

Effective Incident/Accident Analysis

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In my in-box recently...

- Cutting drywall/knife cut finger
- Emptying mop bucket/wrenched back
- Tripped/hit head on table
- Fell on wet floor – injured head/back/neck
- Blocked resident punch/thumb injury
- Occupational disease – overuse, left shoulder

Objectives today:

- Review WHY we analyze incidents/accidents
- Focus on finding facts rather than placing blame
- Review the ACTION process for effective analysis (remembering there is no ONE required way...)
- Practice digging below surface causes to identify root causes and contributing factors
- The Point: LEARN FROM A LOSS.

Common deficits in accident investigation/analysis:

- Not giving sufficient time/importance to the process
- Not involving enough people or the right people
- Making assumptions and/or jumping ahead to conclusions
- Failing to follow up
- Failing to document and communicate findings, actions, and results

Underlying beliefs...

- All accidents are preventable – a thorough analysis will determine causes and contributing factors, and will prevent future injuries...
- 95% or more of accidents are SYSTEM FAILURES that can be understood and addressed
- No accidents are acceptable...our goal is ZERO HARM TO PEOPLE

**THE
INCIDENT
PYRAMID**

FATALITY

SERIOUS

DOCTOR

FIRST AID

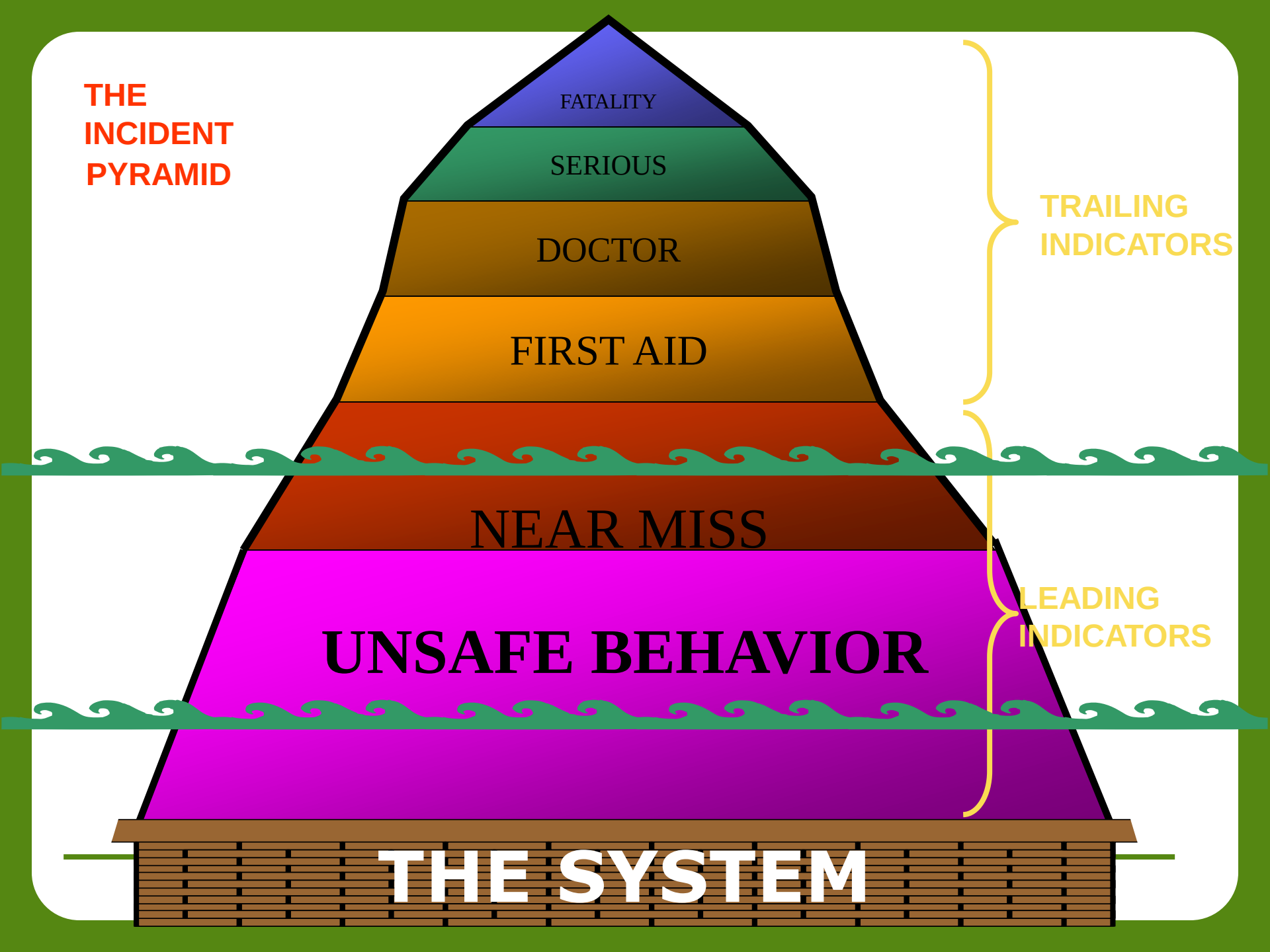
NEAR MISS

UNSAFE BEHAVIOR

THE SYSTEM

TRAILING
INDICATORS

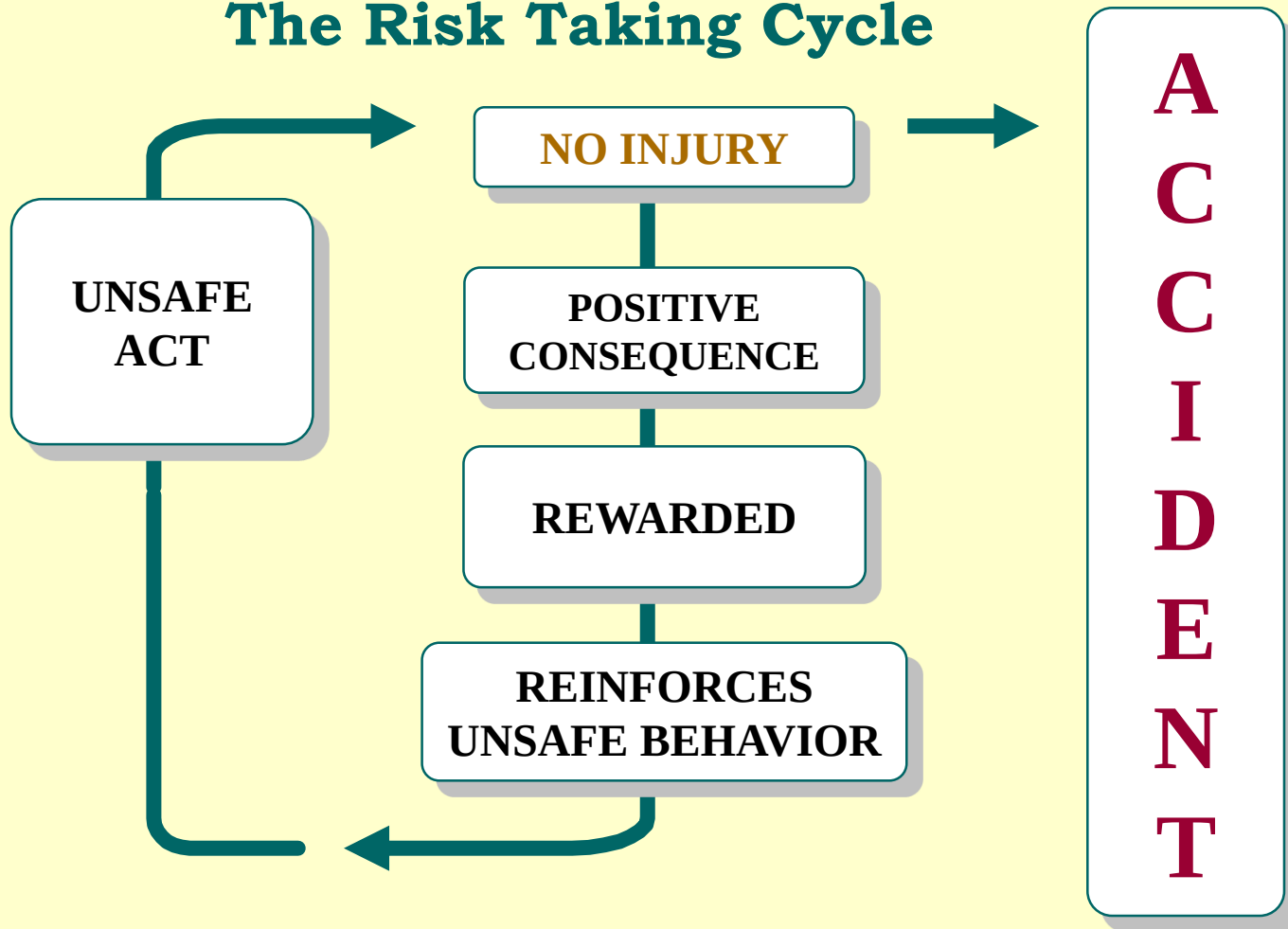
LEADING
INDICATORS



Risk...



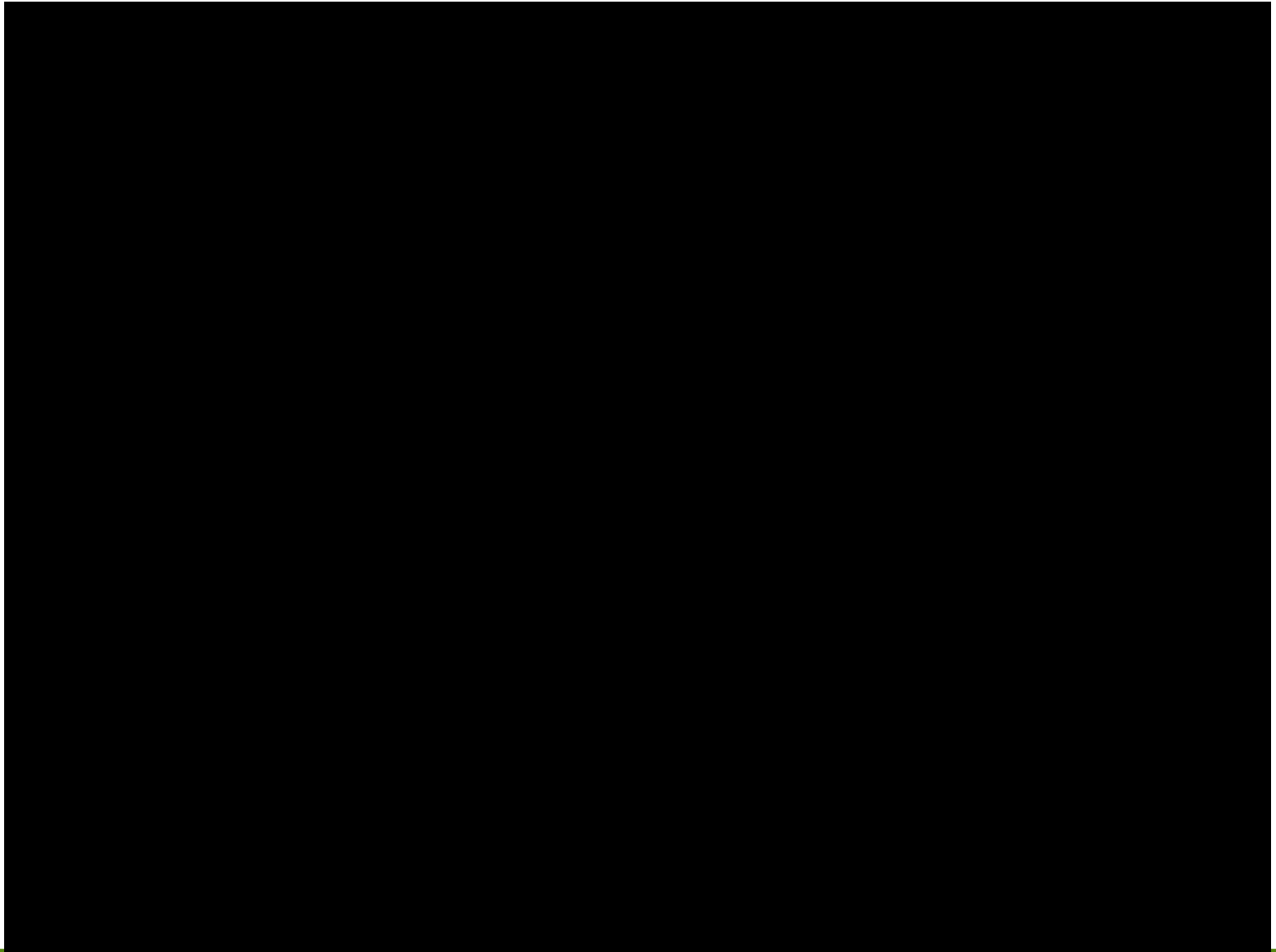
The Risk Taking Cycle



What is the difference between accidents and incidents?

