

BACK INJURY RISK CONTROL FOR HEALTHCARE FACILITIES

Occupational back injuries are a major loss exposure in the healthcare industry. Serious back injuries can result when employees handle or move clients, or heavy equipment or supplies. In nursing homes, lifting, transferring and transporting clients are the most frequent sources of employee injuries. The purpose of this bulletin is to outline management programs and the risk control procedures applicable to client handling exposures as a part of the overall back injury risk control and claims management program.

PATIENT HANDLING

Patients in a healthcare facility vary widely in their ability to care for themselves. Nursing personnel routinely provide assistance to clients in their activities of daily living. Patients must often be moved to prevent skin disorders, muscular contractions, lung congestion, poor blood circulation and other ailments caused by immobility.

Patients often require assistance in moving about to accomplish routine activities, such as getting to the toilet or bath/shower. The care of each client must be carefully prescribed and monitored by medical personnel, including handling requirements. A client assessment should be conducted upon admission and included in the client care plan. A frequent assessment should be made of each client's ability to:

- Ambulate (walk about)
- Sit up in bed
- Turn from side to side
- Move from bed to a chair
- Move from bed to a wheelchair
- Move to the toilet
- Move to a shower or bathtub

A sample client assessment is presented in Exhibit #1.

WORKER BACK INJURIES: MAGNITUDE OF THE PROBLEM

Epidemiologic studies have consistently documented a high prevalence of back problems among nursing personnel. Nursing personnel rank second among all occupations filing worker's compensation claims for back injury. There maybe an even greater issue as one researcher found that only 34% of nurses with back pain actually filed an incident report. Further, she found that 12% of these nurses were contemplating leaving the profession because of this occupational hazard.

For more information please call us toll-free at (866) 262-0540 or visit us online at www.cna.com/riskcontrol

The information and suggestions presented in this document have been developed from sources believed to be reliable, but they should not be construed as legal advice. CNA accepts no legal responsibility for the correctness or completeness of this material or its application to specific factual situations. Consult competent legal counsel and/or other appropriate legal advisors before deciding how to proceed in any specific situation. This document is for illustrative purposes only and is not a contract. Only an insurance policy can provide actual terms, coverages, amounts, conditions and exclusions. CNA is a service mark registered with the United States Patent and Trademark Office. Copyright © 2005 Continental Casualty Company. All rights reserved.

TASKS ASSOCIATED WITH INJURY

Lifting: Lifting and transferring of clients have been perceived by workers to be the most frequent causes of back injury. In one study, 89% of claims filed by nursing personnel implicated a client handling task. Other studies report similar numbers. Overall, at least 50% of injuries among workers in healthcare facilities are associated with lifting or handling tasks. Sprains and strains are very common injury types, accounting for 85% of injuries.

Of the nursing personnel, nursing assistants, or NAs, in nursing homes and long term care facilities were found to be at the greatest risk for back problems. Toileting and bathing transfers have been ranked in the top six in a list of 16 client handling task categories for perceived physical stresses. Manually lifting clients on and off toilets and into and out of baths are highly stressful tasks since they require awkward body postures and introduce the possibility of slipping, and because they are usually performed in the confined space of a lavatory or bathroom.

Bending: Most bathtubs are mounted at or near the floor. The bathing process usually takes 15-20 minutes and involves excessive stooping, twisting, bending, and kneeling with outstretched arms. This results in significant postural stress independent of lifting or transferring tasks.

Bed making and other related tasks in which workers frequently participate also require repeated bending and outstretched arms, producing significant postural stresses. Such tasks, when combined with lifting or transferring tasks may significantly contribute to the probability of low back pain and injury.

TASKS CHARACTERISTICS THAT INFLUENCE RISK

Patient State: The client may be combative or cooperative. If a client is able to move or shift suddenly during a lift or transfer, while the worker is exerting significant force, the risk of injury to the worker can be substantially increased.

Frequency: The number of transfers or handling tasks performed by each worker in some given unit of time is a possible predictor of risk to the worker for back or other injury. The more frequent the handling, the greater the risk.

