Safe manual handling for decreased fall prevention

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Safe Manual Handling for Decreased Fall Prevention

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SAFE MANUAL HANDLING FOR DECREASED FALL PREVENTION

Table of Contents

Executive Summary ........................................................................................................5

Introduction ....................................................................................................................6

Safe Patient Handling ..................................................................................................7

Fall Prevention ..............................................................................................................25

Caregiving ....................................................................................................................31

References within Occupational Therapy ..................................................................32

Needs Assessment .........................................................................................................35

Methods .......................................................................................................................42

Business Case ...............................................................................................................50

Goal and Objectives ....................................................................................................50

Marketing and Recruitment of Participants .................................................................51

Programming ..............................................................................................................52

Models of Practice ......................................................................................................54

Week One ......................................................................................................................56

Week Two ....................................................................................................................57

Week Three ................................................................................................................58

Week Four ...................................................................................................................59

Week Five ...................................................................................................................60

Week Six ......................................................................................................................63
Executive Summary

Safe Manual Handling for Decreased Fall Prevention is a program designed to meet the needs of nursing staff, therapists, and residents in a health and retirement community. Healthcare practitioners who manually handle patients are at a high risk for injury (Waters, 2007). Manual patient handling is “the transporting or supporting of a patient by hand or bodily force, including pushing, pulling, carrying, holding, and supporting of the patient or a body part” (Nelson & Baptiste, 2006). While, safe patient handling encompasses a set of techniques, strategies, and equipment used to increase safety amongst both caregivers and care recipients during assisted mobility (De Castro, 2004).

The goal of Safe Manual Handling for Decreased Fall Prevention is to increase safety related to manual handling and decrease falls among residents at Mulberry Health and Retirement Community (MHRC). Objectives of this program include: increasing competency in regards to safe patient handling among non-professional staff and professional staff, educating non-professional staff and professional staff on the appropriate use of safe patient handling algorithms, training professional staff to train non-professional staff, educating professional staff on the use of the Tinetti test, assisting administrators in writing policies for safe patient handling within the facility, assisting administrators in writing policies for staff members who do not follow safe patient handling guidelines, decreasing workmen’s compensation claims related to safety with patient handling and falls, develop intervention that is effective in decreasing falls and increasing performance with manual patient handling, and raising awareness among non-professional staff, professional staff, and administrators in regards to safe patient handling.
SAFE MANUAL HANDLING FOR DECREASED FALL PREVENTION

In addition, program participants will learn the skills needed to demonstrate competency in the use of transfer aids (e.g., sliding boards and gait belts), as well as lifting devices (e.g., floor-based lifts).

The setting for this program will be at Mulberry Health and Retirement Community (MHRC), a privately owned, 159-bed facility that offers skilled nursing care, intermediate nursing care, assisted living, independent living, short-term respite care, memory care, inpatient therapy, outpatient therapy, and home health services. The program will be ongoing, but the initial teaching and training will last eight weeks. Program participants will be introduced to the topic of safe patient handling and educated about the risks of manual handling. Participants will also be educated on safe lifting techniques using a variety of transfer aids and lifting devices, including training on the EZ Way equipment currently being used at MHRC. Program participants will have the opportunity to practice safe patient handling techniques in a room set up to simulate a typical resident room at MHRC. Program evaluations will include objective measures of increased knowledge and demonstrated skill.

Introduction

The goal of Safe Manual Handling for Decreased Fall Prevention is to increase safety among professional staff and non-professional staff during manual patient handling in a skilled nursing setting. For this program, safe mobility is defined as a means of moving residents (e.g., transfers, body repositioning) in a way that is both efficient and safe for staff and residents. The site of the program is MHRC, a privately owned skilled nursing facility in Mulberry, IN. This facility is owned by four individuals, one who is the administrator of the facility, and an additional three that complete the board. MHRC is committed to providing individualized
SAFE MANUAL HANDLING FOR DECREASED FALL PREVENTION

Resident care and strives to provide peace of mind, build friendships, restore mobility, and listen to the needs of each individual. The vision of MHRC is, “we will be the leading community for families who need our services and for those who are called to care for others.” The philosophy of MHRC is, “we strive to make sure every patient and resident, whether temporary or permanent, has top quality care, in a safe and stimulating, home-like environment and is provided with physical, mental and spiritual support.” MHRC strives to assure that every individual who enters their facility is treated like family (Mulberry Health & Retirement Community, 2010). See Appendix A for an organizational chart of MHRC.

Safe Patient Handling

Records indicate that nurses have been injuring their back lifting and repositioning patients since the nineteenth century. Theories on proper ways to lift and reposition patients have changed drastically over the past two centuries. In the early 1900’s, nurses felt as though they should always allow their patients to rest and should help them in every way possible. Theories then began to change to early mobilization for the promotion of health, where nursing staff encouraged patients to be as independent as possible. In the 1950’s, education regarding body mechanics became very popular in nursing school curricula. In the 1960’s, there was a publication stating body mechanics alone may not prevent nurses from injuries while lifting and repositioning patients. The United States Department of Labor’s Occupational Safety and Health Act was signed into law in 1970. In 1987, the first sit-to-stand device was available for purchase. In 2003, OSHA published Guidelines for Nursing Homes: Ergonomics for the Prevention of Musculoskeletal Disorders. Also in 2003, The American Nurses Association launched the Handle with Care® campaign.
SAFE MANUAL HANDLING FOR DECREASED FALL PREVENTION

Many great gains have been accomplished in the area of safe patient handling over the past two centuries. However, it is the hope of safe patient handling activists that there will be even greater gains. Momentum in the area of federal legislation for safe patient handling is getting increased attention. It is also the hope that safe patient handling practices become the norm (Monaghan & Proctor, 2011).

Safe patient handling policies are being implemented in many countries with success in reducing musculoskeletal injuries among nurses. The United States is behind many of these countries in developing policies, and therefore is not experiencing decreases in injury rates among nurses. The typical nurse who provides direct patient care lifts an estimated 1.8 tons during an eight hour shift. Along with this, 52% to 63% of nurses report musculoskeletal pain that lasts greater than 14 days.

In the United Kingdom, back pain is the most common medical cause of absence from work. The greatest known risk factors for back disorders include awkward and repetitive manual lifting tasks. This type of task is commonly performed by healthcare workers. Bending and lifting weights greater than 25 pounds more than 25 times a day makes an individual six times more susceptible to experiencing a prolapsed disc. Many occupational therapists and other healthcare workers are required to lift greater than 25 pounds, more than 25 times a day, placing them at great risk. Occupational therapists are frequently involved with lifting greater than 25 pounds when assisting with patient transfers, and often engage in awkward, bending tasks when assisting patients with activities of daily living (Adams & Dolan, 2005).

David Michaels, MD, MPH, assistant secretary of labor for OSHA stated, “It is unacceptable that the workers who have dedicated their lives to caring for our loved ones when
SAFE MANUAL HANDLING FOR DECREASED FALL PREVENTION

they are sick are the very same workers who face the highest risk of work-related injury and illness.” Nurses’ aids face more work-related musculoskeletal injuries than any other occupations and registered nurses rank fifth among workers with the most work-related musculoskeletal disorders. OSHA has guidelines, but no standards for nursing homes to follow in regard to resident handling tasks. However, OSHA does require employers to sustain a work environment free of recognized, serious hazards. In 2010, OSHA found that the rate of musculoskeletal disorders involving lost work days increased by 10% for nurses’ aides, orderlies and attendants. Due to these staggering statistics, OSHA is working on implementing a National Emphasis Program for nursing homes. Part of this program will focus on back injuries related to resident manual handling tasks. OSHA is placing an emphasis on nursing homes due to the rising number of baby boomers; resulting in increased rates of nursing home residents. Nursing homes are also a targeted area due to high turnover rates and the degree of staff who have limited English skills (Marill, Evans & Gruden, 2012)

A research study using surveys examined the prevalence and type of musculoskeletal injuries related to patient handling tasks in Ohio among occupational therapy practitioners. The study also looked at current safe patient handling practices in occupational therapy in the state of Ohio. Surveys were distributed via e-mail and there were a total of 285 returned. Results of the surveys indicate 81% of respondents are involved with providing in-service training regarding manual transfers to employees and 68% of respondents are required to perform manual transfers on a regular basis. Other results reveal that 73% of respondents have experienced discomfort for less than 3 months and 8% of respondents reported being in discomfort for 5 or more years due to patient handling tasks. Additional data collected from these surveys disclose that 8.3% of
SAFE MANUAL HANDLING FOR DECREASED FALL PREVENTION

respondents have sustained an injury, 11% missed days from work due to an injury, and 12% considered leaving their profession early due to concerns regarding patient handling tasks. Results from this study indicate the importance for lifting equipment and safe patient handling programs in healthcare facilities (Rice, Dusseau, & Kopp Miller, 2011).

Healthcare workers are at great risk due to the amount of manual handling tasks they engage in on a regular basis. While modern safe patient handling programs in healthcare are gearing their programs toward no-lift or minimal-lift policies, there may be other daily tasks that are the cause of workplace injuries. Examples of tasks that healthcare workers often engage in prior to performing a manual lift include: clearing space around the area in which the patient will be lifted, positioning wheelchairs in the appropriate place, managing any lines (e.g., IV lines, catheter tubing), removing pillows from under the patient, and rearranging patient clothing. All of these tasks can place the healthcare worker at risk for injury. Specific tasks that have been identified as problematic are asymmetrical lifting, stooping, leaning sideways, and twisting.

There are many risks that healthcare workers and patients face during manual handling tasks. Healthcare workers face risks related to biomechanics, individual handling characteristics (e.g., fatigue, pregnancy), perception of risk involved, physical characteristics of the patient (e.g., being attached to an IV line, large in stature), behavioral characteristics of the patient (e.g., combative, cognitively impaired), cooperation of the patient, workload stress, environmental barriers, equipment and furniture issues (e.g. beds at a fixed height), and patient expectations (e.g., wanting to be manually lifted due to anxiety about equipment). Patients face risks related to discomfort, injury, effect on medical conditions, effect on mobility goals, and anxiety related to patient handling tasks. As noted, there are many risks to healthcare workers and patients as
SAFE MANUAL HANDLING FOR DECREASED FALL PREVENTION

related to manual handling. Due to these great risks involved, it is important for healthcare facilities to establish policies and procedures related to safe patient handling (Ruszala, 2005).

Due to injury concerns related to the manual handling of patients, safe patient handling policies are gaining attention internationally. There are many misconceptions of safe patient handling policies including: all safe patient handling policies are essentially the same, safe patient handling policies are intended as a punitive tool, the United States is an international leader in implementing safe patient handling policies, implementing a safe patient handling policy in the United States is not feasible, safe patient handling policies are too costly, and the use of “good body mechanics” or “manual lifting techniques” alone will protect workers from back injuries. It is important to understand that safe patient handling policies are not only feasible, but the answer to decreasing musculoskeletal injuries among nurses and other healthcare workers. Safe patient handling policies are also beneficial to patients. The use of mechanical lift equipment can reduce the risk for falls, decrease bruises and skin tears, and allow patients to feel more comfortable when being lifted, transferred, or repositioned (Nelson, Collins, et al., 2007).

The United Kingdom has been giving safe patient handling great attention for many years. In 1990, the European Economic Community published the “Framework Directive” which legally bound each state to improve all areas of health and safety. In 1993, the UK passed the “Manual Handling Operations Regulations 1992,” which stated all employers are to avoid hazardous manual handling operations when reasonably practical and to assess manual handling risks that were unavoidable. Due to these regulations, hospitals implemented no-lift policies.
SAFE MANUAL HANDLING FOR DECREASED FALL PREVENTION

Physical therapists expressed that the no-lift policies were often unfavorable to patients who had rehabilitation goals. Another argument of the no-lift policies was that the law requires that immediate attention is required when the client is in great distress which may or may not preclude the use of equipment. Due to these arguments, the UK began to move toward safe handling policies. Policies alone will not solve all problems related to safe patient handling. It is important for healthcare professionals to consider their individual needs and all of the patient’s needs prior to performing a patient handling task. The UK has done a good job leading the way in safe patient handling, however there are many challenges ahead (Betts, 2011).

The Canadian healthcare system has deemed patient safety as a national priority. The health and safety of healthcare workers is also of high importance. When healthcare workers feel fatigued, stressed, in pain, or at risk of illness or injury, their ability to provide the highest quality of care to patients is often inadequate. Due to the many injuries and stresses healthcare workers face, the Occupational Health and Safety Agency for Healthcare (OSHA) of British Columbia has launched initiatives to improve the healthcare environment. Initiatives being made include: the promotion of safe patient handling practice, adaptive clothing, scheduled toileting, stroke management training, measures to improve management of aggressive behavior, and infection control.

A study performed in Canada examined the impact of ceiling-based lifts used in healthcare facilities. All results of the study were found to be positive. At one facility, there was an 83% reduction in lost hours due to injuries from lifting and transferring. The study also found that residents’ of this facility demonstrated a 15% increased satisfaction after ceiling lift installation. All data to date from this study suggests that a comprehensive systems approach to
promoting a climate of safety is the best way to improve safety of the healthcare workplace and
the patient (Yassi & Hancock, 2005).

Another study examined differences in required push, pull, and rotating forces for
moving fully loaded, floor-based and overhead-mounted lifting equipment. One participant
operated each piece of equipment individually during trials. Participants of varying weights
served as the ‘patients’ in this study. Participants operating the equipment pushed, pulled, and
rotated the ‘patients.’ Dynamometers were attached to the lifting equipment to obtain force
measurements. Results of the study indicate floor-based lifts required greater force and torque
than overhead-mounted lifting equipment. This study demonstrates that workers are at some
level of risk, even when using floor-based lift equipment due to the push, pull, and rotating
forces involved (Rice, Woolley, & Waters, 2009).

Safe patient handling concerns with nurses begin during their schooling. It is the
expectation that clinically based educators will provide student nurses with the education they
need concerning safe moving and handling practices in the clinic. However, many students
report little attention was given to this area when learning in the clinic. A study in the United
Kingdom assessed the education levels in the area of safe patient handling among student nurses.
This study also assessed the perceptions of educators in regards to their ability to educate student
nurses on safe patient handling topics. Fifteen educators participated in a focus group or an
individual interview. Results of the focus groups and interviews found that all educators who
participated had similar concerns related to the amount of education student nurses receive in the
area of safe patient handling. Overall, educators felt they should be more prepared to teach
students about safe patient handling. They also felt student nurses should receive more
SAFE MANUAL HANDLING FOR DECREASED FALL PREVENTION

information about safe patient handling and should engage in more participation in safe patient handling tasks in the clinic.

This study demonstrates the lack of attention safe patient handling receives from the very beginning of a nurse’s career. In order to move toward safe patient handling practices in all healthcare facilities, the promotion of safe patient handling must begin at the educational level. When students learn about safe patient handling in school, it will become second nature in the clinic (Kneafsey, 2007).

Another study in the United Kingdom examined students’ knowledge of safety during the manual handling of patients. Questionnaires concerning knowledge of safe patient handling were completed by 139 students. The study found that 94% of students reported the use of lifting techniques was not recommended, 90% of students reported time restraints as a reason for not using recommended techniques, and 69% of students reported not using equipment to manually move a patient due to unavailability. Other results of this study found that students frequently did not use safe lifting techniques that were recommended due to the influence of other nurses. The study also found that the main reasons for not using recommended safe lifting techniques were unavailability of manual handling equipment, lack of time, and patient needs. This study reflects the need for early intervention with education related to safe patient handling (Swain, Pufahl, & Williamson, 2003).

A study involving nursing students and pre-physical therapy students examined the effects of body mechanics training and job specific training. A total of 30 subjects participated in the study. Subjects were separated into three equal groups; with one group receiving no training, one group receiving training on basic body mechanics, and the last group receiving
SAFE MANUAL HANDLING FOR DECREASED FALL PREVENTION

training in both basic body mechanics and job specific training. All subjects were filmed two times performing common patient lifting tasks; once before training and once after training. The group that received both basic body mechanics and job specific training scored significantly higher than both the control group and the group that received only training in body mechanics. Statistical significance was found in the group receiving body mechanics and job specific training when compared to the other two groups. This study indicates that body mechanics training can be beneficial to healthcare workers (McCannon, Miller, & Elfessi, 2004).

Thomas Waters, a researcher associated with the National Institute for Occupational Safety and Health (NIOSH), proposed a change to the current “lifting equation” that is used in defining national lifting standards for workers. This revised lifting equation states that lifting should only be done under certain conditions. These conditions include a cooperative care recipient, an estimation of the weight to be lifted, a “smooth and slow” lift, and the unlikelihood that the care recipient will change position during the transfer. Waters (2007) recommends that under ideal conditions, a caregiver should only lift 35 pounds of a person’s weight. The 35 pound weight limit is chosen as a measure to protect healthcare workers. These recommendations and lift guidelines are intended to increase safety and promote other means of lifting patients if the task is unsafe (Waters, 2007).

State legislation in the area of safe patient handling is gaining momentum, with more than eight states proposing legislation by 2005, and many other states following in 2006. States that have introduced legislation include California, Florida, Hawaii, Iowa, Massachusetts, Mississippi, New Jersey, New York, Ohio, Rhode Island, Texas, and Washington.
SAFE MANUAL HANDLING FOR DECREASED FALL PREVENTION

In California, the governor vetoed legislation due to proposed bills being inflexible. In Florida, a Patient Handling/Safe Movement Bill was introduced in 2006 to later die in the Committee on Health Care. In Hawaii, the House and Senate passed a house concurrent resolution supporting policies set forth in the American Nurses Association's "Handle with Care" in 2006. In Iowa, the Department of Public Health agreed on requiring hospitals to adopt manual patient handling procedures. This bill went on to die in committee. In Massachusetts, the Massachusetts Nurses Association advocated for An Act Relating to Safe Patient Handling in Certain Health Care Facilities. The bill required hospitals to set standards to assist nurses with patient handling tasks to decrease injuries. The bill was viewed as favorable by the Joint Committee on Public Health in 2006. In Mississippi, a bill encouraging businesses to incorporate ergonomic practices to protect healthcare workers was introduced in 2006. The bill later died in committee. In New Jersey, a bill requiring healthcare facilities to launch safe patient handling programs was introduced in the New Jersey Assembly, to die in committee. In New York, the New York Assembly passed a two-year program that would gather evidence-based data regarding employee and patient injuries due to patient handling tasks. This bill also supported funding to support this initiative. In Ohio, the Ohio House Bill was passed in 2005, creating interest-free loans for nursing homes to use in the implementation of safe patient handling programs. In Rhode Island, the Safe Patient Handling Act of 2006 was passed. This bill required healthcare facilities to implement safe patient handling programs, safe patient handling committees, and submit an annual report to the Rhode Island Department of Health. In Texas, safe patient handling legislation was enacted in January of 2006, with Texas being the first state to adopt legislation in this area. Legislation required hospitals and nursing homes to
SAFE MANUAL HANDLING FOR DECREASED FALL PREVENTION
assume policies that would control the risk of injury to patients and workers related to patient handling tasks. In March of 2006, the state of Washington passed a bill to support safe patient handling and decrease work-related injuries among nurses and other healthcare workers. Although many great efforts have been made in the area of safe patient handling enactment, there continues to be a need for legislative action at the state level (Sparkman, 2006).

Indiana, the state in which the Safe Manual Handling for Decreased Fall prevention program will be implemented, does not currently have any safe patient handling legislation in place. IN Review published by the Indiana Department of Labor did not describe nursing and health professions as an area of concern for the state of Indiana. The Indiana Occupational and Safety Health Administration (IOSHA) performs annual inspections of workplaces. The most common workplaces inspected were factories and foundries, doctor’s offices, grocery and convenience stores and construction jobsites. These inspections were a result of complaints, referrals by media and other agencies, worker fatalities, workplace catastrophes, and general schedule compliance inspections. It is astonishing that healthcare injuries related to manual patient handling are being recognized throughout the United States and the world, but the state of Indiana is not recognizing this as a major area of concern (Indiana Department of Labor, 2012).

Safe patient handling legislation is gaining increased interest in many states. A zero-lift law is being supported by unions, the government, patient advocates and health care employers in the state of New York. While supporters understand the cost to employers in starting a safe patient handling program, the argument that even more money is saved in reduced injuries and workmen’s compensation claims is being made. Kaleida Health in Buffalo, NY is a large healthcare system who owns two long-term care centers and five hospitals. Kaleida Health states
they can’t afford not to purchase safe lifting equipment. Kaleida spent nearly $2 million investing in new beds for their facilities, and spent additional money purchasing new lifts and transfer devices. After implementing a safe patient handling program, Kaleida has seen an almost 70% reduction in work-related musculoskeletal injuries among their employees. It is important to note that even if a facility has lifting equipment, there is a need for a safe patient handling program. Policies, procedures, and training need to be in place for safe patient handling to be successful. It is the hope of safe patient handling activists in New York that a zero lift law will pass; requiring healthcare facilities to follow a specific set of guidelines ("Task force pushes," 2012).

Gait belts have been used for many years in assisting patients with transfers and ambulation. Although commonly used, there is a misconception among nurses and other healthcare professionals that gait belts improve the safety of both patients and healthcare worker. A literature review examining the use of gait belts found there were no studies that used gait belts as a single intervention; however the use of gait belts was mentioned as one intervention included in many safe patient handling programs. Gait belts are very popular because they are easy to use and inexpensive. However, it is important to keep in mind that gait belts are not appropriate for all patients, are not designed to lift patients, and should not be used with patients who are at a high risk for fall (Rockefeller & Proctor, 2011).

