Solution Guide for Long-Term Care Facilities

2006

Workforce Safety & Insurance

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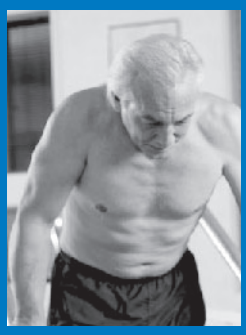

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WSI SOLUTION GUIDE for
LONG-TERM CARE FACILITES

Living longer can be a mixed blessing in today's society because sometimes chronically ill or frail individuals need assistance with the basic functions of living. Many dependent elderly become Long-Term care facility residents, where their physically demanding needs are both a challenge and a hazard to nursing aides and other caregivers.

Long-Term care facility workers are caring individuals and often place more emphasis on patient safety issues than their own. Such circumstances have led to Long-Term care facility employees sustaining frequent and often severe workplace injuries, according to the federal Bureau of Labor Statistics (BLS).

In 2005, Workforce Safety & Insurance (WSI) identified Long-Term Care Facilities as one of the most hazardous industries in North Dakota. This industry now represents one of our top 3 industries in our efforts to eliminate injuries, illnesses and their resulting costs.

This publication provides useful information on major safety factors relating to Long-Term Care Facilities and how to best maximize their impact on your company. We urge employers to consider the contents of this manual carefully and apply it thoroughly. Each chapter addresses a different area of concern and practical injury prevention measures. This manual, however, is not all encompassing, effective safety and health programs must be customized to meet the needs of each work place.

Introduction to the
Long-Term Care Industry

Long-Term Care facilities are the fastest-growing segment of the health-care industry. These facilities are also one of the fastest growing industries in the United States. Long-Term Care facility workers are caring individuals, and often place more emphasis on patient safety issues than their own. Such circumstances have led to employees sustaining frequent and often severe workplace injuries according to the federal Bureau of Labor Statistics (BLS). Today, nursing homes and personal care facilities employ approximately 1.8 million workers at 21,000 work sites. The nursing home industry injury incident rate is 13.9 injuries and illnesses per 100 full-time workers. This is more than double the incident rate of 6.1 for all industries.

There are many reasons for the high injury and illness rates in Long-Term Care facilities. According to the BLS:

- Nursing home workers suffer most injuries when handling residents (51.2 percent);
- Fifty-eight percent of the injuries were strains and sprains;
- Back injuries account for 42 percent of all injuries in Long-Term Care facilities (compared to 27 percent in the private sector);
- Nurses' aides and orderlies have the highest injury rates of any occupation, except for truck drivers and laborers.

North Dakota Long-Term Care Injury Statistics

The Long-Term Care industry in North Dakota for the calendar year 2004 had 927 claims filed at a cost of just over 1 million dollars.

Chart 1 –
Body Parts Injured – Long-Term Care 2004

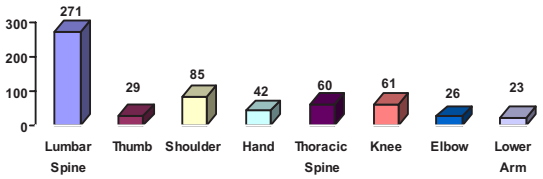

Chart 1: Indicates 29.2% of injuries that occurred in the Long-Term Care industry in North Dakota resulted in injury to the lower back. In North Dakota across all industries, the three most frequently injured body parts are: lower back, fingers and eyes.

Chart 2 -
Nature of Injuries – Long-Term Care 2004

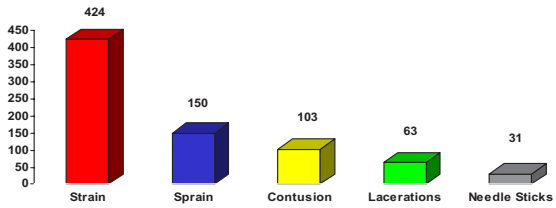

Chart 2: Indicates that 62% of the injuries in North Dakota Long-Term Care facilities in 2004 resulted in a sprain or strain. Strains and sprains accounted for 35% of the total claims and nearly 40% of the state's wage-loss claims overall.

Chart 3 - Cause of Injuries – Long-Term Care 2004

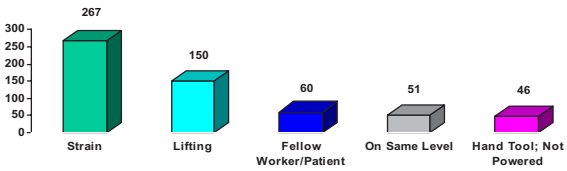

Chart 3: 51% of injuries in North Dakota Long-Term Care facilities were caused by straining, lifting or fellow worker/patient. While 44% of the state's wage-loss claims were caused by "strain or injury by", only 17% of all "strain or injury by" claims resulted in wage-loss.

This solution guide to long-term care facilities will provide you with information related to the hazards associated with long-term care facilities and solutions to assist you in reducing/eliminating the exposure to your employees on a daily basis.

Breaking the Cycle

As I strolled around the room, I listened to the many conversations related to the activity assigned, "What causes your injuries?" Administrators, risk management coordinators, and nursing personnel from area Long-Term Care facilities discussed this question and came up with a number of answers. Some of the answers were very common ones such as lifting residents, awkward postures, slips/trips/falls among others (these will be discussed in later chapters) but I was also hearing a different cause…statements were being made such as "we've always done it this way" or "it's easier doing it this way" or "it's faster to do it this way" and that's when it occurred to me…in order to make an impact within Long-Term Care facilities, we need to "break the cycle" or "change the culture" to be successful in reducing injuries!

Cultural change is about changing the way things are done within an organization so that, over time, people will change as well.

"Change has a considerable psychological impact on the human mind. To the fearful it is threatening because it means that things may get worse. To the hopeful it is encouraging because things may get better. To the confident it is inspiring because the challenge exists to make things better." - King Whitney, Jr.

The Culture-Based Safety Process

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All too often, it is assumed that poor workplace conditions are the direct cause of workplace injuries. That is the basic premise by which OSHA conducts its business. Although poor workplace conditions are a factor in the safety and health equation, there are other factors in the equation that exert a greater degree of influence; known as the culture-based safety process.

The culture-based safety process incorporates a simple philosophy towards safety. Every organization has four basic business elements that integrate with safety. As the business works to attain the most effective safety process, each business element must be strengthened and improved equally and simultaneously, and not at the expense of one over the others. These four business elements are the following:

1. Culture. The component requiring the greatest amount of time, leadership skill, and attention to people. Culture change, or improvement, means that the management team is engaged in ongoing benchmarking and measurement of leading indicators to produce a climate conducive to safety. This is also the component that offers a company the greatest opportunity for reduction in injuries. Guidelines for enhancing company culture:

- Industry-specific, safety-related leading indicators, such as waste, overtime, turnover and inspection results, are identified and integrated into the safety and health effort.
- Culture-based assessments are conducted internally, perception surveys are made, and safety behavior is measured.
- The organization has a safety mission statement signed by its President/CEO.
- Senior management identifies measurable company safety goals that integrate with business goals, specific safety activities are formally as signed to each level of management, and accountability is achieved through goal measurement and rewards.
- Employees participate in departmental company-wide safety-related projects and meetings.
- Safety is a topic that is integrated into the business process.

2. Human Resources. Hiring the right person to do the job is fundamental, but is often overlooked in the rush to get someone to do the work. This component offers great opportunity and, if poorly executed, tremendous volatility. Developing and following an appropriate hiring process is essential to a successful safety process. Just as important is the appropriate training and education of front-line supervisors in the areas of communication, understanding performance fundamentals, motivation, constructive feedback, discipline and documentation. The role of Human Resources regarding safety intervention:

- A formal, written hiring program must be in place that includes written applications, employee interviews and reference and background checks.
- The new employee orientation addresses industry-specific and regulatory safety requirements.
- A written disciplinary policy exists and enforcement and documentation are consistent.
- The development of job descriptions with functional capacity exams and where appropriate,

drug an alcohol screening.

- Objective safety goals are included in performance evaluations. A safety domain should be part of any performance evaluation at all levels and must include an assessment of the individual's commitment to and performance of the accident prevention needs of his/her position. Some factors that should be considered when evaluating an employee's safety performance:
- Adherence to defined safety practices.
- Incentives are contingent upon achievement of safety goals.
- Use of provided safety equipment.
- Reporting of unsafe acts, conditions, and equipment.
- Offering suggestions for solutions to safety problems.
- Planning of work to include checking safety of equipment and procedures before starting.
- Early reporting of illness or injury that may arise as a result of the job.
- Providing support to safety efforts.
- Some Special Requirements for Supervisors
- Provide careful orientation to new employees on safety requirements.
- Provide instruction to employees on safe practices for hazards unique to their job assignments.
- Clearly inform employees which conditions are safety infractions.
- Consistently and effectively enforce the safety program, including sanctions for employees who violate the safety program.
- Ensure that employees have supervised work experience before they are allowed to perform hazardous operations on their own.
- Ensure rapid correction of identified safety hazards through adoption of interim solutions and permanent corrections.
- Provide early return-to-work opportunities that assure compliance with medical limitations.
- The organization prepares internal trending reports.
- There is a dedicated human resource personnel on staff with collateral duties.
- A drug and alcohol policy that consists of pre-placement drug testing for all employees, and post-accident and/or random drug testing is given to employees involved in safety-sensitive operations.
- Leadership/management development training.
- Employee benefits for medical insurance, long-term and short-term disability programs and an Employee Assistance Program (EAP) is provided.