Equipment: The use of lifting aids or devices can reduce back injury risks, or may contribute to risks if used inappropriately. From the findings of Garg and Owens (1991), the type of device used appears to have a significant effect on back injury risks. The "Hoyer" lift, probably the most common lifting aid found in healthcare settings, has not been found to be particularly secure or safe for either workers or clients. Both the "Hoyer" and "Trans-Aid" devices were found to be as stressful to workers as manual transfer methods. Better results are obtained by using an "Ambulift" device, which is safer for workers and was rated as more secure and stable by clients. However, even the best mechanical device will not often be used because of space constraints, access, availability, or other hindrances. If a mechanical device is to be used, a good choice among possible devices can reduce the back injury risk to workers. Since comparative safety information on such devices has only recently become available, the likely criterion upon which past purchasing decisions have been based has been cost.

For more information please call us toll-free at (866) 262-0540 or visit us online at www.cna.com/riskcontrol

The information and suggestions presented in this document have been developed from sources believed to be reliable, but they should not be construed as legal advice. CNA accepts no legal responsibility for the correctness or completeness of this material or its application to specific factual situations. Consult competent legal counsel and/or other appropriate legal advisors before deciding how to proceed in any specific situation. This document is for illustrative purposes only and is not a contract. Only an insurance policy can provide actual terms, coverages, amounts, conditions and exclusions. CNA is a service mark registered with the United States Patent and Trademark Office. Copyright © 2005 Continental Casualty Company. All rights reserved.

Other equipment considerations include beds or chairs/shower chairs to which clients are moved. Beds can be vertically adjustable, allowing the worker to select a height that corresponds to a less stressful posture. For client care, a sling bed can be added to the vertically adjustable bed to support the client during bathing, servicing bedpans, or changing bandages (see illustration #1). Chairs and shower chairs can offer collapsible arm-rests to allow a client to be placed sideward into the chair without the need of lifting the client up and over the arm-rest (see illustration #3). The use of shower chairs eliminates the need for an additional transfer at toileting, since the shower chair can be used for both showering and toileting.

The available and utilized equipment or furniture define much of the ergonomics of moving clients. Once in place, these items are permanent fixtures which can help reduce back injury risks indefinitely, assuming they are used correctly, and are properly maintained. Conversely, poor choice of equipment and furniture often builds in back injury risks which can remain indefinitely. For this reason, the appropriate selection of assistive devices (e.g., Ambulift, Arjo, Hoyer) and client accessories (e.g., shower chairs) should be the highest priority for controlling back injury risks.

Transfer Procedure: The specific procedure used to transfer clients is a major factor in determining risk level. The procedure of greatest risk is manual lifting of clients. Less risky procedures include client transfer aided by walking belts or gait belts (see illustration #4), in which the client's weight is largely supported by the floor, bed, chair or other items. Walking belts or gait belts can be used in a pulling action, or can act as the handles in a lifting action. The two-person walking belt used with a pulling technique has been found to offer the least risk of injury to workers of all techniques examined. Use of a gait belt with two workers also represents a reasonable alternative transfer method.

The Worker: Workers' individual characteristics such as strength, size, or previous injuries can influence susceptibility to back or other injury. However, no clear pattern is available for screening and placement of otherwise healthy workers since the task variables (e.g., load size, weight, height, destination) will change with each client handled and with each circumstance. Since the variables cannot generally be defined in advance, a specific statement of job requirements is not possible, although one might attempt to define ranges of values. At present, acceptable screening and placement techniques do not appear to be feasible for determining which workers are susceptible to injury. The Americans with Disabilities Act (ADA) mandates that any such effort must be related directly to the "essential" requirements of the job, which in the case of client handling, are difficult to accurately estimate in advance.

In addition, if the most appropriate and capable workers could be selected in advance; there are other considerations which might produce resistance to such an effort. Female clients will often insist on being handled only by female nurses or nurse's aids, while the most capable worker for handling a client, in terms of strength and size, may be a male employee.