Lateral transfer devices are commonly used in facilities with safe patient handling programs. A study by Baptiste, Boda, Nelson, Lloyd, & Lee (2006) evaluated the use of lateral transfer devices instead of traditional draw sheets in acute care settings. The AIRPAL, the HoverMatt, the Slipp, the Flat Sheet Set, the Resident Transfer Assist, the Maxi Slide, the Maxi
SAFE MANUAL HANDLING FOR DECREASED FALL PREVENTION

Trans, and a typical draw sheet were all used in this study. Subjective Data were gathered through the use of surveys in which caregivers rated comfort, ease of use, perceived injury risk, time efficiency, and patient safety of each device. The traditionally used draw sheet scored inadequately among all items surveyed. The draw sheet also scored significantly poorer than five of the other seven devices. Overall, findings demonstrate that healthcare professionals preferred the use of the air-assisted lateral transfer devices. These friction-reducing devices are a cost-effective solution to the load of lateral patient transfers and should be favorably considered when purchasing patient-handling technologies (Baptiste, Boda, Nelson, Lloyd, & Lee, 2006).

Work-related musculoskeletal disorders are very common among nurses and physical therapists. Nurse aids rank first and registered nurses rank sixth on the Bureau of Labor Statistics data from 2009 on nonfatal occupational injuries and illnesses involving days away from work. A 2008 study reported as many as 57% of physical therapists experiences work related musculoskeletal disorders. Due to the large number of work-related injuries, many healthcare organizations have implemented strategies to reduce injuries related to patient handling. Strategies that have been applied include: purchasing safe lifting equipment, developing unit-based peer leader programs, implementing no-lift or minimal-lift policies, using patient assessment protocols, staff education programs, and lift teams.

Lift teams are comprised of two physically fit individuals who work together to perform high risk patient transfers. Benefits of lift teams include decreased injuries, decreased number of lost work days, increased job satisfaction, increased patient and family satisfaction, and reduced number of pressure sores among patients. A lift team program implemented at Tampa General Hospital has demonstrated great success. From 1999 to 2009, there was a 61% reduction in
SAFE MANUAL HANDLING FOR DECREASED FALL PREVENTION

patient handling injuries. From 2001 to 2009, there was a 79% reduction in RN injuries. From 1999 to 2009, there was a 71% reduction in low back injuries. These statistics demonstrate how beneficial lift team programs can be to an organization (Short & Shea, 2011).

A systematic review of patient handling tasks in lying, sitting, and standing positions assessed methods recommended over the past twenty years. This review is of importance because there is a need for the clinical work of patient handling to be based on scientific evidence. Both qualitative and quantitative study designs were searched for among eight databases. Findings demonstrate that recommendations for the use of safe lifting aids are supported for patient handling tasks in both lying and sitting. There was no current research found to support recommendations for patient lifting tasks in standing. Patient handling tasks in standing is of upmost importance to the rehabilitation of patients, and this is an area of concern for therapists who may be performing patient handling tasks in this position. However, slide sheets were found to benefit patient lifting tasks in lying, sitting, and standing positions. Based on results of this review, it is suggested that hoists (for non-weight bearing patients), stand-aids, sliding sheets, lateral transfer boards, walking belts and adjustable height beds and baths all be available in any clinical environment where patient handling tasks are routinely occurring (Hignett, 2003).

Problems associated with manual handling are becoming an even bigger issue in healthcare today due to increasing rates of obesity and increasing rates of the older adult population, who are requiring increased assist with activities of daily living. Every year, it is estimated that $20 billion is spent on direct and indirect costs related to back injuries among
SAFE MANUAL HANDLING FOR DECREASED FALL PREVENTION

healthcare workers. The National Institute for Occupational Safety and Health is very concerned about issues relating to manual patient handling.

NIOSH has funded several studies in this area, and have found promising results with the implementation of safe patient handling programs. One study funded by NIOSH examined nurses during a six-year period of time. Nurses were followed before and after a safe patient handling program was initiated. After the safe patient handling program had been implemented, workmen’s compensation claims were reduced by 61%. Another study supported by NIOSH also found impressive results from the implementation of a safe patient handling program. This study examined a total of eight facilities, one hospital and seven nursing homes. Data were gathered pre-program and post-program. Statistics from 51 months post-program implementation found injuries due to patient transfers decreased by 62%, workdays missed were decreased by 86%, workdays with restricted duties were decreased by 64%, and workmen’s compensation costs were cut by 84%. These statistics reveal how beneficial safe patient handling programs can be to both workers and employers. There is continued need for research in this area to assist safe patient handling activists in getting healthcare employers on board implementing a safe patient handling program (Bell, Collins, Galinsky, & Waters, 2009).

Manual handling tasks of any patient have been identified as risky, but with the rising rate of obesity, these tasks become even more risky. New estimates show that over 67% of adults in the United States are overweight. Providing patients who are overweight or obese with the care they need may be extremely difficult for healthcare workers.

Pre-planning becomes extremely important when caring for obese patients. It will be important for healthcare workers to plan who will move patients of size, how they will move
SAFE MANUAL HANDLING FOR DECREASED FALL PREVENTION

these patients, and what equipment will be utilized. Another factor that must be considered is making sure the equipment accommodates the patient who is obese. Also, available space must be well thought out. Some patients may not have enough space to get on and off a commode in a bathroom with limited space.

Healthcare workers will face many challenges related to patient handling when working with patients of size. It is important for healthcare organizations to be prepared to meet the needs of both patients and the healthcare workers. Safe patient handling plays a vital role in protecting patients of size and healthcare workers working with these patients (Gallagher, 2011).

Change is something that workers in all areas are often resistant to, however change in healthcare is unavoidable. The implementation of a safe patient handling program can be a drastic change to many healthcare workers, which often results in resistance by many workers. Research reveals that workplace injuries among healthcare workers are very high and body mechanics alone will not protect workers. Despite these facts, safe lifting equipment purchased by facilities is often not used. Change can affect the entire environment of the workplace if workers have a negative attitude about the change. Healthcare workers may be unsure about changes involving safe patient handling; because they may be afraid of the unknown, feel uncomfortable doing daily tasks in a different way, and may have misconceptions about the change. Resistance to change may also occur among healthcare workers. It will be important to plan for this resistance when designing a safe patient handling program. There will be many challenges faced by all when implementing a new safe patient handling program in a healthcare facility.
SAFE MANUAL HANDLING FOR DECREASED FALL PREVENTION

In order to execute an effective, successful safe patient handling program, it will be important to prepare for all types of resistance prior to implementation. The key to success is to have strong leadership supporting the program from the very beginning. It will be important to continually educate those individuals who are resistive to change, and also to empathize with these individuals and listen to complaints they may have. Open communication will be a key factor in the success of a safe patient handling program (Monaghan, 2011).

A study in southern California at a non-for-profit hospital was performed to assess the effects of implementing a safe patient handling program on caregivers. Caregivers who participated in this study were surveyed prior to the implementation of the program and post program implementation. Results of the survey performed post implementation found that caregivers began to use safe patient handling equipment more frequently, and had improved perceptions of the safe patient handling equipment. Another significant finding of the study was a 61% decrease in the number of reported sprain and strain injuries from the year prior to the program implementation to three months post implementation. This study demonstrates the positive effects a safe patient handling program can have on an entire organization (Wardell, 2007).

A study using qualitative focus groups on physical and occupational therapy practitioners examined their perception of a minimal lift policy in a health system. Twenty-three participants were involved in this study and the four key questions asked during focus groups were: 1. Tell me about the minimal lift policy in your hospital. 2. What is the role of therapy services in the lift policy? 3. Describe how you use the lifting devices in the context of evaluation and
SAFETY MANUAL HANDLING FOR DECREASED FALL PREVENTION

intervention. Do you feel that therapists are at risk of musculoskeletal injury? Probes were
used to encourage discussion among participants and follow up on the questions.

Results from the study indicated four common themes. These themes were, risk of
injury to therapists, attitudes toward safe patient handling equipment, professional relationships
and teamwork, and the effectiveness of minimal lift policies. During the focus groups,
participants expressed their concern for the work-related risks they face. Most participants felt
they were at a high risk for work-related injury; while some reported they faced risks, just as all
professions face some kind of risk. There were also differentiating views on the use of safe
patient handling equipment. Some reported it was a hindrance toward rehabilitation goals, while
others felt it was very beneficial being used therapeutically during treatment sessions.
Participants also reflected on the importance of good communication between therapy staff and
nursing staff. Participants discussed how effective they felt minimal lift policies were. Many
therapists expressed their appreciation for the safe patient handling equipment, and felt this
equipment would prevent work-related injuries and help to extend their careers. Negative reports
of the equipment included issues with storage, issues with moving the equipment in tight spaces,
and issues with equipment not being close by. Overall, findings from this study indicate positive
therapist perceptions regarding the use of lifting equipment and the implementation of safe
patient handling programs (Darragh, Campo, & Olson, 2009).

The Occupational Safety and Health Administration (OSHA) has published Guidelines
for Nursing Homes: Ergonomics for the Prevention of Musculoskeletal Disorders, this document
provides many helpful guidelines for the development of Safe Manual Handling for Decreased
Fall Prevention. Recommendations OSHA has established include the manual lifting of
SAFE MANUAL HANDLING FOR DECREASED FALL PREVENTION

residents should be minimized in all cases and entirely eliminated when possible and employers should implement an effective ergonomics process. The main goal of the ergonomics process is to provide an alternative to manual lifting. OSHA suggests the effective ergonomics process should “provide management support, involve employees, identify problems, implement solutions, address reports of injuries, provide training, and evaluate ergonomics efforts.” OSHA reports that nursing homes that have implemented safe patient handling efforts have been very successful in decreasing work-related injuries and workmen’s compensation claims often related to these injuries. Other successes of the implementation of safe patient handling programs are reduced turnover rate among staff members, reduced lost work hours, increased productivity, improved employee morale, and improved resident satisfaction (OSHA, 2009).

Fall Prevention

Falls risk is an area of great concern among elderly individuals. Every five hours an elderly person dies due to a fall. Every year, 1.57 million older adults fall more than three times and 310,000 older adults experience a bone fracture after a fall. In addition, over half a million older adults visit an accident department or emergency room after falling every year. The effects of falls are not only costly, but also often life changing. ‘Post-fall syndrome’ is a title given to many who experience little to no activity after a fall due to the fear of falling again. This decreased activity results in a further decline of functional mobility and balance. After falling, the physical well-being of an individual is not the only aspect affected. Often times, the individual’s mental and emotional well-being are greatly affected. Anxiety and fear can cause the individual great distress.
SAFE MANUAL HANDLING FOR DECREASED FALL PREVENTION

It is important for healthcare workers to have a good understanding of fall risk. Typical age-related changes, illness, admission to a hospital, and residing in a long-term care facility can all increase an individual’s risk for fall. Falls are inevitably going to occur among the elderly; however it is important to promote safety for decreased fall prevention whenever possible. Falls can be life changing events for older adults and healthcare workers should do everything possible in decreasing the likelihood of falls among the elderly (Nazarko, 2011).

Falls among older adults are a significant problem, with falls among residents of nursing homes leading to potential serious injury and functional dependence. Unintentional injuries are the fifth leading cause of death among older adults aged 65 and older, with 66% of these deaths being related to falls. Nursing home residents are at a greater risk for experiencing a fall than older adults living in the community. There are many risk factors for falls among nursing home residents, with roughly 50 to 66% of nursing home residents falling every year. There are many extrinsic and intrinsic risk factors to falls among residents of nursing homes. Extrinsic factors include poor lighting, wet or cluttered floor surfaces, and faulty assistive devices. Intrinsic factors include lower extremity weakness, polypharmacy, and impaired vision.

It is of great importance for healthcare professionals who work in nursing homes to be cognizant of fall prevention and how to perform a fall assessment. Comprehensive fall assessments can be very lengthy and are best when performed by a team of professionals. A fall assessment should include a medical evaluation of previous falls, cognitive status, balance, gait, strength, mobility, nutrition, and chronic diseases. There are many fall risk assessment tools available to thoroughly evaluate residents of nursing homes (Oluwole Kehinde, 2009).
SAFE MANUAL HANDLING FOR DECREASED FALL PREVENTION

The rate of falls among older adults over 70 years of age is 465 falls per 1,000 persons. Nearly 8% of older adults make a trip to the emergency room for a fall-related injury, with over 40% resulting in a hospital admission. Older adults who have fallen are also at a greater risk of nursing home placement, with more than 40% being discharged to a nursing home. The lifetime costs related to fall injuries for older adults over the age of 65 is estimated at $12.6 billion.

Fear of falling is also common among the older adult population. This fear is common among both those who have and those who have not fallen. The proportion of older adults who recognize this fear ranges from 40 to 73% among those who have recently fallen and 20 to 46% among those who have not recently fallen. Notably, 18% of older adults report avoiding activities they would typically perform due to a fear of falling (Tinetti, 1994).

Research reveals that over 60% of nursing home residents will fall and 50% of community-dwelling older adults over the age of 80 will fall. Falls not only pose a great risk to the older adult, but also to healthcare workers and caregivers who assist these individuals. A study from the Health and Safety Executive (HSE) from March 2001 to March 2003 documented 137 reported worker injuries resulting in over three days of missed work. Healthcare workers are frequently injured when trying to support an individual who has fallen or when the individual reaches for the worker for support to save them from falling. Fifteen of the 137 reported injuries occurred when a worker was assisting the fallen individual. While most healthcare workers would not sit back and watch a patient fall, this does pose an ethical dilemma. Catching or controlling a falling individual has been observed as unsafe for the worker. The level of risk to the worker assisting an individual who is falling is dependent on the position of the worker at
SAFE MANUAL HANDLING FOR DECREASED FALL PREVENTION
that start of the fall. Training should be provided to healthcare workers on the appropriate ways
to manage a person who is falling.

A method that has been promoted for controlling a patient’s fall and reducing risk of
injury to the patient is for the worker to stand next to and slightly behind the patient when
assisting with any task in order to be able to quickly get behind the patient in the event they
begin to fall. Other instances where it may be safer for a healthcare worker to assist a patient
who is falling include if the patient is falling backwards or directly down, if there is adequate
space with no obstructions, if the patient is not resistant, if there is no significant height
difference between the worker and the patient, and if the patient is not significantly heavier than
the worker. While these are good suggestions, healthcare workers understand that an ideal
situation is not always the case and should always be prepared for situations where the
environment may not be perfect and the patient may be challenging (Betts & Mowbray, 2005).

A study at a long-term care facility in Japan looked at outcomes of a fall prevention
program that was implemented within the facility. The fall prevention program was created by
synthesizing information based on evidence-based practice. Action research methodology was
chosen to complete the development of the program. There were 31 participating patients in the
intervention unit and 20 patients in the control unit. The purpose of the program was to assess
individual risks of elderly patients in a long-term care facility by increasing the caregiving skills
and motivation of workers. Components of the fall prevention program consisted of: staff
education, assessment of individual risks, implementation of care adapted to the risks,
consultation about fall-related problems, and modifications of care in the case of falls. The
Generalized Self-Efficacy Scale and the Social Support Scale were used to evaluate fall
SAFE MANUAL HANDLING FOR DECREASED FALL PREVENTION

prevention skills and motivation of staff. Results of implementing the fall prevention program were positive. During the six months prior to implementation, there were 37 falls among residents, and during the six months post implementation this number had been reduced to 27. Another positive outcome of the implementation of the fall prevention program was that staff members reported higher levels of emotional support and self-efficacy. Also, the fall prevention program helped to reduce injuries from 41.9% to 9.7% among elderly participants and to increase emotional support and self-efficacy among the staff members. The fall prevention program proved to be acceptable for use among elderly individuals in a long-term care facility (Kato et al., 2008).

Another study in a long-term care facility in Japan was performed to design an exercise program for residents of the facility. The program was developed to increase balance, mobility, and muscle strength in the lower extremities in order to prevent falls and improve the self-efficacy of the patients. The study lasted three months, with outcomes being measured before and after intervention and three months post program. The study design was a prospective clinical trial. Participants included 30 elderly residents of a long-term care facility, 16 of whom were in the intervention group and 14 of whom were in the control group. The intervention group engaged in an exercise program three times a week, consisting of: static stretching, muscle strengthening, balance exercises, and a cool-down. The outcome measures were mobility, lower extremity muscle strength, postural sway, fall efficacy, and the number of fallers and falls.

The Friedman test was used to analyze the effectiveness of the outcomes. Results of the study were positive, with the intervention group demonstrating increased balance, maintained mobility, and a decreased number of fallers and falls. However, muscle strength and fall efficacy
did not increase. The exercise program was deemed acceptable to use for the prevention of falls among elderly individuals in a long-term care facility (Kato, Izumi, Hiramatsu, & Shogenji, 2006).

As the older adult population continues to increase, it will become increasingly necessary for healthcare workers to be prepared to screen for balance and mobility impairments. Specifically, the demands for occupational therapy will increase. One out of every four individuals aged 75 to 84 and three out of every five individuals aged 85 and over will experience difficulty engaging in activities of daily living.

A study of older adults living in two residential care facilities in the Los Angeles, California area was performed to examine four clinical assessments often used by physical therapy practitioners and occupational therapy practitioners to assess balance and mobility impairments in older adults. The assessments examined were: the Berg Balance Scale, Tinetti POMA balance subscale, Stride analyzer Fall Efficacy Scale, and the Physical therapist assessment. Data were collected on 53 residents among the two residential care facilities. Data were collected at each facility during a "health fair" day where residents visited three stations that assessed gait and balance. Results of the data indicate that clinical assessment instruments used to measure balance and mobility impairments have good sensitivity and specificity for finding the same results as a physical therapist. Based on findings of this study, it would be very beneficial to use balance and mobility assessments on older adults upon admission to a skilled nursing facility. Use of these assessments may better help the therapists and other healthcare workers involved develop the best plan of care for the resident. This plan of care will promote safety in the skilled nursing facility. In conclusion, balance and mobility assessments
SAFE MANUAL HANDLING FOR DECREASED FALL PREVENTION

can be very beneficial in supporting safety of residents in skilled nursing facilities (Harada et al., 2005).

**Caregiving**

The Centers for Disease Control and Prevention (2011) have identified caregiving as a public health priority. The population of older adults aged 65 and older is expected to rise by 101% by 2030; however the number of available caregivers is only expected to rise by 25%. This presents a national need for an increase of competent caregivers for the aging population. Due to the rapidly aging population and increased demand for caregiving, there will inevitably be an increased demand for skilled nursing facilities that offer a wide continuum of care. One out of every three older adults experiences a fall annually (U.S. Department of Health and Human Services, 2010). Due to the risk factors involved with aging, the demand for caregiving will only increase. With the increased demands placed on caregivers, there will be an increased need for education of safety with patient handling. Raising awareness among caregivers within the skilled nursing facility will decrease the likelihood of caregiver burnout, increase care recipient quality of care, and increase safety in the skilled nursing environment.

The Safe Manual Handling for Decreased Fall Prevention program addresses this need by providing education, training, and resources to professional staff and non-professional staff so they can safely and efficiently provide care during assisted mobility.

In order for caregivers to provide the highest quality of care, they must be mentally and physically healthy. Research in the area of potentially harmful caregiver behavior has found that caregivers who are experiencing compromised mental and physical health are more likely to provide inadequate care. It is important that caregivers are provided with the knowledge and
SAFE MANUAL HANDLING FOR DECREASED FALL PREVENTION

skills they need prior to taking on the role of a caregiver. Healthcare professionals, including occupational therapists, need to be prepared to provide caregivers with education to improve the quality of life of both the caregivers and the patients (Beach, Schulz, Williamson, Miller, & Lance, 2005). Safe Manual Handling for Decreased Fall Prevention will provide caregivers at MHRC with the knowledge they need to provide a safer work environment for themselves and the residents.

Occupational therapy practitioners can play a strong role in improving the quality of life of caregivers. Decreased health is often a result of the caregiving role. Occupational therapists have the skill set to address physical, psychosocial, cognitive, sensory, and contextual factors that affect the patient and the caregiver. The quality of life of caregivers can be greatly enhanced from education and advocacy provided by occupational therapy practitioners and occupation-based programs (O’Sullivan, 2007).

References within Occupational Therapy

Fazio (2008) in Developing Occupation-Centered Programs for the Community was reviewed. Findings from this text include, information pertaining to forecasts and scenarios of the probable future. It is important for healthcare professionals to have an understanding of trends that will likely occur in the future in order to prepare and meet the needs of clients. Caregiving will continue to expand in the future due to the rapidly aging population. Other important information in this text includes information on how to design an occupation-centered program and how to conduct a formal needs assessment. Due to the nature of the Safe Patient Handling for Decreased Fall Prevention program, it will be important for the program to be
SAFE MANUAL HANDLING FOR DECREASED FALL PREVENTION

occupation-centered. An occupational therapist will be leading the program and will have the knowledge and skill set to incorporate occupation into the program.

Findings from *Occupational Therapy for Physical Dysfunction* include information related to environmental barriers that influence the occupational functioning of clients. It is important for occupational therapists to have an understanding of environmental barriers within any healthcare facility and modifications that can be made to make daily functioning easier for residents and workers (Sabata, Shamberg, and Williams, 2008, Chap. 36).

Letts (2009) in *Willard and Spackman’s Occupational Therapy* was reviewed to find information related to this program development plan. In a chapter dedicated to health promotion, there was information related to occupational therapy’s role in preventing injury. The chapter cites historical occupational therapy tenets which advocate for promoting health and well-being through occupation. The Safe Patient Handling for Decreased Fall Prevention program will be designed to promote health and wellness of workers and residents of MHRC.