3. Medical Management. Essential for the cost management of injures and alleviating the human toll, this component is often misunderstood by managers and viewed, inappropriately, as the driving force of a safety program. It requires a formal plan, careful attention to detail, communication, and a dedicated person to manage the process. Although a medical management program is a major cost saver, it cannot supersede accident prevention. A formal medical management program will have the following elements:

- The organization has a written medical management process that identifies responsibilities, includes a purpose statement, and injury-reporting process, and a claims-reporting process. The program affirms an established relationship with the medical provider(s) and the availability of transitional, return to work on a case-by-case basis.
- The transitional, return-to-work program is in writing, asserting a functional capacity analyses.
- Non work-related health conditions (either temporary or permanent) are taken into consideration when assigning transitional work.
- The organization has access to an occupational health professional who proactively conducts work hardening.

4. Workplace Conditions (not to be confused with OSHA compliance). Assessing workplace hazards and making physical working conditions better are fundamental: they are the most basic form of safety improvement. OSHA standards and industry best practices often dictate the direction and amount of work to be done in this component. Often the easiest of the four business elements for managers to understand as requiring emphasis and improvement, all too often it inappropriately becomes the one and only, de facto route to measuring safety performance. Guidelines for workplace conditions include:

- Regulatory requirements for the industry are complied with and the required training is provided.
- Best practices/industry standards are proactively established.
- Safety assessments are routinely conducted.

- A joint management/employee committee reviews safety assessment data and analyses trends in safety performance.
- Job hazard analyses are conducted for all job classifications.
- Executive management reviews safety performance data.
- Ergonomic training is provided at three levels: 1) stretching programs; 2) work/job task training; and 3) Supervisor leadership in ergonomics.
- Accident investigations include an emphasis on ergonomics, and injury trends are documented.
- Job hazard analyses are conducted which result in recommended corrective actions, and ergonomic principles are integrated throughout the company.
- A joint management/employee committee investigates and documents all accidents and incidents, identifies the root causes, which indicate the engineering or behavioral issues that are involved, an implements solution.
- Supervisors are actively involved in the accident investigation process, and executive management reviews all reports of accidents.
- A comprehensive preventive maintenance program exists for all machinery and equipment.
- Full time safety and health professional are on staff.
- The organization obtains a certificate of insurance from subcontractors before they start the project
- Organization conducts pre-assignment safety meetings with subcontractors
- A formal program exists hat includes subcontractor orientation and training as well as work-site inspections by the contracting organization.

These four building blocks contain many components. Our assessment tools, training programs, and business consultation practices are designed with these components in mind. Accordingly, the principles and language set forth in the culture-based safety process are embodied in all documentation and correspondence generated by the safety consultants on the team. (1)

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Changing Behavior

Although technology has allowed American business to automate many jobs that formerly were performed by people, business still has to rely on people to use, run, or create the technology. Businesses succeed or fail largely through the success or failure of the efforts of the people who work for them. Therefore we can say as noted psychologist Aubrey Daniels has said, "Business is behavior!" When we talk about a person's job performance we are talking about a series of behaviors that combine to create an overall level of performance. When an employee is given a "performance appraisal" their supervisor is really making an assessment of how well their daily behaviors helped the organization, department or work unit achieve its business goals. An athlete's "performance" is dependent on how well he or she executes critical behaviors of the sport. Did the pitcher throw the ball in the strike zone? Did he throw the right type of pitches for a given batter to minimize the batter's chance of hitting them? Did he demonstrate the windup and delivery techniques that the pitching coach had been working with him on? Did he catch that line drive that came to him from home plate? On the job performance, is therefore, no different than sports performance. We could define performance then as a series of behaviors directed toward some goal.

Not until the mid-1970's did safety efforts begin to focus on behavior. Gene Earnest, Proctor & Gamble safety engineer, introduced behavioral safety at P&G. Until this point, traditional safety had emphasized unsafe conditions not unsafe behaviors. Today's literature suggests that unsafe behaviors are the cause of greater than 96 percent of workplace incidents.

Behavior safety is an excellent tool for collecting data on the quality of a company's safety management system. It is a scientific way to understand why people behave the way they do when it comes to safety. If properly applied, behavior based safety can be an effective next step towards creating a truly pro-active safety culture where loss prevention is a core value. It is however, conceptually easy to understand but often hard to implement and sustain. Behavior based safety is simply the process of focusing on decreasing unsafe behaviors and increasing safe behaviors.

Behavior safety is not:
- Only about observation and feedback.
- Concerned only about the behaviors of line employees.
- A substitution for traditional risk management techniques.
- About cheating and manipulating people and aversive control.
- A focus on incident rates without a focus on behavior.
- A process that does not need employee involvement.

When you look at the "at-risk" data and are deciding what types of solutions or interventions to make, always consider each of these three components:

1) Safety management system - How does the current system that is being used to manage safety in the workplace need to be changed to increase the amount of "safe behavior"?

2) What engineering controls can be implemented to reduce or eliminate some of the causes of the at-risk behavior that is being observed? If deviated wrists are considered to be "at-risk" posture, what engineering changes need to be made in the job? Redesign of the work zone? Changes in tools and equipment? Elevation of working surfaces or change in their physical orientation? Having a machine perform the tasks that were previously done by hand?

3) Behavioral interventions - You may provide all the proper tools, training, and adequate supervision but people may still be working in postures or positions that occasionally put themselves at risk. This may be conscious behavior or unconscious behavior. Look at other job aids that may increase safe behavior awareness. What sort of self-monitoring techniques can be employed? How can the necessary behavior changes be shaped and reinforced?

Effective solutions may often require a combination of all 3 approaches.

If the interventions that you choose - whether they are engineering and administrative control changes, safety management system changes, or behavioral interventions - are truly successful there should be an observable, measurable change in behavior - for the better!

The percent of safe behavior should be increasing for a particular job or department.

- The percent of at-risk behavior should be decreasing
- People should become more comfortable with reporting near misses or "near hits" as they learn that these occurred because of at-risk behavior and that they represent significant opportunities for improvement
- The number of observations should be increasing - the more observations you make, the more data you collect, and if it is good solid data, the greater the confidence you have in your overall assessment of the state of safety in the workplace, people should become more comfortable with making observation and more people should be willing to make them - either formally or informally. Ultimately the culture you want to create is one in which anyone feels comfortable identifying at-risk behavior and bringing it to the forefront so that it can be dealt with in a non-judgmental, proactive manner.
- Accident frequency and severity rates should be decreasing as the percent of safe behavior increases.
- People should become increasingly more responsible and accountable for their own safety related behaviors, accepting feedback openly and honestly with the understanding that it is being offered to improve the overall safety system and not to place fault or blame.

Barriers to Safe Behavior

Unsafe behavior is rewarding…how so? "I've been doing it this way for 20 years and have never been hurt! It's faster and I don't have time to put all that PPE on." Lack of injuries for those who are consistently unsafe is actually reinforcing the very behaviors that will eventually lead them to a serious injury. A Supervisor may reward an individual or turn a blind eye for taking a short cut for the sake of production. Employees learn that unsafe behavior pays.

1) There is a misleading practice of relying on common sense. Individual intuition is acquired by personal experience and education. The record demonstrates "common sense" isn't all that common.

2) Safety is a continuous battle with human nature. "It can't happen to me." Most people, young and old, do not think they will experience an accident. Why? Fortunately, it's rare that an injury accident follows unsafe behavior.

3) The power of peer pressure. "That's the way everyone else always does it." People will often deny reality and their own judgment in order to conform to a larger group. The bigger the group, the stronger the influence. Just one dissenter can often prevent another from succumbing to potentially dangerous conformity at work.

4) The power of authority. "I was just following orders." People, especially the young, will blindly follow the instruction of an authority figure even when the result can be surely harmful. Obedience study, Prof. Stanley Milgram, Yale University.

5) The false perception of risk. Workers have to rely on their 5 basic senses to influence their thinking about

identifying and responding to a potential risk. These everyday sensations are dramatically affected by many personal factors that influence our perception of a risk. The perception of risk is usually much lower than actual risk.

6) Familiarity breeds complacency. "We've been doing it this way for 25 years and no one's been hurt yet." The more we know about a risk, the less it threatens us. Safety staff will bombard us with training, memos, signs, slogans, and verbal warnings but it's still hard to compete with a complacency-induced familiarity caused by working close to a hazard for a long time without incidence.

So what can be done to influence behavior and promote a safer workplace?

Start with a basic understanding:

↓ Reduce at-risk behaviors.
- Presumed to be a major cause of progressively more serious incidents. (Heinrichs Triangle)
- Chief strategies include coaching, verbal warning, and punishment.

↑ Increase safe behaviors.
- It is often more effective to recognize achievements than to correct failures.
- Numerous strategies include goal setting, incentive programs, and adopting "behavior based" processes.

