

# Manager Safety **Toolkit**



## Job Hazard Analysis

**What is a hazard?** A hazard is the potential for harm. In practical terms, it is often associated with a condition or activity that, if left uncontrolled, can result in an injury or illness. Identifying hazards and eliminating or controlling them as early as possible reduces the potential for harm.

**What is a job hazard analysis?** A “JHA” is an assessment that focuses on job tasks as a way to identify hazards before injuries or illnesses occur. This analysis looks at the relationship between the worker, the job, the tools, the materials used, and the work environment. The observations from the job hazard analysis are used to eliminate or reduce hazards.

**Which jobs should be analyzed?** Job hazard analysis should be done for jobs with high injury or illness rates, jobs with a high potential for severe injury or illness, jobs that are new or have undergone changes in processes and procedures, and jobs complex enough to require written instructions. Also consider jobs involving exposure to hazardous chemicals, dusts, radiation, or biological materials.

### Before you begin...

- 1** **Involve your staff** – They have a unique understanding of the job, and this knowledge is invaluable for determining hazards. Involving staff will help minimize oversights, ensure a quality analysis, and get their “buy in” to solutions.
- 2** **Review your injury history** – Review your worksite’s history of work-related health concerns and injuries with your staff. If needed, contact the Occupational and Environmental Safety Office – OESO – (or the Durham Regional or Duke Raleigh safety office) for the history of OSHA – recordable injuries and illnesses in your area, the Workers’ Compensation Office, or the Safety Reporting System (SRS).

Also review “near misses” – where an injury or loss did not occur, but could have. These are indicators that the existing controls may need more scrutiny.



- 3 **Conduct a *preliminary job review*** – Discuss with your staff the hazards they know exist in their current work areas. Brainstorm ideas to eliminate or control those hazards. If any hazards pose an immediate danger, take immediate action to protect your staff. Correct easy problems as soon as possible (i.e. don't wait until you complete the hazard analysis).
- 4 **List, rank, and set priorities for the jobs you will analyze first** – List jobs that have an increased risk of injury, based on those jobs where injuries are most likely to occur, as well as those jobs having a risk of severe injury. Analyze these jobs first.
- 5 **Outline the steps or task** – Nearly every job can be broken down into job tasks or steps.
  - When beginning a job hazard analysis, watch the employee perform the job and list each step as the worker takes it.
  - Be sure to record enough information to describe each job action without getting overly detailed.
  - Avoid making the breakdown of steps so detailed that it becomes unnecessarily long or so broad that it does not include basic steps.
  - You may find it valuable to get input from other workers who have performed the same job.
  - Later, review the job steps with the employee to make sure you have not omitted something. Point out that you are analyzing the job itself, not the employee's job performance.
  - Include the employee in all phases of the analysis – from reviewing the job steps and procedures to discussing uncontrolled hazards and recommended solutions.



# Job Hazard Analysis, Continued

## Performing the analysis

### 1 Ask these questions and document the response.

- What can go wrong? (To what hazard\* might the employee be exposed?)
- How could it happen? (How or why might the employee be exposed?)
- What are the consequences? (What symptoms or injuries might result?)
- What are other contributing factors? (Could the exposure to the hazard occur quickly or without the employee being aware of it?)
- How likely is the above consequence? (Consider frequency of task, previous injuries.)

Document the answers to these questions in a consistent manner to help ensure that you are able to target the most important contributors to the hazard.

### 2 Determine how to prevent or correct the hazards.

- Include your staff members in the discussion.
- The most effective controls are **engineering controls** that physically change a machine or work environment to prevent employee exposure to the hazard.
- If engineering controls are not feasible, **administrative controls** may be appropriate – these may change how staff perform their work. If job procedures are being modified, ensure that employees are informed regarding the reason for the changes.
- The last in the hierarchy of controls is **personal protective equipment (PPE)**. Examples of PPE are safety glasses, earplugs, respirators, and gloves. Careful selection of the correct PPE is important – it must protect against the specific hazard. The selection of PPE must be documented and staff must be trained on how and when to use PPE.

