ACCIDENT INVESTIGATION *FOR* OSHA COMPLIANCE

Part Two: The 6 Step Process

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NCDOL N.C. Department of Labor OSH Division Internal Training

6 Step Process

1. Coordinating with Other Agencies
2. Assessing the Scene/Collecting Evidence
3. Interviewing Witnesses
4. Creating a Sequence of Events
5. **Determining the Cause**
6. Identifying OSHA Violations
7. Documenting the Findings

Information Assessment

Always Remember

- FACT-FINDING and NOT FAULT-FINDING.
- The investigation should only be used to determine the cause(s) of the accident.

When an Accident Occurs…

- … the right combination of factors or causes came together in the right set of circumstances to bring about the resulting event.
  - Many times there is more than one cause for the accident

Determining the Cause

- Read the scenario and discuss in your group what you believe “caused” the Dupont Hot Work accident.

Getting to the Root

- Immediate Cause
- Contributing Factors
- Root Cause
- Proximate Cause

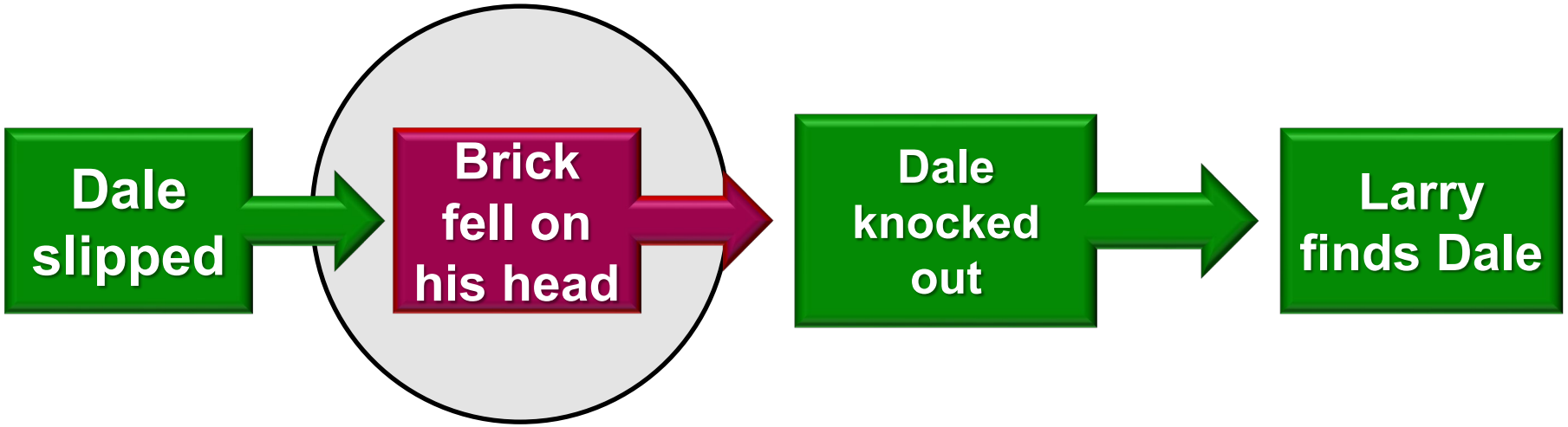
Immediate Causes

- The unsafe act(s), unsafe condition(s) or both that you immediately relate to having caused the accident.

Immediate Cause – Remember Dale?

- Dale slipped on a banana.
- As Dale lay on the floor, a brick fell on his head.
- Larry discovered Dale unconscious on the floor and immediately began initial first aid procedures.

