MIOSHA Training Institute

MIOSHA Michigan Occupational Safety and Health Administration

Macomb Community College

Incident Investigation

Student Materials
MTI Level Two Certificate Course
Consultation Education and Training Division
Michigan Occupational Safety and Health Administration
Michigan Department of Labor and Economic Opportunity
www.michigan.gov/miosha
517-284-7720

MICHIGAN DEPARTMENT OF LABOR & ECONOMIC OPPORTUNITY

(Revised 08/22)

MIOSHA Michigan Occupational Safety and Health Administration

Incident Investigation

MIOSHA Training Institute (MTI)
Level Two Certificate Course

Presented By:
Consultation, Education, and Training (CET) Division of the
Michigan Occupational Safety and Health Administration

MIOSHA
Michigan Occupational Safety and Health Administration

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Video

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Objectives

- Review theories and define common terms used in incident investigations
- Explain the need for incident investigations
- Provide the tools necessary to properly complete an incident investigations
- Four techniques for conducting an investigation
- Understand the reporting requirements to MIOSHA

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Two different ideas……

Heinrich's Domino Theory

Deming's Management Theory

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W. H. Heinrich's Domino Theory

"The occurrence of an injury invariably results from a completed sequence of factors, the last one of these being the accident itself. The accident in turn is invariably caused or permitted directly by the unsafe act of a person and/or a mechanical or physical hazard." (W.H. Heinrich, *Industrial Accident Prevention*, 1931)

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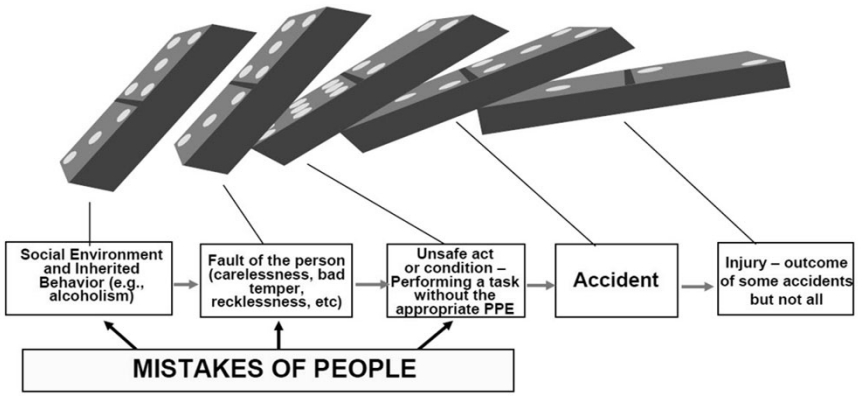
Domino Theory



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Deming' Management Theory

- A majority of incidents in the workplace are caused by the system itself, not the action of individuals.
- Is an incident a product of the system or an anomaly?
- 96% system, 4% other causes.
- Instead of blaming the individuals, it looks at the interactions between workers and the system.

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Deming

Individual workers do not determine:

- The speed of production
- Quality and amount of safety training
- The attitudes of supervisors towards safety
- Maintenance of machinery, plant layout, environment
- The organization's safety culture.

These are known as Common Causes

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Definitions and References

Accident: An unplanned, undesired event, not necessarily injurious or damaging, that disrupts the completion of an activity

Accident Investigation: The process of determining the causes of accidents and implementing corrective actions to prevent recurrence

9

Definitions and References

Emergency: A serious situation or occurrence that happens unexpectedly and demands immediate action.

10

Definitions and References

First Aid: The administering of minor medical attention.

- **Using nonprescription medications at nonprescription strength.**
- **Administering tetanus or diphtheria immunizations.**
- **Using wound coverings such as bandages, Band-Aids, gauze pads, butterfly bandages, Steri-Strips, etc.**
- **Using hot or cold therapy.**
- **Using any non-rigid means of support such as elastics bandages, wraps, non-rigid back belts, etc.**
- **Using temporary immobilization devices while transporting an accident victim.**
- **Drilling a fingernail or toenail to relieve pressure or draining fluid from a blister.**

(*continued on next page***)**

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Definitions and References

First Aid (continued)

- **Using eye patches.**
- **Removing foreign bodies from the eye using only irrigation or a cotton swab.**
- **Removing splinters or foreign material from areas other than the eyes by irrigation tweezers, cotton swabs or other simple means.**
- **Using finger guards.**
- **Using non-therapeutic massages.**
- **Drinking fluids for relief of heat disorders.**

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Definitions and References

Hospitalization: Means the inpatient admission to a hospital for treatment, observation, or any other reason.

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Definitions and References

Injury: Damage, harm or loss.

Incident: An occurrence or event that interrupts normal procedure or precipitates a crisis.

Medical Treatment: The management and care of a patient to combat disease or disorder.

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Definitions and References

Near Miss: An unplanned event that interrupts the completion of an activity which directly involves the workers and does not result in personal injury, illness or property damage.

Occupational Illness: Any abnormal condition or disorder caused by exposure to environmental factors associated with employment, whether due to acute (short) or chronic (long) exposures.

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Definitions and References

Occupational Injury: An injury which results from an exposure involving an incident in the work environment.

Recordable Injuries and Illness: Means an injury or illness that meets the general recording criteria, and therefore is recordable.

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Relationship between Injury, Property Damage, and Near Miss

Organizations have concentrated on investigating only injury or lost time accidents.

All incidents should be investigated as it is likely that it was 'only by chance that there wasn't an injury.

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Relationship between Injury, Damage, and Near Miss

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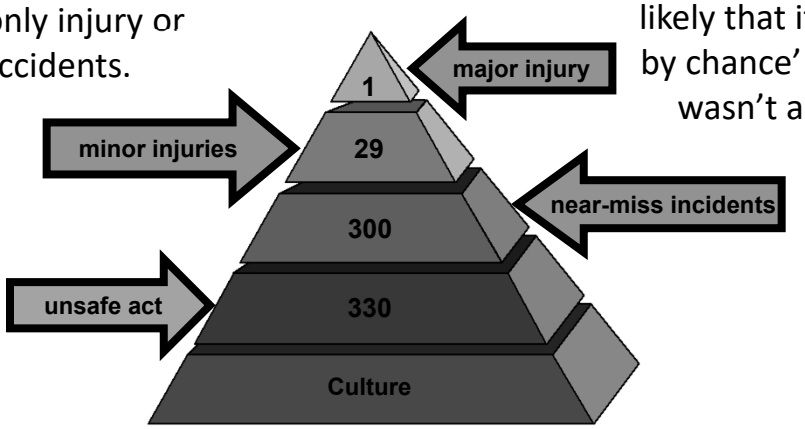
All incidents should be investigated as it is likely that it was 'only by chance' that there wasn't an injury.



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Activity

Why Investigate?

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Why Investigate?

