Safe Patient Handling and Mobility Program

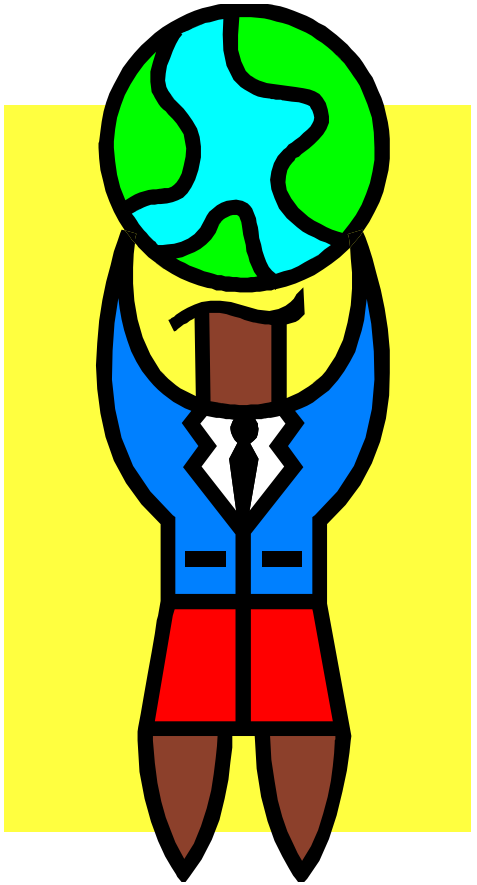
Ms. Kelsey L. McCoskey

Objectives

- Discuss background, research and injury data related to the importance of SPHM programs.
- Describe a successful implementation of this comprehensive program.
- Provide examples of the challenges and lessons learned.
- Introduce design features for consideration.

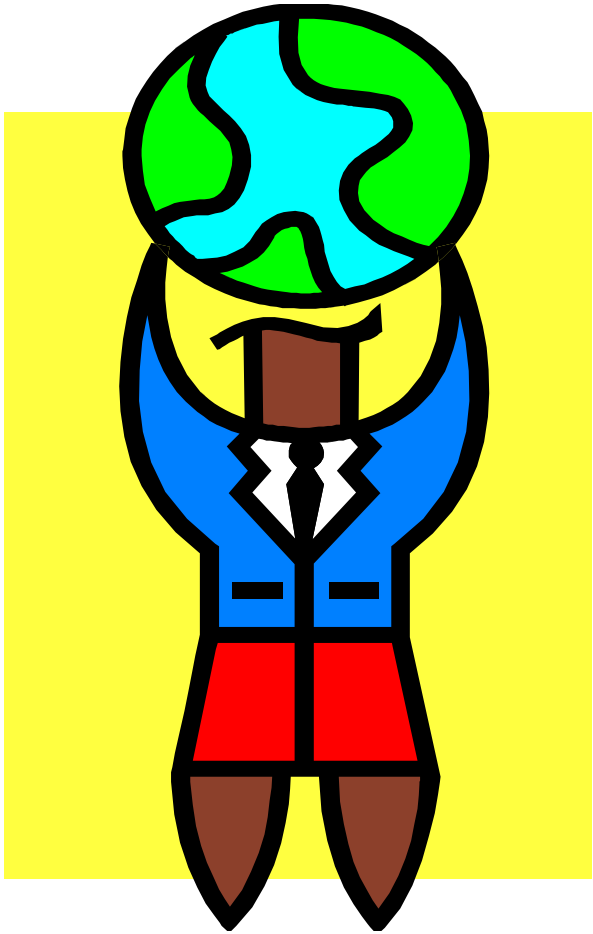
Do You Know?

- In an eight hour shift, the cumulative weight that nurses lift equal to an average of ??? per day.



Facts about Patient Handling & Risks of Injury

- In an eight hour shift, the cumulative weight that nurses lift equal to an average of 1.8 tons per day.



True or False?

Patient care providers are stronger than warehouse workers.

Facts about Patient Handling & Risks of Injury

"Patient care providers are stronger than warehouse workers."

No… but warehouse workers use lifts to move & lift boxes that can weigh LESS than patients!

True or False?

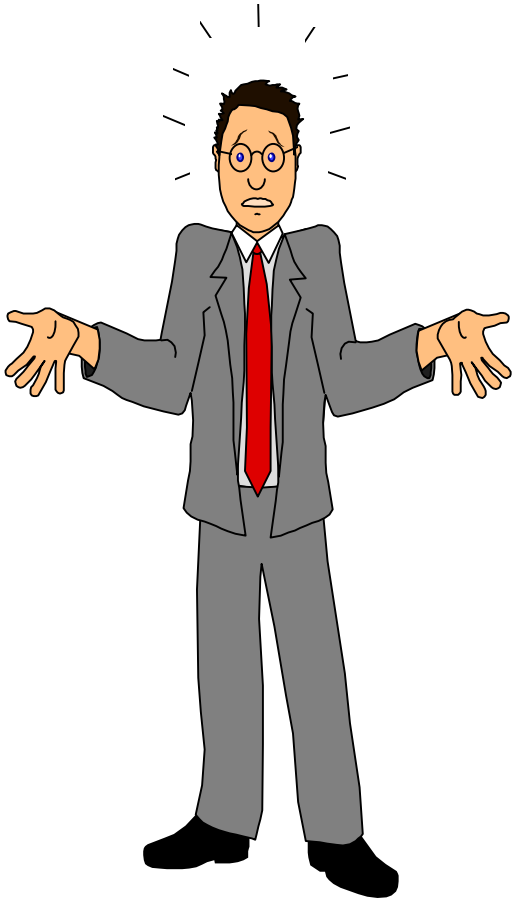
"Staff in great physical condition are less likely to be injured".