Dr. Martin Rice, PhD, OTR/L was consulted in regards to this program development plan. He suggested consultation of a book entitled *The Handling of People* by Jacqui Smith, which is a comprehensive training-based approach to decrease musculoskeletal injuries related to manual handling by both professional and non-professional caregivers. In addition, there are several researchers in the area of biomechanics and injuries, such as Thomas Waters, Ph.D., Audrey Nelson, Ph.D., RN, FAAN, and William Marras, Ph.D., CPE. He also suggested searching nursing journals, such as the American Journal of Nursing and The Online Journal of Issues in Nursing, as the nursing literature is more varied and comprehensive than the rehabilitation literature. In addition, review of the Safe Lifting Portal, the OSHA website, and
SAFE MANUAL HANDLING FOR DECREASED FALL PREVENTION

the NIOSH website were recommended. Finally, attendance at the 12th annual Safe Patient Handling and Movement Conference in Orlando, FL was suggested (Rice, 2010).

Gina Arroyo, MOT, OTR/L is a home health occupational therapist and owner of CGA Home Modifications, LLC in Toledo, OH. She suggested various helpful resources related to safe patient handling. She presented information about several manual handling initiatives including, the American Nurses Association Handle with Care Program®. She also suggested consulting the SureHands patient handling device web site, which offers a variety of products for both traditional and non-traditional settings to aid in transferring patients. Mrs. Arroyo encounters patients and caregivers who need assistance at home to increase their independence and safety; therefore she has a great understanding of patient and caregiver needs. Ways to further explore participants’ perceptions of needs include interviewing potential participants, interviewing healthcare professionals, and reviewing relevant literature to obtain knowledge concerning worker needs (Arroyo, 2011).

Susan Salsbury, OTR/L, CDMS was also consulted in regards to developing Safe Patient Handling for Decreased Fall Prevention. Susan has great expertise in the area of safe patient handling and has experience developing a safe patient handling program with OhioHealth. OhioHealth owns nine hospitals in central Ohio and Susan works at Riverside Methodist Hospital. Here, Susan has helped to develop a safe patient handling program and is involved with selecting appropriate safe lifting equipment, performing competency checks for staff members, implementing safe patient handling policies, performing injury assessments on staff, and providing occupational therapy to staff who are injured on the job. Susan provided a wealth of information in regards to starting a safe patient handling program and ensuring success of the
SAFE MANUAL HANDLING FOR DECREASED FALL PREVENTION

program. I obtained many resources from Susan that proved to be very helpful in assisting with the development of Safe Patient Handling for Decreased Fall Prevention (Salsbury, 2012).

Needs Assessment

While interviewing Susan Salsbury, she thoroughly explained needs of a safe patient handling program. She described needs of both workers and residents that would be essential in addressing to promote success of the program. Susan has an understanding of perceived needs of participants due to her role as an occupational therapist at a hospital with a safe patient handling program in place. She encounters patients and workers at the hospital who experience injuries due to patient handling and moving tasks. Because of her experience working with both patients and workers, she has a great understanding of worker and patient needs. She expressed how safe patient handling equipment and techniques can provide increased safety among both workers and patients. She went on to discuss the challenges of getting workers on board with using safe patient handling equipment and techniques. She often sees equipment being stored in closets and not being used. She described the importance of continuing education and competency checks among all workers who provide direct patient care to promote use of equipment and overall increased workplace safety. Susan provided me with great insight from someone who has an immense amount of experience in program development, healthcare, occupational therapy, and safe patient handling (Salsbury, 2012).

Lisa Peters, RN, education coordinator at MHRC was also interviewed to obtain a better understanding on the need for the Safe Manual Handling for Decreased Fall Prevention program. Lisa is an RN, but works full time as the education coordinator at MHRC. Her job roles include, making sure all staff members keep up to date with mandatory in-services, scheduling other in-
SAFE MANUAL HANDLING FOR DECREASED FALL PREVENTION

services for all departments, keeping track of employee participation in in-services, running new
CNA courses, providing all education and competency checks for CNA courses, and providing
ongoing educational support to nursing staff. While interviewing Lisa, she described the
frustrations she experienced as education coordinator. She felt as though she was covering
transfer techniques and body mechanics adequately in the CNA course. However, she said as
soon as the students became certified and were out working on the floor, they quickly learned
bad habits with transfer techniques and safe lifting. She felt as though this was an ongoing
struggle and one she wasn’t sure how to overcome. During the interview we discussed current
educational methods being discussed, and ways to improve these methods for improved carry-
over among CNA’s. This interview was very helpful in setting a foundation for programming of

Heidi Wallar, Director of Nursing was interviewed in regards to safe patient handling,
falls, and employee education. Heidi expressed that she felt a large need for more frequent and
continuous CNA and nurse education in the areas of safe patient handling and fall prevention.
Falls are an area of concern at MHRC, and are now being reviewed on a daily basis by a falls
committee. Heidi feels that a lot of falls that occur are due to staff error. She reports many
CNA’s and nurses do not lock wheelchair brakes, set the environment up appropriately prior to
performing a transfer, or use equipment when recommended. Communication issues were also
discussed. At times there are communication issues between nursing staff and therapy staff, and
also miscommunication amongst nursing staff. This miscommunication often leads to injuries
and/or falls. These are all major issues that need to be addressed by the Safe Manual Handling
for Decreased Fall Prevention program (Wallar, 2012).
SAFE MANUAL HANDLING FOR DECREASED FALL PREVENTION

Alvin Reyes, PT, Director of Therapy and Home Health Services, site mentor was also interviewed to define a need for this program. While interviewing Alvin, he expressed a concern for falls among residents of MHRC. He described the current process of monitoring and tracking falls at MHRC and feels as though huge strides have been made in this area over the past year. He explained the therapy screening process, and stated that every resident who fell was screened by therapy. The screening process involves nothing hands-on by the therapist, but is simply done through resident observation, consulting with nursing staff, and reviewing resident’s charts. After this is completed, the therapist will complete a simple checklist and write any recommendations they may have for physical, occupational, and/or speech therapy. During this interview alternate ways to provide screening, specifically for falls was addressed. Use of the Get Up and Go Test was discussed, and it was suggested by Alvin to use the Tinetti test as an alternative method for screening. He stated he had used this test in the past and felt it was very appropriate for the setting, and very easy to use.

The use of lifting equipment within MHRC was also discussed with Alvin. He expressed that he was pleased with the EZ Way lift equipment currently being used and did not believe any of the therapists had issues with the equipment. He explained that the equipment was used during therapy treatment sessions, but probably not enough. Frequent interventions using the Smart Lift include, using this piece of equipment to assist with a bed to wheelchair transfer or a wheelchair to mat transfer in the therapy gym. This device allows therapy practitioners to safely place residents on the edge of the mat to work on sitting balance and trunk control. Residents can also be placed in a supine position on the mat to work on stretching of the upper and/or lower extremities. Interventions using the Smart Stand include working on weight bearing
SAFE MANUAL HANDLING FOR DECREASED FALL PREVENTION

through the lower extremities and increased standing endurance. This device can also be used to assist with many functional transfers, including transfers to and from the toilet, transfers to and from the recliner, and transfers in and out of bed. This interview also proved very beneficial in setting a foundation for the programming portion of Safe Manual Handling for Decreased Fall Prevention (Reyes, 2011).

Mark Wolfschlag, Administrator of MHRC was interviewed to discuss his concerns with safe patient handling and fall prevention within MHRC. Mark expressed that he has taken a recent interest in fall prevention in the facility, and has been working with the Juran Institute for about a year and a half to decrease falls. Juran came to MHRC and provided on-site training to a group of department heads, which would later serve as a falls committee. The Juran Institute worked with MHRC to set up an individualized fall prevention program. To date, this program is working well, and MHRC has experienced a decrease in the number of falls; however Mark expressed that falls remain an area of concern. Also, this program does not address safe patient handling and safety of workers related to assisted falls.

Mark went on to describe how the facility has purchased additional lifting equipment within the past couple of years for each of the two skilled nursing units at MHRC. Currently there are two Smart Stands and two Smart Lifts on each skilled nursing unit. The lift to resident ratio is currently averaging one Smart Lift and one Smart Stand to every 20 residents, on these units. This has been very positive to worker job satisfaction and morale in the facility. However, Mark did express he felt equipment was not always being used as often as it should, and at times was being used incorrectly. During this interview, the great resources that MHRC has already implemented were discussed; however there remain many issues and room for
SAFE MANUAL HANDLING FOR DECREASED FALL PREVENTION
improvement related to falls and safe patient handling within MHRC. This interview proved to
be very promising, as support from administration is the key to success in starting any program
(Wolfschlag, 2012).

Terry Myers, Human Resources coordinator was also briefly interviewed in regards to
workmen’s compensation claims. Terry shared data on workmen’s compensation claims from
the prior two years and expressed that she did not feel as though these claims were a big issue at
MHRC. Claims were very limited for 2010 and 2011; however it is important to keep in mind
some injuries may not be reported and pain experienced by nurses is often unaddressed. The fact
that there are not many workmen’s compensation claims at MHRC, does not necessarily reflect
that staff are not experiencing work-related injuries and/or pain (Myers, 2012).

Ways to further explore needs of the program include interviewing and surveying
potential participants, interviewing and surveying administrators and human resource directors,
interviewing residents of MHRC, and reviewing relevant literature to obtain knowledge
concerning needs of workers and residents at MHRC. To address all needs, it will be important
to interview and/or survey all parties who will be involved in the Safe Patient Handling for
Decreased Fall Prevention program. Potential participants of the program include certified
nursing assistants (CNA’s), registered nurses, licensed practical nurses, registered occupational
therapists, certified occupational therapy assistants, physical therapists, and physical therapist
assistants. All of these potential program participants provide direct resident care that often
involves lifting and repositioning. Other employees of MHRC that may be involved, but not
directly participating in the Safe Patient Handling for Decreased Fall Prevention program include
the administrator, the social services director, and the environmental services department.
SAFE MANUAL HANDLING FOR DECREASED FALL PREVENTION

Potential program needs relevant to occupation-based therapy deemed significant during needs assessment interviews:

- **Support**
  - Administrative
  - Staff
  - Financial

- **Knowledge**
  - Use of mechanical lifting devices (e.g., floor-based lifts)
  - Use of manual handling devices (e.g., friction reducing slide sheet, sliding boards, gait belts)
  - Proper body mechanics
  - Importance of safe patient handling techniques and equipment

- **Advocacy**
  - Program Leader
  - Administrators
  - Nursing staff
  - Therapy practitioners

All potential program needs are tentatively feasible at this point in program development. Mulberry Health and Retirement Community will be the site for all potential program sessions. On site, there is ample space to carry out education and training portions of the program. Any equipment or devices needed during training and education will be available for use by
SAFE MANUAL HANDLING FOR DECREASED FALL PREVENTION participants. Marcia Weflen, COTA will be leading the education, training, and support portions of the program.

MHRC will bear the onus for purchasing and maintaining equipment and devices for program use. Many devices and mechanical lifting equipment are already on site and currently available for use. MHRC will also cover the cost of any additional materials (e.g., photocopies) and staff compensation for participation in the program.

Recruitment of participants will not be an issue for this program due to the fact that the Safe Patient Handling for Decreased Fall Prevention program will be required of all workers who engage in direct resident care (i.e., nursing and therapy staff). One challenge of participant participation will be the amount of additional obligation participants will be expected to make for eight weeks. However, participants will receive an additional hour of pay once a week for the eight week period of the program. Other obstacles may include transportation issues or interfering roles, such as caregiver, employee, and parental responsibilities. Workers who carpool or rely on someone else to transport them to and from work may face challenges with their transportation schedule for the days they participate in the program.

Programming will occur in a simulated, naturalistic environment for the hands-on segment and in a classroom-type environment for the lecture segment. The hands-on segment will involve participants physically performing manual transfers, using safe patient handling devices, and operating mechanical lifting equipment. Due to the fact that participants will actually engage in occupations, similar to those they face on a daily basis, this program will be very occupational. Also, participants will be performing occupations in a natural environment, making the occupations more realistic. This program will be beneficial to participants, as they
SAFE MANUAL HANDLING FOR DECREASED FALL PREVENTION

will have the opportunity to learn ways to increase safety with functional mobility involving the residents they care for. They will also have the ability to carry out safe techniques they have learned in a controlled environment supervised by the occupational therapist.

Methods

The first method of gathering data will be surveys for potential program participants. Surveys are very beneficial when the target population is large (Fazio, 2008). All registered nurses and licensed practical nurses will receive a survey to complete (Appendix B). These surveys will assist the program leader in understanding any issues and/or concerns nursing staff have in regards to safe patient handling. All certified nursing assistants will also receive a survey to complete (Appendix C). These surveys will assist the program leader in outlining any issues and/or concerns nursing assistants have with safe patient handling. Therapy practitioners will receive a similar survey (Appendix D). These surveys will help the program leader understand issues and/or concerns that therapists have with safe patient handling and assisted mobility. Lastly, the administrator and human resource directors will receive a survey (Appendix E). These surveys will address any concerns and/or misconceptions the administrators and human resource directors may have regarding a safe patient handling program. All surveys will serve as a foundation for the need of a safe patient handling program at MHRC. Surveys will be distributed with pay stubs on a Friday payday. All staff members who receive a survey will be asked to complete the survey within one week, seal the survey in the envelope provided, and return to a box in the front office by the employee mailboxes. The box will be labeled “Safe Patient Handling Surveys” and will be sealed shut with a slot in the top.
to drop envelopes. The surveys will be collected at the end of one week from distribution and analyzed by the program leader.

The surveys will provide relevant information regarding staff members concerns of lifting and moving residents. Fazio (2008) describes how a survey is an efficient method to assess a sample of a population which is diverse or difficult to reach. Drawing a sample of information via survey will be cost efficient, relatively simple, and provide valuable information from potential program participants. At the same time, it will be not be obtrusive or time consuming for those taking the survey. Fink and Kosecoff (1998) also suggest that surveys are a viable means to describe habits, satisfaction, and attitudes of a sample.

The second method of gathering data will be performing semi-structured interviews. These interviews will be subsequent to the survey portion of the needs assessment. Semi-structured interview questions will relate to survey questions. However, through performing an interview, different data may be gathered. Once survey data are analyzed, the semi-structured interview questions may be slightly altered to reflect specific areas of concern reflected on surveys. For example, if the survey data displays a great concern regarding pain workers experience related to job duties, then the semi-structured interview can provide more, detailed questions that address the type, amount, and cause of pain.

The program leader will perform all semi-structured interviews. All interviews will be held to a maximum of fifteen minutes due to time constraints with completing interviews in a timely manner. Participants of the semi-structured interviews will be selected at random. The human resource director will be asked to provide the program leader with a list of twenty nurses, twenty certified nursing assistants, and five therapy practitioners at random.
SAFE MANUAL HANDLING FOR DECREASED FALL PREVENTION

The goal will be to interview 20 total nurses (registered nurses or licensed practical nurses); interview questions for nurses can be found in Appendix F. The goal will be to also interview 20 certified nursing assistants; interview questions can be found in Appendix G. The goal will be to interview five therapy practitioners, making sure both occupational therapy and physical therapy are represented in this group. Interview questions for therapists can be found in Appendix H. These interviews will further address areas of concern related to safe patient handling within MHRC. The interview will allow workers to be open with the program leader and to elaborate on any issues or concerns they may have. Interviews will also give the program leader a better idea of what workers understand regarding safe patient handling practice.

Specifically, the semi-structured interview questions parallel Caregiving in the U.S., a large study undertaken which assesses the tasks and needs of caregivers (National Alliance for Caregiving and AARP, 2009).

After all nursing and therapy staff are interviewed, the program leader will interview the administrator, human resource director, and human resource coordinator. These interviews will all occur on an individual basis, but will include the same questions. Semi-structured interview questions for the administrator and human resource directors can be found in Appendix I. These questions will assist the program leader in understanding what concerns administrators and human resource directors may have and what their perceptions of implementing a safe patient handling program are.

All interviews will be conducted in a therapy office at MHRC by the occupational therapist leading the program. The interviews will provide information pertaining to worker perceptions of their roles as well as specific safe patient handling issues. It is the hope that by
randomizing participant selection in the interviews, a wide range of participants will be selected (e.g. varied age, gender, living situation, financial resources, etc.).

Interviews will allow workers to express personal and specific issues they face on a daily basis in the workplace. The interview process will provide detailed insight that is more developed and specific than survey data. Fazio (2008) recommends that there be fewer open ended questions in this phase of the needs assessment to gain more particular insight. In line with this suggestion, most of the semi-structured interview items pertain to specific topics and have a limited number of possible answers. However, the interviews will be conversational and may lead to follow-up questions and valuable discussion that is not listed within the set of interview questions.

Following all staff semi-structured interviews, the program leader will perform semi-structured interviews with residents. It will be the goal for the program leader to perform 26 resident interviews. This is approximately 20% of the average census of MHRC. Once again, the program leader will obtain a randomized list of 26 residents from the human resource director. These interviews will also be held to a maximum of fifteen minutes to stay within time constraints. Resident interviews will take place in resident rooms. Doors will be closed to ensure privacy and confidentiality. Residents who have a roommate present will be taken to an empty room to respect privacy and confidentiality of the resident. Resident interview questions can be found in Appendix J.

Resident interviews will allow residents to open up about anything they like or dislike about safe patient handling equipment and/or practices that take place at MHRC. Understanding how residents feel will assist the program leader in designing how to set up program sessions. It
SAFE MANUAL HANDLING FOR DECREASED FALL PREVENTION
will be important to respect resident’s concerns and issues in order to stay in line with MHRC’s
philosophy of striving to make sure every resident has top quality care and is provided with
physical, mental and spiritual support.

The third method of gathering data is through direct observation. The program leader
will spend time observing nurses, certified nursing assistants, and therapists at MHRC. The
program leader will spend a total of six hours observing nursing staff on each of the four units.
The program leader will observe two hours during each of the three shifts, totaling twenty-four
hours of nursing observation time. In addition, the program leader will observe therapists for
four hours; two hours in the morning and two hours in the afternoon. Because all assessments
preceding this one are self-reported, it is important to provide an objective measurement of
worker ability.

Because the occupational therapist has expertise in the areas of safe manual handling,
assistive devices, and body mechanics, he or she will be able to assess current worker abilities
and techniques in an objective fashion. Also, because this direct observation will be done within
the nursing facility, it provides a naturalistic setting with a venue to easily identify strengths and
weaknesses among workers. Much like a modified evaluation form, the occupational therapist
will fill out an observation chart (Appendix K) on workers after observing any transfer or
repositioning tasks that take place. Because direct observation of tasks may be intimidating, the
therapist should build rapport with both workers and residents prior to observing. The
observation process will also be explained to both workers and residents to decrease anxiety and
fear that could potentially arise. It will be important for workers to understand they are not in
SAFE MANUAL HANDLING FOR DECREASED FALL PREVENTION

trouble in any way, and observations are taking place on all units to help make MHRC a safer place.

Caregiving is an instrumental occupation of daily living, as described in the Occupational Therapy Practice Framework: Domain and Process (American Occupational Therapy Association, 2008). Caring of others includes actual caregiving tasks as well as the arrangement and supervising of other caregivers. Both the survey and the semi-structured interview created for this needs assessment include occupations that workers perform daily in the workplace. The direct observation portion of the needs assessment will assess the occupational needs of a worker based on the expertise of an occupational therapist, in addition to the other self-report measures.

The population of workers is diverse, so the instruments for this portion of the needs assessment need to be appropriate across age, education level, and socioeconomic status. Based on survey writing strategies by Fink and Kosecoff (1998), the survey has been developed using English, concrete questions, and avoidance of biased words and phrases. Some terms used in the surveys may seem foreign to an individual who does not work in healthcare, but terms used should be familiar to all workers who provide direct resident care. All workers who will be asked to complete a survey are involved with direct resident care and documentation. The survey has also been reviewed by others not involved in this program, to decrease hidden biases by the survey authors.

Ideally the surveys and semi-structured interviews will be conducted in a quiet, private, and comfortable environment. The direct observation will be done as discreetly as possible. Workers and resident should be aware that the occupational therapist is observing, but the occupational therapist should make a conscious effort to strictly observe and to stay out of the
SAFE MANUAL HANDLING FOR DECREASED FALL PREVENTION

way during transfers and repositioning to allow workers adequate space to do their job. The program leader should ensure that the workers involved in this phase of the needs assessment are at ease with the methods and the occupational therapist involved in the needs assessment. It will be important for the program leader to address any questions or concerns workers may have during the needs assessment, but not to start any formal education at this time.

Based on the needs assessment, the main priorities for this program are to disseminate knowledge to program participants and decrease falls at MHRC. Needs will be prioritized by:

1) Importance to stakeholders, due to the fact that MHRC is a for profit business, this program needs to be financially beneficial to the well-being of the business and its employees.

2) Practicality, if the needs of the program are not practical, then participants will not buy into the program. If participants do not believe in the program, the program will be unsuccessful. The program needs to be compatible with the schedules and educational levels of workers.

3) Appropriateness to an occupation-based approach, this program will be led by an occupational therapy practitioner and needs to be occupation-based for caregivers to thoroughly benefit.

As suggested by Gina Arroyo, OTR/L, the American Nurses Association Handle with Care Program (De Castro, 2004) was explored as a valid source of information on the safe handling of patients. The American Nurses Association implemented its Handle With Care® campaign in 2003 to reduce the amount of musculoskeletal injuries to nurses nationwide. The campaign hinged on three main points. The first point stressed that manual handling is ultimately responsible for the prevalence of injury among nurses, the second encouraged the use of assistive equipment to transfer patients, and the third looked toward a future with greater patient care and less injury among the nursing population. This program can easily translate to
SAFE MANUAL HANDLING FOR DECREASED FALL PREVENTION

the manual handling that is done at MHRC, and provides valuable information in regards to
techniques, devices, and potential legislation.