- Prevent future incidents (leading to incidents)
- Some standards require retraining after an incident
- Identify and eliminate hazards
- Expose deficiencies in process and/or equipment
- Maintain worker morale
- Reduce costs

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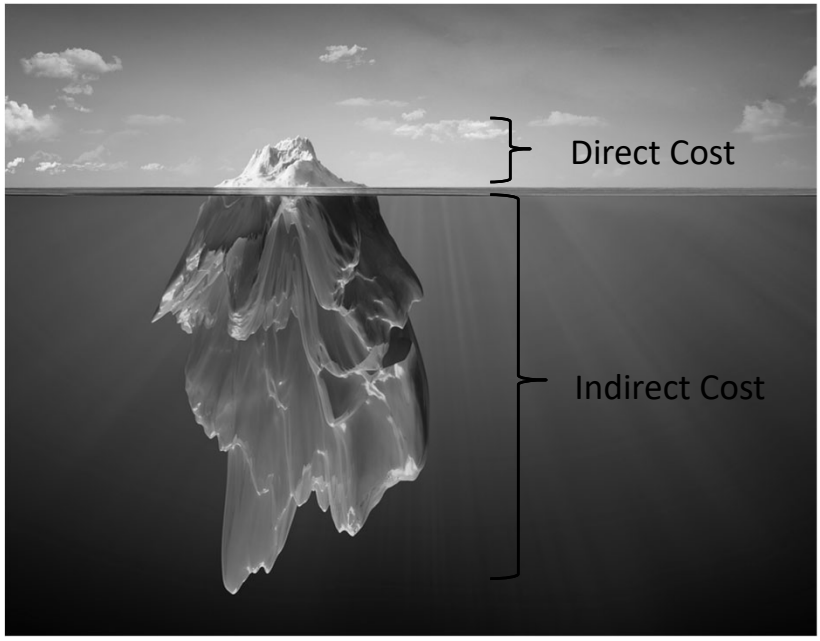
Incident Cost Iceberg



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Direct Cost

- Medical cost
- Indemnity payments
- Insurance premiums
- Employee compensation

Indirect Cost

- Time lost by worker and mgmt
- Schedule delays
- Overtime
- Loss of job experience
- Pain and suffering
- Training replacement workers
- Administrative time
- Loss of production
- Cleanup time
- Loss of contracts
- Equipment repair
- Legal fees
- Workers comp increase
- First aid supplies
- Bad publicity/reputation
- Negative affect of worker Employee Moral
- Potential counseling
- Fines

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Activity

Scenario # 1

Higbee Construction Incident

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Background for Higbee Indicators, Inc.

You have just been hired by the Human Resources Manager of Higbee Indicators, Inc. to the newly created position of Safety and Health Director. The company is a rapidly growing firm and has experienced an increase in sales it never expected to reach in such a short time. They started as a small manufacturing plant employing 15 -25 employees and grew to 210 employees and are still expanding. There are 39 employees in various positions in administrative and sales and the remainder work in the shop.

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Background for Higbee Indicators, Inc. (continued)

Higbee Indicators, Inc. is the proud producer of world class alternative energy equipment. The manufacturing process utilizes some stamping presses for metal parts, and performs welding, grinding, and coating operations on the parts as well. The plant maintains shipping and receiving areas and utilizes normal material handling equipment such as overhead cranes, and powered industrial trucks.



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Background for Higbee Indicators, Inc. (continued)

Upon accepting the position as Safety and Health Manager, you discover that Higbee Indicators, Inc. does not have a comprehensive Safety and Health program in place. Any training records have been lost in the expansion of the company and written programs they do have are old and need to be updated. As you start to review the company's worker comp forms and the MIOSHA Log 300 you find the following accidents had occurred. No formal investigations were conducted or reports filled out. The owner has asked you to look back at the incidents from the prior year and conduct an investigation.

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Background Information

Employee using pneumatic nail gun was nearly struck in the face by nail from the gun.

On June 5 at approximately 1:30 p.m. Walt Famey was operating a pneumatic powered nail gun during the construction of a ten foot by 12-foot guard shack. Prior to hooking up the nail gun to the air compressor, Walt applied packaging tape to the trigger of the gun to eliminate one of the two required steps to shoot a nail into the lumber. When Walt engaged in the second step of placing the gun against the lumber, the nail inadvertently ricocheted off the lumber, missing Walt. Plant supervisor Bob Hatt had brought the nail gun from home three days prior to the accident.

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When Bob issued the nail gun to Walt, he said, “this should help the job go much faster”. Bob did not give Walt any other instructions for the nail gun except he told Walt to hook up the gun to a portable air compressor that Higbee had onsite. Bob also did not ask Walt if he had experience or training in the safe use of the nail gun. Walt has been employed as a skilled trade maintenance worker for four months at Higbee Indicators and has a background in residential construction. Other plant responsibilities and tasks for Walt include maintenance of electrical and plumbing systems at the Higbee plant.

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Activity

Instructions

In your group review the material of the scenario.

Each group is to discuss the incident and identify the what caused the near miss accident and which MIOSHA rules were violated.

Each group determines how the incident could have been prevented.

Each group is to write their findings on the easel pad and be prepared to present them to the class.

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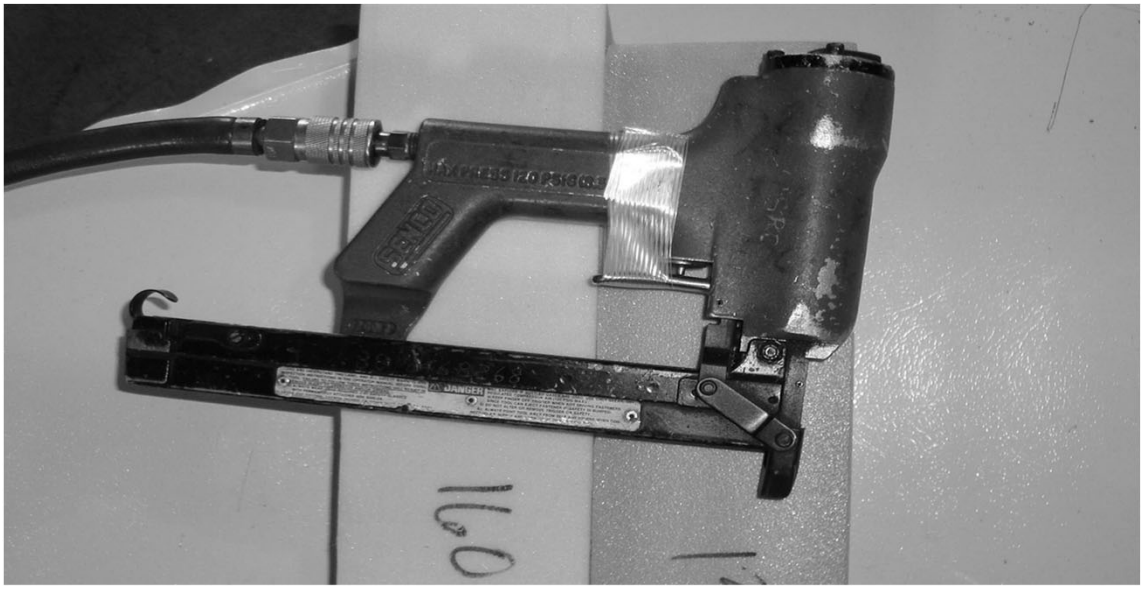
Nail gun



