

SAFE PATIENT HANDLING PROGRAMS

A BEST PRACTICES GUIDE FOR WASHINGTON HOSPITALS



WASHINGTON SAFE PATIENT HANDLING STEERING COMMITTEE
UNIVERSITY OF WASHINGTON NORTHWEST CENTER FOR
OCCUPATIONAL HEALTH AND SAFETY

Funding and support for this project have been provided by the State of Washington Department of Labor and Industries, Safety and Health Investment Projects



“Errors can be prevented by designing systems that make it hard for people to do the wrong thing and easy for people to do the right thing.”

***-To Err is Human: Building a Safer Health System
Institute of Medicine (2000)***

“Injuries from the manual lifting of patients are the number one health care worker injury. Mechanical lifts will not only protect our nurses but also increase the safety of the patient,”

-Governor Chris Gregoire, March 22, 2006
<http://www.governor.wa.gov/news/news-view.asp?pressRelease=266&newsType=1>

Table of Contents

Chapter I: Introduction and Background

Chapter II: The Safe Patient Handling Committee

Chapter III: Safe Patient Handling Policy and Program

Chapter IV: Assessing Risks

Chapter V: Safe Patient Handling Considerations in Bariatric Care

Chapter VI: Selection, Purchase, and Management of Equipment.

Chapter VII: Design Considerations During Remodeling, New Construction, or Patient Handling Equipment Installation

Chapter VIII: Training and Program Sustainability

Chapter IX: Evaluating Your Safe Patient Handling Program

References and Resources

Appendices

Chapter I. Introduction and Background

Introduction

Purpose of this Guide

Implementing Change

Establishing and Maintaining a Culture of Safety

Getting Started

Introduction

Creating a Culture for Safe Patient Handling: The Washington Law and Beyond



Washington State has long been a leader in efforts to improve hospital worker safety. Between 2001 and 2006, hospitals in the Washington Hospitals Workers Compensation Program decreased injuries by 43 percent through the implementation of evidence-based safe patient handling programs. In March 2006 Governor Christine Gregoire signed into law a bill (Bill 16721) requiring Washington's acute care hospitals to implement safe patient handling (SPH) programs for the purposes of reducing injuries among patients and for all direct health care workers. The provisions of the law are found in RCW 70.41.390 (Revised Code of Washington) while the regulations implementing the law are found in WAC 246-320-221 and 296-17-35203(7) (Washington Administrative Code). As part of the legislation, up to \$10 million in funding was made available to hospitals through 2010 to support the purchase of safe patient handling equipment.

While the legislation represents a new phase in the campaign for improved safety for employees, it was the outcome of years of research and practical experience in the U.S. and around the world. Over the past two decades the health care industry has increasingly recognized the high risks involved in the manual lifting and transferring of dependent

patients. Statistics on back and strain/sprain injuries among nursing staff show an unacceptable toll in pain and suffering, lost productivity, medical and lost-time costs, and loss of nursing personnel to the profession (VA Patient Care Ergo Research Guide 2001/2005).

There is widespread recognition that in most cases hospitals and other health-care institutions must undergo serious cultural change and have adequate funding for equipment in order for safe patient handling policies and procedures to take root and lead to the improved safety outcomes we all desire. Legislation alone will not solve the problem of unsafe manual handling of patients. In recognition of the need to educate hospitals about best practices and the availability of funds, the Washington Safe Patient Handling Steering Committee was formed following passage of the law. Committee members represent stakeholders throughout the hospital industry, including hospital associations, labor unions (whose members work in hospitals,) state agencies with interest and expertise in safety, and injury prevention and healthcare professionals. The committee's purpose is to provide information and networking on all aspects of safe patient handling to the institutions implementing programs under the law.

In April 2008, the SPH Steering Committee sponsored a one-day conference entitled "Creating a Culture for Safe Patient Handling" at the Tacoma Convention Center, during which experts presented the most current and pertinent information regarding safe patient handling and best practices were gathered from conference participants. Additionally, and perhaps more importantly, attendees from health care institutions from all over Washington and beyond shared experiences, both positive and negative, in making the cultural transition to, and purchasing equipment for safe patient handling. The committee also conducted two webcasts to hospitals about safe patient handling and has developed a website to assist hospitals in implementing safe patient handling programs. This publication has its origins in the 2008 conference and represents the continuing effort to communicate and network on these important subjects.

Purpose of this Guide

In the past decade excellent resources have been developed to assist institutions and providers in improving patient handling practices. This guide references many of these documents and websites, and we urge readers to make use of them. The guide borrows liberally from these resources and integrates the information with applicable case studies to demonstrate the practical implications of and need for effective policies. This emphasis on *programs* rather than on all the details of patient handling equipment and practices reflects the fact that the latter information is widely available online and in print.

We hope that the stories and cases within this publication will complement existing information and provide guidance to those in Washington and beyond. Since each institution has a unique capacity and organizational structure, solutions to challenges in safe patient handling will be different in different facilities, and indeed, different in departments of the same facility. As such, we have attempted to provide stories from large urban hospitals and smaller rural and semi-rural institutions in order to give a framework for addressing unique challenges and to increase the utility of this publication as a resource regardless of institutional size.

Implementing Change



Florence Nightingale syndrome: The belief and practice that the nurse must sacrifice herself for the benefit of the patient. In terms of patient handling this became intertwined with “blaming the victim” when nurses were injured, in the words of a 1898 nursing text, “because she has failed to do the lifting properly.” (Hampton, 1898)

Change is hard. If you work in a hospital caring for patients you can probably name a few of the obstacles to changing the way staff handle and move patients. These may include the lack of time, money, and equipment; potential staffing shortages; the “Florence Nightingale syndrome;” existing habits; insufficient training on safe patient handling in nursing schools; and lack of administrative support, among others.

However, we also have information regarding how change occurs, and the factors that influence decisions about potential change. Some of these factors include:

- The amount of change needed
- Evidence demonstrating the benefits of the change.
- Work culture and coworker attitudes towards using patient lift equipment. Administrative support
- Personal readiness and willingness to change.

Each of these barriers and facilitators to change requires thought and planning as you move toward implementation and sustainability of a program. If money and resources are tight, think about where the program has the best chance of success and start a pilot project there. Listen to what people say about their time concerns. Collect valid evidence to understand the real barriers, and distinguish those based on assumptions that may not be true. Figure out where support is needed and use education and demonstration to address real time issues and faulty assumptions.

Establishing and Maintaining a Culture of Safety

In a hospital setting, establishing a culture of safety goes beyond the prevention of needle stick injuries, violence against staff, and patient falls. Equally important is the prevention of injuries that develop over time and can lead to the premature end of a career—the types of injuries sustained from manually handling patients.

In the 2004 Institute of Medicine (IOM) report, *Keeping Patients Safe: Transforming the Work Environment of Nurses*, experts cite the interplay of three organizational elements to prevent errors in the work environment:

1. Environmental structures and processes within the organization
2. The attitudes and perceptions of workers,
3. The safety-related behaviors of individuals.

(Institute of Medicine 2004, *Keeping Patients Safe: Transforming the Work Environment of Nurses*)



However, a culture of safety goes beyond these factors alone. The organization of well-trained, skilled health work force and the design of their work to prevent adverse scenarios are necessary but not sufficient to fully safeguard patients (and employees). The IOM report references lessons from industries like aviation and nuclear power in which, similar to the medical field, high reliability and safety consciousness is essential. The IOM report does not minimize the challenges of improving patient safety and creating a true culture of safety, but rather recognizes that it is often a multi-year process and, in many ways, is never complete.

Among the salient characteristics of a culture of safety are leadership, communication, a reporting culture, and a learning organization. Leadership must be demonstrated in deeds, not just words. Management must include safety in strategic planning and resource allocation. This will encourage accountability for safety among supervisors and empower employees to question and improve practices. This is true for SPH implementation as well.

The prevention of adverse events requires the acknowledgement and communication of how these events occur. A lack of trust or skepticism about fair treatment for those who commit or report these sorts of events acts as a major barrier to reporting and an impediment to learning from the situation. Non-punitive approaches to error reporting have been found to dramatically increase reporting and improve safety in patient care delivery. A learning organization that trains its members, uses data effectively, and encourages questioning will ultimately aid in the prevention of errors. However, a policy is needed that addresses the implementation of change and the expectation of change in employee work processes.

Getting Started



The remainder of the chapters in this guide will return to the question of implementing change and offer ideas for overcoming barriers. They will also emphasize that change is not always a steady, forward moving, straight-line process. Inevitably, there will be advances and setbacks, but by learning and adjusting through each iterative step and from each other, the long-term prospects for improved patient handling practices will be brighter.

Each of the following chapters of this guide addresses a particular aspect of SPH. These are aligned with the requirements of [Bill 1672](#)¹, passed by the Washington legislation in 2006 but are largely applicable to any institution wishing to start, improve, or expand its safe patient handling program. The provisions of the law are found in RCW 70.41.390 (Revised Code of Washington) while the regulations implementing the law are found in WAC 246-320-221 and 296-17-35203(7) (Washington Administrative Code)

Chapter II covers the SPH committee required under the law, including membership, duties, training, communications, and sustainability.

Chapter III addresses the development and components of an SPH policy and program and provides model and sample policies from different institutions.

Chapter IV is about assessment of risks and determination of needs. It divides the assessment into two main levels, each with its own set of tools: an ergonomics unit or system analysis and the individual patient level analysis. The chapter includes sample procedures and forms and case studies of unit assessments from Washington hospitals.

Chapter V, SPH considerations in bariatric care, addresses one of the major drivers in improving the safety of patient handling, fulfilling the needs of the rapidly increasing bariatric patient populations in our facilities. We include holistic approaches to various aspects of bariatric care as well as specifics about patient handling for these cases.



Chapter VI covers one of the key, complex, and costly parts of an SPH program: the selection, purchase, and management of patient handling equipment. With the wide variety of equipment available in the market, it is very easy to become confused and make decisions you may later regret. This chapter emphasizes reasonable expectations of vendors, involvement of end users in equipment evaluation and selection, inspection and maintenance procedures, and the all-important topic of sling management. It also describes the Washington Business and Occupations (B&O) tax credit program that allowed acute care hospitals to recover costs for the purchase of patient handling equipment through January 2010.

Chapter VII is about design considerations for the installation of patient handling equipment, whether in existing rooms, during remodeling, or during new

construction. We often talk about ceiling lifts as the “gold standard” of patient handling equipment, but their installation raises numerous structural, electrical, and operational issues. Understanding how to work with your own facilities people, architects, and contractors is essential to successful projects, and building and electrical codes can be challenging to navigate.

Chapter VIII addresses two related themes, training and program sustainability. Hospital schedules and operations provide many challenges to training and communication about new policies, equipment, and procedures, especially something that challenges traditional methods of working as SPH can. Methods and techniques to renew energy for program improvement and to keep people involved are critical to successful programs.

Chapter IX discusses evaluation and how to assess whether your program is having an impact. It covers what to measure, how to measure, establishing a baseline, and tools for assessment.

Certain sections will be more or less applicable to different institutions. Where a hospital starts obviously depends on whether an SPH program currently exists, how effective it’s been, the facility’s patient handling needs and how those are distributed, how the organization implements program and manages change, and available resources, among numerous other factors.

Chapter II. The Safe Patient Handling Committee

Not Another Committee!

Committee Training

Committee Considerations



Not Another Committee!

If that's your reaction, it's understandable as many workers feel "meetinged out." Some may feel that there is already insufficient time to accomplish all of their necessary tasks without having to spend another two hours a month sitting around talking. Nobody wants yet another committee if it's just going to mean more meetings with no real improvement or product.

However, there are compelling reasons why the establishment of a SPH committee—either as its own entity or as a subset of the safety committee—became mandated through legislation. The purpose of this section is to help illustrate how to make the SPH committee effective, and more than "just another committee." Regulations referred to in this chapter are found in WAC296-17-35203(7)(c)(ii)

One of the provisions in the law states:

At least half the members of the . . . committee shall be frontline non-managerial employees who provide direct care to patients, unless doing so will adversely affect patient care.



Staff who work with and handle patients on a daily basis have the ground level perspective that should be incorporated in the design and implementation of the safe patient-handling program. It's a common phenomenon in safety committees in all industries that the committee work often falls by default to managers and support personnel, who are not directly engaged in production.



Health care is certainly no exception, especially when "production" means direct patient care, which always takes precedence. For this reason the law makes a point of requiring that direct care employees be included on the committee. The caveat remains that if these members are too busy with patient care to attend or participate, then the intention of direct care employee participation is defeated. As such it is important that the managerial staff recognize the time demands on direct care employees and provide an environment that supports their participation in committee meetings and decisions.

At one facility, the SPH coordinator bought floor lift equipment for the ICU. However, he didn't consult the direct care staff prior to purchasing, and unfortunately the wheels of the lifts would not fit under the ICU beds, rendering them useless. If he had involved staff representatives in the decision making process, they might have recognized this flaw, and resources could have been directed towards more useful equipment.

The committee structure must also recognize the balance between those with direct knowledge of how the work is done and those with decision-making authority and specific expertise. Direct care staff and the SPH specialist can recommend equipment and facility changes, but engineering and maintenance are needed to carry those out. The patient perspective is valuable both for input into possible SPH interventions and for optimizing communication with patients and their families over the hospital's policies and practices.

At the April 2008 conference, *Creating a Culture for Safe Patient Handling*, the workshop on effective programs made a number of recommendations to enhance committee effectiveness:

- A Safe Patient Handling Committee should be composed

of professionals and care staff from various fields within the facility who are knowledgeable and respected by their peers. Specifically, membership should include the safety officer, management, frontline care providers, human resources, a SPH specialist, representatives from laundry, marketing, finances, engineering and maintenance, and possibly even patient advocates. Sample recruitment flyers from two hospitals are provided in Appendix A and B



- Since it can be difficult to gather such a large group together at the same time, it may be appropriate to have a core group and invite other representatives to meetings based on specific topics on the agenda.
- Committee members should know their roles and responsibilities; a job description may help them to understand what duties are expected of them and the time commitment expected. A sample description of responsibilities of the safe patient handling committee can be found in Appendix C.
- The hospital must provide positive reinforcement for committee members' work. Front-line staff need managerial support to ensure that they have the ability to attend meetings (have their shifts covered). Having the meetings on the floor and performing rounds to ensure all members are current with committee activities will keep them involved.
- Committees need to be customized to the facility and regularly evaluated to ensure that they are meeting the changing needs of that facility.

Committee Training

As committee members will bring different knowledge, skills, and experiences to the table, training should focus on providing all members with a common understanding of key concepts and with promoting committee cohesion. These topics would include the following:

- Committee member roles and responsibilities
 - How to effectively carry them out, including two-way communication channels between members and their constituents
 - Realistic expectations for time commitment and how participation will be supported by management
- SPH legislative requirements
- The institution's safe patient handling policies
- Change management and common barriers likely to be encountered.

Committee Considerations

A delicate balance exists between the SPH committee and the actual program implementation. A great committee can have members who are very knowledgeable about patient handling, and they can design a detailed program. However, a successful SPH program needs champions, and these champions must reside at multiple levels of the organization, with some acting as peer leaders in their units. It is also important to have someone from the facility safety committee on the SPH committee to ensure that the two are acting in sync with each other.

From SPH Coordinator:

“As a committee, we ordered ceiling lists without first talking with facilities or construction because we didn’t think it was necessary at that point in the process. It turned out to be a mess. It would have been helpful to have someone from facility safety coming to our meetings and sharing their department’s perspective, while taking our message back to their peers. It would have saved us a lot of headache.

Thus, a committee also has the responsibility to facilitate the recruitment, development, and support of both champions and peer leaders as they work to design and implement a program. The Veterans Hospital Administration SPH program determined that a large facility needs at least a half-time champion to keep the program on track. Not every hospital will necessarily have this level of staffing, but those experienced with program implementation will testify that there is a great deal to keep on track.

Chapter III. The Safe Patient Handling Policy and Program

Required elements of a Safe Patient Handling (SPH) Policy and Program

Why a Policy?

Implementation

Implementation Case Studies

Common Myths

“All organizations are perfectly aligned to get the results they get”

- Arthur W. Jones

Not Another Committee!

Required elements of a Safe Patient Handling (SPH) Policy and Program

- Established SPH Committee [WAC296-17-35203(7)(c)(ii)]
- Hazard assessments [WAC296-17-35203(7)(c)(iv)]
- Acquisition of lifts and other equipment [WAC296-17-35203(7)(c)(i)]
- Procedures for employee to refuse to perform patient handling tasks that pose risk to employee or patient [WAC296-17-35203(7)(c)(viii)]
- Annual SPH program performance evaluation [WAC296-17-35203(7)(c)(vi)]

Why a Policy?

One common definition of a policy is “a deliberate plan of action to guide decisions and achieve a rational outcome.” A safe patient handling policy establishes expectations for how patient movement and transfer will be carried out to protect both the patient and the employees doing the task. Following SPH policies should be no different than following policies that are implemented to protect against needle sticks, blood-borne pathogens, or the spread of infectious disease. All are in place to protect the health of the staff and patients.

According to the Veterans Administration (VA) Center for Patient Safety the policy component is “just one part of a comprehensive approach to preventing musculoskeletal injuries in staff and promoting safe patient care.” The creation of a policy is necessary, but alone, is not sufficient to successfully protect both patients and staff. The VA Center also emphasizes that implementing a policy is neither fair nor productive until the infrastructure has been established to support the policy and the members of the organization in carrying it out.

Necessary infrastructure is both physical and organizational, and includes:

- Management commitment and support
- Appropriate equipment, available and maintained
- Employee training, including more specialized training for key personnel involved with the program, and annual refresher training for everyone
- A culture of safety.

With regard to the last item, the British Columbia Interior Health Authority explains that a “culture of safety approach” to safe patient handling

refers to the collective attitude of employees (including supervisors, care staff and management) taking shared responsibility for safety in a work environment and, by doing so, providing a safe environment for themselves as well as the [patients].

A policy also has the power to reinforce accountability. By identifying the responsibilities of personnel of all positions—managers, supervisors, care staff, engineering supervisor, etc—the policy moves from being words on paper to a schematic for how proposed objectives can actually be accomplished.



Many institutions have developed SPH policies so there are numerous models to review and consider. One of the pioneering organizations in safe patient handling is the Veterans Administration Patient Safety Center in Tampa, Florida. Its sample policy reproduced here (Appendix D) provides a template, but you needn't be tied to all parts of it. At the end of this chapter links are provided to a number of other samples. A specific policy and procedure required by the Washington legislation concerns the right of employees to refuse to perform patient handling that they believe in good faith poses a risk of injury to the patient or employee. For a sample model of a right to refuse policy under Washington Safe Patient Handling Law see Appendix E.

Implementation



There is no single model for successful implementation of an SPH policy and program. Each program needs to be tailored to the providers, patients, facility, and the specific solutions that the program concerns. Lessons can be taken both from the general literature on program implementation and from the specific experiences of other institutions, including those in Washington. In subsequent chapters, specific topics like risk assessment, equipment purchase and installation, and training are covered; however the following includes a more general discussion of implementing change.

Leadership

Successful implementation requires leadership at upper levels of the institution and at the unit level. Both are necessary for the program to launch and continue over time. A visible champion in upper management provides both material support and a morale boost to the program. Those directly involved in implementing the program can point to this leadership as demonstrating a commitment to cultural change when barriers are encountered. Needless to say a leader with the power to allocate resources to the program also provides an important boost.