Set Realistic Goals.
- **"Results" goals**
  - Intended for the CEO and upper management
  - Examples include:
    - No OSHA recordables for January
    - Less than 3 time-loss claims for the year
    - No fatalities

- **"Action" goals**
  - Intended for middle management, line supervisors, crew foremen, etc.
  - Examples include:
    - always use PPE
    - conducting the weekly "toolbox" safety meeting
    - report all near-misses
    - maintain good housekeeping
    - maintain training schedule

- **"Performance" goals**
  - Intended for employees
  - Examples include:
    - Recognizing safety hazards
    - Reporting safety hazards
    - Working safely
    - Make the most of safety training

Safety goals should focus on process activities and behaviors that workers can actually control, not just outcomes over which they have limited ownership and impact.

Task Specific Self Assessment

Before any task or activity is performed, employees should consider the risk by taking a few minutes to conduct a Task Specific Self Assessment (TSSA). A TSSA is a brief, general risk assessment made by employees of each work task. The TSSA will identify and eliminate potential workplace practices and hazardous conditions that could lead to any type of loss. If TSSA are used properly by the entire organization, we probably wouldn't need other loss prevention tools because no one would begin a job without eliminating the risks or managing the hazards.

Strengths of Task Specific Self Assessment (TSSA)
- Easy to use.
- Empowers employees as loss prevention experts.
- Integrates prevention of losses with operating procedures.
- Genuinely proactive.

When should employees conduct TSSA's?
- At the beginning of the shift before starting to work. "What hazards or risks will I encounter throughout my shift?" All employees should typically use the TSSA a number of times during their shift.
- Before changing tasks during the shift.
- For non-routine work activities or unusual circumstances.
- After a loss or significant near loss.
- Off the job as well as at work.

Task Specific Self Assessment Process

Step 1: ASSESS the risk!
- Employees must assess the hazards associated with each job and ask:
- What could go wrong?
- What is the worst thing that could happen if something does go wrong?

"The risk, even with a low probability of occurrence, is not worth the possible consequences."

Step 2: ANALYZE how to reduce the risk!

- Employees should evaluate each identified risk to see that appropriate safeguards are in place to control the hazard.
- Do I have the appropriate training and knowledge to perform the job safely?
- Do I have all the proper tools and personal protective equipment?

Step 3: ACT to ensure safe operations!

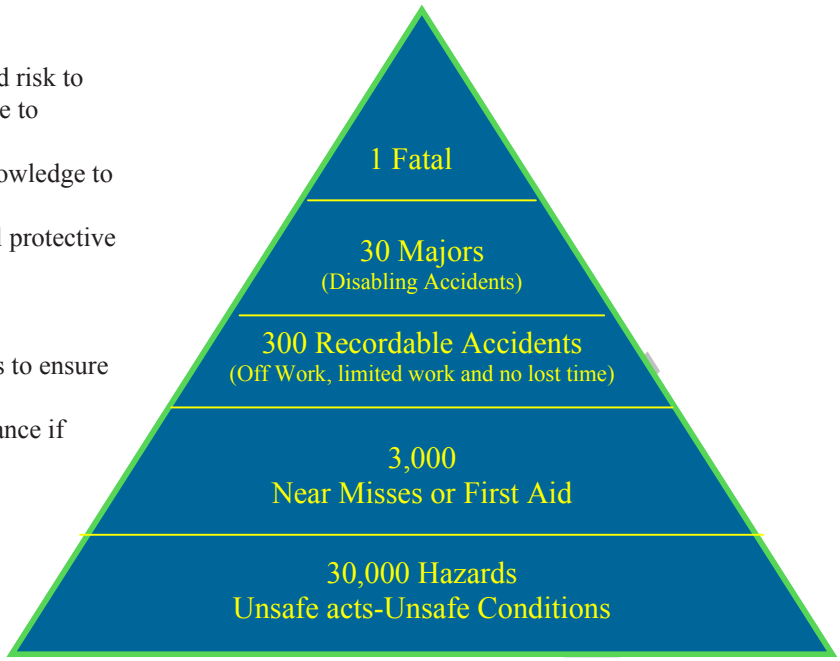
- Employees should take the necessary steps to ensure the job is done safely.
- Follow written procedures. Ask for Assistance if needed.

Roles for TSSA

- Employees
  - Perform TSSAs as appropriate before and during shift.
  - Contact Supervisor if not sure whether safe to proceed with task.
  - Supervisors
  - Perform TSSAs as appropriate before and during shift.
  - Spot check use of TSSAs in the workplace.
  - Provide positive feedback to employees using TSSAs appropriately.
  - Provide positive feedback and "coaching" to employees as needed to ensure consistent use of TSSAs by everyone.
- Administrators/Managers
  - Perform TSSAs as appropriate before and during shift.
  - Spot check use of TSSAs in the workplace.
  - Provide positive feedback to employees using TSSAs appropriately.
  - Provide positive feedback and "coaching" to Supervisors as needed to ensure consistent use of TSSAs by everyone.

This generally summarizes the TSSA responsibilities of employees, Supervisors, and Managers. The role of employees is to use the TSSAs appropriately throughout the shift and ask the Supervisor for help if he/she is unsure about the safety of any task. In addition to performing the TSSAs as appropriate, the roles of Supervisor and Managers and the Administrators are nearly identical in terms of monitoring for quality and feedback. The only difference is the frequency with which these roles are fulfilled.

Safety Triangle



Widely accepted for over 70 years, the safety triangle serves to illustrate Heinrich's theory of accident causation. Close calls, near misses, and first aid events often become minor injures or worse. Employees should be encouraged to report to their supervisor and the safety committees for the purpose of doing an assessment of what went wrong and how this event could be avoided in the future. One of the most valuable things a supervisor can do, and safety committees can foster, is examination of close calls and near misses and hopefully the supervisors, safety committee or department does as well in an effort to prevent future occurrences. While often fatal accidents occur because of "unknown" factors, we certainly want to do whatever we can to prevent such an occurrence.

Safety Leadership

How important is safety leadership to the success of behavior-based safety or to safety in general? Leadership among the many factors that contribute to success is one of the most critical. The leadership role shapes and influences the culture that produces safety outcomes. Even knowing this, how would you approach the task of developing leadership for safety among the dynamic and busy individuals who make up the senior-most level of an organization? It strikes people as odd that leadership would be so central to employee-driven efforts. The behavior-based safety approach, after all, is successful in part because it engages front-line employees in safety activities traditionally reserved for supervisors or managers. Leadership activities matter at every level of the organization and they impact downstream outcomes. The difficulty is in knowing how to leverage this link to achieve the results organizations want. To begin with, how does an organization even know if its leadership needs improvement or that it is doing the right things to support safety?

"When organizations establish strong leadership in safety, they also establish strong leadership in other areas."

Leaders who struggle to improve safety look very similar to leaders who are successful in this area. They state the same objectives, voice the same kind of support and even allocate the same kinds of resources. Experience shows us that just as there are sins of strong leadership in the organization, there are also recognizable signs of disconnect between leadership intentions and organizational functioning:

- Ongoing poor safety performance – a site may experience a persistently high accident rate or a continuing failure to improve accident rates in spite of ongoing efforts.
- A hands-off mentality – people express that safety is important but "not my job". Employees tend not to volunteer for safety activities or take accountability for safety tasks.
- A perceived separation between safety and other performance goals – employees experience an ongoing conflict between safety and other performance values such as cost, quality, or production. Employees tend to take risks, and are sometimes injured, in order to meet goals they perceive as more important.
- Poor Communication management says safety is important but people on the floor are not getting the message or taking the message to heart. Safety is not internalized as a way of doing business.

There are signs unique to behavior-based safety efforts that also intricate a leadership-safety disconnect:

- Excessive struggle – performing day to day process activities, such as observations or meetings, seems to take more energy that it should, larger tasks , such as barrier removal, may seem nearly impossible.
- Us vs. Them – process activities are surrounded by a high level of "us vs. them: issues. People may tend to frame process challenges in terms of "management" and "worker" terms, persistently express a lack of trust in management, or even hold the process hostage.
- Ambiguity – people involved in the process have difficulty getting things done or knowing whether things gave gotten done.

- Poor engagement – engagement in the process spreads slowly or not at all. Process leaders have difficulty recruiting observers or maintaining interest in the safety process.

While experiencing one or more of the signs of disconnect is reason enough to focus on safety leadership, there are other compelling reasons to strengthen the link between an organization's leaders and its safety objectives and activities.

- Leadership strengthens behavior-based safety (BBS) efforts – most obviously, strong leadership supports ongoing employee-driven safety efforts, particularly the degree to which BBS efforts are successful and the sustainability of that success. Also, organizations with strong safety leadership are better able to optimize their investment in BBS by translating lessons learned into other performance areas, such as quality or cost reduction.
- Safety leadership supports all safety efforts – strong safety leadership goes beyond sustaining BBS efforts. Strong leadership supports safety more broadly. Leaders who take advantage of this effect also necessarily build a platform for broad performance improvement by "leading with safety" into other areas.
- Leadership in safety improves other kinds of leadership – focusing on leadership in safety has a reciprocal effect on leadership effectiveness in general. When organizations establish strong leadership in safety, they also establish strong leadership in other areas. As leadership becomes stronger, and fosters a high-performance culture, leaders necessarily create an environment that cultivates enjoyment of performance, challenge, and accomplishment - turning them into a positive rather than a burden.