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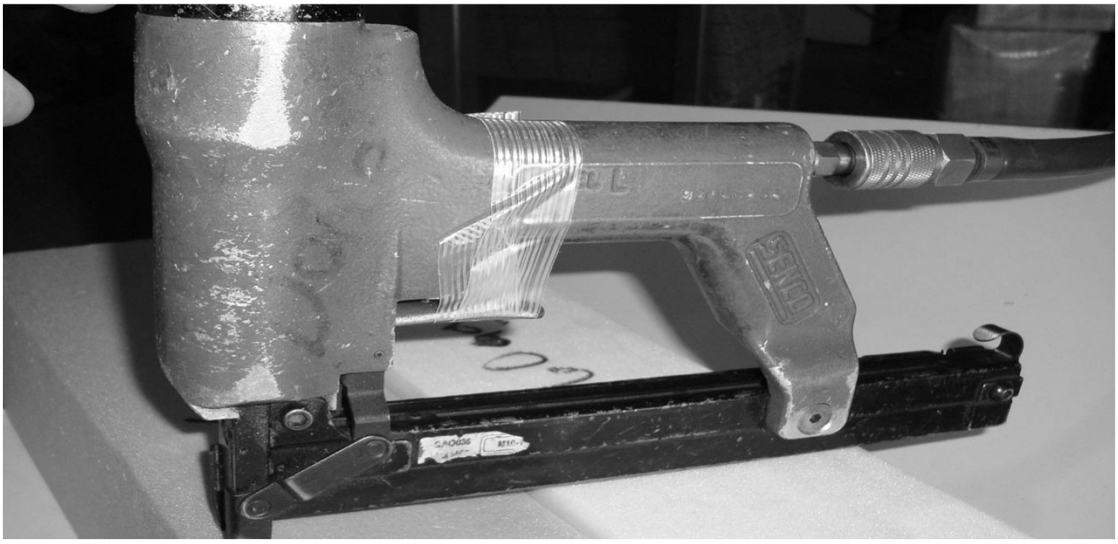
Nail gun



Activity Slide 31

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Activity Slide 32

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REPORT OUT

Each group will report its findings and share with the class which MIOSHA standard and rule were found to be in violation.

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Who Should Investigate?

First Line Supervisor / Team Leader
- knows the area
- knows the personnel
- knows the process
- knows the equipment

Safety and Health Professional

Person(s) involved in the incident
- depending on the severity
- injured person
- witnesses

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Who Should Investigate? (continued)

Safety Committee

Senior/Middle Manager

Experts

Staffing Agency

External agencies
- MIOSHA
- DEQ / EPA
- Police Department
- Insurance Carrier

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Getting Prepared

Develop contingency plans prior to any accident.

Designate an investigator.

- This person(s) should only be responsible for investigating.
- Should have a good working knowledge of operating procedures.

Be equipped with the right tools to do the job thoroughly.

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Developing An Incident Investigation Plan

Develop your action plan ahead of time.

Your plan might include:

- Who to notify in the workplace?
- How to notify outside agencies?

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Developing An Incident Investigation Plan (continued)

- What level of training is needed?
- Who receives report?
- Who decides what corrections will be taken and when?
- Who writes report?
- Who performs follow-up?

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The "Incident Investigation Kit"

- Ruler/tape measure
- Identification tags Accident investigation forms
- Interview form
- Containers
- Barrier tape or cord
- Flashlight
- Copy of floor/building plan
- Proper PPE for area
- Camera
- Clipboard, paper, pencils
- Graph paper
- Copy of pertinent guidelines, standard operating procedures, and pre-accident plan
- I-Pad/Phone Application

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The Investigation

The Initial Response

- Check for danger
- First Aid / Medical care for the injured
- Secure the scene

The Investigation (continued)

Check for danger

Scene safe from hazards:

Mechanical
- Pinch points
- Point of operation (lock out?)

Electrical
- Exposed live parts (power lines)

Atmospheric

Collapse
- Trench
- Building (wall)

The Investigation (continued)

First Aid/Medical Treatment for the Injured

Provide first aid to injured

Call emergency services if necessary

Take note of:

- Who provided treatment?
- What assistance did they provide?
- What was the nature of the injury?
- When (date and time)?
- Where was treatment provided?

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The Investigation (continued)

Secure the scene

- The area roped or taped off to prevent access?
- Prevent unauthorized employees from entering area to prevent further injury?
- Check environment for hazards.
- Identify sources of evidence (materials, equipment, witnesses).

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The Investigation (continued)

Secure the scene

Preserve evidence from alteration or removal.

Lock-out / Tag-out Equipment-Hazards.

- Was equipment de-energized and locked out?
- Types of energy sources identified?
- All sources locked out?
- Who is responsible for locking out the hazards?
- If equipment was not locked out, does it need to be to continue the investigation?

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The Investigation (continued)

Information Gathering/Collecting Evidence

- Employees/other witnesses (statements)
- Physical evidence
- Position of tools and equipment
- Equipment operation logs, charts, records
- Equipment identification numbers

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The Investigation (continued)

Information Gathering/Collecting Evidence

- Take notes on environmental conditions, air quality
- Take samples
- Note housekeeping and general working conditions of the accident scene
- Identify all equipment involved
- Draw the scene
- Take many pictures and measurements

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The Investigation (continued)

Creating a photo log.

The log should describe the date, time, give a description of what is captured in the photo and directionality.

What are some good practices when taking photos?

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Photo Log Example

Photo # 4

February 14,2019 10:36 AM

Northeast corner of warehouse, Row 11, Bin 14

Showing carton that fell from top shelf

Note: crushed bottom corner of carton and wet area under carton on floor

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The Investigation (continued)

Interviewing

- Interview promptly after the incident.
- Choose a private place to talk.
- Keep conversations informal.
- Talk to witnesses as equals.
- Separate eye-witnesses.

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The Investigation (continued)

Interviewing

- Ask open-ended questions.
- Listen, don't blame, just get facts.
- Ask some questions in which you know the answers to.
- Provide each witness with a copy of their statements / drawing.
- Objective and analytical.

