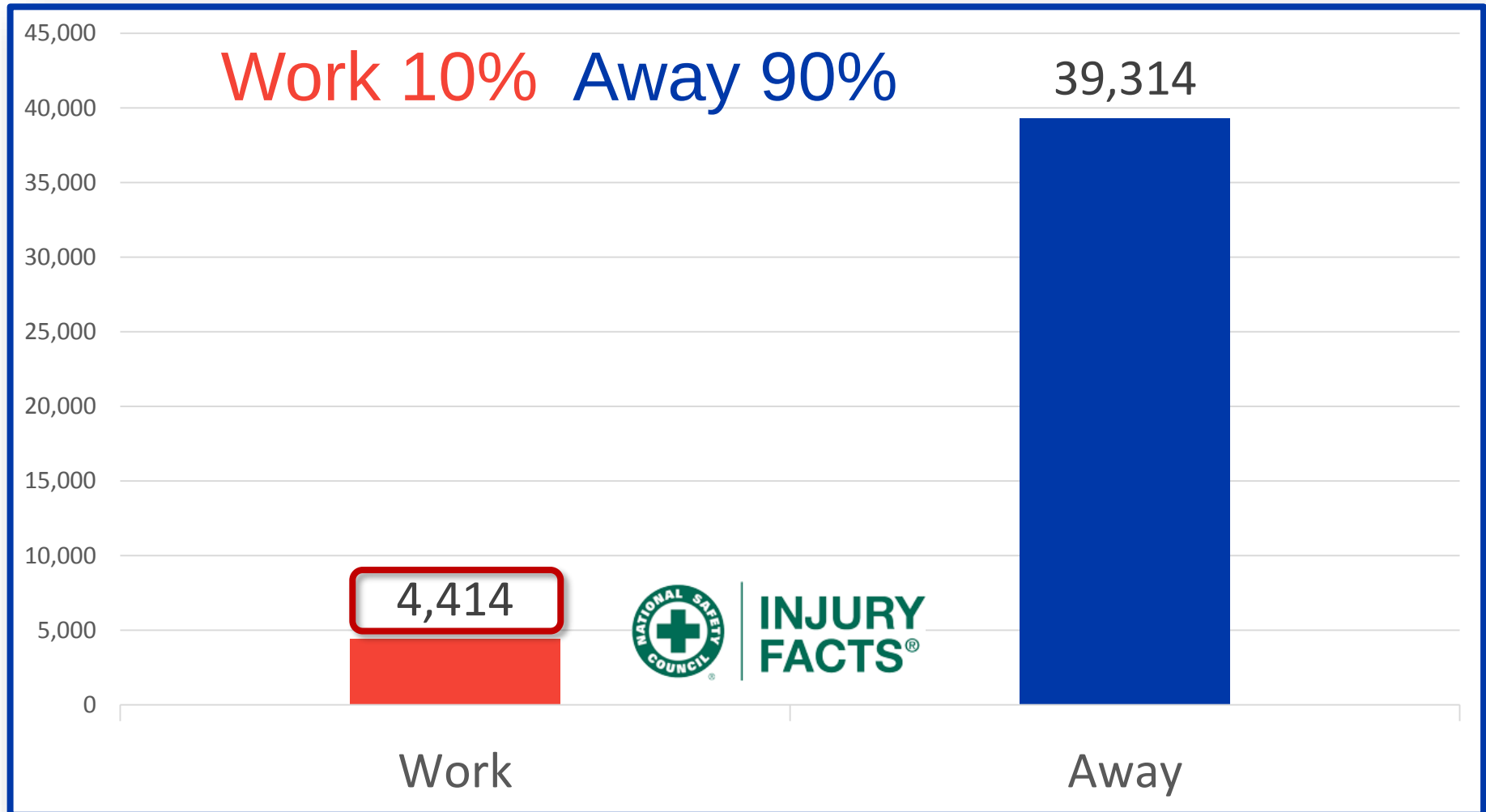
Where Do Most Fatal Injuries to Our Employees Occur?



“A problem well stated is a problem half-solved”