Given that leadership is important to the success of safety efforts, how does an organization establish better leadership, especially when those leaders are already busy and functioning at a high-level? There are three basic steps to improving the effectiveness of safety leadership in an organization:

1. **Evaluating where you are and determining where you need to be** – While the signs of leadership-safety disconnect can give organizations a general sense of what they need to work on , an intensive assessment of organizational functioning can identify specific areas for focus. Leaders, through what they choose to focus on, and how they go about doing the things they do, can strengthen their organizations in nine critical areas and improve their organization's ability to engage the energy of its employees:
    - **Teamwork** – the effectiveness of work groups in meeting targets and deadlines.
    - **Workgroup relations** – the degree to which co-workers respect each other.
    - **Procedural justice** – the level that workers rate the fairness of first-level supervisors.
    - **Perceived support** – the level to which employees feel the organization is concerned for their overall well-being.

- **Leader-member exchange** – the strength of relationship that workers feel they have with their supervisors.
- **Management credibility** – the perception of consistency and fairness of management in dealing with workers.
- **Organizational value for safety** – the level of the organization's overall commitment to safety.
- **Upward communication** – the adequacy of upward messages about safety.
- **Approaching others** – the probability that workers will speak to each other about performance issues.

2. **Identify leadership behaviors critical to closing the gap** – once the organization has defined the culture it wants to create, it can proceed to the next task: identifying the specific behaviors each leader needs to perform in order to create that culture. Leadership best practices that consistently show high performance include:
    - **Vision** – the effective leader is able to "see" what safety performance excellence would look like and conveys that vision in a compelling way throughout the organization.
    - **Credibility** – the effective leader is credible to other people in the organization, is willing to admit his or her mistakes with others, "goes to bat" for direct reports and the interests of the group, and gives hones information about safety even if it is not well received.
    - **Collaboration** – the effective leader works well with other people, promotes cooperation and collaboration in safety, actively seeks input from people on issues that affect them, and encourages others to implement their decisions and solutions for improving safety.
    - **Feedback & Recognition** – the effective leader is good at providing feedback and recognizing people for their accomplishments. This person publicly recognizes the contributions of others; uses praise more often than criticism, gives positive feedback and recognition for good performance, and finds ways to celebrate accomplishments in safety.
    - **Accountability** – the effective leader gives people a fair appraisal of the efforts and results in safety, clearly communicates people's roles in the safety effort, and fosters the sense that every person is responsible for the level of safety in their organizational unit.
    - **Communication** – the effective leader is a great communicator. He or she encourages people to give honest and complete information about safety even if the information is unfavorable. This leader keeps people informed about the big picture in safety, and communicates frequently and effectively up, down, and across the organization.
    - **Action-Orientation** – the effective leader is proactive rather than reactive in addressing safety issues. This leader gives timely, considered responses for safety concerns, demonstrates a sense of personal urgency and energy to achieve safety results, and demonstrates a performance-driven focus by delivering results with speed and excellence.

"As leadership becomes stronger, and fosters a high-performance culture, leaders create an environment that cultivates enjoyment of performance, challenge, and accomplishment - turning them into a positive rather than a burden."

The specific behaviors that an organization identifies as necessary to close the gap differ from organization to organization and even from leader to leader within an organization. While many of these activities are common, the level and variety of supporting behaviors can vary widely. A rigorous evaluation method is invaluable for planning a safety leadership improvement strategy. Minimally, this method should look at each leader's responsibilities and impacts (areas of influence), and define specific measurable targets for the leader around the organization's safety objectives.

3. **Implement a Leadership Development System** – finally, with a defined desired culture and a specific plan of measurable practices and behaviors for each leader, organizations complete the loop by creating a system to monitor and reinforce the leaders' efforts to move the culture in the desired direction. As with the previous two steps, the implementation of the leadership development system will vary depending on the organization's perceived gaps and objectives. What is important is that the system supports ongoing improvement in the newly identified leadership practices and thereby, promotes effective movement forward in the organization. (5)

3 basic steps to improving safety leadership in your organization:

1. Evaluating where you are and determing where you need to be.
   - Teamwork
   - Workgroup relations
   - Procedural justice
   - Perceived support
   - Leader-member exchange
   - Management credibility
   - Organizational value for safety
   - Upward communication
   - Approaching others

2. Identify leadership behaviors critical to closing the gap.
   - Vision
   - Credibility
   - Collaboration
   - Feedback & Recognition
   - Accountability
   - Communication
   - Action-Orientation

3. Implement a Leadership Development System

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Identifying Problems with Lifting and Repositioning Residents in Long-Term Care Facilities

According to the Bureau of Labor Statistics, employees in nursing and personal care facilities suffer over 200,000 work-related injuries and illnesses a year. Many of these are serious injuries. More than half require time away from work. Workers compensation costs for the industry now amount to nearly $1 billion per year. Workers in nursing homes are 2 times as likely as other workers to be injured on the job.

One of the greatest risks to health-care workers stems from manually lifting and moving patients or residents. The manual moving of residents results in very high stresses in the spine. These stresses are caused by lifting high weights in awkward postures. Nurses and nurses' aids have among the highest rates of back injuries of
any occupational group. There really is no risk-free way to manually lift or move another person.

Nursing homes that have implemented injury prevention efforts focusing on resident lifting and repositioning methods have achieved considerable success in reducing work-related injuries and associated workers compensation costs. Providing a safer and more comfortable work environment has also resulted in additional benefits for some facilities, including reduced staff turnover and associated training and administrative costs, reduced absenteeism, increased productivity, improved employee morale, and increased resident comfort. These guidelines provide recommendations for employers to help them reduce the number and severity of work-related musculoskeletal disorders in their facilities using methods that have been found to be successful in the nursing home environment.

OSHA recommends that manual lifting of residents be minimized in all cases and eliminated when feasible.

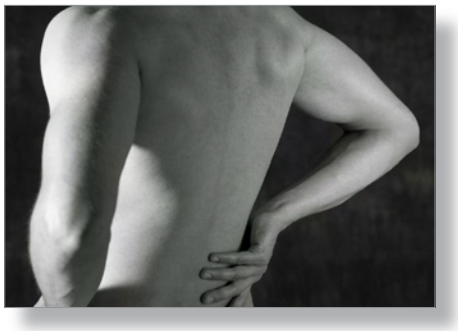
An analysis of any resident lifting and repositioning task involves an assessment of the needs and abilities of the resident involved. This assessment allows staff members to account for resident characteristics while determining the safest methods for performing the task, within the context of a care plan that provides for appropriate care and services for the resident. Such assessments typically consider the resident's safety, dignity and other rights, as well as the need to maintain or restore a resident's functional abilities. The resident assessment should include examination of factors such as:

- the level of assistance the resident requires;
- the size and weight of the resident;
- the ability and willingness of the resident to understand and cooperate; and
- any medical conditions that may influence the choice of methods for lifting or repositioning.

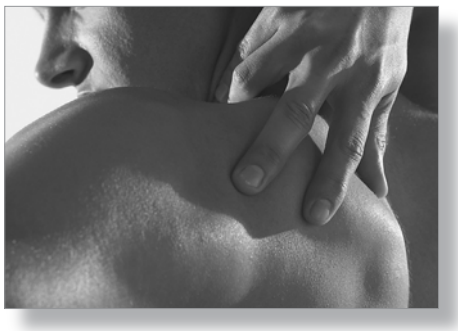
These factors are critically important in determining appropriate methods for lifting and repositioning a resident. The size and weight of the resident will, in

some situations, determine which equipment is needed and how many caregivers are required to provide assistance.

Assessments have been developed for systematically examining resident needs and abilities and/or for recommending procedures and equipment to be used for performing lifting and repositioning tasks.



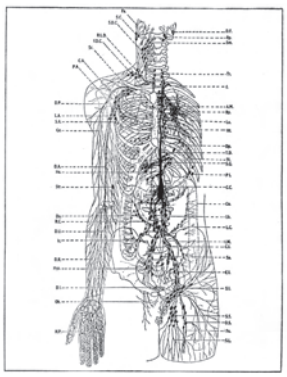
⇨ **The Resident Assessment Instrument** published by the Centers for Medicare and Medicaid Services (CMS) provides a structured, standardized approach for assessing resident capabilities and needs that results in a care plan for each resident. Caregivers can use this information to help them determine the appropriate method for lifting or repositioning residents. Many nursing homes use this system to comply with CMS requirements for nursing homes. Employers can access this information from www.cms.hhs.gov/medicaid/mds20/.



⇨ **Patient Care Ergonomics Resource Guide: Safe Patient Handling and Movement** is published by the Patient Safety Center of Inquiry, Veterans Health Administration and the Department of Defense. This document provides flow charts that address relevant resident assessment factors and recommends solutions for resident lifting and repositioning problems. This material is one example of an assessment tool that has been used successfully. Employers can access this information from www.patientsafetycenter.com. Nursing home operators may find another tool or develop an assessment tool that works better in their facilities.

⇨ Appendix A of the Settlement Agreement between OSHA and Beverly Enterprises entitled **Lift Program Policy and Guide** recommends solutions for resident lifting and repositioning problems, based on the CMS classification system. (A rating of "4" indicates a totally dependent resident. A "3" rating indicates residents that need extensive assistance. A "2/1" rating indicates residents that need only limited assistance/general supervision. Residents rated "0" are independent.) Employers can access this information from www.osha.gov.