Facts about Patient Handling & Risks of Injury

"Staff in great physical condition are less likely to be injured".

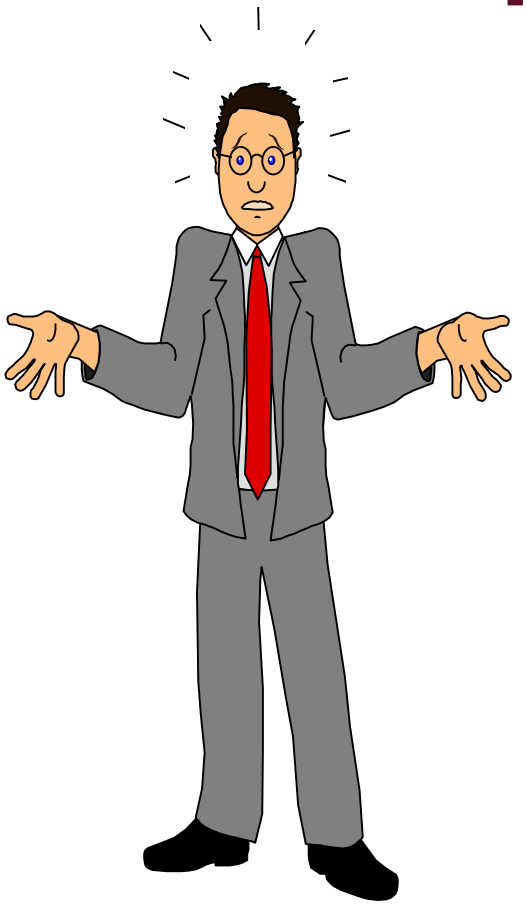
The literature does not supports this. Why? These staff are exposed to risk at a greater level; co-workers are 4X more likely to ask them for help.

True or False?



"If you buy patient handling equipment, staff will use it"

Facts about Patient Handling & Risks of Injury



"If you buy it, staff will use it"

Reasons staff do not use equipment: time, availability, time, difficult to use, space constraints, and patient preferences.

True or False?

"Various lifting devices are equally effective".

Facts about Patient Handling & Risks of Injury

"Various lifting devices are equally effective".

Some lifting devices are as stressful as manual lifting. Equipment needs to be evaluated for ergonomics as well as user acceptance.

True or False?

"Classes in body mechanics and lifting techniques are effective in reducing injuries".

Facts about Patient Handling & Risks of Injury

"Classes in body mechanics and lifting techniques are effective in reducing injuries".

30+ years of experience shows training alone is not effective.

True or False?

"If you institute a No-Lift Policy caregivers will stop lifting".

Facts about Patient Handling & Risks of Injury

"If you institute a No-Lift Policy caregivers will stop lifting".

Before Minimal Lift Policies are implemented, infrastructure needs to be in place…

Technology & Support Structures.

True or False?

"Use of Patient Care Ergonomics will keep caregivers and patients safer as well as foster a 'Culture of Safety' in Health Care Environments..."

Facts about Patient Handling & Risks of Injury

"Use of Patient Care Ergonomics will keep caregivers and patients safer as well as foster a 'Culture of Safety' in Health Care Environments..."

ABSOLUTELY!

Let's find out how and why….

Providers at risk of injury

- Back injuries are among the top three occupational injuries for every Medical Command region.
- Nurses historically have one of the highest injury rates in the Medical Command.
- A 35 year old, GS 7 Step 5 employee, will receive over $1,600,000 in compensation if they never return to work. (~39K annual salary, completion of professional program and 1 year experience)
- Underreporting of injuries in nursing is common since they perceive that back pain is an inevitable part of nursing practice and they are duty bound to work to care for patients.

  (Nelson, A., & Baptiste, 2006).
- “Unintended consequences of lifting to patients includes shoulder injuries, hip fractures, bruising, loss of dignity during lifting procedures, skin tears, pressure area damage.”

  (Baptiste and Nelson, 2006)

Legislation and Guidelines

- 2013 Bill introduced: Nurse and Health Care Worker Protection Act of 2013 (H.R. 2480)
- ANA: Safe Patient Handling and Mobility National Standards published June 2013
- NIOSH Limit for lifting dependent patients = 35 pounds
- Increased bariatric population
- 10+ States have SPH legislation
- ISO Standard (TR) 12296
- ADA: Access to Medical Care for Individuals with Mobility Disabilities, 2010
- 2014 Facility Guidelines Institute (FGI) Guidelines for Design and Construction of Health Care Facilities SPHM requirement
- Joint Commission has adopted the FGI Guidelines for design criteria for new construction as well as alterations and renovations.

PHC

- Collaboration with MEDCOM G9, HFPA
- Developed CONOPS for SPH in new and renovated buildings/units.
- Joint Incentive Fund (FY12-15) ~3M
  - SPHM program at TAMC.
- MAMC outcomes (FY08-14)
  - Reduction of perceived risk of injury & physical exertion performing PH tasks.
  - Reduction of discomfort and affect on ability to work.
  - Consistent increase in use of ceiling lifts.
- VA Study outcomes (FY01-06)
  - 30% decrease in # of injuries
  - 70% decrease in modified duty days
  - 18% decrease in lost time injuries
  - ROI - 4.1 years
  - Directive to implement SPH programs throughout VA (June 2010)

Patient Care is High Risk

- Rates of nonfatal Injuries & illnesses requiring days away from work - Bureau of Labor Statistics (BLS) 2010

Bus drivers, transit and intercity	614.6
Police and sheriff's patrol officers	504.3
Nursing Aids, orderlies and attendants	489.4
Laborers and freight, stock and material movers	430.4

- Musculoskeletal Disorders (MSD) accounted for 29% of all workplace injuries and illnesses requiring time away from work.

