

Near Miss Reporting

Loss Causation Model



- **Define what is a near miss**

Defined – so everyone is on the same page.

- **Practical reporting**

How do we apply this and make it work?





Accident

An unplanned event where injury to people, damage to property or process or harm to the environment has occurred.



What is an Accident?



Near Miss

A near miss is an unplanned event that did not result in injury, illness, or damage - ***but had the potential to do so.***

Only a fortunate break in the chain of events prevented an injury, fatality or damage.



What is an Near Miss?



What is a Near Miss?

There are many ways to describe a near miss, close call, or near hit.

Definition:

A near miss can be describe as an unplanned event where given slightly different circumstances, injury to people, damage to property or process or harm to the environment could occurred.

All Near Misses involve people and some type of action.



What is a Near Miss?

Unsafe actions of people which in different circumstances could cause an accident, property damage, process interruption or create an environmental hazard.

Pre-shift work place examinations are designed to look for **unsafe conditions** in the work area. These are corrected before work begins.

Unsafe actions are observations to correct the sometimes 'unthinking' acts that we commit.

Is this an Unsafe Act or an Unsafe Condition?



What is taking place to make this an unsafe act?

What would we change to make this just an Unsafe Condition?

Is this a Near Miss?

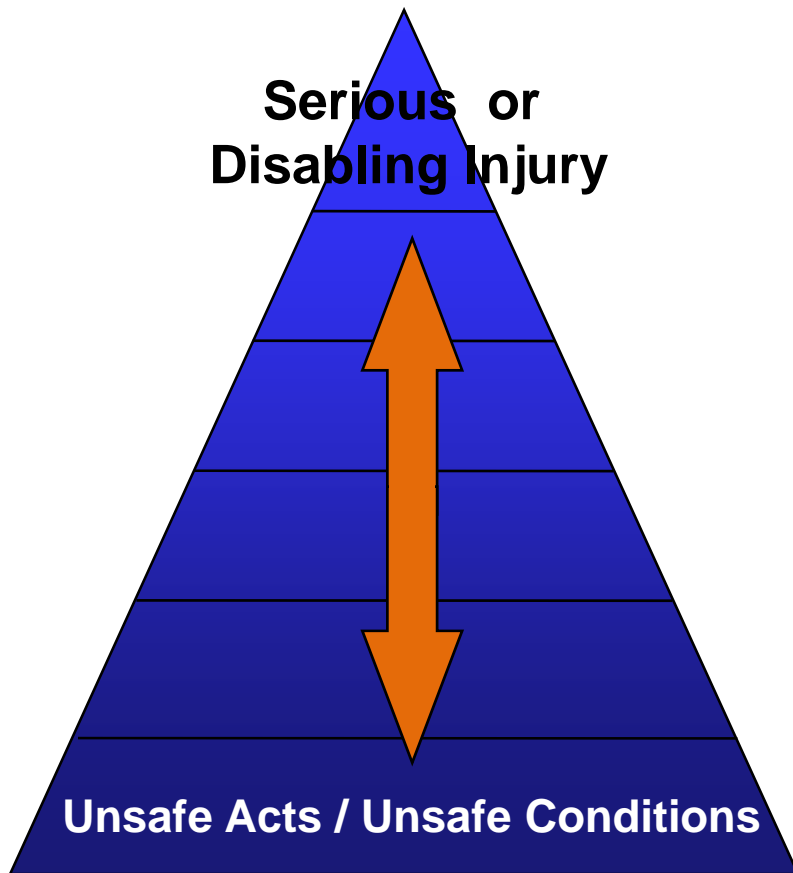
Is this an Unsafe Act or an Unsafe Condition?



What is taking place to make this an unsafe condition?

What would we change to make this an unsafe act?

Is this a Near Miss?



The event which ultimately results in a loss, has usually occurred many times previously. However, because no loss was experienced it was normally left uninvestigated.

Reporting a near miss or a “close call” can provide ways for people to understand how an accident could have happened and how to prevent an accident in the future with out anyone getting hurt.

This is the base of the pyramid.
There is no contact or energy
exchange. These acts and
conditions are present
everywhere.

Example:

Walking around the shop area with
out wearing a hard hat.

An old work truck that you have to
'double pump' the brakes.