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\* The hazard might be a sharp edge, a moving part of a machine, a heavy object that could fall on someone, a heavy object that might cause overexertion if a person must move it, something that might make a person trip or slip, a projectile, an irritating chemical or dust, radiation, or a harmful biological material.



**3 Contact OESO (or your local safety office) for support.**  
Doing a thorough job hazard analysis is complicated, but help is available. OESO (or the Durham Regional or Duke Raleigh safety offices) will work with you to ensure that all hazards have been identified and analyzed. They will also assist with the selection of appropriate hazard control measures. Contact information is available on page 12.

**4 Follow through**  
For a job hazard analysis to be effective, management must demonstrate its commitment to safety and health and follow through to correct any uncontrolled hazards. Otherwise, employees may hesitate to let their supervisors know about dangerous conditions they encounter in the future, and may perceive that there is little need to work safely.

**5 Periodically review analysis**  
A periodic review of the hazard analysis ensures that it remains current and continues to help reduce workplace injuries. It is particularly important to review your job hazard analysis if an illness or injury occurs on a specific job. Based on the circumstances, you may determine that you need to change the job procedure to prevent similar incidents in the future.

Any time you revise a job hazard analysis, it is important to train all employees affected by the changes in the new job methods, procedures, or protective measures adopted.



# How to Conduct an Incident\* Investigation

## 1 Secure the incident scene

Visually examine the area where the incident occurred before steps are taken to restore the area to pre-incident state. Seeing the area will improve your understanding of what led up to the injury or near-miss. Securing the area could mean asking a staff member to stand nearby to keep others clear of the area or closing a door and asking staff to remain outside.

## 2 Collect facts about what happened

Interview the affected employee and any witnesses privately as soon as possible following the incident. Ask what they observed or heard just before, during, and after the incident. Just the facts.

## 3 Develop the sequence of events

Use the facts gathered in step 2 to develop a sequence of events so that hazardous conditions and/or unsafe behaviors can be understood and corrected/coached as needed. Ask, “What happened next, and then what...”

## 4 Determine the causes

There will be multiple causes that led up to the incident. The goal is to find the root causes to prevent recurrence. Keep digging to find root. See Investigation Tree on page 8.

- Identify and describe the direct cause of injury or near-miss, (e.g., laceration to right forearm resulting from contact with rotating saw blade).
- Analyze events occurring just prior to the incident to identify those conditions and behaviors that caused it (e.g., unguarded saw blade).
- Analyze conditions and behaviors to determine other specific conditions and behaviors that contributed to the incident (e.g., supervisor or staff member not performing weekly area safety inspection).
- Analyze each contributing condition and behavior to determine if weaknesses in carrying out safety policies, programs, plans, processes, procedures and practices exist (e.g., safety inspections are being conducted inconsistently).
- Determine implementation flaws to determine the underlying design weaknesses (e.g., inspection policy does not clearly specify responsibility by name or position).

\* In this case, an “incident” could be the cause of an injury or a “near-miss” – something that could cause an injury in slightly different circumstances. Steps 2 – 6 can also be used to investigate complaints of pain or illness that have developed over several days, weeks, or months.



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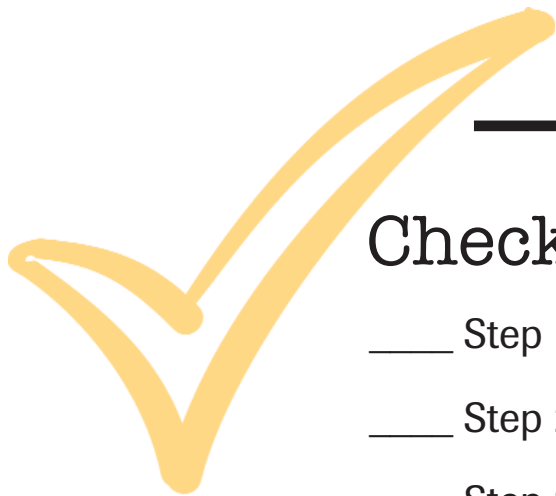
**Recommend improvements**

There is a hierarchy of controls. These are: engineering controls to remove or reduce the hazard (redesign, enclosure, substitution), management controls (remove or reduce the exposure using different procedures or by rotating the job among employees), and personal protective equipment (PPE) to put up a barrier.