Benefits of conversations and observations with potential participants were discussed
with Susan Salsbury, OTR/L. As an occupational therapist and safe patient handling program
developer, Susan understands the needs of healthcare workers. When meeting with Susan, the
advantages of interviewing and observing potential program participants were described. The
program leader will have a much more in depth understanding of the needs of the Safe Patient
Handling for Decreased Fall Prevention program after spending time with workers and residents.

The developer of this program is currently, and has practiced occupational therapy for
three years in multiple long term care facilities. This individual observes and interacts with
workers and residents in the long term care setting on a weekly basis. The insights gained
through these observations and interactions are beneficial in understanding the needs and
concerns of workers and residents as related to safe patient handling. These insights were very
helpful when developing the needs assessment, because this individual is regularly exposed to
worker needs regarding safe lifting and moving. Concerns verbally expressed by workers were
taken into consideration when creating the needs assessment. The methods of gathering data
were strategically chosen to meet worker and resident needs. It is important to use a variety of
means to collect information in order to have a more complete understanding of the true needs of
the program and its participants. Observing workers and residents in their natural environment is
of utmost importance due to the wide range of worker age, race, gender, education levels,
socioeconomic status, and physical abilities.
SAFE MANUAL HANDLING FOR DECREASED FALL PREVENTION

Business Case

Following the needs assessment, a business case will be presented to the administrator and other three board members of MHRC. This case will be presented to convey the need of a safe patient handling program at MHRC to board members. It will be important to support how the need can be financially beneficial to the facility in order to gain the support needed. In Guidelines for Nursing Homes: Ergonomics for the Prevention of Musculoskeletal Disorders, OSHA states that a safe and healthful workplace can only be achieved with the active support of management. OSHA recommends “employers develop clear goals, assign responsibilities to designated staff members to achieve those goals, provide necessary resources, and ensure that assigned responsibilities are fulfilled” (OSHA, 2009). Following OSHA recommendations will be an important step in presenting an effective business case. A PowerPoint Presentation that will be given to board members regarding the business case for Safe Manual Handling for Decreased Fall Prevention can be found in Appendix L.

Goal and Objectives

The goal of Safe Manual Handling for Decreased Fall Prevention is to increase safety and decrease injury among professional staff, non-professional staff, and residents of MHRC. Upon completion of the first eight weeks of the Safe Manual Handling for Decreased Fall Prevention program:

1. Participants will follow MHRC’s policies and procedures as related to safe patient handling 100% of the time.
2. Participants will participate in safe patient handling competency checks every 4 weeks, with greater than or equal to 90% accuracy at 8 weeks.
SAFE MANUAL HANDLING FOR DECREASED FALL PREVENTION

3. By week 4, participants will be able to independently select an appropriate safe patient handling algorithm, 100% of the time.

4. Professional staff will demonstrate competency in training non-professional staff and new employees safe patient handling techniques to support ongoing success.

5. Professional staff (i.e., occupational therapy and physical therapy practitioners) will demonstrate competency using the Tinetti test in 100% of initial patient evaluations for appropriate recommendation of safe lifting equipment.

6. Policies for safe patient handling within MHRC will be written by administrators and followed by professional and non-professional staff 100% of the time.

7. Policies for staff who do not follow safe patient handling guidelines will be written by administrators and be adhered to 100% of the time.

8. There will be a 20% or greater decrease in falls in which a staff member is present.

9. Post-program survey results will indicate a 25% or greater increase in awareness of safe patient handling among all participants.

Marketing and Recruitment of Participants

Marketing for Safe Manual Handling for Decreased Fall Prevention will be fairly minimal due to the uniqueness of the program. This program will begin with existing employees of MHRC. Due to the fact that participants are readily available, marketing will not be a key
SAFE MANUAL HANDLING FOR DECREASED FALL PREVENTION

component to the success of this program. However, marketing will be crucial in promoting and establishing an understanding and awareness of Safe Manual Handling for Decreased Fall Prevention.

Another important role of marketing for this program is to market how this program sets MHRC above other similar facilities. A facility with a safe manual handling program in place is more likely to catch the attention of individuals looking at facilities for a place of employment or for their loved ones who need nursing care and/or rehabilitation. The key to marketing for this program is to promote the benefits of safe manual handling and fall prevention. Whether an individual is planning on residing at MHRC temporarily or permanently, a safe manual handling and fall prevention program can be of extreme benefit to the individual. The individual’s mind should be at greater ease knowing safety is a matter that is important to administrators and staff of MHRC. Also the minds of staff should be at greater ease knowing the facility they work at is concerned with their physical well-being.

Marketing director, Allison Beggs will be contacted to assist with any marketing needs of the program. She will help promote the program in the facility, on the facility’s website, and in the community. A flyer used within the facility to promote and raise awareness of Safe Patient Handling for Decreased Fall Prevention can be found in Appendix M.

**Programming**

Before a participant can begin Safe Manual Handling for Decreased Fall Prevention, they must first be an employee of MHRC and complete the Tool for Prioritizing High-Risk Patient Handling Tasks (Appendix N). The Tool for Prioritizing High-Risk Patient Handling Tasks will assist the occupational therapist who is leading the program to understand the job demands and
SAFE MANUAL HANDLING FOR DECREASED FALL PREVENTION

Concerns of individual program participants. The occupational therapist will then review any
individual concerns with program participants prior to the program start date.

The Safe Manual Handling for Decreased Fall Prevention program will last a total of
eight weeks; however will be an ongoing program. The program will be offered three times a
year; with a repeated two month on, two month off cycle. It will be the goal that all current
employees of MHRC attend the program within one year of the start date for the first eight-week
program and that new hires attend the program within six months of employment. It will be
important for this program to be ongoing to ensure that new staff members are receiving proper
education and training in the area of safe manual handling and fall prevention. Also, it will be
important to provide ongoing education and support to existing staff for increased quality and
continuity of care and decreased injury rates among staff.

Weekly sessions will take place at MHRC in the large conference room. The
environment in which sessions will take place is a large, open room with plenty of folding chairs
and tables available. There will also be adequate space to bring in other items (e.g., wheelchairs,
beds, mechanical lifts) that will need to be used throughout the program for educational
purposes. These items will be set up in a simulated way to mimic a typical resident’s room or
bathroom, depending on the area of concern being covered in the session. The flooring in the
large conference room is low-pile carpet. There is sufficient overhead lighting, as well as six,
long windows along the north wall of the room. The large conference room is located at the far
northwest corner of the facility, and is a quiet environment that will provide a great space for the
Safe Manual Handling for Decreased Fall Prevention program.
SAFE MANUAL HANDLING FOR DECREASED FALL PREVENTION

The sessions will last one hour in length and occur one time a week for eight weeks. The exact dates and times will be determined by the occupational therapist and program participant’s availability. There will need to be at least two time slots open each week due to the fact that participants work various shifts. Although it will be impossible to meet the needs of all participants, programming will be set up to accommodate as many participants as possible.

The documentation system will include an attendance sheet (Appendix O) at each of the sessions, as well as a weekly note for the group written by the occupational therapist. Weekly notes will be written in SOAP format for each session and will describe what occurred, as well as any concerns regarding safe manual handling and fall prevention. For example, the occupational therapist might take note of an individual having difficulty with use of a certain device. Weekly notes will be used as a future reference for the occupational therapist prior to the start of each session. A file will be kept for each participant and will contain weekly notes and all handouts completed by participants. All files will be stored in a locked filing cabinet in the therapy office to ensure confidentiality.

Models of Practice

The Role Acquisition frame of reference (Mosey, 1986, Chap. 26) will be used throughout the program as a means to inform principles of programming as well as evaluation and intervention techniques. A key component of this frame of reference is to aid the client in participating in life roles in an effective manner. Because caregiving is a major role for program participants, education regarding how to gain task skills which fulfill this role will be of particular importance. The program participants will have a strong intrinsic purpose to achieve a skill set (improved resident-assisted mobility) that will have an overall positive effect on their
SAFE MANUAL HANDLING FOR DECREASED FALL PREVENTION

roles in the workplace. The Role Acquisition model allows the occupational therapist to define a small set of skills to focus on during occupational therapy intervention, instead of addressing skills over all roles or an entire role (i.e., caregiving in general).

Within the Role Acquisition frame of reference, the occupational therapist takes on the role of a teacher, educating and facilitating the increase of skill development. Because program participants are likely to have received at least a minimal amount of education in regards to safe patient handling, the use of this frame of reference is appropriate for the Safe Manual Handling for Decreased Fall Prevention program. Principles of learning of the Role Acquisition frame of reference that will be of particular importance for this program will be the use of activity groups, active participation, trial and error learning, frequent repetition of a task, attention to task environment, and creative solutions to participant’s unique performance issues (Mosey, 1986, Chap. 26).

The Biomechanical Model (Radomski & Trombly Latham, 2008) is the other model of practice that will be used to guide the Safe Manual Handling for Decreased Fall Prevention program. The three components of the model include: joint range of motion, endurance, and strength. These three factors directly relate to a staff member’s ability to assist in the mobility of the resident. Also, this model identifies measures which prevent deformity and injury to the musculoskeletal system. If a current deformity or injury exists, the Biomechanical Model provides key information to maintain current functioning using compensatory measures, such as energy conservation and joint protection.

A component of the Biomechanical Model that will be incorporated into the program will be the use of proper body mechanics for staff members during assisted mobility. Although
proper body mechanics alone do not prevent injury during transfers, a comprehensive safe
patient handling program can involve a component which addresses body mechanics (Nelson and
Baptiste, 2006).

Week One

The first week will consist of program introduction, participant introduction, and a brief
icebreaker group activity to increase rapport, understanding, and interpersonal communication
among participants and the program leader. The icebreaker will involve the group sitting in a
circle, with the occupational therapist asking a series of true or false questions about safe patient
handling and fall prevention. Participants will toss a ball around the circle, and as they catch the
ball they have to answer the question. See Appendix P for a list of icebreaker questions.
Following the icebreaker, the occupational therapist will lead a discussion on safe patient
cumulative weight lifted by a nurse providing direct patient care in a typical 8-hour workday is
estimated to be 1.8 tons” and statistics from the Bureau of Labor Statistics in regard to the rate of
nonfatal occupational injuries and illnesses will be discussed. The occupational therapist will
also discuss fall prevention and fall rates with the elderly population. A PowerPoint will be used
to convey information regarding safe patient handling and falls (Appendix Q). Participants
should be well aware of why safe manual handling and fall prevention is important to themselves
and to residents of MHRC. This discussion will raise awareness among participants about the
importance of using safe lifting techniques and equipment with residents. This discussion will
also establish a foundation and pave the road to what will be discussed in the following seven
weeks of the Safe Manual Handling for Decreased Fall Prevention program.
SAFE MANUAL HANDLING FOR DECREASED FALL PREVENTION

At least three goals will be established for each participant based on identified needs of the participant, as well as the occupational therapist’s clinical reasoning. Identified needs will be determined based on the Tool for Prioritizing High-Risk Patient Handling Tasks that was completed by each participant prior to the start of the program. Keeping in line with the Role Acquisition frame of reference (Mosey, 1986, Chap. 26), these goals will be “future accomplishment” goals. Upon completion of the program, program participants will have the task skills needed to enable them to complete activities outlined within their individual goals. Hypothetical examples of a program participant’s goals are located in Appendix R.

Goals will be discussed as a group. After participants have an understanding of the types of goals the program is aiming to accomplish, they will be asked to make a list of three goals for themselves. Goals will be submitted to the occupational therapist for review at a future time.

Upon submission of the goals, homework will be assigned. The occupational therapist will give each participant a handout (Appendix S) to log the number of times and how they assisted residents transfer throughout the week. Participants will be asked to bring the form to the following session for review.

Week Two

Week two will be a continuation of what was learned in week one. It will be important to continue educating all participants about the risks involved with the work tasks they are involved in on a daily basis. Participants need to have a clear understanding of why safe patient handling is directly important to them in order for Safe Manual Handling for Decreased Fall Prevention to be a success. Participants also need to continue to be educated on how this program can benefit
SAFE MANUAL HANDLING FOR DECREASED FALL PREVENTION

the residents they assist. The occupational therapist will collect lifting logs that were given to participants in week one for future review.

A handout with seven questions (Appendix T) related to workplace injuries will be given to participants to complete prior to a lecture. Participants will have approximately 5 minutes to complete the handout and then a brief lecture regarding body mechanics, risk factors for injuries in the workplace, injury prevention, specifics of common musculoskeletal injuries, and NIOSH recommendations will be given (Appendix U). This lecture will again be in PowerPoint format and will focus on the long-term effects of common tasks performed by healthcare workers. The PowerPoint will be projected on a large screen and participants will be given a copy to take notes on and for future reference.

Following the lecture, participants will be asked to reflect on their actions in the workplace throughout the next week. They will be asked to write down three ways they have modified or changed a common work task they perform that involves risk. Participants will return with their lists the following week, and these lists will lead the opening discussion for week three.

Week Three

Week three will begin with a brief discussion over participant’s reflections from last week regarding how they have modified or changed tasks over the past week. This discussion will lead into a talk about selecting the appropriate method of moving or lifting a patient through the use of safe patient handling algorithms.

The Department of Veterans Affairs has developed several safe patient handling algorithms for various transfer and repositioning situations and for bariatric patients. These
SAFE MANUAL HANDLING FOR DECREASED FALL PREVENTION

algorithms are meant to be used as a tool to guide healthcare practitioners in safely moving their patients (United States Department of Veterans Affairs, 2012). Participants will be given a handout of seven safe patient handling algorithms (Appendix V). Algorithms will be displayed on an overhead projector and reviewed with the occupational therapist. The occupational therapist will explain the importance of using the algorithms.

Each participant will be given a short case study with a different scenario. Case study examples can be found in Appendix W. Participants will be asked to choose the appropriate algorithm, work through the algorithm, and write down how they would perform the patient transfer or repositioning task. The occupational therapist will be walking around the room during this time; making sure each participant understands what they are doing and answering any questions that may arise. Week three will conclude with a short question/answer session, if time allows.

Week Four

Week four will focus on choosing the safest and most appropriate safe patient handling device. Commonly used lifting equipment and devices will be discussed. The EZ Way Smart Stand and the EZ Way Smart Lift are the two mechanical lifts currently used at MHRC. These two lifts will be reviewed, as well as friction reducing slide sheets, slide boards, and gait belts. It will be of great importance to ensure all participants understand how and why to use all safe lifting equipment and devices. At many healthcare facilities, staff are not provided with enough or proper education on safe lifting equipment. This often results in equipment not being used or being used inappropriately (Monaghan, 2011). This poses a risk for both staff and patients. Staff members are at greater risk for injury when not using the equipment or not using the
SAFE MANUAL HANDLING FOR DECREASED FALL PREVENTION

equipment appropriately and patients are at a greater risk for injury and/or fall if the lifting equipment is not being used at all or is not being used correctly. It will be important that all participants have a clear understanding of how to use equipment and devices and when it is appropriate to use each piece of equipment or device. An EZ Way Training DVD will be viewed for approximately fourteen minutes. The DVD will be viewed from the beginning to eleven and a half minutes, and then will be started up again at twenty-four minutes through twenty-six and a half minutes. These sections of the training DVD will demonstrate use of the EZ Way Smart Stand and the EZ Way Smart Lift, explain basic instructions of how to use each piece of equipment, and explain benefits of using the equipment.

After reviewing safe patient handling equipment and devices, a demonstration of each piece of equipment and device will be given. The occupational therapist leading the group, along with two other physical and/or occupational therapy practitioners will be demonstrating this portion of the session. A demonstration will allow participants to see first-hand in a controlled environment exactly how each piece of equipment and device (mechanical lifting devices, friction reducing slide sheets, slide boards, and gait belts) should be used. This demonstration will also set the stage for week five where participants will participate in a safe patient handling equipment lab. Participants will have the opportunity to ask any questions they may have at the conclusion of the demonstration.

Week Five

Week five will involve all participants engaging in a safe patient handling equipment lab. There will be five stations set up, and participants will be divided equally among each station. Four additional physical therapy and occupational therapy practitioners will be present during
SAFE MANUAL HANDLING FOR DECREASED FALL PREVENTION

this lab session. Each station will have an occupational therapy or physical therapy practitioner leading discussion and education about each piece of equipment and device. Participants will stay at each station ten minutes, so it will be important to move efficiently.

Station one will have the EZ Way Smart Stand. At this station there will be a chair with arm rests and the lifting device. The practitioner leading the station will educate participants on when to use this lift and the types of patients who can use the sit-to-stand lift. The practitioner will then demonstrate use of the lift, including proper alignment of the sling and shin pads. MHRC’s Smart Stand policy will be reviewed with participants. The policy states that only one staff member has to be present when using the sit-to-stand lift. However, it will be reinforced to participants that if they ever feel uncomfortable or unsure, they should always get additional help. Participants will then have the opportunity to practice using the sit-to-stand lift. Each participant will practice operating the lift and being lifted.

Station two will have the EZ Way Smart Lift. At this station there will be a bed, a wheelchair, and the lifting device. The practitioner leading the station will educate participants on when to use this lift and the types of patients who can use the sling-based lift. The practitioner will then demonstrate proper use of the lift, including proper placement of the sling, the best ways to move the lift, and how to open and close the legs of the lift. MHRC’s Smart Lift policy will be reviewed. The policy states that two staff members must always be assisting when using the Smart Lift. It will be reinforced to participants that if they ever feel uncomfortable or unsure when using the lift, they should get extra assistance. Participants will then have the opportunity to practice using the Smart Lift. Each participant will practice operating the lift and being lifted.
SAFE MANUAL HANDLING FOR DECREASED FALL PREVENTION

Station three will have a friction reducing slide sheet, the Z-Slider. At this station there will be a bed and the Z-Slider. The practitioner leading the station will educate participants on when and how to use the Z-Slider. The Z-Slider is very beneficial for moving or repositioning a patient in bed and decreasing physical strain to the back, neck, shoulders, and arms (Ansell Sandel Medical Solutions LLC, 2012). The practitioner will then demonstrate proper use of the Z-Slider and participants will practice using the Z-Slider. All participants will practice repositioning another participant, as well as being repositioned themselves.

Station four will have a sliding board. At this station there will be a sliding board, a wheelchair, and a mat table. The practitioner leading the station will educate participants on when and how to use a sliding board. Sliding boards are very beneficial in assisting individuals who cannot bear weight on the lower extremities; however the individual should have good upper extremity strength (Early, 2006).

The practitioner will then demonstrate proper use of the sliding board and participants will practice using the sliding board. All participants will practice using the sliding board to move from the wheelchair to the mat table and back from the mat table to the wheelchair. All participants will also practice instructing another participant on how to transfer across the sliding board correctly.

Station five will have a gait belt. At this station there will be a gait belt, a wheelchair, and a chair with arm rests. The practitioner leading the station will educate participants on when and how to use the gait belt. The practitioner will demonstrate how to properly don the gait belt and then demonstrate a wheelchair to chair transfer using the gait belt. There will be an emphasis on making sure the wheelchair brakes are always locked and making sure the gait belt
is placed appropriately and at the right level of tightness. Participants will then practice donning gait belts on another participant and practicing wheelchair to chair and chair to wheelchair transfers using a gait belt. All participants will transfer and be transferred by another participant.

At the conclusion of the five stations, there will be ten minutes remaining for a quick overview of what was learned at each station. During this time, it will be important to discuss safety and hygiene with using equipment. Participants will be reminded they should always check equipment prior to transferring a resident. Staff should always make sure the battery is charged, the sling is in good condition, and the equipment is clean. This will ensure a safe transfer. If time allows, any questions that participants may have can be answered at this time.

Week Six

Week six will be different from the previous five weeks. Participants will be split into two groups. Participants who are physical therapy and occupational therapy practitioners will be in the first group and all other participants will be in the second group. The first group will be learning about the Tinetti test and how to use this assessment for the appropriate recommendation of safe patient handling equipment. The second group will have a second safe patient handling equipment lab. Participants in the second group will be comprised of staff who use the equipment frequently; therefore it will be important to allow these participants another opportunity in lab to become even more familiar with equipment.

The first group will be led by the occupational therapist leading Safe Manual Handling for Decreased Fall Prevention. The Tinetti test will be introduced to the first group. The Tinetti test is appropriate to use at MHRC, because it is recommended to use and commonly used with the older adult population. This test is helpful in assessing mobility, balance, and gait, and is a
SAFE MANUAL HANDLING FOR DECREASED FALL PREVENTION
good predictor of falls. This assessment has been selected to be used in this program, because it
has been named the gold standard in assessing mobility dysfunctions in the elderly (Köpke &
Meyer, 2006). This assessment was also recommended by Alvin Reyes, PT, Director of Therapy
and Home Health Services, site mentor (Reyes, 2011). Other benefits of using this test in the
Safe Manual Handling for Decreased Fall Prevention program include simple administration and
scoring, quick administration and scoring, and both physical therapy and occupational therapy
practitioners will be able to administer the test.

   First, background information on the Tinetti test will be given to all participants in this
group. Once all participants have an understanding of when and why to use this test; the
occupational therapist will explain how to use the test. All participants will be given a copy of
the Tinetti test (Appendix X). The occupational therapist will review the balance and gait
sections of the test, and ask if participants have any questions. Once all questions are answered,
participants will get into pairs and practice administering the Tinetti test on each other.

