

Back Injury Prevention

Techniques For Reducing Back Injuries In the Healthcare Industry

Texas Department of Insurance
Division of Workers' Compensation
Safety Education and Training Programs

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Goal

This program provides information on proper patient handling techniques to help reduce the potential for back injuries to healthcare workers.

Objectives

The participant will learn about lifting devices and their uses, demonstrate safe lifting techniques for moving or repositioning patients, and will know what to do when a patient falls.

Introduction

Lifting and moving patients is a large part of the job performed by occupational/physical therapists, nurses, nursing aides, orderlies, and attendants. These workers suffer one of the highest back injury rates in the nation, second only to construction workers. The 2002 rate for injuries that caused employees to take days away from work, be placed on restricted duty or transferred to other jobs (DART rate) was 4.1 for hospitals. The DART rate for home healthcare professionals was 3.1 and for nursing and personal care facilities 7.6.¹

According to the California Compensation Insurance Fund, Workers' Compensation claims involving back strain can cost \$4,000. The average back injury case costs \$25,000. The more serious cases requiring surgery can cost \$85,000.

Based on the above figures, back injuries among Healthcare Professionals could total billions in workers' compensation claims. This will not be the final cost of these injuries. The indirect costs of these injuries can be at least four times the direct costs.

When lifting and moving patients, there are four factors which can lead to back injuries or aggravation of back injuries:

1. physical demands of work;
2. equipment;
3. work practices; and
4. personal factors.

The physical demands of work for healthcare workers include forceful exertions, awkward position or postures, and repetition.

The use of lifting devices/equipment (holding, pushing, or handling) can cause forceful exertions or awkward body postures.

Some work practice issues could include:

- lifting or moving patients without help (equipment or team lifting);
- using poor body mechanics; and
- performing unaccustomed physical work (standing for long periods, working more than one shift, covering for other employees).

Home and recreational activities can also lead to or aggravate back injuries (sports and home repair). Individuals who are not in good physical condition tend to be more susceptible to back injuries.

The most successful approach to prevent back injuries to healthcare professionals is to develop a plan to address the specific lifting and moving requirements of the workers and the types of equipment they use. The following elements should be included in the plan:

1. assessment of patients;
2. assist equipment and devices;
3. safe work practices;
4. lift teams; and
5. comprehensive training.

Lifting Equipment/Devices

Lifting aids are designed to reduce the biomechanical stress exerted on the worker while lifting and transporting a patient. Some common lifting aids are:

- draw or transfer sheets;
- slide boards;
- transfer belts or gait belts;
- trapeze bars; and
- mechanical lifts (total-body, stand-assist, compact).



figure 1

Draw or transfer sheets are heavy cotton bed linens which are placed under a patient (see figure 1). They are used to slide patients between horizontal surfaces or for repositioning in beds or chairs. Slippery sheets or large plastic bags can also be used in place of draw or transfer sheets.

¹ Bureau of Labor Statistics, 2002

Slide boards are thin, lightweight plastic boards that are bed length. The patient is slid or rolled onto the board and the board is then pushed or pulled to complete the transfer.

Gait belts are canvas belts without handles. They are used to support patients being moved. The belts are fastened securely around the patient's waist and the healthcare provider grips the belt. Transfer belts are used like the gait belts but transfer belts are wider and have padded handles on each side. This allows better control in case of a fall (see figure 2).



figure 2

A trapeze bar is a triangle-shaped device that is suspended above the bed. Patients who are able can use the trapeze bar to position themselves in bed, or to assist when being transferred (see figure 3). A trapeze bar should always be adjusted so that the patient's elbows are slightly bent while grasping the bar.



figure 3

There are various types of mechanical equipment. Total-body lifts are used to move and lift patients who are fully dependent. Stand-assist lifts are used for moving patients

to and from chairs, toilets, beds, or into and out of showers.

Compact lifts are a smaller version of total-body or stand-assist lifts. These lifts are convenient to use for home care (see figure 4). Ambulation lifts are used to support a patient during walking. The patient pushes the lift along as they walk. A strap across the back prevents the patient from falling backward.