In making the case to hospital management, Washington State SPH advocates have an obvious advantage: the state legislation requires an SPH program and the funds that were available to help pay for equipment in the form of [B&O tax rebates](#)³ reflects Washington State's commitment to the SPH movement. But beyond these drivers and incentives, other potential benefits can justify investment in an effective SPH program. Among others, the VA Center document, [Patient Care Ergonomics Resource Guide: Safe Patient Handling and Movement](#)⁴ identifies the following:

- **Injuries:** reduction in the incidence and severity of direct care staff injuries
- **Costs:** reduction of direct and indirect costs related to patient handling injuries
- **Employer of Choice:** the hospital as a more attractive place to work in terms of improved job satisfaction, decreased turnover rates, decreased musculoskeletal discomfort, and increased empowerment of direct care staff
- **Quality of Care:** increased patient comfort, security, and dignity during transfers; promotion of patient mobility and independence; and enhanced toileting outcomes and increase in continence
- **Patient Safety:** decrease in patient falls, skin tears, and abrasions.

Unit-Level Leadership

At the unit level some hospitals have had success with peer SPH leaders. These go by various names; in the VA Center system they were previously called Back Injury Resource Nurses (BIRNS), but they are now referred to as Unit Peer Leaders because the responsibilities of the role go beyond back injuries and the position can now be undertaken by other, non-nursing, direct care staff. In the document, [*Patient Care Ergonomics Resource Guide: Safe Patient Handling and Movement*](#)⁴ the VA Center describes the Unit Peer Leader/BIRN role as follows:



[They] assist in building a “Culture of Safety” to support clinicians in providing safe patient care and safe working environments. BIRNs’ roles and responsibilities include facilitating the implementation of elements selected for inclusion in your Safe Patient Handling and Movement Program. They can help to implement Safe Patient Handling and Movement Policy, Algorithms, and other key interventions. They will train co-workers on the program elements and assist in monitoring and evaluating these program elements. They will act as resources, coaches, and team leaders on their unit. In this role, they will share their knowledge gained with co-workers and with other BIRNs in their facility and in the VHA.

Peer leaders can only do their job with adequate management support. Since their role in SPH is collateral to their regular responsibilities, management must provide the time and backfill staffing that will allow them to perform SPH training and other support work without compromising patient care or putting extra work on other nurses. These peer leaders can share lessons from their units and learn from others’ experience through networking and meetings—both in person and over the telephone. For further information about peer leader roles and practices see the [*Patient Care Ergonomics Resource Guide: Safe Patient Handling and Movement*](#)⁴

Tools for leaders

The VA Center has published an comprehensive resource document with charts, forms and outlines that can aid leaders and champions in identifying and documenting issues throughout the process of creating and implementing a safe patient handling program. This [*Safe Patient Handling Guidebook for Facility Champions/Coordinators*](#)⁵ includes peer leader and facility coordinator information, equipment selection information, programmatic elements including a sample committee charter, brochures and questionnaires, staff leader monitoring, program evaluation, bariatric handling, training programs, and other resources.

Implementation Case Studies

Case #1: 300-bed Regional Hospital



History: *The Washington legislation grew from a number of years of attention to safe patient handling. In the late 1990s this hospital was experiencing \$2 million in claims per year, many for musculoskeletal injuries related to patient handling and movement. The development and issuance of the 2000 Washington State ergonomics regulation also focused attention on patient care as one of the high-risk areas for back injuries that could be addressed with improved ergonomics. Although the state regulation was eventually repealed, this increased attention led to successes. The hospital began ergonomics training with its employees in 2000, and two years later, they kicked off a new employee health initiative. Employee health FTE was increased and an ergonomic specialist was hired. In 2004, the hospital began placing patient lifts on one floor, and as a hospital remodeling project took place, ceiling lifts were included in most departments. Although this ergonomics program started slowly, it gained momentum in 2006. In 2007, Employee Health estimates that it has saved the hospital \$3 million in premiums.*

Lessons: A number of lessons can be derived from the identification of programmatic elements that facilitated change and others that continue to act as barriers. The hospital administration fully supported the safe patient handling effort. Without this visible and real financial support, Employee Health would not have had the success it did. By investing heavily in lift equipment, the hospital made SPH more than a novelty. The

concurrent remodeling undoubtedly aided this success by allowing for the more cost-effective introduction of ceiling lifts. Meaningful recognition for good practices was also important. Employee Health personnel gave frequent rewards, such as gift cards for coffee, to employees who embraced the SPH program and practiced it.

The program also encountered, and continues to face, numerous challenges. Bedside patient handling remains the highest risk. Employees also experience slips and falls—problems the employee health director attributes in part to an aging workforce. Older workers embrace patient handling technology less readily than younger employees. Many areas of clinical practice still don't fully embrace or integrate SPH practices. Time commitment is a barrier both for use of equipment and for participation in SPH meetings. The perception that using the proper equipment will take substantially more time may only be the case if one has to seek out a hidden or buried floor lift. Evidence shows that the time barrier is a mere 30 seconds for using ceiling lifts as compared to manual lifting. As such, it may be a good idea to measure the time it takes for a skilled staff in your own facility to do different transfers and publicize it to others in the unit.

Keeping track of slings and having them available in the right places when needed is also an ongoing challenge, especially as bariatric patient census continues to increase. If slings are readily available, one suggestion may be to leave the sling under the patient, diminishing the physical exertion and awkward postures necessary for each use.

Case No. 2: 25-bed Critical Access Hospital

History: *A new safety director arrived in 2004. He noted that the most frequent injuries hospital-wide were back injuries and needlesticks, and that these were concentrated in the medical-surgical and intensive care units. To address the former the safety department surveyed direct care employees regarding patient handling equipment that they preferred (The hospital owned one lift and one power transfer mat at the time). After a trial with overhead lifts in two rooms in 2005, the hospital began a purchase and installation plan that resulted in 9 overhead lifts in 2006, 7 overhead lifts and two portable lifts in 2007, 9 overhead lifts and additional sit-to-stand and power transfer mat in 2008, and plans for 4-5 additional overhead lifts in 2009. Lift equipment training was implemented in certified nursing assistant and licensed practitioner nurse competency review training in 2008.*

The program has not been without problems. The SPH policy is still viewed as more an advisory document than a true policy to be followed. Training has been limited, mostly occurring during annual two-hour competency trainings. Opinions vary among different personnel, but there is agreement that equipment is used only some of the time, even for very heavy lifts. There is a perception that

just getting patients into lifts often requires a lot of exertion. One area of the hospital that does seem to have benefited significantly is diagnostic imaging. Here power transfer mats and overhead lifts are used by staff, who feel the equipment has made the job a lot easier.

Lessons: Lessons from this hospital include the importance of systematic and extensive training along with purchase of equipment, the need for champions at the upper management and unit level, and follow-through to insure that the SPH policy is implemented as written. While top management was clearly supportive, it seemed that the support was conveyed mainly to the safety director and not fully to employees and managers. Diagnostic imaging had a local champion who valued the support and expertise of the safety manager. This was less apparent in the other nursing units. This case also illustrates that the introduction of equipment is not enough. The presence of equipment does not guarantee usage, therefore, it is important to provide training and foster a culture of safety in order to optimize the effects that the presence of the equipment can have.

Case No. 3- 1000+ bed health care provider



History: *Our ICU units have 100% ceiling lift coverage and the nurses have all been trained on use of the lifts and slings. In spite of enthusiasm for installing the ceiling lifts, I still noticed that not all the nurses were using the repositioning slings on the beds. The culture of safety was slow to take over.*

One of the injuries that unfortunately occurred this year on this unit was a young nurse who tore her rotator cuff by pulling a patient up in bed using the cloth pad that lies under the patient's lower torso. The nurse was off work for a period of time then returned to light duty and retrained to ensure proper understanding of the equipment in congruence with our HR policy and safe patient handling procedure. The proactive manager set up a series of reviews during staff meetings for everyone to revisit the

rationale for the use of equipment and the safe patient handling policy. The renewed effort was tagged, "getting back in the sling of things." A roll out date for 100% compliance was set for 1 month away.

Even housekeeping was involved in the process, trained to be place the sling on each ICU bed as it was made up and educated why they were asked to do so. A standard was set that the sling was not to be removed until the patient was independent in all transfers and bed mobility for greater than 24 hours. Once the roll out was complete it was discovered that we were actually short on slings and we couldn't keep up with the demand now that everyone was using them. We approached administration and they responded with 80 more slings to be deployed.

The nurse who injured herself told me later that after she returned from her medical leave she was approached by a float nurse who wanted help manually pulling someone up in bed. The injured nurse stood up to the float nurse and told her she refused to manually lift someone up and they needed to use the ceiling lift. The float nurse was irritated with her and left. It sometimes takes a lot of courage to do the right thing, but hopefully many more will now that this unit has the supplies they need and the renewed effort with their program.

Lessons: This example illustrates how HR safety policy can interface with Safe Patient Handling. There is a debate on whether a disciplinary process should be implemented when an injury occurs as a result of a staff member not using equipment or using it improperly, but our process is directed toward re-education and some large institutions have found that it helps hold employees accountable. Establishing a comprehensive Safety Culture can be difficult and slow, however, incorporating policy aspects into the process infrastructure, i.e. involving housekeepers, and promoting courageous champions and peer leaders, can help facilitate progress.

Common Myths

These case studies not only illustrate barriers and lessons learned from the implementation of safe patient handling, but also bring to light a number of commonly held myths regarding such programs. For greater detail and supporting evidence regarding these myths and facts, please see the VA [Patient Care Ergonomics Resource Guide: Safe Patient Handling and Movement](#)⁴:

1. *“Classes in body mechanics and lifting techniques are effective in reducing injuries”*
20+ years of experience shows us training alone is not effective
2. *“Patient Handling Equipment is not affordable”*
The long-term benefits of proper equipment far outweigh costs related to direct care work-related injuries
3. *“Staff in great physical condition are less likely to be injured”*
The literature generally finds this to be not true. Why? These staff are exposed to risk at a greater level; co-workers are 4 times more likely to ask them for help
4. *“If you institute a No-Lift Policy nurses will stop lifting”*
Before Zero-Lift Policies are implemented, infrastructure needs to be in place—both technology and culture
5. *“Various lifting devices are equally effective”*
Some lifting devices are as stressful as manual lifting. Equipment needs to be evaluated for ergonomics as well as user acceptance
6. *“If you buy it, staff will use it”*
Reasons staff do not use equipment include time to find and deploy, availability, difficult to use, space constraints, former habits, and patient preferences
7. *“Use of mechanical lifts eliminates all the risk of manual lifting”*
The patient must be lifted in order to insert the sling. Furthermore, human effort is needed to move, steady and position the patient

Chapter IV. Assessing Risks

Introduction

Who should perform the systemic risk assessment?

How is the system level risk assessment conducted?

Documentation, recommendations, and sharing of findings

Individual patient assessment

What tools are available to help in individual patient risk assessments?

Algorithms

Introduction

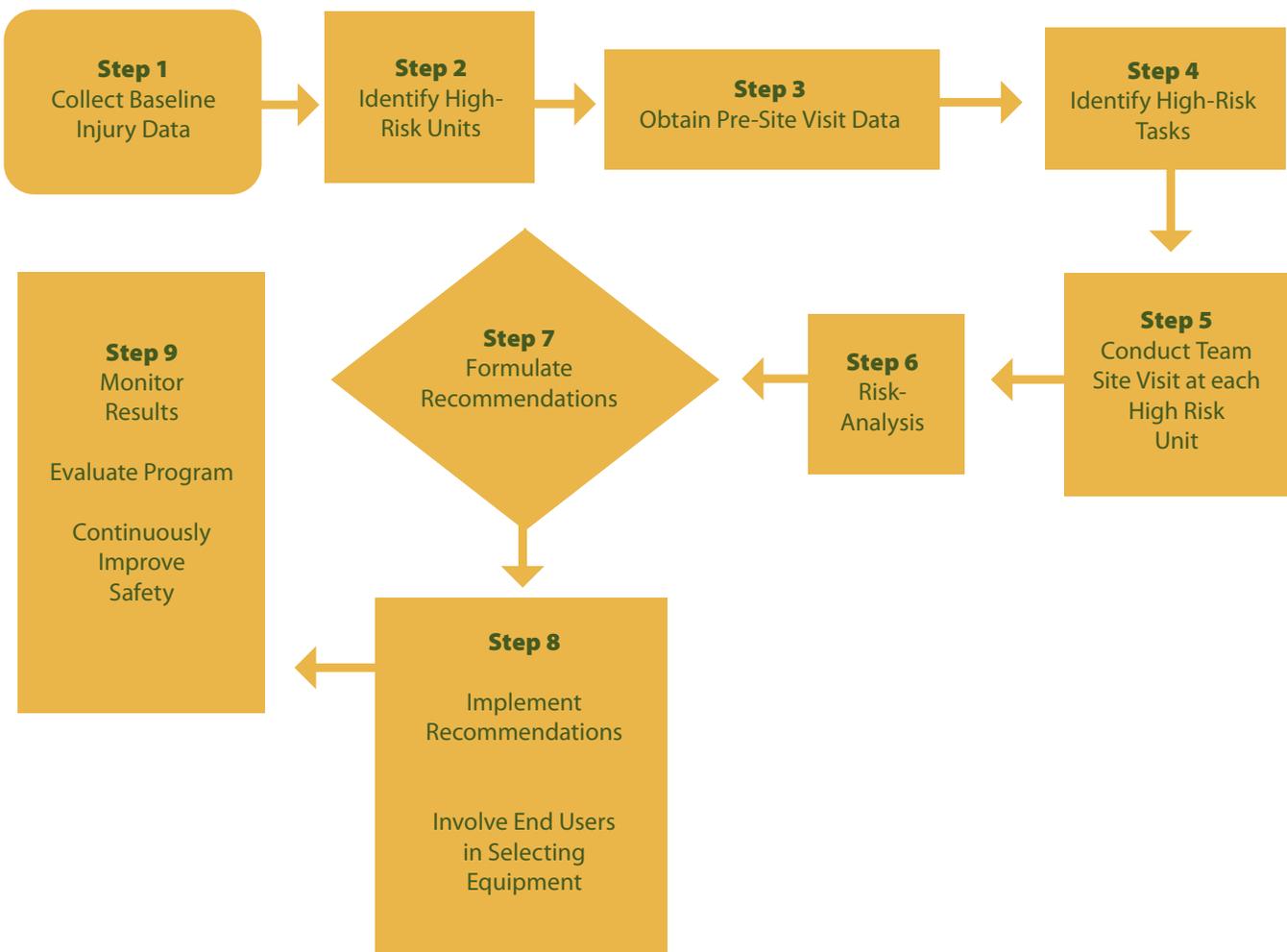


High-risk patient handling tasks vary by unit in acute care settings so there is no single solution that can be applied across the hospital. The law and regulations in effect call for two levels of hazard assessment [WAC296-17-35203(7)(iv,v)]. One takes place at the *macro* level, using a system or unit analysis approach, while the other works at the level of the individual patient. The former is broader in scope as it reviews the types of nursing units, patient populations, patient-handling tasks and physical environment of the various hospital units in order to identify where an intervention may be needed and to prioritize high-risk units and tasks. See Figure 1. This is the assessment a facility does to determine overall needs and strategies for SPH. The risk assessment at the patient level calls for the assessment of an individual patient’s physical and medical condition to determine appropriate measures for lifts, transfers, and transport, i.e. how the safe patient handling (SPH)

policy will be applied in each instance. If the macro level assessment has not been done and followed, a unit may find that it does not have the equipment, training, and policies to deal effectively with the individual patient’s risks.

Organized processes are needed to perform both of these types of assessments and fortunately, tools are available to do so. While each hospital and unit has unique characteristics and needs, general guidelines do exist based on research and the experience of other institutions.

Figure 1 shows a step-by-step protocol for performing an ergonomic risk assessment at the macro level that can be modified for institutions of various sizes and complexity.



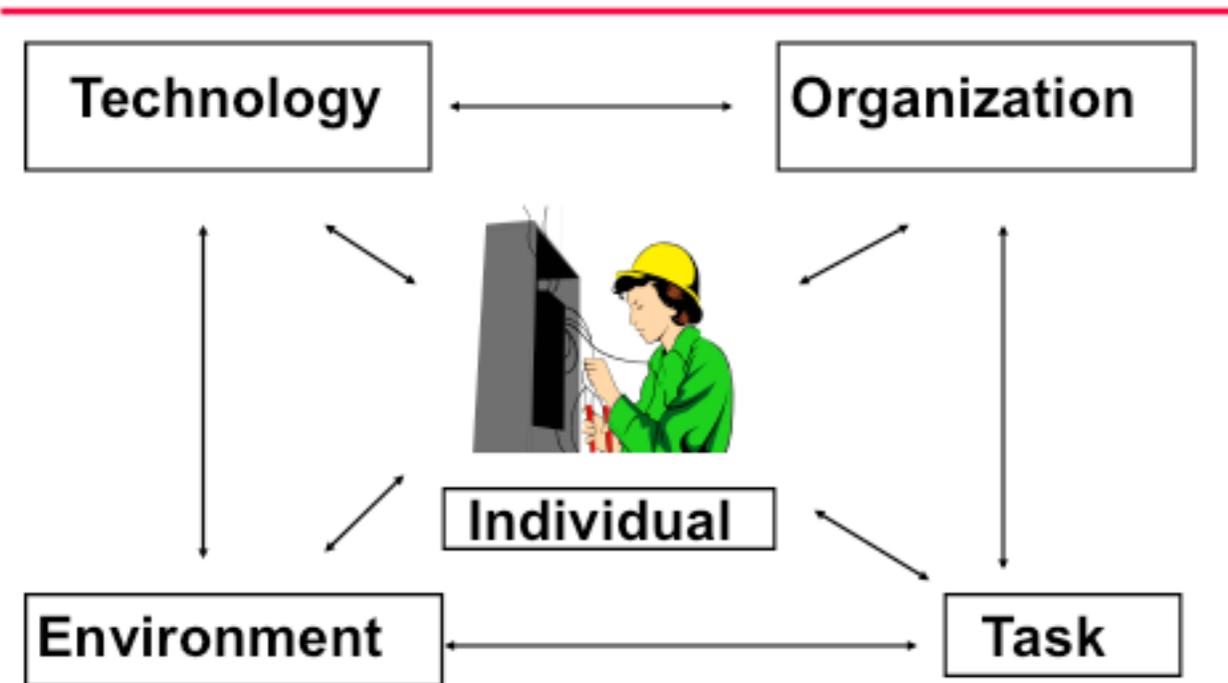
Source: *Patient Care Ergonomics Resource Guide: Safe Patient Handling and Movement*, Tampa VA, 2005

Analyzing your facility's injury data to determine the who, what, where, when, and how of patient handling related injuries is often the first step in risk assessment. These data include both employee injuries recorded on the OSHA 300 log and in workers' compensation claim records, but also patient injuries that may be related to handling, such as falls and skin breakdown. Analysis should be conducted by unit and rates, not just absolute numbers, should be calculated. Next examine any further records that are available on individual injury cases, like accident reports or investigations, to gain additional detail that can more clearly identify risks. The findings from this analysis form the starting point for the more proactive process of direct assessment of high-injury units. Generally, the more detail that is collected about each patient handling-related injury, the more valuable are the data. Surveys and interviews with managers and direct care staff in the unit can amplify and clarify written records.