The Ergonomics Process



One effective way to reduce the risk of cumulative trauma disorders (CTDs), such as carpal tunnel syndrome and back injuries, is to establish an ergonomics process. Ergonomics processes should not be regarded as separate from those intended to address other workplace hazards. Aspects of hazard identification, case documentation, assessment of control options and health-care management techniques that are used to address problems, use the same approaches directed toward other workplace safety issues. It is important to realize that combating cumulative disorders cannot be accomplished effectively with a quick-fix program. Rather, a long-term process which relies on continuous improvement is the preferred approach to reducing CTDs. Successful programs not only result in reduction of injuries, but they also realize quality and productivity gains.

For an ergonomics process to be successful, it is imperative that management is committed to the process, participates in the process and provides the necessary resources to ensure its success.

What is Ergonomics?

Ergonomics is the science of fitting the job to the worker. When there is a mismatch between the physical requirements of the job and the physical capacity of the worker, work-related musculoskeletal disorders (MSDs) can result. Ergonomics is the practice of designing equipment and work tasks to conform to the capability of the worker, it provides a means for adjusting the work environment and work practices to prevent injuries before they occur. Health care facilities especially nursing homes have been identified as an environment where ergonomic stressors exist.

Management Commitment

Long-Term Care facilities can incorporate safety as a core value by starting at the top. Owners, chief executive officers, administrators and management should demonstrate a commitment to reduce or eliminate patient/residents handling hazards by establishing a written program that addresses issues such as:

- Treat ergonomic efforts as furthering the organization's goal of maintaining and preserving a safe and healthy work environment for all employees;
- Expect full cooperation of the total work force in working together toward realizing ergonomic improvements;
- Assign lead roles to designated persons who are known to make things happen;
- Give ergonomic efforts priority with other cost reduction, productivity and quality assurance activities;
- Continued training of employees in injury prevention;
- Methods of transfer and lifting to be used by all staff;
  - Compliance with transfer and lift procedures
- Procedures for reporting early signs and symptoms of back pain and other musculoskeletal injuries.
- Bring in outside experts for consultation on start-up activities and difficult issues until in-house expertise can be developed;
- Furnish information to all those involved in or affected by the ergonomic activities to be undertaken;
- Track and evaluate the results of the ergonomic process to indicate that progress has been made and if plans need to be revised.

Employee Involvement

Employees are a vital source of information about hazards in their workplace. Their involvement adds problem-solving capabilities and hazard identification assistance, enhances worker motivation and job satisfaction, and leads to greater acceptance when changes are made in the workplace.

- An employee's job description does not affect the level of participation in the company's safety program. All employees should participate in the safety process. Regardless of what other duties an employee has, everyone is equally responsible for

the safety process, from the employee to the company president;
- Submit suggestions or concerns;
- Discuss the workplace and work methods;
- Participate in the design of work, equipment, procedures, and training;
- Evaluate equipment;
- Respond to employee surveys;
- Participate in task groups with responsibility for ergonomics; and
- Participate in developing the nursing home's ergonomics process.

Workplace Analysis

Identify existing and potential workplace hazards and find ways to correct these hazards. Assessment of work tasks involves an examination of duration, frequency, and magnitude of exposure to ergonomic stressors such as force, repetition, awkward postures, vibration and contact stress to determine if employees are at risk of pain or injury. Observation, workplace walkthroughs, talking with employees and periodic screening surveys are used to help identify hazards such as stressful tasks.

Accident and Record Analysis

Records of injuries and illnesses should be analyzed to identify patterns of injury that occur over time, enabling the hazards to be addressed and prevented. This includes reviewing OSHA 300 logs, OSHA 301 forms and workers compensation reports. However, there are almost always multiple causes that contribute to an accident. Try not to settle on a single cause theory, because there are usually contributing factors. On the surface the immediate cause may be a hazardous condition (load too heavy, slippery floor, poor housekeeping) or was the cause an unsafe act (horseplay, twisting when lifting, not using PPE). These surface causes may be consider symptoms of Root Causes. Root causes identify system weaknesses within an organization. The lack of planning, organizing, leading or controlling root causes within an organization will lead to lack of safety training, lack of enforcement of safety rules, unwillingness to invest time/payroll towards safety and this is the "root" cause of the accident. Once the list of root causes, surface causes and contributing factors has been compiled, try to determine the primary cause, or the cause that appears to have contributed the most to the accident. This is the cause that, if removed, the accident probably would have been prevented. Other causes will be considered as secondary potential causes. All causes should be investigated for corrective actions; however, the primary cause should be the focus of corrective actions.

Hazard Prevention and Control Engineering Controls:

Certain engineering changes also may prevent and reduce injuries. For instance, mechanical assists and powered equipment may eliminate or reduce certain resident handling transfers. Reducing the number of transfers with physical stress during transfers reduces back injuries.

Long-term care facility management should look beyond the initial cost of power lifts to consider long-term benefits of purchasing assistive equipment. Considerations include: lost workdays, workers' compensation costs, employee turnover, staff morale, productivity gains, and the safety and dignity of residents.

Mechanical lifting devices can reduce injuries only if they are faithfully used. Often times, constraints or space limitations prevent caregivers from relying on lifts. Studies have shown workers rate the stress of using lifts as more demanding than not using them. Training programs help counter stress and are essential to ensure transfers are performed safely and effectively.

No set guidelines define the type or number of lifts a facility needs to ensure proper and safe transferring. Management should assess its residents and their dependency level to determine appropriate equipment needs. Many lift manufacturers help long-term care facilities monitor safety issues and develop a complete safety-management program by providing in-services, literature and training videos.

Certainly the caregiver's strength and knowledge of lifting techniques influence the transfer of the resident. However, design, arrangement and accessibility of the facility and equipment are additional factors to consider.

If long-term care facility management teaches and enforces safe work practices, it can use the money it saves in workers' compensation payments to invest in technology to make lifting and transferring patients less hazardous. One year's worth of workers' compen-

sation payments for a typical long-term care facility, for instance, will pay for 10 to 15 mechanical devices allowing staff to lift and transfer patients more safely.

Administrative Controls

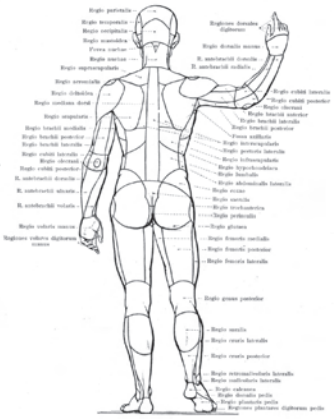
Implementing and enforcing administrative controls can prevent many hazards in long-term care facilities. Implement administrative controls to:

- Familiarize supervisors and employees with patient-handling guidelines and enforce facility rules;
- Provide training in proper management techniques for administrators and supervisors;
- Provide wellness programs;
- Accurately record injuries on OSHA's 301 form or equivalent;
- Assess care plans specifically regarding patient handling and communicate plans to affected employees before handling patients;
- Teach and practice proper patient transfer techniques, stressing that manual lifts are hazardous;
- Conduct periodic audits by direct observation of patient handling techniques;
- Develop a system to communicate changing assessment results;
- Use modified work schedules to better handle demand times;
- Implement a stretching exercise routine at the start of shifts;
- Prohibit using back belts, unless required by a physician as part of a treatment program;
- Establish a footwear policy, and recommend shoes with good arch and ankle support;
- Keep all items on one side of the hallway;
- Establish a system requiring supervisor and management accountability for safety.

Training

A training program, designed and implemented by qualified persons, should be in place to provide continual education and training about ergonomic hazards and controls to managers, supervisors and all health-care providers, including "new employee" orientation. Training should be updated and presented to employees as changes occur at the workplace, and be at a level of understanding appropriate for those individuals being trained, and should also include:

- Recognize workplace risk factors for CTDs and understand general methods for controlling them;
- Identify the signs and symptoms of CTDs that may result from exposure to such risk factors, and be familiar with the organization's health-care procedures;
- Most importantly, understand the process the employer uses to address and control risk factors, the employee's role in the process and ways employees can actively participate.



All ergonomic task force members should receive advanced training in job analysis and control measures, problem identification, and should develop skills in team building and problem solving.

Training and education help ensure that administrators, supervisors and employees, including nursing maintenance and physical therapy personnel, are sufficiently informed about ergonomic hazards to which they may be exposed. Training is most effective when conducted in conjunction with other measures, such as engineering and administrative controls.

Qualified persons should design and implement the training program which should cover:

- Overview of potential risk of back and other musculoskeletal injuries,
- Causes and early symptoms of injuries,
- Prevention and treatment methods.

The most essential training occurs during orientation for new employees and at regular intervals for review. The orientation/new employee program includes:

- Job site evaluation of transferring technique by a person skilled in the art and science of transferring patients;
- Feedback to trainees;
- Basic training in handling patients.

Additional training should occur:

- When a job assignment changes;
- If equipment or process changes;
- When a lifting procedure changes;
- Annually during safety orientations.

The health-care facility should keep and update a list of trained employees and their dates of training.

Nursing personnel

Train nursing personnel on:

- Type of transfer to use with each resident;
- Purpose of the procedure;
- Correct use of each type of lifting equipment.

Train charge nurses for each shift on all aspects of the policy.

Maintenance personnel

Train maintenance personnel on:

- How to inspect lifting equipment;
- What to inspect on each piece of equipment;
- The frequency of inspection;
- Tag-out procedures for damaged equipment.

Physical therapy personnel

Train physical therapy personnel on:

- Capabilities and limits of lifting equipment;
- Correct use and purpose of each type of lifting equipment;
- Purpose and policies of the 'zero lift' policy;
- uggested classification of residents.

