

Accident/Incident Investigation

Presented by | Michael Miller
May 23, 2014



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QUESTIONS

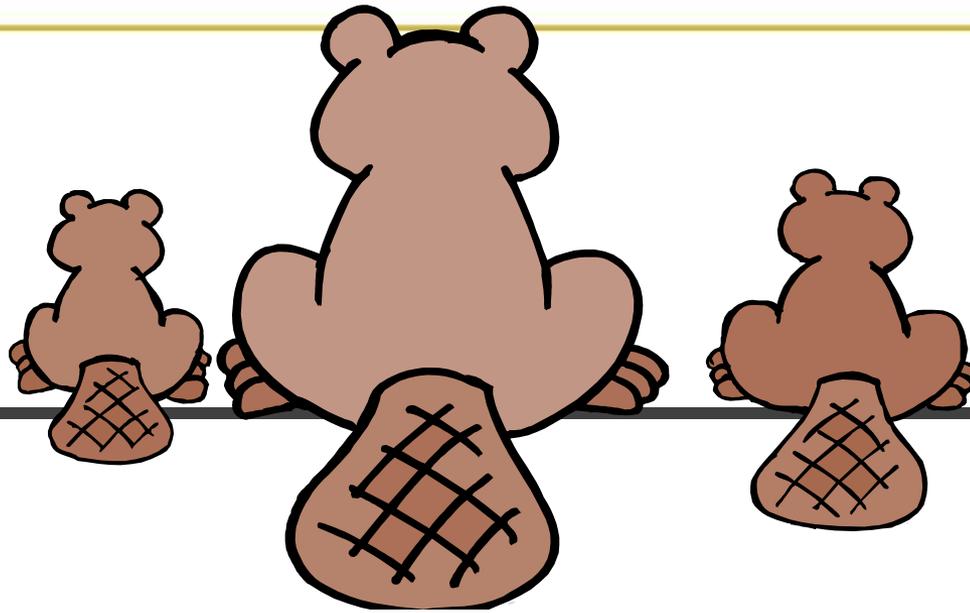
Please send questions to michael.miller@cb-sisco.com

Hurt at Work

- You've carefully thought out all the angles.
- You've done it a thousand times.
- It comes naturally to you.
- You know what you're doing, its what you've been trained to do your whole life.
- Nothing could possibly go wrong, right ?

Think Again!





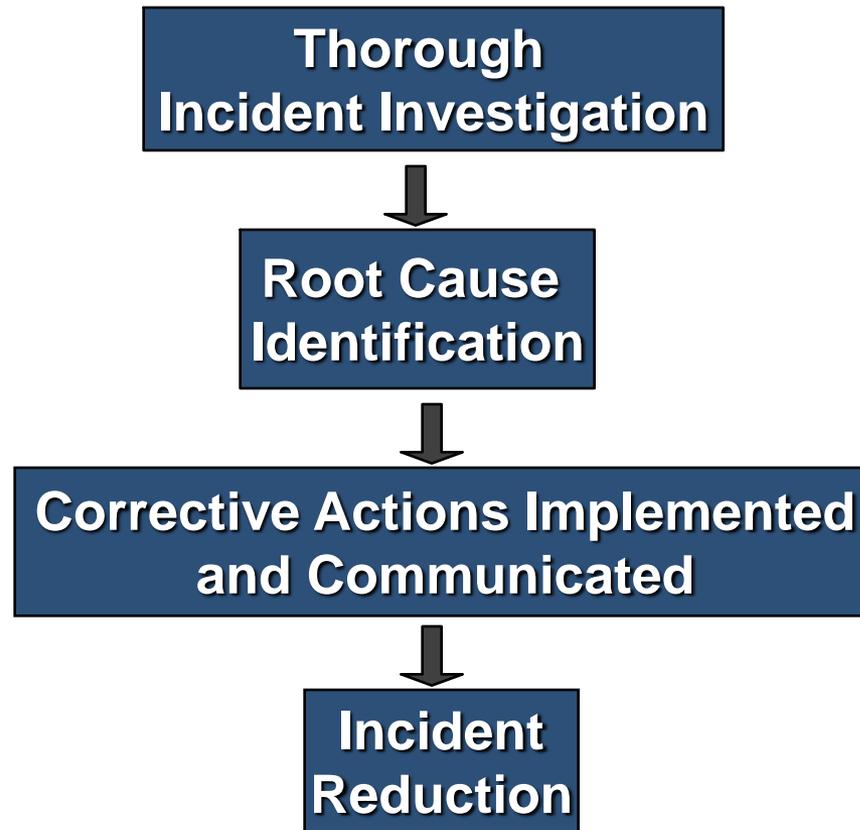
No beavers were actually injured during the generation of this PowerPoint presentation!