- Example: An employee trips in a pothole in the parking lot – Possible outcomes:
- #1: He catches himself and avoids injury
- #2: He stumbles and ends up with a sore ankle
- #3: He falls down and fractures his ankle

For every recordable, there are 7-9 near-misses. We recommend: ALL accidents and incidents should be analyzed!



Changing our vocabulary

- Investigation
 - Replace with...**Analysis**
- Fault
 - Replace with...**Fact-finding**
- “Common Sense” safety
 - Replace with...**Best Practices**

WHY conduct an Incident Analysis?

- Required by OR-OSHA
- Dig down to ROOT CAUSES of incidents
- Discover trends
- Determine corrective actions
- Evaluate and implement BEST PRACTICES
- Stop human suffering due to preventable injuries

Oregon OSHA rules for all workplaces:

- OAR 437-001-0760 (3): Each employer must investigate or cause to be investigated every **lost time injury** that workers suffer in connection with their employment, to determine the means that should be taken to prevent recurrence. The employer must promptly install any safeguard or take any corrective measure indicated or found advisable.

Additionally...

- OAR 437-001-0760 (3)
- (b) At the request of authorized Department representatives, it is the duty of employers...to furnish pertinent evidence and names of known witnesses...and to give general assistance in producing complete information...persons...must preserve and mark for identification, materials, tools, or equipment necessary to the proper investigation of an accident.

OR-OSHA Requirements – the role of the safety committee

- 437-001-0765(8) The **safety committee** must work with management to establish, amend, or adopt accident investigation procedures that will identify and correct hazards...
- Evaluate all accident and incident investigations and make recommendations for ways to prevent similar events from occurring.

ACTION Form: step-by-step process for analysis

- A: Accident/incident scene preservation
- C: Collect the facts
- T: Track sequence of events
- I: Identify contributing factors
- O: Organize possible solutions
- N: Note corrective measures

Accident/Incident Scenario



Employee slipped and fell in hallway

ACTION Form

Accident/Incident Analysis: a step-by-step approach that simplifies the analysis process

Company: **ABC Inc.** Department: **HR** Supervisor: **Jane Smith**
Employee: **Mike Jones** Job title: **Accountant** Date hired: **May 16, 2011**
Date/time of incident: **12/7, 1:45 PM** Date/time reported: **12/7, 2:00 PM** Incident location: **Hallway/Bldg 1**
Witnesses: **None** ☐ Incident/near miss ☒ Accident ☐ First Aid
*File 801 if these ☒ *Medical care ☐ *Time loss ☐ *Fatal
boxes are checked

Describe accident/incident:

Employee slipped in a puddle of water and fell.

A-C-T-I-O-N

Establishing accident analysis procedures are not only required, but also beneficial to your business. Having a process in place will allow you to recognize the contributing factors involved and prevent future injuries. In order to simplify the analysis process, here is an approach using six easy ACTION steps. Each step requires action, either by the employer or safety committee members.

Accident/incident scene preservation

This is the beginning of your analysis. Your primary goal is to secure the scene. The scene must be secured as soon as possible in order to preserve critical physical clues.

Is the hazard sufficiently controlled to prevent further injury? ☐ Yes ☐ No ☐ N/A
Was first-aid provided to ensure well being of injured employee? ☐ Yes ☐ No ☐ N/A
Is the scene secured to protect clues for analysis purposes? ☐ Yes ☐ No ☐ N/A

Protect tools and equipment from being relocated.

Collect the facts

Focus on finding the facts about the event. Remember to gather valid information without drawing conclusions or assigning blame.

Document your observations. Take photos and check video surveillance if available.
Interview employees and witnesses.
Review relevant records, such as maintenance, training, policies, procedures, etc.

Track sequence of events

Review the information gathered and determine the series of events. Reconstructing an accurate timeline is critical to conducting an effective analysis.

Document what happened before, during and after the event.
Arrange this information to accurately determine the order of events.

