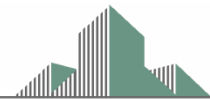


# Incident Investigations

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# The “A” Word...

- Accident versus Incident



# Why Do We Investigate?

- Determine why the failure(s) occurred
  - Fact finding, NOT fault finding

# Iceberg Theory



# 10 Axioms of Industrial Safety

-H.W. Heinrich

1. Injuries result from a series of preceding factors.
2. Accidents occur as the result of a physical hazard or an unsafe act.
3. Most accidents are the result of unsafe behavior.
4. Unsafe acts and hazards do not always result in immediate accidents and injuries.
5. Understanding why people commit unsafe acts helps to establish guidelines for corrective actions.

6. The severity of the injury is largely fortuitous and the accident that caused it is preventable.
7. The best accident prevention techniques are analogous to best quality / productivity techniques.
8. Management should assume safety responsibilities.
9. The supervisor is the key person in the prevention of industrial accidents.
10. Cost of accidents include both direct costs and indirect costs.

# Heinrich Continued...

- *The Origins of Accidents*
  - 88% - unsafe acts of persons
  - 10% - unsafe physical conditions
  - 2% - AOG
- Domino Theory



# Multicausal Theory

- Two contributing factors of all incidents:
  - Immediate
    - Directly associated with the incident
  - Basic
    - Deficiencies associated with the management system



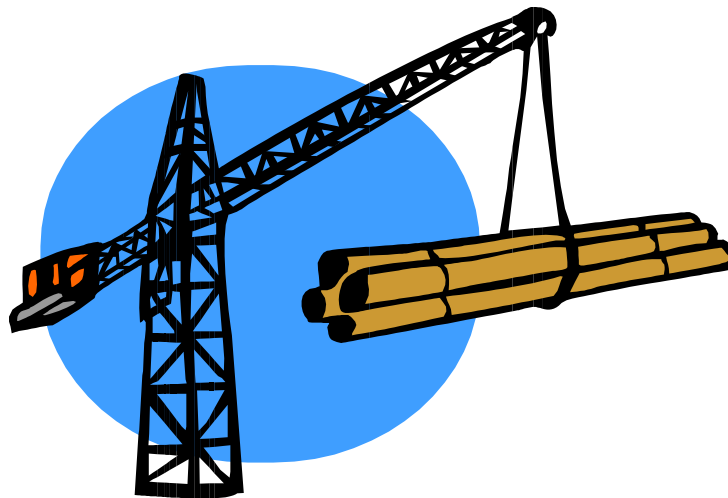
# Cole's Law

- Always thinly slice cabbage



# When Do We Investigate?

- The key difference in an incident which results in an injury and one that doesn't is often luck!
- Investigate every incident, no matter how small



# Who Should Investigate?

- Supervisor
- Safety Professional
- Safety Committee (peer investigation)
- Training, training, training...



# 8 Steps to a Thorough Investigation

1. Prepare for the Investigation
2. Gather the Facts
3. Analyze the Facts
4. Develop Conclusions
5. Write a Report
6. Recommend Corrective Actions
7. Correct the Situation
8. Follow-Up on Recommendations

# Prepare for the Investigation

1. Establish a notification system
2. Identify / establish emergency services
3. Establish emergency shutdown procedures
4. Training
  1. How to conduct an investigation
  2. Identifying immediate and basic causes
  3. Documentation
5. Written program and report form
6. Incident investigation toolbox

# Gather the Facts

- Immediately
  - Identify and interview witnesses
  - View the area
  - Take photographs, create drawings
  - Collect evidence
    - Noise levels, weather conditions, light conditions, etc.
  - Gather documentation

# Analyze the Facts

- Be sure the information accurate

# Develop Conclusions

- What happened?
- How did it happen?
- Why did it happen?
  