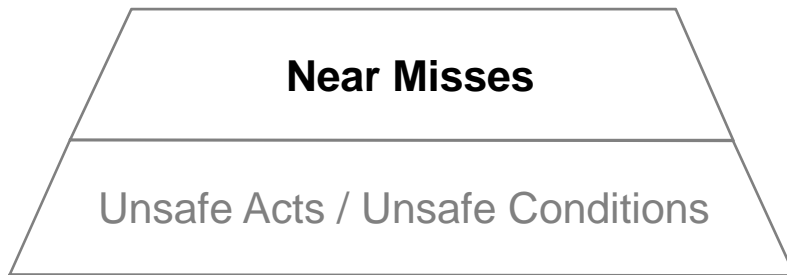
Unsafe Acts / Unsafe Conditions

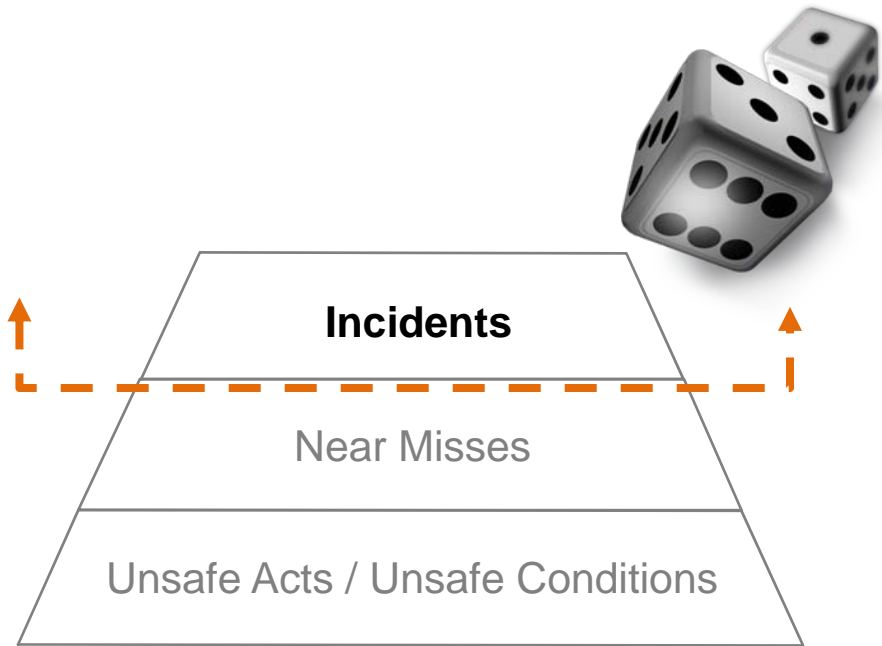
These requires some type of energy exchange. There is no contact with the individual or machinery.

Example:

Mechanic drops heavy wrench from atop haul truck to the shop floor.

You need 'double pump' the brakes to stop at the Mini Mart.





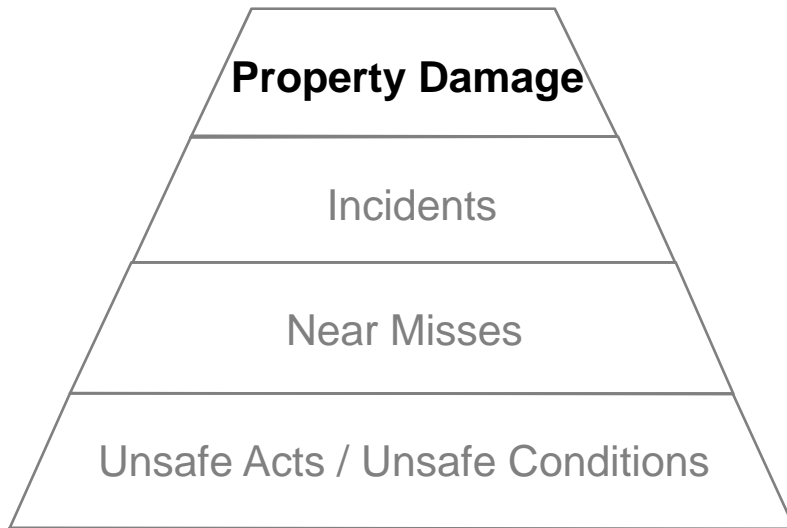
This begins the exchange of energy between the object and the person or machine. Contact is made but no loss occurs because the severity is determined by luck.