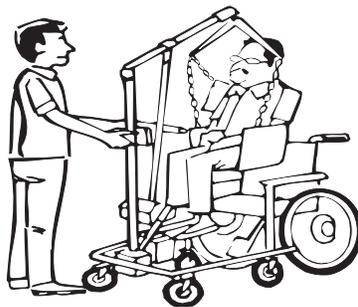


figure 4

Techniques

Healthcare workers must have comprehensive classroom, demonstrations, and hands-on training in safe lifting methods, as well as the proper use of any mechanical lifting devices used in the facility. When lifting or transferring a patient, remember to:

- use your leg muscles, not your back;
- bend your knees, not your waist;
- maintain a neutral back posture; and
- have someone help you whenever possible.

The following techniques will help ensure your back's safety, the safety of your patients, and should be part of safe work practices.

Turning Patient in Bed, With or Without a Draw Sheet

- position the bed at thigh level;
- lower the bed rail;
- place your knee on the bed;
- cross the patient's arms over the chest and cross the legs; and
- with one hand on the patient's shoulder and one on the hip, roll the patient toward you.

Reposition Patient in Bed Using

a Draw Sheet – Requires Two Workers

- position one worker on each side of the patient;
- adjust the bed height to waist level of the shortest worker;
- lay the bed flat;
- bend your knees and point one foot in the direction of the move;
- each worker grasps the draw sheet with both hands; and
- lift and move in unison.

Bed to Gurney Transfers

- get a partner to help if possible;
- place a slide board or plastic bag under the draw sheet to slide the patient more easily;
- position the bed and gurney next to each other and lock wheels in place;
- adjust bed and gurney to thigh level;
- get close to the patient by placing your knee on the gurney or by getting on the gurney; and
- slowly and gently slide the patient onto the gurney.

When transferring a patient by yourself using this method, alternate between sliding the legs and torso.



figure 5

Bed to Wheelchair Transfers

- use a transfer belt, if possible;
- adjust the bed to its lowest height;
- position the wheelchair at the head of the bed and lock the wheels;
- bend your knees and spread your feet a shoulder width apart;
- help the patient sit up on the edge of the bed by placing

one of your hands under the neck and shoulder blades, and the other under the knees;

- with both hands, grasp the patient around the waist or grasp the transfer belt;
- brace your knees against the patient's knees to help the patient stand up and lock their knees;
- rock the patient to a standing position (the patient can help by pushing down on the bed with their arms as you rock forward); and
- bend your knees and move your feet to turn and lower the patient into the chair (have the patient reach for the chair arms for support).

Wheelchair to Table or Bed Transfers

- adjust the table or bed height to the patient's hip level;
- position wheelchair close to the table or bed and lock wheels;
- bend your knees and wrap your arms around the patient's waist, or grasp the transfer belt with both hands;
- lift the patient to a standing position, (the patient can help by pushing down on the arms of the chair);
- sit the patient on the edge of the table or bed;
- help the patient lay down on the table or bed; and
- use a draw sheet to comfortably reposition the patient.

Assisting Falling Patients

- don't try to catch the patient or prevent the fall;
- try to slow the fall by lowering the patient to the floor (try to maintain a neutral body posture);
- protect the patient's head as much as possible as you help them gently to the floor; and
- get help to lift the patient from the floor.

Summary

The following points are important in preventing back injuries during patient transfers:

- communicate the plan of action to the patient and other workers to ensure that the transfer will be smooth and without sudden, unexpected moves;
- before beginning a transfer, remove any obstacles, and correctly position all required equipment and furniture, and lock wheels;
- maintain eye contact and communication with the patient;
- be alert for trouble signs;
- always request assistance before attempting a transfer; and

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E-mail resourcecenter@tdi.state.tx.us
or call 1-800-687-7080 for more information.

- record any transfer problems on the patient's chart to alert workers on other shifts; also note the need for special equipment and devices.

Using proper handling techniques will help protect the back of healthcare professionals and ensure the safety of the patients.

Review

1. When transferring a patient from a bed to a wheelchair, a mechanical lift should be used. T F
 2. When transferring a patient from a bed to a gurney, a slide board or plastic bag should be used. T F
 3. A draw sheet should be used when repositioning a patient in a bed. T F
 4. Try to catch the patient if they are falling. T F
 5. Healthcare workers do not need training to learn to use mechanical lifting devices. T F
1. T 2. T 3. T 4. F 5. F

Resources

The Texas Department of Insurance, Division of Workers' Compensation (TDI/DWC) Resource Center offers a workers' health and safety video tape library. Call (512) 804-4620 for more information or visit our web site at www.tdi.state.tx.us.

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Safety Violations Hotline
1-800-452-9595
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