Units identified as high-risk or potential high-risk become the priority targets for systematic risk evaluation. In this step you are looking for risk factors, i.e. those conditions or situations that are likely predictive of higher rates of injuries related to patient handling. Figure 2 illustrates a general model for understanding risks, called the *work systems* model. Note that four major sets of factors affect the worker's ability to perform the work safely: 1) technology (or tools), 2) the physical work environment, 3) the organization of work, and 4) the tasks of work. In this model if all the components are properly balanced, the worker is able to perform his or her tasks efficiently, productively, and safely. Where connections are broken or out of balance, both the worker and the workplace are adversely affected.

Figure 2: The Work System model, a framework for understanding and assessing patient and employee safety risk

WORK SYSTEM



Smith & Sainfort



Source: Carayon P, Alvarado CJ, Schoofs Hundt A. 2007. Work design and patient safety. *Theoretical Issues in Ergonomic Science* 8(5):395-428

Figure 3 provides a similar model but one more specific to patient handling. Patient handling risks are related to the physical demands of the job, but these in turn are defined and strongly influenced by the contextual factors related to patient, work environment, and work organization as follows:

- The Patient: Each patient will demand a different level of support depending on his or her physical and cognitive constraints
- Work Environment: Accessible tools and equipment, as well as the physical space that either allows or disallows their use will contribute to physical demands;
- Work Organization: Scheduling, time of day, mix of tasks will influence the workload of the staff, however, shift and task scheduling are not enough. Adequate and knowledgeable staffing and supervisory support are also essential to this factor.

Assessment of the variables in these three categories requires an organized process, one that we can call an ergonomic system analysis of potentially high-risk units.



Who should perform the ergonomic risk assessment?

The assessment is best done with a combination of people with some ergonomics expertise and those with direct knowledge of the tasks, equipment, and environment being evaluated. The assessment team can be, and typically is, the SPH committee. The size of the assessment team will vary depending on the hospital, the resources available, and the schedules of personnel. Typically team members will come from nursing, physical/occupational therapy, and employee safety and health, but facilities, outside ergonomic consultants, and others may also add value. Some hospitals have included “super-users”—direct care staff members who perform lots of patient handling. Whoever makes up the assessment team, they must work closely with both managers and direct care staff of the affected units in order to give context to their observations.

How is the ergonomic risk assessment conducted?



Once high-risk units have been identified through baseline data analysis, the risk assessment team can then move to obtain pre-site visit data that to identify high risk tasks. Gathering a good deal of information prior to the in-person walk-through will allow the team to be more effective and efficient during the actual site visit. This data could include: detailed injury data; equipment, space, and workplace layout issues; maintenance and repair information; the typical patient population; and staffing and scheduling data. Survey forms to collect these types of data can be found in the [Patient Care Ergonomics Resource Guide](#)⁴ described above. A sample tool for gathering care staff perceptions of priority risks is found in Appendix F. This does not negate the importance of disseminating SPH information among other units that have not been identified as “high-risk,” but rather gives some direction for prioritization.

These data are essential to understanding the needs of the unit and the types of interventions that may be appropriate. Requests for such data should be sent to unit management well ahead of time to allow ample preparation time—both for management to gather the data as well as the team members to review it at least a few days prior to the site visit. The site visit will be most productive if the team has taken the time to digest the pre-visit data and thereby prioritize the observation of specific tasks, equipment, and work areas.

The risk assessment team must be trained to a common understanding of the process, and the team leader must clearly communicate this process to the units that will be reviewed. If unit direct care staff have contributed to the pre-visit report, the team will have a good sense of the perceptions of patient handling issues. However, if staff input has been minimal, the team will need to spend more time with unit personnel during the site visit. In such cases management should be made aware of necessary provisions to relieve those staff members who the team wants to interview.

The actual site visit should consist of an opening discussion, a questionnaire, a tour, an observation period and a closing discussion.

The opening discussion or conference between the assessment team and the unit manager and other unit staff can be a venue to exchange and clarify preliminary information. When the team feels the discussion has produced a good understanding of the operations of the unit and staff perceptions of patient handling issues, they can then take a physical tour of the unit. During the tour, they can observe high-risk tasks, if they are taking place at the time, and can view patient handling and transfer equipment, room layout, storage areas, toileting and showering processes and equipment, and other critical factors.

Although the length of each site visit can vary due to facility size, scope of needs, and existing organizational structure, a sample schedule can be found below. Some unit managers may not be willing or able to spare a two-hour block of time. If a proper assessment cannot be done in the time available, the activities can be divided done in different phases to minimize the impact on work.



Sample Unit Site Visit Schedule

Site visit: 2 hours

- **Opening Conference Interview: 30 Minutes**
- **Front Line Staff manual handling questionnaire: 30 minutes**
- **Tour of unit : 15 minutes**
- **Observation period (Ergonomics and Safety staff only): 30 minutes**
- **Closing conference (manager, ergonomics and safety only): 15 minutes**

Documentation, recommendations, and sharing of findings

A sample format for documentation of findings, completed by the assessment team, is presented in Figure 3. Note that the report includes types of patients, type of unit, current equipment, other relevant information (e.g. future plans for the unit), specific problems identified, and proposed solutions. The reporting will be most effective if it is kept as objective as possible and particularly avoids placing blame for problems. At this stage it is more important to identify what needs improvement. This is not to downplay the importance of accountability, but assignment and responsibility for the changes identified and agreed upon can come in the implementation stage. While the assessment team has primary responsibility for the report on the unit, staff and management of the unit and members of the SPH committee should be involved in developing the recommendations.

Figure 3: Sample Summary Data from Site Visit, adapted from the VA Center Guide

UNIT: _____

PATIENT DESCRIPTION	Spinal chord injury—includes new injuries and 4-6 ventilator dependant patients 60% of patients are totally dependent
UNIT DESCRIPTION	34-bed SCI unit: 2 wings, 7 private rooms, 3 semi private rooms, 5 three-bed rooms Showers and bathrooms are communal (2 areas)
Misc Info	Unit will be moving in 8 months
Equipment	3 ARJO Maxlifts TotalLift II Not used: Mobilizer, surfboard
Problems Identified	Most injuries are from repositioning patient in bed Lateral transfers are also problematic, no equipment that staff has found useful No preventative maintenance program for equipment One additional lift needed for peak periods on each shift, batteries on existing lifts are old, and not all lifts have scales New batteries, 2 XXL slings, and one scale for ARJO Lift
Solutions	Pneu-Care mattresses for 10 beds or ceiling lift with clamps on sheet to pull patient I in bed or parachute material for sheets. Get estimate of current mattress expenditures and get turn-assist or rotational therapy added on. Explore best surface for pulling up in bed Two gait belts with handles One powered lateral assist device Explore value of friction reducing devices Additional MaxiLift with scale Preventative maintenance program needed

In developing recommendations and solutions, it's important to prioritize actions and recognize why certain recommendations are being made. For example, a team might choose to first tackle the "low hanging fruit," easier problems to solve that will still have an impact. Alternatively, a team might base its recommendations on what action will affect the greatest number of staff at risk or what will achieve the greatest cost reduction. A documented rationale for the recommendations you are making will come in handy down the road when you are evaluating the process and outcomes.

Individual patient assessment

The risk assessment described thus far is intended to provide each unit with what it needs in terms of equipment, staffing, and training to permit safe and proper patient handling. In the real world, every unit will not have all its needs met immediately, but the systemic assessment will at least identify tangible objectives that can inform the development of a macro-level plan. While this assessment can be repeated annually or at other intervals, the individual patient assessment must occur multiple times on a day since patient condition can change throughout the day. This latter assessment involves determining the specific techniques and equipment that should be employed with each patient. It takes into account individual patients' dependency levels, cognition, care needs, and related variables that will ultimately affect how they should be cared for and handled. It is also heavily influenced by the levels of training that the providers have undergone and the types of equipment that are at their disposal.

What tools are available to help in individual patient risk assessments?

Numerous reference guides and forms have been developed to assist with patient risk assessment. Documents with guides and template forms that can be accessed for free online include:

- [*Reference Guidelines for Safe Patient Handling*](#)⁶- Occupational Health and Safety Agency for Healthcare in British Columbia (OHSAH BC). Section 3 ("Risk Identification, Assessment and Control") provides guidelines for many specific patient handling tasks as well as good advice for risk assessment and overall musculoskeletal injury prevention programs. Numerous tables and tools are also provided to gauge the progress of assessing risk. For example, see Figure 4

Figure 3.1 Risk identification, assessment, and control in patient handling

Step 1.	Identifying and assessing potential risk factors:
Environment:	flooring, obstacles, space, equipment, potentially confusing wall/floor patterns, distance to be moved, lighting, noise, temperature
Organization:	education and training, availability of assistance, workload, work flow
Equipment:	availability, cleanliness and condition, appropriateness to task, compatibility with environment, adequate caregiver training in equipment use, patient comfort and safety levels
Caregiver:	skills, education & training, fitness and physical capabilities, medical & emotional status, clothing and accessories, physical force, posture, repetition, duration, contact stress, psychosocial stresses
Patient:	care plan (checklist, pictogram) available with current handling procedures, communication level, cognitive status, behavioural and emotional status (history of violence or other current risk factors), medical status, physical and sensory status, clothing, assistive devices, ability to assist
Step 2.	Deciding on the appropriate patient handling technique:
	Check care plan (refer to care plan section) & history of previous incidents Consider risk assessment results & match with care plan Consider facility patient handling policies and procedures Determine appropriate patient handling technique: <ul style="list-style-type: none"> • safe and comfortable for patient • provides maximum patient independence • causes minimal biomechanical load on caregiver(s) with maximal safety (good body mechanics, appropriate equipment, and appropriate number of staff)
Step 3.	Preparing for the patient handling task:
	Preparing the environment Preparing the assistant(s) Preparing the equipment Preparing the care giver Preparing the patient
Step 4.	Performing the patient handling task.
Step 5.	Evaluating the completed patient handling task.

Figure 4:
Risk identification, assessment, and control in patient handling

- [*Patient Care Ergonomics Resource Guide: Safe Patient Handling and Movement*](#)⁴, Patient Safety Center of Inquiry, Veterans Health Administration, Department of Defense, Tampa, FL, 2001/2005. This may be considered the “bible” of safe patient handling guides, containing a detailed section with a number of specific tools and forms for risk assessment data collection. Specifically, chapter 3, “Ergonomic Workplace Assessments of Nursing Environments,” provides materials and information on macro-level concerns, while chapter 5, “Patient Assessment, Care Planning, & Algorithms for Safe Patient Handling and Movement,” addresses the micro-level patient concerns
- [*Swedish: Safe Patient Handling Risk Assessment Guide*](#)⁷. This package puts together a number of the relevant pre-site visit and on-site risk assessment forms and other sources cited. Thus, it may be a good starting point from which to develop your own set of assessment materials.
- Chapter 5 (“Evidence-based guidelines for patient assessment, care planning and caregiving practices in safe patient handling and movement”) in [*Safe patient handling and movement: a guide for nurses and other health care professionals*](#)⁸ by Audrey Nelson, the Director of Patient Safety Research Center at the Veterans Administration (VA) Center for Patient Safety, contains assessment criteria and care plans for safe patient handling and movement

Algorithms

In order to provide some standardization with such a diversity of patient, task, and care scenarios, algorithms have been developed for many of the lifting and transfer tasks that are frequently encountered. The VA has developed several algorithms to guide the safe handling of bariatric patients, which are organized as flow charts and are described in Chapter V of this guide, *Safe Patient Handling Considerations in Bariatric Care*. The original algorithms can be accessed in their [*Patient Care Ergonomics Resource Guide: Safe Patient Handling and Movement*](#)⁴.

OHSAH BC’s [*Reference Guidelines for Safe Patient Handling*](#)⁶ also provides tables in which one can cross reference the level of patient dependence with the proposed guidelines for specific high-risk tasks. Tasks described in this document include:

- Sitting a patient up in bed. Turning a patient in bed, repositioning a patient to side of bed, boosting a patient up in bed, sitting a patient up on side of bed
- Inserting a bedpan
- Boosting patient up in low-back/high-back chair, boosting patient up in recliner chair
- Bed to/from chair/commode
- Wheelchair to/from chair
- Bed to/ from stretcher, both with adjustable height
- Up from floor
- Toileting
- Car transfer
- Chair to/from tub – In all cases the bathtub needs a high friction base
- Assisted walking
- Lowering a patient to the floor
- Stairs
- Washing and bathing
- Operating table to/from stretcher

This OHSAH-BC document also provides a risk identification form and a task analysis worksheet, among other useful tools in its appendix.

Chapter V. Safe Patient Handling Considerations in Bariatric Care

Defining Bariatric Care & Obesity

Bariatric Care and Safe Patient Handling

A Real-World Story

Bariatric Approaches and Interventions

Bariatric Patient Handling Algorithms

Summary

Defining Bariatric Care & Obesity

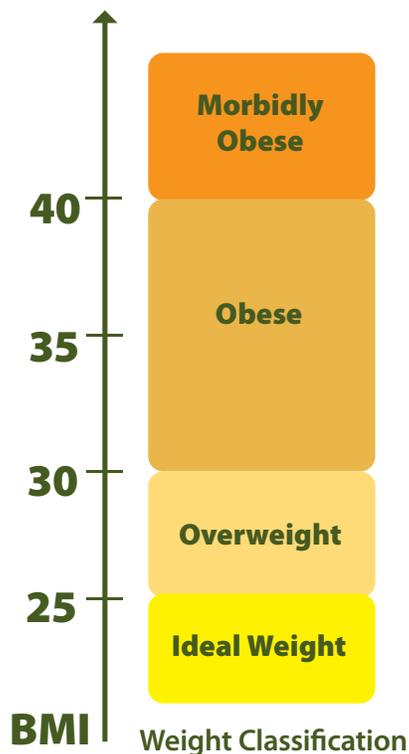
Bariatrics refers to the treatment of obesity and its associated conditions within the healthcare system. This includes not only the provision of adequate care and mobility to promote health for the patient, but also the implications that administration of this care has for the healthcare workers.

Obesity is a state in which a person's body weight is well above that which is considered ideal or healthy for his/her stature (MedlinePlus Medical Encyclopedia). Frequently, the medical profession determines obesity by calculating a patient's Body Mass Index (BMI).

$$\text{BMI} = \frac{\text{weight (kg)}}{\text{height squared (m}^2\text{)}} = 703.07 * \frac{\text{weight (pounds)}}{\text{height squared (inches}^2\text{)}}$$

The BMI calculation gives a number, whose value corresponds with a weight classification. This value can also be referenced quickly in a table, such as the [BMI Index Table](#)⁹ provided by the National Institute of Health (NIH). If the BMI is between 25 and 30, the patient is classified as "overweight," and between 30 and 40, he or she is classified as "obese." Higher BMI values reflect that the patient is exceeding their ideal weight to a greater extent.

Note that the BMI calculations are not always accurate for purposes of defining obesity. When an individual has a large proportion of muscle mass weight on a short frame, as is the case for many athletes, the calculation can lead to a high BMI and the false classification of the patient as overweight or obese.



Bariatric Care and Safe Patient Handling

The safe patient handling movement has made significant strides in Washington over the last few years. Many hospitals voluntarily structured safe patient-handling programs even before the legislative requirements began to be phased in. This growing attention to safe patient handling is due, in part, to the steady increase of bariatric patients in acute care hospitals. Risks associated with the movement and transport of bariatric patients within systems that lack the design and capacity to accommodate them will increase with the number of bariatric patients admitted. As this trend shows no signs of reversing, bariatric care will inevitably influence decision making in favor of safe patient handling equipment for hospitals across the state. There are many compelling reasons for improving patient handling, but the increasing size and acuity of patients make the need for safe patient handling practices inescapable.

Physical and institutional matters, such as doorway clearance and weight capacity of scales and lift equipment, are typically identified issues in bariatric care (examples of which can be found in the [Technology Resource Guide for Bariatric Patients](#)¹⁰, available through the resources from the [VA Center Safe Patient Handling Movement](#)¹¹), but social environment concerns are also important.

"Obese patients often feel unwelcome in medical settings, where they encounter negative attitudes, discriminatory behavior and a challenging physical environment." (Syed et al. 2002)

Sensitivity to a patient's weight is critical in order to meet and exceed the patient's expectation of receiving quality healthcare. Many healthcare facilities struggle with the challenges of managing bariatric patient care tasks including turning and repositioning the patient in bed, transferring the patient in and out of bed, or holding a limb while performing patient care tasks. However, there are many ways to turn such challenges into opportunities for success in delivering healthcare. Quality outcomes can be and are achieved. Most importantly, preserving patient dignity should be a primary goal across strategic initiatives for bariatric care.

A Real-World Story

The following story is a real case obtained from interviews with a bariatric patient, “Ricky,” and his caregivers. Although slight modifications have been made to preserve anonymity of both the patient and the hospital, this case illustrates the challenges that many bariatric patients in acute care settings.

Emily, RN, Emergency Department:

Ricky was brought to the hospital by a fire department ambulance specially equipped for transporting bariatric patients, with two EMT teams on hand, Ricky is in his 50s, he himself is an RN, and he presented lying on his stomach—a position that he readily tolerates, but not typical in healthcare because you could not see his face. We had him in RM 9 under a 625-lb fixed ceiling lift with an additional 1000-lb lift in the room, which fit but it was tight. The transport staff also had a 1000-lb bari bed with built-in scale next to the fire department’s 1000-lb capacity stretcher. We had to raise the 1000-lb lift by twisting the handle at the bottom and making sure each were equal on both sides.

Ricky:

The ER staff had a “fat-bias” and overreacted when they saw me. Firefighters put me in the ER bed with the 1000-lb ceiling lift and some manual help. I was transferred from the floor to a bariatric bed that was too high, and the air mattress that made it very difficult to move. The staff didn’t know how to use the “rolypad,” but I had a sling on at all times. No one had to lift me and I assisted in all turns.

We went from ER to CCU—I was still moving and using urinal. PT did not see me or talk to me until the next day. I then went to the floor, and again to the CCU. I felt like the staff didn’t want to deal with me because of my size and they thought that they might get injured.

David, Employee Health Director:

On the floor he went into respiratory distress, but the nursing staff was not able to get the bed out of the room. The door was 44 inches wide, the bed was 52 inches, and the transporters and nursing staff didn’t know the bed could be reduced to 39 inches. We finally got him out of there, but no one told his wife where we were taking him. She found him in the CCU, and overheard a nurse saying, “I’m not going in there and hurting myself.” We had equipment for his size and he had a sling on the whole time, although the slings were placed wrong and the small bumps on the straps were rubbing against his skin.

Jackie, Ricky’s wife:

Even though he was having trouble breathing, the pulmonary physician told us “we’re not going to do anything.” We were shocked at first because we thought he meant they were going to let him die. It was only later that the employee health director told us they were going to wait and see how well he could breathe on his own rather than risking putting in a trach. What a relief. Unfortunately, we heard staff multiple times outside the room saying “I don’t want to get hurt.”

Ensure that proper bariatric equipment is available, accessible and utilized when the need is presented

Deal with the bariatric patient as a person, not just with their obesity

Adjust equipment to fit each patients needs, knowing when each piece is appropriate to use and how to use it

Delays in care should be explained to prevent patient from feeling like weight biases are preventing proper care

Communicate adequate care information to the patient and family members

Bring injury concerns to the attention of a supervisor instead of casually discussing them in public spaces.