- Five occupations had MSD counts higher than 10,000. Of these, nursing aides, orderlies and attendants had the highest incidence rate of 249 MSD cases per 10,000 full time workers and also had the highest case count.

BLS 2010

Table A. Leading event or exposure for selected occupations, all ownerships, 2010

Selected Occupations	Days-away-from-work cases	Incidence rate per 10,000 full-time workers	Leading event or exposure (percent of total)
Laborers and freight, stock, and material movers, hand	65,040	430.4	Contact with object or equipment (33%), Overexertion (32%)
Nursing aides, orderlies, and attendants	53,030	489.4	Overexertion (49%), Fall on same level (16%)
Janitors and cleaners, except maids and housekeeping cleaners	46,370	316.5	Overexertion (26%), Contact with object or equipment (22%)
Truck drivers, heavy and tractor-trailer	43,940	318.5	Overexertion (23%), Contact with object or equipment (19%)
Police and sheriff's patrol officers	29,150	504.3	Assaults and violent acts (18%), Transportation incidents (18%)
Truck drivers, light or delivery services	28,200	384.2	Overexertion (27%), Contact with object or equipment (20%)

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NONFATAL OCCUPATIONAL INJURIES AND ILLNESSES REQUIRING DAYS AWAY FROM WORK, 2010

BLS 2010

Table B. Median number of days away from work and percent of total musculoskeletal disorders (MSDs) by selected occupations and selected part of body, all ownerships, 2010

Selected occupation	Selected part of body							
	Median days away from work by							
	Total	Shoulder	Back	Abdomen	Arm	Wrist	Leg	Multiple body parts
All occupations	11	21	7	20	15	18	16	15
Nursing aides, orderlies, and attendants	6	7	5	7	8	10	9	11
Laborers and freight, stock, and material movers, hand	13	27	9	26	7	21	18	25
Janitors and cleaners, except maids and housekeeping cleaners	12	27	9	20	32	11	17	24
Truck drivers, heavy and tractor-trailer	21	34	13	22	61	36	19	23
Registered nurses	7	6	6	19	7	7	13	10
	Percent of total MSDs							
All occupations	100.0	14.6	45.4	5.2	4.5	6.4	7.2	5.9
Nursing aides, orderlies, and attendants	100.0	14.4	55.7	1.5	2.9	3.8	4.1	8.3
Laborers and freight, stock, and material movers, hand	100.0	14.0	49.4	7.0	5.3	4.7	5.5	3.6
Janitors and cleaners, except maids and housekeeping cleaners	100.0	15.1	45.9	5.4	4.9	4.1	7.7	5.7
Truck drivers, heavy and tractor-trailer	100.0	21.4	37.4	6.3	5.6	3.2	8.1	5.7
Registered nurses	100.0	13.2	55.1	1.3	1.7	3.4	4.8	9.7

Weight Limits for Manual Materials Handling & Patient Handling Activities

- **Manual Materials Handling Maximum Permissible Limit (boxes) –**

- **Patient/Resident Handling Lifting Limit Recommendation – .**
  *** (best case scenario for dependent patients not able to assist)**

Waters, T. R. (2007). When is it safe to manually lift a patient? American Journal of Nursing, 107(6), 40-45.

ANA

- The 2011 Health and Safety Survey (http://bit.ly/vqEUJ3) shows nursing remains tough on the body, with 80% of nurses reporting they continue to work frequently despite neck, back or shoulder pain caused by the job. Also, 13% of respondents said they had been injured three or more times on the job within a year, compared with 7% in 2001.

- The survey, which drew responses from 4,614 RNs, reveals the same top three work environment concerns as in a similar 2001 ANA survey: the acute or chronic effects of stress and overwork (74% of respondents); disabling musculoskeletal injury (62%); and risk of contracting an infectious disease (43%).

- http://news.nurse.com/article/20111215/NATIONAL02/112190010/-1/frontpageposted 12/15/11.
- USAPHC invited to participate on the ANA working group to develop national standards for Safe Patient Handling. These draft standards were published June 2013.
  - http://www.nursesbooks.org/Main-Menu/Specialties/Staffing-Workplace/SPHM-Standards.aspx
  - http://www.nursingworld.org/SPHM-Standards

Why are Patient Care Providers at High Risk?

- AS A REFERENCEPOINT: WEIGHT OF A LEG
- 150-lb. Person…about 24 lbs
- 200-lb. Person…about 31 lbs
- 250-lb. Person…about 39 lbs