Example:

Mechanic drops heavy wrench from atop haul truck to the shop floor and bounces and strikes a person's steel toe boot.

You 'double pump' the brakes to stop at the house and end up bonking your mother-in law's car in the bumper.

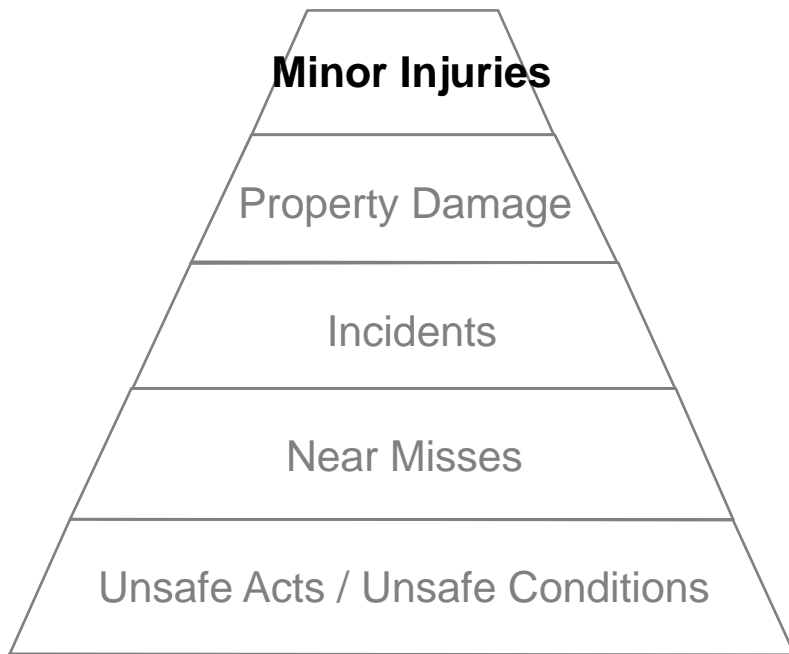
Property damage accidents are costly. Loss of process are typical examples of this type of accident. These can in the long run cost more than serious injuries.



Example:

Mechanic drops heavy wrench from atop haul truck to the shop floor and strikes a pick-ups windshield and cracks it from end to end.

You 'double pump' the brakes to stop at the post office and end up hitting a yellow post putting another dent in the bumper.



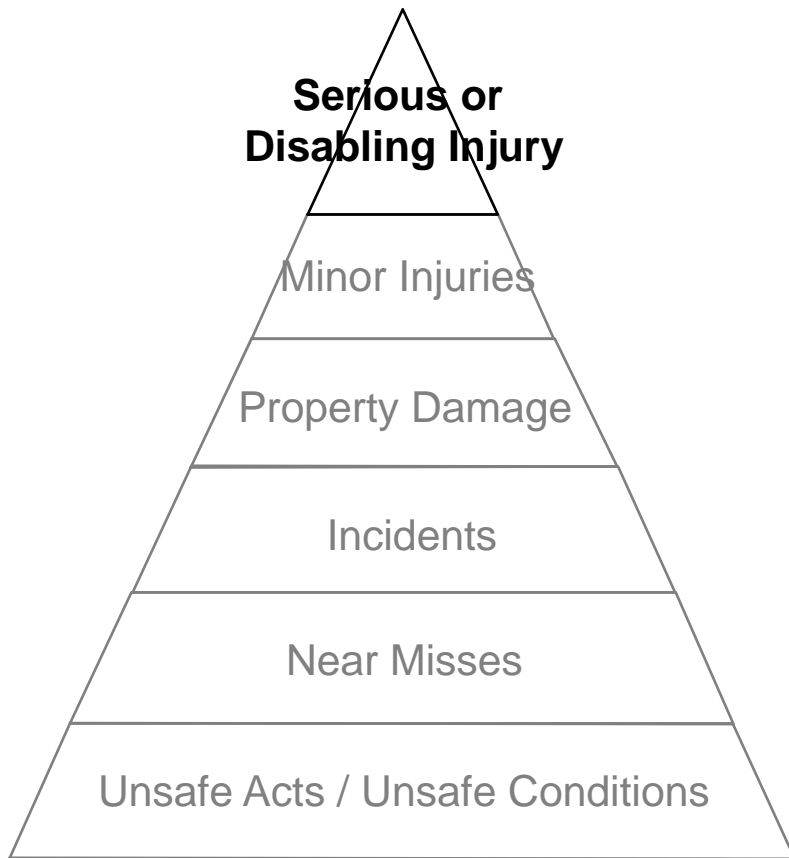
These are any reported injuries that may or may not be serious in nature. These are first aid cases. Many times these are rationalized as near-misses or close calls, but are really in fact minor injuries.