Use bariatric care as an opening to train staff on the many uses of bariatric equipment, and encourage them to seek methods of care to maintain patients integrity

Adjust equipment to fit each patients needs, knowing when each piece is appropriate to use and how to use it

Learn from the patient and family members about how the patient's capabilities and how he or she typically does certain things

David:

This was insensitive for sure, and I apologize for that. The upside was that it did motivate the staff to use equipment to move Ricky.

In the CCU, it was OK. They put him on Lasix & he lost 50 lb in three days. Because of his "physiology," a Foley catheter was not practical, so they let him wet the bed; he voided about every 5 minutes. They had to use lots of padding. It took a while before they realized they could use the sling to lift his legs so they could get a fraction urinal in place.

Ricky:

During my 17 days in the hospital, I only had the same nurse twice. I think this was due to "weight bias." Nursing staff didn't know what to do and what I could do for myself. I think it's very important to have continuity of staff, as very little information was transmitted about how to successfully handle me. They needed to pass on in report how to handle me rather than everyone going in blindly to care for me. Handoffs between shifts were not happening well. And they never asked me either.

Why don't they ask the family how to do different kinds of moves or care tasks? They end up doing silly things too. When I first went to the ER, they brought 9 or 10 people to handle me but in actuality, with the equipment, they never needed more than 2. What a waste, not to mention an embarrassment. And then they did it again when I was discharged to the nursing home.

There also seems to be an expectation that when a fat person walks and begins to fall, people will save you and hurt themselves... One day a PT even refused to deliver rehab treatment saying it "was unsafe"...But a bariatric person knows what they can and cannot do. If they can roll, they know they can and will do it in the way they need to. I can roll into the bed and can roll into a position with my short legs so that my feet are on the floor and then I can push myself up with no assistance.

David:

One idea I got from this is that in private rooms you could put pictures on the wall demonstrating how to handle Ricky during different activities and what he could do himself. In 2-bed rooms, the pictures could be in a folder by the bed. That way everyone would know how to use slings to lift legs and no one would get hurt.

Ricky:

First I was taken to a different hospital, which refused to see me because of my size. Then, the ambulance took me here and I was told by a physician in the ER that they have a policy not to admit >500 pound patients... and they'd have to transfer me to yet another hospital up north that does. That didn't end up happening, but do these sorts of policies exist?

David:

There was no such written policy. I don't know where he got that and besides those other hospitals didn't have any different equipment from ours.

Ricky:

I hate to say it but I saw the prejudice at all levels. Apparently, society still thinks it's acceptable to make fun of fat people. It's taboo to make fun of gender or race but not fat people. In health care too there's a prevalent "Fat person=no hope" attitude, like just because we are overweight, we will be trouble. I'm not sure if this is because people think that it's going to be too much work or that it takes too many people to provide care, but it makes me feel like I'm unwanted and a burden on the system, while I am just seeking care like anyone else. .

When I was at a different hospital, they had similar equipment but actually knew how to use it, and it definitely showed. I know that it's not the same everywhere, but it should be—care providers should treat all patients equally regardless of how much they weigh. An obese patient should be given the same chance to live as a skinny person. It's wrong to think that we are doomed just because we are obese because skinny people could and do have the same outcomes. Who gave them the right to play God; what crystal ball do they have to know who is or is not going to have a bad outcome?

David:

This was both a sobering and an inspirational experience for me. It taught me that staff must be trained and retrained in the use of equipment, not only for obese patients but for all patients. Even if they aren't regularly utilized, healthcare facilities always have slings and lifts. It just needs to be integrated into the culture to use them, and use them properly.

It's interesting because even though there seems to be a sort of taboo to work with obese patients, I'm convinced that healthcare workers more often get hurt with combative and small people because they don't have that increased awareness and they don't take the time to use proper equipment.

Ricky:

I agree. It's actually less likely that staff will get hurt handling an obese person because they know they can't do it without equipment. With a 120-pound patient they get hurt because they think they can just lift the weight. I know because I've seen it.

Summary of Lessons from Ricky

Ricky's scenario illustrates the following take-home lessons:

Patient concerns:

- ⇒ Deal with the bariatric patient as a person, not just with their obesity
- ⇒ Learn from the patient and family members about how the patient's capabilities and how he or she typically does certain things
- ⇒ Encourage staff to seek methods of care to protect patient dignity and prevent patients from needlessly feeling like a burden or unwanted

Equipment concerns:

- ⇒ Use bariatric care as an opening to train staff on the many uses of proper equipment and reinforce the need to use appropriate equipment with all patients that cannot bear weight

Take steps to transmit pertinent information to all those who will provide care to the patient

Prepare to address bariatric patient needs, as opposed to passing the responsibility on to another institution

Protect patient dignity and prevent patient from needlessly feeling like a burden or unwanted by guarding against making false excuses

Develop a special emergency page code to notify and prepare transporters for bariatric patient and train transporters to know what they have the capacity for

Use case studies to train staff troubleshooting skills and simulate scenarios to engage staff in tactile practice with the equipment

- ⇒ Ensure that proper bariatric equipment is available, accessible and utilized when needed
- ⇒ Adjust equipment to fit each patient's needs

Communication concerns:

- ⇒ To the patient: Adequately explain processes of care and reasons for potential delays to the patient and family members
- ⇒ To the staff: Take steps to transmit pertinent information to all those will provide care to the patient

System concerns:

- ⇒ Bring injury concerns to the attention of a supervisor instead of casually discussing them in public spaces.
- ⇒ Prepare to address bariatric patient needs instead of passing them on to another institution
- ⇒ Develop a special emergency page code to notify and prepare transporters for bariatric patient and train transporters to know what they have the capacity for



Bariatric Assessment



A complete and accurate assessment of a bariatric patient's psychological state and physical capacity is essential to providing appropriate care while maintaining a safe environment for both patient and healthcare worker. From the assessment, factors can be identified that would indicate mechanical assistance or additional social support is necessary. The Veteran's Administration has developed a sample assessment that can be found within this document as Appendix G, or as part of its [Bariatric Handling Toolkit](#)¹².

While institutions will incorporate different questions and prompts into their assessments, the major recurring themes include:

1. *Limitations in safe functional mobility:* limited weight-bearing capacity, distribution of adipose tissue, balance, endurance capacity (such as the [Egress test](#)¹³ for leg strength and endurance developed by Mike Dionne of [Bariatric Rehab](#)¹⁴), perceived exertion or pain levels, lethargy or prolonged bed rest, ability to lift trunk, head or extremities against gravity, range of motion, orthostatic intolerance, changes in medical or orthopedic stability.

Egress Test

1. Patient sits at edge of bed*

*May require specific safe patient handling techniques to accomplish

2. Sit to stand (3x), with only partial clearing/weight bearing for first repetition
3. Marching in place (3 steps), compared against any baseline assistive device i.e. walker
4. One step forward then back with each foot

If patient is able to accomplish tasks, then they are safe to ambulate with close monitoring and with a wheelchair and sling available.

2. *Complexity of injury, past history, and daily activities:* co-morbidities, strategies or adaptations to successfully engage in bathing, toileting, grooming, dressing, leisure, work/productive activities, nutritional status,
3. *Poor respiratory status:* decreased lung capacity, amount of oxygen attached to hemoglobin cells, influence of co-morbidities or their corresponding medications

Bariatric respiratory systems can be disadvantaged due to

- **Increased fat metabolism**
- **Increased O₂ consumption with increased CO₂ production**
- **Increased minute ventilation**
- **Little respiratory reserve**
- **Increase tissue in airway**
- **Weight of tissue on and around chest wall**

4. *Impaired skin condition:* cellulite, excessive perspiration due to surface area to volume ratio of skin, integrity of skin under skin folds and at contact points on with the bed, friction, shearing, ulcers, infections
5. *Discomfort or pain:* musculoskeletal pain, physical sensation capacity
6. *Social history:* support systems, expectations, professional or community role, hobbies and recreational activities
7. *Mental health issues:* cognitive capacity, depression, psychological withdrawal or intolerance, fear, anxiety, coping capacity
8. *Barriers to discharge planning:* inadequate access to housing or social support, personal or significant other's knowledge for disease process, home care, and requirements for psychosocial, emotional and spiritual support.

This information was compiled from several resources. For more detailed information on what to include in an assessment or other tools for evaluating a patient's status, please reference one or more of the following tools:

The chapter, "Preventing injuries when taking care of special needs patients" in [*Safe Patient Handling and Movement: a guide for nurses and other health care providers*](#)⁸ by Audrey Nelson (2005),

[*"Standard of Care: Bariatric"*](#)¹⁵, published by the Brigham and Women's Hospital (2007) in Boston, Massachusetts.

The protocol for [*health and behavioral assessments*](#)¹⁶ through the Bariatric Care unit at HealthEast Care System in St. Paul, Minnesota

Bariatric Nursing and Surgical Patient Care Journal



Bariatric Approaches and Interventions

**Adapted from the policy and program of an Oregon hospital, reproduced with permission.

Based on information gathered and established through the assessment, steps can be taken to increase worker sensitivity to patient needs, and create a safe environment while maintaining efficiency and quality of care.

Address weight concerns directly with sensitivity and honesty



It is important to focus on the patient as an individual, not a population, and to praise efforts and accomplishments while reinforcing goals and goal-directed behavior. Caring for a bariatric patient can be more time-consuming and stressful due to the acuity of the patient. Ensuring proper staff levels and avoiding displays of anger or frustration at the patient should be emphasized. Referrals can also be made to other services, specifically, to social services, pastoral care, or behavioral health as appropriate. Throughout the care process, terms like fat, heaviness, unhealthy, large, obese, weight problem and big-boy stretcher/commode/wheelchair should be avoided and replaced with terms such as extended capacity, BMI values, bariatric, and soft tissue.

Promote functional mobility and activities of daily living

Physical and occupational therapy referrals should be utilized when appropriate, as should appropriate and properly sized lift equipment when necessary. These can include a Moderate Assist for a powered sit-to-stand, or a Maximum Assist, which might be necessary for a total body lift. Strategies for assisting a patient to scoot up in bed, reposition, or turn and bathe are as follows:

Scoot up in bed:

1. Trendelenberg position (laying supine with head below that of feet), if patient tolerates
2. Patient assists with arms on bed rails/trapeze, knees bent, pushing with feet, “walking” with hips and shoulders
3. If patient lacks strength, or risks skin shear, then the process should be aided by the use of a ceiling lift with stretcher type sling, a powered lateral transfer device, a portable lift boost, or a friction reducing device*

*The use of two, adjacent friction reducing slider tubes may be necessary as a single tube may be too narrow, and are not recommended for bariatric patients or those weighing more than 200 pounds. In this latter case, the use of a mechanical device and two caregivers would be more is suggested.

Repositioning / turning:

1. Attach stretcher type sling to only one side of stretcher or ceiling lift
2. Position pillows/bolsters under sling

Bathing: Dignity is a key issue with bathing and personal hygiene

*Patients often report not needing assistance, although they are unable to adequately reach all surface areas.

1. Offer help with sensitivity towards patient dignity
2. Encourage as much participation as possible, while being thorough
3. Facilitate drying by using air mattress overlay or hair dryer on cool setting
4. Move folds and panniculus using gait belt and/or draw sheet.

Due to differential weight distribution, patients may have developed unique strategies to accomplish certain tasks. With this said, one should have appropriate equipment available and accessible in case it is needed. The bed itself can be a tool or a barrier to SPH. Knowing how long it will take to collapse the bed, the type of training necessary to successfully operate the bed, and the structural limits of the bed, i.e. how low it can go, will allow one to use the equipment to its fullest capacity. Don't expect normal movement patterns from bariatric patients.

Maintain respiratory safety

Referral to respiratory therapy is always an option. Useful information can also be derived from measuring the oxygen (oximetry) and carbon dioxide (capnography) saturation in blood and the use of technologies that are effective for those with co-morbidities, such as the Vision Bipap/Cpap ventilation machine for those with breathing issues. Specific airway considerations should also be taken into account. For example, bariatric patients have an increased aspiration rate, a low chance of successful mask ventilation, and frequently difficult intubations due to partial airway obstruction from fatty pads in the oral pharynx, lack of cervical neck mobility, and the fact that the vocal cords can be difficult to see. These characteristics can be accommodated through the use of specialized equipment. One can use special trach tubes that are designed for larger necks (such as the Shiley XLT both proximal and distal, bivona adjustable flange trachs in sizes 6, 7 & 8), and a glide scope or portable bronchoscope to aid in visualization of the cords.

Support healthy skin and moisture management

Drying of the skin should be facilitated by allowing the patient to rest on an air mattress overlay, with mattress deflated, or using a hair dryer on the cool setting. Additionally, Hovermatt and Stryker Glides are made of same material as the overlay, and can be left under the patient, as can stretcher type slings. This will promote turning and repositioning and aid in lifting the patient to periodically change the absorbent materials. Pillow cases or towels between layers of panniculus, or sheets between the patient and the friction reducing device can also help control moisture.

Access for successful catheter, pericare, and wound care

Access to the peri area can be restricted due to excessive soft tissue. A mechanical lift with seated sling, sling leg loops uncrossed, can be used to assist with holding legs and soft tissue up out of peri area. This assistance should only be used to move soft tissue out of the way while accessing the peri area, and not to lift patient fully from support surface.

Other important considerations

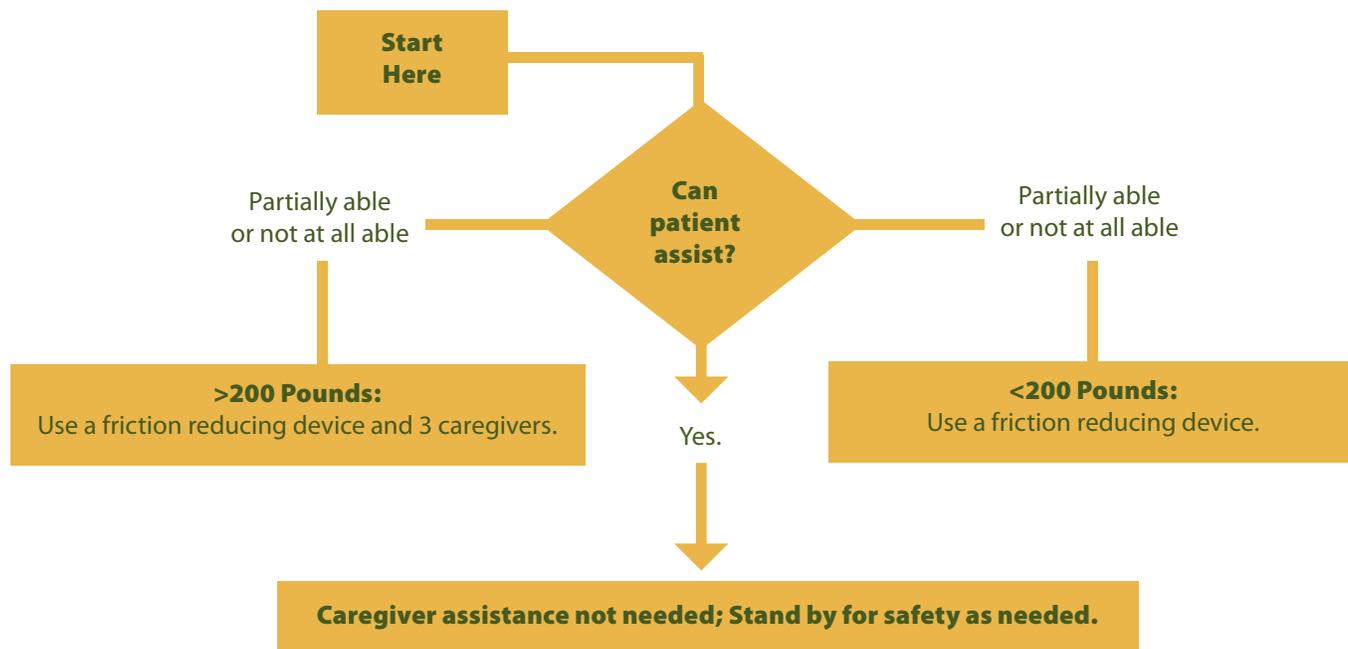
A nutrition consult undertaken during the assessment can provide guidelines for a specific dietary plan as well as for the necessary education a patient needs for adequate nutritional intake and safe weight loss. Education regarding the diagnosis and home care to both the patient and their significant partner, when applicable, may also be necessary. The assessment will also determine whether it is appropriate to refer the patient to social services or pastoral care for additional psychosocial and spiritual needs.

Bariatric Patient Handling Algorithms

Algorithms are developed from current evidence and provide a standard guideline for performing high-risk or complicated procedures. By following a path of questions that target critical aspects of patient care and ability, difficult decisions can be made and quality of care can be maintained with limited variation between patients.

Figure 5 is an example of a simple algorithm taken from the VISN 8 Patient Safety Center of Inquiry, that guides through bariatric lateral transfer to and from bed to stretch or trolley.

Figure 5: Bariatric Lateral Transfer to and from: Bed to Stretcher or Trolley



*Note that both scenarios in which the patient cannot fully assist with the movement, the use of a friction reducing device is recommended. Some SPH experts recommend use of mechanical lift in all situations without regard to a weight cutoff, as an extra margin of safety.

[Other sample algorithms](#)¹⁷ are available for free online, and include:

- **The destination surface should be ½" lower for all lateral patient moves.**
- **Avoid shearing force.**
- **Ensure bed is the right width so excessive reaching by caregiver is not required.**
- **Use a bariatric ceiling lift with supine sling if transfer involves specialty beds that may interfere with the transfer.**
- **Ensure bed or stretcher doesn't move with the weight of the patient transferring.**
- **If patient has partial weight-bearing capability, transfer toward stronger side**
- **Use an abdominal binder if the patient's abdomen impairs a patient-handling task**
- **Identify a leader when performing tasks with multiple caregivers to assure synchronization and increased safety of the health care provider and the patient**
- **If any caregiver is required to lift more than 35 lbs of a patient weight, then patient should be considered 'fully dependent' and assistive devices should be used**

(Waters, T. [2007]. When is it safe to manually lift a patient ? Am J Nurs 107[8], 53-59.)

- Transfer to and from: bed to chair, chair to toilet, chair to chair, or car to chair
- Lateral transfer to and from: bed to stretcher, trolley
- Transfer to and from: chair to stretcher, or chair to exam table
- Reposition in bed: side to side, up in bed
- Reposition in chair: wheelchair and dependency chair
- Transfer patient up from floor
- Patient handling tasks requiring access to body parts (limb, abdominal mass, gluteal area)
- Transporting (stretcher)
- Toileting tasks for the bariatric patient

Throughout patient handling and regardless of task, bariatric considerations include, but are not limited to the following:

- Specialized clinical needs e.g. skin and wound care; respiratory, etc.
- Ceiling lifts
- Floor lifts
- Sling Design
- Bariatric Beds
- Bariatric trapeze frames
- Bariatric furniture & room design
- Develop SPH and special clinical care documents for care of the bariatric patient

Summary

In summary, the bariatric patient population will continue to influence how hospitals strategize to ameliorate safe patient handling and movement challenges. In order to be effective in caring for our bariatric patients, we must be cognizant of their concerns in a direct and respectful manner.

1. Syed M. Ahmed, MD, MPH, DrPH, Jeanne Parr Lemkau, PhD, and Sandra Lee Birt. "Toward Sensitive Treatment of Obese Patients." Family Practice Management, January 2002.

