

Job Hazard Analysis (JHA)



“The Underused Super Safety Tool”

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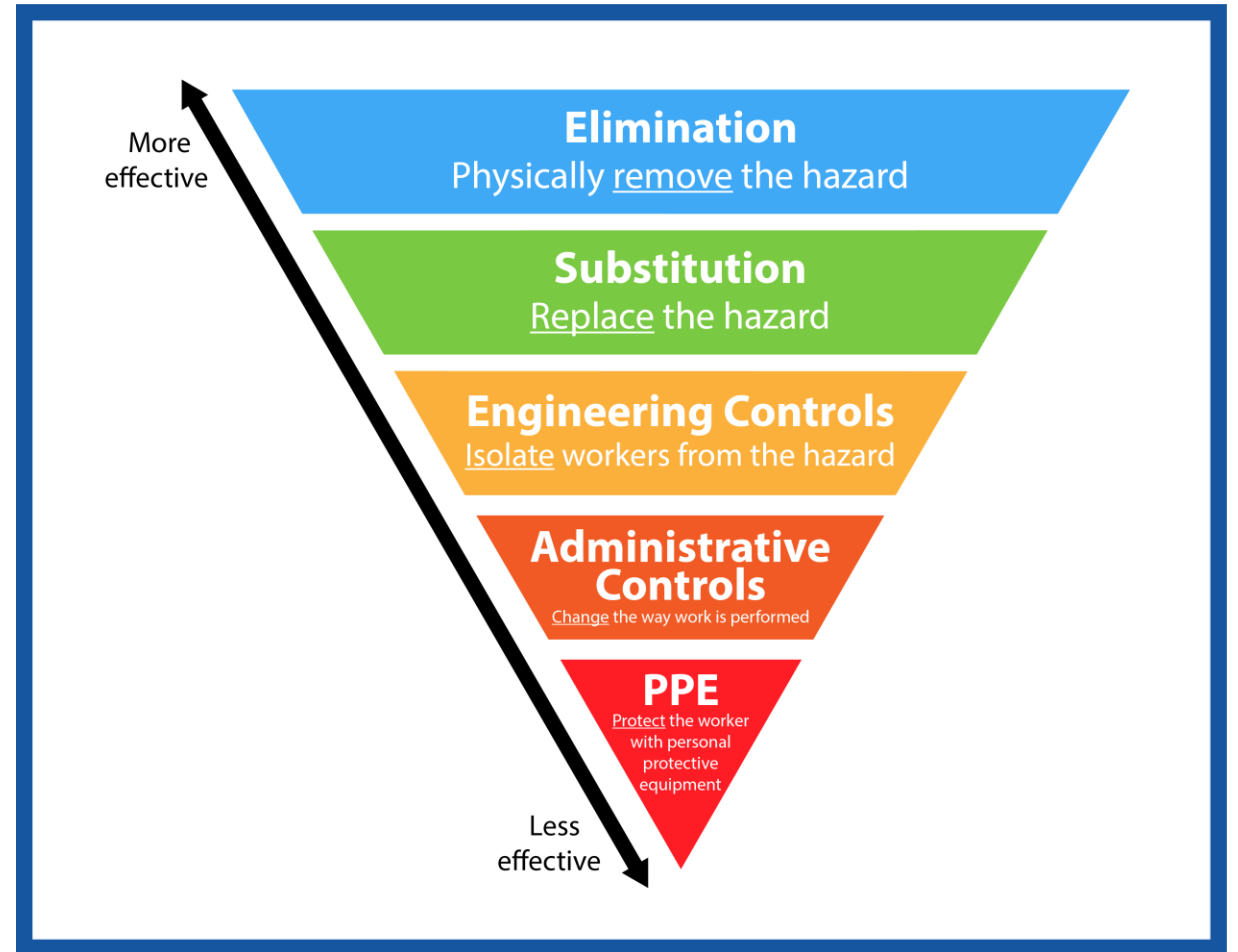
CSP Retired, MSP, STS-C, CEAS

- 35 Year Safety and Risk Professional
- 20 Years as Lead Risk Advisor with JPA Risk Pool assisting Water and Wastewater Agencies
- Safety Trainer and Consultant



Goals

- Explain why JHAs are important
- Describe the five-step JHA procedure
- Conduct a JHA for a hazardous task



Purpose of a Job Hazard Analysis

One of the “root causes” of workplace injuries, illnesses, and incidents is the failure to identify or recognize hazards.

