The Economics of Ergonomics

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"In this webinar, you will learn how to maximize the value of your ergonomics initiatives while keeping costs under control. We will discuss practical strategies and real-world examples to help you get the most out of every dollar you invest into workplace safety."

Webinar Discussion Points



Why an Ergonomic Program?

- Benefits
- Components
- Implementation costs
- Return on Investment (ROI)

Why do Ergonomic Programs fail?

Jack Links Ergonomic Program – Ergonomic Team to the floor.

Why an Ergonomic Program?



No one wants their employees hurting!

Overexertion injuries continue to be the costliest of occupational injuries.

Liberty Mutual's 2023 Workplace Safety Index indicates that overexertion has been the leading cause of injuries for five years, and in 2023 alone cost businesses \$12.84 billion.

Economic Benefits of Ergonomics:



Reduced Costs: Ergonomic interventions can lead to cost savings for businesses, including:

- Lower healthcare costs
- Reduced absenteeism
- Increased productivity
- Improved quality

Improved Employee Morale and Retention

Implementation Costs



- 1. Training for the core members/champions of the ergonomic program.
 - Establish specific goals of the program and ensure the core members are comfortable with the program and process.
 - Typically requires the cost of an experienced ergonomic subject matter expert.
- 2. Hourly wage cost of incumbent workers/supervisors when attending training.
 - Time they are off the floor and focused on ergonomic tasks.
- 3. Ergonomic Risk Assessment tools/equipment.
 - Force Gauge, Scale, Measuring Tape
- 4. Cost of software used to assist in risk assessment
 - i.e. TuMeke or Inseer.

Components



Ergonomic Team

Members

- Incumbent workers and supervisors
- Safety and medical representatives
- Ergonomic Subject Matter Expert (as a resource)
- Others as needed maintenance, operations, engineers.

Purpose

- Review job/tasks for ergonomic risk factors
- Training Teach team members basic components of ergonomic risk factors how to recognize them!
 - Ergonomic Tools NIOSH, RULA, REBA
- ID Potential Risk factors when there is an implementation of new equipment
- Establish effective job rotation
- Ergonomic audits/Gemba walks

Training

- Management to appreciate the purpose and process
- Supervisors/Leads to appreciate the purpose and process
- Best practice training; coaching

What is the Return on Investment?







Return on Investment - ROI

Effectiveness of solutions that:

- Eliminate hazard (e.g., lift equipment, semi-automation) 70% effective.
- Reduce level of exposure (e.g., adjustable workstations, reduced weight of lift) 40% effective.
- Reduce time of exposure (e.g., job rotation) 15% effective.
- Rely on employee behavior (e.g., training only, team lifting) 10% effective.

Productivity benefits:

- Workers are not 100% productive, and may be only 85% productive or less under nonoptimal work conditions.
- Ergonomics solutions can help to regain some of the lost 15% productivity by improving work conditions and increasing efficiency.
- High productivity increase -10%, medium =5%, low =2.5%.
- Value of productivity equal to annual cost of worker salaries, multiplied by percentage increase in productivity.

Oxenburgh, M. (1991). *Increasing productivity and profit through health and safety.* Australia: CCH International.



Return on Investment - Calculators





Measuring the ROI, cont.

Decreased Risk Score after ergonomic improvements

- Decreased MSD work related incidents/complaints/reportables
- Decreased MSD OSHA recordables (per OSHA Log)
 - Decreased DART's
 - Decreased lost time

Comparison of OSHA log before and after ergonomic intervention



Why do ergonomic teams fail?

1. Insufficient Management Support

- Lack of a clear mission
- Purpose/process is not well presented or understood
- 2. Physical Demands of the job are not clearly established therefore some risks are unknown.

3. No clear quantitative risk determination

- What is a risk versus a complaint?
- Proper ergonomic tool training

4. Not understanding the employee population

- i.e. Shorter work populations
- Language barrier



Jack Links – Ergo Team to the Floor!





How Did We Get To An Ergonomic Program?

- It evolved with our early intervention program Onsite Physical Therapist.
- Revival of the defunct plant ergo team
- Education of the ergo team
- Worked with the area managers/leads to get TMs off the floor and to the meetings.

How Is It Going?



Jack Link's Expectations



- Ergo team is involved in new builds and equipment
- Ergo TMs bring ergo concerns from the floor to the meeting
- Investigate ergo concerns and ergo related injuries
- Pro-actively identify ergo risks

Functions of the Jack Links Ergonomic Teams

- Review new builds and equipment
- Participate with 2M management during new equipment/build set up
 - Example Chili build
- Use the TuMeke tool to continue assessing ergo risk
 - First official video and ergonomic intervention resulted a corrective action and ROI of ~44K



TuMeke Motion Capture Analysis – with risk assessment









After Ergonomic Intervention





Before and after ergonomic intervention.

















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