Chapter VI. Selection, Purchase, and Management of Equipment

Introduction

Paying for Equipment

Vendor and Equipment Selection Process

Resources for Equipment Selection and Equipment Program Design

Introduction

The Washington law defines safe patient handling (SPH) as:

“The use of engineering controls, lifting or transfer aids, or assistive devices, by lift teams or other staff, instead of manual lifting to perform the acts of lifting, transferring, and repositioning health care patients and residents.” [WAC296-17-35203(7)(a)(v)]

The Legislature concluded, based on research, that the problems of patient safety and employee injury prevention cannot be solved simply through training, improved work practices, or team lifting alone, but that the use of mechanical assistive devices is an essential part of the solution. Thus, by January 30, 2010, each acute care hospital in Washington must acquire:

- One readily available lift per acute care unit on the same floor, OR
- One lift for every ten acute care available inpatient beds, OR
- Equipment for use by lift teams. [RCW 70.41.390(4), RCW72.23.290(4)]

This only applies to units where patient handling occurs and is determined by the SPH committee.

The variety of vendors and devices on the market can make the equipment selection process daunting if you are unfamiliar with the choices. Several basic guidelines can help:

- Perform your assessments of hazards (types of lifts, transfers, and other tasks) and patient needs (physical, cognitive abilities and clinical needs) first, before choosing equipment (see *Chapter 4*)
- Determine which staff will be using equipment and involve those users in hazard assessment and equipment evaluation
- Consider future needs as well as your current situation, including changing patient population, clinical procedures, facility expansion or remodeling plans, etc.
- Seek out the experience of other institutions or units within your own facility for information about vendor performance, availability, and follow-through.

Paying for Equipment

Recognizing that the acquisition of adequate equipment is expensive, the legislation provided funding, in the form of a tax credit offsetting the institution’s Business & Occupations (B&O) tax payment, to assist hospitals in acquiring equipment used to minimize manual patient handling. The law took effect in June 2006 and the credit can be claimed on eligible equipment purchased from that date through December 30, 2010 or until the funds run out. (Note, however, that the deadline for purchasing lift equipment to be in compliance with the legislation is Jan. 30, 2010) Each hospital is eligible for up to a \$1000 credit per available inpatient acute care bed, and the majority of hospitals have taken advantage of this incentive as of the end of 2009. A total of \$10 million was appropriated for this program. Additionally, those hospitals that have a full SPH program and are in the State Fund Workers Compensation category (i.e. not self-insured) can be in a 15 percent reduced premium category for the risk class involved in patient handling.

While this B&O tax credit provided an immediate incentive by offsetting the cost of the equipment, cost-benefit studies have found that additional cost savings occur over time. In evaluating the cost effectiveness of the implementation of a [ceiling lift program and no-lift policy](#)¹⁸, OHSAH in BC found that costs were recovered in less than four years. The Patient Safety Center in the Veterans Health Administration published [an article](#)¹⁹ that evaluated a safe patient-handling program. They found that such a program contributed to a 30% reduction in musculoskeletal disorders, and similarly, the recovery-on-investment time was found to be just over four years. The study took into account capital maintenance, training, and anticipated retraining.

Vendor and Equipment Selection Process

It helps to think about patient handling equipment as you would any other major consumer purchase, like a car. This analogy is particularly apt because, like buying a new car, the equipment itself is important but so is who you are buying it from in terms of warranties, ongoing service, etc. With patient handling equipment the vendor is probably more important because you may depend on that company for training as well as service.

At the Creating a Culture for Safe Patient Handling conference, held in Tacoma, WA, in 2008, the following list of simple questions was generated to guide equipment selection:

- What are your needs?
- Who will be the users?
- What is your budget?
- What does Consumer Reports or the equivalent say?
- What do other experts think?
- What are others with similar needs using?
- Who are the other users, and why did they choose or not choose something?
- What are the particular features you need?
- Is the equipment flexible (can it be used for multiple purposes)?
- What is the environment in which you will be using it?
- Does the equipment meet patient/family needs and perceptions?

End User Involvement

Think broadly when considering end user input into purchasing decisions. Direct care staff who will use the equipment are certainly a primary group, but understand that maintenance workers who will service the equipment and custodial staff who will clean the product and the surrounding area will be affected by the choice and may have valuable insights. Finally, but definitely not least, the patients whose care may involve the equipment should be consulted for their perspective and experiences. Although most acute care patients do not stay for an extended period of time, and thus won't immediately benefit from such purchasing, their input can still contribute to a process that will ultimately provide effective, user- and patient-friendly equipment in the future.

If you have involved direct care staff in the risk assessment process (see Chapter 4), you may have already obtained useful data for selecting equipment, or at least identified frequent users to go back to. Ideally, you will want users to have the opportunity to try out equipment in realistic situations (though not with real patients). While staff can see a variety of equipment at vendor fairs or safety conferences, this type of venue usually doesn't provide the time or realism for a full evaluation, and it is usually not available to many users. If the vendor can bring a variety of devices to the hospital, you can stage equipment "play days," which serve the dual purpose of trying out equipment and engaging staff in the SPH program. This will not only give staff an opportunity to try out the equipment, but will also ensure that the unit and the rooms can accommodate the size and design of the equipment. Staff can complete evaluation forms for the various devices to help with decision-making. Sample evaluation forms can be found in Chapter 4 of the Veteran's Administration's [*Patient Care Ergonomics Resource Guide: Safe Patient Handling and Movement*](#)⁴.

User involvement should not end when equipment is delivered and installed. Periodic follow-up assessments by users will identify equipment and training deficiencies and are important sources for going back to the vendor with questions or service requests.

Vendor considerations

You will be living with your equipment choices for many years. While no one can predict with certainty the future of a particular manufacturer or vendor, there is much you can do to improve your chances of good service. The Safe Patient Handling Equipment Purchasing Checklist (link) includes many of the questions you should ask, and here we highlight a few of them:

- How much experience does the local consultant/representative have with the types of lift and transfer equipment you are purchasing?
- How long has the current rep worked with the vendor?
- What other hospitals have this equipment and what references can they provide on those institutions' experiences with that equipment and vendor?
- Will vendor provide load testing?
- What is the average response time for service?
- Will the vendor or manufacturing rep train users on all shifts? Does the training cover all equipment including the variety of slings available
- What kinds of training materials does the vendor make available.

General powered equipment considerations

All powered lifting and transport equipment, portable or installed, prompt a number of considerations. These include lift height range; types, ease of use, and accessibility of controls; weight capacity; sling compatibility; battery life and ease of recharging; etc. Portable equipment always brings with it the question of storage and accessibility for use. In addition, while the lifting mechanism can certainly reduce the exertion required of the health care worker, push and pull forces can come into play if the device is difficult to move or steer.

Ceiling lift considerations

Ceiling lift systems are usually considered the “gold standard” of patient handling equipment. Similar possibilities include installing a gantry or frame over bed or utilizing the wall to mount the system. However, with the ceiling lift system, tracks are installed in room ceilings and lift motors run along the tracks. Because they are permanently installed, nurses don't have to go and find the lift equipment, and storage space is much less of a problem than with portable equipment. Depending on the configuration of the track system the equipment can help with many tasks including repositioning, bed-to-chair, toileting and showering, and limb-support. Chapter VII, “Design Considerations During Remodeling, New Construction or Patient Handling Equipment Installation”, covers many of the issues involved in installation of ceiling lift systems, including planning and permitting processes required by Washington Department of Health Construction Review Services (DOH/CRS).

While these systems have many advantages, there are also many issues to consider in purchasing, installing, maintaining, and managing ceiling lifts. Particular to ceiling lifts is how the track installation works with overhead sprinkler heads, light fixtures, and privacy curtains, gas delivery systems, etc. Once the tracks have been installed, is there flexibility for reconfiguration if needs change? Ceiling mounted lifts also have the same issues as portable lifts of control configuration and ease of use, battery charging, and battery weight, among others.

Slings

Probably nothing creates more discussion and war stories among those involved with patient handling equipment than slings. The best equipment and best planned patient handling program will only be successful if the right slings are available and accessible when staff need them. Sling issues will arise in the course of implementing and sustaining your patient-handling program so we can't recommend strongly enough that you engage the sling management questions from the start.

Elements of a sling program include at least the following:

- Purchase of the proper slings for patient needs in the unit, e.g. supine/flat, toileting, ambulation, amputee, etc.
- Reusable versus disposable slings: advantages and disadvantages
- Size, capacity, and number of slings for anticipated needs
- Compatibility of slings with different types of lifts, e.g. floor and ceiling, including manufacturer recommendations and warranties
- Sling laundering, labeling, inspection, use, storage, and replacement
- Infection control

Resources for Equipment Selection and Equipment Program Design

For detailed sling selection guides visit the Veteran's Administration safe patient handling website at:

<http://www.visn8.med.va.gov/patientsafetycenter/safePtHandling/toolkitSlings.asp>

For details on ceiling lifts, the [Ceiling Lift Program Guide](#)²¹ from the Occupational Health and Safety Agency for Healthcare in British Columbia (OHSAH BC) provides a complete guide to program implementation and evaluation, including a template for request for proposals from vendors, equipment evaluation forms, and educational modules to accompany installation and use of ceiling lifts.

For information on transfer assist devices, you can review these websites:

http://www.worksafebc.com/publications/health_and_safety/by_topic/assets/pdf/transfer_assist_devices.pdf

Poster from OHSAH BC concluding that the use of ceiling lifts require less time to transfer patients: http://www.ohsah.bc.ca/media/169-PS-CeilingLiftEvalPoster_April08.pdf and <http://www.ohsah.bc.ca/media/183-FS-Ceiling-Lifts.pdf>

Chapter VII. Design Considerations During Remodeling, New Construction, or Patient Handling Equipment Installation

Introduction

Who should be involved?

What is included in the application?

Introduction

With equipment playing a major role in improving safe patient handling, particularly ceiling lifts, those working on Safe Patient Handling (SPH) programs will sooner or later confront issues of safe and proper installation of equipment. In Washington these issues come under the purview of the Department of Health Construction Review Services office (DOH/CRS). Installation of wall or ceiling mounted lifts is more than a “minor alteration” and therefore requires drawings and specifications to be reviewed and approved by DOH/CRS. Such installations fall under the category of “technical assistance,” and incur a review fee of \$410. If you are just purchasing and plugging in mobile patient lifts, you are not required to follow the DOH/CRS review process, although the presence of new equipment in patient rooms or storage areas may be subject to other regulatory requirements.

Furthermore, the Washington legislation additionally requires that

When developing architectural plans for constructing or remodeling a hospital or a unit of a hospital in which patient handling and movement occurs, [the hospital must] consider the feasibility of incorporating patient handling equipment or the physical space and construction design needed to incorporate that equipment at a later date. [RCW 72.23.390(3)(e)]

In this section we will cover both the process for preparing the [application for review](#)²¹ and specific items to consider in the design and installation of equipment.

Retrofit vs. New Installation

If lifts are to be installed as part of new construction or building renovation, then the patient handling equipment should be included as a regular part of that project. In other words if the patient lifts are included in the architectural drawings submitted to DOH/CRS and local building authorities, then no additional special effort is needed. However, if lift installation is occurring on its own within certain rooms of an existing facility, then it is considered an independent construction project and must be reviewed as such.

Who should be involved?

It is typically the facilities construction manager who handles the application, but given the specialized equipment and specialized knowledge involved, the person or persons responsible for the SPH program should definitely be involved in the process. Hospitals often have a team to handle construction and remodeling projects, but in some cases the SPH group might have to take the lead in putting together the team. It should not be assumed that the facilities manager knows how to complete the application. The application may require multiple assessments including an Interim Life Safety Measures (ISLM) Assessment, Infection Control Risk Assessment (ICRA), Noise/Vibration and Air Quality Assessment, etc. While a contractor or facilities manager may have experience with or ideas about these assessments and mitigation of hazards, it is important that other appropriate hospital staff be directly involved. For instance, clinical and/or epidemiology staff should definitely play a role in the ICRA.

Engineering expertise will be needed for structural analysis. According to DOH/CRS it is usually the connection into the existing structure that fails in a retrofit, not the equipment itself, so they will review this closely. The equipment vendor won't do the structural analysis unless specifically contracted to do so.

What is included in the application?

DOH/CRS wants to know the scope of the project, sequence, type of equipment, and how it will affect the existing structure.

Functional Program

This should explain in an overview or macro level what type of physical construction work will be done. It gives DOH/CRS an idea of the scope of the project and how the work is likely to take place, including measures to insure patient and employee safety and continuity of care. A sample functional program is provided at the end of this chapter.

Risk Assessments

As above these should address any aspects of hospital operations, structure, and patient or employee safety and health that may be impacted by the retrofit. These include infection control, life safety, noise and vibration, air quality, and utility disruption, among others. DOH/CRS provides an infection control (ICRA) form and access to many other forms, rules, and guidelines from DOH/CRS, federal health agencies, the National Fire Protection Association, and others at its website at <http://www.doh.wa.gov/hsqa/fsl/CRS/hospdeskref.htm>.

Below is an excerpt from a sample functional program:

Scope of Service: Inpatient Care Units

Patient lifting devices will be installed one room at a time on pre-identified and prioritized nursing units based on injury data. Patient lifting devices will be used to safely reposition patients, lateral transfer patients from bed to stretcher, bed to chair, bed to sit/stand position, and vice versa. Patient Lifting devices will also be used to raise patients for hygiene care, taking weights, and supporting limbs during surgery, procedures, and labor.

Staffing

Core staff within each campus is being selected as “safe patient handling experts.” These individuals will be expected to respond to the units and work with the existing staff on safe patient moves. All staff responsible for the use of the patient lifting devices will be provided training to validate their competency.

Physical Description

Each patient care room is assessed for its ability to support a ceiling lift or a wall mounted lift. Each patient care unit will have at least half of its unit fully equipped with patient lifting devices, with the only half equipped with the patient lift railing system and use of a portable lift motor. Each unit will have at least one room equipped to handle the highest patient weight capacity. Unit X, identified as the post-operative bariatric care unit, will have all of its lifting devices able to handle the highest weight bearing capacity. Priorities of which units and which rooms will be based on the safe patient handling risk assessment and staff/manager input.

Continuity of Care

By providing staff and patients with access to patient lifting equipment and supplies patient continuity of care is preserved. Patients can be more timely, efficiently and safely moved up in bed, out of bed, and in other mobility and patient care functions.

The patient lift installation affects one room per day. One additional day will be used to finalize any sprinkler additions/relocation and to install an electric outlet to support the patient lift hoist. One floor will be focused on during the installation to allow other floors to support the floor with rooms under installation.

Safety

The installation of the ceiling lifts will not impede fire life safety procedures. Access to fire systems will be retained. Evacuation in the event of smoke and/or fire will remain intact; if not aided in fact by the presence of lifts to quickly move patients out of bed onto several types of evacuation devices, such as “medi-sleds”, “evac chairs” or “rescue stretchers”. All fire evacuation routes and fire procedures will be maintained.

In addition, appropriate preventive maintenance programs will be implemented according to manufacturer’s recommendations concerning the rails and motor lift capacity. Slings associated with the lifts will also be placed on a maintenance schedule to ensure patient and staff safety.

An Infection Control Risk Assessment (ICRA) and an Interim Life Safety Measures (ILSM) checklist has been conducted as part of this project management and is included in the DOH submittal package. Rooms doors are closed and sealed to prevent dust exposure to the floor. HEPA vacuums will be used during installation to minimize dust.

Plans

DOH/CRS requires plans that are specific to the installation that is proposed. If there are multiple rooms with identical installations, then a single drawing can cover all the rooms as long as a floor plan identifying all the room locations is provided. Any divergences, e.g. different locations of sprinklers and means of maintaining the integrity of the sprinkler system, must be addressed individually. DOH/CRS will not accept generic room drawings provided by a vendor that do not represent the actual proposed installation. The vendor will normally supply information about the type(s) of lift, specifications, dimensions, and where they will be installed. A sample drawing is included at the end of this chapter.

DOH/CRS expects fairly detailed structural analysis as part of the application. Structural analysis should not come from the vendor unless the latter is specifically contracted to provide it. As a DOH/CRS construction review official put it: “if you as a layperson can understand all of the structural analysis, it is probably not detailed enough.”

Ceiling Plans

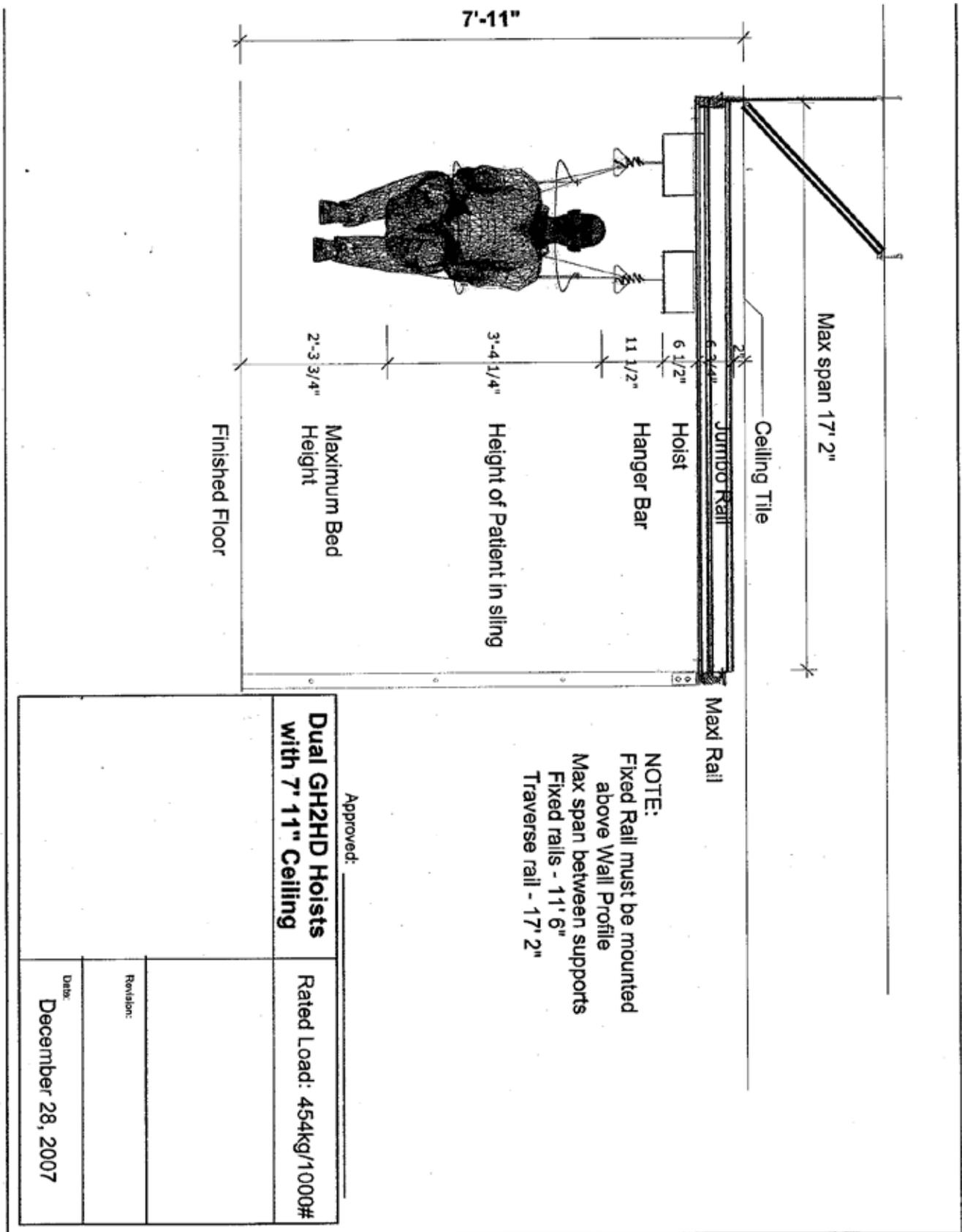
Fixed rails of lift systems can interfere with sprinkler discharge so special attention to these details is needed. DOH/CRS recommends reflected ceiling plans with the following elements identified:

- Type of sprinkler head
- Vertical distance of sprinkler deflector below the ceiling plane
- Vertical distance of the bottom of lift system fixed rails below the ceiling plane
- Horizontal distance between sprinklers and all fixed rails
- Typical horizontal sections of lift component design for each location.