OSHA requirements: On-the-job fatalities and catastrophes must be reported to Oregon OSHA within eight hours.
Report any accident that results in overnight hospitalization within 24 hours to Oregon OSHA.
Call 800.922.2689, 503.378.3272, or Oregon Emergency Response, 800.452.0311, on nights and weekends.

Take ACTION:

A: - Accident/incident scene preservation:

This is the beginning of your analysis. Your primary goal is to secure the scene. The scene must be secured as soon as possible in order to preserve critical physical clues.

Verify:

- Is the hazard sufficiently controlled to prevent further injury?
- Was first-aid provided to ensure well-being of the injured employee?
- Is the scene secured to protect clues for analysis purposes?

ACTION Form

Accident/Incident Analysis: a step-by-step approach that simplifies the analysis process

Company: _____	Department: _____	Supervisor: _____
Employee: _____	Job title: _____	Date hired: _____
Date/time of incident: _____	Date/time reported: _____	Incident location: _____
Witnesses: _____	☐ Incident/near miss *File 801 if these boxes are checked	☐ Accident *Time loss
	☐ *Medical care	☐ First Aid *Fatal

Describe accident/incident:

A-C-T-I-O-N

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Take ACTION:

C: - Collect the facts.

Focus on finding the facts about the event. Remember to gather valid information without drawing conclusions or assigning blame.

Remember to:

- Document your observations.
- Take photos and check video surveillance, if available.
- Interview employees and witnesses.
- Review relevant records, such as maintenance, training, policies, procedures, etc.

ACTION Form

Accident/Incident Analysis: a step-by-step approach that simplifies the analysis process

Company: **ABC Inc.** Department: **HR** Supervisor: **Jane Smith**
Employee: **Mike Jones** Job title: **Accountant** Date hired: **May 16, 2011**
Date/time of incident: **11/16, 8:30 AM** Date/time reported: **11/16, 8:45 AM** Incident location: **Hallway/Bldg 1**
Witnesses: **None** ☐ Incident/near miss ☒ Accident ☐ First Aid
*File 801 if these boxes are checked ☐ *Medical care ☐ *Time loss ☐ *Fatal

Describe accident/incident:

Employee slipped in a puddle of water and fell.

A-C-T-I-O-N

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Protect tools and equipment from being relocated.

Collect the facts

Focus on finding the facts about the event. Remember to gather valid information without drawing conclusions or assigning blame.

- **Mike ran through the hallway where he slipped and fell in water**
- **Water present on the floor**
- **Water cooler is leaking**
- **No witnesses**
- **No service or maintenance records to review**

Document your observations. Take photos and check video surveillance if available.

Interview employees and witnesses.

Review relevant records, such as maintenance, training, policies, procedures, etc.

Track sequence of events

Review the information gathered and determine the series of events. Reconstructing an accurate timeline is critical to conducting an effective analysis.

Document what happened before, during and after the event.

Arrange this information to accurately determine the order of events.

OSHA requirements: On-the-job fatalities and catastrophes must be reported to Oregon OSHA within eight hours.
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Call 800.922.2689, 503.378.3272, or Oregon Emergency Response, 800.452.0311, on nights and weekends.

Take **ACT**ION:

T: - Track sequence of events.

Review the information gathered and determine the series of events. Reconstructing an accurate timeline can be critical to conducting an effective analysis.

Remember to:

- Document what happened before, during and after the event.
- Arrange this information to accurately determine the order of events.

ACTION Form

Accident/Incident Analysis: a step-by-step approach that simplifies the analysis process

Company: **ABC Inc.** Department: **HR** Supervisor: **Jane Smith**
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Witnesses: **None** ☐ Incident/near miss ☒ Accident ☐ First Aid
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boxes are checked

Describe accident/incident:

Employee slipped in a puddle of water and fell.

A-C-T-I-O-N

Establishing accident analysis procedures are not only required, but also beneficial to your business. Having a process in place will allow you to recognize the contributing factors involved and prevent future injuries. In order to simplify the analysis process, here is an approach using six easy ACTION steps. Each step requires action, either by the employer or safety committee members.

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- **No Witnesses**
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Document your observations. Take photos and check video surveillance if available.

Interview employees and witnesses.

Review relevant records, such as maintenance, training, policies, procedures, etc.