Transfer Location: Transferring the client to a shower chair in their room rather than in the lavatory allows a less restricted space for the transfer, and is strongly recommended.

For more information please call us toll-free at (866) 262-0540 or visit us online at www.cna.com/riskcontrol

The information and suggestions presented in this document have been developed from sources believed to be reliable, but they should not be construed as legal advice. CNA accepts no legal responsibility for the correctness or completeness of this material or its application to specific factual situations. Consult competent legal counsel and/or other appropriate legal advisors before deciding how to proceed in any specific situation. This document is for illustrative purposes only and is not a contract. Only an insurance policy can provide actual terms, coverages, amounts, conditions and exclusions. CNA is a service mark registered with the United States Patent and Trademark Office. Copyright © 2005 Continental Casualty Company. All rights reserved.

MINIMIZING THE RISK

From an ergonomics viewpoint, the first line of defense against a hazardous task is to eliminate the task, usually by allocating the task to a machine (automation). As mentioned above, some transfers can be eliminated by use of available equipment, such as shower chairs. However, complete elimination of client transfers/handling through automation is not a practical option at this time. The goal of eliminating the handling requirement for nurses and nurses' aides may be accomplished by allocating the transfer/handling tasks to workers other than nurses or nurses' aides such as designated lifting teams.

Lifting teams can be carefully selected based on strength, size, and lack of previous injury. Such a group can be trained in client handling, use of patient handling equipment, and utilized for all client transfers at a given facility. The members of such teams are selected based on strength or ability, and are specially trained. The vast majority of transfers can be handled by a two-person team. The teams will generally make rounds during the day, when most transfers occur, and should also be on call for any unplanned transfer needs.

The presumption is that the lifting team members are at a lesser risk for injury than nurses or other personnel, due to careful selection, training, and skills.

Early reports indicate impressive successes using lifting teams, reporting up to 95% reductions in back injury losses. Teams may utilize mechanical aids during lifting, incorporating the secondary line of defense against such injuries: mechanization. Therefore, proper selection of equipment and furniture remains vital to injury reduction whether lifting teams are utilized or not.

The lifting team approach appears to offer a potential for dramatic reductions in losses among nursing personnel. However, lifting team members remain at some risk for injury. Adequate worksite ergonomics, proper team member selection, thorough training, and periodic monitoring of the lifting team program are all necessary to increase the probability of success.

SAFETY MANAGEMENT PROGRAM

Workplace controls and procedures must be supported by effective management controls. The administrator must commit the necessary resources for an effective program, including:

Adequate and Recommended Assistive Devices/Mechanical Equipment: Specific assistive devices and equipment should be selected per client based on the client's individual handling needs. However, an appropriate selection of equipment must be available to accommodate the range of needs per specific facility. Ambulift, Arjo devices and two-person walking belts or gait belts should be available in sufficient number to accommodate known transfer frequencies.

For more information please call us toll-free at (866) 262-0540 or visit us online at www.cna.com/riskcontrol

The information and suggestions presented in this document have been developed from sources believed to be reliable, but they should not be construed as legal advice. CNA accepts no legal responsibility for the correctness or completeness of this material or its application to specific factual situations. Consult competent legal counsel and/or other appropriate legal advisors before deciding how to proceed in any specific situation. This document is for illustrative purposes only and is not a contract. Only an insurance policy can provide actual terms, coverages, amounts, conditions and exclusions. CNA is a service mark registered with the United States Patent and Trademark Office. Copyright © 2005 Continental Casualty Company. All rights reserved.

