Warehouse operations

ERGONOMIC SOLUTIONS AT A GLANCE

Description of issue
Most operations involve some form of warehousing. The handling of products in or out of a warehouse often involves repetitive, forceful and awkward handling postures that can contribute to cumulative injury.

Related injuries:
- Low back strain
- Shoulder strain
- Carpal tunnel syndrome (CTS)

Possible solutions

1. Partial case pick
   
   **Definition:** Selecting individual items from a box located on a pallet or in a flow rack.
   - Avoid storing items in deep boxes. These can cause frequent bending or awkward wrist and shoulder postures.
   - Avoid using deep shipping boxes. These can cause lifting above shoulder height or bending to reach bottom of box.
   - Use a traveling staircase to stand upon to access the backside of the flow rack.
   - Use a “safety knife” to cut out the box face for easy access.

2. Full case pick
   
   **Definition:** Selecting an entire box (i.e., case) from a full pallet.
   - Set a weight limit, no lifting over 50 lbs.
   - Position second tier of rack storage at 7 ft. to allow operator to stand erect when accessing floor level items.
   - Use a pick pole to reach for boxes along the back side of a pallet. Pull case to front of pallet before lifting them.
   - Rotate pallets - pull pallets from the rack, turn 180 degrees, and place the pallet back in the rack.
   - When possible, ship a full pallet of the same items to eliminate all manual materials handling.
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3. Pack-out station

Definition: Pack out items that were picked and prepare shipping documents for shipment.

- Position the work at a proper height. If packing different size boxes, provide a multi-level work surface to ensure proper posture.

- Carts should have well-maintained wheels.

- Use large diameter wheels made of a hard material to reduce the required push forces of carts.

- To minimize body twisting, design the packing station so that it is at a 60-degree angle with the “take away” conveyor.

- Educate employees to turn with their feet, keeping their body parallel to the packing station and conveyor.

- Don’t stack empty boxes or totes over chest height.

- Use a lift device to keep the palletizing of product between knuckle and shoulder height.

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