   After all participants have had the chance to practice, any additional questions by
participants will be answered. In conclusion to week six, the program leader will give each
physical therapy and occupational therapy practitioner a copy of the Tinetti test, and ask them to
practice performing the test on one resident over the next week. Participants will be instructed to
select a high functioning resident that is currently receiving physical therapy and/or occupational
therapy services at MHRC. Participants will bring their results to week seven’s session for the
program leader to review.

   The second group will be led by an experienced occupational therapist or physical
therapist and will begin with a brief question/answer session. Any questions that participants
SAFE MANUAL HANDLING FOR DECREASED FALL PREVENTION

may have from week five will be answered. Once all questions are answered, participant lab
time will begin. Again, there will be five stations set up with one of the five safe patient
handling pieces of equipment or devices at each. Participants will be split equally among each
station and will spend six minutes at each station. The occupational therapist leading the group
will float from station to station during this time; answering any questions that may arise and
correcting any improper use of equipment or devices that may occur.

After lab time is completed, there will be approximately twenty minutes left in session
six. This time will be spent doing a case study. Participants will get into pairs and each pair will
receive a case study to review together. Examples of these case studies can be found in
Appendix Y. Participants will spend ten minutes on their case study; during the remaining ten
minutes, each pair will briefly present their case study. In conclusion to week six, the
occupational therapist will ask each participant to reflect over the next week on how they have
changed the way they use safe patient handling equipment and devices. Each participant will be
asked to share one way they have changed at the beginning of session seven.

Week Seven

Week seven will consist of safe patient handling competency checks by all participants
and a review of procedures and policies related to safe patient handling. Five minutes at the
beginning of the session will be spent with participants describing how they have changed the
way they use safe patient handling equipment and devices over the past week. Next, all
participants will be given a handout that outlines procedures and policies related to safe patient
handling (Appendix Z). Participants will be taken one by one to an empty resident room that has
been set up for competency checks. While the occupational therapist is performing competency checks, all other participants will independently review the procedures and policies handout.

Competency checks (Appendix AA) will be performed one at a time. Participants will be asked to use all safe patient handling equipment and devices that were reviewed in weeks five and six. An additional physical therapy or occupational therapy practitioner will be present during the competency checks to serve as the ‘resident.’ The participant will use the sling-based lift, sit-to-stand lift, slide sheet, sliding board, and gait belt to perform a transfer with the ‘resident.’ Once all transfers are completed, the occupational therapist will give brief feedback and explain to the participant that he or she will receive a copy of their competency checklist with comments the following week.

Week seven will conclude with the occupational therapist asking participants to return the following week with any questions they have concerning policies and procedures, and to be prepared for a program satisfaction survey.

**Week Eight**

Week eight, the final week of Safe Manual Handling for Decreased Fall Prevention will consist of a final review of the program and a post-program survey. The occupational therapist will begin the session with a quick PowerPoint presentation (Appendix BB) that displays pictures of various scenarios that may occur in a typical day at MHRC. Participants will be asked to determine if there are any safety concerns in the pictures. This will be a quick activity that allows participants to reflect back on all they have learned over the past eight weeks. Following this activity, there will be a brief lecture reviewing key points of the Safe Manual Handling for Decreased Fall Prevention program. Key points that will be reviewed include:
SAFE MANUAL HANDLING FOR DECREASED FALL PREVENTION

Injury rates among healthcare workers, fall statistics among the older adult population, and benefits of safe patient handling equipment.

In conclusion to week eight, participants will be reminded that just because this program has lasted eight weeks, material learned in the program will be ongoing and updated as needed. Participants will be encouraged to direct any questions they have regarding safe patient handling to the occupational therapist at any time after the program. Participants will be given the occupational therapist’s business card so they can reach him or her as needed after the program is complete. A satisfaction survey will be given to all participants to complete (Appendix CC). After surveys are turned in, participants will have concluded the Safe Manual Handling for Decreased Fall Prevention program.

Six months after completing the initial eight-week Safe Manual Handling for Decreased Fall Prevention program, participants will be given a post-program survey to complete (Appendix DD). This survey will allow the occupational therapist to have a greater understanding of long-term effects associated with the program.

Program Leader Job Description

Along with leading the eight-week Safe Manual Handling for Decreased Fall Prevention program, the occupational therapist will fulfill other duties to promote ongoing success of the program. The occupational therapist will be hired fulltime by MHRC, but will distribute her hours between being the program leader and a practicing occupational therapist. Twenty hours a week, the occupational therapist will be involved with Safe Manual Handling for Decreased Fall Prevention tasks and the other 20 hours will be spent providing occupational therapy services. The occupational therapist will oversee five departments as related to safe patient handling.
SAFE MANUAL HANDLING FOR DECREASED FALL PREVENTION
within MHRC. These departments are nursing, therapy, social services, environmental services, and finance. See Appendix EE for a summary of the occupational therapist’s roles in the program.

The nursing department will be directly involved in the ongoing success of the Safe Manual Handling for Decreased Fall Prevention program. The occupational therapist will provide ongoing support and education as needed to all members of the nursing staff; including RN’s, LPN’s and CNA’s. Questions and issues may arise after the initial eight weeks of the program are completed. The occupational therapist will be readily available to answer questions and help resolve issues.

The therapy department will also be highly involved in the ongoing success of the Safe Manual Handling for Decreased Fall Prevention program. After completing the initial eight weeks of the program, therapists will be using safe patient handling equipment more frequently to promote safety with functional mobility and ambulation. Therapists will also begin administering the Tinetti test to residents at MHRC. The occupational therapist will assist therapy practitioners as needed, and answer any questions that may arise with the Tinetti test and use of safe patient handling equipment.

The social services department will be involved in the program due to assisting with any resident or family issues and concerns that may arise with changes in the use of safe patient handling equipment. In the event that a resident or family member has a complaint or concern regarding the use of any safe patient handling equipment or device, the social services department will assist the occupational therapist in resolving the issue.
SAFE MANUAL HANDLING FOR DECREASED FALL PREVENTION

Environmental services will be involved in the program to ensure all safe patient handling equipment is kept clean. It will be important for all staff members of the environmental services team to have an understanding of how to appropriately clean all equipment and devices (e.g. gait belts and slings). The occupational therapist will be available to answer any questions that members of the environmental services team may have in regards to cleaning equipment.

The occupational therapist will also frequently meet with the finance department. It will be important for the occupational therapist to stay in close communication with the finance department to guarantee budget needs are being met. In order to receive continued support from administrators, it will be imperative to stay within budget limits.

The occupational therapist will be in charge of tracking and monitoring injuries to workers and residents related to safe patient handling. This will be reviewed daily after the morning meeting. Currently, any fall within the past 24 hours is reviewed by the administrator, the director of nursing, and the director of therapy services. A brief review of any injuries will also be discussed at this time. Following the injury review, the occupational therapist will provide further investigations and injury prevention interventions on an individual basis as needed. The occupational therapist will keep an injury and intervention log to track all injuries and interventions that occurred as related to safe patient handling (Appendix FF). Keeping a log of injuries and interventions will help MHRC identify problem areas and evaluate program efforts. Also, this log will help MHRC stay in line with OSHA’s injury and illness recording and reporting regulation (29 CFR 1904). This regulation states that employers must keep record of work-related injuries and illnesses (OSHA, 2009).
SAFE MANUAL HANDLING FOR DECREASED FALL PREVENTION

Along with the previous listed duties, the occupational therapist will perform monthly rounds at MHRC. There are four units at MHRC and the occupational therapist will perform rounds every Monday morning. The first Monday of the month, the 100 unit (memory care) will be reviewed. The second Monday of the month, the 200 unit (skilled nursing) will be reviewed. The third Monday of the month, the 300 unit (skilled nursing) will be reviewed. The fourth Monday of the month, the 400 unit (rehab to home and assisted living) will be reviewed. During these rounds, the occupational therapist will review all CNA assignment sheets, resident care plans, and nurses notes regarding use of safe patient handling equipment and fall interventions. In addition, the occupational therapist will observe staff using safe patient handling equipment, check all equipment, check batteries on mechanical lifts, provide staff training, answer any staff or resident questions, and review any injuries that have occurred with staff and/or residents. Spending time engaging in hands-on education and review with workers and residents on every unit will be very beneficial to the success of the Safe Patient Handling for Decreased Fall Prevention program (Deter, 2012).

Budgeting and Staffing

An itemized budget is located in Appendix GG. Although MHRC, has already incurred many costs (e.g., EZ Way equipment), there will be additional new costs to begin the program. New costs, as well as costs already incurred are listed and justified in the budget.

Marcia Weflen, a certified occupational therapy assistant, OTD candidate will run the Safe Manual Handling for Decreased Fall Prevention program. This will be a part-time position; totaling twenty hours a week. She has experience in various settings, including skilled nursing facilities and home health. Marcia has a strong interest in safe patient handling, and has gathered
SAFE MANUAL HANDLING FOR DECREASED FALL PREVENTION

resources for a caregiver safe patient handling program and resources for a safe patient handling program at a skilled nursing facility. She has engaged in research in the area of safe patient handling and is very aware of concerns related to the manual handling of patients. She has personal experience using the EZ Way lifting equipment and has viewed the EZ Way training video. She also has attended the 12th annual Safe Patient Handling conference. At this conference, she expanded her knowledge in the area of safe patient handling and obtained several, helpful resources from experts all over the world. Marcia will be paid by the hour, and regular employee benefits will be granted from MHRC.

As this is an ongoing program that MHRC will offer, the occupational therapist will have various responsibilities before, during, and after programming. Prior to the start of the program, the occupational therapist will be in charge of surveying and interviewing MHRC employees. The occupational therapist will also interview residents of MHRC and observe direct resident care among nursing and therapy staff. Before the start of the program, the occupational therapist will prepare all materials needed for the program. After the initial eight week program, the occupational therapist will make any necessary changes to programming. The occupational therapist will constantly be working to improve Safe Manual Handling for Decreased Fall Prevention.

During programming, the occupational therapist will be required to lead sessions, formulate individualized goals, write weekly notes, review reflections and homework assignments completed by participants, and educate other occupational and physical therapy practitioners that will assist with program lab sessions. The therapists assisting with lab sessions will be paid their normal, hourly rate at MHRC.
SAFE MANUAL HANDLING FOR DECREASED FALL PREVENTION

After programming has ended, the occupational therapist will be responsible for administering six month post-program surveys, meeting with administrators to discuss outcomes of the program, tracking and monitoring injuries to workers and residents related to safe patient handling, and performing monthly rounds of each unit at MHRC.

Self-Sufficiency Plan

The Safe Manual Handling for Decreased Fall Prevention program will be self-sufficient based on funding from Mulberry Health and Retirement Community. Total new costs for one eight-week Safe Manual Handling for Decreased Fall Prevention will be $7,592.99. This includes salary for personnel as well as new costs incurred (equipment and supplies). Total new and already incurred costs for one eight-week Safe Manual handling for Decreased Fall Prevention will be $19,998.76. As the budget delineates, a large portion of the budget consists of costs already incurred by MHRC. Also, it is important to keep in mind that for the second eight-week program, cost of the program will be lower, due to some items on the new cost list being reusable.

MHRC will experience initial start-up costs for this program; however the long term effects and saved money will prove to outweigh these initial costs. Research demonstrates that the implementation of safe patient handling programs is cost-effective. As mentioned in the literature review, a NIOSH study examining benefits of safe patient handling programs found, workdays missed were decreased by 86%, workdays with restricted duties were decreased by 64%, and workmen’s compensation costs were cut by 84% among seven skilled nursing facilities and one hospital (Bell, Collins, Galinsky, & Waters, 2009). Kaleida Health in Buffalo, NY experienced a 70% reduction in work-related musculoskeletal injuries among employees after
implementing safe patient handling programs in their two long-term care centers and five hospitals ("Task force pushes," 2012). When gaining support for funding from the administrator and boards members of MHRC, it will be imperative to discuss positive statistics that studies regarding the implementation of safe patient handling programs have found.

**Program Evaluation**

Program evaluation methods for the Safe Manual Handling for Decreased Fall Prevention program include formative and summative evaluation measures. Formative evaluation measures occur throughout the program, and allow the program leader to understand how participants are responding to the goals and objectives of the program. Summative evaluation measures take place at the end of a program. These measures can be evaluation tools created by the program leader or evaluation tools that have been purchased (Fazio, 2008). Each evaluation measure is directly tied to an objective of the program. See programming section for detailed evaluation procedures (e.g., Appendix AA, competency checks).

**Evaluation of Objectives**

Objective one for the program is: participants will follow MHRC’s policies and procedures as related to safe patient handling 100% of the time. This objective will be measured in a formative manner. The occupational therapist will review all injuries and falls related to safe patient handling on a daily basis before, during, and after the program. While reviewing staff injuries, resident injuries, and resident falls, any policy or procedure that was not followed correctly will be investigated. It is fair to say there may be policies and procedures broken that are not documented. However, when staff members know this is a topic being reviewed on a daily basis, they will be more likely to adhere to policies and procedures 100% of the time.
SAFE MANUAL HANDLING FOR DECREASED FALL PREVENTION

Also, the occupational therapist will be observing staff members at least once a month during monthly rounds. This will also be ongoing, and will allow the program leader to understand how participants are responding to what they learned in Safe Manual Handling for Decreased Fall Prevention.

Objective two for the program is: participants will participate in safe patient handling competency checks every 4 weeks, with greater than or equal to 90% accuracy at 8 weeks. This objective will be measured in a summative manner via a competency check (Appendix AA). Monthly competency checks will begin after a participant has completed the eight-week program. The first competency check that takes place during week seven of the program is not included in this objective.

Objective three is: by week 4, participants will be able to independently select an appropriate safe patient handling algorithm, 100% of the time. This objective will be measured in a formative manner. Participants will complete an assignment using safe patient handling algorithms (Appendix W) to answer case study questions during week three of the program. This assignment will be reviewed by the program leader; allowing the program leader to understand how participants are doing with the use of algorithms.

The fourth objective is: professional staff will demonstrate competency in training non-professional staff and new employees safe patient handling techniques to support ongoing success. This will be evaluated formatively. Competency checks will be going on through the program, as well as continually after the initial eight-week program is completed. The program leader will consistently perform competency checks on staff, as well as frequently observe staff during daily work tasks.
SAFE MANUAL HANDLING FOR DECREASED FALL PREVENTION

The fifth objective is: professional staff (i.e., occupational therapy and physical therapy practitioners) will demonstrate competency using the Tinetti test in 100% of initial patient evaluations for appropriate recommendation of safe lifting equipment. This objective will be measured in a formative manner. Participants will practice performing the Tinetti test (Appendix X) on each other during week six, and in week seven the program leader will review results of the Tinetti tests that participants have completed on residents of MHRC.

The sixth objective is: policies for safe patient handling within MHRC will be written by administrators and followed by professional and non-professional staff 100% of the time. The seventh objective is: policies for staff who do not follow safe patient handling guidelines will be written by administrators and be adhered to 100% of the time. These objectives will both be measured in a formative manner. These objectives will first be examined during the Safe Manual Handling for Decreased Fall Prevention program (Appendix Z), but will be ongoing for the entire time an individual works at MHRC.

The eighth objective is: there will be a 20% or greater decrease in falls in which a staff member is present. This objective will be measured in a summative manner. Data on falls is currently being documented at MHRC, and this process will continue. Following the initial eight-week program, this data will be analyzed from the eight-week period during the program and compared to data on falls collected for the eight weeks following the program.

The ninth and final objective is: post-program survey results will indicate a 25% or greater increase in awareness of safe patient handling among all participants. This objective will be measured in a summative manner. The post-program survey (Appendix DD) will be a helpful evaluation tool to the program leader in understanding effectiveness of the program.
References


SAFE MANUAL HANDLING FOR DECREASED FALL PREVENTION


SAFE MANUAL HANDLING FOR DECREASED FALL PREVENTION


SAFE MANUAL HANDLING FOR DECREASED FALL PREVENTION


Kneafsey, R. (2007). Developing skills in safe patient handling: mentors’ views about their role in supporting student nurses. *Nurse Education in Practice, 7*. Retrieved from http://www.sciencedirect.com/science?_ob=ArticleURL&_udi=B6WNW-4MR7DB5-1&_user=10&_coverDate=11%2F30%2F2007&_rdoc=1&_fmt=high&_orig=search&_sort=d&_docanchor=&view=c&_searchStrId=1211901110&_rerunOrigin=scholar.google&_acct=C000050221&_version=1&_urlVersion=0&_userid=10&md5=23635bda6c21a0ff58f1b510c83e3bc6


SAFE MANUAL HANDLING FOR DECREASED FALL PREVENTION


SAFE MANUAL HANDLING FOR DECREASED FALL PREVENTION


SAFE MANUAL HANDLING FOR DECREASED FALL PREVENTION


SAFE MANUAL HANDLING FOR DECREASED FALL PREVENTION


SAFE MANUAL HANDLING FOR DECREASED FALL PREVENTION


SAFE MANUAL HANDLING FOR DECREASED FALL PREVENTION


Appendix A

Organizational Chart
SAFE MANUAL HANDLING FOR DECREASED FALL PREVENTION

Organizational Chart

Mulberry Health and Retirement Community

Mark Wolfschlag, Administrator

Heidi Wallar, DON

Alvin Reyes, Director of Therapy and Home Health Services

Elizabeth Overholser, Social Services Director

Allison Beggs, Marketing Director

Konnie Laws/Terry Myers, Human Resource Directors

RN's and LPN's

CNA's

OT Practitioners

PT Practitioners

SLP's
Appendix B

Surveys for Nurses
### Safe Manual Handling for Decreased Fall Prevention

Pre-Program Survey (for Nurses-RN’s & LPN’s)

<table>
<thead>
<tr>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Neither Disagree or Agree</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

1. I have a good understanding of what safe patient handling means.
   - 1
   - 2
   - 3
   - 4
   - 5

2. I feel as though manual lifting and repositioning tasks of residents are often too difficult to perform.
   - 1
   - 2
   - 3
   - 4
   - 5

3. Are you at all concerned of the safety of CNA’s related to lifting and repositioning residents at work?
   - 1
   - 2
   - 3
   - 4
   - 5

4. I believe MHRC holds enough in-services in the area of safe patient handling to meet the needs of workers and residents.
   - 1
   - 2
   - 3
   - 4
   - 5

5. I believe MHRC provides the highest quality of care as related to safe patient handling.
   - 1
   - 2
   - 3
   - 4
   - 5
6. I have no concerns related to safe patient handling at MHRC.

1  2  3  4  5

7. Implementing a safe patient handling program would be too costly.

1  2  3  4  5

8. MHRC would not see a return-on-investment if a safe patient handling program was implemented.

1  2  3  4  5

9. I believe there are sufficient policies in place for workers who do not follow already existing lifting policies.

1  2  3  4  5

10. I don’t feel as though nursing staff experiencing pain due to manual lifting and repositioning tasks is an issue at MHRC.

1  2  3  4  5

11. I don’t believe workmen’s compensation claims, workers leaving work early, and/or workers calling in due to pain related to manual lifting and repositioning tasks is an issue at MHRC.

1  2  3  4  5
Please make any comments you may have about manually lifting and repositioning residents at MHRC.
Appendix C

Surveys for Certified Nursing Assistants
SAFE MANUAL HANDLING FOR DECREASED FALL PREVENTION

Safe Manual Handling for Decreased Fall Prevention
Pre-Program Survey (for CNA's)

<table>
<thead>
<tr>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Neither Disagree or Agree</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

1. I have a good understanding of what safe patient handling means.

   1       2       3       4       5

2. I feel as though manual lifting and repositioning tasks of residents are often too difficult to perform.

   1       2       3       4       5

3. I frequently experience pain in my back, neck, shoulders, and/or arms due to manual lifting and repositioning tasks I perform at work.

   1       2       3       4       5

4. I feel as though there is enough mechanical lifting equipment available to accommodate for the residents I have to manually lift and reposition.

   1       2       3       4       5

5. I feel as though MHRC provides an appropriate number of in-services related to safe patient handling.

   1       2       3       4       5
SAFE MANUAL HANDLING FOR DECREASED FALL PREVENTION

6. I have never hurt myself lifting or repositioning a resident.

1 2 3 4 5

7. I feel as though there is always enough staff available to assist me with lifting and/or repositioning residents when needed.

1 2 3 4 5

8. I believe there are sufficient policies in place for workers who do not follow lifting policies.

1 2 3 4 5

9. I have a clear understanding of MHRC’s lifting policies.

1 2 3 4 5

10. I am pleased with the amount and type of equipment available to assist me with lifting and repositioning residents.

1 2 3 4 5

Please make any comments or suggestions you may have about manually lifting and repositioning residents at MHRC:
Appendix D

Surveys for Therapy Practitioners
Safe Manual Handling for Decreased Fall Prevention
Pre-Program Survey (for Therapy Practitioners)

<table>
<thead>
<tr>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Neither Disagree or Agree</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

1. I feel as though manual lifting and repositioning tasks of residents are often too difficult to perform.

| 1 | 2 | 3 | 4 | 5 |

2. I frequently experience pain in my back, neck, shoulders, and/or arms due to manual lifting and repositioning tasks I perform at work.

| 1 | 2 | 3 | 4 | 5 |

3. I feel as though there is enough mechanical lifting equipment available to accommodate for the residents I have to manually lift and reposition.

| 1 | 2 | 3 | 4 | 5 |

4. I feel as though MHRC provides an appropriate number of in-services related to safe patient handling.

| 1 | 2 | 3 | 4 | 5 |

5. I have never hurt myself lifting or repositioning a resident.

| 1 | 2 | 3 | 4 | 5 |
SAFE MANUAL HANDLING FOR DECREASED FALL PREVENTION

6. I feel as though there is always enough staff available to assist me with lifting and/or repositioning residents when needed.