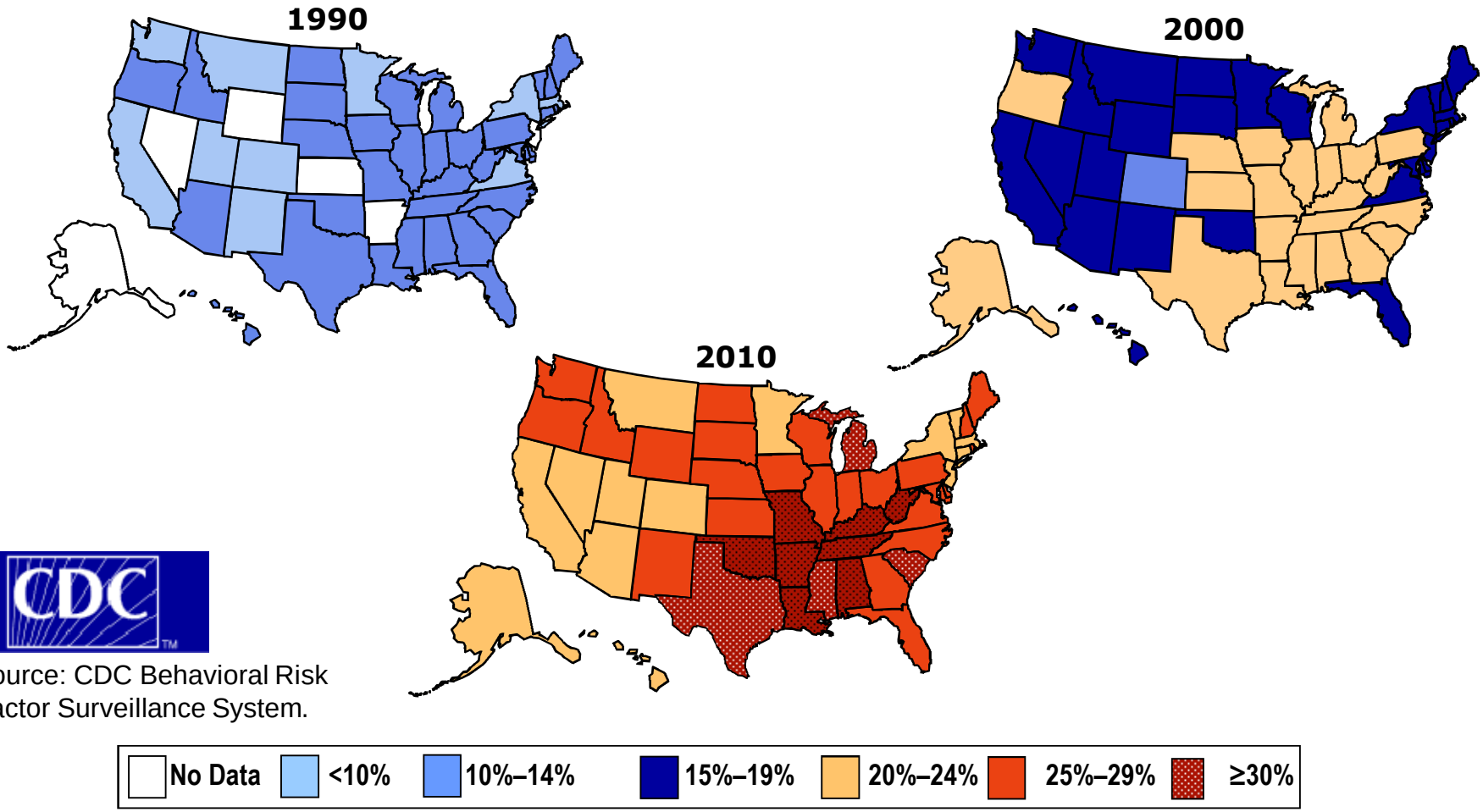
- Almost 16% of the total body weight

Chaffin DB, et al., 2006

Obesity Trends* Among U.S. Adults

BRFSS, 1990, 2000, 2010

(*BMI ≥30, or about 30 lbs. overweight for 5'4" person)



Source: CDC Behavioral Risk Factor Surveillance System.

ISO Standard

- An International Organization for Standardization (ISO) standard (Technical Report (TR) 12296) has been written by a working group of specialists from all over the world who developed this document over a period of 4 years.
- The final call for comments was closed in January 2012. Comments were received from countries all over the world and were integrated in the document.
- The final document was published on 1 June 2012.
  - http://www.iso.org/iso/iso_catalogue/catalogue_tc/catalogue_detail.htm?csnumber=51310
  - Summary of ISO standard developed by manufacturer: http://www.arjohuntleigh.com/Admin/files/20120617152601.pdf

ADA

- ADA: Access to Medical Care for Individuals with Mobility Disabilities, July 2010
- http://www.ada.gov/medcare_mobility_ta/medcare_ta.htm

- Is it ok to examine a patient who uses a w/c in the w/c because they cannot get onto the exam table? Generally No
  - Talks about portable lifts and ceiling mounted lifts
  - ADA sets requirements for new building and alterations to buildings
  - Pertains to clinic settings as well

Patient Handling & Movement Assessment (PHAMA)

- The 2014 edition of the Facility Guidelines Institute Guidelines for Design and Construction of Health Care Facilities includes a requirement for project applicants to conduct a patient handling and movement assessment (PHAMA) as part of the sequence of pre-design functional and space programming processes for new construction and renovation projects.
- Further, the 2014 Guidelines requires applicants to revise that PHAMA as new information becomes available throughout project design, construction, and commissioning.
- PHAMA (two distinct yet interdependent phases)
  - Phase 1. Patient handling needs assessment
    - functions to identify 'appropriate' patient handling and moving equipment for each area in which patient handling and movement occurs
  - Phase 2. Determination of Space and Structural design considerations for incorporation of patient handling equipment

PHAMA continued

- Guidance on appropriate lift coverage for specific clinical areas is provided in the Facility Guidelines Institute, April 2010 Patient Handling and Movement Assessments: A White Paper Appendix I.

- As of 1 January 2011, the Joint Commission has adopted the 2010 FGI Guidelines for Design and Construction of Health Care Facilities for design criteria for new construction as well as alterations and renovations.