Ergonomic assessment

An ergonomic safety and health assessment focuses specifically on tracking injury and illness records to identify patterns of traumas or strains. The objective is to recognize, identify and correct ergonomic risk factors.

Recommended steps include:

- The long-term care facility gathers relevant information on ergonomic solutions for patient-handling problems;
- Conduct baseline screening surveys using a checklist to evaluate ergonomic risk factors and determine which tasks are most stressful and need improvement;
- People skilled in evaluating ergonomic risk factors perform job analysis in areas such as patient handling, nursing, laundry and dietary;
- Implement engineering changes to avoid the most stressful patient transfers;
- Conduct periodic surveys and follow-ups to evaluate changes;
- After each resident-handling injury or incident, determine if you can modify a task to reduce future risk and prevent the incident from recurring.

Medical Management

A medical management program, supervised by a person trained in the prevention of musculoskeletal disorders, should be in place to manage the care of those injured. The program should include:

- Employees should have a thorough understanding of the accepted procedure for reporting injuries and illnesses and for obtaining appropriate care.
- Early identification and treatment of injured employees.
- "Light duty" or "no lifting" work restrictions during recovery periods.
- Systematic monitoring of injured employees to identify when they are ready to return to regular duty.

Communication

Employers should keep employees informed and solicit feedback and suggestions to improve the ergonomic process by:

- Making safety an agenda item at all meetings;
- Encourage employees to identify safety concerns and solutions to these hazards as they are identified;
- Requiring a management response to all safety concerns;
- Promote one-on-one safety and health discussions;
- Distribute safety bulletins and publications.

Ergonomics Team

Ergonomic issues typically require a response that cuts across a number of organizational units. An ergonomics task force provides an excellent forum to secure input and cooperation from these units. In addition to management and the work force, obtain participation from:

- Safety personnel;
- Health-care providers;
- Human resources personnel;
- Maintenance;
- Purchasing;
- Ergonomics specialists.

Clearly define the roles and responsibilities of each team member, including determining who will document problems and monitor project progress.

Resident Handling Program

Implementing Solutions for Resident Lifting and Repositioning

Many powered patient-lifting devices are available that will reduce the forces and awkward postures associated with manually lifting patients. Devices on wheels can be used to mechanically lift and move patients. The advantage of these devices is that they are portable and can be used in many locations in a facility. It is important that an ample number of these devices be located in a facility, so that they are readily available to the direct care staff.

Solution for Transfer from Sitting to Standing Position

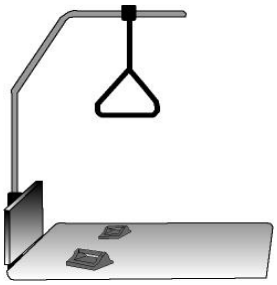
Powered sit-to-stand or standing assist devices are used to transfer residents who are partially dependent, have some weight-bearing capacity, are cooperative, can sit up on the edge of the bed with or with out assistance, and are able to bend hips, knees, and ankles. Transfers from bed to chair (wheel chair, Geri or cardiac chair), or chair to bed, or for bathing and toileting. Can be used for repositioning where space or storage is limited.

Look for a device that has a variety of sling sizes, lift-height range, and battery portability, and hand-held control, emergency shut-off and manual override. Ensure device is rated for the resident weight. Electric/battery powered lifts are preferred to crank or pump type devices to allow smoother movement for the resident and less physical exertion by the caregiver.

Solution for Transfer from Sitting to Standing Position; Ambulatory

Gait belts/transfer belts with handles allow the transfer of residents who are partially dependent, have some weight-bearing capacity, and are cooperative. Where mechanical means of lifting are not available, use a gait belt as a patient-transfer aid. The gait belt can be placed on the resident and/or the healthcare worker. The belt then provides a handle that the resident and/or the healthcare worker can hold onto, thus improving coupling during the lift. Note: Using gait belts while lifting still produces relatively large forces on the spine.

More than one caregiver may be needed. Belts with padded handles are easier to grip and increase security and control. Always transfer to resident's strongest side. Use good body mechanics and a rocking and pulling motion rather than lifting when using a belt. Belts may not be suitable for ambulation of heavy residents or residents with recent abdominal or back surgery, abdominal aneurysm, etc Should not be used for lifting residents. Ensure belt is securely fastened and cannot be easily undone by the resident during transfer. Ensure a layer of clothing is between residents' skin and the belt to avoid abrasion. Keep resident as close as possible to caregiver during transfer. Lower bedrails; remove arm and foot rests from chairs, and other items that may obstruct the transfer.



Solution for Resident Lifting

Portable lift device (sling type); can be universal/hammock sling or a band/leg sling to lifting residents who are totally dependent, are partial or non-weight bearing, are very heavy, or have other physical limitations. Can be used to transfers from a bed to a chair, a chair or floor to a bed, for bathing and toileting, or after a resident fall.

More than one caregiver may be needed. Look for a device with a variety of slings, lift-height range, battery portability, hand-held control, emergency shut-off and manual override, boom pressure sensitive switch that can easily move around equipment, and has a support base that goes under beds. Having multiple slings allows one of them to remain in place while resident is in bed or chair for only a short period, reducing the number of times the caregiver lifts and positions resident. Portable compact lifts may be useful where space or storage is limited. Ensure device is rated for the resident weight. Electric/battery powered lifts are preferred to crank or pump type devices to allow a smoother movement for the resident and less physical exertion by the caregiver, enhancing resident safety and comfort.

Ceiling mounted lift device is a lift for residents who are totally dependent, are partial or non-weight bearing, very heavy, or have other physical limitations. Transfers from bed to chair (wheel chair, Geri or cardiac chair), chair or floor to bed, for bathing and toileting, or after a resident falls. A horizontal frame system attached to the ceiling-mounted device can be used when transferring residents who cannot be transferred safely between 2 horizontal surfaces, such as a bed to a stretcher or gurney while lying on their back, using other devices.

More than one caregiver may be needed however some residents can use the device without assistance. This device may be quicker to use than a portable device and motors can be fixed or portable (lightweight). The device can be operated by hand-held control attached to unit or by infrared remote control. Be sure the device is rated for the resident's weight to increases the resident's safety and comfort during transfer.

Solution for Lateral Transfer in Sitting Position

Transfer boards - wood or plastic (some with movable seat) allow you to transfer (slide) a resident from one surface to another at the same level. A sliding board reduces the forces on the body by decreasing the friction that is normally present during a lateral transfer or when changing the position of a resident in bed. Furthermore, the patient's skin bears the friction forces when transferred without a sliding board, so this device helps reduce the incidence of tissue damage, like skin tears.

Movable seats increase resident comfort and reduce incidence of tissue damage during transfer. More than one caregiver is needed to perform lateral transfer. Ensure clothing is present between the resident's skin and the transfer device. The seat may be cushioned with a small towel for comfort. May be uncomfortable for larger residents. Usually used in conjunction with gait belts for safety depending on resident status. Ensure boards have tapered ends, rounded edges, and ap propriate weight capacity. Ensure wheels on bed or chair are locked and transfer

surfaces are at same level. Remove lower bedrails from bed and remove arms and footrests from chairs as appropriate.

Solution for Lateral Transfer in Lying Position

Lateral transfer can be used to move a patient from bed to bed, gurney/stretcher to bed, or exam table to bed without pulling the patient's body, arms or legs, and without the caregiver having to lift. Devices to reduce friction force when transferring a resident such as a draw sheet or transfer cot with handles to be used in combination with slippery sheets, low friction mattress covers, or slide boards; boards or mats with vinyl coverings and rollers; gurneys with transfer devices; and air-assist lateral sliding aid or flexible mattress inflated by portable air supply

Solution for Repositioning in Chair

Resident chair design - When residents are in chairs, they must be repositioned or moved periodically. Repositioning residents can expose health-care workers to awkward postures and forces to the spine, which can increase the risk of injury. You can adjust some Geri chairs to a variety of positions, thus repositioning the resident.

Another benefit of these types of chairs is that they provide therapeutic benefits to the residents, because they can use the chair to move from one place to another within the facility.

Solution for Minimizing Unnecessary Transfers

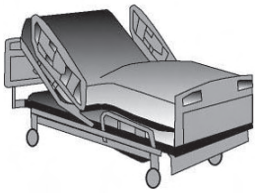
Bladder Scanner - Residents are sometimes moved to the toilet to relieve themselves but find that once they are on the toilet, they no longer have to urinate. In that case, direct care staff members have needlessly exposed themselves and the resident to a risk of injury. Similarly, sometimes residents are not placed on the toilet when they should be and then urinate in the bed or chair. In that case, the staff must clean the resident and the bed clothes. Cleaning bedclothes results in much manual materials handling that can create the risk of back injury.

To minimize unnecessary transfers to the bathroom and to minimize bedwetting accidents, use a bladder scanner to determine if the resident does or does not need to be transferred to the toilet.

Solution for Awkward Postures when Providing Patient Care in Bed

Hi-lo beds - Sometimes, residents in public employer nursing homes sleep in beds that are placed low to the ground to minimize the risk of injury should they fall out of bed. Al though this situation is beneficial to the resident, it can increase the risk of back injury to the staff when they provide care to the resident, because it causes extreme trunk flexion (bending), a risk factor for low back pain. If the bed is equipped with a manual crank adjustment, the direct care staff member must crank the bed to the desired height, a process which requires force and repetitive motion in the hands, wrists, elbows and shoulder. Furthermore, this process takes time which could be used to provide direct care to the resident.