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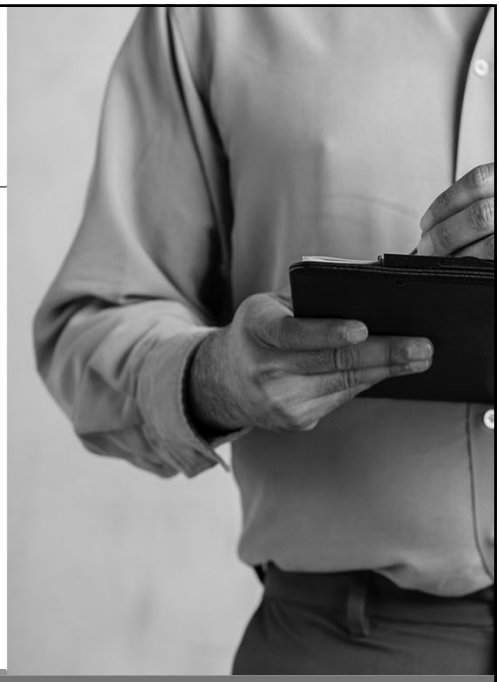
The Investigation (continued)

Complete written report

The report should include:

- An accurate narrative of "what happened."
- Clear description of unsafe act or condition.
- Recommended actions.



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The Investigation (continued)

Complete written report

Background Information

- Where and when the incident occurred?
- Who and what were involved?
- Operating personnel and other witnesses

Account of the Incident (What happened?)

- Sequence of events
- Extent of damage / injury
- Accident type
- Agent or source (of energy or hazardous material)

The Investigation (continued)

Complete written report

An incident investigation is not complete until a report is prepared and submitted to the proper authorities.

Recommendations (to prevent a recurrence) for immediate and long-term action to remedy:

- Training/Retraining
- Abatement of hazards/conditions
  - Immediate correction.
  - Long-term correction.
  - Follow up to assure fix is in place.
  - Review to assure correction is effective.

The Investigation (continued)

Corrective actions

-S.M.A.R.T.

- **Specific**
- **Measurable**
- **Achievable**
- **Realistic**
- **Timely**

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The Investigation (continued)

Complete written report

Company reports

- Supervisor report
- Witness report
- Injured workers report

Workers Compensation forms/reports

MIOSHA Reports

- Log 300, 301
- Other required MIOSHA reports (Power Press)
- Reporting of a fatality or major injury

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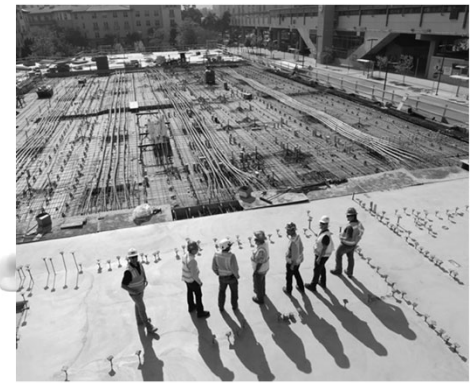
Techniques for Incident Investigation



Root Cause Analysis

- *The Six "W" Questions*
- *Accident Weed*
- *Fish Bone Diagram*
- *The Five Whys*

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The Six "W" Questions

1. Who
   - Employee involved in the accident/incident
2. What
   - The sequence which caused injuries or equipment damage
3. When
   - Time of day, day of the week, and month

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The Six "W" Questions

4. Where
   - Place where the accident happened
5. Why
   - The cause that lead to the incident
6. How
   - Events leading to injuries/equipment damaged

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The Six "W" Questions

Most commonly used technique.

Simple tool to use. Problem ➡ Solution

Requires a blank sheet of paper to start the investigation.

Benefits:

- Simple
- Effective
- Comprehensiveness
- Flexibility
- Engaging
- Inexpensive

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Activity

Scenario #2

Fall During Lightbulb Replacement

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Background Information

Brian Kelly recently started at Spencer's Carpet Cleaning after being laid off from his call center job. One of the benefits of this new job is that he is much more active than he was at his last job where he sat for eight hours a day. After working as a carpet cleaner, he has already lost 12 lbs, from 252 lbs when he started.

Activity Slide

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Background Information

Business has been good at Spencer's Carpet Cleaning with all the employees working 50 plus hours a week for the past month. It was the first of February, and they finally have a day where everyone has completed their jobs by 1 pm and they can work at cleaning up the shop which has been a bit neglected. Around 2 pm, Spencer asked Brian, one of the technicians, to change a burnt out florescent light bulb near the equipment storage room.

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Background Information

About five minutes later, the employees heard a crash near the storage room. They went over to the room to find Brian unconscious on the floor near the ladder and broken glass on the cement.

The employees called 911. Paramedics responded within four minutes. They placed a cervical collar on Brian and transported him to the hospital. As he was being loaded onto the stretcher, he started incoherently mumbling.

Brian was admitted to the hospital with a concussion and fractured skull. He was in the hospital for four days and off work for 32 days.

The following pictures were taken shortly after the paramedics left with Brian.

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Activity Slide

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Activity Slide

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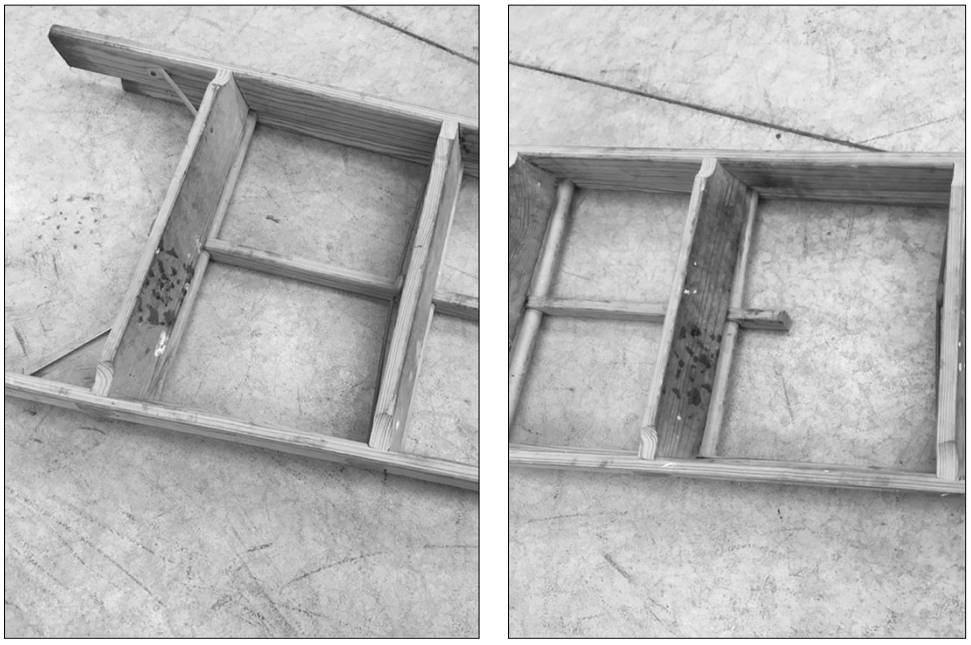