CLINICAL UNIT/AREA	CL 'SYSTEM' Minimal Patient Coverage	CL 'TRACK' Minimal Room Coverage **	PREFERRED TRACK CONFIGURATION
Medical/Surgical Unit	50 – 100% *	100%	Traverse
Post-Surgical Unit • Provide one supine sling and hanger bar system for unit.	50 – 100% *	100%	Traverse
Rehab Unit • Consider installing straight track down hallway for ambulating patients. • Provide one supine sling and hanger bar system for unit.	50 – 100% * (If unit is primarily neuro rehab, provide a minimum of 70% coverage) (For new construction or rooms large enough for ambulation w/in rooms, provide 100% coverage)	100%	Traverse
MICU	100%	100%	Traverse
SICU	100%	100%	Traverse
CCU	50%	50%	Traverse or straight
ICU (Combined MICU/SICU/CCU)	100%	100%	Traverse
Nursing Home/Longterm Care	70 – 100% * (Less coverage may be provided for primarily dementia units)	100%	Traverse (into bathroom)
Hemodialysis	50% - 100% *	50%	Straight or Traverse CL coverage is needed over areas where lateral transfers of patients from stretchers to dialysis beds occur. One straight track over several bays in a row would be appropriate.

Table 1. Ceiling Lift (CL) Coverage and Track Configuration Recommendations by Clinical Unit/Area

CLINICAL UNIT/AREA	CL 'SYSTEM' Minimal Patient Coverage	CL 'TRACK' Minimal Room Coverage **	PREFERRED TRACK CONFIGURATION
Radiology (X-ray, CT, etc.) • Overhead/ceiling lift system must be compatible with the ceiling-mounted radiological equipment.	50%	100%	Traverse or straight
MRI	100%	100%	Straight track located in adjacent MRI patient transfer area
Nuclear Medicine	50%	50%	
Procedure areas (GI, Cystoscopy, etc.)	100%	100%	Traverse or straight positioned as needed
Cath Lab	100%	100%	Traverse or Straight
PACU	100%	100%	Straight Track (if possible, extend over all beds in a row using one lift system per row)
OR	100%	100%	Traverse
Physical Therapy Clinics	100%	100%	o Preferred design – Rehab clinic design is best when an all-encompassing traverse system covers the entire area and 2 or more motors can be used simultaneously (on the parallel bars and at any two treatment tables). o Alternate design – Install straight track over parallel bars. Install traverse track system covering treatment tables and activity areas.
Spinal Cord Injury	100%	100%	Traverse into bathroom
Outpatient SCI Clinic Exam/Treatment Rooms	100%	100%	Traverse

CLINICAL UNIT/AREA	CL 'SYSTEM' Minimal Patient Coverage	CL 'TRACK' Minimal Room Coverage **	PREFERRED TRACK CONFIGURATION
Outpatient/Primary Care Clinics	Depending on patient population, one or more regular &/or one expanded capacity/bariatric lift		Traverse
Emergency Dept/ Urgent Care Exam Rooms	50 – 100% *	100%	o Preferred design - Traverse over multiple bays in a row or in private rooms o Alternate design- Straight track over several bays in a row or in private rooms
Ambulance Bay	Depending on patient population, one regular or one expanded capacity/bariatric lift under canopy in ambulance bay		Traverse
Mental Health/Psychiatric Patient Care Areas	Ceiling lifts shall not be installed in mental health units with the potential for actively suicidal patients. These statements do not apply to dementia care units or gero-psychiatry units that do not treat actively suicidal patient and may need ceiling lifts.		
Geri-psych	50 – 100%	50 – 100%	Straight or Traverse
Dental	Depending on patient population, one regular &/or one expanded capacity/bariatric lift	50%	Straight or Traverse
Morgue • Expanded capacity lift w/ minimum weight capacity of 600 lbs. or greater depending on patient population characteristics. Include Supine Lift Frame in purchase.	100%	100%	Traverse or Straight Lift system should be able to assist in inserting & extracting trays into cooler as well as lifting & moving bodies into & w/in autopsy suite.
Nurse Training Area	One		Straight

The Ergonomic Challenge of Safe Patient Handling

The adult human form is an awkward burden to lift or carry.

It has no handles, it is not rigid, and it is susceptible to severe damage if mishandled or dropped.

John Lloyd, PhD - 1991

Examples of Patient Care Ergonomic Hazards

- Ergonomic hazards for caregivers include…
  - performing tasks that require lifting heavy loads
  - horizontal & vertical lifting
  - Twisting, bending, reaching
  - holding body parts for long periods of time
  - standing for long periods of time
  - pushing, pulling
  - awkward postures
  - repetitive motions
  - Moving patients/wheelchairs/beds on/off units
  - others….

Patient Care Ergonomic Hazards

- Patients
  - are asymmetric & bulky
  - can’t be held close to the body
  - have no handles
- Patient assistance varies
- Patient handling tasks are unpredictable

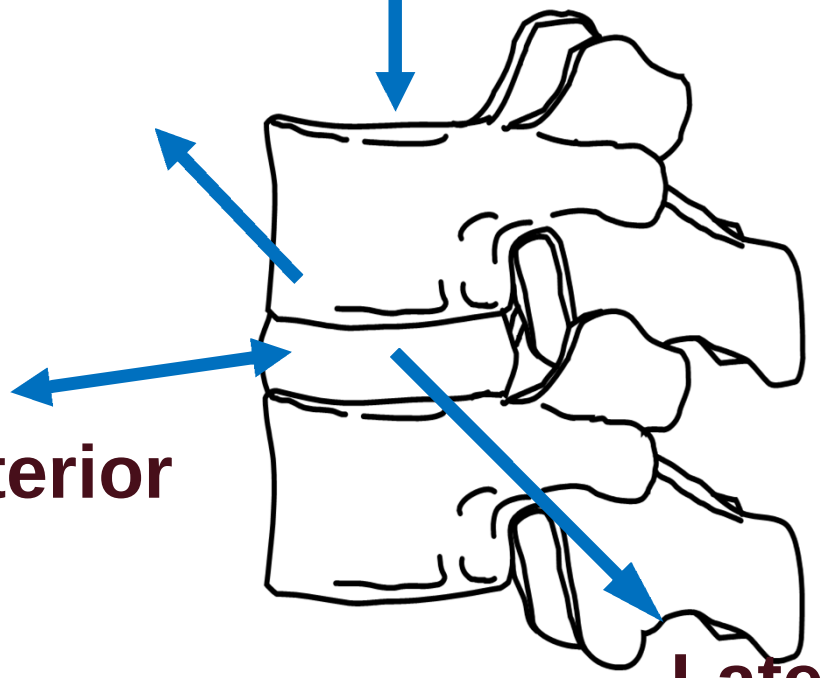
Cumulative Stress

- Muscles:
  - Micro-tears accumulate over time
  - Result seem like an ‘acute’ injury

