



EVIDENCE-BASED PRACTICES FOR IMPROVING INJURY REDUCTION PERFORMANCE

To accelerate improvement in workplace safety, KP requires that the following proven practices are in place across KP's hospitals in early 2010:

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Potential Hazard: Hospital health care workers (especially nursing assistants, who do a majority of the lifting in many facilities) may develop musculoskeletal injuries such as muscle and ligament strain and tears, joint and tendon inflammation, pinched nerves, herniated discs and others from constant lifting and reaching for patients during treatment procedures, transferring and repositioning of patients.

Effective Practices – What Works:

1. Minimize manual lifting of patients in all cases and eliminate lifting when possible. Use mechanical aids to reduce the need to lift patients. Examples include:

- **Mechanical Lift Equipment** to help lift patients who cannot support their own weight. Choose a lift that does not require manual pumping to avoid possible repetitive motion disorders to workers' arms or shoulders.
- **Slide Sheets.** The best device for boosting patients or for lateral transfers is one made of a parachute-like material with extended pull straps and handles that reduce friction. Second in rank are air-assisted devices.
- **Slide Boards.** A slick board used under patients to help reduce the need for lifting during transfer of patient from bed to chair, or chair to car. Patients are slid rather than lifted.
- **Devices such as shower chairs** that fit over the toilet, using this device can eliminate multiple transfers, saving health care workers multiple lifts. A patient can be moved to the shower chair, toileted, showered, and transferred back to the wheelchair.
- **Height adjustable electric beds** that have height controls to allow for easy transfers from bed height to wheelchair height. These beds can be kept low to the ground for patient safety and then raised up for interaction with staff. Avoid hand cranked beds, which can lead to wrist/shoulder strain or repetitive motion injuries.

Effective Practices – What Works (continued):

2. Ensure the use of proper patient lifting techniques using good body mechanics.

- Take time to stop and think (evaluate the lift).
- Provide sufficient staff to handle lifts (i.e., get help).
- Bend your knees, use arm and leg muscles, keep your back straight.
- Use smooth and steady lifting motions.
- Avoid lifting/reaching or working above shoulder height.
- Avoid awkward postures, such as twisting while lifting.
- Lift patient close to the body.

Sources for this and previous page:

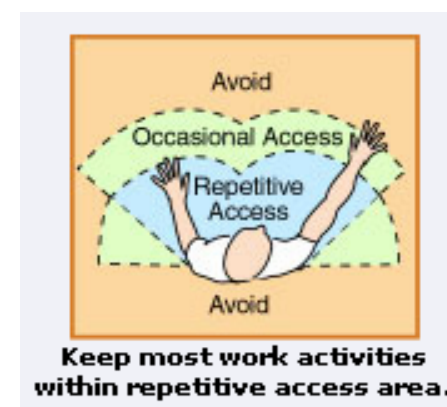
1. Handbook of Modern Hospital Safety, 2nd edition, edited by William Charney, 2010
2. “Ergonomics” OSHA Hospital e-Tool. Online. April 2008
3. “Physical Therapy” OSHA Hospital e-Tool Online. April 2008
4. Gaines, Matt. "Caring for Caregivers." *Job Safety & Health Quarterly* 13.2(2002, Winter): 25-27.
5. Safety and Health Case Study: Countryside Care Nursing Home, OSHA, Feb 2008
6. Ergonomic and Musculoskeletal Disorders, Safety and Health Topic, NIOSH.

Potential Hazard: Employees who use a computer (e.g., admittance area, data entry clerk, secretary) intensively for four hours or more per day, can develop musculoskeletal disorders (MSD) of the hand/arm, shoulder, neck, and back.