Activity Slide

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Activity Slide

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Activity Slide 69

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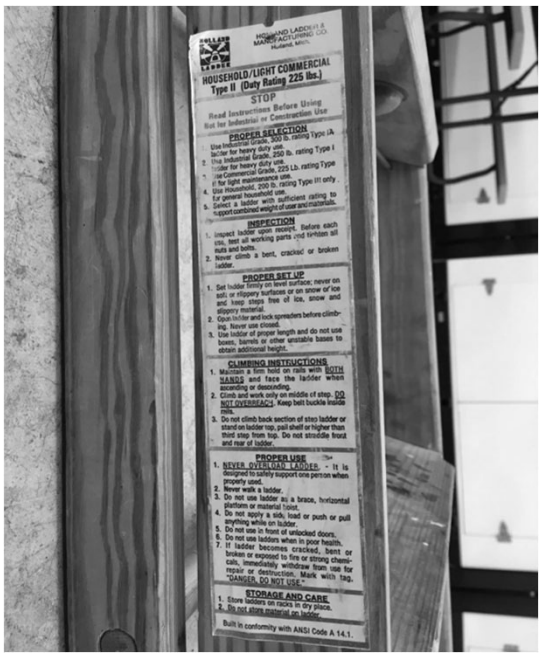

Activity Slide 70

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Instructions

Each group will discuss the accident and review the photos. Pick someone to record the findings and then pick someone in the group to report out your group's findings utilizing the six W technique.

Use the Part 2 standard to find rule violations.

During your investigation go to the instructor and request and for any additional information or materials.

Time limit 15 minutes.

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REPORT OUT

Each group will report their findings to the class.

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Activity Slide

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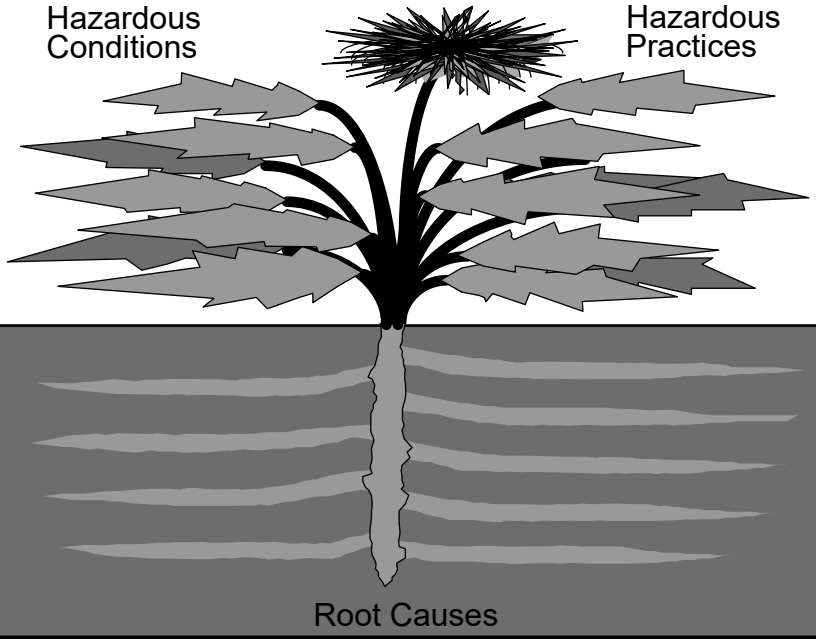
The "Incident Weed"



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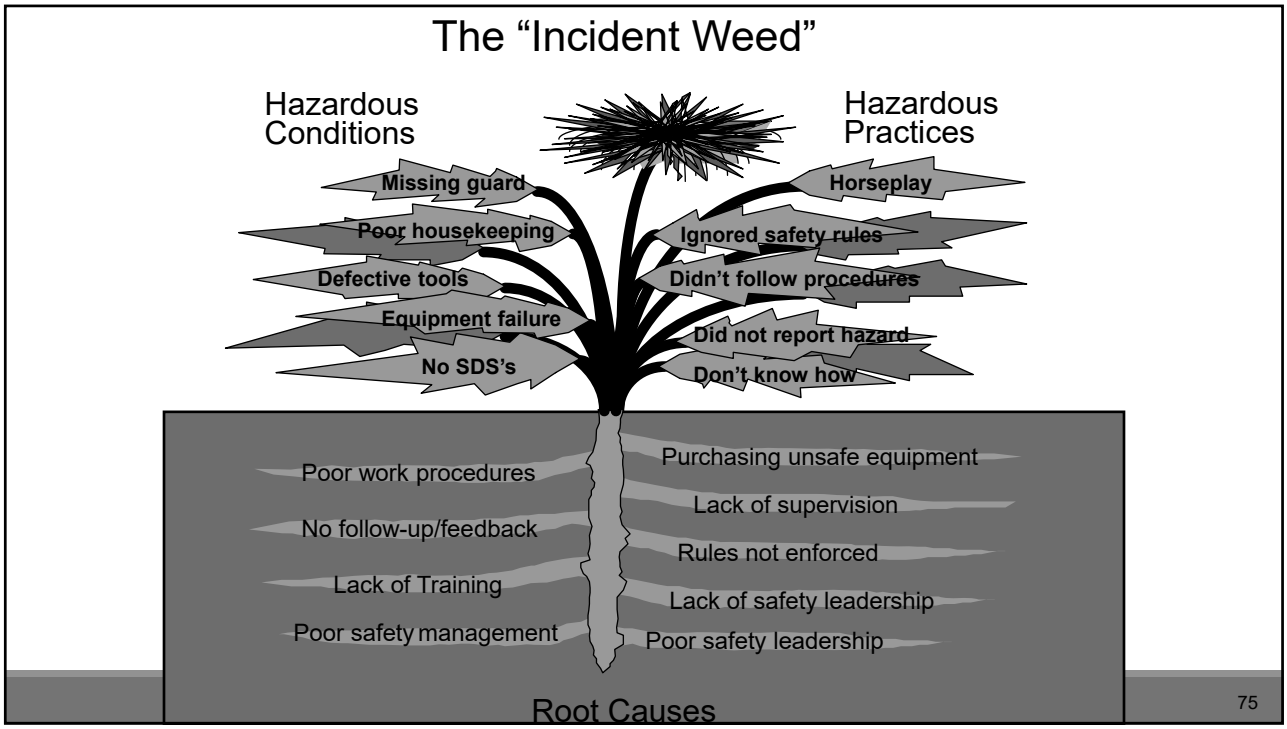

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Root Cause Analysis

Direct Cause – Unplanned release of energy or hazardous materials.