- All conclusions must be made on fact, not speculation



# Conclusions Continued...

- Immediate Causes
  - PPE
  - Safe Work Practices
  - Guarding
  - Housekeeping
  - Equipment Failure

# Conclusions Continued...

- **Basic Causes**
  - Knowledge and/or Training
  - Supervision
  - Engineering Practices
  - PPE
  - Maintenance Programs
  - Equipment Selection
  - Feedback Systems
  - Practices and/or Procedures

# Write a Report

- Standardized report
- Everything must be supported by fact and evidence
- Clear, concise, free from extraneous information
- Include photographs, drawings, witness statements, etc.

# Recommend Corrective Actions

- All basic causes must have corrective actions
  - Management needs to assign a person responsible and establish a measurable timeframe (deadline) for completion

## Correct the Situation

# Follow-Up on Recommendations

- Safety Action Items

AI #:	Priority:	Safety Action Item:	Responsible Employee:	Target Completion Date:	Actual Completion Date:

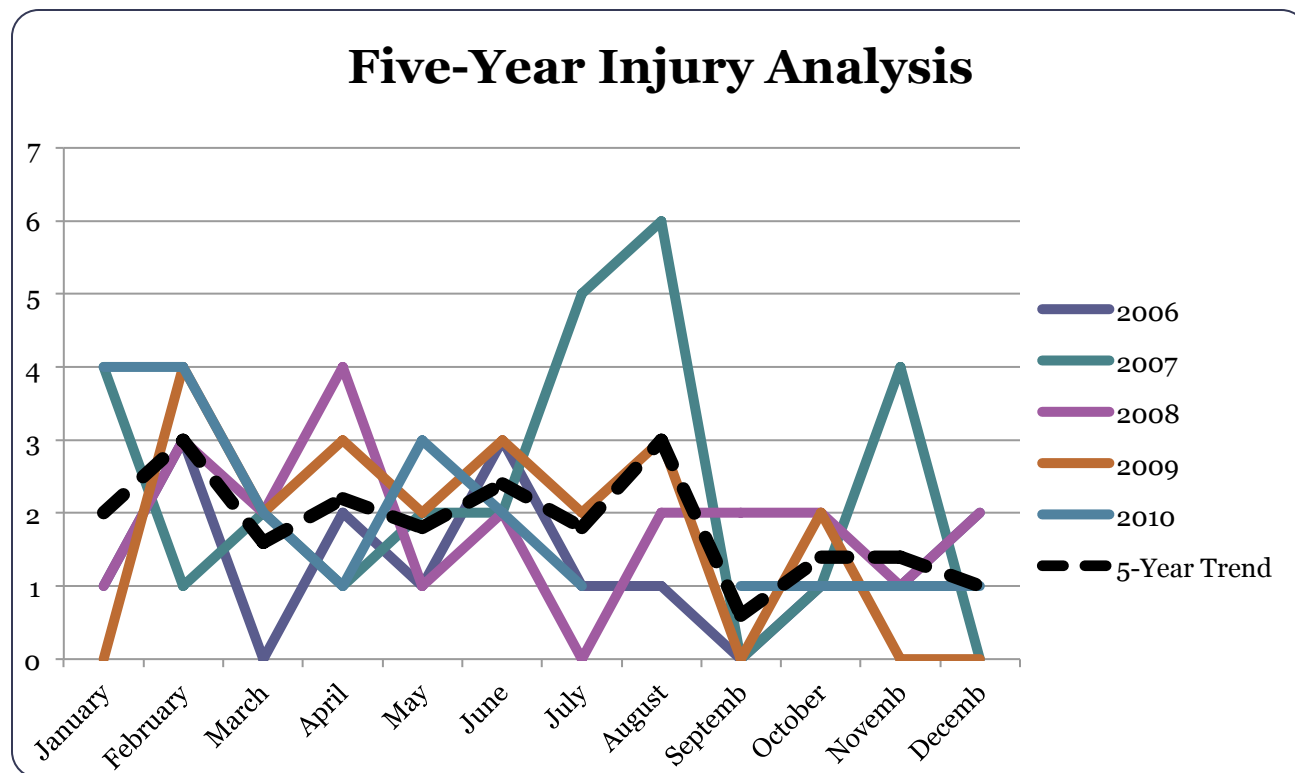
A=Emergency - Will Cause A Loss If Not Corrected