Why Investigate?



- Establish cause
- Prevent recurrences
- Incident reduction
- Legal requirements?
- Accurate record
 - Courts & inquiries
- Statistical database

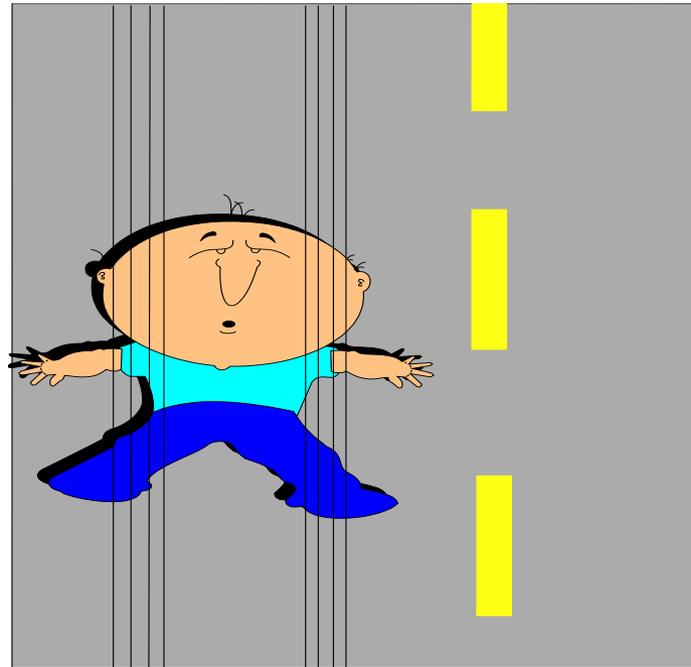
Why is Incident Investigation Training Important?



What is an Accident ?

Any undesired, unplanned event that results in:

- Physical injury
- Damage to property
- “Near-miss”
- First aid?



The “Near-Miss”

- Could be called a “near-hit.”
- Near-misses describe incidents where no property was damaged and no personal injury sustained, but where, given a slight shift in time or position, damage and/or injury easily could have occurred.

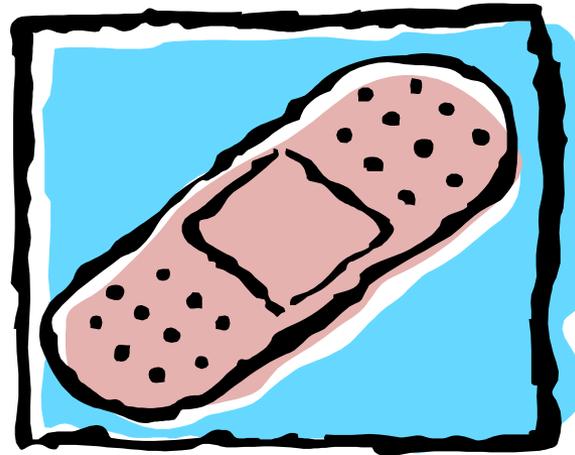


Question: Why is it of value to investigate “near-misses”?

First Aid Cases

Remember: First-aid cases are a result of accidents that did not end in serious injury.

- Do we investigate?
- Which ones?



What's in a name?

- Accident
 - Has an impact on the employee
- Incident
 - An accident (recordable, first aid)
 - Property damage
 - “Near-miss”

The difference between a near-miss and an accident most often is luck!