Indirect Cause – Unsafe acts and/or unsafe conditions.

Root Cause – policies and decisions, personal factors, environmental factors.

- Root cause analysis is a systematic technique that focuses on finding the real cause of a problem and dealing with that, rather than just dealing with its symptoms.
- A root cause is the cause that, if corrected, would prevent recurrence of this and similar occurrences.
- A root cause of a consequence is any basic underlying cause that was not in turn caused by more important underlying causes.

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Activity

Scenario # 3

Eye Bolt Incident

Background Information

On the afternoon shift, the die repair department was performing routine maintenance work on a high production die. The die makers took four eyebolts and screwed on two nuts as to allow the bolts to seat. The bolts were attached to both sides of the bottom half of the die. The lift was made from the workbench and was moving from the workbench when an eyebolt failed causing the rest of the eyebolts to break.

Background Information

Due to the damage to the die, production was delayed causing a late delivery of parts. Added cost for over-time and repair the die came to $17,000. When the die fell, it hit the floor barely missing the feet of the workers near the lift.

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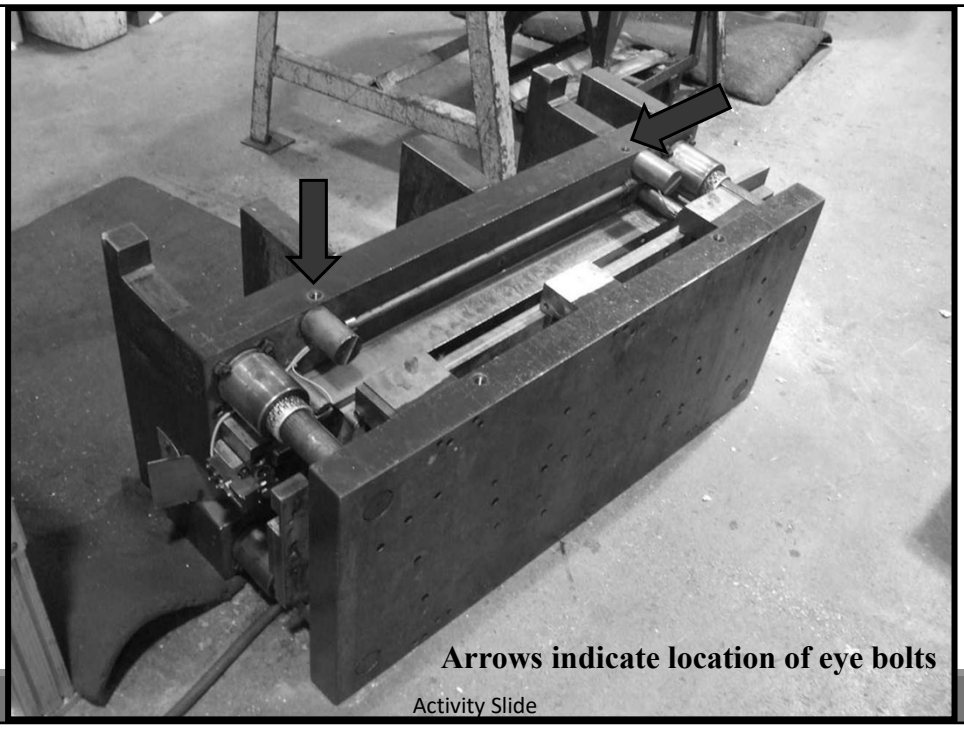

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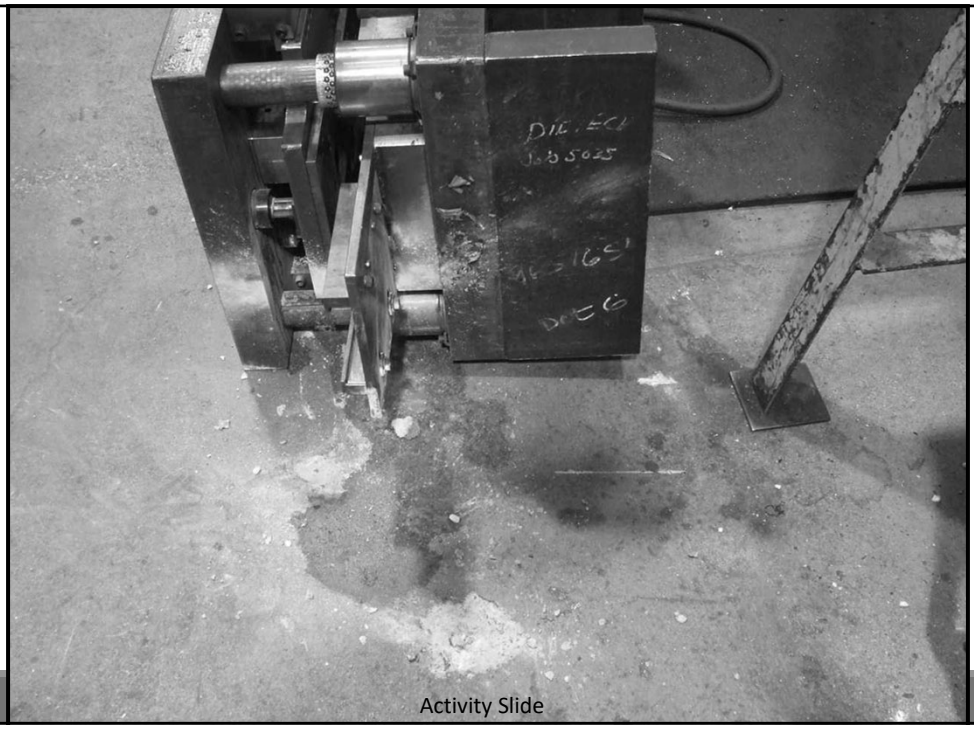

Activity Slide

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Activity Slide

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Activity Slide

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Objective

At the conclusion of this activity, the student will understand how to use the accident weed model.

Instructions

In your group review the material of the scenario.

Each group is to discuss the incident and identify the deviations that caused the accident.

Each group determines how the incident could have been prevented.

Use the technique that has been discussed. There is material in the packet to use related to this incident.

Each group is to write their findings on the easel pad drawing the accident weed and be prepared to present them to the class.

Activity Slide

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REPORT OUT

Each group will report their findings to the class.

