Effective Ergonomics Teams

SAFETY DAY
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WITC – Rice Lake

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Lucy and Ethel Wrapping Chocolates Video
Agenda

• Discuss traditional approaches to ergonomics
• Propose an alternative team approach
• Share the training that I use with ergonomic teams
Why is This Important?

Losses by Cause

![Bar chart showing Total Frequency for the last 3 policy years for different causes: Lifting and Lowering (10), Repetitive Motion (8), Caught In/On/Under/Between Objects (4), Pushing or Pulling (4), Fall-Slip Trip on Same Level (2).]
1. Loss analysis show strains/sprains are the loss drivers
   - lifting/lowering, pushing/pulling, reaching/bending, RMI

2. Go into the plant to do ergonomic assessments

3. Develop solutions that are sent to maintenance and/or plant management

“It was a good idea... but it didn’t work because ________”
Ergonomic Assessment Barriers

• Let’s acknowledge some facts:

  ❖ Outside resources (Loss Control Consultant, ergonomist, health care professional) will never fully understand your operations

  ❖ There will almost always be problems implementing recommendations

  ❖ With some people... it only takes one problem and they completely reject ergonomic improvements
There Has to Be a Better Way!

• The following individuals often not included in process:
  – Operators
  – Plant managers/engineers
  – Maintenance
Ergonomics Teams – What are they?

- A separate group from a safety committee
- Meets regularly (i.e. every other month, quarterly)
- Entire purpose is PROCESS IMPROVEMENT
- Look at two jobs per meeting with following priorities:
  1. Employee injury
  2. Legitimate employee complaint
  3. Concern from team member
Ergonomics Teams – What are they?

<table>
<thead>
<tr>
<th>Team Members</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>Owner of safety program</td>
<td>Safety Manager, HR</td>
</tr>
<tr>
<td>Employee*</td>
<td>Operator of machine, assembler</td>
</tr>
<tr>
<td>Process oriented person</td>
<td>Industrial engineer, member of maintenance</td>
</tr>
<tr>
<td>Production decision maker</td>
<td>Plant Manager, supervisor*</td>
</tr>
<tr>
<td>Outside safety resource</td>
<td>UH Loss Control Consultant</td>
</tr>
</tbody>
</table>

* The employee (and supervisor) should change for each meeting depending on the job reviewed
Benefits of an Ergonomics Team

- Reduced costs
- Improves productivity
- Improves quality
- Encourages employee engagement
- Creates better safety culture
- Safety improvements
Reduced Costs

- Musculoskeletal Disorders (MSDs) account for 34% of all lost workday injuries and illnesses
- Work-related MSD’s account for $20 billion in direct costs each year and $100 billion in indirect costs
- Employers report nearly 600,000 MSD’s requiring time away from work every year
- On average, it takes workers 28 days to recover from carpal tunnel
Improves Productivity

• If you design the job to allow for good posture, less exertion, fewer motions and better heights and reaches, the worker becomes more efficient.
Improves Quality

- Poor ergonomics leads to frustrated and fatigued workers
- Poor ergonomics can lead to workers taking short cuts, thus risking injury
- Taking short cuts may lead to employees not assembling the product correctly
- Fewer quality defects in product
Encourages Employee Engagement

- Employees are proud of their work and put forth their best effort
- Turnover decreases
- Reduces absenteeism
- Employees feel empowered to improve a process or procedure
- Increases overall morale
Creates a Better Safety Culture

• Shows commitment to safety and health
• Shows care and concern for a healthy workforce
Ergonomics Teams – How to Implement?

**Step 1**
- Develop a list of high risk jobs in the plant

**Step 2**
- Prioritize based on risk, past injuries, employee concern etc.

**Step 3**
- Take photos and video of the high risk job

**Step 4**
- Develop an Ergonomic Team with 3-5 key people

**Step 5**
- Provide training on the basics of industrial ergonomics

**Step 6**
- Team to review videos of two jobs per meeting – discuss risk factors and possible solutions
What is the Definition of Ergonomics?