Timing

DOH/CRS may approve starting an installation even if some questions remain. It will expect missing details to be provided in a timely fashion.

Example of plan drawing:



Chapter VIII. Training and Program Sustainability

Introduction

Training Objectives

Training Principles

Training Infrastructure and Peer Training

Practicalities of Training

Sample Training:

Program Sustainability

Introduction

WAC 246-320-221(1) requires that acute care hospitals must “conduct annual staff training on all safe patient handling policies, procedures, equipment and devices.”

Various levels of training are essential to a safe patient-handling (SPH) program. As such, we need to understand what material the training should cover, who to train, how to train effectively, and how best to do this within the time and resource constraints all institutions face. As Audrey Nelson shares in [her book](#)⁹, the longstanding idea that we could solve the musculoskeletal injury problem among health care workers just by training staff in proper body mechanics and manual lifting techniques is contradicted by 35 years of research and experience. Thus, we need to clarify training in relation to promoting patient and employee safety and preventing injuries, and identifying specific training objectives to fit programmatic needs.

Training Objectives

The types of training objectives you want to achieve will help determine the content, methods, format, and duration of training. Examples of different types of objectives include:

- **Awareness:** Transfer of knowledge and information with the intent of motivating trainees to change practices.
 - Examples: According to hospital statistics patient care staff are most likely to injure their backs doing the following tasks: . . .
- **Skills:** Recognize a hazard and learn to perform specific tasks
 - Apply algorithms provided by the Veteran’s Administration or by other sources for such tasks. Sample algorithms can be [accessed here](#)¹⁷.
 - Perform lateral transfer using HoverMatt
- **Attitudes:** Influence what people believe that may help or hinder safety. Examples of negative attitudes that are NOT actually true are:
 - The patient care staff who get hurt handling patients are the ones who are out of shape
 - It takes too much time to use lifting equipment; I can’t take care of the patients who are my responsibility and use the equipment.
- **Behavior:** Affect not just what the worker knows or has the ability to do, but what she actually does on the job
 - Nurse who has been trained on ceiling lift operation actually uses the lift to reposition patient
 - Aide who went through training Right to Refuse Policy for unsafe patient handling tasks exercises her right to refuse when confronted with an unsafe situation
- **Critical thinking/Social action:** Develop critical thinking and problem solving abilities leading to action
 - Charge nurse who has gone through SPH awareness training organizes a team on her unit that conducts SPH needs assessment.

Training Principles

From Peer leader:

“Management has been really great. They lightened my case load a bit so I have more time to be an effective peer leader. When I see a bed that’s empty, I grab whoever is nearby and not currently busy, and we practice using the lifts with each other. That way, everyone is more confident and comfortable with the equipment when it comes time to use it with a patient. It’s easy and only takes a couple minutes.

Participatory learning: People learn in different ways, but certain basic principles of adult education apply to training for SPH. For many of the objectives named above training should involve active participation to increase the understanding and retention of concepts presented. It is fine to present a limited amount of factual information in lecture, slide, or combination format, but even basic statistics on injury rates will have more impact if trainees have an opportunity to discuss how their own experience relates to those statistics. Likewise training on the operation of particular pieces of equipment must, most certainly include the opportunity to use the equipment. Someone with expertise on the device should be present to demonstrate and coach, but there is no substitute for direct care personnel trying and learning for themselves.

Honesty in training

It doesn’t make sense to present information or techniques in a training session that the trainees know or suspect doesn’t reflect the reality of their work, unless the training explicitly addresses these discrepancies. You may not be able to solve the barriers to applying the skills or methods being trained right then and there, but confronting them honestly will give more credibility to the trainer, and the dialogue about the issues might actually generate useful information toward coming up with solutions.

Connect training to the job

Immediate application to the job and feedback on skills and practices reinforces the training. Again this can help identify the barriers to transferring skills to the job tasks themselves.

Once is not enough

Almost any kind of safety training requires periodic refreshers to reinforce best practices, introduce new equipment or issues, and provide an opportunity to assess performance in the field. Training should be done with all new employees with patient handling duties at orientation. As new equipment or procedures are phased in, existing employees must be trained in their use. Additionally, training should be provided on a regular basis to refresh knowledge and skills that may not be utilized daily. This training should be completed yearly to comply with the Washington State Safe Patient Handling Law.

Training Infrastructure and Peer Training

Many facilities have found that a peer training structure serves multiple purposes to promoting effective SPH implementation. For practical reasons it is very difficult for a single expert to take care of all the training needs. If your program relies on equipment vendors to provide training on the equipment they sell, which is generally a good idea, that representative must be scheduled in advance and can’t possibly always be there when needed. Training at least one peer “expert” on each high-risk unit accomplishes multiple objectives:

- SPH resource people are spread around the facility, closer to where the needs are;
- Training can happen in real time, on the spot, where it can have a greater impact than in the classroom;
- The SPH program will have “eyes and ears” around the facility to identify best practices and see problems that arise earlier than at a monthly committee meeting;
- The SPH coordinator will have a natural team beyond the SPH committee, such as peer leaders and champions



Practicalities of Training

We cannot underestimate the challenges of providing training to everyone who needs it in a timely manner in the 24/7 world of acute care hospitals. Spreading the training through a peer trainer system can help, but the institution's staffing policies and practices must align with the training program required. This is one of the infrastructure pieces that need to be in place with a commitment from management before embarking on an extensive training initiative. Basic measures like having food at training sessions and making the training interactive and fun should not be underestimated. Building SPH training into new employee orientation provides an opportunity to establish correct policies and procedures from the start and establishes a strong base for further training. This training should recognize that the use of equipment and safe handling practices is an area in transition so that employees are prepared for potential contradictions between what they are taught and what they may see in the unit. Again this illustrates the importance of multiple levels of intervention so that managers and more senior employees are reinforcing rather than contradicting what new employees are being taught.

Sample Training:

In conjunction with their *Patient Care Ergonomics Resource Guide: Safe Patient Handling and Movement*⁴, the Veteran's Administration has developed an interactive multimedia, CD-ROM based, educational course to provide training for direct patient care staff, but can also be used as a refresher or educational resource for health care providers, administrators, risk managers, occupational health providers, safety managers, educators, and other interested stakeholders.

WorkCover NSW (Australia) in consultation with the Health and Community Services Industry Reference Group created a training package to assist supervising nurse staff with training other direct care staff in the principles of safe patient handling. This resource, entitled, "Manual Handling for Nurses" is divided into five training documents, each is organized by module and provides learning aims, expected outcomes, performance criteria, and assessment information:

TRAINING TIPS:

- **Make training mandatory, but make sure it is offered during regularly scheduled shifts so staff don't have to come in on days off.**
- **General education sessions about SPH are not usually effective. Target training unit by unit using peer leaders**
- **Do annual trainings but also do periodic training blitzes to maintain momentum**
- **Understand and address different learning styles; consider different techniques and modalities for those who are tech savvy and those who learn more traditionally.**
- **Recognize people's different comfort levels with new equipment and technology**
- **Use case studies / practical examples**

- [Program A: Essentials](#)²³
- [Program B\(1\): Patient Risk Assessment](#)²⁴
- [Program B\(2\): Managing Risk](#)²⁵
- [Program C: Leadership and Change](#)²⁶
- [Resources](#)²⁷

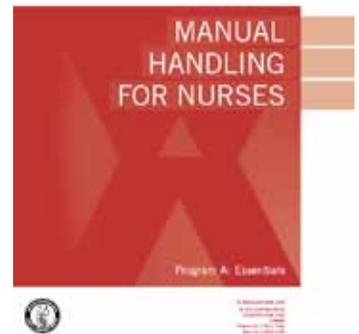
The American Nurses Association also promote a [Safe Patient Handling toolkit](#)²⁸ on their website, complete with both a didactic component and a laboratory component.

Recognition and Reinforcement



Program progress will not be without setbacks. The changes we want and need to see will often be hard-earned, and those making them need support and reinforcement. Rewarding employees for applying their training and promoting SPH on their units is a practical measure of reinforcement.

Rewards should be applied judiciously so as to not create the expectation that a tangible award will follow every safe handling and culturally competent action. Some staff may also find these little rewards patronizing. However, whether reinforcement takes the form of gift cards, a certificate of appreciation, or public acknowledgement at meetings for exceptional patient handling, staff should develop a strategy that will consistently and appropriately reward the cultural shift to proper SPH practices.



Program Sustainability

From one SPH specialist:

“I always carry coffee gift cards in my pocket that I can hand out if one of the staff engages in a behavior that I feel is important to reinforce”

In our survey of attendees at the Creating a Culture for Safe Patient Handling Conference, program sustainability is consistently rated as a top concern. Even programs that have a well thought out, detailed plan and a successful launch will often run into rough patches throughout the implementation process. The “six month fizzle” is a common phenomenon unless the leadership can maintain momentum and correctly identify and respond to the unanticipated barriers and facilitators to the program.

Here are some characteristics of a “sustainability model” that can help guide your facility’s thinking and planning regarding safe patient handling (K. Johnson et al. 2004):

1. Sustainability is a change process that is cyclical and ongoing rather than one-time and linear or sequential
2. The system must be adaptive and receptive to change in order to sustain the innovation you are trying to institutionalize
3. Always keep in mind what it is you are trying to sustain, i.e. the innovation (safe patient handling programs, procedures, equipment) and the infrastructure to support SPH.
4. A sustainable innovation becomes integrated into normal operations. Sustainability is successful when something called “niche saturation” occurs, meaning that units and sub-units have assumed ownership of the innovation.
5. Sustainable innovation should demonstrate benefits to stakeholders. Ideally these benefits should be demonstrable before they are adopted but alternatively evaluation during implementation becomes a critical source of evidence of benefits.

I was caring for a gentleman with a history of dementia, the PCP and I were able to do minimal assist transfer with him to a chair for breakfast. After breakfast, he was noted to be unresponsive, drooling and with left arm droop. The charge nurse was notified, she entered immediately. We knew this gentleman needed to be transferred back to bed immediately. I requested a lift and the charge nurse responded promptly with both the sling and the portable lift device. There was no suggestion of manual lift, nor any resistance to using lift device. We placed the sling and transferred him to bed within 2-3 minutes of initial discovery. The stroke nurse stated that this was the best response we can do for a suspected CVA in progress, lay patient flat for perfusion.

My appreciation goes to the charge nurse and the PCP for their calmness and positive response to using a lift device. This is testament to the culture change for safe patient lifting where the initial response is using a mechanical lift instead of manually.

Sustainability depends on both financial and human resources that are directly measurable and other factors that may be somewhat harder to quantify, like how well supported champions and direct care workers feel in their activities, or the waxing and waning of interest when something is new versus part of the background. The following elements provide a framework to conceptualize different factors that can influence the sustainability of a program, including recommendations for enhancing sustainability:

- **Finances.** Other programs may compete for funding, and if financial resources become insufficient to maintain the full SPH program, it is recommended to narrow the scope of the existing program as opposed to lowering the level of implementation intensity. In other words pilot in fewer units where you know you can do it right with the available resources.
- **Human capacity.** This includes individual knowledge, skills and abilities, and access to support. Reliance on only a few, potentially isolated champions makes the program vulnerable, while sharing information and support will be more likely to lead to innovative implementation and evaluation ideas and will contribute to a culture of safety. Support within the institution and from peer collaboration across the industry is crucial. The Washington Safe Patient Handling Steering Committee was established with exactly this goal in mind.
- **Structural or supportive resources.** Articulate measurable goals and conduct systematic data collection on injury trends. Emphasize patterns, rather than just numbers, to understand what’s really happening and allow for programmatic modifications throughout the implementation process.

- **Activities.** Varying activities and events that deliver and publicize the importance of SPH is necessary in order for the program to maintain a high profile while the adoption of new behaviors associated with SPH is becoming acculturated into the system.
- **Effects.** Evidence of benefits in terms of reduced injuries to staff and patients, reduction of risk factors, as well as associated improvements in safety climate, beliefs, norms and practices can promote adherence and reinforce implementation among stakeholders.
- **Context.** Every institution has a different social and economic context in which the SPH program will be introduced. Thus, committees should adapt existing best practices and program flexibility while maintaining close contact with patients, families and staff.

Definitions of Sustainability:

Maintenance of a program at a level of activity that will provide continuing management of a health problem

Claquin, P. (1989). *Sustainability of EPI: Utopia or sine qua non condition of child survival*. Arlington, VA: REACH.

The ability of a program to deliver an appropriate level of benefits for an extended period of time after major financial, managerial, and technical assistance from an external donor is terminated

U.S. Agency for International Development (1988). *Sustainability of development programs: A compendium of donor experience*. Washington, DC: USAID.

To complement these considerations, experienced SPH personnel have suggested a number of measures that helped their institutions to maintain program sustainability:

- Leadership at both the facility level and at the peer level with teams being more sustainable than individual leaders
- Communication of feedback between all levels of management
- Responsiveness to concerns when they are identified
- Use of incentives to encourage behavior change
- Explicit clarification of the roles and responsibilities of staff in the form of a written safe lifting policy.

Beyond actions that can be taken within a particular facility when planning and implementing a SPH program, hospitals are beginning to ask nursing schools and CNA programs to include SPH training (other than biomechanics) in their curriculum. Incorporating this information in the initial training process will not only function as an information dissemination tool, but also foster an appreciation for SPH and a culture of safety among the next generation of direct care providers.

You can read more about these topics of sustainability in the following articles:

1. Sindelan P, Shearer D et al. 2006. [The sustainability of inclusive school reform](#)²⁹. *Exceptional Children* 72 (3): 317-333
2. Billing S, Sherry L, Havelock B. 2005. [Challenges 98: Sustaining the work of a regional technology](#)³⁰. *Integration initiative. Br J Ed Tech* 36: 987-1003
3. Johnson K, Hays C et al. 2004. [Building capacity and sustainable prevention innovations: a sustainability planning model](#)³¹. *Eval & Program Planning* 27:135-139.
4. Cooper MD, 2000. [Toward a model of safety culture](#)³². *Safety Science* 36, 111-136
5. Hahn S, Murphy L. [A short scale for measuring safety climate](#)³³. *Safety Science* 46 (2008) 1047-1066

Chapter IX. Evaluating Your Safe Patient Handling Program

Why program evaluations are important

What to measure: Safe Patient Handling Law Requirements

Types of Evaluation and Measures

Quantitative and Qualitative Data

Choosing Metrics for Evaluation

Navigating through an unsuccessful program

Process Evaluation

Evaluation forms and tools



Why evaluate

Evaluation is an ongoing process to determine relevance, progress, efficiency, effectiveness, and impact of safe patient handling programs and activities. Safe patient handling (SPH) is not something that is ever fully or permanently accomplished; rather it is a continuous improvement process. As such, check-ins along the way monitor the function and assess the progress and sustainability of the program. The feedback generated by evaluation activities is essential to demonstrate benefits, make adjustments, and address concerns that participants will inevitably encounter.

What to measure: Safe Patient Handling Law Requirements

According to RCW 70.41.390, by December 1, 2007 each hospital's safe patient handling program had to include

An annual performance evaluation of the program to determine its effectiveness, with the results of the evaluation reported to the safe patient handling committee. The evaluation shall determine the extent to which implementation of the program has resulted in a reduction in musculoskeletal disorder claims and days of lost work attributable to musculoskeletal disorders caused by patient handling, and include recommendations to increase the program's effectiveness.

We emphasize that these are the legal requirements and are the minimum measures the institution must compile. While these measures will provide a partial picture of how well the overall program is working, a more comprehensive evaluation can reveal which aspects of the program are working and which ones are not effective. Additional measures beyond injury claims could include direct-care staff and patient satisfaction with the safe patient handling activities, compliance or non-compliance with the safe patient handling policy, availability and use of equipment, and possibly even staff absenteeism and turnover. Ultimately, the goals and objectives that the program has set should be attainable and measurable, and ideally the metrics for evaluation should be established during program development, not as an afterthought.

Types of Evaluation and Measures

Two broad categories of program evaluation are *process* evaluation and *outcome* evaluation.

We are probably more familiar with outcome measures, and it may be obvious why you want to measure outcomes. These are commonly seen as the "bottom line." Examples would be:

- Number of patient-handling related injuries to direct-care staff
- Number of patient injuries related to handling or movement
- Annual cost of patient-handling related injuries

There are many variations of these measures, e.g. time-loss worker injuries versus medical only cases. Injury rates (# of injuries/exposed population) are usually a more accurate way of assessing outcomes because rates allow you to compare your numbers to other facilities and units of different size in a standardized way.

By contrast the importance of *process* may be overlooked. However, if you don't assess process measures, often you will have a difficult time understanding why you got the outcomes you did. Consider some process variables that could affect outcomes:

- Was the program implemented as designed or written, or was it modified?
- Was it implemented everywhere it was meant to be? Was the scope narrowed or broadened?
- Was all the equipment in place when it was supposed to be?
- Were peer leaders in place in all units? What did they actually do? How were they supported in their roles?
- Did the number of reported patient-handling related injuries go up because the program encouraged better reporting and provided easier reporting mechanisms?