B=Needs Corrected Immediately But Not An Emergency

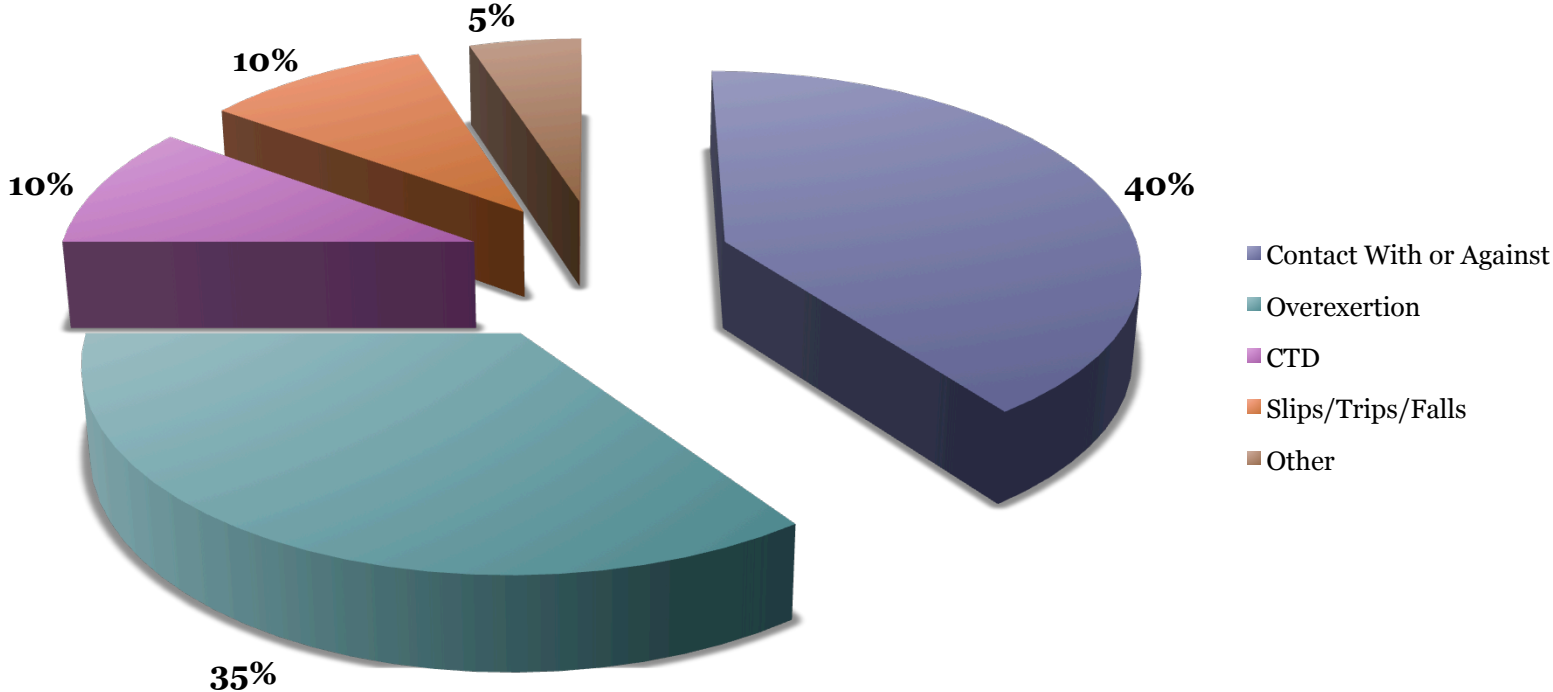
C=Cannot Cause Damage Or Injury But Still Needs Corrected