A Job Hazard Analysis (JHA) is both a tool and a process of identifying and evaluating potential hazards or risks.

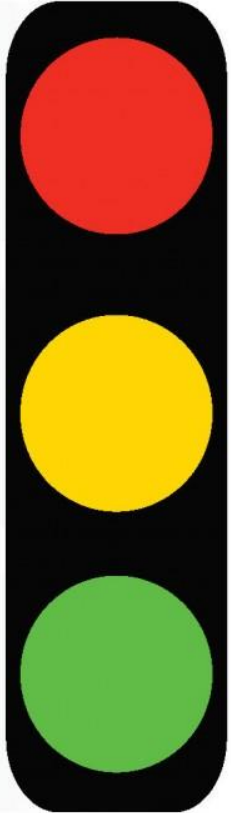
Breaks job task into its individual steps and each step is reviewed to identify potential hazards that could cause injury or illness to workers

Outlines the controls to mitigate the hazards.



Purpose of a Job Hazard Analysis

BEFORE AND DURING A TASK

	What can go wrong? How bad could it be? Has anything changed?	
	Am I ok to do the job? Do I understand my task? Do I have the right tools and equipment?	
 Before you Act	Can I make it safe? Do I know the procedure? Do I have the right tools?	

JHAs are sometimes called:

- Job Safety Analysis - JSA
- Task Hazard Analysis – THA
- Activity Hazard Analysis - AHA

Purpose of a Job Hazard Analysis

- Collect and review information about the hazards
- Conduct initial and periodic workplace inspections to identify new or recurring hazards.
- Investigate injuries, illnesses, incidents, and close calls/near misses to determine the underlying hazards, and their causes.
- Group similar incidents and identify trends in injuries, illnesses, and hazards reported.
- Consider hazards associated with emergency or nonroutine situations.
- Determine the severity and likelihood of incidents based on tasks and hazards.
- Use information to prioritize corrective actions.

What is a Job Hazard Analysis (JHA)?

A job or task analysis to identify hazards.

Determine procedures and practices to improve workplace safety.

Outlines a structured process to reduce common workplace injuries and accidents.



Written + Implemented = Effective

Is the Employer required to conduct a Job Hazard Analysis?

- Most CalOSHA standards do not specifically require the employer to conduct a JHA.
- Employer is required to take the necessary steps to furnish employment (jobs, tasks, procedures) that is safe and healthful.

A JHA helps fulfill this requirement.

§3203. Injury and Illness Prevention Program.

- (a)(4) Include procedures for identifying and evaluating workplace hazards including scheduled periodic inspections to identify unsafe conditions and work practices. Inspections shall be made to identify and evaluate hazards:
- (a)(6) Include methods and/or procedures for correcting unsafe or unhealthy conditions, work practices and work procedures in a timely manner based on the severity of the hazard:

Why is a Job Hazard Analysis important?

Workers are injured and killed in the workplace every day.

JHAs add value in worker training, reduced costs increased productivity, less injuries and accidents.

One of the best ways to ensure understanding and safe work practices is through JHA development and use.



What is a “job” or “task”?

A “job” or “task” does not refer to the employee's job title such as operator, technician, etc.

The “job” is analyzed by breaking it down in the order of operations or "tasks" that is composed of the steps, associated “hazards” and best practices of “controls”.