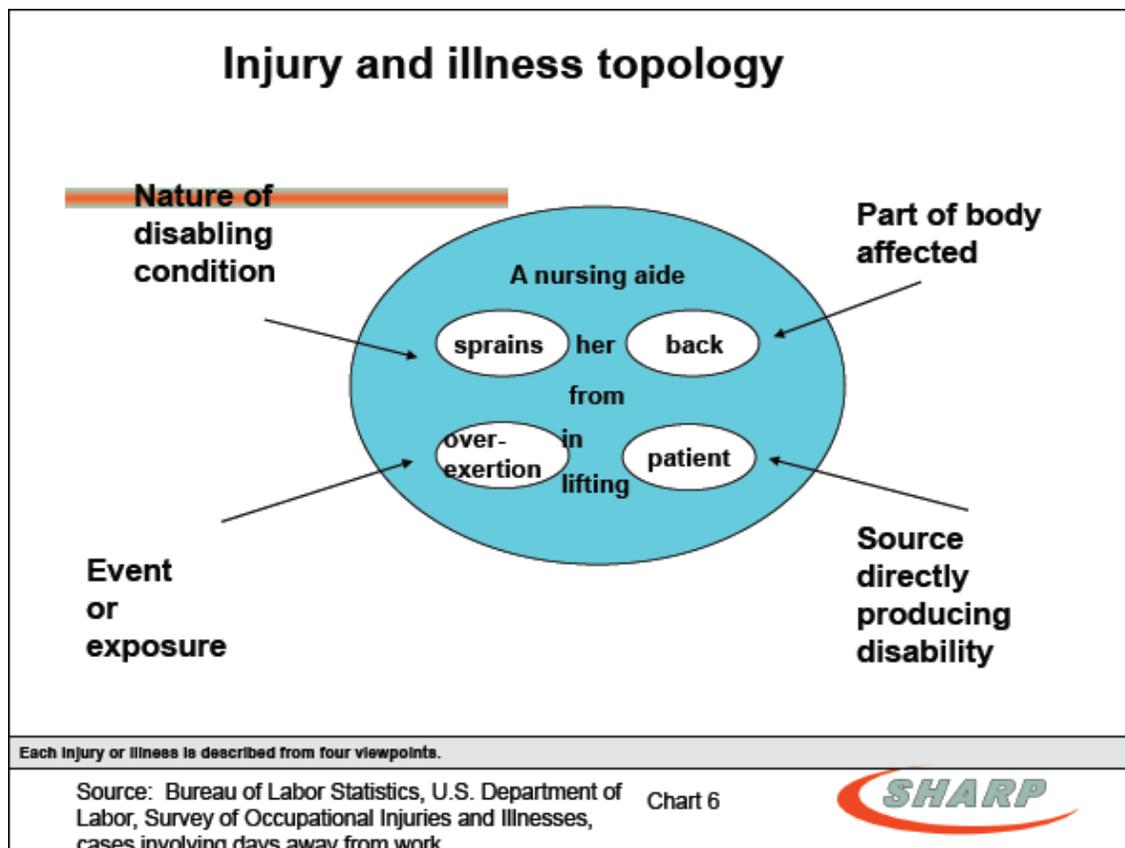
Quantitative and Qualitative Data

Outcome measures are usually associated with quantitative, or countable, data, while process measures are often thought of in terms of qualitative data. This is oversimplified and sometimes just wrong. For example if the outcome measure you are most interested in is lost-time musculoskeletal injuries from patient handling, that is certainly quantitative. However, process variables related to this outcome might be “percentage of rooms on the unit with ceiling lifts installed,” or “percentage of unit direct-care FTE who were fully trained on patient handling equipment.” These, too, are quantitative measures. Other process variables, though, are qualitative and can help answer the “why” and “how” questions behind the outcome or other process numbers.

In Chapter IV we discussed the use of injuries related to patient handling as one of the first types of data to use in conducting the risk assessment. Figure 3 graphically illustrates how The Bureau of Labor Statistics in the U.S. Department of Labor describes an injury or illness based on four components:

1. Nature of the disabling condition
2. Part of the body affected
3. Event or exposure
4. Source directly producing the disability

Figure 3:



In the figure if a nurse aide sprains her back from over-exertion in lifting a patient, the 'sprain' would be the nature of the condition, her 'back' would be the body part, 'over-exertion' would be the exposure and the 'patient' would be the source. By breaking down an event into these components, one can identify themes of deficiencies in existing programs and equipment.

Injury and claim numbers provide an objective look at the performance of the SPH program, but don't necessarily provide an understanding of which aspects of the program are or are not working and why. For this qualitative evaluation methods can provide a rich source of information. Surveys, interviews, or focus groups with direct care staff involved in patient handling can ascertain use of and satisfaction with handling equipment, training effectiveness, barriers to using proper techniques and equipment, and related measures.

Safety Huddle (After Action Review)

One increasingly common method that capitalizes on patient handling "events" to learn about what is working and what needs improvement is the practice of "teachable moments" or "Safety Huddles" as practiced by the Veteran's Administration Center for Patient Safety. This technique actually combines elements of training and evaluation by using real cases that have just happened to assess what went right and wrong, what the event reveals about system effectiveness and deficiencies, and what lessons learned can be passed on and incorporated into the system for improvement.

Everyone involved in direct patient care should be involved in safety huddle meetings

- Safety huddles should be conducted on a regular basis, preferably at the same time every day
- Safety huddles can be completed briefly, approximately 15 minutes
- Lessons learned should be summarized and forwarded to the SPH committee where they can be shared with other units.

Excerpt34:

"Safety Huddles are based on After Action Review (AAR), a highly successful method of knowledge transfer that is used in high performing organizations, such as the United States Army. Safety Huddles offer an effective means for learning from both safety mishaps and near misses. It is an informal process in which there are no recriminations, reports are not forwarded to supervisors, and meetings are facilitated locally. Safety Huddles are compatible with established mechanisms for dealing with errors and near misses such as incident-reporting and root cause analysis."

It is not hard to imagine how cases subjected to after action review could greatly amplify the basic data from each statistic captured by the BLS system described above.

Choosing Metrics for Evaluation

When selecting or compiling a new evaluation tool, consider all the different areas that may contribute to the success or effectiveness of a SPH program. For example, gauging the growth or decline of job satisfaction, the improvement of recruitment or retention, training requirements, availability and use of equipment, and the degree of pain or discomfort at shift or week completion all represent different types of program success or effectiveness measures.

By comparing these types of measures over time to (1) other programs or units of one's own institution, (2) other similar facilities, and (3) national and state data such as BLS statistics or workers' compensation data, one can develop an awareness of best practices that are in place elsewhere, and become a better judge of where and how to implement methods for improvement. One must also consider the time frame of specific measures, taking into account both *lagging* and *leading* indicators. Lagging indicators are looking in the rear-view mirror to see what happened over a previous period of time. Leading indicators, on the other hand, should be predictive of results. If a program is designed well and implemented effectively, improvements in leading indicators should predict improvement in lagging indicators next time we check the latter. Table 1 provides examples of each.

Table 1: Examples of lagging and leading indicators

LAGGING INDICATORS	LEADING INDICATORS
<ul style="list-style-type: none"> • Staff lost time from patient handling-related injury • Staff reported injury rates • Patient injury rates related to patient handling • Patient fall rates related to patient handling • Staff turnover rates • Staff absentee rates 	<ul style="list-style-type: none"> • Staff satisfaction • Staff stability/retention rates • Ceiling lifts available per patient or unit • Floor lifts available per patient or unit, • Bariatric equipment per unit • Peer leaders per unit

Additionally, it is important to take inventory of what you need versus what you have. For example, identifying current capacity in terms of formal and informal leaders, finances, communication, equipment, trainers, space, support functions on the board, staff on the board and others will help elucidate some of the themes that should be captured and tracked through the evaluation process.

Process Evaluation

Recall that measuring process variables can be critical to understanding the performance of your program and to interpreting your outcome measures. Using a variety of process measures and data collection methods can lead to meaningful and comprehensive results. A process evaluation can start with looking at program milestones and assessing how far the unit or facility has gotten toward fully reaching those milestones. Examples of program milestones include:

- SPH committee established
- SPH policies and procedures reviewed and updated
- Unit-based hazard assessments completed in X units
- Equipment inventory
- Equipment purchases
- Peer leaders recruited
- Peer leaders trained

Wherever the facility or unit is in terms of partial or full achievement of these and other milestones, you will want to know why. Surveys, interviews, and focus groups with key informants, as well as observational data, can help answer these questions. An ongoing evaluation of the VA SPH program included many of these techniques, starting with an activation or baseline survey to understand where each facility was starting. The same survey is readministered every six months to chart level of deployment of different program elements. Focus group guides were created for use with direct care givers to get at such questions as barriers and facilitators to SPH activity, unintended consequences of the program, customization of the program that might have occurred at the unit level, and the effects of different stakeholder groups on implementation. In addition a survey specifically targets peer leaders and additional interviews are conducted with key informants. This particular evaluation effort went so far as to use wireless tracking devices on ceiling lifts, mobile lifts and lateral transfer equipment to gauge usage patterns. For more information about this strategy, reference Aubrey Nelson’s presentation, Process Evaluation for Safe Patient Handling (LINK: [waiting for it to get up on the website](#))

Navigating through an unsuccessful program

Persistence is essential when dealing with challenges of evaluating your program. Never quit! Instead, revisit the planning stage of the problem solving cycle and review best practices and lessons learned if risk factors are not reduced. Also, the Washington State Safe Patient Handling Steering Committee has networked with a number of SPH coordinators from different hospitals, who are willing to assist as mentors. Please contact the [Washington State SPH website](#)³⁵ if you would like to take advantage of this resource.

Evaluation forms and tools

Almost all institutions and programs have some sort of evaluation tool in order to gauge the progress of their program and establish accountability. Fortunately some institutions have validated their evaluation tools and made them available as online resources. The four that we will highlight in this Guide are:

1. VA Patient Care Ergonomics Resource Guide: Safe Patient Handling and Movement⁴, Chapter 11
2. Occupational Safety and Health Agency for Healthcare BC evaluation tools
3. US Department of Labor's Incidence [Rate Calculator and Comparison Tool](#)³⁶. It allows us to easily figure out our Incidence Rate and then benchmark our rate to other similar facilities.
4. Safety and Health Assessment and Research for Prevention Program and Washington State SPH
5. Washington Hospital Services Checklist
6. WorkCover NSW's 2006 publication "Implementing a Safer Patient Handling Program"

USEFUL DATA TO HAVE FOR ANNUAL REVIEW:

- **Safe Patient Handling or Zero Lift Policy and Procedures**
- **Employee and patient injury data relating to patient handling activities**
- **Employee training materials and records**
- **Physical inspection of the facility**
- **"walk around" interviews with patient care staff. Key or essential "best practices" are highlighted in gray.**

Veteran's Administration Evaluation Tools

See, for example, the Nursing Satisfaction Survey (attachment 11-3), injury rate calculators (attachment 11-1), and Patient Care Equipment Use Survey (attachment 11-5).

The Occupational Health & Safety Agency for Healthcare in British Columbia (OHSAH BC)

The OHSAH BC has several resources that can inform the evaluation process.

OHSAH BC collaborated with a 235-bed General Hospital to implement an overhead lifting equipment system, provide applicable training to their new no-lift policy, and evaluate the effect on work-related injuries and illnesses and the economic impact. In 2000, they published their [Final Report](#)¹⁹ that describes their methods and results. The lessons they learned were also incorporated into a [Ceiling Lift Program Guide](#)²¹ that provides the rationale for developing such a program, the tools to do so, and a number of tools for evaluating programs, specific equipment, safety climate, and employee and patient satisfaction.

Additionally, OHSAH also published a document entitled, *[It doesn't have to hurt](#)*:³⁸ *A guide for implementing musculoskeletal injury prevention (MSIP) programs in healthcare*. It provides information on the overall evaluation of a musculoskeletal injury prevention program, and also on specific components of the program such as risk control measures, education and training, and purchasing options, among others.

OHSAH BC also provides a site that gives a [Summary Manual Handling Tools](#)³⁹ that one can incorporate into an evaluation plan, including equations and models for lifting, lowering, pushing, pulling and carrying.

For information on other projects completed by OHSAH BC through their Ergonomics Program, visit their website at: <http://www.ohsah.bc.ca/456>

US Department of Labor's Incidence Rate Calculator and Comparison Tool™

This tool utilizes data from the institution's Log of Work-Related Injuries and Illnesses or from the Bureau of Labor Statistics (BLS) Survey of Occupational Injuries and Illnesses form. After entering data related to the total number of employee hours worked, work-related injury, productivity lost, restricted work activity, year, geographic location and industry, this tool calculates incidence rates and then gives comparison values from your region. Although this is not a comprehensive evaluation tool, it is useful to gauge the scope of the situation, and benchmark the rate of one institution against other similar facilities.

Safety & Health Assessment & Research for Prevention (SHARP) in Washington State

The SHARP program is dedicated to promoting healthy work environments and preventing workplace injuries and illnesses. As a stakeholder and leader in the Washington State SPH movement, SHARP draws from best practices and develops innovative tools in order to evaluate SPH programs in the context of the 2006 legislation. For example, in 2007 SHARP obtained baseline data from 378 direct care providers regarding perceptions of safety, job satisfaction, control, policy implementation, risks, and numerous other factors that contribute to or hinder the safe patient handling. See Appendix I for sample results. This data has allowed them to identify priority areas and target program resources and evaluation tools to monitor pertinent trends.

Washington Hospital Services Checklist⁴²

The Washington Hospital Services Checklist has two main parts—a written assessment and a quality improvement plan for the program. The first part addresses best practices as it pertains to a Zero Lift or SPH program, and should be conducted routinely in a consistent manner for the sake of comparison. Added benefit would be derived by completing the evaluation quarterly, but at the minimum, it should be completed annually. The checklist covers issues that fall into six main categories:

1. Written policies & procedures
2. Employee & Patient Injury Data
3. Equipment (includes slings, batteries)
4. Training effectiveness & outcomes
5. Program effectiveness
6. Bariatric & Specialty Care Programs

An example checklist can be accessed on the [Safe Patient Handling Website⁴³](#) or as a [PDF document⁴⁴](#)

Part two takes the process one step further to review the results and set programmatic goals for necessary changes to the program. For more resources, see the worksheet, "Developing a Safe Patient Handling Action Plan" in the first chapter of the Veteran's Administration, [Patient Care Ergonomics Resource Guide: Safe Patient Handling and Movement⁴](#).

WorkCover NSW's 2006 publication "Implementing a Safer Patient Handling Program"TM

This Guide aims to assist organizations to implement a continuous improvement program and achieve better practice in the safe handling of patients. It also provides advice on how to achieve compliance with the requirements of the occupational health and safety (OHS) legislation in NSW as it applies to the manual handling of patients.

Chapter 8: Tools, provides example forms that can be used as models when developing, evaluating and revising a SPH Program and corresponding forms. The other chapters give information on the implementation of a minimal lift program, case examples of implementation, and phases of change.

Other information and forms are available in ["Manual Handling Guide for Nurses"](#)⁴¹

References and Resources

- 1. Engrossed House Bill 1672**
<http://apps.leg.wa.gov/billinfo/summary.aspx?bill=1672&year=2006>
- 2. MultiCare Health System Safe Patient Handling (No Lift Policy)**
http://www.washingtonsafepatienthandling.org/%20images/Safe_Patient_Handling_No_Lift_Policy_revised_1-29-07_2_2.pdf
- 3. B&O tax rebates**
http://dor.wa.gov/Docs/Pubs/SpecialNotices/2006/sn_06_HospitalBed.pdf
- 4. Patient Care Ergonomics Resource Guide: Safe Patient Handling and Movement**
<http://www.google.com/url?sa=t&source=web&ct=res&cd=1&url=http%3A%2F%2Fwww1.va.gov%2Fvisn8%2Fpatientsafetycenter%2Fresguide%2FErgoGuidePtOne.pdf&ei=Ave8SoiblIrosQOr24m7BA&usg=AFQjCNHeXaBk2QCe2WjmkKEAY3V6vp6dAw>
- 5. Safe Patient Handling Guidebook for Facility Champions/Coordinators**
<http://www1.va.gov/VISN8/PatientSafetyCenter/safePtHandling/SPHGuidebook.doc>
- 6. Reference Guidelines for Safe Patient Handling**
http://control.ohsah.bc.ca/media/Reference_Guidelines_for_Safe_Patient_Handling.pdf
- 7. Swedish: Safe Patient Handling Risk Assessment Guide**
http://www.washingtonsafepatienthandling.org/images/Swedish_Hospital_Risk_Assessment_Tool.pdf
- 8. National Heart Lung and Blood Institute Body Mass Index Table**
http://www.nhlbi.nih.gov/guidelines/obesity/bmi_tbl.htm
- 9. Audrey Nelson's book, Safe Patient Handling And Movement: A guide For nurses and other health care professionals**
http://books.google.com/books?id=LdWkfTCB7QUC&pg=PA166&lpg=PA166&dq=hospital+assessment+%26+interventions+bariatric+care&source=bl&ots=rt6MIDyShD&sig=H5Ib1vmANwlebjrZ4Qd9kyly3Co&hl=en&ei=AJKNSpjrCly0sgON74zaCQ&sa=X&oi=book_result&ct=result&resnum=3#v=onepa
- 10. Technology Resource Guide for Bariatric Patients**
<http://www.visn8.med.va.gov/VISN8/PatientSafetyCenter/safePtHandling/BariatricTechnologyResourceGuide.doc>
- 11. VA Safe Patient Handling Movement**
<http://www.visn8.med.va.gov/PatientSafetyCenter/safePtHandling/>
- 12. VA Bariatric Handling Toolkit**
<http://www.visn8.med.va.gov/patientsafetycenter/safePtHandling/toolkitBariatrics.asp>
- 13. Egress test**
<http://www.bariatricrehab.com/ARTWORK/Egress%20Test%204%20pages.pdf>
- 14. Bariatric Rehab**
<http://www.bariatricrehab.com/home.html>
- 15. Standard of Care: Bariatric**
<http://www.brighamandwomens.org/RehabilitationServices/Physical%20Therapy%20Standards%20of%20Care%20and%20Protocols/Bariatric.pdf>

- 16. Bariatric Care unit at HealthEast Care System health and behavioral assessments**
<http://www.healtheast.org/bariatric/psychsupport.cfm>
- 17. Other sample algorithms**
<http://www.visn8.med.va.gov/patientsafetycenter/safePtHandling/SPHMAgorithms.pdf>
- 18. Oregon Coalition on Healthcare Ergonomics Equipment Purchasing Checklist**
http://www.washingtonsafepatienthandling.org/images/OCHE_Equipment_Purchasing_Guide_and_Checklist.pdf
- 19. Ceiling lift program and no-lift policy**
<http://www.ohsah.bc.ca/media/4-Ceiling-Lifts-St.JosephHospital-FinalReport.pdf>
20. Paper regarding the cost-benefits of investing in a SPH program, published by the Patient Safety Center in the Veterans Health Administration
<http://www.ahrq.gov/downloads/pub/advances/vol3/Siddharthan.pdf>
- 21. OHSAH BC Ceiling Lift Program Guide**
http://www.ohsah.bc.ca/media/159-HB-Ceiling_Lift_Program_Guide.pdf
- 22. Application for review and specific items to consider in the design and installation of equipment**
<http://www.doh.wa.gov/hsqa/fsl/CRS/application.htm>
- 23. Program A: Essentials**
http://www.workcover.nsw.gov.au/Documents/Publications/AlertsGuidesHazards/HealthCommunityServices/manual_handling_training_package_nurses_section_a_4798.pdf
- 24. Program B(1): Patient Risk Assessment**
http://www.smartmove.nsw.gov.au/ContentFiles/WorkCoverManualHandling/Documents/manual_handling_training_package_nurses_section_b1_4798.pdf
- 25. Program B(2): Managing Risk**
http://www.workcover.nsw.gov.au/Documents/Publications/AlertsGuidesHazards/HealthCommunityServices/manual_handling_training_package_nurses_section_b2_4798.pdf
- 26. Program C: Leadership and Change**
http://www.workcover.nsw.gov.au/Documents/Publications/AlertsGuidesHazards/HealthCommunityServices/manual_handling_training_package_nurses_section_c_4798.pdf
- 27. Resources**
http://www.workcover.nsw.gov.au/Documents/Publications/AlertsGuidesHazards/HealthCommunityServices/manual_handling_training_package_nurses_resources_4798.pdf
- 28. Safe Patient Handling toolkit**
<http://www.nursingworld.org/MainMenuCategories/OccupationalandEnvironmental/occupationalhealth/handlewithcare/SafePatientHandlingToolkit.aspx>
- 29. Sindelan P, Shearer D et al. 2006. The sustainability of inclusive school reform. *Exceptional Children* 72 (3): 317-333**
<http://www.accessmylibrary.com/article-1G1-143213424/sustainability-inclusive-school-reform.html>
- 30. Billing S, Sherry L, Havelock B. 2005. Challenges 98: Sustaining the work of a regional technology. Integration initiative. *Br J Ed Tech* 36: 987-1003**
<http://www3.interscience.wiley.com/journal/118683438/abstract?CRETRY=1&SRETRY=0>

- 31. Johnson K, Hays C et al. 2004. Building capacity and sustainable prevention innovations: a sustainability planning model. Eval & Program Planning 27:135-139.**
<http://resources.prev.org/documents/BuildingCapacityandSustainablePrevention.pdf>
- 32. Cooper MD, 2000. Toward a model of safety culture. Safety Science 36, 111-136**
http://www.behavioral-safety.com/articles/Towards_A_Model_Of_Safety_Culture/
- 33. Hahn S, Murphy L. A short scale for measuring safety climate. Safety Science 46 (2008) 1047-1066**
<http://cat.inist.fr/?aModele=afficheN&cpsidt=20505406>
- 34. Excerpt from “Safety Huddles” as practiced by the VA Center for Patient Safety**
<http://www1.va.gov/VISN8/PatientSafetyCenter/safePtHandling/SafetyHuddle.pdf>
- 35. Washington State Safe Patient Handling Website**
<http://www.washingtonsafepatienthandling.org/index.html>
- 36. US Dept of Labor’s Incidence Rate Calculator and Comparison Tool**
<http://data.bls.gov/IIRC/mainDisplay.do>
- 37. VA Unit Based Hazard Assessment Forms**
<http://www.visn8.med.va.gov/VISN8/PatientSafetyCenter/safePtHandling/UnitBasedHazardForms.doc>
- 38. OSHA’s It doesn’t have to hurt: A guide for implementing musculoskeletal injury prevention (MSIP) programs in healthcare**
<http://www.ohsah.bc.ca/media/40-HB-MSIP.pdf>
- 39. Summary Manual Handling Tools from OSHA**
<http://www.ohsah.bc.ca/462/2044/>
- 40. Implementing a Safer Patient Handling Program**
http://www.workcover.nsw.gov.au/Documents/Publications/AlertsGuidesHazards/HealthCommunityServices/implementing_a_safer_patient_handling_program_4800.pdf
- 41. Manual Handling Guide for Nurses**
http://www.workcover.nsw.gov.au/Documents/Publications/AlertsGuidesHazards/HealthCommunityServices/manual_handling_guide_for_nurses_4799.pdf
- 42. Washington Hospital Services Checklist**
http://www.washingtonsafepatienthandling.org/images/ZLAnnual_Review-format-2007B.pdf

Appendix Table of Contents:

Appendix A

Sample recruitment flyers for a 400-bed, regional, teaching hospital (Providence St Peters)

Appendix B

Sample recruitment flyers for a XXXX hospital (MultiCare)

Appendix C

Sample description of responsibilities of safe patient handling committee.