What is Accident/Incident Investigation?

An investigation has the following elements:

- A systematic approach to incident investigation
- The identification of root causes
- Implementation of corrective actions

Investigation Goals

- Identify the cause(s) to help prevent reoccurrence.
- Identify trends or problem areas.
- Permit comparisons on safety performance.
- Satisfy workers' compensation and other legal requirements.
- Identify, without placing blame, the basic causal factors that contributed directly or indirectly.
- Identify deficiencies in management systems.
- Suggest corrective action for:
 - Management system
 - Incident

What to Investigate?

- All accidents, near-misses, property damage, and first aid.
- Survey of scene.
- Chronology of data.
- Measurements, maps, and sketches.
- Eyewitnesses.
- Statistics & trends.



When to Investigate?

As soon as possible:

- Scene interference
- Witnesses



Who Should Investigate?

- Supervisor
- Safety manager
- Human resource manager
- Safety committee representatives
- Team



Training and Skills

- Investigative & recording skills
- Interviewing skills
- Report-writing skills

Put the skills of your team to good use!



The Investigator's Tool Kit

- Clipboard, paper, pens
- Camera
- Reporting forms
- First-aid kit
- Eye and ear protection
- Plastic sample containers
- Identification tags
- Gloves (industrial & medical)
- Danger tags/caution tape
- Yellow crayon
- Orange spray-paint
- Flashlight and batteries
- Tape measure

Interviewing Witnesses

- Witnessed events leading up to the incident.
- Was involved in the incident.
- Saw what happened.
- Came upon the scene immediately after the incident.
- Knowledgeable about procedures or equipment related to the incident.

Interviews should be conducted as soon as possible after the incident

Interviewing Witnesses

Stage 1: Prepare for the interview

- Plan the interview
- Plan to answer interviewee questions
- Establish the physical setting

Witness needs to have confidence in the investigation

“Employee Perceptions”

Interviewing Witnesses

Stage 2: Open the interview

- Greet the interviewee.
- Exchange small-talk.
- State the purpose of the interview.
- Answer interviewee questions.

The purpose is to gather facts to prevent reoccurrence - not establish fault

Interviewing Witnesses

Stage 3: Conduct the Interview

- Avoid “yes” and “no” questions.
- Use open-ended questions.

Interviewing Witnesses

Exploratory questions:

- “What caused the accident?”
- “Describe the situation that led to...”
- “What can you tell me about...”

Follow-up questions – complete the picture:

- “What do you mean by...?”
- “Tell me more about...”

Interviewing Witnesses

- Voice – pitch, rate, volume.
- Use nodding of head and say, “I see,” “okay,” etc.
- Watch body language - never show surprise, facial expressions, rolling of eyes, sighing, etc.

Permit a slight pause in the conversation

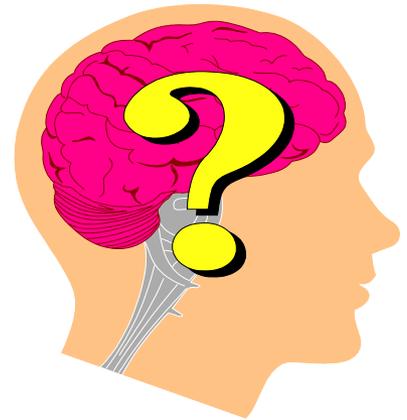
Interviewing Witnesses

Stage 4: Close the interview

- Summarize the complete interview.
- Tell interviewee to get back in contact if he/she recalls new details.
- Thank the interviewee.

Gathering Facts

- What was the exact injury or damage?
- What was the damaging energy source?
- What event(s) immediately preceded the damaging event?
- What else was going on at the time of the incident?
- Was anyone else involved?



Gathering Facts

Ensure observation and recording of fragile, perishable or transient evidence:

- Instrument readings
- Control panel settings
- Weather and other environmental conditions
- Chemical spills
- Stains
- Skid marks

Gathering Facts

Other things to check:

- Maintenance or other records
- Manufacturers, vendors, and suppliers
- Review operations factors (data, trends)
- Review photographs, video
- Other?