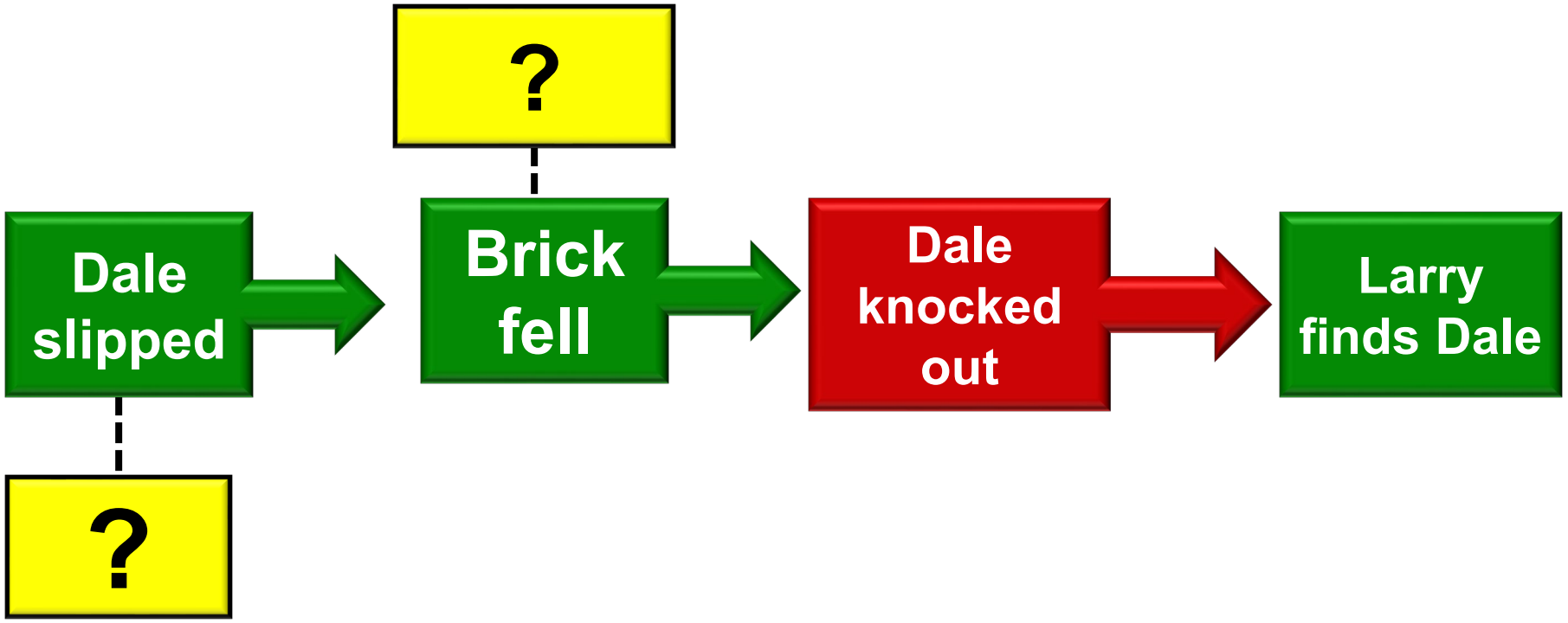
What's the IMMEDIATE cause?



Contributing Factors

- Conditions or actions that contributed to the event.

What Acts or Conditions Contributed?



Unsafe Acts

- Failure to use guards
- Use of defective equipment
- Use of the wrong equipment or tool
- Operating unsafely
- Failure to use PPE
- Lack of skill/knowledge
- Lack of awareness
- Failure to follow SOP
- Improper lifting

Unsafe Conditions

- Inadequate guards or PPE
- Hazardous substances or atmospheres
- Poor housekeeping
- Congested work areas/roadways
- Inadequate warning systems
- Inadequate ventilation
- Exposed energy sources

Unsafe Conditions

- Limited visibility & inadequate illumination
- Adverse weather or poor road conditions
- Excessive noise
- Fire or explosion hazards
- Improper material storage
- Defective/unsafe condition of equipment, machine, or tools

Determining the Cause

- For each event decide if there were actions or conditions that contributed.

If You Go No Further...

…you will not achieve your objective!

We need to get to the **Root Cause**.

Root Cause

- The underlying reason for a problem.
- The real cause of a problem.
- The basic reason for a failure.
- If corrected, the failure shouldn’t recur.

Root Cause

- May not be obvious.
- Will lead you to the system problem.
- Will lead you to any OSHA violation.

Root Causes

- To determine the root cause, you have to continue to ask WHY?
  - Why was the unsafe condition present?
  - Why was the unsafe act committed?
  - Why, why, why…??

