WELCOME!

Gaining Efficiency in Retail Stocking
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PH: 207-329-5555
Established 1945
Non-profit Trade Assoc.
$150 Billion Market
19 Industry Groups
Over 750 Members
24 ANSI Standards
Two Major Trade Shows

9 Member Companies
15 Industries/technologies
Ergonomic Resources and Tools
News
Case Studies
Checklists and Technical Support
White Papers
Speakers and Presentation Materials
Workshops and Outreach to the user
MISSION

To broadly promote the benefits of ergonomic assist systems and equipment together with the advantages derived from the use of this equipment in the workplace and to promote the safety and health of the work environments.
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<th>College-Industry Council on Material Handling Education</th>
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Material Handling Equipment Distributors Association

www.MHEDA.org
Free download

Ergonomic Guidelines for Manual Material Handling
Gaining Efficiency

in

Retail Stocking
Understanding the issues
Understanding the issues
Understanding the issues
Understanding the issues
Understanding the issues
Manual material handling

Understanding the issues
Understanding the issues of manual material handling.

.... the issues
Understanding the issues
There are no manual handling issues .... NOT!
Understanding the issues

What are the two largest issues effecting Workman’s Comp costs

Aging Workforce

Obesity
Understanding the issues

Aging Workforce

✓ In 1972, average age of a US worker was 28. Today it’s 46.
✓ The number of workers aged 45+ has doubled since 1950.
✓ According to the AARP, the number of people 55 years and older in the labor force – which stood at about 18.2 million in 2000 – is projected to rise to 25.2 million this year and nearly 32 million by 2025.

1. Source Ergonomics ASSE Feb 2009 Vol 2, No2 – article Ronald Porter, PT, CEAS, Director, Back School Atlanta, Enhanced Ergonomics: What Works with the Aging Workforce
Understanding the issues

Obesity

✓ The most obese workers file twice as many WC claims as healthy weight workers and have 13 more lost workdays.
✓ WC medical claims cost are 6.8 times higher for the most obese workers and indemnity costs are 11 times higher.
✓ The body parts most prone to injury are: back, lower extremities, wrist, and hands.
✓ The most common causes of these injuries were lifting, lowering, and slipping – a.k.a. manual material handling.

Understanding the issues

The shelves have grown in height ....

....and they are tightly packed
Understanding the issues

Case goods packaging has changed

...once the plastic is removed the bottom "flat" needs to be fully supported
Understanding the issues

Supporting the “flat” is awkward and leads to poor ergonomic …lack of efficiency …and product damage.
Let’s look at some solutions

…..remembering there is no magic bullet

…..there is no single solution that works for all situations

…..it is likely that more than one solution would be appropriate.
Case are opened and inventory is set on shelves .....this stock has to be rotated.
One solution not only solves the back problem, it eliminates the wasted motion and increases productivity.

Battery powered scissors lift
Even the important customer service function of loading the customer’s car exposes the employees to some huge H & S issues.
A solution could be an elevating four wheel cart that safely brings the load to the vehicle and reduces the bending to load it.
In this retail paint store 70 to 90 lb. pails need to be moved from pallet to mixer and shaker - then back to the pallet.
Where the problem is injuries.....

..... and lost time
This solution not only solves the lower back problem, it substantially enhances productivity.

Every pail must be shaken before it is given to the customer!
Vacuum lifters are highly efficient for handling pails. They can be easily adapted and work well in a small work areas.
Vacuum lifters are efficient and very useful in areas when sorting cartons or cases require multiple pick and place tasks.
Balancers can also be used to effectively handle containers for pick and place tasks.
Large inventories, in cramped quarters, which are constantly turning
Cases (40 to 50 lb. each) and pails (70 to 90 lb. each) need to be moved from pallets, stacked or re-stacked to rotate the inventory.
One solution is manually propelled power stackers. They are highly maneuverable in tight quarters and can eliminate the manual lifting.

These are inexpensive choices especially when compared to fork lifts.
Containers

Manual loading and unloading of wire baskets, containers and Gaylord's leads to a high incidence of lower back injuries.
Lifts that raise and tilt at the same time can work well in some applications.
There are spring loaded positioners elevates the goods in the container to speed picking the parts and eliminates the bending and back extension issues.
High hinge tilters are ideal for gaining access to the bottom and back of containers.
These spring loaded positioners can be adapted fitted into carts, hampers, wheeled tubs and gondolas.
Pallets

MANUAL LOADING AND UNLOADING OF PALLETS CONTINUES TO BE ONE OF THE MOST COMMON AND MOST INJURY PRONE TASKS IN INDUSTRY TODAY

Approximately 450 million new pallets produced each year in the USA. 1.4 billion (est'm) pallets are in use at any given time.
As much as 40% of the time required unloading a pallet, can be spent walking around it!
Here is a very typical problem
Back bending, back extension – serious issues and for the older worker or obese, a VERY serious issue
Load positioners automatically function holding the top layer of goods in the 30” to 40” window, greatly reducing the bending. The turntable eliminates having to walk around.
Load positioners can be made portable. This provides for flexibility on where they can be used on cramped back rooms or congested work areas.
Some load positioners use air bags instead of springs.
Vacuum lifters fitted to articulated arms allows extended reach.
Inexpensive stackers to transport pallet loads can also double as a positioner.
Auto-positioning display systems

- Can be loaded with full pallets
- True customer convenience
- Ideal promotional space
- Proven to increase sales
- Sustainable and reduces waste
These manual devices reduce carrying loads.
They come in all shapes and sizes and to gain the maximum benefit should be applied to the application.
These lightweight aluminum stackers are highly maneuverable...

....they provide easy access to loads

...and increase efficiency and productivity!
New specialty cart shows real promise in retail stocking

Adjustable height shelf
Works well with totes
Skid lifters

Manual and powered

Careful, can only be used with open bottom pallets or skids
Self leveling carts

Calibrated spring provides linear moment and it is adjustable
Self leveling Uboats

Calibrated spring provides linear moment

These can be retro-fitted to existing Uboats
Self leveling floats bring the bottom half of the load...

...into the correct operating range which eliminates bending and back extension
Some care should be used not to overload carts
The wheel choice can have a huge impact on the rolling friction of any cart, dolly or rack.
Roller conveyor can be used in rack and shelving to reduce the stress on storing or retrieving heavy units loads.
High density vertical storage systems speed order picking and put each item at the correct height.
Pallet rotators make quick work exchanging pallets.

Damaged product on the bottom of a pallet can be easily removed.
Walking and the effects on the body caused by the flooring

- Stress
- Fatigue
- Loss of productivity
- Injury and loss time
Summary of OSU Ergonomics
Testing special flooring materials

- Avg Order Picker Walks 10 Miles (21,000 steps) per 8 hr shift
- Walking on Concrete vs. composition flooring Adds 11.5 lbs of Body Weight to Avg Worker
- Walking on Bar Grate vs. composition flooring adds 16 lbs. of Body Weight to Avg Worker
This expandable conveyor is driven right into the truck.

The individual boxes and cartons are conveyed right to the worker.

Notice how the odd sizes and shapes are handled easily by a single piece of equipment.
There are no manual handling issues ....
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Questions?