# Step 9 - Bonus Round!

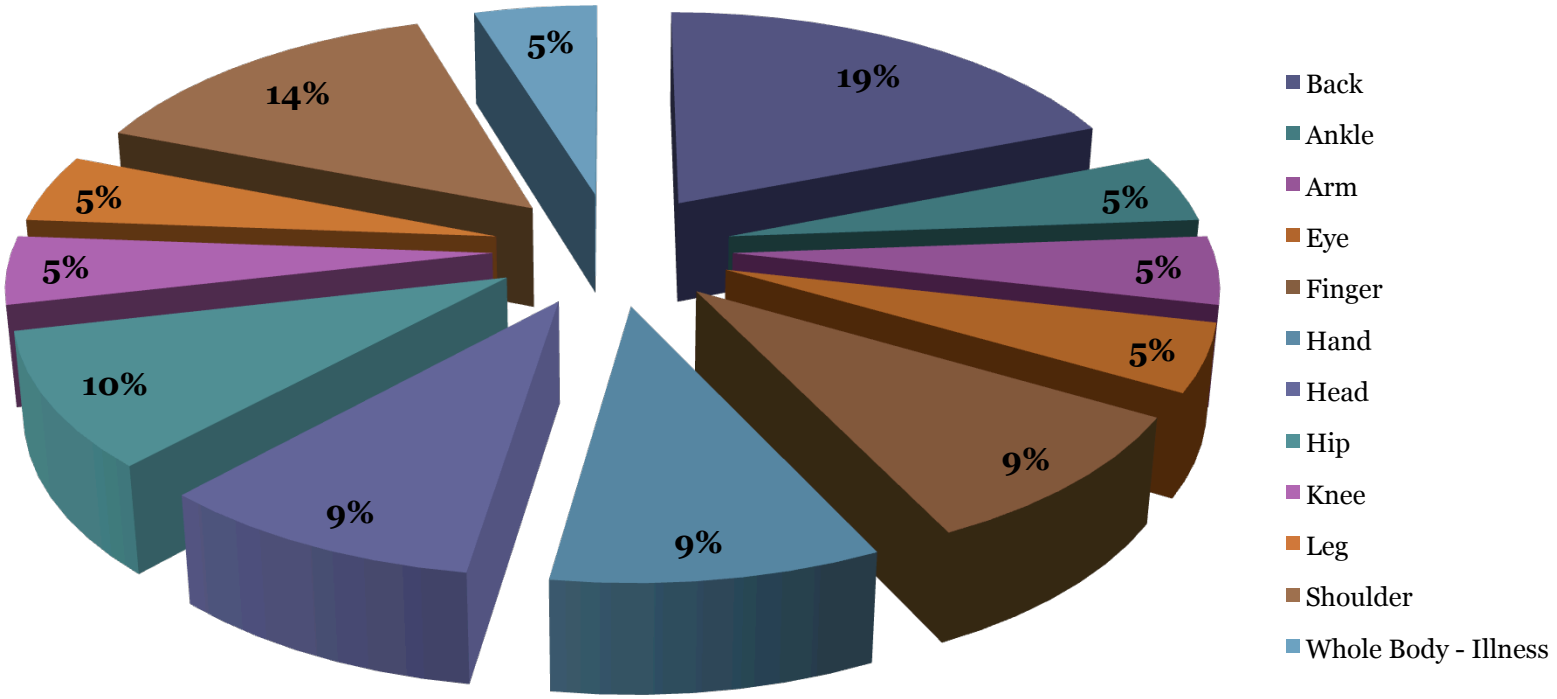
- Incident Analysis and Data Collection



# Types of Injuries



# Injuries - Body Part





# Questions?

- Thank you for your attention.