Knowledge Check

It is important to develop and use JHAs because they increase employees _____ of the job or task to be completed :

- a. doubt
- b. interest
- c. understanding
- d. complacency



Knowledge Check

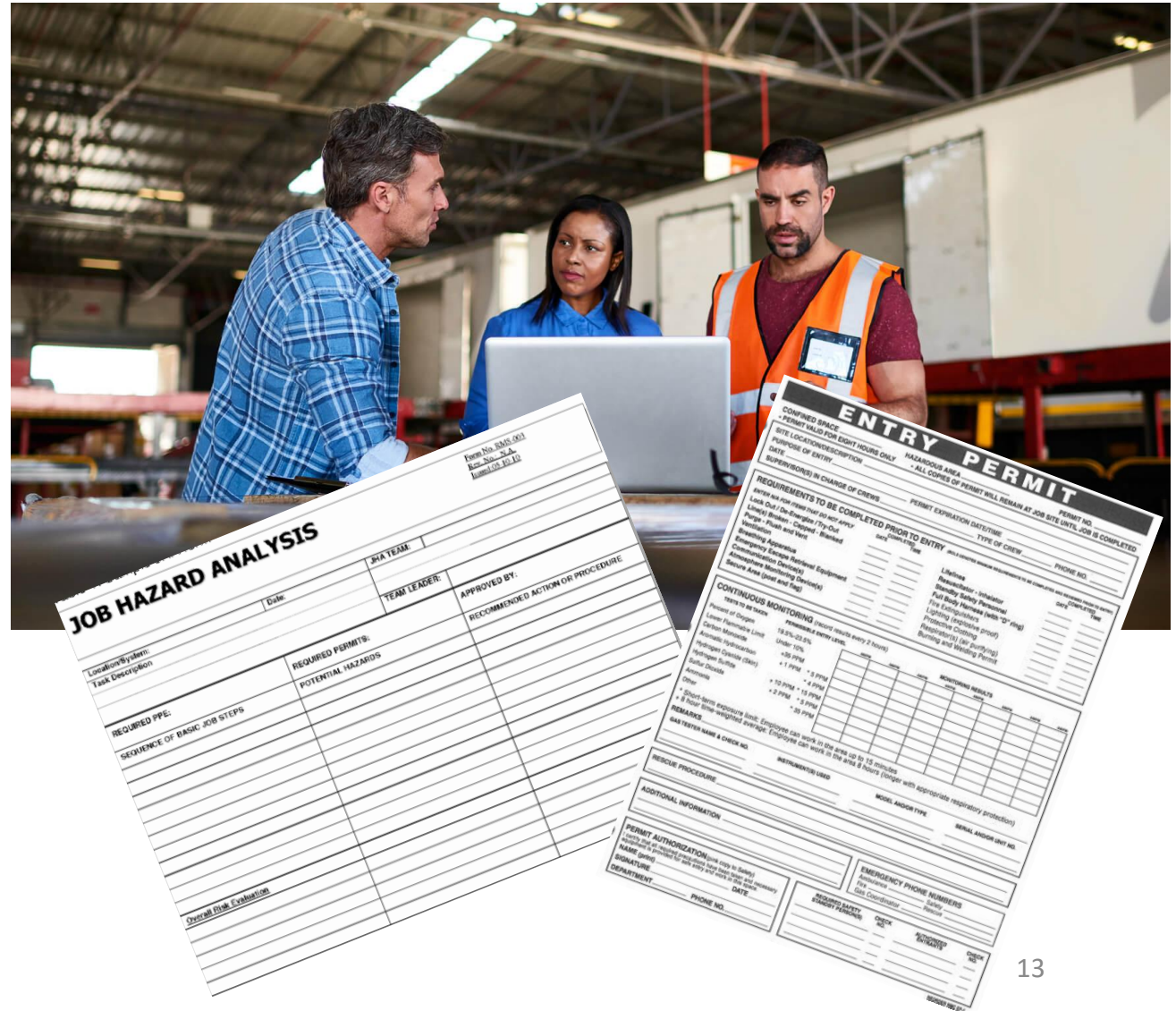
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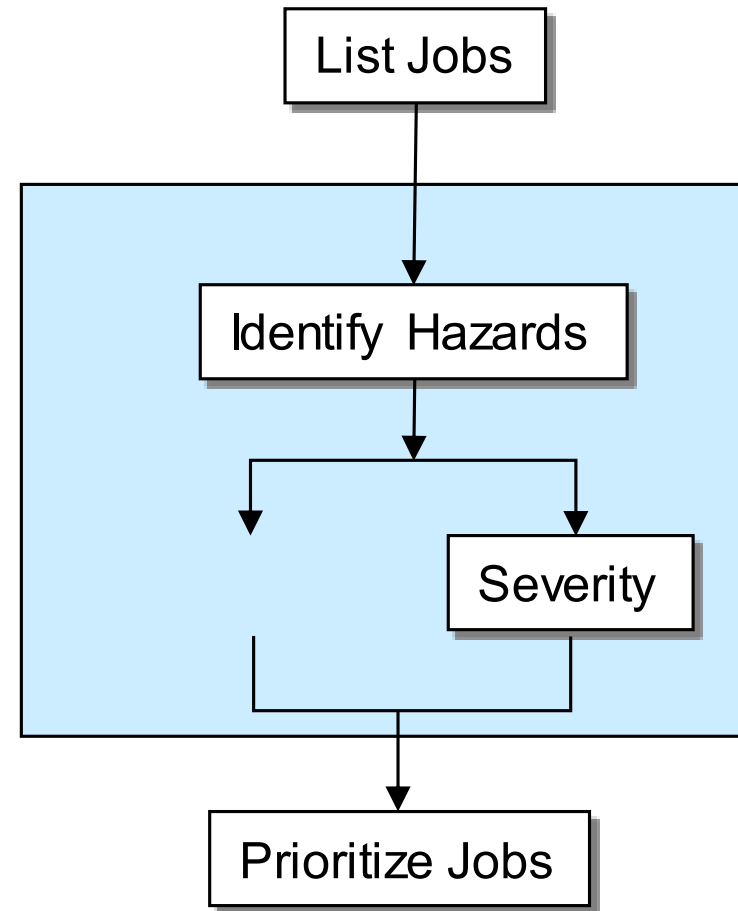
Step 1 - Prepare to conduct the JHA

