



WORLD CLASS HEALTH & SAFETY EVENT
Michigan Safety Conference

Workplace Changes and Processes to Reduce Risk Factors of
Musculoskeletal Disorders
April 17, 2025

Panel:
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Kelly Hogan, Sandalwood Engineering and Ergonomics
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Facilitators: Beverlie Cote, CSP, Hylant Group Mark Jones, CIH, CSP, PlastiPak



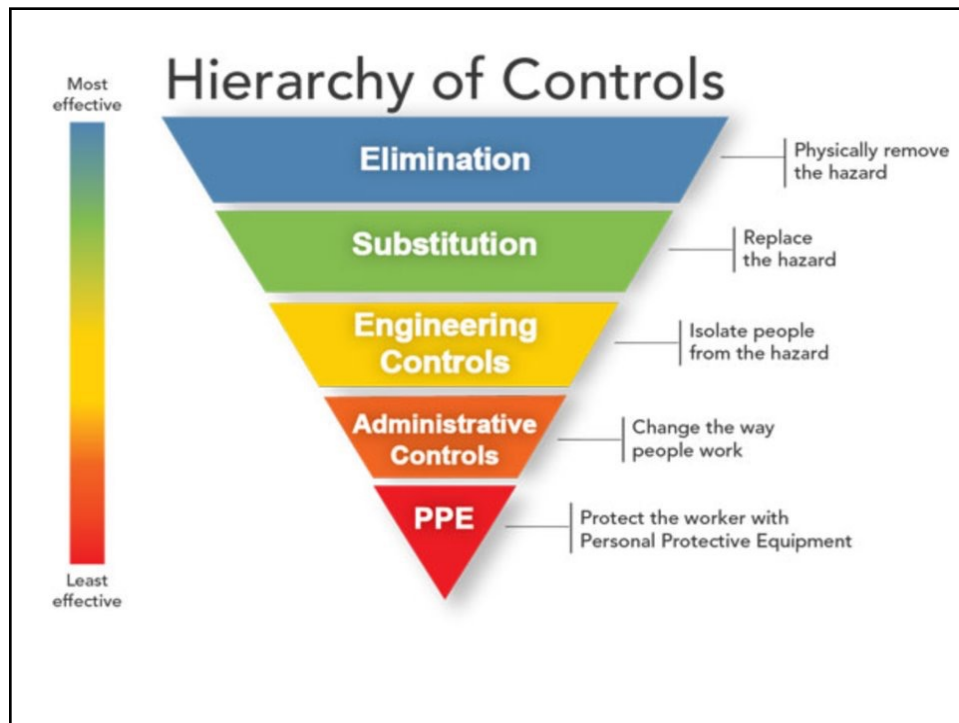
94 Years - Find Your Safety _____ !

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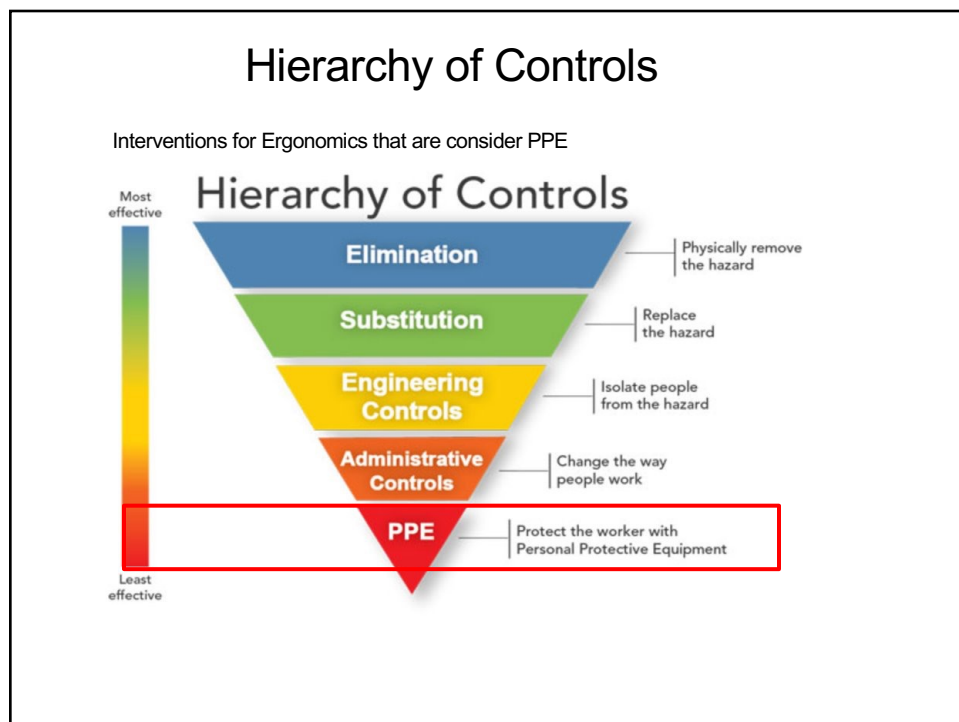
Agenda