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**Write the report (within 24 hours of incident)**

Submit employee and supervisor report on-line within 24 hours at [www.hr.duke.edu/workcomp](http://www.hr.duke.edu/workcomp)

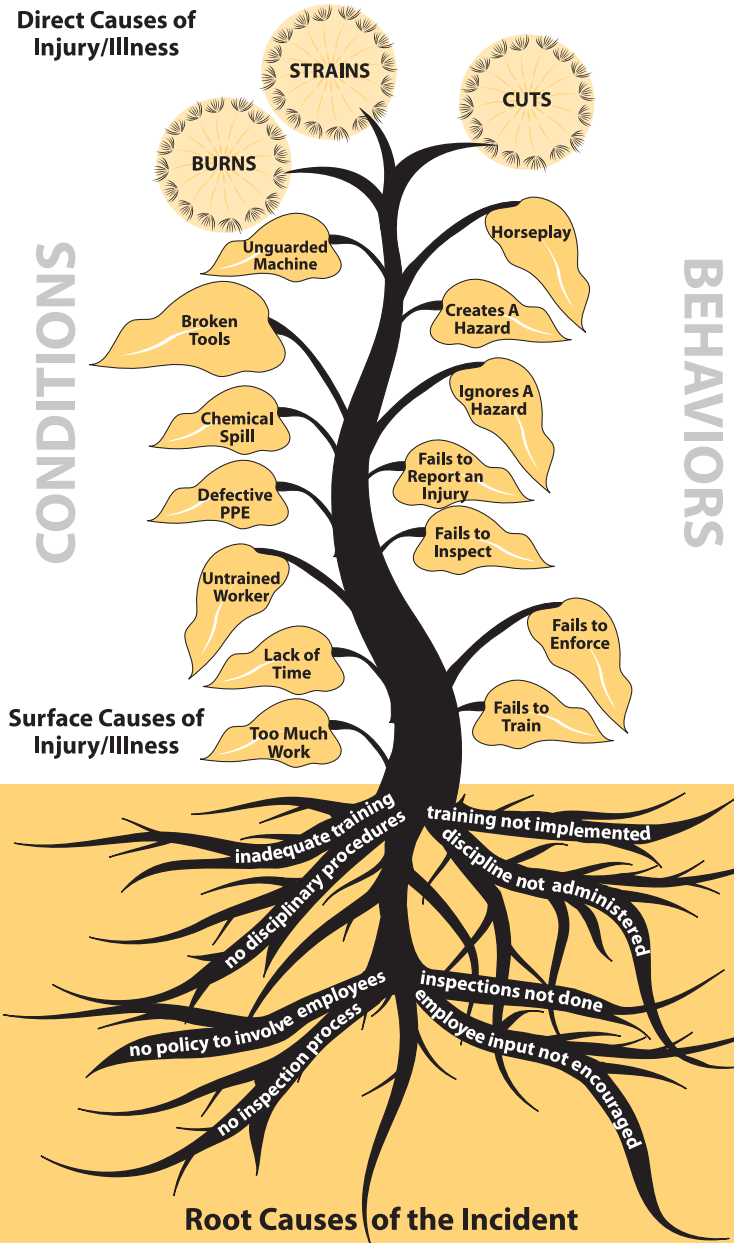


**Checklist:**

- \_\_\_ Step 1: Secure the incident scene
- \_\_\_ Step 2: Collect facts about what happened
- \_\_\_ Step 3: Develop the sequence of events
- \_\_\_ Step 4: Determine the causes
- \_\_\_ Step 5: Recommend improvements
- \_\_\_ Step 6: Write the report (within 24 hours)



# Weed Out the Causes of Injuries/Illnesses





**Supervisor Incident Investigation Form**

*Instructions:* Use the "How to Conduct an Investigation" information sheet for assistance.