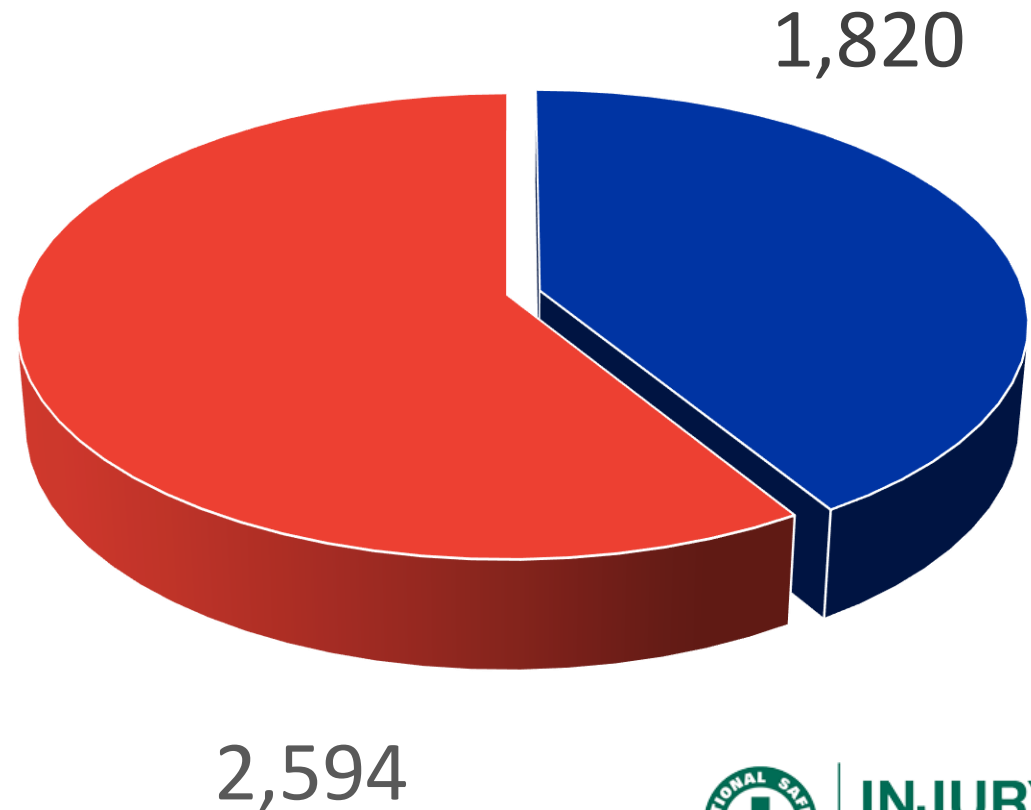
Charles Kettering

Employee Fatal Injuries - Work vs Away



Of the Approximately 4,500 Employee Fatalities Every Year

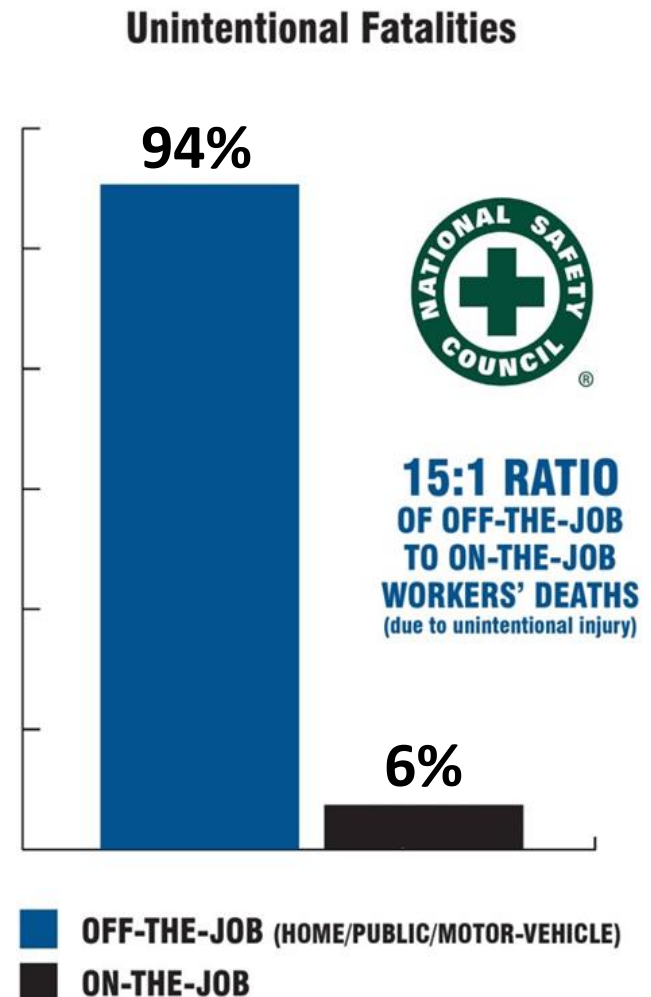
- ✓ About 40%
are driving
related
- ✓ About 60%
are from all
other causes



Adopting Workplace Only Interventions Will **Never** Reach Very Much of Our Fatality Problem

From NSC Injury Facts:

- Almost **ALL** of the accidental fatalities to our workers happen **AWAY** from our **workplaces**
- Should we focus all of our time and money on further reducing the small number of fatalities that actually take place at work?
- Should we focus on reducing **ALL** fatalities for our employees?





How Do These Influence SIFs 24/7?