- Spine:
- Two forces act on the spine when lifting and moving patients…
  - Compressive forces
    - Lifting heavy loads
    - Lifting or holding load for a sustained period of time
      (feeding, bathing, wound care, prepping limb etc.)
  - Shear forces
    - Twisting
    - Reaching

Compression

3400-6400 N Limit



Anterior/Posterior (A/P) Shear

1000 N Limit

Lateral Shear

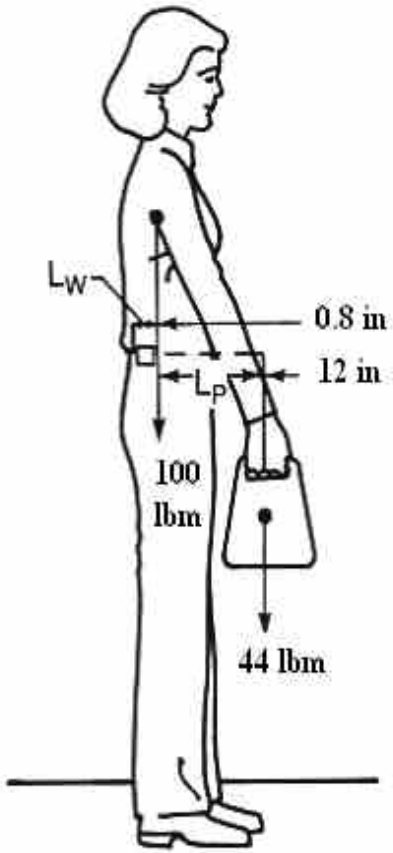
1000 N Limit

Spine Loading Forces

Spinal Loading & Stress

One of the main contributors to spinal loading & stress is the distance a load is carried away from the body.

Moments



Total forward bending moment = 608 lb in

Bend Moment at L5/S1 =
Object wt * Dist. + Body wt * Dist.

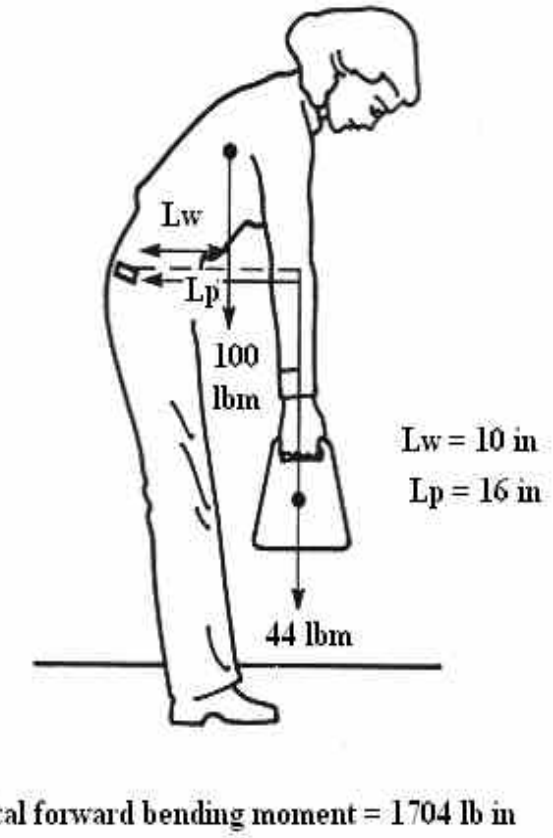
BM = 44 lb * 12 in +100 lb * .8 in

BM = 528 lb in + 80 lb in

BM = 608 lb in or 608 in lbs

In lbs = Torque

Moments



Total forward bending moment = 1704 lb in

Bend Moment at L5/S1 = Object wt * Dist. + Body wt * Dist.

BM = 44 lb *16 in + 100 lb *10 in

BM = 704 lb in + 1000 lb in

BM = 1704 lb in or 1704 in lbs

In lbs = Torque

Veterans Administration

Safe Patient Handling Program

- The VA Patient Safety Center of Inquiry has been a leader in researching and developing Safe Patient Handling Programs
  - Intensive multi-year study conducted by the VA found implementing a SPHP:
    - **30% decrease in # of injuries**
    - **70% decrease in modified duty days**
    - **18% decrease in lost time injuries**
    - **ROI - 4.1 years**
- VA Directive released 28 June 2010 stating:
  - "It is VHA policy that a SPH Program to protect caregivers and patients from injuries due to patient handling and movement must be established and maintained in all VHA facilities and that new construction and renovation projects must incorporate appropriate and necessary patient handling and moving equipment at all VHA facilities"