Track sequence of events

Review the information gathered and determine the series of events. Reconstructing an accurate timeline is critical to conducting an effective analysis.

8:00 am: Employee noticed leak as he filled up his water bottle
1:45 pm: Mike ran through the hallway where he slipped and fell
2:00 pm: Mike reported right arm injury
2:30 pm: Mike went to see a doctor

Document what happened before, during and after the event.

Arrange this information to accurately determine the order of events.

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Call 800.922.2689, 503.378.3272, or Oregon Emergency Response, 800.452.0311, on nights and weekends.

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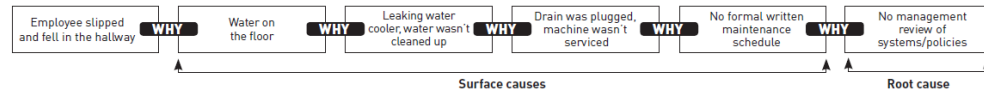
I: - Identify contributing factors.

Every accident/incident is caused by a set of contributing factors. These factors represent the surface or root causes that led to the event. The goal is to identify these by analyzing how/why each consecutive event happened.

Reminders:

- Use the diagram provided in the form as an example.
- **Surface Causes:** Unsafe behaviors and hazardous conditions.
- **Root Causes:** Underlying problems.

Contributing factors example



Identify

contributing factors

Every accident/incident is caused by a set of contributing factors. These factors represent the surface or root causes that led to the event. The goal is to identify these by analyzing how/why each consecutive event happened.

Water on the floor

Leaking water cooler

Drain was plugged, machine wasn't serviced

No maintenance schedule

No management review

Use the diagram above as an example.

Surface cause: unsafe behaviors and hazardous conditions.

Root cause: underlying problems with policies/procedures.

Organize

possible solutions

Once the surface and root causes have been determined, you are ready to identify possible solutions. These should be prioritized based on their level of effectiveness. Remember to list multiple solutions.

Engineering controls:

Management controls:

Personal protective equipment (PPE):

Use guarding, less hazardous material or a different design to remove/reduce the hazard.

Use work practices, scheduling, or job rotations to remove/reduce the exposure.

Place a barrier, such as safety glasses, gloves, ear plugs, between employee and hazard.

Note

corrective measures

The last ACTION step is to use your notes from the steps above to complete this form.

Your recommendations should be relevant and concise.

Identify who will be responsible for completing the action items on your list.

Report your findings to members of management who have the authority to act.

Remember to keep accident reports on file for record keeping purposes.

How will you correct the issues addressed in the boxes above?

Person assigned:

Completion date:

Supervisor/prepared by: _____

Date: _____

Copy: Safety Committee, Management Team, Owner/President

Employee: _____

Date: _____

This is only an accident/incident analysis form. You will need to complete the workers' compensation claim form [801] if the injury required medical treatment beyond first aid. There are also other Oregon record keeping requirements for recording and reporting work-related fatalities, injuries, and illnesses. Please reference <http://www.oregoshare.org/subjects/recordkeeping.html> for additional information on these requirements.

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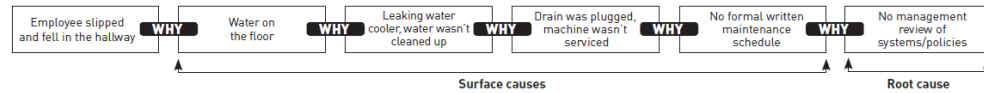
O: - Organize possible solutions.

Once the surface and root causes have been determined, you are ready to identify possible solutions. These solutions should be prioritized based on their level of effectiveness. Remember to always list multiple solutions when possible.

Hierarchy of Controls:

- Engineering Controls: Removes or reduces the hazard.
- Management Controls: Removes or reduces the exposure.
- Personal Protective Equipment (PPE): Puts up a barrier.

Contributing factors example



Identify contributing factors

Every accident/incident is caused by a set of contributing factors. These factors represent the surface or root causes that led to the event. The goal is to identify these by analyzing how/why each consecutive event happened.

Water on the floor

Leaking water cooler

Drain plugged, no service

No maintenance schedule

No management review

Use the diagram above as an example.

Surface cause: unsafe behaviors and hazardous conditions.

Root cause: underlying problems with policies/procedures.