- Adequate Staffing and Supervision: Understaffing problems can seriously increase the frequency of client transfers per worker, a known risk factor for back injury. Both temporary and chronic understaffing will increase the risk for back injuries to workers.
- Employee Selection: The ADA will allow medical examinations only after an offer of employment has been made. Such examinations might look for existing back injury or trauma, such as a herniated disc. Also, worker static strength may be used as selection criteria. The offer can be contingent on passing the test or examination, but any criteria used to select potential workers must be directly related to the essential functions of the job, and must be such that a reasonable accommodation to allow the worker to be hired would not cause "undue hardship" to the employer. "Reasonable accommodation" may include assistive devices such as listed above (e.g., Ambulift, walking belts, vertically adjustable beds).
- Training: An essential element of safe client transfer is proper procedure/technique. New employees must be trained in the proper use of equipment and assistive devices. Utilization of the proper patient handling equipment after training should be mandatory. Many existing workers will have formed habits of handling clients that may not be recommended. These techniques must be "unlearned" and replaced with recommended techniques, which depend upon the specific equipment and client population under consideration. Training should be reinforced periodically on a schedule that corresponds with handling frequency. Such training might be reinforced every two to three months.
- Documented Assessments of Each Patient: A client's specific handling requirements should be clearly defined in written form and posted in clear view at the patient's room. This should be updated as needed. Periodic reassessment of clients in long-term care facilities is essential for ensuring that appropriate handling/transferring methods are used.
- Accident/Injury Investigations: Proper recording of relevant information surrounding each injury will greatly enhance the usefulness of historical information.
- Job/Task Evaluations: A reasonably reliable and accurate method of identifying tasks which require further study is a job rating method, in which nurses or NAs rate jobs per body area in terms of the stresses they impose. Following this, a detailed review of identified tasks can be undertaken by trained ergonomists or safety specialists.
- Accident/Injury Analysis: Historical injury data is useful to help indicate possible causes of injury and to identify and develop effective corrective actions to control future injuries. The information can be used to discover recurring factors that may indicate the need for further investigation and review of existing procedures and equipment.

For more information please call us toll-free at (866) 262-0540 or visit us online at www.cna.com/riskcontrol

The information and suggestions presented in this document have been developed from sources believed to be reliable, but they should not be construed as legal advice. CNA accepts no legal responsibility for the correctness or completeness of this material or its application to specific factual situations. Consult competent legal counsel and/or other appropriate legal advisors before deciding how to proceed in any specific situation. This document is for illustrative purposes only and is not a contract. Only an insurance policy can provide actual terms, coverages, amounts, conditions and exclusions. CNA is a service mark registered with the United States Patent and Trademark Office. Copyright © 2005 Continental Casualty Company. All rights reserved.

- Designated Locations for Equipment: Patient handling equipment should be easily accessible for the all personnel responsible for patient handling and be positioned in an area that is convenient for its use (i.e., not in closets or laundry areas)
- Planned, Programmed and Audited Inspection: All equipment should be periodically inspected and maintained. A program for ensuring routine inspection and maintenance for all mechanical equipment can help reduce risks due to improperly functioning devices.
- Program Monitoring: A back injury risk control program should be routinely monitored and modified as needed.

Claims Management: Following an injury, secondary prevention (after the injury) through ergonomics can help return workers to the job sooner, and help to prevent injury recurrences. Following a back injury, the recovered worker is then four times more likely to have another back injury compared to a previously uninjured worker. Therefore, secondary prevention is essential to prevent future claims.

For claims encountered, the following listed aspects of claims management should be checked or applied:

- Prompt reporting and investigation of claims
- Prompt identification of potential serious claims
- Medical cost containment/control - appropriateness of medical treatment
- Provision of modified duty or alternate duty tasks to encourage and enable return to work
- Coordination among employer, insurer, and employee to promote recovery and return to work
- Loss mitigation techniques, including:
 - . structured settlements
 - . use of applicable second injury funds
 - . subrogation

For more information please call us toll-free at (866) 262-0540 or visit us online at www.cna.com/riskcontrol

The information and suggestions presented in this document have been developed from sources believed to be reliable, but they should not be construed as legal advice. CNA accepts no legal responsibility for the correctness or completeness of this material or its application to specific factual situations. Consult competent legal counsel and/or other appropriate legal advisors before deciding how to proceed in any specific situation. This document is for illustrative purposes only and is not a contract. Only an insurance policy can provide actual terms, coverages, amounts, conditions and exclusions. CNA is a service mark registered with the United States Patent and Trademark Office. Copyright © 2005 Continental Casualty Company. All rights reserved.