Example:

Mechanic drops heavy wrench from atop haul truck to the shop floor and striking an employee on the arm cutting him slightly.

The brakes unexpectedly grab the first time and you hit your chin on the steering wheel.

Is this a Near Miss?



This is the top of the pyramid. The serious injury is given the most attention to insure that it does not happen again.

Example:

Mechanic drops heavy wrench from atop haul truck to the shop floor and strikes a co-worker on the shoulder, causing permanent disability.

This time the brakes do not work at all as you roll into fast moving traffic at the on coming intersection...



“Learning from what could have happened far outweighs learning from what did happen.”

- Requires Management to Focus on Culture
- Shows you if we are good or just lucky
- Raises Risk Awareness
- Encourages Involvement



- ***Near misses are infrequent and hard to find anything to report on a monthly basis.***

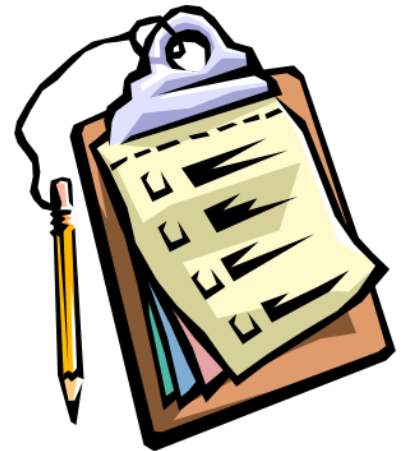
False

- ***Small - hardly noticeable - property damage is only a near miss and is not a big deal in the big Safety world.***

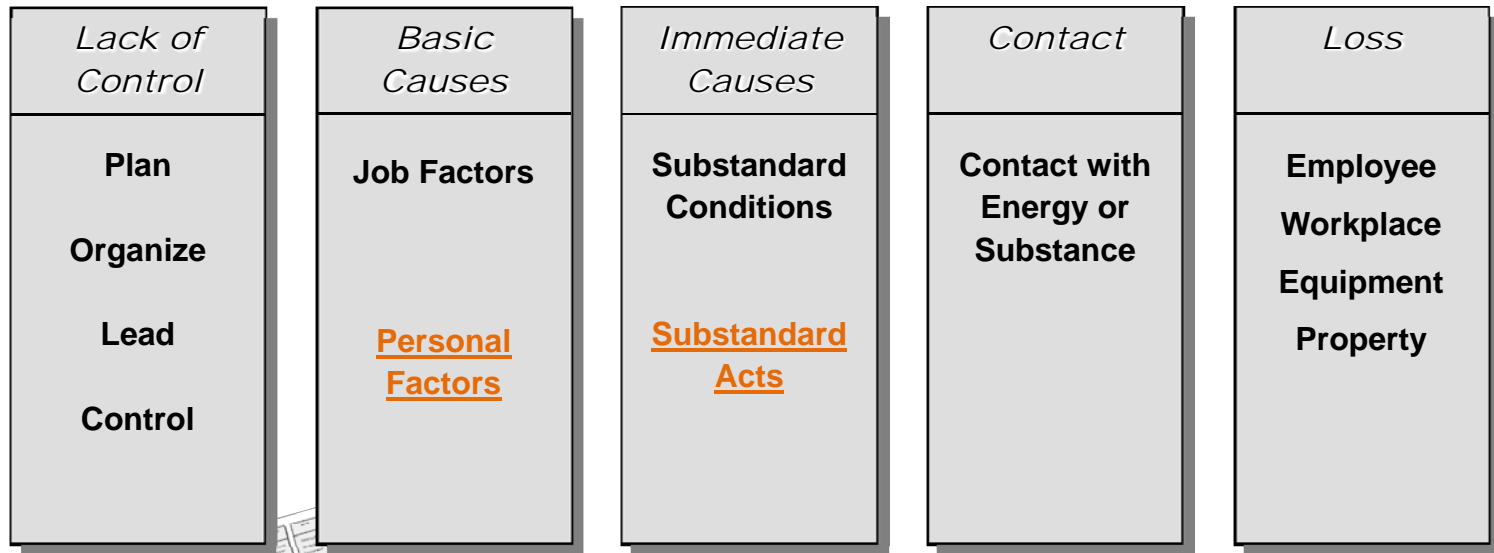
False

- ***Near misses and injuries can show possible of probable serious injuries if investigated.***

