Employee Driven Ergonomics

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The way it is…

The Top Down Reactive Trap

- Management Driven Programs
- Focused Studies
- Solutions of Limited Scope
- Stop and Go Process
- Follow Up and Building on Learning Lacking


CAUTION
IF YOU THINK
OSHA IS A
SMALL TOWN
IN WISCONSIN
YOU'RE IN
TROUBLE
BRADY MS1134

The way it should be…

What's in the standards?

British and US Consensus Standards:

OHSAS 18001-2007 – "The organization shall establish, implement and maintain procedure(s) for:

a) The participation of workers by their:

- Appropriate involvement in hazard identification, risk assessments and development of controls…"

ANSI/AIHA Z10-2012 – "The organization shall establish aprocess to ensure effective participation in the OHSMS by its employees at all levels of the organization, including those working closest to the hazards…"

The Proactive Goal

- Employee SMEs
- Team Studies
- Solutions are Globalized
- Continuous Process
- Cumulative Learning

Participatory Ergonomics

- More than just "involving the operator" in the ergonomics effort.
- Employees from all levels communicate and work together effectively, driving the program.

Case Example

- Large manufacturing facility
- >800 full time employees
- Consumer healthcare products
- Reactionary approach

Case Example

- Formed ergo team
- SMEs trained and screen introduced
- All team members involved in problem solving
- Proactive approach

Ergo Observation Checklist

Ergonomics Observation Checklist

Date:		Dept:	
Company:		Task:	
Location:		Scored By:	

	A) High Force	Low	Moderate	High
1	Hand Grip Force			
2	Pinch Grip Force			
3	Push or Pull Force (1 Hand)			
4	Push or Pull Force (2 Hands)			
5	Carried or Lifted Loads - Primary	< 35 lbs.	35 - 50 lbs.	> 50 lbs.
6	Carried or Lifted Loads - Mod Primary	< 25 lbs.	25 - 30 lbs.	> 30 lbs.
7	Carried or Lifted Loads - Mod Secondary	< 15 lbs.	15 - 20 lbs.	> 20 lbs.
8	Downward Pulling Force (2 Hands)	< 45 lbs.	45 - 85 lbs.	> 85 lbs.
9	Pushing Downward with Fingers or Thumb			
10	Using Base of Palm to Pound	No		Yes
11	Concentrated Force applied to Small Skin Surface	No		Yes
	B) Awkward Postures	**Low**	**Moderate**	**High**
12	Wrist Bent Up, Down or to Either Side	< 50%	50 - 75%	> 75%
13	Palm Turned Face up or Face Down	< 50 %	50 - 75%	> 75%
14	Elbow Above Shoulder or Hand Behind Shoulder	No		Yes
15	Neck Bent Back, Forward, to the Side or Rotated	< 50%	50 - 75%	> 75%
16	Trunk Bent Back, Forward, to the Side or Rotated	< 50%	50 - 75%	> 75%
	C) Repetition/Vibration	**Low**	**Moderate**	**High**
17	Fingers	< 15,000	15K - 20K	> 20,000
18	Hands	< 5,000	5K - 6.5K	> 6,500
19	Elbows / Forearms	< 3,000	3K - 3.75K	> 3,750
20	Shoulders	< 700	700 - 900	> 900
21	Operation Hours of a Vibrating Tool	< 3	3 to 5	> 5

NOTE: This scorecard is for screening purposes and does not replace the EIA
All "moderate" and "high" risks must be addressed or evaluated further.

ERGONOMICS QUICK REFERENCE GUIDE

=test =observe

HIGH FORCE

To quickly estimate hand grip, pinch grip, single and double hand push/pull forces without measurement tools, perform the required task and estimate what percentage of your maximal exertion is required.

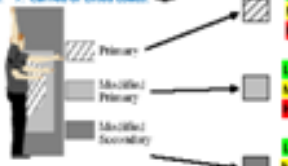
1. Hand Grip Force:
   Max Hand Grip Force : Estimated at 115 lbs for a male and 62 lbs for a female.
   Low risk: < 25% of max Mod risk: 25 - 50% of max High risk: > 50% of max

2. Pinch Grip Force:
   Max Pinch Grip Force : Estimated at 24 lbs for a male and 16 lbs for a female.
   Low risk: < 33% of max Mod risk: 33 - 50% of max High risk: > 50% of max

3. Push or Pull Force (1 Hand):
   Max Single Hand Pull Force : Estimated at 65 lbs for a male and 35 lbs for a female.
   Low risk: < 50% of max Mod risk: 50 – 67% of max High risk: > 67% of max

4. Push or Pull Force (2 Hands):
   Max Both Hand Pull Force : Estimated at 120 lbs for a male and 65 lbs for a female.
   Low risk: < 33% of max Mod risk: 33 - 50% of max High risk: > 50% of max

5. 6. 7. Carried or Lifted Loads:



Low risk: < 35 lbs
Mod risk: 35 - 50 lbs
High risk: > 50 lbs

Low risk: < 25 lbs
Mod risk: 25 - 30 lbs
High risk: > 30 lbs

Low risk: < 15 lbs
Mod risk: 15 - 20 lbs
High risk: > 20 lbs

8. Downward pulling force:
   Max downward pulling force is equal to an individual's weight in practical applications. Pull downward for the required task and estimate the percentage of unweighting. Multiply this percentage by your body weight.
   Low risk: < 45 lbs Mod risk: 45 - 85 lbs High risk: > 85 lbs

9. Pushing downward with fingers or thumb:
   Low risk: < 25% of max Mod risk: 25 - 50% of max High risk: > 50% of max

Changing Perceptions

- Initially, Training
  - Risk factor identification
  - Good lifting technique
  - Encouraging operator involvement
- Later Efforts
  - “Work Smart” posters
  - Development of ergo SMEs

Changing Attitudes

- Overcoming a helpless attitude
  - "They don't care"
  - "All they care about is production"
  - "They tried this before and never followed through"
  - "They never listen to us"
  - "We've complained about this line for years"
- Attitude change through sustainability
  - Consistent communication
  - Follow through

Changing Beliefs

- Beliefs are changed when employees are given an active role in the entire ergonomic process.

Risk Factor Identification

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Solution Brainstorming

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Risk Remediation

Changing Values

- Consistency
- Sharing Success
- Employee Involvement

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