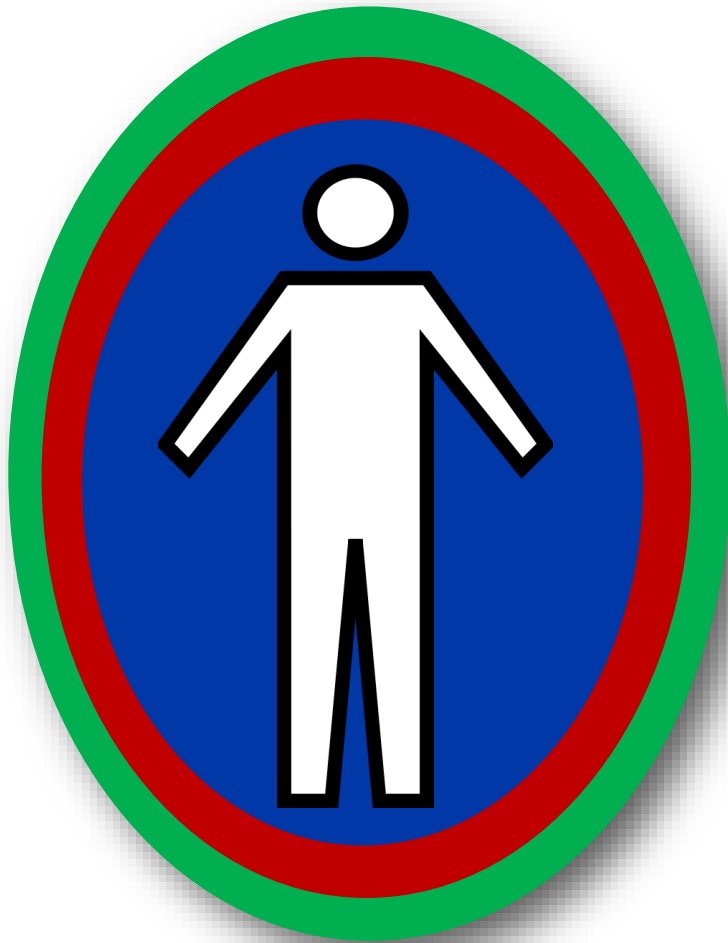
Physical
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Personal
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Awareness &
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(SafeStart)

Motivation &
Mentorship of
Co-Workers and
Leaders
(BBS)

Personal Safety of the Individual

Three Influence Approaches

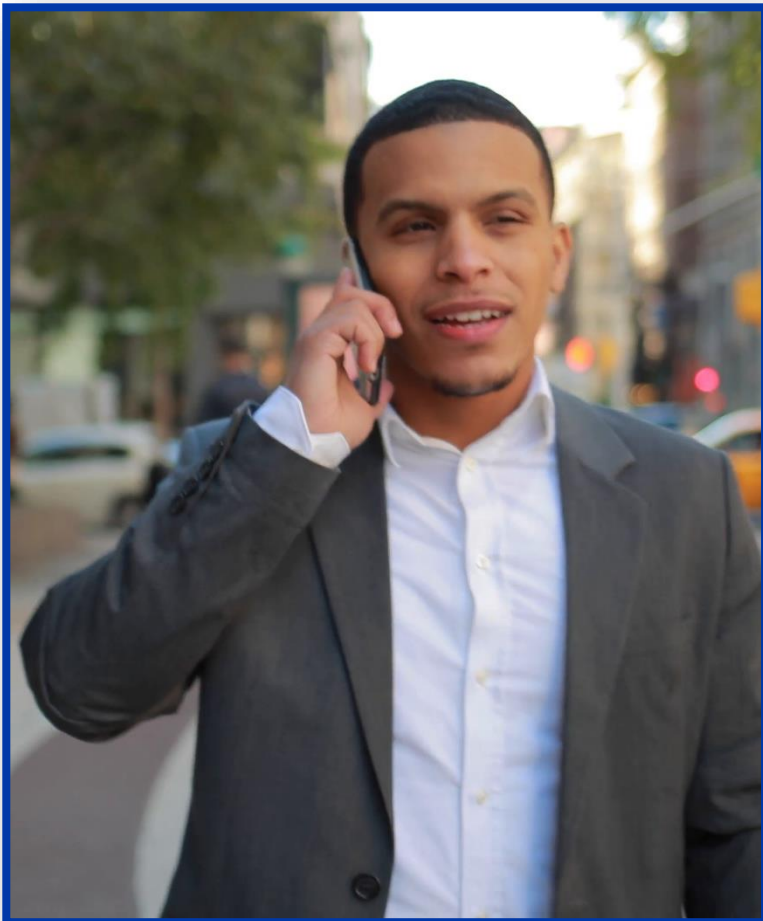


Influencing motivation & ability in the **Personal (Self) Area** has by far the greatest potential for reducing SIFs everywhere (not just at work)

But real improvement can **Only** occur if the new personal skills taught & tools deployed are:

- ✓ **Portable for 24/7 Use**
- ✓ **Easy & Flexible to Use**
- ✓ **“Worth It” to the Individual**

Which Communication Tool Can You Take With You Everywhere?



V.S.



