

CPH News and Views

A semi-monthly column on emerging topics related to healthy workplaces

Issue # 13: Can ergonomic stressors be reduced for nursing home workers?

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Risks associated with clinical work

Healthcare workers in many countries have a high risk for developing work-related injuries and illnesses, including low back disorders and other musculoskeletal disorders (MSDs), with a high number of days lost from work due to these injuries. Awkward body postures and heavy lifting are just two of the physical risks associated with clinical care work.

A recent guide published by the U.S. National Institute of Occupational Safety and Health (NIOSH), "Safe Lifting and Movement of Nursing Home Residents," specifically addressed the challenges of manual resident handling in nursing homes. Manually lifting, transferring, and repositioning nursing home residents have resulted in excess back injuries and other MSDs particularly among nursing assistants, who perform the majority of resident handling. As the number of elderly people requiring long term care increases, employment in nursing homes will increase, and without effective interventions injury rates may increase as well. The rapid trend in population obesity also increases the risk of musculoskeletal disorders among caregivers.

Resident handling equipment

Electronically Controlled Lifts include ceiling-mounted lifts and free-standing lifting equipment. Ceiling lifts eliminate most of the physical effort of manual resident handling. Free-standing equipment includes total body lifts and sit-stand lifts, which also eliminate much of the physical exposure associated with manual resident handling. Total body lifts are typically used to transfer residents who require total assistance. Sit-stand lifts are useful for residents with near-normal upper body strength. All lifts require slings, which are placed underneath the resident and attached to the lifting device.

Slide Boards are used primarily for seated transfers between two points such as a bed and a wheelchair or a wheelchair and a commode. Residents who can be transferred with slide boards usually have a higher level of mobility than those who require lifts.

Lateral Transfer Devices are placed underneath residents and used to turn them, slide them up and down in bed, reposition or move them from bed to bed or stretcher to bed without pulling the body, arms or legs. These may be as simple as nylon sheets with handles on either side.

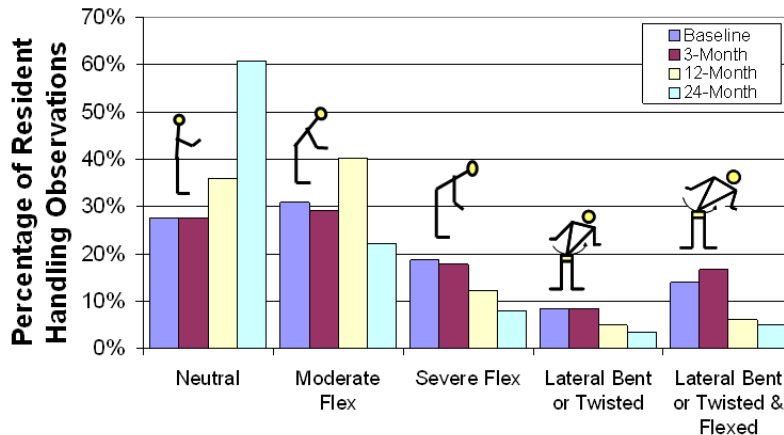
Gait Belts can be used when a resident is ambulatory yet still requires some assistance from a caregiver for walking. The belt is fastened around a resident's waist and held by the caregiver as the resident walks.

How does equipment help?

When nursing assistants have to lift residents manually, there are many conditions that may affect the difficulty of the task. Some residents' rooms are very small and cluttered. In order to reposition or transfer a resident, the nursing assistants' body is often in an awkward position, such as bent or twisted or with the arms raised above elbow height.

Lifting equipment can help reduce these types of exposures. Some results from the CPHNEW Pro-Care study show that body postures changed in the two-year period following a lifting equipment intervention. We observed nursing assistants over a 2-year time period; the graph below shows the improvements that occurred in trunk posture while resident handling.

Changes in Trunk Posture While Resident Handling* Among GNAs/CNAs



These changes in observed trunk postures may be related to the use of lifting devices rather than manual transferring and repositioning of residents. Some of the more severe postures still occur, perhaps while adjusting slings beneath residents. However, after two years, nursing assistants were spending almost twice as much time with a neutral back posture while resident handling.

Arm and leg postures also improved following implementation of the lifting program. The arms were closer to the body, which may be related to the reduction of manual repositions and transfers. Additionally, after two years, nursing assistants spent more time walking and less time standing still. The increase in walking may be related to increased use of handling equipment, because once a resident is raised using a lift they are transferred to a chair, commode, or bed. At this point, nursing assistants usually walk for a short time while pushing the lift. If manually transferring, nursing assistants are in a standing or squatting position.

In conclusion, resident handling equipment can help improve the body postures of nursing assistants while they are working. Neutral postures are better for the body than bending or twisting because there is less force on the muscles and joints. Decreased forces imply lower risk of injuries such as strains, sprains, and spinal disc disorders.

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Recommended reading:

Safe Lifting & Movement of Nursing Home Residents (Collins, Nelson, & Sublet, 2006):

<http://www.cdc.gov/niosh/docs/2006-117>

Preventing Back Injuries in Healthcare Settings (NIOSH Science Blog):

http://www.cdc.gov/niosh/blog/nsb092208_lifting.html



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