   1  2  3  4  5

7. I believe there are sufficient policies in place for workers who do not follow lifting policies.

   1  2  3  4  5

8. I have a clear understanding of MHRC’s lifting policies.

   1  2  3  4  5

9. I am pleased with the amount and type of equipment available to assist me with lifting and repositioning residents.

   1  2  3  4  5

Please make any comments or suggestions you may have about manually lifting and repositioning residents at MHRC:

_____________________________________________________________________________________
_____________________________________________________________________________________
_____________________________________________________________________________________
_____________________________________________________________________________________
_____________________________________________________________________________________

Appendix E

Surveys for Administrators and Human Resource Directors
SAFE MANUAL HANDLING FOR DECREASED FALL PREVENTION

Safe Manual Handling for Decreased Fall Prevention

Pre-Program Survey (for Administrators and HR)

<table>
<thead>
<tr>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Neither Disagree or Agree</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

1. I believe that manual handling and repositioning of residents is harmful to my workers.

| 1 | 2 | 3 | 4 | 5 |

2. I believe MHRC has enough mechanical lift equipment to meet the needs of workers and residents.

| 1 | 2 | 3 | 4 | 5 |

3. I believe MHRC holds enough in-services in the area of safe patient handling to meet the needs of workers and residents.

| 1 | 2 | 3 | 4 | 5 |

4. I believe MHRC provides the highest quality of care as related to safe patient handling.

| 1 | 2 | 3 | 4 | 5 |
5. I have no concerns related to safe patient handling at MHRC.

1 2 3 4 5

6. Implementing a safe patient handling program would be too costly.

1 2 3 4 5

7. MHRC would not see a return-on-investment if a safe patient handling program was implemented.

1 2 3 4 5

8. I believe there are sufficient policies in place for workers who do not follow already existing lifting policies.

1 2 3 4 5

9. I don’t feel as though nursing staff experiencing pain due to manual lifting and repositioning tasks is an issue at MHRC.

1 2 3 4 5

10. I don’t believe workmen’s compensation claims, workers leaving work early, and/or workers calling in due to pain related to manual lifting and repositioning tasks is an issue at MHRC.

1 2 3 4 5
Please make any comments, questions, or suggestions you may have for a safe patient handling program:

______________________________________________________________________________

______________________________________________________________________________

______________________________________________________________________________

______________________________________________________________________________

______________________________________________________________________________

______________________________________________________________________________
Appendix F

Semi-Structured Interview for Nurses
SAFE MANUAL HANDLING FOR DECREASED FALL PREVENTION

Semi-Structured Interview Questions for Nurses
(RN’s and LPN’s)

1. Are you at all concerned of your safety related to lifting and repositioning residents at work?

2. Are you at all concerned of the safety of CNA’s related to lifting and repositioning residents at work?

3. Have you ever been injured while lifting or repositioning a resident?

4. Has a resident ever fallen when you were assisting with transferring or repositioning?

5. Do you ever experience back, neck, shoulder, or arm pain related to lifting or repositioning residents? If so, how would you rate this pain (on a scale from 1-10) and how often do you experience this pain?

6. Do you feel there is a sufficient amount and type of equipment to assist with lifting and repositioning residents?

7. Do you have a clear understanding of MHRC’s lifting policies?

8. Do you have any concerns related to the lifting and repositioning tasks that you are expected to perform?

9. Do you have any suggestions related to the lifting and repositioning tasks that you are expected to perform?
Appendix G

Semi-Structured Interview for Certified Nursing Assistants
SAFE MANUAL HANDLING FOR DECREASED FALL PREVENTION

Semi-Structured Interview Questions for Certified Nursing Assistants (CNA’s)

1. Are you at all concerned of your safety related to lifting and repositioning residents at work?

2. Do you feel the lifting and repositioning expectations you have at work are too great?

3. Have you ever been injured while lifting or repositioning a resident?

4. Has a resident ever fallen when you were assisting with transferring or repositioning?

5. Do you ever experience back, neck, shoulder, or arm pain related to lifting or repositioning residents? If so, how would you rate this pain (on a scale from 1-10) and how often do you experience this pain?

6. Do you feel there is a sufficient amount and type of equipment to assist with lifting and repositioning residents?

7. Do you have a clear understanding of MHRC’s lifting policies?

8. Do you feel as though you received sufficient training related to safely lifting and repositioning residents in your CNA class?

9. Do you have any concerns related to the lifting and repositioning tasks that you are expected to perform?

10. Do you have any suggestions related to the lifting and repositioning tasks that you are expected to perform?
Appendix H

Semi-Structured Interview for Therapy Practitioners
1. Are you at all concerned of your safety related to lifting, repositioning, and/or assisting residents with ambulation at work?

2. Are you at all concerned of the safety of nursing staff related to lifting and repositioning residents at work?

3. Do you feel the lifting and repositioning expectations you have at work are too great?

4. Have you ever been injured while lifting or repositioning a resident?

5. Has a resident ever fallen when you were assisting with transferring or repositioning?

6. Do you ever experience back, neck, shoulder, or arm pain related to lifting or repositioning residents? If so, how would you rate this pain (on a scale from 1-10) and how often do you experience this pain?

7. Do you feel there is a sufficient amount and type of equipment to assist with lifting and repositioning residents?

8. Do you have a clear understanding of MHRC’s lifting policies?

9. Do you feel as though you received sufficient training in school related to safe lifting and repositioning practices?

10. Have you ever used the Tinetti test? If so, what is your opinion of it?

11. Do you believe the therapy department at MHRC sufficiently screens residents upon admission and quarterly to meet the safety needs of residents?

12. Do you have any suggestions related to the lifting and repositioning tasks that you are expected to perform?
Appendix I

Semi-Structured Interview for Administrators and Human Resource Directors
Semi-Structured Interview Questions for Administrators & Human Resource Directors

1. Do you feel as though work-related injuries are an issue at MHRC?

2. Do you feel the number of workmen’s compensation claims at MHRC is acceptable?

3. Do you feel as though MHRC is losing too much money due to workmen’s compensation claims?

4. Do you feel as though workers leaving work early or calling in due to work-related injuries is an issue at MHRC?

5. Do you feel turnover rate among nursing staff is an issue at MHRC? If so, do you think it is related due to demanding job tasks that involve lifting?

6. What are your goals for the next year to decrease work-related injuries? How do you plan to accomplish these goals?
Appendix J

Semi-Structured Interview for Residents
SAFE MANUAL HANDLING FOR DECREASED FALL PREVENTION

Semi-Structured Interview Questions for Residents

1. How do the nurses and aids help you get out of bed, off the toilet, etc?

2. Do they ever use any equipment or devices to help you move?

3. If so, do you like the equipment? Do you feel safe in the equipment?

4. Do you feel there are enough nurses and aids available to assist you?

5. Do you feel as though the nurses and aids rush when assisting you?

6. Are you happy with the level of care you receive with being lifted or repositioned?

7. Have you ever fallen at MHRC? If so, was someone around when you fell?
Appendix K

Observation Chart
<table>
<thead>
<tr>
<th>Occupation</th>
<th>Manual Transfer Performed?</th>
<th># of Times</th>
<th>Level of Assist Provided</th>
<th># of Times Lifting Equipment/Device Used?</th>
<th>Type of Equipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>w/c → bed</td>
<td>Y or N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>bed → w/c</td>
<td>Y or N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>w/c → chair</td>
<td>Y or N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>chair → w/c</td>
<td>Y or N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>w/c → toilet</td>
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<td>Y or N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>w/c → tub</td>
<td>Y or N</td>
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<td></td>
<td></td>
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<td>tub → w/c</td>
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<td>bed reposition</td>
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<td>supine → EOB</td>
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<td>EOB → supine</td>
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</tr>
<tr>
<td>w/c → mat</td>
<td>Y or N</td>
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<td></td>
</tr>
<tr>
<td>mat → w/c</td>
<td>Y or N</td>
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<td></td>
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<tr>
<td>w/c → Nu-Step</td>
<td>Y or N</td>
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</tr>
<tr>
<td>Nu-Step → w/c</td>
<td>Y or N</td>
<td></td>
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</tbody>
</table>
Appendix L

Business Case PowerPoint
A BUSINESS CASE:
SAFE MANUAL HANDLING FOR
DECREASED FALL PREVENTION
PROGRAM

Marcia Weflen, COTA
What?

Safe patient handling program

- What is safe patient handling?
  - Evidence-based approach to reducing risk.
    Includes risk assessment, use of equipment, patient assessment, algorithms, peer safety leaders, and after-action reviews.

Niswan, Motoki & Nanazaki, 2009
Why?

- Nurses face:
  - Force-heavy resident lifting and repositioning tasks
  - Repetition-performance of the same or similar motions continuously or frequently
  - Awkward postures-reaching, kneeling, squatting, leaning, twisting

- These factors place nurses at a high risk for injury!

Russell, 2005
Why?

- Nurses providing direct patient care cumulatively lift 1.8 tons (3600 pounds) in an 8-hour shift.

- RNs had the 5th highest number of musculoskeletal disorders in the US, exceeding truck drivers, construction workers, and maintenance.

Why?

- Rate of nonfatal occupational injuries and illnesses at service providing nursing and residential care facilities exceeds all industries by 8.3%.

- Overexertion of personnel in nursing and personal care facilities contributed to injury rates 4x the average across all industries.

- Tom Waters of NIOSH recommends no manual lifting > 35 pounds.

Why?

- 57% of PT’s experiences work related musculoskeletal disorders

- Questionnaire results of OT practitioners surveyed in OH reveal:
  - 8.3% of respondents have sustained an injury
  - 11% have missed days from work due to an injury
  - 12% have considered leaving their profession early due to concerns regarding patient handling tasks

Sherr & Sheo, 2011; Rice, Duweau, & Kopp-Miller, 2011
Why?

- Legislative action in the area of SPH has already occurred in 12 states:
  - California
  - Florida
  - Hawaii
  - Iowa
  - Massachusetts
  - Mississippi
  - New Jersey
  - New York
  - Ohio
  - Rhode Island
  - Texas
  - Washington

Speelman, 2004
Why?

☐ To DECREASE Falls
  - Every five hours an elderly person dies due to a fall
  - Nursing home residents are at a greater risk for experiencing a fall than older adults living in the community
  - 50 to 66% of nursing home residents fall every year
  - Lifetime costs related to fall injuries for older adults over the age of 65 is estimated at $12.6 billion

Nazarla, 2011; Oluwase Kolinde, 2009; Tinetti, 1994
Why?

SAFE MANUAL HANDLING FOR DECREASED FALL PREVENTION

Why?

- Decreased days off work
- Decreased worker compensation claims
- Increased employee morale
- Increased employee satisfaction
- Reduction in employee turnover
- Reduction in pressure ulcers
- Increased productivity
Outcomes

- For Administrators:
  - Decreased employee turnover rates
  - Decreased workmen’s compensation claims
  - Decreased resident/family complaints
  - Increased facility morale
Outcomes

- For residents:
  - Decreased falls related to SPH
  - Decreased injuries related to SPH
  - Increased satisfaction
Outcomes

For employees:

- Increased SPH awareness
- Increased use of SPH equipment
- Increased job satisfaction
- Decreased injuries/pain related to patient handling
Financial Statistics

- NIOSH Findings:
  - Injuries due to patient transfers decreased by 62%
  - Workdays missed were decreased by 86%
  - Workdays with restricted duties were decreased by 64%
  - Workmen’s compensation costs were cut by 84%

(statistics are from 7 nursing homes and 1 hospital)

Boll, Colline, Gallinago, & Watters, 2009
Financial Statistics

- Kaleida Health in Buffalo, NY implemented a SPH program and found:
  - 70% reduction in work-related musculoskeletal injuries among their employees

(statistics are from 2 nursing homes and 5 hospitals)

*Safes force pushes,* 2012
Questions or Comments??
Appendix M

Marketing Flyer
Help Make MHRC a Safer Place

Sign up Today for your Spot in the Safe Manual Handling for Decreased Fall Prevention Program

- Learn how to safely lift and move residents
- Learn how to promote decreased falls among residents
- Learn how to protect yourself from injury
- Receive hands-on training with safe patient handling equipment

Contact Marcia Weflen, occupational therapist for more questions

Cell: 812.661.9573
Work: 765.296.2911
E-mail: mnweflen@gmail.com
Appendix N

Tool for Prioritizing High-Risk Patient Handling Tasks
Directions: This survey asks you to consider the patient handling tasks you do in your job when moving and transferring patients.

First, a few questions will be asked about your job role, unit name, and shift worked. Other questions will ask about patient handling tasks. For each task, you will be asked about frequency (how often you perform the task), physical demand (how physically stressful it is to perform the task), and risk for injury (how much risk is involved when performing the task, i.e. moving the patient).

1. What type of caregiver are you?

| Nurse (RN or LPN) |
| Certified Nursing Assistant |
| Physical Therapy Practitioner |
| Occupational Therapy Practitioner |
| Rehabilitation Tech |
| Other (write in) ___________________________ |

2. Which shift do you typically work?

| Day Shift, 6:30 AM – 3:00 PM (8 hours) |
| Afternoon Shift, 2:30 PM- 11 PM (8 hours) |
| Night Shift, 10:30 PM – 7:00 AM (8 hours) |
| 8 hour shift, with various starting times |
| Part-time or PRN, hours vary week-to-week |

3. In which unit or department do you typically work?

__________________________

4. How many hours do you work per week?

__________________________
SAFE MANUAL HANDLING FOR DECREASED FALL PREVENTION

For each task, consider the frequency of the task, physical demand and risk for injury.

<table>
<thead>
<tr>
<th>PATIENT HANDLING TASKS</th>
<th>TASK FREQUENCY PER SHIFT</th>
<th>PHYSICAL TASK DEMAND</th>
<th>RISK FOR INJURY TO ASSOCIATE</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Never (0)</td>
<td>Light (L)</td>
<td>No Risk (NR)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Infrequent (1-2)</td>
<td>Medium (M)</td>
<td>Low Risk (LR)</td>
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<tr>
<td></td>
<td>Occasional (3-4)</td>
<td>Medium-Heavy (MH)</td>
<td>Medium (M)</td>
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<td></td>
<td>Frequent (5-9)</td>
<td>Heavy (H)</td>
<td>Medium High (MH)</td>
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<tr>
<td></td>
<td>Constant (&gt;10)</td>
<td>Very Heavy (VH)</td>
<td>High (H)</td>
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</tr>
<tr>
<td>Boosting patient up in bed</td>
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<tr>
<td>Turning or repositioning patient in bed</td>
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<tr>
<td>Transferring patient from bed to chair or bedside commode</td>
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<tr>
<td>Transferring patient from wheelchair to shower or tub</td>
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<tr>
<td>Lifting a patient up from the floor</td>
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<tr>
<td>Ambulating a patient</td>
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<tr>
<td>Repositioning a patient in chair</td>
<td></td>
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<tr>
<td>Transporting patient off unit (pushing bed/wheelchair)</td>
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<tr>
<td>Pushing an (obese) person of size in</td>
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</table>
### Safe Manual Handling for Decreased Fall Prevention

<table>
<thead>
<tr>
<th>Patient Handling Tasks</th>
<th>Task Frequency Per Shift</th>
<th>Physical Task Demand</th>
<th>Risk for Injury to Associate</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Never (0)</td>
<td>Light (L)</td>
<td>No Risk (NR)</td>
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<td>Infrequent (1-2)</td>
<td>Medium (M)</td>
<td>Low Risk (LR)</td>
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<td>Occasional (3-4)</td>
<td>Medium-Heavy (MH)</td>
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<td>Frequent (5-9)</td>
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<td>Medium High (MH)</td>
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<td></td>
<td>Constant (&gt;10)</td>
<td>Very Heavy (VH)</td>
<td>High (H)</td>
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</tbody>
</table>

- a wheelchair
- Getting a patient into or out of car
- Other:
- Other:

Other comments/concerns regarding safe patient handling:

__________________________________________________________________________
__________________________________________________________________________
__________________________________________________________________________

Owen & Garg, 1991
Matz, 2010
Appendix O

Attendance Sheet
<table>
<thead>
<tr>
<th>Name</th>
<th>Discipline</th>
<th>Time In</th>
<th>Time Out</th>
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Appendix P

True/False Icebreaker Questions
SAFE MANUAL HANDLING FOR DECREASED FALL PREVENTION

True/False Icebreaker Questions

True or false:

1. A nurse lifts an estimated 1.8 tons in an 8-hour work shift.

2. Nurses experience more work-related injuries than construction workers.

3. Using good body mechanics will save healthcare workers from back injuries.

4. Middle age is the most vulnerable time for a back injury.

5. It has been recommended that healthcare workers not lift over 35 pounds.

6. Gait belts can save a healthcare worker from injury.

7. Gait belts can be used to help lift a patient

8. Work-related back pain costs an estimated $49 billion annually in the U.S.

9. There are safe patient handling laws in some states.

10. Injury rates in healthcare facilities are 4x the national average of all industries.

References:

Appendix Q

Safe Patient Handling/Fall Prevention PowerPoint Slides
SAFE PATIENT HANDLING & FALLS

Marcia Weflen, COTA
Terminology

Manual patient handling

- “The transporting or supporting of a patient by hand or bodily force, including pushing, pulling, carrying, holding, and supporting of the patient or a body part.”

Safe patient handling

- Evidence-based approach to reducing risk. Includes risk assessment, use of equipment, patient assessment, algorithms, peer safety leaders, and after-action reviews.

Nelson & Baptiste, 2006; Nelson, Matoski & Menzel, 2009
Problem

- Cumulative weight lifted by a nurse in an 8-hour shift = 1.8 TONS OR 3600 POUNDS

- 73% of OT's surveyed report discomfort due to patient handling lasting 3 months or less

- 57% of PT's experiences work related musculoskeletal disorder

Nelson, Collins, et al., 2007; Rice, Dusseau, & Kopp Miller, 2011; Short & Shea, 2011
Injury Rates

☐ RNs had the 5th highest number of musculoskeletal disorders in the US

☐ Rate exceeds truck drivers, construction workers, and maintenance

Epidemiology

- Rate of nonfatal occupational injuries and illnesses:
  - at service providing hospitals exceeds all industries by 7.7%
  - at service providing nursing and residential care facilities exceeds all industries by 8.3%

- Evidence of musculoskeletal disorder beginning when a future healthcare provider is in school and aggravated in 1st year of practice

Klaiber Moffett, Hughes, & Griffiths, 1993; Smith & Legat, 2004; Bureau of Labor Statistics, 2009
Epidemiology

- Overexertion of personnel in nursing and personal care facilities contributed to injury rates 4x the average across all industries

Pompei, Liporini, Schoenfish & Dement, 2009
Epidemiology

- Hospital employees with direct patient contact are at a high risk of injury
  - OT's are among these employees

- 13.5% of injured OT's reported multiple injuries over a 3-year period
  - 104 OT's reporting 190 injuries over 3 yrs

Fragola & Bailey, 2003; Sarnaghi, Huddleston, & King, 2009
Ohio Statistics

- Injury rates
  - 5% regardless of clinical setting
  - 19% in facilities where manual handling is required by OT practitioners

- Location of injury
  - Low back: 31.9%
  - Shoulder/neck: 10.2%
  - Upper back: 6.7%

Dusseau, 2010 submitted for publication
Location of Injury

Results of OT’s surveyed in Wisconsin:

- Low back - 30%
- Hand - 21%
- Shoulder - 17%
- Neck - 14%
- Wrist - 14%

Darragh, Huddleston, & King, 2009
Transfers

- Identified as riskiest patient handling task

- Tom Waters, NIOSH recommends no manual lifting > 35 pounds

Morris et al., 1999; Waters, 2007
The 7 Deadly Sins of Unsafe Lifting

1) Lifting without thinking
2) Overestimating your capabilities
3) Using poor body mechanics
4) Failure to consider obstacles
5) Reluctance to impose on co-workers
6) Inadequate training
7) Hurrying

Liao, 2007
Personal Impact

- Losses after work-related injury
  - Loss of role
  - Transitioning from caregiver to patient
  - Contributions to attrition
Force upon the back

Compression  Shear
SAFE MANUAL HANDLING FOR DECREASED FALL PREVENTION

Joints in Motion

Vertebral Body

Disc

Flexion (Bending Forward)

Extension (Bending Backward)

Posterior View of Spine

Disc

Vertebral Body

Facet Joint

Spine Universe, 2010
Damage

- **Disc**
  - Microtears
  - Herniation
  - Contribute over time
    - *Middle age = dangerous*
Falls

- Every 5 hours an older adult dies from a fall
- Every year, 1.57 million older adults fall > 3 times
- 310,000 older adults experience a bone fracture after a fall
- 66% of unintentional injuries among older adults are related to falls
- 50 to 66% of nursing home residents fall every year

Najarko, 2011; Oluwose Kehinde, 2009
Falls (continued)

- more than 40% of older adults who make an ER visit following a fall are D/C to a nursing home
- lifetime costs related to fall injuries for older adults is estimated at $12.6 billion
- 18% of older adults report avoiding activities they enjoy due to a fear of falling

Tinetti, 1994
What will you do??
Appendix R

Hypothetical Participant Goals
SAFE MANUAL HANDLING FOR DECREASED FALL PREVENTION

Hypothetical Participant Goals

The occupational therapist will discuss and formulate goals with each program participant on an individual basis. These goals will be highly individualized, based on the skills and abilities of the participant and the types of residents the participant will be assisting. Examples of hypothetical program participant’s goals are listed below.