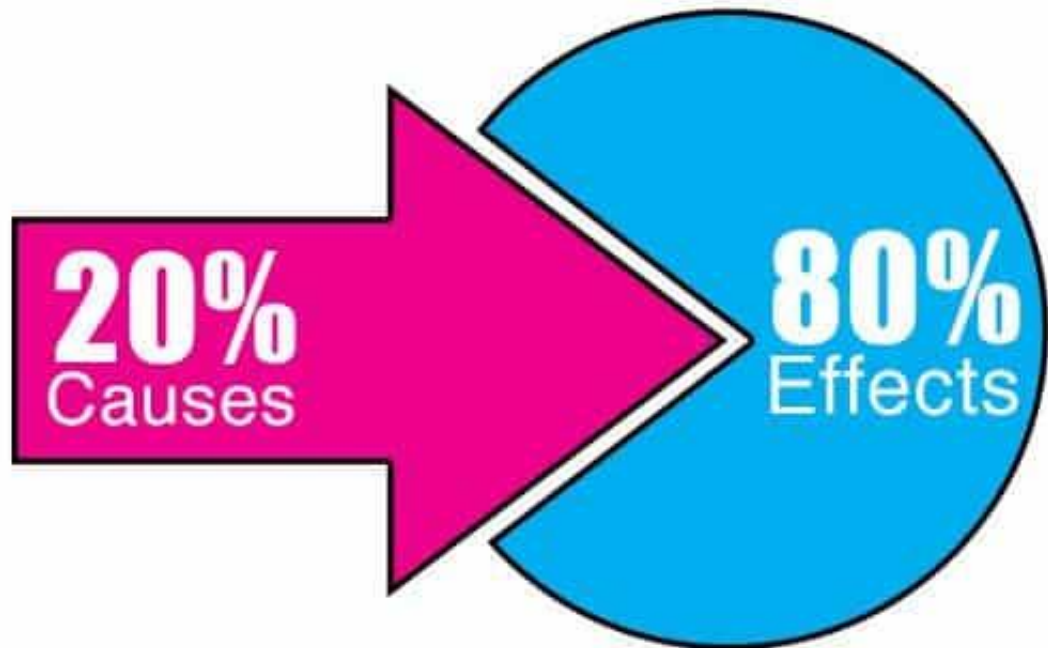
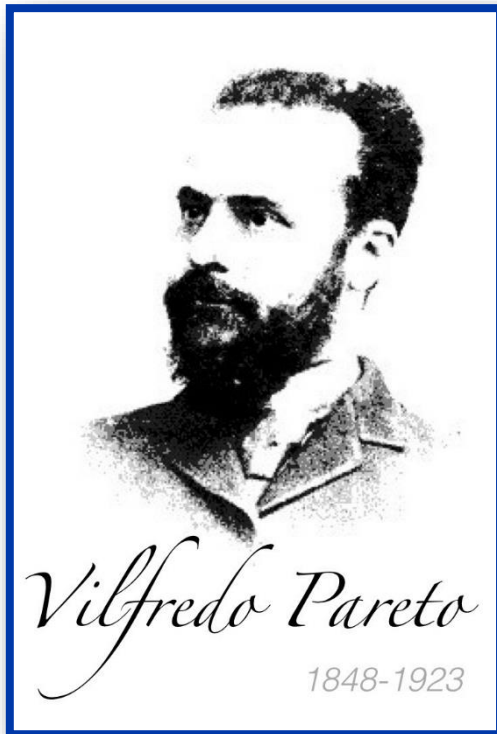
How Easy & Portable Are These Traditional Workplace Safety Tools?

Workplace Safety Tools & Systems

-  Job Safety Analysis
-  Accident/Incident Investigations
-  Written procedures
-  Pre-use Equipment Checklists/Permits
-  Observation & Feedback (BBS) Process



What Tools for 24/7 Safety Provide the Greatest Ease, Portability & **Efficiency**?



The Pareto Principle or 80:20 Rule

The 80/20 of 24/7 Injuries

- ✓ Hazards vary by job and workplace and from work to the road and home but:
 - Most injuries follow a simple and consistent **pattern**
 - Lack of knowledge about hazards or procedures is rarely a factor



So Why Would a Person Make Contact with a Hazard They **Knew** About?



These four states...

- ☐ Rushing
- ☐ Frustration
- ☐ Fatigue
- ☐ Complacency

can cause or contribute to these critical errors...

- ☒ Eyes not on Task
- ☒ Mind not on Task
- ☒ Line-of-Fire
- ☒ Balance/Traction/Grip

...which increase the risk of injury.

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Critical Errors: As Seen on TV !!!



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Critical Errors: That's Life !!!



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So Why Do People to Make These Unintentional Injury Causing Errors?



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- ☐ Fatigue
- ☐ Complacency

can cause or contribute to these critical errors...

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- ☐ Mind not on Task
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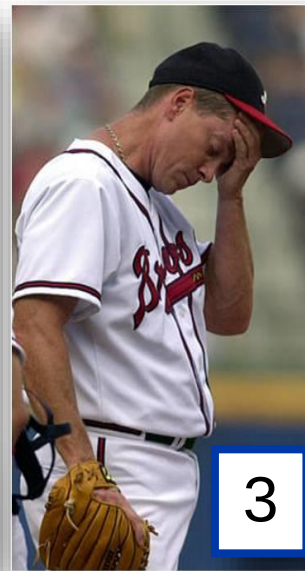
...which increase the risk of injury.



What Happens

We **ALL** Want to Help People Make Less Errors
Particularly Ones that Lead to Injury ...