True



Loss Causation Model



Near Miss Reporting
Loss Causation Model

The form includes a grid with categories such as: **Human Factors** (e.g., Lack of training, Poor judgment), **Equipment** (e.g., Defective equipment, Poor maintenance), **Environment** (e.g., Poor lighting, Slippery surfaces), **Substance** (e.g., Improper use of chemicals), and **Other**. It also has sections for 'What happened?', 'What was the cause?', and 'What can be done to prevent recurrence?'.

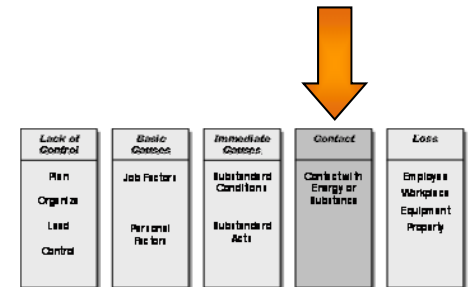
All Near Misses involve people and some type of action.

<i>Contact</i>
Contact with Energy or Substance

- Struck against
- Struck by
- Caught in, under or between
- Fall from same level
- Fall to lower level
- Rubbed or abraded
- Body reaction
- Electrical energy
- Overexertion
- Temperature extremes
- Toxic / nontoxic substance
- Caustics / Acid

A near miss is an unplanned event that did not result in injury, illness, or damage - but had the potential to do so.

“I was just standing there minding my own business when all of a sudden out of no where came this big noise!! It was not my fault! I had told them if they did not pay attention this would happen...”

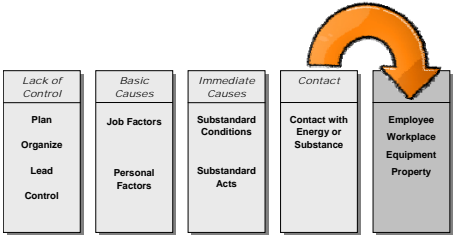




- Near Miss
- Property Damage
- First aid Injury
- Industrial Illness
- Lost Time Injury
- Death

Go back and look at the potential of what could have happened. Describe the near miss and ask what would probably happen if under slightly different circumstances we were not so lucky.

This could be to employees, the workplace, equipment or property. loss of process and environmental losses could also be investigated with this process.



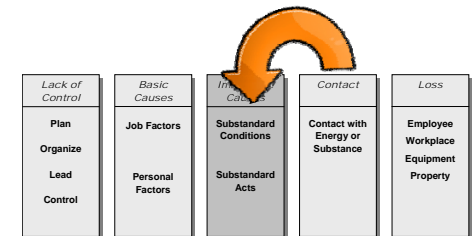
Immediate Causes

Standard Conditions

Substandard Acts

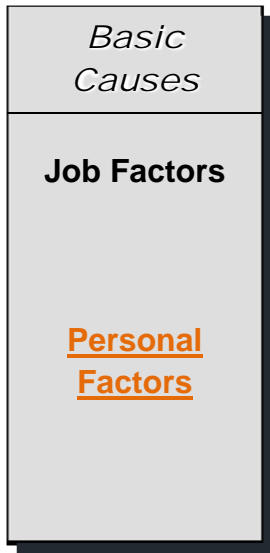
- Failure to use available PPE
- Failure to wear safe personal attire
- Failure to secure or warn
- Horseplay
- Improper use of equipment
- Improper use of hands/body parts
- Inattention to surroundings
- Make/secure safety device(s) ineffective
- Unsafe speed
- Taking unsafe position or posture
- Unsafe placing, mixing, or combining
- Use of drugs and/or alcohol
- Operating equipment without authority / training
- Removing safety devices
- Using defective equipment
- Using equipment improperly
- Improper loading
- Improper placement
- Improper lifting
- Servicing equipment in operation
- Horseplay
- Not following procedures

The immediate causes of accidents are the circumstances that immediately go before the contact. These are usually the most obvious in an accident investigation.