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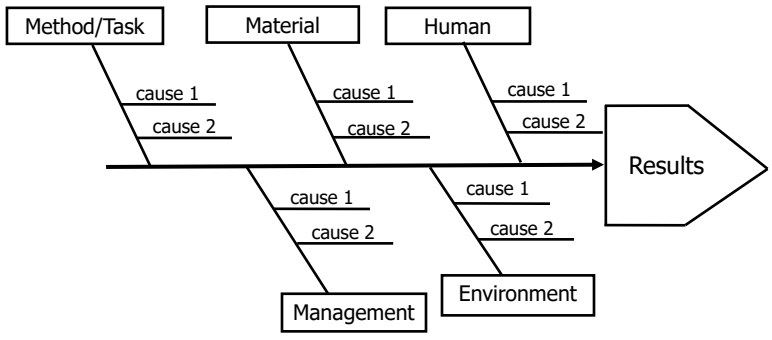
Root Cause Analysis

Five Major Groups of Accident / Incident Causes:

1. Human
2. Material
3. Method/Task
4. Management
5. Environment

Root Cause Analysis

Fishbone Diagram Applied to the Five Groups



Causes and Contributing Factors of Incident

Incident Prevention Model

1. Method/Tasks
2. Material
3. Environment
4. Human Factors
5. Management

1. Method/Task

Ergonomics
Safe work procedures
Condition changes
Process
Materials
Workers
Appropriate tools/materials
Safety devices (including lockout)

2. Material

Equipment failure

Machinery design/guarding

Hazardous substances

Substandard material

3. Environment

Weather conditions

Housekeeping

Temperature

Lighting

Air contaminants

Personal protective equipment

4. Human Factor

Level of experience

Level of training

Physical capability

Health

Fatigue

Stress

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5. Management

Management support for safety

Safety policies

Enforcement of safety policies

Adequate supervision

Knowledge of hazards

Hazard corrective action

Preventive maintenance

Regular audits

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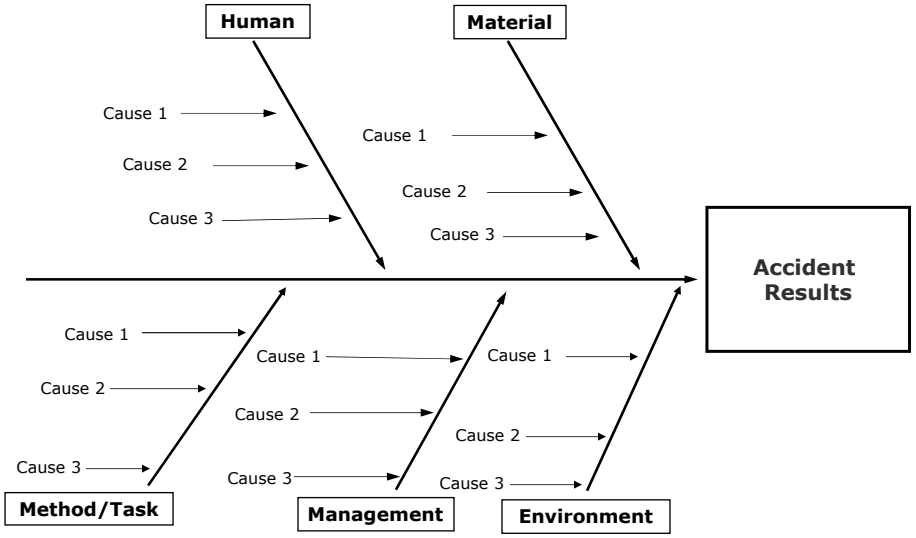
Fishbone Diagram Applied to the Five Groups



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Activity

Scenario #4

Pedestal Grinder

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Background Information

Approximately 3:30 pm Dean Hopper was using the eight-inch pedestal grinder to grind some burrs off a piece of steel. As Dean was grinding, Burt Phillips walked over to shouted at Dean to turn down the music on the radio. As Dean jumped from being startled, the abrasive wheel caught the piece of steel and dragged it into the opening in the grinding wheel and the work rest. Dean's left index finger just above the second knuckle was caught between the steel and the abrasive wheel. Dean was taken to the local hospital. The hospital reported part of the finger was ground away. Dean's shift started at 7:30 am and has been employed for two months. Dean was not aware of the required guarding and operation of the equipment. Review the following photos.

Activity Slide

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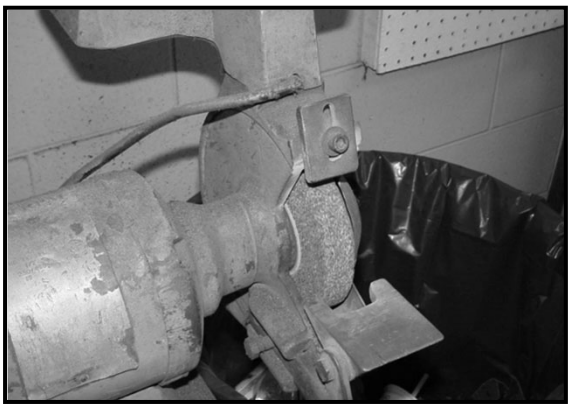
Pedestal Grinder Accident



Activity Slide

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Two Months After The Accident

Activity Slide

100

Activity

Objective

At the conclusion of this activity, the student will understand how to

Use the fishbone model.

Instructions

In your group review the material of the scenario.

Each group is to discuss the incident and identify the deviations that caused the accident.

Each group determines how the incident could have been prevented.

Use the technique that has been discussed. There is material in the packet to use related to this incident.

Each group is to write their findings on the easel pad drawing the fishbone and be prepared to present them to the class.

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REPORT OUT

Each group will report their findings to the class.

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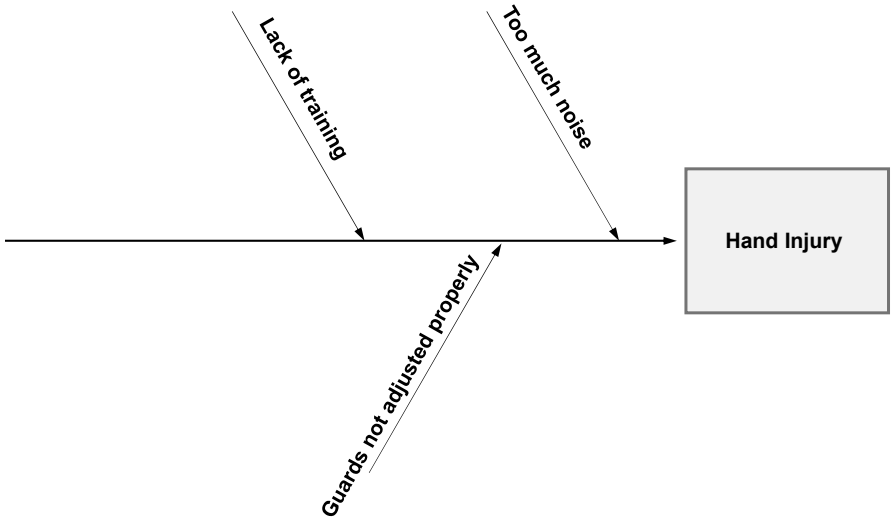
Pedestal Grinder Injury



Activity Slide

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The Five Whys

Basic Question - Keep asking “What caused or allowed this condition/practice to occur” until you get to root causes.

