FIND YOURS.

Fully Diagnose the Problem Before You Prescribe the Cure

Presented by: EASE Council
Presenters

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Today’s Objectives

1. Look beyond the obvious - see the core problem

2. Understand basic ergonomic issues:
   A - Production issues
   B - Production bottlenecks.

3. Evaluating, researching and understanding requires real effort, but the rewards are worth it
Jim Galante
Chairman
EASE Council
17 Member Companies
Over 50 Industries/technologies
Ergonomic Resources and Tools
Health and safety News
Case Studies
Consultation on applications
Checklists and Technical Support
White Papers
Speakers and Presentation Materials
Workshops and Outreach to the user
Products available from EASE members - solutions to problems

Ergonomic research services
Wheels
Casters
Jib Cranes
Full power stackers
Positioners (automatic and manual)
Manipulators
Balancers
Work station cranes
Pneumatic hoists
Electric hoists
Tilters (portable & fixed)
Manual turntables
Bridge cranes
Stainless steel gondolas
Work positioners
Below hook slings
Adjustable height work benches

Vacuum lifts (portable & fixed)
Vacuum positioners
Pallet invertor/rotators
Industrial platform trucks & carts
Modular cranes
Pillar & wall mounted cranes
Carton flow rack
Intelligent assist devices
Conveyance systems
Manual stackers
Transfer cars
Pillar mounted cranes
Personnel lifts
Work stations
Two wheel hand trucks
Powered & manual hand pallet trucks
Industrial magnets
Scissors lifts
Fully Diagnose the Problem....Before You Prescribe the Cure
Diagnosing the problem...

is a process.....

like peeling an onion

Peeling the layers of the onion often uncovers tears of relief.
Fully Diagnose the Problem

- Look for Known Productivity Bottlenecks
- Eliminate Waste Motion
- Apply Lean Manufacturing Techniques
Fully Diagnose the Problem

- Look for Known Productivity Bottlenecks
- Determine Full Scope of Product Handling
- Apply Lean Manufacturing Techniques
- Consider Worker Assist Device
- Eliminate Waste Motion
- Talk to Workers
Fully Diagnose the Problem

- Look for Known Productivity Bottlenecks
- Consider Administrative Controls
- Determine Full Scope of Productivity Handling
- Analyze All the Data
- Apply Lean Manufacturing Techniques
- Eliminate Waste
- Assist Device
- Talk to Workers
Fully Diagnose the Problem

- Look for Known Productivity Bottlenecks
- Talk to Workers
- Determine Full Scope of Productivity Impacting Handing
- Analyze All the Data
- Apply Lean Manufacturing Techniques
- Consider Administrative Controls
- Examine the Costs... Labor, Equipment, Liability
- Eliminate Waste Assist Device

FIND YOUR WOW
Fully Diagnose the Problem
Fully Diagnose the Problem
The Problems
Manual Material Handling

Highest cost of all WC payouts - low back injuries

Most WC claims – over 30% of all claims

Most lost time injuries….and the longest duration

Market pressure to do more with less

More obese workforce

Aging workforce

Shortage of workers – especially wanting to do MMH tasks
Rob Jordan
VP Engineering
Blickle U.S.A. Wheels & Casters Inc.
Manual loading and unloading of pallets continues to be one of the most common and most injury prone tasks.
The problem.....

....is bending, reaching and carrying the material

....and moving empty pallets
Typical pallet rack arrangements

- Tightly packed
- Limited access
- Awkward lifting
- Excessive bending
- Excessive reaching
Opening up the pick slots
Roller conveyor can be used in rack and shelving.

Greatly reducing the stress on storing or retrieving heavy cases and cartons.
Spread pallets out…….

...allowing access to all the goods on the pallet
How do Pallets get moved in or out of the work station?

Vacuum tube lifters can assist to stacking and unstacking pallets weighing 40 to 80 lbs.
Load positioners automatically hold the top layer of goods in the 30” to 40” ergonomic window.
Positioners now being adapted to Electric Walkies

Hi-Rise Order Pickers
As much as 40% of the time required unloading a pallet, can be spent walking around it!

Factoids

Ergonomists agree reaching out from the body is more strenuous on the lower back than bending over.
Manual Turntables

Loading and unloading with a manual pallet jack
Vacuum Tube Lifters

Handling heavier weights made easy

eliminate back bending – serious issues for anyone

.....and for the older worker or obese, a VERY serious issue
Vacuum lifters effectively handling

Cartons

Bags

Pails
Work station cranes

Free standing

ease of movement
Work Station Cranes

Custom designs to meet specific application demands
Stackers and portable lift tables are maneuverable in tight quarters and can eliminate the manual lifting.
Lightweight aluminum stackers are highly maneuverable…

Easy access to loads
Eliminate reaching

…and increase efficiency and productivity!
Powered 2 wheel hand trucks
Towables carts

Fork free plants
Towable carts in the work cell can be positioned...

..to the advantage of the operator
Dave Lippert
President
Hamilton Caster & Mfg.
Powered adjustable height benches

Properly placed supplies and tools eliminates walking around
Adjustable height benches

Allows for frequent changes in position i.e., sitting or standing

Good ergonomics
Manual loading and unloading of containers leads to incidents of upper & lower back injuries.
All shapes & sizes
The problem

Not being able to bend at the knees..

...and getting a good grip on the material
Spring loaded positioners to elevate the goods.

Speeds picking the parts and reduces the bending/reach issues.
High hinge tilters are ideal for gaining access to the bottom and back of containers.
Carts & Platform Trucks
Using the right one for the task helps the worker be more efficient.

Custom for unusual shapes.
Rule #1 – don’t overload a cart!
Wheel and bearing choice will have a huge impact on the rolling friction
#1 reason carts are hard to roll

Bad Floors
Max. push force

Starting it moving: 45 lbs
Keeping it moving: 20 lbs

Good traction (Coefficient of Friction: 0.6+)

Vertical handles 18-20” apart or horizontal handle at 37”

Load does not block line of sight

Max. load 500 lbs.
Lightweight items only

Max. speed
Walking pace 3 ft./sec (2 mph)

>14”

Sealed precision bearings or well-maintained roller bearings

Non-swivel

Swivel
Examples of good applications

Examples of poor applications
Copy available on back table
FIND YOUR WOW

Fully Diagnose the Problem

...Before You Prescribe the Cure
That's all folks

Questions
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