But What if Your Job Was to **Cause** Mistakes?
(What Could We Learn From These “**Error Experts**”)



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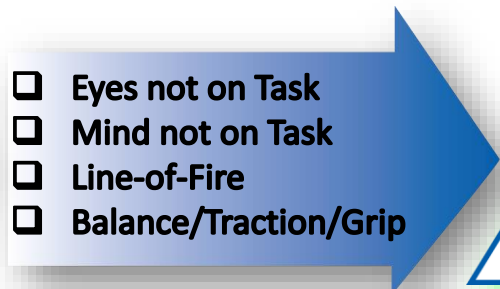
**When
it Happens**

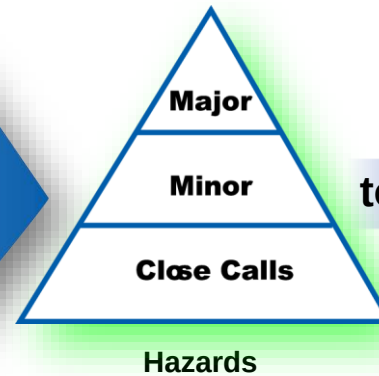
What Happens

The Universal 24/7 Injury Risk Pattern

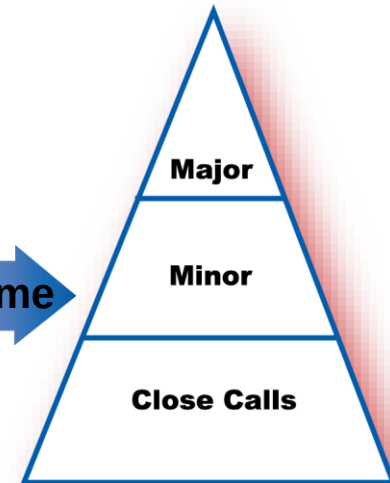
States (cause) **Errors** (which cause) **Less Risk** (to become) **More Risk**

- 
- ☐ Rushing
 - ☐ Frustration
 - ☐ Fatigue
 - ☐ Complacency

- 
- ☐ Eyes not on Task
 - ☐ Mind not on Task
 - ☐ Line-of-Fire
 - ☐ Balance/Traction/Grip



to become



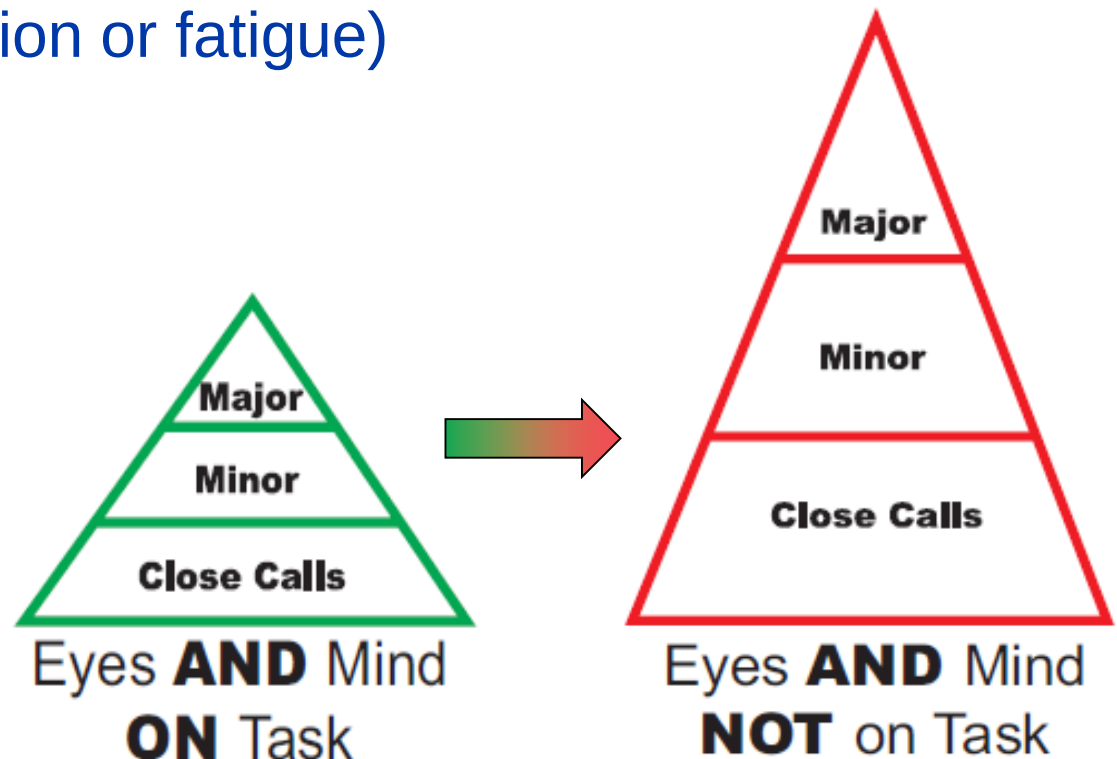
Hazards with a critical error

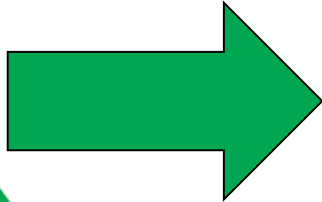
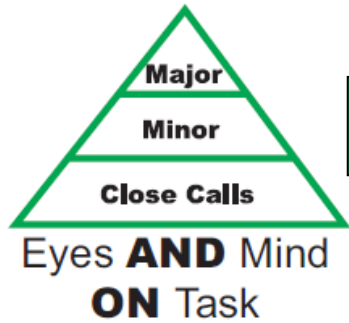
This “**State to Error**” risk pattern is involved in over 95% of all accidental acute injuries



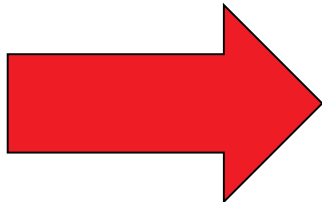
What Differentiates 24/7 SIF Events?