Root Cause Analysis

A. Car will not start

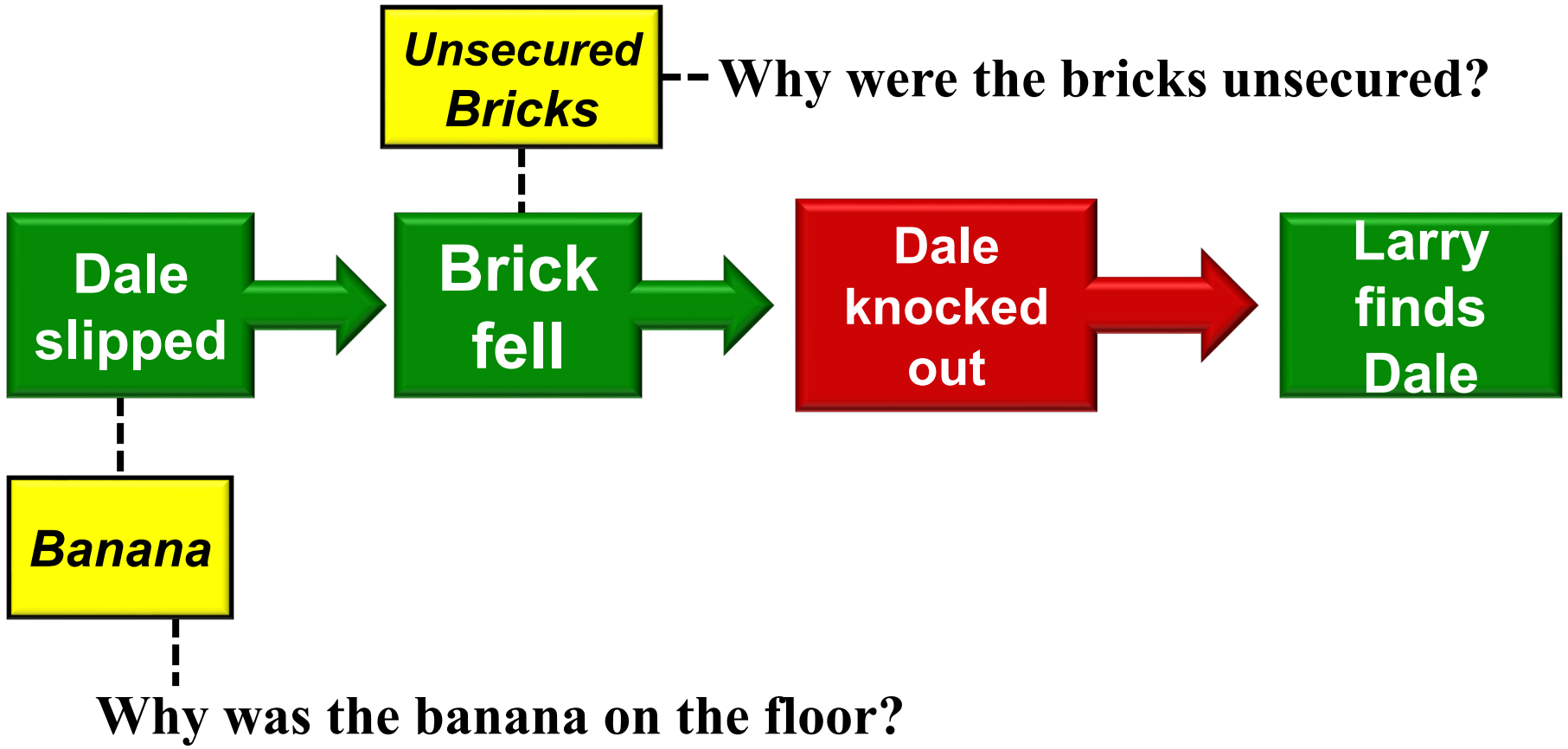
B. Battery is dead

C. Alternator doesn't function

D. Alternator is well beyond it's service life

E. Car is not being properly maintained

Root Cause – Continue to ask "Why?"



Some themes that tend to come up

- Training
- Standard Operating Procedures
- Preventive maintenance standards
- Enforcement of work standards and policies
- Inadequate job planning
- Unsafe design or construction of tools/equipment

Looking for the Root Cause

- Return to your list of events and discuss possible contributing factors for each.

- Continue to ask “Why?” as you drill down to the Root Cause of the accident.

Causes Identified, Now What?

- Identify the corrective measures based on the root causes that were identified during the investigation.

Safety & Health Management Systems

- Engineering controls
- Work practice controls
- Administrative controls
- Personal protective equipment

Engineering Controls

- Removing or reducing the hazard
  - Redesign the hazard out
  - Replace the unsafe item with a safe item
  - Enclose the hazard
  - Substitute an unsafe item with different item

Work Practice Controls

- Eliminate or reduce exposure to a hazard by controlling employee behavior
  - Redesign work practices and job procedures

Administrative Controls

Personal Protective Equipment

- Used in conjunction with the other control strategies
- Does not eliminate or reduce the hazard itself, merely sets up a barrier between worker and the hazard

Dupont's Violations

- Dupont = 10 Citations
- Contractor= 8 citations
- All citations referenced 1910.147 or 1910.252

Dupont's Violations

- Failing to isolate the slurry tank overflow line.
- Not installing blinds in the overflow line.
- Not providing the contractor with energy control procedures.

Contractor's Violations

- Not ensuring LOTO had been completed.
- Not ensuring the tank was isolated.
- Not informing employees of potential explosion hazards.