Sources of information can extend far beyond the incident site

Investigation Traps

Set your emotions aside!

- Don't let your feelings interfere - stick to the facts!

Do not pre-judge.

- Find out what really happened.
- Do not let your beliefs cloud the facts.

Never ASSUME anything.



Chain of Incident Causation

Incidents may have many contributing factors.

These include:

- Management policies and procedures
- Unsafe acts
- Unsafe conditions

Incident Causation

- An incident always involves a person.
- Incomplete investigations often conclude that the person committed an unsafe act.
- Unsafe acts may have underlying causes.

“Immediate causes are only the symptoms”

Root Causes

Root Cause Definition: A root cause is the underlying reason an incident occurs. It is often related to a deficiency in management systems designed to control hazards. Root causes are the reasons management systems fail. A root cause does not apply to one incident only, but has generic implications to a broad group of credible occurrences.

Root Causes = Why a Management System Fails

Root Causes

Personal Factors:

- Lack of knowledge or skill
- Improper motivation
- Physical or mental conditions
- Literacy or ability

Root Causes

Job Factors:

- Physical environment
- Sub-standard equipment
- Abnormal usage
- Wear & tear
- Inadequate standards
- Design & maintenance
- Purchasing standards

Root Causes

Supervisory Performance:

- Inadequate instructions
- Failure of SOPs
- Rules not enforced
- Hazards not corrected
- Devices not provided

Root Causes

Management Policy & Decisions:

- Lack of policy
- Policy not enforced
- Standards not measurable
- Incorrect performance not corrected

Ergonomic Issues?