The “five whys” - is one of the simplest of the root cause analysis methods.

Ultimately the goal of applying the five whys method is to determine a root cause of a defect or problem.

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Benefit of Asking the Five Whys

Simplicity: It is easy to use and requires no advanced mathematics or tools.

Effectiveness: It truly helps to quickly separate symptoms from causes and identify the root case of a problem.

Comprehensiveness: It aids in determining the relationships between various problem causes.

Flexibility: It works well alone and when combined with other quality improvement and trouble shooting techniques.

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Benefit of Asking the Five Whys

Engaging: By its very nature, it fosters and produces teamwork and teaming within and without the organization.

Inexpensive: It is a guided, team focused exercise. There are no additional costs.

Often the answer to the one "why" uncovers another reason and generates another "why." It often takes "five whys" to arrive at the root-cause of the problem. You will probably find that you ask more or less than "five whys" in practice.

If you reverse the statements and add "therefore", it should make sense.

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The Five Whys Example

The following example demonstrates the basic process:

My car will not start. (the problem)

1. *Why?* - The battery is dead. (first why)
2. *Why?* - The alternator is not functioning. (second why)
3. *Why?* - The alternator belt has broken. (third why)
4. *Why?* - The alternator belt was well beyond its useful service life and has never been replaced. (fourth why)
5. *Why?* - I have not been maintaining my car according to the recommended service schedule. (fifth why and the root cause)

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Activity

Scenario #5

Secondary Container

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Background Information

Dan Beamer is a machine operator in the fabrication department. Dan was been working for 15 years as a CNC operator at various companies during this time. He has been employed by Higbee Indicators, Inc for the last three years. Everyone likes Dan and he does not miss any days. Dan is the first one to jump up for any overtime and enjoys working. Dan is very good at his job and his supervisor goes to Dan with the toughest jobs to be fabricated. When Dan is not working, he is out fishing or hunting.

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Background Information

As the safety director, you have found that the employees are using any container they can find to fill with chemicals. This problem has led at an accident that occurred last Monday. Dan had accidentally swallowed coolant when he picked up his water bottle to have a drink. Dan was off work for four days. He spent one night in the hospital from the incident.

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Dan's Bottles

Activity Slide

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Secondary Container - Wrong Drink

During the investigation, you walk through the facility and discover the following secondary containers:

Activity Slide

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Press Room

Activity Slide

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Tool Room

Activity Slide

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Quality Lab

Activity Slide

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Maintenance Repair Tool Box

Activity Slide

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Milling Area

Activity Slide

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Objective

At the conclusion of this activity, the student will understand how to use "the Five Whys model."

Instructions

In your group review the material of the scenario.

Each group is to discuss the incident and identify the causes of the accident.

Each group determines how the incident could have been prevented.

Use the technique that has been discussed. There is material in the packet to use related to this incident.

Each group is to write their findings on the easel pad drawing and be prepared to present them to the class.

Each group should report out which MIOSHA rules were violated.

Activity Slide

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REPORT OUT

Each group will report their findings to the class.

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Additional Resources

- Investigation Guide
- Incident Investigation form

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MI-FACE

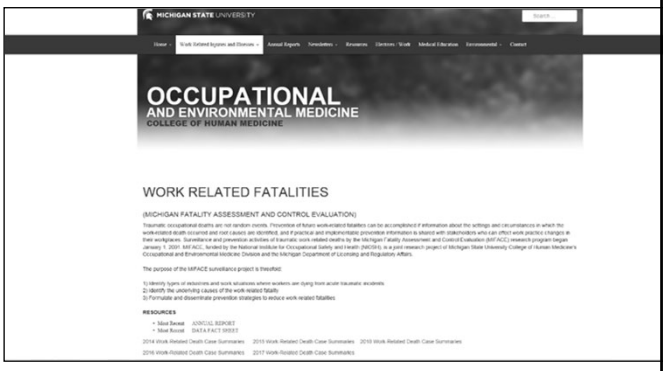
Michigan Fatality Assessment and Control Evaluation

The purpose of the MIFACE surveillance project is threefold:

1) Identify types of industries and work situations where workers are dying from acute traumatic incidents

2) Identify the underlying causes of the work-related fatality

3) Formulate and disseminate prevention strategies to reduce work-related fatalities



https://www.oem.msu.edu/index.php/work-related-injuries/work-related-fatalities

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Reporting a Fatality or Major Injury

Report the death of any employee from work-related incident within eight hours to MIOSHA at 1-800-858-0397.

Report the in-patient hospitalization of one or more employees, any amputation, or loss of an eye within 24 hours to MIOSHA at 1-844-464-6742 or online at www.Michigan.gov/MIOSHA

The required information that must be provided to MIOSHA:
1. The establishment name
2. The location of the incident
3. The time of the incident
4. Number of fatalities or hospitalized employees (three or more)
5. The names of any of the injured employees
6. Contact person
7. Phone number
8. Brief description of the incident

Assessment

The purpose of this assessment is to validate the knowledge learned in class.

Passing score of 70% correct is required.

Class reference materials/books are not allowed to be used during the assessment.

Collaboration/discussion with others is not allowed during the assessment.

Online Transcript

www.macomb.edu/webadvisor

Choose NonCredit/Continuing Education

Log In

Check individual courses – Proficient / Not Proficient

Track courses taken through the MTI

Request a transcript to show certification

Manage account information

How?

Select *What's My User ID?*

Key in the Last Name and SS# or Macomb ID

Select *Log In*

If you need help call 586-498-4106 or email mti@macomb.edu

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Thank You For Attending This Presentation.

Michigan Occupational Safety and Health Administration
Consultation Education and Training Division
530 W. Allegan St, P.O. Box 30643
Lansing, Michigan 48909-8143

For further information or to request consultation, education and training services, call 517-284-7720 or visit our website at www.michigan.gov/miosha

MIOSHA
Michigan Occupational Safety and Health Administration

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Incident Investigation Student Resources

MIOSHA Standards:

Part 1A. Abrasive Wheels

Part 18. Overhead and Gantry Cranes

Part 19. Tools

Part 49. Slings

Parts 42, 92, and 430. Hazard Communication

MIOSHA Training Institute (MTI) Resources:

www.michigan.gov/mti

MIOSHA Training Calendar:

www.michigan.gov/mioshatraining

MIOSHA Homepage:

www.michigan.gov/miosha

Michigan Department of Labor and Economic Opportunity
Michigan Occupational Safety and Health Administration
Consultation Education and Training Division
525 W. Allegan St., P.O. Box 30643
Lansing, Michigan 48909-8143

For further information or to request consultation, education and training services
call 517-284-7720
or
visit our website at www.michigan.gov/miosha

www.michigan.gov/leo

LEO is an equal opportunity employer/program.