Army Initiative

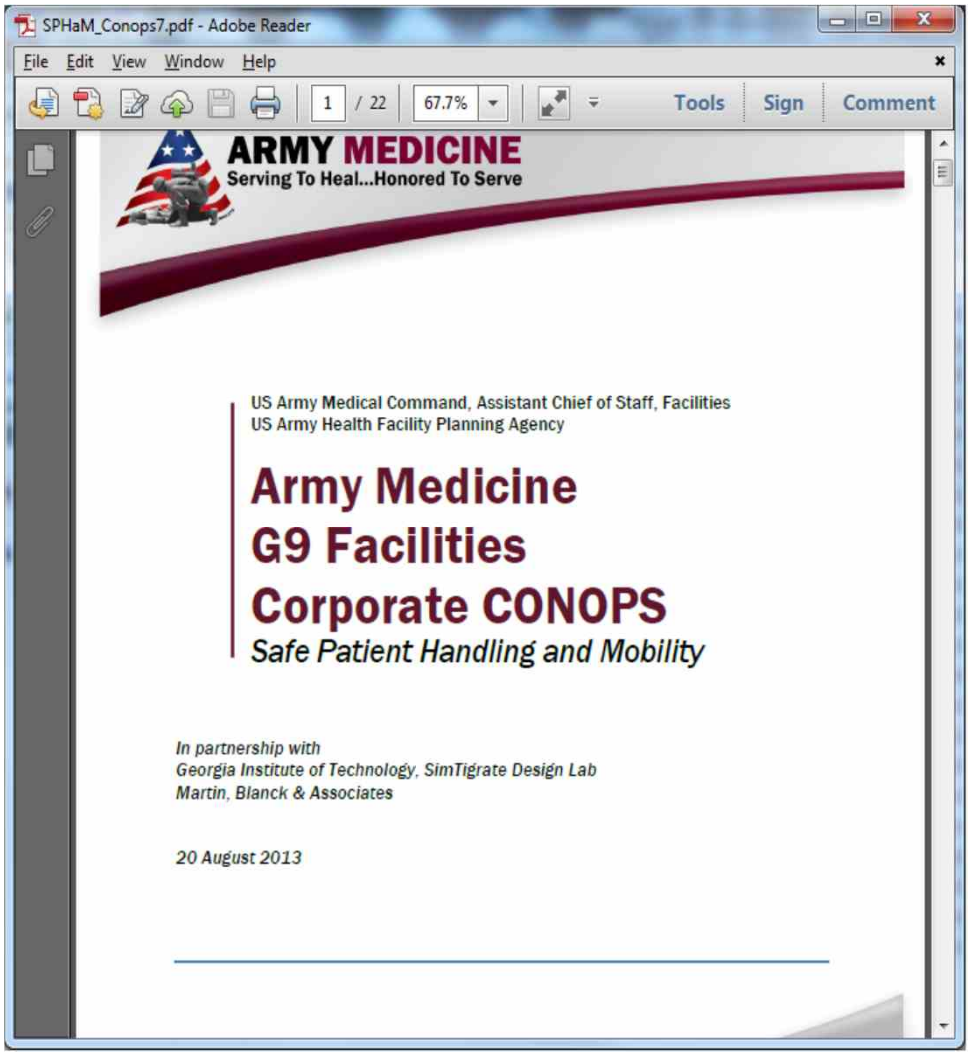
- The US Army Public Health Command Ergonomics Program collaborated with the VA Patient Safety Center of Inquiry from 2001 onward.
- 2009 USAPHC given go ahead and support from Office of the Surgeon General and Medical Command (MEDCOM) Chief of Staff to begin a pilot program at a ~240 bed inpatient military treatment facility (MTF).
- The “DoD Overview of Military Health Systems Principals of World Class Healthcare” include:
  - Install ceiling lifts in all inpatient rooms
  - Institute an integrated and facility wide lift program
- The Army Safe Patient Handling and Mobility Program follows the basic program elements set out by the VA.
- 2012 Joint Incentive Fund proposal approved and funded to implement comprehensive program at TAMC.
- 2013 US Army Health Facility Planning Agency Corporate Concepts of Operation for designers and architects involved in new construction and renovation.

USAPHC Safe Patient Handling and Mobility Program

- In absence of a policy PHC has continued to promote SPHM in MEDCOM and has continued collaboration with the other Services, VA and other SMEs.
  - JIF implementation at TAMC
  - HFPA:
    - Consult with HFPA staff on new building and renovation plans
    - Corporate CONOPS collaboratively developed
    - Traverse track ceiling lifts with lift capability into the patient bathroom included in the MHS Inpatient Bedroom Space Planning Criteria Template.

Graphic is from 'Medical Military Facilities Templates', Pub Date 05-March-13, BRUN1(Single Patient Room Acuity Adaptable).

Corporate Concept of Operations



- Provide best practices and serve as link between the delivery of care and physical environment
- Provide high level guidance to support SPHM in clinical settings by addressing necessary facility planning and design considerations
- Our thanks to:
  - VA Loma Linda Healthcare System
  - Christiana Care Health System

Army Initiative

- Program elements:
  - Ergonomic site assessment
  - Training on Safe Patient Handling Program and equipment
  - Full time Site Coordinator and Assistant
  - Unit peer leaders/champions
  - Equipment fair and selection
  - Equipment installation
  - Data collection
  - Policy

Program Elements

- Military Treatment Facility (MTF) Leadership and Unit Peer Leader Education
  - Command briefing
  - All staff SPHM awareness training (CEU)
  - Selection Site Coordinator
  - Unit Peer Leaders training
- Unit Peer Leader
  - Ideally one per shift
  - Staff nurse who acts as the local unit expert on the program and equipment and is a liaison to the facility safe patient handling coordinator.
  - VA study found the unit peer leaders to be an integral part of a successful program.
- On-site Ergonomic Assessment
  - Census patterns and trends
  - Detailed assessment of current status of facility with recommendations.
  - Baseline data
    - transfer types, population, equipment, use unit/staff specific demographics, focus groups, staff surveys, injury data review

Program Elements

- Patient Handling Equipment
  - Equipment fair with staff input
  - Equipment installation
  - Training
  - Ensure maintenance

- Safe Patient Handling Program Administrator
  - Essential to initiation of a program that requires so much coordination between program areas, buy-in and change of culture for staff.