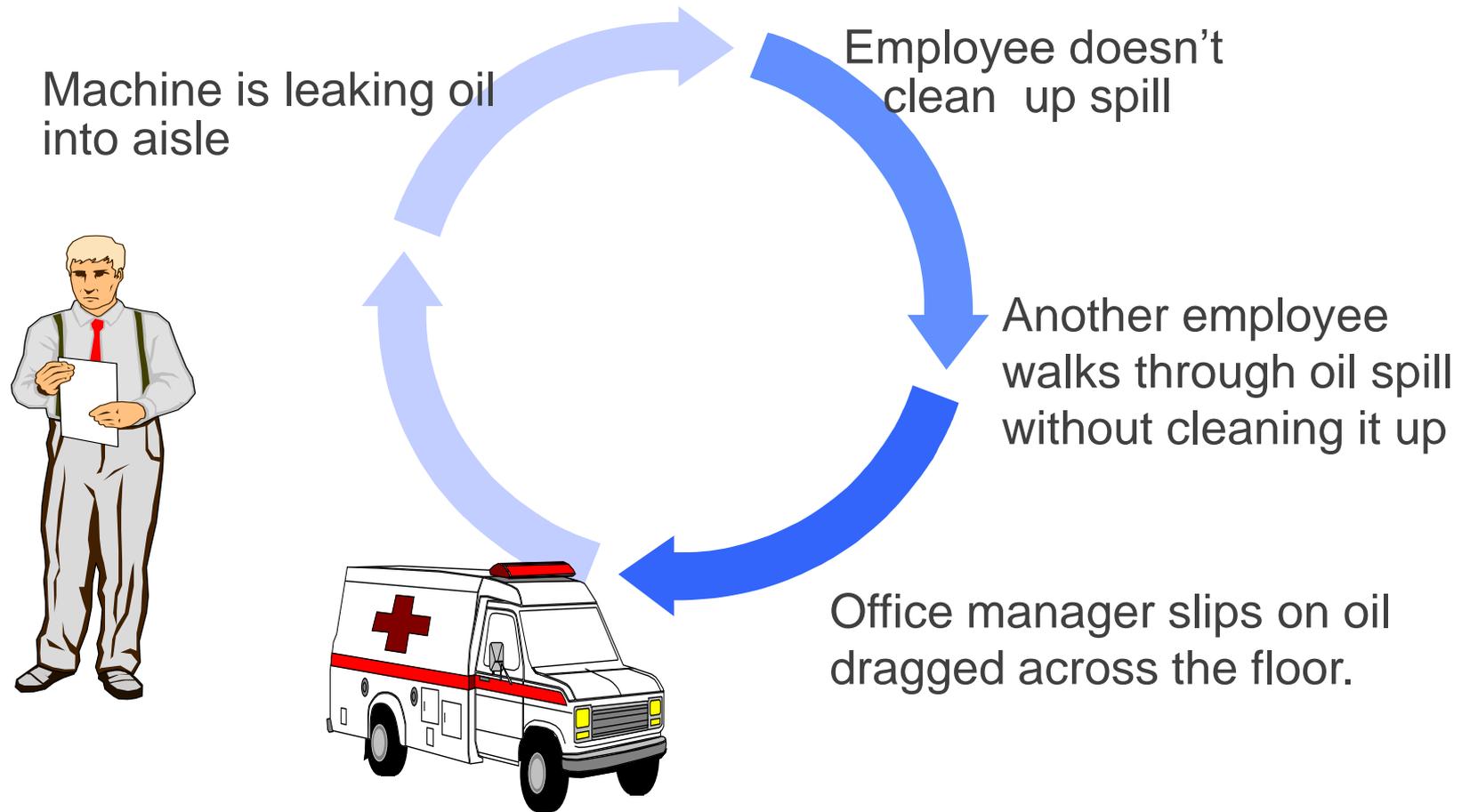
- Force
- Repetition
- Postures

MOST OF THE TIME...

Our root causes are too shallow
and our corrective actions too narrow!

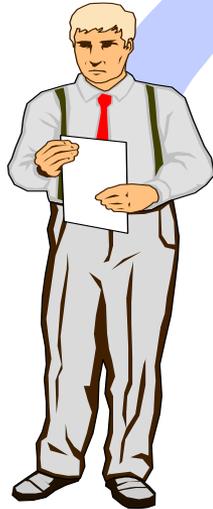
We Need to DIG
DEEPER for ROOT CAUSES and
TRANSLATE corrective actions more broadly
so they become PREVENTATIVE actions.

The key question - Why?



The key question - Why?

**Machine is leaking oil
into aisle**



- Why is the machine leaking oil?
- Why wasn't the work order completed?
- Why wasn't a work order filled out?

The key question - Why?

Machine is leaking oil
into aisle



Employee doesn't clean up spill

- Why didn't the employee clean up the spill?
- Why weren't cleaning supplies available?
- Why didn't the employee report the machine was leaking oil?

The key question - Why?

Machine is leaking oil
into aisle



Employee doesn't clean up spill

**Another employee walks
through oil spill without
cleaning it up**

- Why didn't this employee clean up the spill?
- Why did this employee walk through the spill?
- Why didn't the employee use the cleaning supplies in the area?

The key question - Why?