1. Significant hazards or hazardous energy potential **always** exists (gravity, kinetic, mechanical, thermal etc.)
2. Almost always occur when a **precursor stressor state** is negatively affecting the individuals involved (like rushing, frustration or fatigue)
3. In a high percentage of these events the critical errors of **Eyes AND Mind NOT on Task** are present **together** (eliminating any reflex potential)





With Reflexes - Much **Lower** SIF Risk



No Reflexes - Much **Higher** SIF Risk

How Can We Learn to Recognize and Avoid Future 24/7 SIF Events?

2. Analyze close calls and small errors
(to prevent agonizing over the big ones)



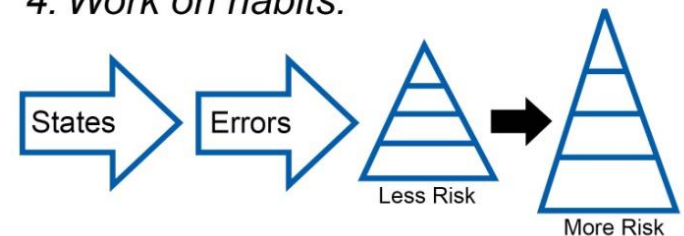
Critical Error Reduction Techniques (CERT)

1. Self-trigger on the state (or amount of hazardous energy) so you don't make a critical error.

2. Analyze close calls and small errors (to prevent agonizing over big ones). **Big Ones are SIFs**

3. Look at others for the patterns that increase the risk of injury.

4. Work on habits.



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Analyzing Close Calls & Errors for SIF Potential



To Learn from SIF Potential Events Always Ask Yourself **Three** Questions:

3Qs



Q1

How Could it Have Been Worse?
(Enough **Energy** for a SIF? - Mentally Paint the Picture)



These four states...

- ☐ Rushing
- ☐ Frustration
- ☐ Fatigue
- ☐ Complacency



can cause or contribute to these critical errors...

- ☒ Eyes not on Task
- ☒ Mind not on Task
- ☐ Line-of-Fire
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...which increase the risk of injury.



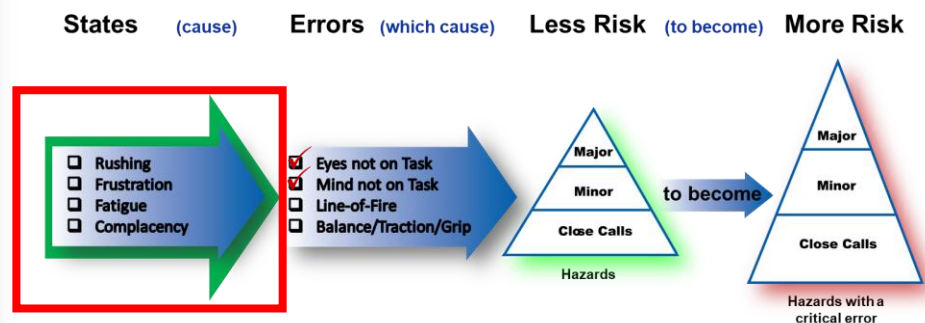
Q3

Q2

Relating Close Calls & Errors to the Universal 24/7 Injury Risk Pattern

With enough repetition (40+) to establish the **3Qs Habit** people will begin to automatically respond to the **States, Errors & High Energy** that are contributing factors in almost all SIF events.

Recognizing the Danger “In the Moment”



At SafeStart we refer to this automatic “in the moment” danger response as **Self-Triggering**

Self-Triggering reports at work should be viewed as **Leading Indicators** for SIF potential & used to inform the **Organizational Learning Loop**

 **SAFESTART®**

Self-Trigger
Critical Error Reduction Technique

Self-trigger on the state (& amount of hazardous energy) so you don't make a critical error

States...

- ☒ Rushing
- ☒ Frustration
- ☐ Fatigue
- ☐ Complacency

Hazardous energy...

- ☒ Mechanical
- ☐ Thermal
- ☐ Chemical
- ☐ Electrical
- ☐ Other

SIF Potential!

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 **SAFESTART®**

Self-triggering Event Details

I got frustrated! - almost hit by a forklift driver who was rushing to make quota.

I need to work on my wave & eye contact habit w/drivers!