- General Framework: NIOSH Hierarchy of Controls
- Mini-presentation by all panelists (≤ 5 minutes)
showcasing low-cost solutions to reduce worker
exposure to risk factors of musculoskeletal disorders

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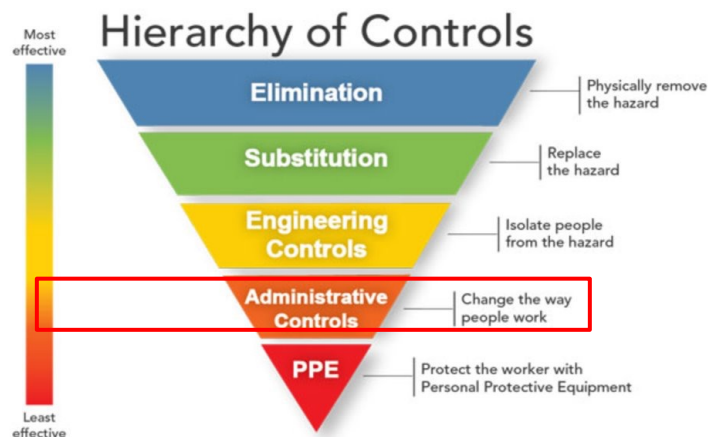
PPE

- PPE: Personal Protective Equipment
- An important hazard control but also the least effective of the five methods
- Examples of PPE include:
 - Gloves
 - Safety glasses
 - Protective footwear
 - Wrist rest
- Overview of PPE
 - Protects the work from some MSD risk but does not change the risk they are exposed to
 - Modulates the risk by placing a barrier between the worker and the risk exposure
 - Does NOT take the place of engineering or administrative controls.
 - Effective use of PPE relies on the user and is only used until better controls can be identified and implemented.



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Hierarchy of Controls



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Administrative Controls

- Changing the way people work
 - Modify the work patterns or the selection of workers for jobs
 - Modify exposure to the risk factor
 - Best used for short term containment
- Examples:
 - Job enlargement
 - Breaks
 - Training
 - Policies
 - Job rotation

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Example: Job Enlargement

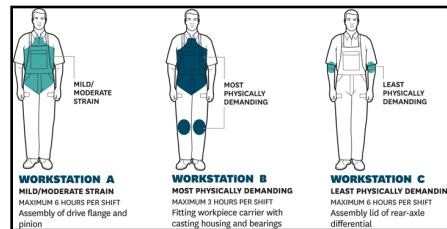
- Job Enlargement
 - Reduces the cycle frequency for an operator i.e. Instead of an operator assembling something and sending it to an inspector, they would assemble and inspect
 - Increasing the number of tasks performed by a worker.
- Importance:
 - Variety of skills; helps organization to improve & increase the skills of employee.
 - Improves earning capacity: employee learns many different roles of the job.
 - Wide range of job roles: allow for lateral movements within the job.
 - However, can be difficult to implement

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Example: Job Rotation

• Job Rotation

- Allows for scheduling flexibility if workers can perform multiple jobs
- Increased worker satisfaction with increased variety
- Reduction in CTD's with job rotation is not well documented, however anecdotal evidence supports it



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Benefits

- Job rotation schedules including jobs of low MSD risk may be helpful in achieving an equal level of risk exposure between workers
- Reduces the duration of exposure to MSD hazards
- Can create variation in physical demands and recovery time for different body areas
- Reduces human error and improves quality
- Increases flexibility to account for staffing changes, turnover and absenteeism
- Positive impact on employee job satisfaction and encourages a team spirit among employees
- Reduces monotony and boredom
- Develops skills with training on more jobs
- Increases understanding of the overall process/workflow
- Increased productivity and quality

Challenges

- Workplace policies related to job bidding
- Operators not wanting to rotate
- Challenges because they have an "easier job" or not wanting to give up "their job"
- Supervisors and group leaders not wanting to "fight" employees who don't want to rotate
- Planning for absenteeism
- Planning for quality and efficiency changes
- Capturing what jobs are feasible to be rotated
- Not all jobs and departments are a good fit for job rotation
- Time and resources it takes to create an effective job rotation
- Developing an implementation plan that is optimal for productivity, quality and operator ability

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Overview of Administrative Controls

Benefits

- Flexibility
- Engagement
- Cost-effective
- Comprehensive
- Promotes Safety Culture

Limitations

- Reliance on Human Behavior
- Potentially High Maintenance
- May Not Eliminate the Hazard
- Inconsistency
- Temporary Solutions
- Complexity