- Conduct an initial job review.
- Review your accident and injury history.
- Review inspection records, permits and reports
- Involve supervisors and employees experienced in tasks



Determine Hazardous Jobs and Tasks

- Ask each supervisor and employee to identify the various jobs that will require an evaluation in each department.
- Look at past losses and injuries
- Discuss the jobs and tasks where workers feel most unsafe.



Use a Form
that outlines...

At a minimum
Tasks
Hazards
Recommended Action

Additional Items
PPE
Permits
Specialized Equipment





RECIPE

Title: _____

Serves: _____ Prep Time: _____ Cook Time: _____

Ingredients

Consider to Risks Involved

Factors that increase risk:

- Number of employees exposed
- Frequency of exposure
- Duration of exposure
- Employees exposed to high hazards (Traffic, Chemicals, Confined Space, LOTO, etc.)
- Unreasonable workload
- Working under stress (after hours, emergencies, fatigue, illness, personal problems)
- Environment (noise, light, wind, rain, snakes, insects, plants)



Hazards in the workplace

1. Slip, Trip and Fall Hazards
2. Impact
3. Mechanical
4. Vibration and Noise
5. Chemical / Toxics / Dusts
6. Health and Temperature
7. Flammability/Explosion
8. Pressure Hazards
9. Ergonomics
10. Biohazards



Hazards in the workplace, continued

- General Housekeeping
- Electrical Hazards / LOTO
- Equipment Operation / Authorized Operators
- Equipment Maintenance
- Hot Work / Welding / Fire Protection
- Work Organization and Flow (staffing and scheduling)
- On-the Job Training / Past Work Practices
- Workplace Coordination / Storage / Contractors
- Lack of Emergency Response / Planning / Procedures / Supplies
- Vehicles and Traffic



Don't forget to look for potential hazards

To ensure that all hazards associated with a step are identified, analyze each step to identify potential as well as actual hazards produced by both **work environment** and **the activity being performed**.