I hear this month end pace causes lots of S,Q & P issues

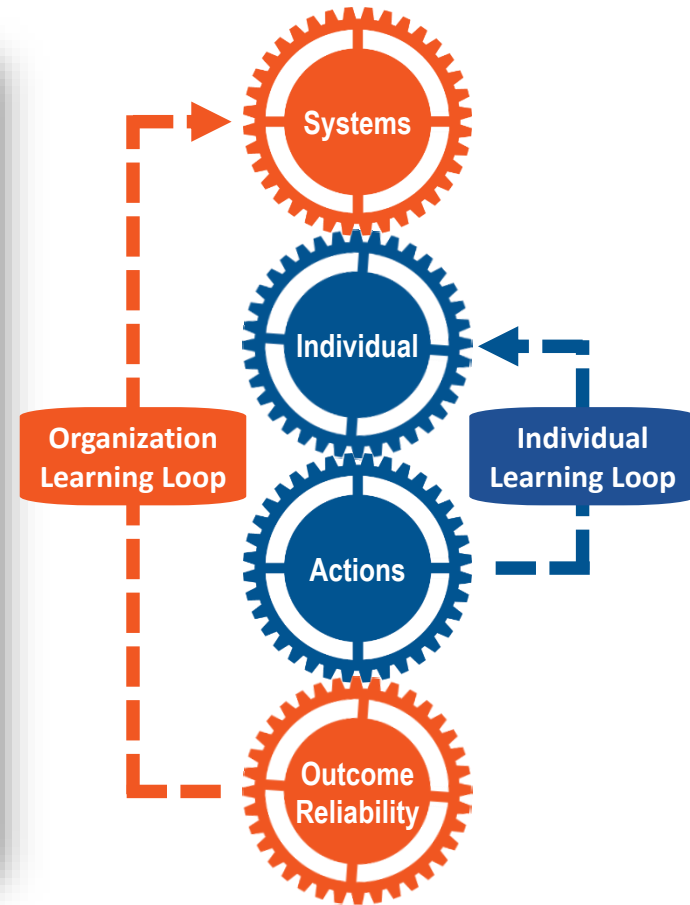
Out in shipping with trucks and mobile equipment it's going to get someone killed!

Name 29/06/2019

Dept. _____ Date _____

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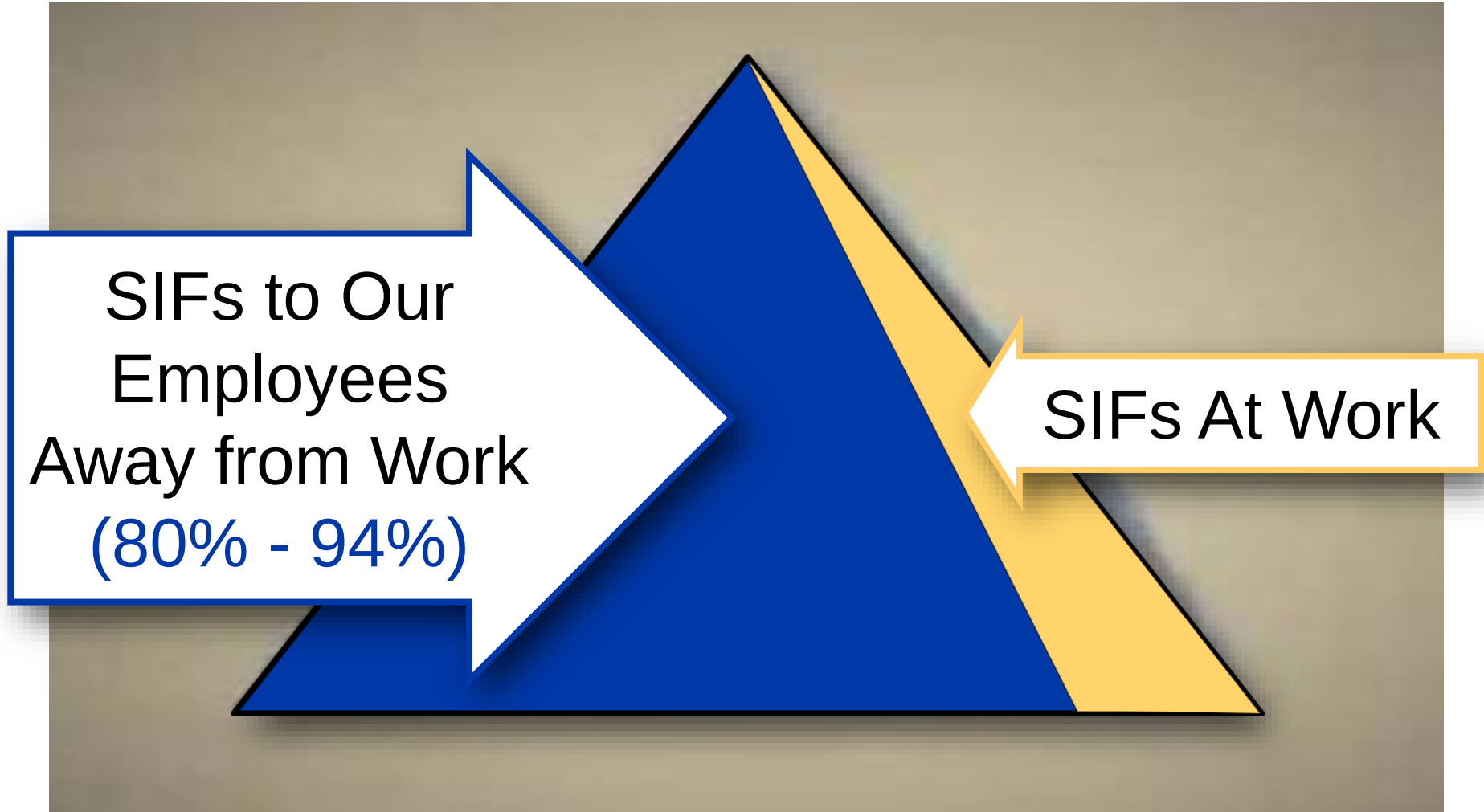
Three Sources of Influence