Beds which can be raised and lowered with an electric motor can greatly reduce the trunk flexion in these situations. The direct care staff can then provide care to the resident with the trunk in an upright posture. Furthermore, risk of upper extremity CTDs is reduced

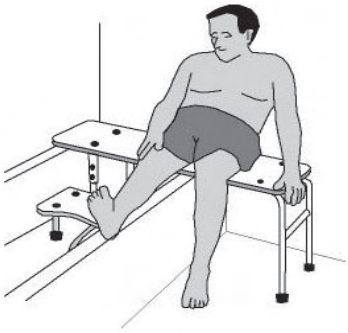


because the manual cranking to adjust the bed is not required. Research performed by the National Institute for Occupational Safety and Health indicated that for adjustable beds to be used to their fullest potential, the beds should be adjustable from their lowest position to their highest position in no less than 20 seconds. Longer height adjustment times reduce the likelihood that the staff will use the adjustable features of the bed.

Solution for Bathing Residents

Bathing systems - Bathing residents often generates large forces on the spine of the health-care worker when transferring residents to/from the tub. Additional forces are generated on the spine when health-care workers stoop to bath residents in conventional bathtubs. These forces can lead to back pain.

Commercially available bathing systems minimize the spinal forces associated with transferring residents. Some systems are coupled with portable lifting devices to minimize the manual handling of residents. Additionally, the bathtub can be adjusted vertically so that it can be adjusted to a height which minimizes forward bending of the trunk and the associated forces.



Solutions for Weighing Residents

Wheelchair scale - The weighing of residents involves manually moving the resident from a wheelchair to the scale and then back into the wheelchair. This activity often involves two staff members and exposes them to awkward postures and high forces in the shoulders and back, increasing the risk of injury.

By using a scale that accommodates wheel chairs, the resident can remain in the wheel chair during the weighing process. Subtract the weight of the wheelchair from the weight shown on the scale to get the resident's weight. Such a scale eliminates two manual resident transfers, and frees staff up to per form other patient care functions.

OSHA recommends that manual lifting of residents be minimized in all cases and eliminated when feasible.

Implementing Solutions for Activities other than Resident Lifting and Repositioning

Some reports indicate a significant number of work-related MSDs in nursing homes occur in activities other than resident lifting. Examples of some of the activities that the nursing home operator may want to review are:

- bending to make a bed or feed a resident;
- lifting food trays above shoulder level or below knee level;
- collecting waste;
- pushing heavy carts;
- bending to remove items from a deep cart;
- lifting and carrying when receiving and stocking supplies;
- bending and manually cranking an adjustable bed
- removing laundry from washing machines and dryers.

These tasks may not present problems in all circumstances. Employers should consider the duration, frequency, and magnitude of employee exposure to forceful exertions, repetitive activities and awkward postures when determining if problems exist in these and other areas. In the vast majority of cases, job assessments can be accomplished by observing employees performing the task, by discussing with employees the activities and conditions that they associate with difficulties, and checking injury records.

> ***"Some reports indicate a significant number of work-related MSDs in nursing homes occur in activities other than resident lifting."***

Solution for Laundry

Spring-loaded Laundry Bins - When pulling laundry out of laundry bins, health-care employees must often bend deep into the bins to retrieve clothing. This situation increases the risk of back pain by requiring extreme trunk bending coupled with heavy loads.

Purchase bins with spring-loaded bottoms or retrofit existing bins to reduce the amount of trunk bending when pulling laundry from bins. As laundry is pulled from the bin, the level raises. The worker can then lift laundry from the bin with minimal trunk bending, and the risk of back injury is reduced.

Solution for the Storage and Transfer of Food, Supplies and Medications

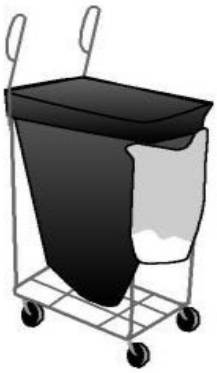
Mobile Carts - Placement of items on the cart should keep the most frequently used and heavy items within easy reach between hip and shoulder height. Carts should have full-bearing wheels of a material designed for the floor surface in your facility. Cart handles that are vertical, with some horizontal adjustability will allow all employees to push at elbow height and shoulder width. Carts should have wheel locks. Handles that can swing out of the way may be useful for saving space or reducing reach. Heavy carts should have brakes. Balance loads and keep loads under cart weight restrictions. Ensure stack height does not block vision. Low pro file medication carts with easy-open side drawers are recommended to accommodate hand height of shorter nurses.

Solution for Transferring of Equipment

Strains and sprains can occur if employee is transferring equipment like IV poles, wheel chairs, oxygen canisters, respiratory equipment, dialysis equipment, x-ray machines, or multiple items at the same time. To reduce the hazards of transferring equipment:

- Place equipment on a rolling device if possible to allow for easier transport, or have wheels attached to the equipment.
- Push rather than pull equipment when possible. Keep arms close to your body and push with your whole body not just your arms.
- Assure that passageways are unobstructed.
- Attach handles to equipment to help with the transfer process.
- Get help moving heavy or bulky equipment or equipment that you can't see over.
- Don't transport multiple items alone. For example if moving patient/residents in a wheelchair as well as an IV pole and/or other equipment. Get help, don't overexert yourself.

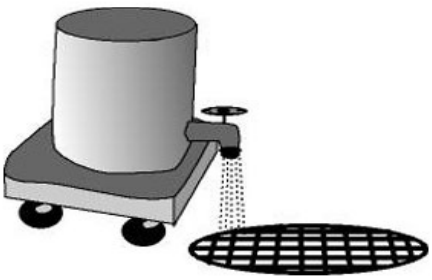
Solution for Reaching into Deep Sinks or Containers



If washing dishes, laundry, or working in maintenance areas and using a deep sink, limit excessive reaching and back flexion by:

- Placing an object such as a plastic basin in the bottom of the sink to raise the surface up while washing items in the sink or
- Remove objects to be washed into a smaller container on the counter for scrubbing or soaking and then replace back in the sink for final rinse.

Solutions for Ergonomic Housekeeping



To decrease ergonomic stressors when employees are performing cleaning tasks, employees should:

- 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 (e.g., push wheelchairs up a ramped platform to

perform cleaning work, or raise beds to waist level before cleaning).

- 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 chemical cleaners and soaks to minimize force needed for scrubbing.
- 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.
- Alternate tasks or rotate employees through stressful tasks.
- Avoid awkward postures while cleaning (e.g. twisting and bending).
- Use carts to transport supplies rather than carrying.
- Use buffers and vacuums that have light weight construction and adjustable handle heights.
- Use spray bottles and equipment that have trigger bars rather than single finger triggers.

Solutions for Bloodborne Pathogens

Healthcare personnel are at risk for occupational exposure to bloodborne pathogens, including hepatitis B virus (HBV), hepatitis C virus (HCV), and human immunodeficiency virus (HIV). Exposures occur through needle sticks or cuts from other sharp instruments contaminated with an infected patient's blood or through contact of the eye, nose, mouth, or skin with a patient's blood. Important factors that influence the overall risk for occupational exposures to bloodborne pathogens include the number of infected individuals in the patient population and the type and number of blood contacts. Most exposures do not result in infection.

How can occupational exposures be prevented?

Studies show that nurses sustain the most needle stick injuries and that as many as one-third of all sharps injuries occur during disposal. The Centers for Disease Control and Prevention (CDC) estimates that 62 to 88 percent of sharps injuries can be prevented simply by using safer medical devices.

Many needle sticks and other cuts can be prevented by using safer techniques (for example, not recapping needles by hand), disposing of used needles in appropriate sharps disposal containers, and using medical devices with safety features designed to prevent injuries. Using appropriate barriers such as gloves, eye and face protection, or gowns when contact with blood is expected can prevent many exposures to the eyes, nose, mouth, or skin.

OSHA requires employers to address the most-cited areas of employees who have occupational exposure to bloodborne pathogens or other potentially infectious materials in the following ways:

- Compliance methods — Observe universal precautions to prevent contact with blood or other potentially infectious materials;
- Hepatitis B vaccine — Employers will make available the hepatitis B vaccine, and post-exposure evaluation and follow-up;
- Warning labels — Annual training is required. Affix warning labels to containers used to store, transport or ship regulated waste, blood or other potentially infectious materials; and refrigerators and freezers containing blood or other potentially infectious materials;
- Exposure control plan — The employer will establish a written exposure-control plan to eliminate or minimize employee exposure;
- Medical records — Employers will establish and maintain an accurate record of medical records and treatments associated with this bloodborne pathogens standard.

Solutions for Slips, Trips and Falls

Many factors contribute to slip, trip and fall injuries in extended-care facilities. The smallest puddle on a floor

is a potential hazard. OSHA's general requirements for walking/working surfaces standard 1910.22 requires keeping floors, aisles, passageways and fire exits free of hazards. For example, to reduce hazards, keep carts to one side of all halls and avoid blocking walkways.

Solutions for avoiding slippery floors and ensure steady footing

- Keep floors clean and dry. In addition to being a slip hazard, continually wet surfaces promote the growth of mold, fungi, and bacteria, which can cause infections.
- 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 footgear.
- Walking/Working Surfaces Standard requires: Keep all places of employment clean and orderly and in a sanitary condition.
- Keep aisles and passageways clear and in good repair, with no obstruction across or in aisles that could create a hazard. Provide floor 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.