Appendix D

Sample Policy: Bariatric Toolkit (August 2007), VISN 8 Patient Safety Center of Inquiry, James A. Haley Veteran's Hospital, Tampa, FL

Appendix E

Sample model of a right to refuse policy under Washington Safe Patient Handling Law

Appendix F

Sample survey and detailed instructions provided by xxx

Appendix G

The VA has developed a sample assessment that can be found within this document as

Appendix H

Bariatric Equipment Safety Checklist

Appendix I

SHARP Baseline Direct Care Provider Sample Survey Results

Appendix J

Washington State Checklist

APPENDIX A: Recruitment Flyer

APPENDIX B: Recruitment Flyer

APPENDIX C: Description of responsibilities of safe patient handling committee

SAFE PATIENT HANDLING COMMITTEE –

The Safe Patient Handling Committee is a subcommittee of the Incident and Accident Committee for Gotham Medical Center. It must consist of at least 50% non-managerial front line direct patient care representatives and will preferably have representation from all Campuses (Downtown, Broadway, and Issaquah).

The purpose of the committee is to assist Swedish Medical Center to carry out the provisions of the Safe Patient Handling Bill (ESHB 1672 effective 6-7-2006) and to provide a safe environment for both our patients and employees.

General Responsibilities:

The representative will commit to meeting one hour per month on _____ at _____ (time). They must have an active interest in promoting patient and employee safety and improving ergonomics throughout their working environment. The representative will have the ability to: 1) communicate pertinent information from committee meetings back to other hospital employees 2) analyze injury patterns throughout the hospital and collaborate in solutions 3) Model safe patient handling policies and procedures in their own work environment and train co-workers to do the same 4) Serve on special projects and training as needed and schedule permits.

Goals:

- 1) To assist in design, development and implementation of a safe patient handling program for all campuses / all shifts of SMC. This program must be in place by 12-1-07.
- 2) Develop a policy on Safe Patient Handling based on the patient's physical and medical condition and availability of lifting equipment or lift team options.
- 3) To help develop a patient handling hazard assessment specific for variables, which may include: specific work tasks, types of nursing units, patient populations and physical work environment.
- 4) Review plans for construction and remodeling and ensure safe patient handling measures as well as ergonomics standards are addressed and implemented.
- 5) Review and make recommendations on all safe patient handling equipment.
- 6) Educate departments on guidelines of ESHB 1672 and recommendations for injury prevention made by the committee.
- 7) Educate departments on guidelines and alternatives to manual lifting situations which would expose an employee to unacceptable risk of injury.
- 8) Assist in design and implementation of an annual performance evaluation of the Safe Patient Handling Program at SMC which would determine its effectiveness and compliance with the requirements of ESHB 1672.

APPENDIX D:

Sample Policy: Bariatric Toolkit (August 2007), VISN 8 Patient Safety Center of Inquiry, James A. Haley Veteran's Hospital, Tampa, FL

Template of a Safe Patient Handling and Movement Policy

1. **PURPOSE:** To ensure that caregivers assisting bariatric patients are protected from patient handling injuries while bariatric patients are cared for safely, this policy describes ways to ensure that employees use safe patient handling and movement techniques and equipment specific for bariatric patients. As well, this policy is set forth to provide the bariatric patient an environment of dignity and respect in a supportive caring culture.
2. **POLICY:** _____ (Facility Name) wants to ensure that its bariatric patients/residents are cared for safely, while maintaining a safe work environment for employees. To accomplish this, a comprehensive bariatric program will be implemented to ensure appropriate and adequate provisions are identified and made for bariatric patient handling equipment, training and resources in keeping with an effective "Culture of Safety" in the work environment. Identified bariatric patient handling techniques and guidelines will be followed at all times. Additionally, mechanical lifting equipment and/or other approved patient handling aids will be used to prevent the manual lifting and handling of bariatric patients/residents. It is also the policy of this hospital to provide a supporting and respectful environment of care for all patients.
3. **DEFINITIONS:**
 - a. **Bariatric Patient:** Can be defined as anyone who has limitations in health due to physical size, health, mobility, and environmental access (Bushard, 2002). For the purpose of using our assessment form and bariatric algorithms, we defined bariatric as individuals exceeding standard capacity equipment (300 lbs) with a BMI of 50.
 - b. **Patient Handling:** Refers to the repositioning, lifting, turning, transferring, transporting and assisting in ambulation provided by health care workers to patients that need assistance.
 - c. **High Risk Patient Handling Tasks:** Patient handling tasks that have a high risk of musculoskeletal injury for staff performing the tasks. These include but are not limited to transferring tasks, lifting tasks, repositioning tasks, bathing patients in bed, making occupied beds, dressing patients, turning patients in bed, tasks with long duration and those involving bariatric patients.
 - d. **High Risk Patient/Resident Care Areas:** Inpatient hospital wards with a high proportion of dependent patients, requiring full assistance with patient handling tasks and activities of daily living and who are frequently moved in and out of bed. Designation is based on analysis of facility injury data. These units have the highest incidence and severity of injuries due to patient handling tasks. These areas include Spinal Cord Injury Units, Nursing Home Care Units, and other specified areas.
 - e. **Manual Lifting:** Lifting, transferring, repositioning, and moving patients using a caregiver's body strength without the use of lifting equipment/aids that reduce forces on the worker's musculoskeletal structure.
 - f. **Mechanical Patient Lifting Equipment:** Equipment used to mechanically lift, transfer, reposition, and move patients. Examples include floor based, sit to stand and ceiling track lifts and mechanized lateral transfer aids.
 - g. **Patient Handling Aids: Equipment used to assist in the lift or transfer process. Examples include gait belts with handles, stand assist aids, sliding board and friction-reducing devices.**
 - h. **Culture of Safety:** Describes the collective attitude of employees taking shared responsibility for safety in a work environment and by doing so, providing a safe environment of care for themselves, co-workers and patients.
4. **PROCEDURES:**
 - a. **Compliance:** It is the duty of employees to take reasonable care of their own health and safety, as well as that of their co-workers and their patients during patient handling activities. Non-compliance will indicate a need for retraining.
 - b. **Assessments Prior to Program Implementation:**

Prior to performing procedures set forth in this policy, it is mandatory that two assessments must be completed: Bariatric Needs Assessment and Bariatric Risk Assessment. These facilitate development of individualized processes and facility plans and help guide management to allocate resources appropriately to prepare for bariatric patient care

and admissions.

- 1. Bariatric Needs Assessment:** To identify and prevent potential barriers encountered in the admission and care processes and complete a bariatric needs assessment. This includes collection of data, identifying medical conditions, patient characteristics, weight, height, equipment use and location trends (units).
- 2. Bariatric Risk Assessment:** This assessment identifies patient and staff safety issues and risk factors for bariatric patient care. These include risks from patient transfers, patient transport, compatibility with transport equipment, room sizes, door widths, elevator size, etc. Please refer to Attachment C, Bariatric Equipment Safety Checklist. Additionally, capture information on the bariatric equipment availability/ effectiveness and maintenance support. This information will help in the decision to purchase or rent bariatric equipment.

c. Training:

1. Staff will complete and document Bariatric Safe Patient Handling and Movement training initially, annually, and as required to correct improper use/understanding of safe patient handling and movement. Supervisors should maintain training records for three (3) years.
2. Staff will complete and document safe patient handling and movement equipment training initially and as required to correct improper use/understanding of safe patient handling and movement. Supervisors should maintain training records for three (3) years.
3. Annual competencies will assess ability to provide appropriate bariatric patient care.

d. Bariatric Patient Handling Assessment:

1. The Bariatric Patient Handling Assessment, Care Plan and Algorithms can be accessed _____(say where) and completed by anyone preparing to handle or transfer a bariatric patient (Attachment B).
2. Use expanded capacity/bariatric mechanical lifting devices and other approved patient handling aids in accordance with instructions and training for bariatric patient handling
3. Facility will list persons responsible for training and provide appropriate resources and manuals. Contact _____for this information.

e. Bariatric Equipment:

1. Expanded capacity/bariatric mechanical lifting devices and other equipment/aids will be accessible to staff. See Attachment A for a listing of such equipment. Depending on facility and unit needs, other equipment may be added to this list.
2. Equipment provisions should be varied and sufficient to care for multiple patients of various sizes and medical conditions. Choose equipment carefully based on patients' shape, size and medical conditions (see Attachment B for Algorithms and Assessment form).
3. Bariatric equipment may be leased or purchased. The decision to purchase or rent equipment should be determined by considering the following factors:
 - Number and frequency of bariatric admissions
 - Equipment purchase cost
 - Rental cost
 - Space demands: including fit through doorways/hallways, etc.
 - Patient care needs: bedroom, bathroom
 - Equipment storage needs
 - Length of stay
 - Equipment cleaning and maintenance needs
4. _____ will ensure that all expanded capacity/bariatric equipment will be labeled as such using the following: "EC – ____ (weight)". This will identify such equipment and their associated weight capacities. The weight capacity will be clearly visible.
5. _____will also maintain, clean and check equipment in need of servicing or repair. _____will store expanded capacity/bariatric mechanical lifting devices and other equipment/aids conveniently and safely.
6. _____ will also be responsible for returning rental equipment.
7. The nurse manager will arrange for patient's own equipment to be inspected and a safety check will be performed by the appropriate department prior to patient use.
8. Equipment may be procured by _____(facility must outline procedure for accessing or renting equipment).

f. Bariatric Patient Supplies:

1. Appropriately-sized patient care items, such as gowns, slippers, robes, ID bracelets, blood pressure cuffs, linens,

slings, needles, etc., shall be readily available and stored for easy accessibility. These items can be accessed by contacting the charge nurse on the specific unit.

2. A system will be implemented that distinguishes different sizes of patient care items without stigmatizing bariatric patients.

g. Admissions Procedures:

1. For elective admission, _____ shall communicate the impending need for bariatric patient accommodations.
2. For emergency admission, _____ shall communicate the immediate need for bariatric patient accommodation.
3. The _____ shall assign the appropriate space to accommodate equipment for the bariatric patient (as directed by the _____ on the admitting unit). This may include blocking a space to provide a double space for a single patient.
4. If a bariatric suite is not available, _____ must initiate preparation, including delivery and placement of the bed and other equipment in the room.
5. The Bariatric Patient Handling Specialist or Team _____ (identify who) will be notified of elective or emergency bariatric patient admission.
6. Patient must be weighed as soon as possible upon entry to the facility in order to confirm weight and identify appropriate equipment.
7. Consult specialist if needed (e.g. wound care nurse, nurse educator).

h. Patient Transport:

1. To assist in patient transport, use a powered bed/stretcher, bed mover, or powered wheelchair mover. If powered equipment is not available, then choose the least physically demanding transport vehicle.
2. Prior to transporting a patient
 - Map out the route
 - Make sure the bed fits through doorways and into elevators
 - Make sure the transport device/bed is easy to maneuver
 - Make sure an adequate number of staff are available to assist
 - Determine how many transfers are required to accomplish the task and minimize if possible
 - Ensure patient is medically stable
 - Calculate the weight of patient plus bed to ensure elevator weight and other capacities are not exceeded

i. Ensuring Patient Comfort and Dignity:

Bariatric patients have the same rights to be treated with the same comfort, dignity, respect and privacy as other residents. Health Care workers shall acknowledge the patient as a unique individual and treat them with compassion, seeing past a person's weight and size. They shall ensure that dignity and self-worth are maintained by appropriate and professional treatment.

5. DELEGATION OF AUTHORITY AND RESPONSIBILITY:

a. FACILITY DIRECTOR shall:

1. Support the implementation of this policy.
2. Support a "Culture of Safety" within this medical center.
3. Furnish sufficient expanded capacity/bariatric lifting equipment/aids to ensure safe patient handling and movement of bariatric patients.
4. Furnish acceptable storage locations for expanded capacity/bariatric equipment/aids.
5. Provide staffing levels sufficient to support safe patient handling and movement of bariatric patients.

b. NURSE MANAGERS shall:

1. Ensure all bariatric patient handling tasks are assessed prior to completion and are completed safely, using appropriate mechanical lifting devices and other approved patient handling aids and appropriate techniques.
2. Ensure appropriate and adequate numbers of expanded capacity/bariatric equipment are available either through rental agreements or through facility purchase.
3. Ensure expanded capacity/bariatric mechanical lifting devices and other equipment/aids maintained regularly, in

proper working order, and stored conveniently and safely.

4. Ensure employees complete initial and annual bariatric patient training and additional training as required if employees show non-compliance with safe patient handling and movement or equipment use.

c. EMPLOYEES shall:

1. Comply with all parameters of this policy.
2. Use proper techniques, mechanical lifting devices, and other approved equipment/aids during performance of bariatric patient handling tasks.
3. Notify supervisor of any injury sustained while performing patient handling tasks.
4. Notify supervisor of need for re-training in use of expanded capacity/bariatric mechanical lifting devices, other equipment/aids and lifting/moving techniques.
5. Provide care in a manner that acknowledges the patient as a unique individual, treating them with compassion and respect. They shall ensure that dignity and self-worth are maintained by appropriate and professional treatment. Workers should not display negative or judgmental feelings and should attempt to see the person not the weight.

d. BARIATRIC PATIENT HANDLING SPECIALIST OR TEAM shall:

1. Acknowledge notification of elective or emergency bariatric patient admissions, and respond in a timely manner.
2. Act as a resource and provide ergonomic consultation and support to staff when bariatric patients are admitted.
3. Assist in monitoring effectiveness of equipment and identification of bariatric equipment needs for individual patients.

e. UNION shall: support bariatric program and policy in partnership with administration.

APPENDIX E

Model Right to Refuse Policy Under Washington Safe Patient Handling Law

Safe Patient Handling Steering Committee – Right to Refuse Policy

Employee's Right of Refusal:

XXXXX Hospital is committed to ensuring that no employee or patient becomes injured as a result of unsafe patient handling. To promote safe patient handling and comply with the requirements of RCW 70.41.390(6), XXXXX Hospital has developed a procedure that allows an employee to refuse to perform or be involved in patient handling the employee believes in good faith would place an unacceptable risk of injury on either a hospital employee or a patient

No employee of XXXXX Hospital will be subject to disciplinary action for refusing to perform or be involved in patient handling the employee believes in good faith will expose a patient or hospital employee to an unacceptable risk of injury as long as the employee, in good faith, follows the requirements of the procedure set forth in this policy.

In the event that a hospital employee does refuse in good faith to participate in patient handling, he/she must do the following:

- a. Notify the supervisor or charge nurse immediately of the refusal and the reason for doing so.
- b. Stay on the job and make him/herself available to the supervisor for other work assignments.
- c. If called to assist with a patient who is in distress, the employee will remain with the patient as necessary, providing assistance as able until the necessary resources are available to the patient.

After the immediate situation related to the refusal of patient handling has been managed an employee should notify a member of the Safe Patient Handling Committee about the circumstances of the patient handling situation so, if appropriate, the committee can identify and inform others of ways to avoid such patient handling situations in the future.

**APPENDIX F: (A-5):
Tool for Prioritizing High-Risk Handling Tasks**

Directions: Assign a rating (from 1 to 10) to the tasks that you consider to be high risk for contributing to musculoskeletal injuries. A “10” should represent highest risk and “1” for lowest risk. For each task, consider the frequency and duration of the task (high, moderate, low), and musculoskeletal stress (high, moderate, low). Delete tasks not typically performed on your unit. Add tasks you perceive as high risk but not included.

Have each nursing staff member on a unit complete the form. Summarize the data by unit and shift. An alternative is to have staff work together by shift to develop the ratings by consensus.

Task Frequency/ Duration H= high M= moderate L= low	Stress of Task H= high M= moderate L= low	Rank 10= high-risk 1= low risk	Resident Handling Tasks
			Transferring patient from bathtub to chair
			Transferring patient from wheelchair or shower/ commode chair to bed
			Transferring patient from wheelchair to toilet
			Transferring a patient from bed to stretcher
			Lifting a patient up from the floor
			Weighing a patient
			Bathing a patient in bed
			Bathing a patient in a shower chair
			Bathing a patient on a shower trolley or stretcher
			Undressing/dressing a patient
			Applying antiembolism stockings
			Lifting patient to the head of the bed
			Repositioning patient in bed from side to side
			Repositioning patient in geriatric chair or wheelchair
			Making an occupied bed
			Feeding bed-ridden patient
			Changing absorbent pad
			Transporting patient off unit
			Other Task:
			Other Task:
			Other Task:

Adapted from Owen, B.D. & Garg, A. (1991). *AAOHN Journal*, 39, (1).