**Employee Name:** \_\_\_\_\_

**Supervisor's Name:** \_\_\_\_\_

**Incident Date:** \_\_\_/\_\_\_/\_\_\_      **Date Reported:** \_\_\_/\_\_\_/\_\_\_

**Investigation Date:** \_\_\_/\_\_\_/\_\_\_      **Duke ID#** \_\_\_\_\_

**Incident Information**

**Incident location:** \_\_\_\_\_

**Description of incident:** \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**\*Causes:** (Environmental, Procedural, Pre-existing condition, Other) \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**Recommendations:** [Engineering/Facilities issues, Procedures (change/new/enforce existing), PPE] \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\*Make sure relevant information is included in the Supervisor's Report of Employee Injury/Illness

## Supervisor Incident Investigation Form





**Job Hazard and Personal Protective Equipment (PPE) Assessment**

Department: \_\_\_\_\_  
Location: \_\_\_\_\_  
Job(s): \_\_\_\_\_

Task	Equipment Used	Hazard and Source	Body Parts at Risk	Engineering & Administrative Controls	Appropriate PPE

Written Certification of Hazard Assessment for Personal Protective Equipment  
Assessment Conducted by: \_\_\_\_\_  
Title: \_\_\_\_\_ Date: \_\_\_\_\_

Job Hazard and Personal Protective Equipment (PPE) Assessment Form



## If an accident happens...

If your staff member requires **emergency medical care**, send him/her to a DUHS Emergency Department or call 911.\*

Let your staff know to contact you immediately if they have an injury, so you can assist, investigate the reason the incident occurred and take corrective action to prevent other injuries.

If the injury requires **medical treatment** (other than emergency care), direct your staff member to go to Employee Occupational Health and Wellness (EOHW). After hours or on weekends he/she should go to Duke Urgent Care (Hillandale Road or Fayetteville Road) or a DUHS Emergency Department.\* After hours consultation for unclear situations is available via the EOHW Hotline at 684-8115.

You and your staff member must complete an incident report within **24-hours** of the injury. Access the forms online at [www.hr.duke.edu/workcomp](http://www.hr.duke.edu/workcomp). (For DUHS, login to your DUHS VPN account.)

Keep in touch with your staff member during his/her recovery.

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\* If the incident is not covered under workers compensation, the staff member (or his/her health plans) will be responsible for the cost of medical care provided via Urgent Care or the Emergency Department.

[www.hr.duke.edu/workcomp](http://www.hr.duke.edu/workcomp)



## If you have questions...

**Workers' Compensation** .....684-6693

### **Employee Occupational Health and Wellness (EOHW)\***

DU/DUHS .....684-3136  
Durham Regional .....470-5350  
Duke Raleigh .....954-3952  
EOHW Hotline .....684-8115

### **Safety**

DU/DUHS (OESO) .....684-2794  
Durham Regional .....470-SAFE (7233)  
Duke Raleigh .....954-3104

### **Occupational & Environmental Safety Office**

**Administration** (Divisions numbers below) .....684-2794

**Biological Safety** .....684-8822

Biological hazards, clinic and lab audits

**Environmental Programs** .....684-2794

Hazardous waste, pollution prevention

**Ergonomics (ERGO)** .....668-ERGO or 668-3746

Materials & patient handling, repetitive tasks, body mechanics, workstation setup, injury prevention

**Fire Safety** .....684-5609

Fire prevention, emergency egress, hot work permits

**Occupational Hygiene & Safety** .....684-5996

Chemical hazards, general safety, hearing conservation, injury/illness prevention

**Radiation Safety** .....684-2194

Ionizing and non-ionizing radiation, lasers

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\* After hours consultation for unclear situations is available via the EOHW Hotline at 684-8115.



[www.safety.duke.edu](http://www.safety.duke.edu)