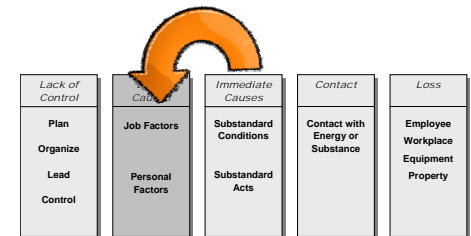
Immediate Causes

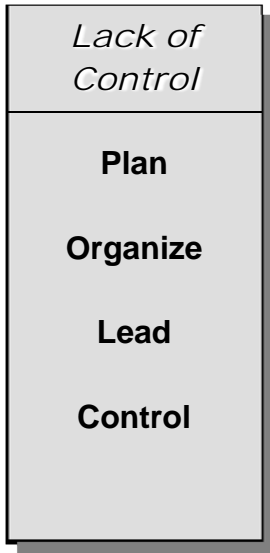
ASARCO



- Improper motivation
- Inadequate planning
- Lack of knowledge
- Lack of skill
- Physical or mental problems
- Willful deviation
- Inadequate capability
- Stress

When basic causes are identified, meaningful management controls can be put into place. Basic causes are not easily recognized and the root causes of an accident. This is the reason we make the effort to have an adequate investigation.





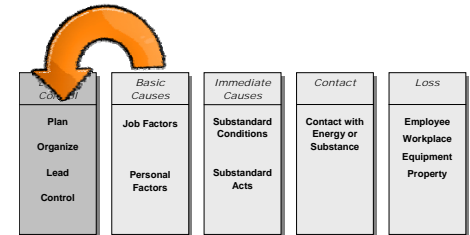
- Plan
- Organize
- Lead
- Control

Plan, Organize, Lead and Control

“Effective health and safety management is not ‘common sense’ but is based on a common understanding of risks and how to control them brought about through good management.”

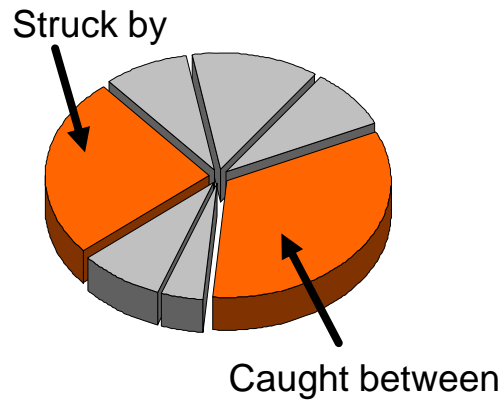
(HSE, 1991)

Who - What - When

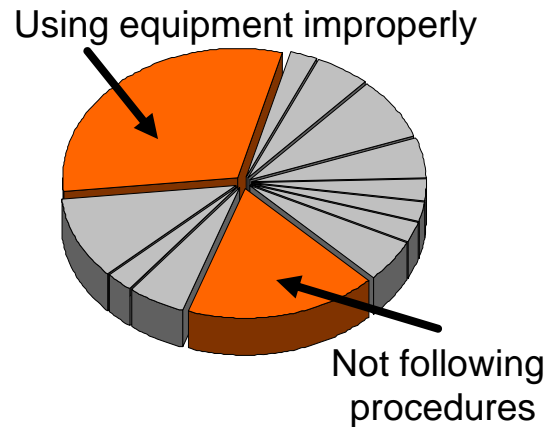


With enough reports we can begin to look for trends.