By the end of the program, the participant will be able to:

1. Independently reposition a person in bed using a slide sheet in greater than or equal to 2 out of 3 trials.

2. Independently transfer a person from bed to wheelchair using a gait belt in 2 out of 3 trials.

3. Independently use a safe lifting algorithm to determine the best and safest way to transfer an individual in greater than or equal to 4 out of 5 trials.
Appendix S

Lifting Log
Please fill out this chart based on interactions you have with residents over the next 7 days.

### Lifting Log

<table>
<thead>
<tr>
<th>Type of Movement</th>
<th>Did you perform this movement?</th>
<th>Did you use any devices or equipment?</th>
<th>If yes, what type of device or equipment?</th>
<th>Approximate # of times movement was performed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wheelchair to chair</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chair to wheelchair</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wheelchair to toilet</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Toilet to wheelchair</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wheelchair to bed</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bed to wheelchair</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wheelchair to tub</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tub to wheelchair</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Repositioning in bed</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Repositioning in chair</td>
<td></td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>
Appendix T

Workplace Injury Questions
SAFE MANUAL HANDLING FOR DECREASED FALL PREVENTION

Workplace Injury Questions

1. Do you consider 100 pounds a light load to lift? ____________________________

2. It is safe to lift over 35 pounds. True or False

3. Proper body mechanics will save me from all injury. True or False

4. List 3 risk factors for workplace injury:
   a. __________________________________________
   b. __________________________________________
   c. __________________________________________

5. Nurses have more injuries than construction workers. True or False

6. Older adults (65+) are at the highest risk for a back injury. True or False

7. List 2 reasons why you don’t use mechanical lift equipment when you should.
   a. __________________________________________
   b. __________________________________________
Appendix U

Body Mechanics & Injury Rates PowerPoint
1

Body Mechanics & Injury Rates in the Skilled Nursing Facility

Mardo Weflen, COTA
Objectives

1. Understand general principles of good body mechanics.
2. Understand the importance of good body mechanics.
3. Understand the high risk involved with patient handling tasks.
Body Mechanics
Terminology

☐ Body mechanics: properly using the body to coordinate balance and movement

☐ Center of gravity: the pelvis, assists in maintaining balance and stability

☐ Base of support: the feet, supports the body during a transfer, shoulder width apart (~18")
Terminology

- Friction: rubbing one surface against another
- Efficient: using the least amount of effort to accomplish a task
- Balance: a state of being stable
- Assess: to evaluate or check
Benefits of Good Body Mechanics

- Maximizes strength
- Minimizes stress
- Prevents injury to CNA and resident
- Reduces fatigue
- Promotes safety
What Are Good Body Mechanics??

- Back straight
- Knees bent
- Holding load close
- No jerky movements
- No lifting and twisting simultaneously
Before Lifting....

- Survey the area
- Assess the load
- Plan the transfer
- Communicate with the resident and others
During the Lift....

- Take a deep breath before lifting
- Exhale during the lift
- Keep abs tight
- Count to 3 out loud
- Move smoothly
- Lift first, then pivot
Key Factors

☐ Always explain
☐ Always count to 3 out loud
☐ If in doubt, ask for help
☐ Always be willing to assist others
☐ Report all injuries to nurse IMMEDIATELY
Why Good Body Mechanics??

- Overexertion of personnel in nursing and personal care facilities contributed to injury rates 4x the average across all industries

- RNs had the 5th highest number of musculoskeletal disorders in the US
  - Rate exceeds truck drivers, construction workers, and maintenance

The 7 Deadly Sins of Unsafe Lifting

1) Lifting without thinking
2) Overestimating your capabilities
3) Using poor body mechanics
4) Failure to consider obstacles
5) Reluctance to impose on co-workers
6) Inadequate training
7) Hurrying

Liko, 2007
Injury Rates
Epidemiology

- Rate of nonfatal occupational injuries and illnesses:
  - at service providing hospitals 11.9 per 100 full time employees
  - at service providing nursing and residential care facilities 12.5 per 100 full time employees

- Evidence of musculoskeletal disorder beginning when a future healthcare provider is in school and aggravated in 1st year of practice

Klaber-Moffett, Hughes, & Griffiths, 1993; Smith & Legatt, 2004; Bureau of Labor Statistics, 2009
Epidemiology

- Overexertion of personnel in nursing and personal care facilities contributed to injury rates 4x the average across all industries.

- RNs had the 5th highest number of musculoskeletal disorders in the US.
  - Rate exceeds truck drivers, construction workers, and maintenance.

Injury Rates

Nonfatal occupational injuries and illnesses involving days away from work:

- Nurse Aids Rank 1st
- RN’s Rank 5th
Injury Rates

- 57% of PT's experience work-related musculoskeletal disorders
Location of Injury

Results of OT's surveyed in Wisconsin:

- Low back - 30%
- Hand - 21%
- Shoulder - 17%
- Neck - 14%
- Wrist - 14%
Questions/Concerns/Comments??
Appendix V

Safe Patient Handling Algorithms
Transfer to and From: Bed to Chair, Chair to Toilet, Chair to Chair, or Car to Chair

Start Here

Can patient bear weight?

Fully
Caregiver assistance not needed; Stand by for safety as needed.

No

Partially

Is the patient cooperative?

Yes
Stand-and-pivot technique using a gait/transfer belt (1 caregiver) or powered stand-assist lift (1 caregiver).

Use full-body sling lift and 2 caregivers.

No

Is the patient cooperative?

Yes

Do the patient have upper-extremity strength?

Yes
Seated transfer aid; may use gait/transfer belt until the patient is proficient in completing transfer independently.

No

• For seated transfer aid, must have chair with arms that recess or are removable.
• For full body sling lift, select a lift that was specifically designed to access a patient from the car (if the car is the starting or ending destination).
• If patient has partial weight-bearing capacity, transfer toward stronger side.
• Toileting slings are available for toileting.
• Mesh slings are available for bathing.
• During any patient-transferring task, if any caregiver is required to lift more than 35 lbs of a patient’s weight, then the patient should be considered to be fully dependent and assistive devices should be used for the transfer. (Waters, T. [2007]. When is it safe to manually lift a patient? American Journal of Nursing, 107[8], 53-59.)

United States Department of Veterans Affairs, 2012
This is not a one person task: DO NOT PULL FROM HEAD OF BED.

- When pulling a patient up in bed, the bed should be flat or in a Trendelenburg position (when tolerated) to aid in gravity, with the side rail down.
- For patients with Stage III or IV pressure ulcers, care should be taken to avoid shearing force.
- The height of the bed should be appropriate for staff safety (at the elbows).
- If the patient can assist when repositioning "up in bed," ask the patient to flex the knees and push on the count of three.
- During any patient handling task, if the caregiver is required to lift more than 35 lbs of a patient's weight, then the patient should be considered to be fully dependent and assistive devices should be used.

(Waters, T. [2007]. When is it safe to manually lift a patient? American Journal of Nursing, 107[8], 53-59.)
Take full advantage of chair functions, e.g., chair that reclines, or use arm rest of chair to facilitate repositioning.
- Make sure the chair wheels are locked.
- During any patient transferring task, if any caregiver is required to lift more than 35 lbs of a patient's weight, then the patient should be considered to be fully dependent and assistive devices should be used. (Waters, T. [2007]. When is it safe to manually lift a patient? American Journal of Nursing, 107(8), 53-59.)
**SAFE MANUAL HANDLING FOR DECREASED FALL PREVENTION**

**Bariatric Transfer To and From: Bed/Chair, Chair/Toilet, or Chair/Chair**

---

**Start Here**

- Can patient bear weight?
  - Fully: Stand by for safety as needed*
  - Partially or No: Is the patient cooperative?
    - Partially or No: Bariatric floor-based or ceiling lift (minimum of 3 caregivers)
    - Fully: Does the patient have upper-extremity strength?
      - Fully: Bariatric stand-assist lift (minimum of 2 caregivers) OR Bariatric floor-based or ceiling lift (minimum of 2 caregivers)
      - Partially or No: Use seated bariatric transfer aid; may use sliding board until the patient is proficient in completing transfer independently (minimum of 2 caregivers)

---

* "Stand by for safety." In most cases, if a bariatric patient is about to fall, there is very little that the caregiver can do to prevent the fall. The caregiver should be prepared to move any items out of the way that could cause injury, try to protect the patient's head from striking any objects or the floor and seek assistance as needed once the person has fallen.

- For seated transfer aid, must have chair with arms that recess or are removable.
- Bariatric toileting slings are available for toileting.
- Bariatric bathing mesh slings are available for bathing.
- Note that a standard porcelain toilet typically has a weight limit of 350 pounds; the patient may need a bariatric commode chair or steel toilet.
- In older lifts, more effort is needed to place the sling under the patient, which may require a minimum of 3 caregivers.

---

United States Department of Veterans Affairs, 2012
SAFE MANUAL HANDLING FOR DECREASED FALL PREVENTION

Bariatric Reposition in Bed: Side-to-Side, Up in Bed

1. **Can patient assist?**
   - Fully
   - Partially or No

2. **Is patient cooperative?**
   - Fully
   - Partially or No

3. **Caregiver assistance not needed; patient may/may not use weight-specific positioning aid**

Start Here

- **Start Here**
- **Can patient assist?**
  - **Fully**
  - **Partially or No**
- **Is patient cooperative?**
  - **Fully**
  - **Partially or No**

**Bariatric ceiling lift with supine sling, air-assisted device or friction-reducing aid (minimum of 3 caregivers)**

- **Bariatric ceiling lift with supine sling, air-assisted device or friction-reducing aid (minimum of 3 caregivers)**

- When pulling a patient up in bed, place the bed flat or in a Trendelenburg position (if tolerated and not medically contraindicated) to aid in gravity; the side rail should be down.
- Avoid shearing force.
- Adjust the height of the bed to elbow height.
- Mobilize the patient as early as possible to avoid weakness resulting from bed rest. This will promote patient independence and reduce the number of high-risk tasks caregivers will provide.
- Consider leaving a friction-reducing device covered with drawsheet, under patient at all times to minimize risk to staff during transfers as long as it doesn’t negate the pressure relief qualities of the mattress/overlay.
- Use a sealed, high-density, foam wedge to firmly reposition patient on side. Skid-resistant texture materials vary and come in set shapes and cut-your-own rolls. Examples include:
  - **Dycem (TM)**
  - **Scoot-Guard (TM)**: antimicrobial; clean with soap and water, air dry.
  - **Posey-Grip (TM)**: Posey-Grip does not hold when wet. Washable, reusable, air dry.

- If patient has partial weight-bearing capability, transfer toward stronger side.
- Consider using an abdominal binder if the patient's abdomen impairs a patient-handling task.
- Ensure equipment used meets weight requirements. Standard equipment is generally limited to 250-350 lbs. Facilities should apply a sticker to all bariatric equipment with "EC" (for expanded capacity) and a space for the manufacturer's rated weight capacity for that particular equipment model.
- Identify a leader when performing tasks with multiple caregivers. This will assure that the task is synchronized for increased safety of the healthcare provider and the patient.
- During any patient transferring task, if any caregiver is required to lift more than 35 lbs of a patient's weight, then the patient should be considered to be fully dependent and assistive devices should be used. (Waters, T. [2007]. When is it safe to manually lift a patient? American Journal of Nursing, 107[8], 53-59.)

United States Department of Veterans Affairs, 2012
**Bariatric Reposition in Chair: Wheelchair, Chair, or Dependency Chair**

**Start Here**

- Can patient assist? 
  - Fully
  - Partially or No

- Is patient cooperative? 
  - Fully
  - Partially or No

**Bariatric ceiling lift, floor-based lift, repositioning device or seated friction-reducing device**
(minimum of 2 caregivers)

**Bariatric ceiling lift, floor-based lift, repositioning device or seated friction-reducing device**
(minimum of 3 caregivers)

- Take full advantage of chair functions, e.g., chair that reclines, or use an armrest of chair to facilitate repositioning.
- Make sure the chair wheels are locked.
- Consider leaving the sling under the patient at all times to minimize risk to staff during transfers after carefully considering skin risk to patient and the risk of removing/replacing the sling for subsequent moves.

* "Stand by for safety." In most cases, if a bariatric patient is about to fall, there is very little that the caregiver can do to prevent the fall. The caregiver should be prepared to move any items out of the way that could cause injury, try to protect the patient's head from striking any objects or the floor and seek assistance as needed once the person has fallen.

- If patient has partial weight-bearing capability, transfer toward stronger side.
- Consider using an abdominal binder if the patient's abdomen impairs a patient handling task.
- Ensure equipment used meets weight requirements. Standard equipment is generally limited to 250-350 lbs. Facilities should apply a sticker to all bariatric equipment with "EC" (for expanded capacity) and a space for the manufacturer's rated weight capacity for that particular equipment model.
- Identify a leader when performing tasks with multiple caregivers. This will assure that the task is synchronized for increased safety of the healthcare provider and the patient.
- During any patient transferring task, if any caregiver is required to lift more than 35 lbs of a patient's weight, then the patient should be considered to be fully dependent and assistive devices should be used. (Waters, T. [2007]. When is it safe to manually lift a patient? *American Journal of Nursing*, 107[8], 53-59.)
Toileting Tasks for the Bariatric Patient

**Start Here**

- Stand by for safety to escort to toilet. (minimum of 1-2 caregivers).
  - **Yes**: Can toilet accommodate patient's weight?
    - **Yes**: Is patient cooperative?
      - **Yes**: Can patient bear weight and ambulate?
        - **Yes**: Use stand-assist lift and transfer patient onto bedside commode. (minimum of 2 caregivers)
        - **No**: Stand by for safety to escort to toilet or bedside commode. (minimum of 1-2 caregivers)
      - **No**: Partial
        - **No**: Does patient have upper-extremity strength?
          - **No**: Use full-body sling lift with a toileting sling to transfer to bedside commode. (minimum of 3 caregivers)
          - **Yes**: Stand by for safety to escort to toilet or bedside commode. (minimum of 1-2 caregivers)

**Considerations:**
- Is bathroom doorway wide enough to accommodate entry of mechanical lift device and patient?
- Typically, standard toilets are rated to 350 lbs maximum capacity.
- During any patient transferring task, if any caregiver is required to lift more than 35 lbs of a patient's weight, then the patient should be considered to be fully dependent and assistive devices should be used. (Waters, T. [2007]. When is it safe to manually lift a patient? *American Journal of Nursing*, 107[8], 53-59.)

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United States Department of Veterans Affairs, 2012
Appendix W

Algorithm Case Studies
Algorithm Case Studies

Please review the case study, select the appropriate algorithm to use, and write down how you would perform the resident transfer or repositioning.

1. George Smith is a pleasant and cooperative 75 year-old resident who has been admitted to MHRC following a hip fracture. He has also recently undergone a right rotator cuff repair; limiting his upper extremity strength. He has a BMI of 54.2, indicating he is obese. George is TTWB and needs to be transferred from the w/c to the toilet. How would you perform this transfer?

2. Ruth Jones is a 96 year-old, long term resident of MHRC and has slid forward in her w/c. When the CNA enters Ruth’s room, she notices she needs to be repositioned in her w/c to prevent Ruth from falling. Ruth has a diagnosis of Alzheimer’s disease and is unable to follow 1-step instructions. She is also very weak on the right side of her body due to a CVA 11 years ago. How would you assist Ruth in this repositioning?

3. John Doe, an 81 year-old, rehab-to-home resident of MHRC has just been admitted after falling while taking his dog for a walk. He experienced a left hip fracture and is currently NWB. John is 6’ tall, 165 pounds, and very active with a community exercise program. He demonstrates good overall UE strength and is very pleasant. After therapy, John is ready to lie down for a nap. How would you transfer him from his w/c to his bed?
SAFE MANUAL HANDLING FOR DECREASED FALL PREVENTION

4. Mary Walker is a 67 year-old who has been admitted to MHRC following a recent hospitalization due to CHF exacerbation. Mary is 5’4” tall and weighs 325 pounds. She demonstrates good UE strength and is pleasant and cooperative with nursing staff. Mary has slid down in the bed during the night and needs to be boosted up for increased comfort and support. How would you slide Mary up in bed?

5. Joe Miller is a 78 year-old, cooperative male who has been a resident of MHRC for 4 weeks following a fractured left foot. Joe has had a cast on his left foot and has been using a w/c due to his NWB status. Joe just had his cast removed and got the ok from his orthopedic doctor to be 50% WB on his left foot. Joe is now in a walking boot and is using crutches for short distances only. Prior to his injury, Joe lived with his son and daughter-in-law and plans to return home with them. Joe has been working well with PT and OT and is demonstrating that he is ready for a home evaluation. The PT is going to assist Joe with the car transfer on the day of the home evaluation. How should the PT transfer Joe from the w/c to the car?
Appendix X

Tinetti Test
TINETTI BALANCE ASSESSMENT TOOL

Resident’s Name ___________________  DOB ___________  Room # _______

BALANCE SECTION

Patient is seated in hard, armless chair.

<table>
<thead>
<tr>
<th>Test Description</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sitting balance</td>
<td></td>
</tr>
<tr>
<td>Leans or slides in chair</td>
<td>= 0</td>
</tr>
<tr>
<td>Steady, safe</td>
<td>= 1</td>
</tr>
<tr>
<td>Rises from chair</td>
<td></td>
</tr>
<tr>
<td>Unable to without help</td>
<td>= 0</td>
</tr>
<tr>
<td>Able, uses arms to help</td>
<td>= 1</td>
</tr>
<tr>
<td>Able without use of arms</td>
<td>= 2</td>
</tr>
<tr>
<td>Attempts to rise</td>
<td></td>
</tr>
<tr>
<td>Unable to without help</td>
<td>= 0</td>
</tr>
<tr>
<td>Able, requires &gt; 1 attempt</td>
<td>= 1</td>
</tr>
<tr>
<td>Able to rise, 1 attempt</td>
<td>= 2</td>
</tr>
<tr>
<td>Immediate standing balance (first 5 seconds)</td>
<td></td>
</tr>
<tr>
<td>Unsteady (stagger, moves feet, trunk sway)</td>
<td>= 0</td>
</tr>
<tr>
<td>Steady but uses walker or other support</td>
<td>= 1</td>
</tr>
<tr>
<td>Steady without walker or other support</td>
<td>= 2</td>
</tr>
<tr>
<td>Standing balance</td>
<td></td>
</tr>
<tr>
<td>Unsteady</td>
<td>= 0</td>
</tr>
<tr>
<td>Steady but wide stance and uses support</td>
<td>= 1</td>
</tr>
<tr>
<td>Narrow stance without support</td>
<td>= 2</td>
</tr>
<tr>
<td>Nudged</td>
<td></td>
</tr>
<tr>
<td>Begins to fall</td>
<td>= 0</td>
</tr>
<tr>
<td>Staggers, grabs, catches self</td>
<td>= 1</td>
</tr>
<tr>
<td>Steady</td>
<td>= 2</td>
</tr>
<tr>
<td>Eyes closed</td>
<td></td>
</tr>
<tr>
<td>Unsteady</td>
<td>= 0</td>
</tr>
<tr>
<td>Steady</td>
<td>= 1</td>
</tr>
<tr>
<td>Turning 360 degrees</td>
<td></td>
</tr>
<tr>
<td>Discontinuous steps</td>
<td>= 0</td>
</tr>
<tr>
<td>Continuous</td>
<td>= 1</td>
</tr>
<tr>
<td>Unsteady (grabs, staggars)</td>
<td>= 0</td>
</tr>
<tr>
<td>Steady</td>
<td>= 1</td>
</tr>
<tr>
<td>Sitting down</td>
<td></td>
</tr>
<tr>
<td>Unsafe (misjudged distance, falls into chair)</td>
<td>= 0</td>
</tr>
<tr>
<td>Uses arms or not a smooth motion</td>
<td>= 1</td>
</tr>
<tr>
<td>Safe, smooth action</td>
<td>= 2</td>
</tr>
</tbody>
</table>

Balance Score /16 /16

Tinetti & Mayewski, 1986
SAFE MANUAL HANDLING FOR DECREASED FALL PREVENTION

GAIT SECTION

Patient stands with therapist, walks across room (+/- aids), first at usual pace, then at rapid pace.

<table>
<thead>
<tr>
<th>Date</th>
<th>Indication of gait (Immediately after told to ‘go’.)</th>
<th>Any hesitancy or multiple attempts</th>
<th>= 0</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No hesitancy</td>
<td></td>
<td>= 1</td>
</tr>
<tr>
<td></td>
<td><strong>Step length and height</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Step to</td>
<td>= 0</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Step through R</td>
<td>= 1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Step through L</td>
<td>= 1</td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Foot clearance</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Foot drop</td>
<td>= 0</td>
<td></td>
</tr>
<tr>
<td></td>
<td>L foot clears floor</td>
<td>= 1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>R foot clears floor</td>
<td>= 1</td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Step symmetry</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Right and left step length not equal</td>
<td>= 0</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Right and left step length appear equal</td>
<td>= 1</td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Step continuity</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Stopping or discontinuity between steps</td>
<td>= 0</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Steps appear continuous</td>
<td>= 1</td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Path</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Marked deviation</td>
<td>= 0</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Mild/moderate deviation or uses walking aid</td>
<td>= 1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Straight without walking aid</td>
<td>= 2</td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Trunk</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Marked sway or uses walking aid</td>
<td>= 0</td>
<td></td>
</tr>
<tr>
<td></td>
<td>No sway but flexes knees or back or uses arms for stability</td>
<td>= 1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>No sway, flexion, use of arms or walking aid</td>
<td>= 2</td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Walking time</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Heels apart</td>
<td>= 0</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Heels almost touching while walking</td>
<td>= 1</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Gait score</th>
<th>/12</th>
<th>/12</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Balance score carried forward</th>
<th>/16</th>
<th>/16</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Total Score = Balance + Gait score</th>
<th>/28</th>
<th>/28</th>
</tr>
</thead>
</table>

**Risk Indicators:**

<table>
<thead>
<tr>
<th>Tinetti Tool Score</th>
<th>Risk of Falls</th>
</tr>
</thead>
<tbody>
<tr>
<td>≤ 18</td>
<td>High</td>
</tr>
<tr>
<td>19 – 23</td>
<td>Moderate</td>
</tr>
<tr>
<td>≥ 24</td>
<td>Low</td>
</tr>
</tbody>
</table>

Tinetti & Mayewski, 1986
Appendix Y

Case Studies
Case Studies

Please review the case study, select the appropriate piece of equipment or device to use, and write down how you would perform the resident transfer or repositioning.