Machine is leaking oil
into aisle



Employee doesn't clean up spill

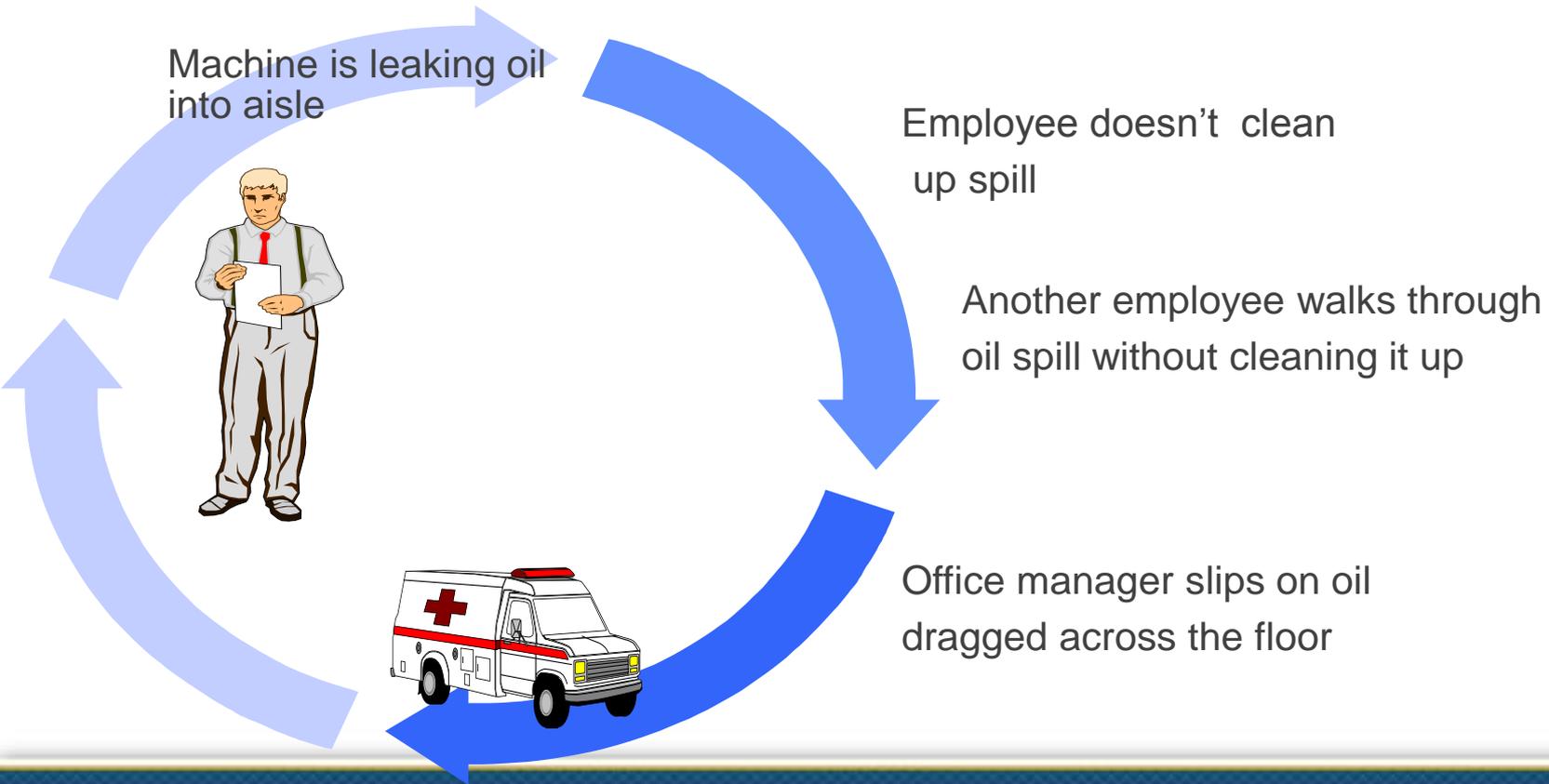
Another employee walks
through oil spill without cleaning
it up

**Office manager slips on oil
dragged across the floor**

- Why was the office manager walking through this area?

Take corrective actions

Step through the sequence of events, looking for corrective actions where possible.



Follow Up!

Corrective measures:

- Assigned
- Implemented
- Documented
- Progress reports for longer time frames

Effective Corrective Actions...

- ...address the root cause.
- ...clearly state an intended action.
- ...are practical, feasible, and achievable.
- ...eliminate or decrease risk.
- ...affect a change.
- ...have a target date for completion.
- ...designate responsible person(s).

A well-written recommendation describes the action to be taken

Prepare a Report

Accident Reports should contain the following:

- Description of incident and injuries.
- Sequence of events.
- Pertinent facts discovered during investigation.
- Conclusions of the investigator(s).
- Recommendations for correcting problems.



Prepare a Report

Be objective!

- State facts.
- Assign cause(s), not blame.
- If referring to an individual's actions, don't use names in the recommendation.
 - Good: All employees should...
 - Bad: George should...

A Good Report

- Accurate and complete
- Clear and complete description of the sequence of events (time-line)
 - Leading up to incident
 - Following incident
- Description of any injuries
- Identification of all causal factors
- Recommendations for corrective actions
- Proper review and sign-off



Questions?



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