Prioritize hazardous jobs

- Analyze the “worst first”
- Another way to prioritize jobs
- Use the risk matrix

<u>PROBABILITY</u>	Very Likely		
	Likely		
	Unlikely		
	3	6	9
	2	5	8
	1	4	7
	Minor	Serious	Fatality
	<u>SEVERITY</u>		

Knowledge Check

Risk is determined by considering _____ and _____:

- a. Frequency and duration
- b. Posture and behavior
- c. Attitude and altitude
- d. Cause and effect



Knowledge Check

Risk is determined by considering _____ and _____:

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Step 2 – Observe the job and list the steps

- Use the JHA form for notetaking
- List all definable tasks or steps
- Schedule the observation. No surprise “no notice” visits.
- Goal is information collection.
- Confirm steps with employees performing work.



Tips on conducting the JHA

- Be sure to record enough information to describe each job action without getting overly detailed.
- Avoid long, overly detailed breakdown of steps.
- Do not combine steps (look for "and" in the step).
- Get input from workers that have performed the job.

Tips on conducting the JHA

- Review the steps with workers to make sure you have not omitted something.
- Evaluating the task, hazards and procedures, not the worker 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.
- It may be helpful to photograph or videotape the worker performing the job.

Activity

Use the worksheet to list 3 – 4 steps / tasks from which an injury / accident that could result.

Task: Load 65 lb. valve from warehouse to flatbed pickup truck in yard with a travel distance of 75 feet.

[illegible]

Activity

Use the worksheet to list 3 – 4 steps / tasks from which an injury / accident that could result.

Task: Load 65 lb. valve from warehouse to flatbed pickup truck in yard with a travel distance of 75 feet.

(Insert name of Work Task) Job Hazard Analysis			
Date:	Type of Work:	Location/Job#:	Department:
Approved by:	Manager / Supervision:	Foreperson / Competent Person:	Safety Representative:
PPE List:			
Permits / Checklists:			
Specialized Equipment or Tools			
Activity Tasks or Steps	Hazards	Preventative or Correction Actions to be Taken	
Locate / find valve in warehouse			
Carry / transport valve to truck			
Lift / load valve into truck			
Secure valve for transport			

Knowledge Check

Which of the following is not a step when developing a JHA?

- a. Prioritize tasks in order that they are performed
- b. Review accident and injury history
- c. Involve supervisors and employees experienced in performing job.
- d. Conduct no-notice observations of tasks being completed



Knowledge Check

Which of the following is not a step when developing a JHA?

- a. Prioritize tasks in order that they are performed
- b. Review accident and injury history
- c. Involve supervisors and employees experienced in performing job.
- d. Conduct no-notice observations of tasks being completed