REFERENCES

Occupational Hazards: Nursing Service Personnel, Morgan, S. and Davis, R. article in Professional Safety, August 1989.

Reducing Risk for Back Pain in Nursing Personnel, Owen, B. and Garg, A. AAOHN Journal, Vol. 39, No. 1, 1991.

A Biomechanical and Ergonomic Evaluation of Patient Transferring Tasks: Wheelchair to Shower Chair and Shower Chair to Wheelchair, Garg, A., Owen, B., Beller, D., and Banaag, J., Ergonomics, Vol. 34, No. 4, 1991, Taylor & Francis, Philadelphia.

A Biomechanical and Ergonomic Evaluation of Patient Transferring Tasks: Bed to Wheelchair and Wheelchair to Bed, Garg, A., Owen, B., Beller, D., and Banaag, J., Ergonomics, Vol. 34, No. 3, 1991, Taylor & Francis, Philadelphia.

The Lifting Team, A Design Method to Reduce Lost Time Back Injury in nursing, Charney, W., Zimmerman, K., and Walara, E., American Association of Occupational Health Nurses Journal, Vol. 39, No. 5, May 1991.

An Ergonomic Survey of a Hospital Physical Therapy Department, Fenety, A. and Kumar, S., International Journal of Industrial Ergonomics, Vol. 9, No. 2, February 1992.

Four Methods for Identification of Most Back-Stressing Tasks Performed by Nursing Assistants in Nursing Homes, Owen, B., Garg, A. and Jensen, C., International Journal of Industrial Ergonomics, Vol. 9, No. 3, May 1992.

Back Injury Prevention Guide for Health Care Providers November 1997 CAL-OSHA Consultation Service

Patient Care Ergonomics Resource Guide; Safe Patient Handling and Movement developed by the Patient Safety Center of Inquiry (Tampa Fl, Veterans Health Administration Department of Defense October 2001

Spine Universe.com/displayarticle.php/article1509.html

For more information please call us toll-free at (866) 262-0540 or visit us online at www.cna.com/riskcontrol

The information and suggestions presented in this document have been developed from sources believed to be reliable, but they should not be construed as legal advice. CNA accepts no legal responsibility for the correctness or completeness of this material or its application to specific factual situations. Consult competent legal counsel and/or other appropriate legal advisors before deciding how to proceed in any specific situation. This document is for illustrative purposes only and is not a contract. Only an insurance policy can provide actual terms, coverages, amounts, conditions and exclusions. CNA is a service mark registered with the United States Patent and Trademark Office. Copyright © 2005 Continental Casualty Company. All rights reserved.

EXHIBIT I

SAMPLE PATIENT ASSESSMENT OUTLINE

The following general items should be initially evaluated for each client at intake, and periodically thereafter, as needed.

- | | |
|-----------------|--|
| - Height/weight | What is the client's height and weight? |
| - Condition | Should the client be gradually elevated in bed prior to transfer to avoid a sudden drop in blood pressure? |
| - Diagnosis | Does the client's diagnosis indicate any special handling considerations (e.g., brittle bones)? |
| - Mobility | Is the client able to move about easily, or are the ranges of motions of joints restricted? |
| - Cognition | Is the client able to perceive (see, hear) and to understand simple requests for cooperation? |
| - Motivation | Is the client in a psychological state that tends to promote cooperation, or is he/she combative or in restrictive pain? |
| - Communication | Is the client fully informed of his/her role during the transfer? |

Each site or facility should develop a client assessment protocol and assign accountability for client assessment procedures.

For more information please call us toll-free at (866) 262-0540 or visit us online at www.cna.com/riskcontrol

The information and suggestions presented in this document have been developed from sources believed to be reliable, but they should not be construed as legal advice. CNA accepts no legal responsibility for the correctness or completeness of this material or its application to specific factual situations. Consult competent legal counsel and/or other appropriate legal advisors before deciding how to proceed in any specific situation. This document is for illustrative purposes only and is not a contract. Only an insurance policy can provide actual terms, coverages, amounts, conditions and exclusions. CNA is a service mark registered with the United States Patent and Trademark Office. Copyright © 2005 Continental Casualty Company. All rights reserved.