Additional solutions for preventing slips/trips and falls in long-term care facilities

- Ensure spills are reported and cleaned up immediately.
- Use no-skid waxes and surfaces coated with grit to create non-slip surfaces in slippery areas such as toilet and shower areas.
- Use waterproof footgear to decrease slip/fall hazards.
- Use only properly maintained ladders to reach items. Do not use stools, chairs, or boxes as substitutes for ladders.
- Re-lay or stretch carpets that bulge or have become bunched to prevent tripping hazards.
- Aisles and passageways should be sufficiently wide for easy movement and should be kept clear at all times. Temporary electrical cords that cross aisles should be taped or anchored to the floor.
- Eliminate cluttered or obstructed work areas.
- Nurses' station countertops or medication carts should be free of sharp, square corners.
- Use prudent housekeeping procedures such as cleaning only one side of a passageway at a time, and provide good lighting for all halls and stairwells, to help reduce accidents.
- Provide adequate lighting especially during night hours. You can use flashlights or low-level lighting when entering patient rooms.
- 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.
- Eliminate uneven floor surfaces.
- Promote safe work in cramped working spaces. Avoid awkward positions, and use equipment that makes lifts less awkward.

Solutions for Housekeeping

Good housekeeping is one of the most important aspects of safety in extended-care facilities. If each employee shares responsibility for good housekeeping rather than leaving it to the cleaning staff, many accidents can be prevented.

Management and employees can take these steps to prevent injuries and illnesses:

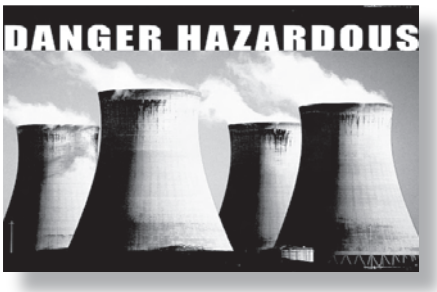
- Provide the entire staff with training about chemicals and cleaning products;
- Avoid blocking hallways with resident transfer and meal-delivery equipment;
- Provide ergonomic design of equipment and facility;
- Clearly label all containers and have necessary material safety data sheets available;
- Store cleaning supplies together, not where they can be mistaken for something else;
- Be familiar with chemicals, gases and liquids used in the extended-care facility, and their proper storage;
- Dispose of hazardous substances according to safety guidelines;
- Never allow debris, such as cleaning rags and newspapers, to accumulate;
- Clean up work area immediately after completing each task;
- Clean up spilled liquids at once to prevent slips and falls;
- Post and respect wet floor signs;
- Pick up broken glass immediately with a broom and dustpan.

Solutions for Hazard Communication

The Occupational Safety and Health Administration (OSHA) has issued a regulation to help control chemical exposure on the job. The regulation is called the Hazard Communication Standard, but is commonly called Hazard Communication or the "Right To Know Law". It can be found in the Code of Federal Regulations at 29 CFR 1910.1200. The standard says you have a right to know what chemicals you are working with or around. Its intention is to make your workplace a safer place. It requires that all chemicals in your workplace are fully evaluated for possible physical or health hazards. It mandates that all information relating to these hazards be made available to you.

Anyone who is responsible for ordering hazardous materials should request that the supplier send a Material Safety Data Sheet (MSDS). The Risk Management Coordinator will then ensure that the MSDS's for the products which are purchased within the company are supplied and a master copy of all MSDS's will be kept in the main office. Any new and revised MSDS's must be reviewed by the Risk Management Coordinator to determine the appropriate handling and training requirements. No chemicals will be put into use before receiving an acceptable MSDS for that chemical and MSDS's for all identified hazardous chemicals are to be readily available for use or inspection.

Cans, drums, and all other portable containers must have labels, tags, or stenciled markings. Hazardous chemicals stored in bulk or contained in process streams may be indicated on the containers or piping. Shipments of hazardous materials must assure that proper warning labels are in place on the containers. Labels shall include the following:



a. Chemical name of the substance
b. Manufacturer's name and address
c. The 24 hour emergency phone number
d. Any physical and/or health hazards
e. Any protective equipment or precautions necessary to work with the chemical.

Employees will be provided information and training on hazardous chemicals used in their work area:

a. at the time of their initial assignment
b. whenever a new hazard is introduced in their work area
c. annually

Employees will be advised and informed of the Hazard Communications Program and its requirements by any of the following methods:

a. video tapes, slides, or movies
b. scheduled training sessions
c. announcements at safety training meetings
d. bulletins posted on employee notice boards
e. posters placed in conspicuous places
f. handouts at training sessions

At any session where employees are advised, informed, or training is conducted concerning hazardous chemicals, the information must be documented and each employee should sign the safety meeting report indicating that the information was presented and understood.

All training must include the following:

a. The location and hazards of any chemicals stored or used in the local operations.
b. The location and availability of this written program and the list of hazardous chemicals and MSDS's which are used at that work area.
c. Details of the Hazard Communication Program, including how to read and interpret MSDS's and labels.
d. How to detect the presence or release of the hazardous chemicals
e. The physical and health hazards of the chemicals in the work area and how the employee can protect themselves from these hazards.
f. Appropriate emergency procedures including first aid and spill/leak procedures.
g. The hazardous chemical lists shall be located at the main office and will be available for employee inspection and reference during working hours.
h. This list must be updated on a regular basis as new products are received. Products which are no longer used or have been discarded may be deleted on a less frequent schedule, but shall be updated at least annually.

Each training session should include the following information:

a. A review of all applicable MSDS's.
b. A review of the hazardous chemical list.
c. The location of the hazardous chemical information for additional review.
d. Possible physical and health hazards involved with the task.

Such training must be documented on a Safety Meeting form and signed by the individuals who will be performing the work.

H.E.L.P. Program

Workforce Safety & Insurance (WSI) wants to help employers prevent such injuries by increasing worker safety and productivity through our new Hazard Elimination Learning Program (HELP). In 2005, there were 19,887 injury and illness claims filed in North Dakota with WSI. Through HELP, employers can expect to dramatically reduce these numbers in an economical way, and in many cases increase productivity and quality of work. HELP is a voluntary research program offering employers the opportunity to apply for funds to purchase engineering controls and advancements that will remove workplace hazards.

The purpose of HELP is to provide economic assistance to improve worker safety and conduct research on the effectiveness of each specific safety intervention. This research will be shared with other employers. By looking at worker safety before and after HELP intervention, employers get a clear picture of the effectiveness of specific safety interventions.

HELP offers private and public employers the opportunity to receive a matching 5-to-1 cash grant, with WSI picking up the larger portion. Grant awards are based upon standard premium (manual premium as modified by the experience rate surcharge or discount) for the last completed premium year. Employers are free to spend their own funds to purchase anything above and beyond the HELP grants awards listed. The safety interventions purchased through this program must benefit employees working in North Dakota and may not result in the layoff of any workers. For more information, check our website at http://www.workforcesafety.com/employers/helpgrantprogram.asp

Nursing Home Case Studies

Wyandot County Nursing Home in Upper Sandusky, Ohio, has implemented a policy of performing all assisted resident transfers with mechanical lifts, and has purchased electrically adjustable beds. According to Wyandot, no back injuries from resident lifting have occurred in over five years. The nursing home also reported that workers' compensation costs have declined from an average of almost $140,000 per year to less than $4,000 per year, reduced absenteeism and overtime have resulted in annual savings of approximately $55,000, and a reduction in costs associated with staff turnover has saved an additional $125,000 (2).

After implementing a program designed to eliminate manual lifting of residents, Schoellkopf Health Center in Niagara Falls, New York, reported a downward trend in the number and severity of injuries, with lost workdays dropping from 364 to 52, light duty days dropping from 253 to 25, and workers' compensation losses falling from $84,533 to $6,983 annually (3).

At Citizens Memorial Health Care Facility in Bolivar, Missouri, establishment of an ergonomics component in the existing safety and health program was reportedly followed by a reduction in the number of OSHA-recordable lifting-related injuries of at least 45% during each of the next four years, when compared to the level of injuries prior to the ergonomics efforts. The number of lost workdays associated with lifting-related injuries was reported to be at least 55% lower than levels during each of the previous four years. Citizens Memorial reported that these reductions contributed to a direct savings of approximately $150,000 in workers' compensation costs over a five-year period (4).

Publication Sources:

(1) Article by Dan S. Cote, The Culture-Based Safety Process Compliance Magazine July/August 2005 © Memic, www.memic.com.

(2) Documents submitted to OSHA by Wyandot County Nursing Home. (Ex. 3-12)

(3) Occupational Safety and Health Administration, Region II. Summer, 2002 New York OSHA E-Newsletter, Vol. 1, Issue 2.

(4) Documents submitted to OSHA by Citizens Memorial. (Ex. 3-25)

(5) Article by John Hidley, MD Creating Outstanding Safety Leadership Perspectives in Behavioral Performance Improvement January/February 2004

Ohio Bureau of Workers' Compensation Division of Safety & Hygiene – Ergonomics Best Practices for Extended Care Facilities

Occupational Safety & Health Administration website: http://www.osha.gov/SLTC/etools/hospital/hazards/ergo/ergo.html

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