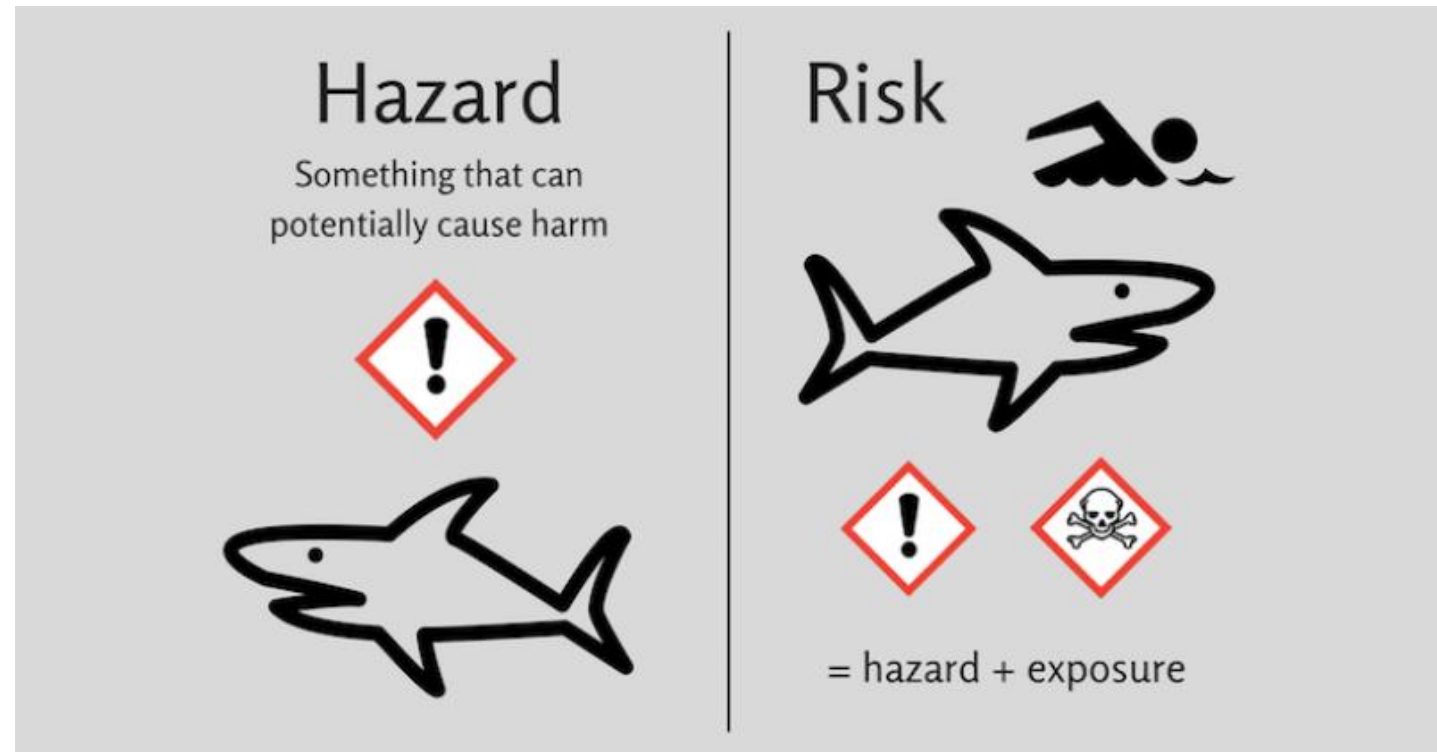


Step 3 - Describe the hazards in each step

Hazards and Exposure

A **hazard** is an unsafe condition that could cause injury or illness to an employee.

An employee's **exposure** to a hazard creates the **risk** of injury or loss.



$$\text{Risk} = \text{Hazard} + \text{Exposure}$$

Step 3 - Describe the hazards in each step

Hazards + Exposure = JHA

A **hazard** is an unsafe condition that could cause injury or illness to an employee.

An employee's **exposure** to a hazard creates the **risk** of injury or loss.

Hazard + Exposure = JHA

- Traffic on roadway = **HAZARD**
Working in traffic on roadway = **EXPOSURE / JHA**
- Confined Spaces = **HAZARD**
Entering a confined space = **EXPOSURE / JHA**
- Live Electricity = **HAZARD**
Working on live circuits = **EXPOSURE / JHA**
- Chemicals in storage = **HAZARD**
Using chemicals in a process = **EXPOSURE / JHA**

Activity

Use the worksheet to list the 4 hazards that could lead to an injury / accident.

Task: Load 65 lb. valve from warehouse to flatbed pickup truck in yard with a travel distance of 75 feet.