EXHIBIT II

SAMPLE PATIENT TRANSFER PROCEDURE
TWO-PERSON WALKING BELT

POLICY

The policy of this agency regarding walking belts is: two-person walking belts will be available and used by all staff members having direct resident care responsibilities.

PURPOSE

This policy's purpose is to promote client and staff safety.

PROCEDURE

1. The belts will be signed out at the beginning of each shift and signed back in when returned at the end the shift.
2. The belts will be utilized for all client transfers/assists using two staff members in a pulling technique.
3. Belts should be used on any resident who becomes unsteady.
4. Staff members will wear belts around their waist when not in use for a resident.
5. The pulling technique consists of:
 - a) position the belt appropriately around the client
 - b) check that each of the two staff members have a firm grasp on the belt handles
 - c) instruct the client to cooperate, to use a gentle rocking motion in order to take advantage of momentum
 - d) with momentum, pull together while transferring the client - do not lift up on the belt, but ensure that the motion is pulling
6. Two-person walking belt assists should be used:
 - a) from bed to wheelchair
 - b) from wheelchair to bed
 - c) from bed to shower chair
 - d) from shower chair to bed
 - e) from shower chair to wheelchair
 - f) from wheelchair to shower chair

For more information please call us toll-free at (866) 262-0540 or visit us online at www.cna.com/riskcontrol

The information and suggestions presented in this document have been developed from sources believed to be reliable, but they should not be construed as legal advice. CNA accepts no legal responsibility for the correctness or completeness of this material or its application to specific factual situations. Consult competent legal counsel and/or other appropriate legal advisors before deciding how to proceed in any specific situation. This document is for illustrative purposes only and is not a contract. Only an insurance policy can provide actual terms, coverages, amounts, conditions and exclusions. CNA is a service mark registered with the United States Patent and Trademark Office. Copyright © 2005 Continental Casualty Company. All rights reserved.

EXHIBIT III

SAMPLE PATIENT TRANSFER PROCEDURES

PREPARATION

- A. *Before you attempt to transfer a client, be sure to evaluate the situation.* The most important factor involved is SAFETY, both the safety of the lifting team and that of your client. Never take a transfer lightly, give it your FULL attention from beginning to end. Always team up with a designated lifting team member; do not allow nurses or nurses' aides to substitute for a missing team member.
- B. Always take the time to explain to your client what you are planning to do and exactly how you expect the client to help. A client who is knowledgeable and calm about the transfer will make all the difference in the ease in which you are able to move him efficiently and safely. BE A GOOD LISTENER. Give your client an opportunity to express any fears. Discuss these fears with the client and offer reassurance before beginning the transfer.
- C. Always maintain good body mechanics.
- D. Always lock the wheelchair, geri-chair or stretcher before beginning any transfers.
- E. Following a transfer, ALWAYS praise your client.
Pride in accomplishment, however minimal, is valuable to a client. If you believe the client is capable of more involvement, gently state that you expect more of him/her the next time.

NOTE: This is a sample client transfer procedure.

Detailed procedures for specific types of transfers should be developed and TEAM MEMBERS properly trained and supervised.

For more information please call us toll-free at (866) 262-0540 or visit us online at www.cna.com/riskcontrol

The information and suggestions presented in this document have been developed from sources believed to be reliable, but they should not be construed as legal advice. CNA accepts no legal responsibility for the correctness or completeness of this material or its application to specific factual situations. Consult competent legal counsel and/or other appropriate legal advisors before deciding how to proceed in any specific situation. This document is for illustrative purposes only and is not a contract. Only an insurance policy can provide actual terms, coverages, amounts, conditions and exclusions. CNA is a service mark registered with the United States Patent and Trademark Office. Copyright © 2005 Continental Casualty Company. All rights reserved.