Organize possible solutions

Once the surface and root causes have been determined, you are ready to identify possible solutions. These should be prioritized based on their level of effectiveness. Remember to list multiple solutions.

Engineering controls:

Non-slip mat, carpet, removal

Management controls:

Implement maintenance schedule

Implement systems review

Personal protective equipment (PPE):

N/A

Use guarding, less hazardous material or a different design to remove/reduce the hazard.

Use work practices, scheduling, or job rotations to remove/reduce the exposure.

Place a barrier, such as safety glasses, gloves, ear plugs, between employee and hazard.

Note corrective measures

The last ACTION step is to use your notes from the steps above to complete this form.

Your recommendations should be relevant and concise.

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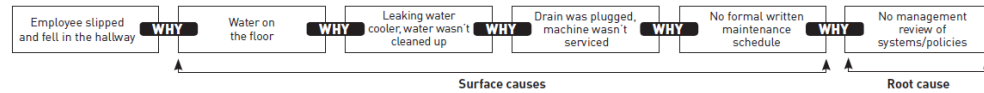
N: - Note corrective measures.

The last ACTION step is to use your notes from the previous steps to complete the form.

Remember to:

- Write recommendations that are relevant and concise.
- Identify who will be responsible for completing the action items, and specify a date for completion.
- Report your findings to members of management who have the authority to act; communicate with employees.
- Keep accident reports on file for recordkeeping purposes.

Contributing factors example



Identify

contributing factors
Every accident/incident is caused by a set of contributing factors. These factors represent the surface or root causes that led to the event. The goal is to identify these by analyzing how/why each consecutive event happened.

Organize

possible solutions
Once the surface and root causes have been determined, you are ready to identify possible solutions. These should be prioritized based on their level of effectiveness. Remember to list multiple solutions.

Water on the floor

Leaking water cooler

Drain plugged, no service

No maintenance schedule

No management review

Use the diagram above as an example.

Surface cause: unsafe behaviors and hazardous conditions.

Root cause: underlying problems with policies/procedures.

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Non-slip mat, carpet, removal

Management controls:

Implement maintenance schedule

Implement systems review

Personal protective equipment (PPE):

N/A

Use guarding, less hazardous material or a different design to remove/reduce the hazard.

Use work practices, scheduling, or job rotations to remove/reduce the exposure.

Place a barrier, such as safety glasses, gloves, ear plugs, between employee and hazard.

Note corrective measures

The last ACTION step is to use your notes from the steps above to complete this form.

Your recommendations should be relevant and concise.

Identify who will be responsible for completing the action items on your list.

Report your findings to members of management who have the authority to act.

Remember to keep accident reports on file for record keeping purposes.

How will you correct the issues addressed in the boxes above?

Person assigned: Completion date:

• **Contact maintenance dept to request service**

Joe

ASAP

• **Recommend development of maintenance schedule for water cooler**

Bill

12/21/11

• **Suggest the following alternative solutions to management:**

- **Purchase of non-slip mat**
- **Removal of water cooler**
- **Replace linoleum with carpet**

Lisa

12/21/11

Supervisor/prepared by: **Jane Smith**

Date: **12/7/11**

Copy: Safety Committee Management Team, Owner/President

Employee: **Mike Jones**

Date: **12/7/11**

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Silent Danger

Five crucial conversations that drive workplace safety

- Get it done
 - 78% say they see coworkers take shortcuts
 - 25% say they speak up
- Undiscussable incompetence
 - 65% say they see coworker incompetence
 - 26% say they speak up
- Just this once
 - 55% say they see coworkers make unsafe exceptions
 - Only 1 in 4 speak up