(Insert name of Work Task) Job Hazard Analysis

Date:

Type of Work:

Location/Job#:

Department:

Approved by:

Manager / Supervision:

Foreperson / Competent Person:

Safety Representative:

PPE List:

Permits / Checklists:

Specialized Equipment or Tools

Activity Tasks or Steps	Hazards	Preventative or Correction Actions to be Taken
Locate / find valve in warehouse	Housekeeping	
Carry / transport valve to truck	Slip, Trip or Fall Strain or Back Injury	
Lift / load valve into truck	Strain or Back Injury Drop valve – crushed hands or feet. Equipment damage.	
Secure valve for transport	Load shifting during transport. Equipment damage. Injury to hands/feet.	

Conducting the JHA

Step 4 - Develop preventive measures

How do I correct or prevent hazards?

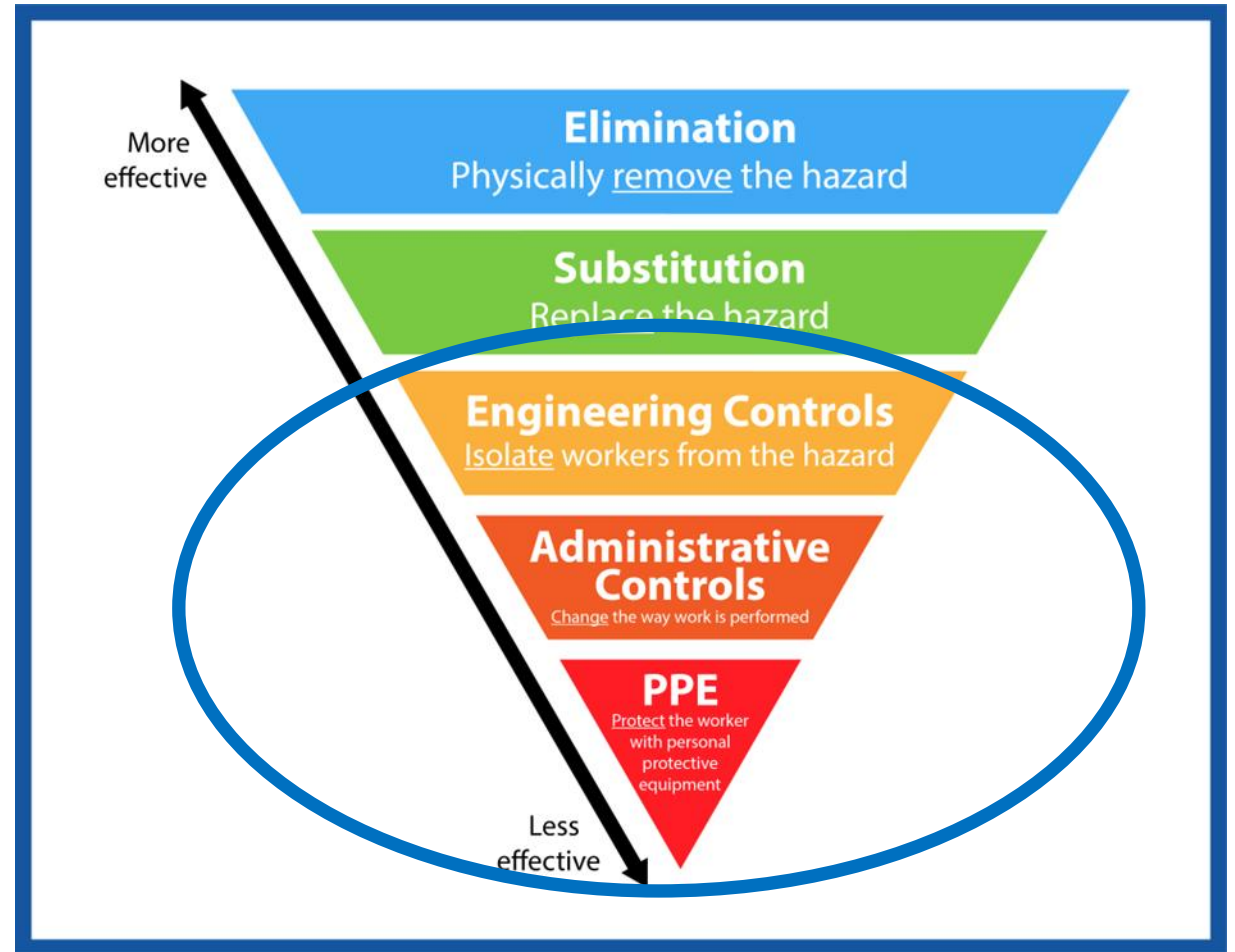
Think...