• Ergonomics is the science of designing and matching physical and psychological demands of workplace to the capabilities and limitations of the worker

• In plain English:
  – designing the job to fit the worker, not the worker to fit the job
Ergonomic Risk Factors

• Core risk factors
  – Excessive force (e.g., carrying or lifting heavy loads)
  – High repetition (e.g., frequent reaching, lifting, carrying)
  – Awkward postures (e.g., bending, twisting)
  – Pressure points (e.g., grasping loads, leaning against parts or surfaces that are hard or have sharp edges)
  – Static postures (e.g., maintaining a fixed position for a long time)
Examples of musculoskeletal disorders (MSDs)

- Carpal tunnel syndrome
- Tendonitis
- Rotator cuff injuries (a shoulder problem)
- Epicondylitis (an elbow problem)
- Trigger finger
- Muscle strains and low back injuries
Excessive Force

- Amount of pressure to accomplish a task
- Affects other risk factors such as postures
High Repetition

• The number of times a task is conducted over a specific duration of time
• Ranges from idle hands, to constantly moving
Awkward Postures

- Arms extended
- Hand height below knuckle height
- Hand height above shoulder level
- Twisting
- Handling bulky objects
Other Risk Factors

• Contact points/compression
• Temperature extremes
• Vibrations
Symptoms of MSD’s

- Numbness or tingling
- Swelling
- Loss of strength
- Decreased range of motion
- Pain/tenderness
- Decreased grip strength
How do you determine which jobs to target?

- Jobs with the highest injury or illness rates
- Jobs with the potential to cause severe or disabling injuries or illness
- Jobs that are new to your operation or have undergone changes in processes and procedures
- Jobs complex enough to require written instructions
Evaluating Jobs: Useful Tips

- Complete evaluation by direct observation or videotaping
- Consider observing more than one employee doing a specific job task
- Consider observing more than one shift
- Observe a worker actually doing the job, not just describing job
What Do We Do In UH Loss Control?

1. Review WC loss trends
2. Identify risk factors by reviewing jobs
3. Develop solutions to eliminate or minimize risk factors
   - Focus on what is within your control
   - Do not create additional hazards
4. Assign action items and follow up
Develop Solutions

Hierarchy of Controls

- **Elimination**: Physically remove the hazard
- **Substitution**: Replace the hazard
- **Engineering Controls**: Isolate people from the hazard
- **Administrative Controls**: Change the way people work
- **PPE**: Protect the worker with Personal Protective Equipment
Elimination

Ask the following question... ”Why do we do it this way?”
Elimination

- Do we have to manually handle this material at all?
- Can we use a forklift or other lifting device?
- Are conveyors possible?
- Can we change something earlier in our process to eliminate this?
- Can we reduce the number of times we handle it?
Elimination
Engineering

• Set workstation to accommodate most employees?
• “Dummy up” the material? (Use of Pallets)
• Are there products that can assist with lifting?
• How can we use gravity?

Stack pallets to create a higher work surface.
Engineering

Table with a turntable inset

Turntable on a cart
Use mobile scissors lifts.

Use stationary scissors lift.
Provide variable-height work surfaces.
Store heavier or bulkier containers so that they can be handled within your power zone where you have the greatest strength and most comfort.
Administrative

- Can we require “team lifts”?  
- Are we doing workplace stretching?  
- Is job rotation an option?
Training and PPE

• Training
  – Do you know how to lift safely?
  – Training should focus on proper procedures
  – Should emphasize why it is important

• Personal Protective Equipment
  – Back belts = NO!
Video Review with Ergonomics Team

1. Be prepared with your own ideas

2. Play the best video or videos that you have

3. Ask group to identify risk factors observed
Facilitate discussion on possible solutions:

- Don’t tell them what to do
- First ask specific, open-ended questions:
  - “Is there any way we could eliminate this lift?”
  - “How could we reduce the reach distance?”
- There may be awkward silence
- You may need to propose your ideas
  - It’s ok to propose ideas that are not likely to work
  - Keep your best ideas in your back pocket
Ergonomics Teams — Why They Are Successful

• They include participation from people that:
  – Know the variables with the job
  – Have authority to change the job

• Change in setting creates environment for good dialogue
  – < 6 people
  – One idea tends to lead to another idea

• They take immediate ownership when it is their idea
Ergonomics Teams – Making Life Easier

- Easier way to make positive change
- Greater ownership of ergo changes
- Improved safety culture
- More ideas brought to your attention
- Increased likelihood of employee involvement
- Better solutions (simple and cost effective)
- Tremendous job satisfaction when they “get it”
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Summary

• Every company with strains/sprains should have an Ergo Team
• Must have the full support of management
• A basic process improvement approach leads to simple, effective solutions and tremendous job satisfaction

It is amazing what you can accomplish if you do not care who gets the credit.

Harry S. Truman
Resources

- CDC - Ergonomic Guidelines for Manual Material Handling

- OSHA – Evaluations Tools

- NIOSH - Lifting Equation
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