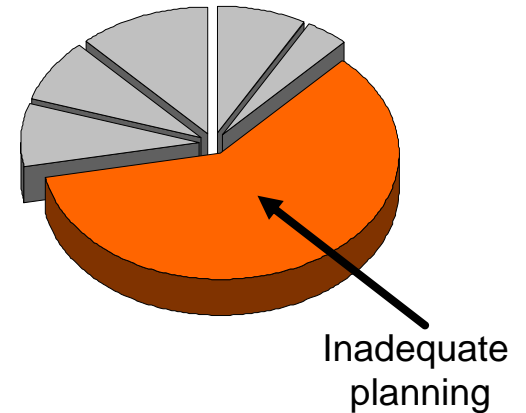
Potential Contact



Unsafe Acts



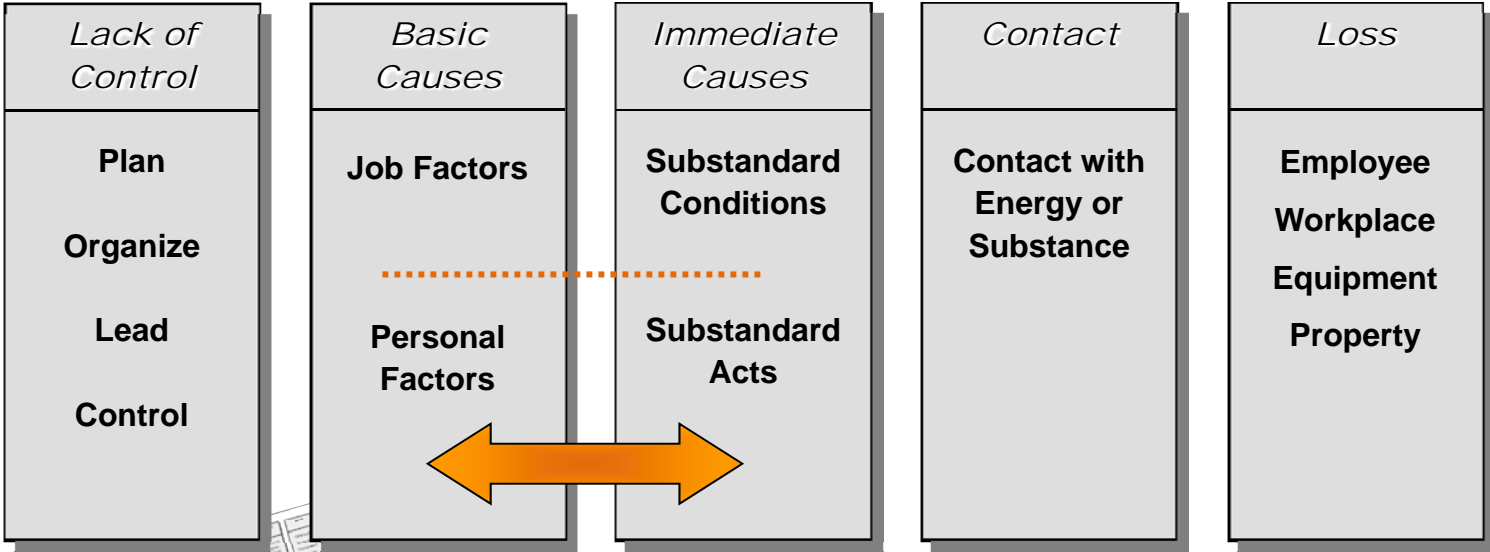
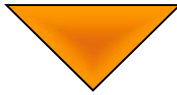
Personal Factors



We can spend our time and efforts where the problems are. **(20/80)**

Then What?

Last Chance



Why?



Loss Causation Model





“Electricians working on a pump were using a screwdriver as a pry bar.”

- Loss
- Contact
- Substandard Acts
- Personal Factors
- Lack of Controls



“Welder was welding and did not have welding screens to protect people walking and driving past from arc flash.”

Loss

Contact

Substandard Acts

Personal Factors

Lack of Controls



“Boom truck was parked at the shop with no wheel chocks. I had to go and chock the truck for them, again!”

??????

**Not a near miss,
Substandard
Conditions**



“Driver backed through low berm and almost went over the dump.”

- Loss
- Contact
- Substandard Acts
- Personal Factors
- Lack of Controls



“Operator after loading dozer was going down a steep haul road. When he stopped at the bottom the dozer slid and fell off the trailer.”

?????
Not a near miss,
Property Damage



“Mechanic standing on edge of truck with greasy boots pulling on stuck air cleaner.”

- Loss
- Contact
- Substandard Acts
- Personal Factors
- Lack of Controls

- **Define what is a near miss**

Near miss requires action and people.

Near the bottom of the pyramid. Pro-active

Can provide warnings of things to come.

Based on luck.

- **Practical reporting**

Use the Loss Causation Model

Ask Why?

Look for Basic Causes

Place controls to manage Basic Causes