Real improvement can **Only** occur if the new personal skills taught & tools deployed are:

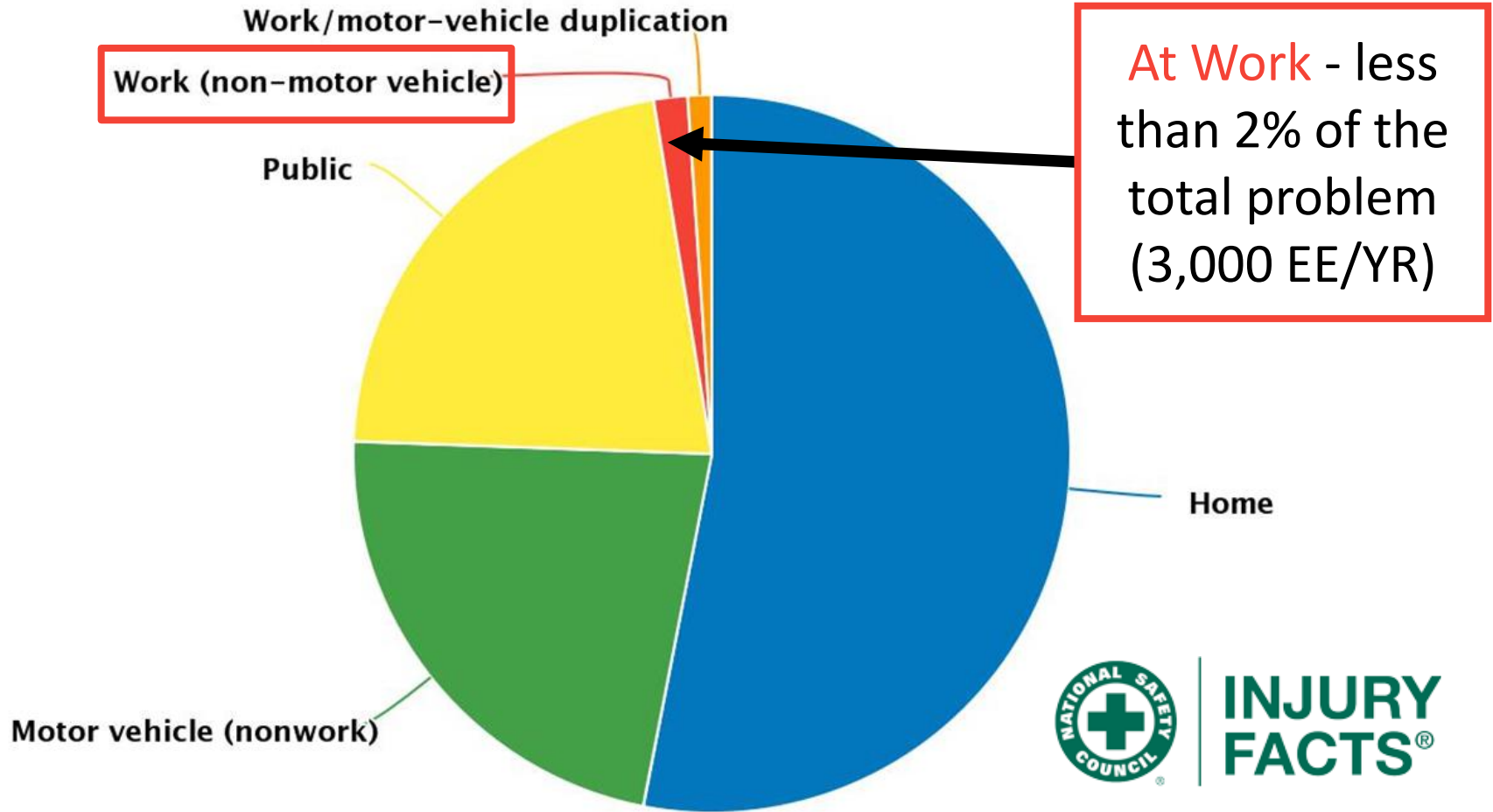
- ✓ **Portable for 24/7 Use**
- ✓ **Easy & Flexible to Use**
- ✓ **“Worth It” to the Individual**

How Do We Make It – “Worth It” to Them?



& Almost 100% of SIFs to **Their Loved Ones !**

Overall Fatality Data from NSC Injury Facts



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Away from Work - more than 98% of the total problem
(approximately 170,000 men, women & **children** per year)

Driving Emotional Engagement

What is the single most important thing to YOU?



Everyone wins when employees find enough value & simplicity to teach safety to their loved ones!



Keys to Leadership in 24/7 Safety & SIF Reduction

1. Teach the use of simple and portable safety tools that can be used in real time 24/7 (remember the Pareto Principle).
2. Move beyond HOC, BBS, within your organization to impact safety where the majority of injuries are taking place (including almost all SIF events).
3. Help motivate employees to work on “automatic – in the moment (subconscious)” habits & skills to reduce critical errors and critical decisions that increase the risk of injury.
4. Appeal to your employee’s 24/7 family agenda for safety (emotional engagement, the power of mentoring, and the existing interdependent family culture), to help achieve your organization’s workplace safety goals.