1. Helen Johnson is a 98 year-old resident who has lived on the assisted living unit for 3 years. She has always been independent with transfers and uses no assistive device; however she is demonstrating a decline with functional transfers following an episode of pneumonia. Helen continues to take herself to the bathroom, but is often unsteady and is now always reaching for a grab bar. What type of equipment or device should you use when assisting Helen transfer to the toilet? How many staff members should be present to assist with the transfer?

2. Mike Williams is an 84 year-old male who is a long term resident of MHRC, living on the memory care unit. Mike has progressing dementia, and has recently become combative and unable to assist with functional transfers. Mike is of average size and height, and is able to bear weight through his LE’s. What type of equipment or device should you use when assisting Mike transfer from his w/c to his bed? How many staff members should be present to assist with the transfer?
3. Phil Wilson is a 72 year-old, pleasant male who is 6’3” and weighs 193 pounds. Phil is residing at MHRC for short-term rehab following a total right shoulder arthroplasty. He also has osteoarthritis in his left shoulder. Phil demonstrates good LE strength, but is unable to assist with his UE’s at this time. Phil has slid down in his bed and his feet are hanging off the foot of the bed. What type of equipment or device should you use when assisting Phil move up in bed? How many staff members should be present to assist with the transfer?

4. Linda Taylor is a 78 year-old pleasant, but confused female who admitted to MHRC 1 week ago following a CVA. Linda presents with right-side weakness, difficulty swallowing, and the inability to follow 1-step directions. Linda is 5’2” and weighs 236 pounds. Linda is ready to sit in her recliner to watch her favorite afternoon show. What type of equipment or device should you use when assisting Linda transfer to the recliner? How many staff members should be present to assist with the transfer?

5. Tom Hall is a pleasant, 66 year-old male who admitted to MHRC 3 days ago following a right, BKA due to diabetic complications. Tom is 5’11”, weighs 172 pounds, and demonstrates good UE strength. Tom is very motivated to get a prosthesis and return home. Tom will not be appropriate for a prosthetic fitting for at least a month, due to swelling from his surgery 7 days ago. Tom is ready to get out of bed to go to therapy. What type of equipment or device should you use when assisting Tom transfer from his bed to his w/c? How many staff members should be present to assist with the transfer?
Appendix L

Policies and Procedures Related to Safe Patient Handling
MHRC Policy Review (from Employee Handbook)

No Excuses Policy

At Mulberry Health and Retirement Community, we take the satisfaction of residents very seriously. We believe our job is to give residents the attention they need when they ask for it. That is why we ask our employees to take responsibility for handling these requests. We encourage a policy that no excuse will be given for a failure to furnish attention to a resident’s request. When a resident makes a reasonable request, a prompt response should be made with no excuses.

Excuses such as the following are unacceptable:

- “I don’t have time”
- “I don’t know how”
- “This is not my resident/department/job”
- “We are short staffed”

If you need more information to take care of the request, ask for help. If it is not possible or is inappropriate for you to assist the resident, please ask your supervisor or the Administrator for help. By working together, the resident’s request can be met.

Resident Care

In order to provide quality care to our residents, we must have patience, tolerance, and self-discipline. Abuse of a resident, whether physical or verbal, is grounds for immediate termination. If you witness abuse of a resident, you must tell your supervisor immediately. If you know or suspect that a resident is being abused and fail to tell your supervisor, you may be dismissed for having tolerated abuse.
Mulberry Health and Retirement Community’s Safe Patient Handling Policy

**Scope**

This policy is in effect for all employees of Mulberry Health and Retirement Community.

**Statement of Purpose**

To provide criteria, structure, format, and expectations of performance regarding safe patient handling procedures that support the organization’s philosophy of making sure every resident has top quality care in a safe and stimulating environment and to ensure the health and safety of all employees.

**Expected Outcomes**

Safe patient lifting, transferring, and repositioning. Reduction in employee musculoskeletal injuries due to patient handling. Reduction in the number of resident falls as related to safe patient handling and lifting.

**Definitions:**

*Resident Handling*: Lifting, transferring, repositioning, and moving residents.

*Manual Lifting*: Lifting, transferring, repositioning, and moving patients using a staff member’s body strength without the use of equipment/aids to reduce forces on the staff member’s musculoskeletal structure.

*High Risk Resident Handling Tasks*: Resident 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 residents in bed, making occupied beds, dressing residents, turning residents in bed, and tasks with long durations.
SAFE MANUAL HANDLING FOR DECREASED FALL PREVENTION

Patient Handling Algorithms: A step-by-step decision map to determine appropriate equipment and number of caregivers to perform the patient handling task safely.

Safe Patient Handling Program: A comprehensive evidence-based program to protect staff and residents from injury during lifting, transferring, and positioning activities.

Floor-Based Lift: A portable, battery-powered device used for residents who require maximum assistance during patient handling and movement.

Stand Assist Device: Portable, battery-powered equipment used for patients with partial weight bearing ability during seated to standing transfers.

Gait Belt: Cloth or webbed belt used in sit to stand transfers and ambulation. Used around the resident’s waist to provide safety with minimal one-person assist resident transfers.

Sliding Board: A smooth board used to transfer from one surface to another, especially beneficial for individuals who have lower extremity weakness or paralysis and good upper extremity strength.

Slide Sheets: A friction reducing sheet used under residents to assist staff members with transfers and repositioning.

**Policy**

1. Resident assessments are performed (as appropriate) prior to repositioning, lifting, and transferring a resident and throughout the resident’s stay to determine the need for appropriate safe patient handling equipment and devices.

2. Staff will demonstrate best practices for safe patient handling by utilizing lift equipment/lift algorithms.

3. Manual lifting of residents should be minimized.
SAFE MANUAL HANDLING FOR DECREASED FALL PREVENTION

4. Staff will complete safe patient handling training to achieve proficiency and comfort with equipment/device use. The Safe Manual Handling for Decreased Fall Prevention program will provide hands-on training for equipment selection and use.

5. Each unit is responsible for equipment management and storage.

**Procedure**

Equipment list: Resident handling algorithms, floor-based lift, stand assist device, slide sheets, sliding boards, gait belts.

**Resident/Family Education**

Education will be conveyed to family/resident prior to lifting, transferring, or repositioning.

Information regarding the equipment will be explained during the admission process.

*Adapted from OhioHealth*
Policies for Staff Who Do Not Follow Policies and Procedures Related to SPH

IF POLICIES ARE NOT FOLLOWED:

1. If an MHRC employee does not follow the lift/repositioning procedure stated in a resident’s care plan, the employee will be written up. *(with the exception of upgrading a transfer (e.g., if the care plan states the resident requires use of the Smart Stand, but the resident is having difficulty due to weakness, you may use the Smart Lift))*
   a. If this occurs 2 times, the employee will be suspended from work for 1 week without pay. In addition, the employee will have to attend 5 hours of unpaid, continuing safe patient handling education with the program leader (occupational therapist).
   b. If this incident occurs a third time, the employee will be suspended from all work at MHRC.

2. If an MHRC employee uses safe patient handling equipment or devices improperly, the employee will be written up.
   a. If this occurs 2 times, the employee will be required to attend 5 hours of unpaid, continuing safe patient handling education with the program leader (occupational therapist).
   b. If this occurs a third time, the employee will be suspended from work for 1 week without pay. In addition, the employee will have to attend 5 additional hours of
SAFE MANUAL HANDLING FOR DECREASED FALL PREVENTION

unpaid, continuing safe patient handling education with the program leader (occupational therapist).

3. If an MHRC employee fails to document a resident fall or injury, the employee will be written up.
   a. If this occurs 2 times, the employee will be suspended from work for 1 week without pay. In addition, the employee will have to attend 5 hours of unpaid, continuing safe patient handling education with the program leader (occupational therapist).
   b. If this incident occurs a third time, the employee will be suspended from all work at MHRC.

References:


EZ Way, Inc. (n.d). EZ Way Portable Overhead Lift Model P5100. (Form # 2-194). Clarinda,
SAFE MANUAL HANDLING FOR DECREASED FALL PREVENTION

IA: Author.


Appendix AA

Safe Patient Handling Competency Checks
## Competency Checklist for Lift Equipment

### Safe Manual Handling for Decreased Fall Prevention Competency Check

Name:_________________  Title:______________    Date: ____________

### Smart Lift Checklist

<table>
<thead>
<tr>
<th>Learning Objective: By attending the Safe Manual Handling for Decreased Fall Prevention program, the participant will be able to demonstrate the correct procedure for safe &amp; efficient use of the EZ Way Smart Lift.</th>
<th>Met</th>
<th>Not Met</th>
</tr>
</thead>
<tbody>
<tr>
<td>Turn on and off</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Change Batteries</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Raise and lower patient</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Demonstrate proper technique for weighing patient</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Locate emergency STOP and safety release button</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Demonstrate proper fitting of sling to patient and proper attachment of sling to lift</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Demonstrate proper removal of sling from underneath patient</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wipe sling with germicidal wipe</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Smart Stand Checklist

<table>
<thead>
<tr>
<th>Learning Objective: By attending the Safe Manual Handling for Decreased Fall Prevention program, the participant will be able to demonstrate the correct procedure for safe &amp; efficient use of the EZ Way Smart Stand.</th>
<th>Met</th>
<th>Not Met</th>
</tr>
</thead>
<tbody>
<tr>
<td>Turn on and off</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Change Batteries</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Raise and lower patient</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Demonstrate proper technique for weighing patient</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Locate emergency STOP and safety release button</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Demonstrate proper fitting of harness to patient and proper attachment of harness to Stand Assist Aid</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Demonstrate proper removal of harness from behind patient</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wipe harness with germicidal</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
# SAFE MANUAL HANDLING FOR DECREASED FALL PREVENTION

## Z-Slider Checklist

**Learning Objective:** By attending the Safe Manual Handling for Decreased Fall Prevention program, the participant will be able to demonstrate the correct procedure for safe & efficient use when performing a bed repositioning using the Z-Slider.

<table>
<thead>
<tr>
<th>Met</th>
<th>Not Met</th>
</tr>
</thead>
<tbody>
<tr>
<td>Moves bed up to appropriate height.</td>
<td></td>
</tr>
<tr>
<td>Properly places the Z-slider between the draw sheet and the bed sheet, using good body mechanics.</td>
<td></td>
</tr>
<tr>
<td>Asks for assist with boosting the ‘resident’ up in bed.</td>
<td></td>
</tr>
<tr>
<td>Explains to the ‘resident’ what he/she is doing.</td>
<td></td>
</tr>
<tr>
<td>Counts out loud to ‘3’ as a cue for when the ‘resident’ will be boosted.</td>
<td></td>
</tr>
<tr>
<td>Demonstrates good body mechanics during the repositioning. (uses arms, keep back straight)</td>
<td></td>
</tr>
<tr>
<td>Verbalizes the correct disposal of the Z-Slider.</td>
<td></td>
</tr>
</tbody>
</table>

## Sliding Board Checklist

**Learning Objective:** By attending the Safe Manual Handling for Decreased Fall Prevention program, the participant will be able to demonstrate the correct procedure for safe & efficient use of the sliding board.

<table>
<thead>
<tr>
<th>Met</th>
<th>Not Met</th>
</tr>
</thead>
<tbody>
<tr>
<td>Explains to the ‘resident’ how the sliding board works.</td>
<td></td>
</tr>
<tr>
<td>Places the sliding board correctly under the resident.</td>
<td></td>
</tr>
<tr>
<td>Gives appropriate instructions to the ‘resident’ regarding safely sliding across the board.</td>
<td></td>
</tr>
<tr>
<td>Stands by, with CGA as the ‘resident’ slides across the board.</td>
<td></td>
</tr>
<tr>
<td>Instructs the ‘resident’ to pull the sliding board out from under them.</td>
<td></td>
</tr>
<tr>
<td>Ensures the ‘resident’ is safe on the surface they transferred to.</td>
<td></td>
</tr>
</tbody>
</table>

## Sit-to-Stand Transfer with Gait Belt Checklist

**Learning Objective:** By attending the Safe Manual Handling for Decreased Fall Prevention program, the participant will be able to demonstrate the correct procedure for a safe & efficient sit-to-stand transfer using a gait belt.

<table>
<thead>
<tr>
<th>Met</th>
<th>Not Met</th>
</tr>
</thead>
<tbody>
<tr>
<td>Properly dons gait belt. (correct placement and tightness)</td>
<td></td>
</tr>
<tr>
<td>Asks ‘resident’ to scoot to the edge of the chair.</td>
<td></td>
</tr>
<tr>
<td>Explains to the ‘resident’ what he/she is doing.</td>
<td></td>
</tr>
<tr>
<td>Places hands and feet in the correct position.</td>
<td></td>
</tr>
<tr>
<td>Counts to ‘3’ out loud.</td>
<td></td>
</tr>
<tr>
<td>Maintains straight back and bends knees when lifting.</td>
<td></td>
</tr>
<tr>
<td>Gently lowers the ‘resident’ in the chair.</td>
<td></td>
</tr>
<tr>
<td>Makes sure the ‘resident’ is positioned correctly in the chair and doffs gait belt correctly.</td>
<td></td>
</tr>
</tbody>
</table>
SAFE MANUAL HANDLING FOR DECREASED FALL PREVENTION

Evaluator: ________________________________

Notes:

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

Adapted from OhioHealth
Appendix BB

Picture PowerPoint
Safe Patient Handling Slideshow

Safe or Unsafe?

Safe Manual Handling for Decreased Fall Prevention
Week 8
SAFE MANUAL HANDLING FOR DECREASED FALL PREVENTION

(National Institute for Occupational Safety and Health, 2009)
SAFE MANUAL HANDLING FOR DECREASED FALL PREVENTION

(Culber)
SAFE MANUAL HANDLING FOR DECREASED FALL PREVENTION

(Hendry, 2012)
SAFE MANUAL HANDLING FOR DECREASED FALL PREVENTION

(Dynamic Living, 2011)
Appendix CC

Satisfaction Survey
Safe Manual Handling for Decreased Fall Prevention
Satisfaction Survey

<table>
<thead>
<tr>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Neither Disagree or Agree</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

1. I am satisfied with the knowledge I obtained during the program.

   1     2     3     4     5

2. Instructions and expectations were clear during the program.

   1     2     3     4     5

3. I feel more competent using safe patient handling equipment and devices (e.g., sit-to-stand lift, slide sheet).

   1     2     3     4     5

4. I learned strategies to help me care more safely for residents of MHRC.

   1     2     3     4     5
SAFE MANUAL HANDLING FOR DECREASED FALL PREVENTION

5. After attending Caregiver Safety and Support, I feel as though I can perform my job duties in a safer manner.

1  2  3  4  5

Please make any comments you have on the program:

______________________________________________________________________________
______________________________________________________________________________
______________________________________________________________________________
______________________________________________________________________________
______________________________________________________________________________
Appendix DD

Post-Program Survey
SAFE MANUAL HANDLING FOR DECREASED FALL PREVENTION

Safe Manual Handling for Decreased Fall Prevention
Post-Program Survey (6 months post)

<table>
<thead>
<tr>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Neither Disagree or Agree</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

1. I have changed the way in which I manually lift and/or reposition residents.

| 1 | 2 | 3 | 4 | 5 |

2. I have experienced less back, neck, shoulder, or arm pain in the past 6 months.

| 1 | 2 | 3 | 4 | 5 |

3. I feel more competent using safe patient handling equipment and devices (e.g., sit-to-stand lift, slide sheet).

| 1 | 2 | 3 | 4 | 5 |

4. I believe I am able to provide a higher quality of care for residents of MHRC.

| 1 | 2 | 3 | 4 | 5 |
5. I feel more satisfied with my job after attending Safe Manual Handling for Decreased Fall Prevention.

1 2 3 4 5

Please make any comments you have on the program:

______________________________________________________________________________
______________________________________________________________________________
______________________________________________________________________________
______________________________________________________________________________
______________________________________________________________________________
Appendix EE

Summary of Job Roles
**Summary of Job Roles**

Safe Patient Handling for Decreased Fall Prevention Program

![Diagram showing the roles and their relationships]

- **Safe Patient Handling Program Manager** (occupational therapist)
  - Nursing
  - Therapy
  - Social Services
  - Environmental Services
  - Finance

- **Tracking & Monitoring of Injuries**
  - Investigations
  - Injury Prevention
Appendix FF

Injury & Intervention Log
## Injury & Intervention Log

<table>
<thead>
<tr>
<th>Employee Name:</th>
<th>Job Title:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Occupation Performed</td>
<td>Cause of Injury</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Appendix GG

Budget
## Budget

<table>
<thead>
<tr>
<th>Positions</th>
<th>Hours per program</th>
<th>Salary per hour</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Occupational Therapist (Program Leader)</td>
<td>160 (20 hrs/8wks)</td>
<td>$40.00</td>
<td>$6400.00</td>
</tr>
<tr>
<td>Additional OT/PT Practitioners (assisting with program)</td>
<td>4</td>
<td>$40.00</td>
<td>$160.00</td>
</tr>
<tr>
<td><strong>Total:</strong></td>
<td></td>
<td></td>
<td><strong>$ 6,560.00</strong></td>
</tr>
</tbody>
</table>

### Supplies and Equipment (New Costs)

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
<th>Quantity</th>
<th>Cost per item</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Book binding</td>
<td>To compile handouts</td>
<td>1 per participant (20)</td>
<td>$1.80</td>
<td>$36.00</td>
</tr>
<tr>
<td>Folders</td>
<td>To house program participant information (e.g., goals, handouts, evaluations, etc.)</td>
<td>1 per participant (20)</td>
<td>$.50</td>
<td>$10.00</td>
</tr>
<tr>
<td>File cabinet</td>
<td>Home Office file cabinet to secure program materials</td>
<td>1</td>
<td>$65.00</td>
<td>$65.00</td>
</tr>
<tr>
<td>Copies</td>
<td>Includes program flyer, surveys, handouts, evaluations</td>
<td>500</td>
<td>$.10</td>
<td>$50.00</td>
</tr>
<tr>
<td>Projector</td>
<td>To project PowerPoint presentations and other multimedia components</td>
<td>1</td>
<td>$199.99</td>
<td>$199.99</td>
</tr>
<tr>
<td>Refreshments</td>
<td>Soda, water, and snacks for program participants</td>
<td>8 sessions</td>
<td>$25.00/session</td>
<td>$200.00</td>
</tr>
<tr>
<td>Gait belt</td>
<td>Medline gait belts for participant use during program</td>
<td>10</td>
<td>$8.00 /gait belt</td>
<td>$80.00</td>
</tr>
<tr>
<td>Slide sheets</td>
<td>Z-Slider (friction reducing slide sheet for repositioning and transfers)</td>
<td>1 box (60 sheets)</td>
<td>($60.00/box)</td>
<td>$60.00</td>
</tr>
</tbody>
</table>
### Supplies and Equipment (Costs already incurred)

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
<th>Quantity</th>
<th>Cost per item</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Twin-size bed</td>
<td>Invacare, full-electric bed</td>
<td>1</td>
<td>$745.00</td>
<td>$745.00</td>
</tr>
<tr>
<td>EZ Way Smart Stand</td>
<td>Mobile lift to be used by program participants</td>
<td>1</td>
<td>$5,920.00</td>
<td>$5,920.00</td>
</tr>
<tr>
<td>EZ Way Smart Lift</td>
<td>Lift mounted on ceiling track in lab area for participant use</td>
<td>1</td>
<td>$5,575.00</td>
<td>$5,575.00</td>
</tr>
<tr>
<td>Printer</td>
<td>HP Deskjet All-in-One printer to print program materials</td>
<td>1</td>
<td>$55.00</td>
<td>$55.00</td>
</tr>
<tr>
<td>Ink Cartridge</td>
<td>HP Black ink cartridge to print program materials</td>
<td>1</td>
<td>$28.00</td>
<td>$28.00</td>
</tr>
</tbody>
</table>

**Total cost already incurred:** $12,323.00

### Overhead and Indirect Costs (Costs already incurred)

<table>
<thead>
<tr>
<th>Item</th>
<th>Cost/Month</th>
<th>Cost per program (8 hrs.)</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electric</td>
<td>$5,000.00</td>
<td>$55.55</td>
<td>$55.55</td>
</tr>
<tr>
<td>Gas</td>
<td>$2,000.00</td>
<td>$22.22</td>
<td>$22.22</td>
</tr>
<tr>
<td>Phone/Internet</td>
<td>$450.00</td>
<td>$5.00</td>
<td>$5.00</td>
</tr>
</tbody>
</table>

**Total overhead and indirect costs (costs already incurred):** $82.77

**Total new costs + already incurred costs:** $19,998.76