Source: **VitalSmarts** "Silent Danger"
1600 employees @ 30 companies

Silent Danger

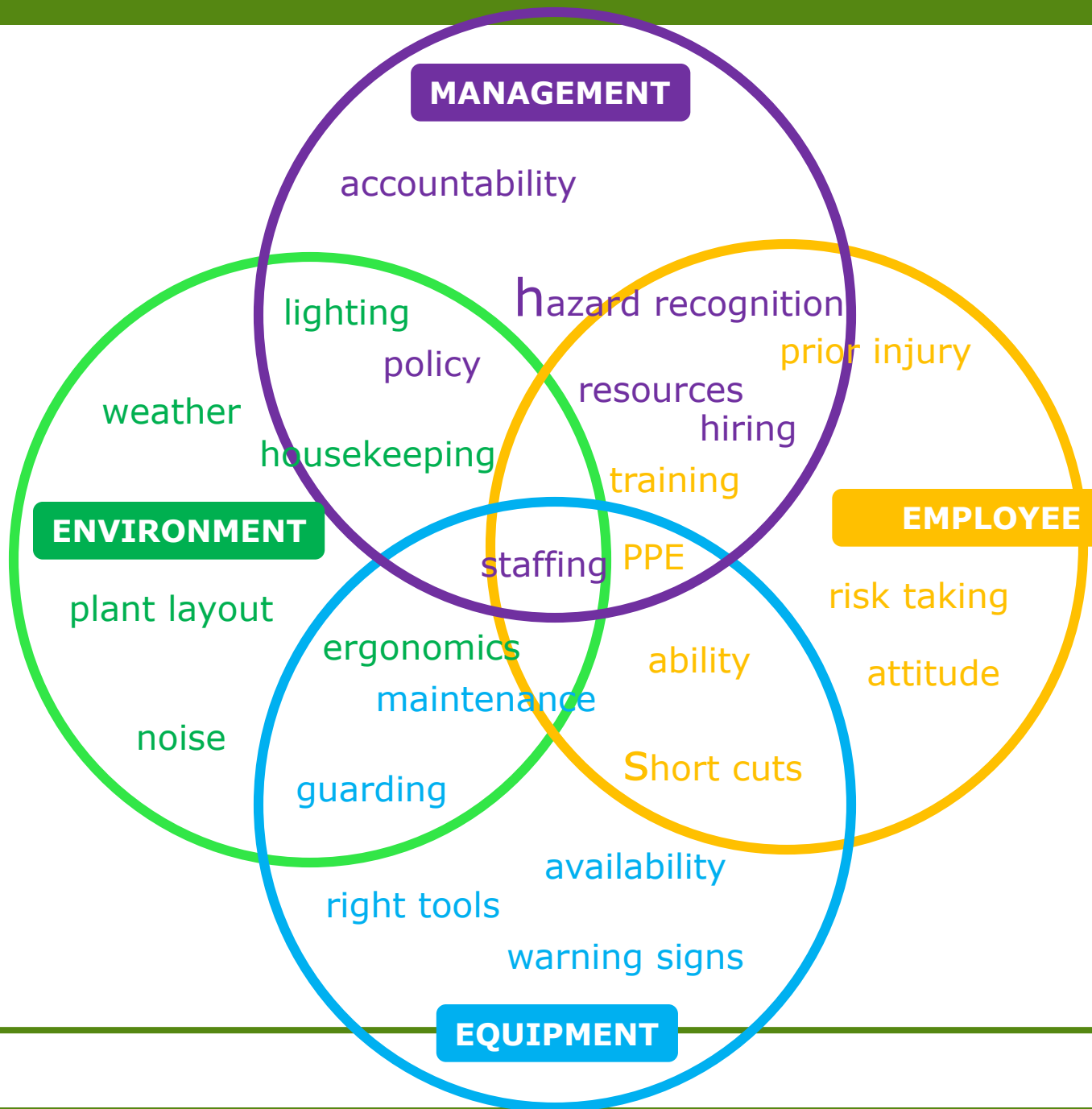
Five crucial conversations that drive workplace safety

- This is overboard
 - 66% say they see coworkers violate safety precautions they discounted
 - 3 out of 4 say nothing
- Are you a team player?
 - 63% say they see coworkers violate safety precautions “for the sake of the team, company, or customer
 - 28% say they speak up

Source: **VitalSmarts** “Silent Danger”
1600 employees @ 30 companies

Remember:

- Every incident/injury has multiple contributing factors and root causes
- Human behavior always occurs within a larger system
- Avoid jumping to conclusions and climbing the “ladder of inference”
- Remember to ask the injured person: how can we prevent this from EVER happening again?



Fix the **SYSTEM** – not the blame!

- Ensure top management leadership.
- Train supervisors and key employees in incident/accident analysis – have an engaged team and analysis tools ready.
- Encourage reporting of unsafe conditions and work practices, and near misses – require immediate reporting of incidents/accidents.
- Take and document appropriate corrective actions and communicate results.