Effective Practices – What Works:

3. Adjust computer workstation and maintain adjustments

- Arrange materials and supplies in front of the body so they can be easily reached with the elbows in close to the torso.
- Provide adjustable, supportive padded chairs, that support the forearms, legs, and low back. Arm rests should allow the elbows to hang normally at the side of the body.
- Arrange Monitor so that the most commonly viewed area is slightly below, (about 20 degrees), horizontal eye level and can be seen without looking up, or leaning forward.
- Provide engineering controls to limit awkward positions, (e.g., provide head sets for employees to use when answering phones).
- Use a keyboard, which includes an adjustable mouse support that can be easily reached from a keying position. Employees should keep wrists straight while typing and use wrist pads to rest on when not typing.
- Promote regular stretch breaks.



Effective Practices – What Works (continued):

3 continued: Work with the body in a neutral position to reduce stress and strain

- **Hands, wrists, and forearms** are straight, in-line and roughly parallel to the floor.
- **Head** is level, or bent slightly forward, forward facing, and balanced. Generally it is in-line with the **torso**.
- **Shoulders** are relaxed and **upper arms** hang normally at the side of the body. **Elbows** stay in close to the body and are bent between 90 and 120 degrees.
- **Feet** are fully supported by the floor or a footrest may be used if the desk height is not adjustable.
- **Back** is fully supported with appropriate lumbar support when sitting vertical or leaning back slightly.
- **Thighs and hips** are supported by a well-padded seat and generally parallel to the floor.
- **Knees** are about the same height as the hips with the **feet** slightly forward.

Sources:

1. “Ergonomics” OSHA Hospital e-Tool. Online. April 2008
2. “Ergonomic Injuries-52 Ways to Prevent Them” Naval Safety Center, October 2006

Potential Hazard: Falls account for about 15 percent of all work-related injuries. These incidents are second only to lower back pain and lifting injuries in the number of workers' compensation claims filed. Employee exposure to wet floors or spills and clutter or changes in floor elevations can lead to slips/trips/falls and other possible injuries.

Effective Practices – What Works:

4. Use proper footwear

- The wearing of proper footwear can reduce the slips and falls by as much as 40-50 percent. Wear footwear that is appropriate for the conditions inside and outside. On smooth or wet surfaces wear slip resistant soles. Avoid wearing high heels. On snowy, icy and rainy days wear boots to work and change after arriving.
- Clean footwear of mud, snow, etc. when entering a building.
- Promote awareness of surroundings; everyone pays attention to where they are walking.

5. Keep floors clean and dry

- Ensure spills are reported and cleaned up immediately. Provide warning signs for wet floor areas.
- Where wet processes are used, maintain drainage and provide false floors, platforms, mats, or other dry standing places where practicable, or provide appropriate waterproof footwear.
- Use prudent housekeeping procedures such as cleaning only one side of a passageway at a time. Use no-skid waxes and surfaces coated with grit to create non-slip surfaces in slippery areas such as toilet and shower areas.

Effective Practices – What Works (continued):

6. Eliminate clutter or obstructed areas

- Keep aisles and passageways clear and in good repair, with no obstruction across or in aisles that could create a hazard. Provide plugs for equipment, so power cords need not run across pathways.
- Keep exits free from obstruction. Access to exits must remain clear of obstructions at all times.
- Re-lay or stretch carpets that bulge or have become bunched to prevent tripping hazards.
- Temporary electrical cords that cross aisles should be taped or anchored to the floor.
- Instruct workers to use the handrail on stairs, to avoid undue speed, and to maintain an unobstructed view of the stairs ahead of them even if that means requesting help to manage a bulky load.

Sources:

1. "Slips, Trips and Falls" OSHA Hospital e-Tool. Online. March 2008
2. "Guard Against Slips and Trips ..." National Safety Council. Online March 2006
3. "Preventing Falls in the Workplace" National Safety Council Online March 2006
4. "Safety Shorts: Preventing Slips, Trips and Falls" Maine Municipal Association, April 2005
5. "Fall Prevention Program," Zurich Risk Solutions Zurich Services Corporation 2007

Potential Hazard: Manual handling by lifting, lowering, filling, emptying or carrying of containers may expose workers to physical conditions (e.g., force, awkward postures, and repetitive motions) that can lead to injuries.