- PPE
- Equipment
- Training
- Housekeeping
- Personnel
- Competent Person Assignment
- Permits, Inspections, Checklists
- ??????



Hazard control strategies

- Elimination
- Substitution
- **Engineering controls**
- **Administrative controls**
- **PPE**



Activity

Use the worksheet to list the 4 steps / tasks from which an injury / accident that could result.

Task: Load 65 lb. valve from warehouse to flatbed pickup truck in yard with a travel distance of 75 feet.

(Insert name of Work Task) Job Hazard Analysis			
Date:	Type of Work:	Location/Job#:	Department:
Approved by:	Manager / Supervision:	Foreperson / Competent Person:	Safety Representative:
PPE List:	Work gloves and boots		
Permits / Checklists:	Daily inspection if forklift used		
Specialized Equipment or Tools	Cart, dolly, pallet jack or forklift to assist with transport / lifting.		
Activity Tasks or Steps	Hazards	Preventative or Correction Actions to be Taken	
Locate / find valve in warehouse	Housekeeping	Check path of travel. Clear path of travel.	
		Wear gloves and workboots.	
Carry / transport valve to truck	Slip, Trip or Fall Strain or Back Injury	Warm up / stretch. Consider 2-person lift. Use dolly, pallet jack or forklift. Move Truck closer.	
Lift / load valve into truck	Strain or Back Injury Drop valve – crushed hands or feet. Equipment damage.	See above. Check / Secure load before moving.	
Secure valve for transport	Load shifting during transport. Equipment damage. Injury to hands/feet.	See above. Check conflicts and load in power zone. Use rope or straps to secure valve.	

Step 5 - Finalize the JHA

- Try to paint a word picture - concrete vs. abstract / simple vs. complex
- Use pictures to add understanding. (worth a 1,000 words)
- Write in the active / command / action voice – use “take”, “check” “place” not “should”, “consider”, “may.”
- Write as clearly as possible using common words – “use,” not “utilize.”
- Keep sentences short. Use no more than 7-15 words.
- Write in a less technical, more conversational and instructional style.



Step 5 - Write the JHA

Criteria for an effective Job Hazard Analysis

- Write in a step-by-step format. Usually this means 4 or more definable tasks or steps.
- If a hazard does exist, state the action and identify: the hazard or the possible injury it could cause
- Develop one or two safety measures for each hazard to prevent the injury.



Reviewing the JHA

- It is particularly important to review your job hazard analysis if an illness or injury occurs on a specific job.
- Review it as part of the accident investigation to confirm or update procedures.
- 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, train all employees affected by the changes in the new job methods, procedures, or protective measures adopted.



Use the JHA as a lesson plan

To get more value out of the JHAs , by using them as a lesson plan when training new employees.

Incorporate JHA's into your organization's safety training classes for refresher training.

Use JHAs as a pre-task safety briefing.

Doing so helps guarantee safe job procedures are taught and reinforced continually from hiring through retirement.



Knowledge Check

When writing a Job Hazard Analysis procedure make sure you:

- a. Are as abstract as possible
- b. Write for clarity and understanding
- c. Use technical jargon and abbreviations
- d. Do not include experienced supervisors and workers



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Thank You!



Questions?