Effective Practices – What Works:

7. Avoid manually lifting or lowering loads to or from the floor.

- Store materials and/or products off the floor.
- Arrange materials to arrive on pallets, and keep materials on pallets during storage.
- Use mechanical devices or equipment to lift the load or lower the entire pallet of material, rather than lifting or lowering the material individually.
- Arrange to have material off-loaded directly onto storage shelves. Store only lightweight or infrequently lifted items on the floor.
- Use mechanical devices (e.g., lifts, hoists) whenever possible.
- Avoid designing jobs that require workers to lift or lower materials to or from floor level.
- Minimize the distances loads are lifted and lowered.
- Position pallet loads of materials at a height that allows workers to lift and lower within their power zone (i.e., above the knees, below the shoulders, and close to the body).

Source:

Ergonomic Guidelines for Manual Handling, NIOSH, 2007

Potential Hazard: Strains and sprains can occur when an employee is reaching and pushing heavy dietary, laundry or housekeeping carts.

Effective Practices – What Works:

8. Eliminate “reaching and pushing hazards” from moving heavy dietary, laundry, housekeeping or other carts by:

- Keeping carts, hampers, gurneys, or other carts well maintained to minimize the amount of force exerted while using these items.
- Using carts with large, low rolling resistance wheels. These can usually roll easily over mixed flooring as well as gaps between elevators and hallways.
- Keeping handles of devices to be pushed at waist to chest height.
- Using handles to move carts rather than the side of the cart to prevent the accidental smashing of hands and fingers.
- Keeping floors clean and well maintained.
- Pushing rather than pulling whenever possible.
- Removing from use all malfunctioning carts.
- Getting help with heavy or bulky loads.

Source:

1. “Ergonomics” OSHA Hospital e-Tool. Online. April 2008

Potential Hazard: Strains and sprains can occur when an employee is lifting trash, laundry or other kinds of bags.

Effective Practices – What Works:

9. Eliminate “reaching or lifting hazards” when lifting trash, laundry or other kinds of bags by:

- Using handling bags for laundry, garbage, and housekeeping when possible that have side openings to allow for easy disposal without reaching into and pulling bags up and out. The bags should be able to slide off the cart without lifting.
- Limiting the size and weight of these bags and provide handles to further decrease lifting hazards.
- Using garbage cans that have a frame vs. a solid can to prevent plastic bags from sticking to the inside of the can.
- Limit the size of the container to restrict the weight of the load the employee must lift and dump. Place receptacles in unobstructed and easy to reach places.
- Using spring-loaded platforms to help lift items such as laundry keeping work at a comfortable uniform level.

Source:

1. “Ergonomics” OSHA Hospital e-Tool. Online. April 2008

Potential Hazard: Ergonomic stressors when employees are performing cleaning tasks can result in strains and sprains to the housekeeping staff.

Effective Practices – What Works

10. Use safe housekeeping practices:

- Alternate leading hand.
- Avoid tight and static grip and use padded non-slip handles.
- Clean objects at waist level if possible, rather than bending over them.
- Use knee pads when kneeling.
- Use tools with extended handles, or use step stools or ladders to avoid or limit overhead reaching.
- When sweeping or dusting use flat head dusters and push with the leading edge; sweep all areas into one pile and pick up with a vacuum.
- Use light head mops, such as fiber mops.
- Frequently change mopping styles when mopping (e.g., push/pull, figure 8, and rocking side to side) to alternate stress on muscles.
- Be sure buckets, vacuums, and other cleaning tools have wheels or are on wheeled containers with functional brakes. Use carts to transport supplies rather than carrying.
- Alternate tasks or rotate employees through stressful tasks.
- Use buffers and vacuums that have lightweight construction and adjustable handle heights.
- Use spray bottles and equipment that have trigger arms rather than single finger triggers.

Source:

1. “Ergonomics” OSHA Hospital e-Tool. Online. April 2008