- Safe Patient Handling Policy
  - Facility policy (to be in effect after all equipment is in place and training complete)
  - Specified plan for future training (i.e., new staff orientation)
  - Standardized operating procedures for business processes such as equipment usage, patient handling assessment criteria, and ongoing roles and responsibilities for designated staff (i.e., unit peer leaders)

Areas for inclusion beyond Adult inpatient rooms

- Pompeii (2009) at a large tertiary care medical center found that “one third (n=876) of all musculoskeletal injuries resulted from patient handling activities.”

- The authors found that 83% “of the injury burden was incurred by inpatient nurses, nurses’ aids and radiology technicians while injury rates were highest for nurses’ aides (8.8/100 FTE) emergency technicians (10.3/100 FTE), patient transporters (4.3/100 FTE), operating room technicians (3.1/100 FTE), and morgue technicians (2.2/100 FTE).”

- ***Four of the five populations showing the highest injury rates in Pompeii’s 2009 study are sometimes overlooked when deciding which areas of the hospital should receive ceiling mounted lifts and supplemental SPH equipment.***

Areas for inclusion beyond adult inpatient rooms
Pediatrics

- Children can be up to age 18 and are susceptible to the same obesity epidemic that the adult population is engaged in, thus weights being lifted on pediatric units can greatly exceed recommended weight limit lifting guidelines.

- As stated by Motacki (2009) “The same safe lifting principles used with nursing care with patients on a medical/surgical unit would apply” to a pediatric unit.

- Pediatric safe patient handling programs have found success in the civilian sector, for example, Children’s Hospital and Clinics of Minnesota implemented a pediatric SPHP which resulted in a post-implementation reduction of caregiver injury incidents by 71.4%. (Haglund, 2010)

Areas for inclusion beyond patient rooms
Radiology

- According to a 2006 survey of 509 nurses who provide direct patient care and 404 radiology technicians, 56% of nurses and 64% of x-ray technicians suffered patient lifting-related injuries, chronic pain or both. This survey also reported that these groups felt their work had become so physically demanding that they considered leaving patient care.

- According to Hart 2006, about 34 percent of nurses and one in three radiology technicians who have experienced on-the-job injuries did not report those injuries to their employer in at least one instance.

- For example, radiology technicians transfer patients from stretchers and wheelchairs to treatment tables over and over throughout their workday.

Other Areas where lateral transfers are prevalent

- Lateral transfers and repositioning patients often result in the use of excessive internal forces and are two of the highest risk tasks performed by health care staff. (Waters, 2007)

- Caregivers working in the morgue are subject to injury due to the frequent heavy lifting required in moving bodies to and from autopsy tables and coolers. Additionally, typically the morgue has fairly low staffing levels making asking for assistance from coworkers difficult.

- Caregivers in the ER and OR (to include C-section OR) frequently transfer patients off of stretchers and patient beds to operating surfaces.

Physical Therapy

- Historical belief in the PT environment was that they would not experience a work related musculoskeletal disorder (WMSD) because they knew the “right” way to handle a patient as well as demonstrate a reluctance to report injuries if they did occur. (Cromie 2002) However, many of the tasks that therapists perform are high risk patient handling tasks. Campo (2008) found a one year WMSD incidence rate of 20.7% and that patient handling and manual therapy in particular increase the risk for work related musculoskeletal disorders.

- The “use of partial body weight support (PBWS) treadmill training, through the use of overhead lifts, as part of rehabilitation is increasing in research and practice”. (Rockefeller 2008) Rockefeller states that critical sensory cues stimulate locomotor abilities and that these cues include facilitating maximal weight bearing on the lower extremities while minimizing upper extremity support.

- As cited in Rockefeller 2008, the use of PBWS has been found to be beneficial for patient outcomes with spinal cord injuries (Protas, 2001; Behrman & Harkema, 2000; Field-Fote, 2001; Behrman et al., 2005), stroke (Da Cunha, 2002; Duncan et al, 2005) , Parkinson’s disease (Protas et al, 2005; Miyai,2002), orthopedic conditions (Whitman et al, 2006; Hesse etal., 2003) and children with cerebral palsy (Provost et al, 2007; Schindl et al, 2000).

Recommendations for Consideration

- Clinical areas for inclusion in the SPHMP include all locations within a health care facility where dependent patients are moved, lifted, and handled, including, but not limited to, adult and pediatric nursing units, treatment areas, rehabilitation, diagnostic areas, procedure areas, and the morgue. The SPHMP also pertains to those involved in any type of patient or resident transportation.

Safe Patient Handling Equipment

Floor Based Sling Lift

Traverse ceiling lift with ambulation sling

Ceiling lift and repositioning sheet being used for rolling/repositioning side to side

Air Assisted Lateral Transfer Device

Lifting Patient from the floor

Limb Support

Ceiling lift with seated sling

Safe Patient Handling Equipment

Ceiling lift with seated sling

Ceiling lifts in OR holding area with curtain solution (notice the bed sheeting)

Traverse ceiling lift in CT

Floor based sling lift for car extraction

Traverse ceiling lift in X-Ray

Challenges and Lessons Learned

- Essential to have everyone on board including but not limited to:
  - Leadership
  - Union
  - Department of Nursing
  - Rehabilitation
  - Diagnostics
  - Safety
  - Infection Control
  - Wound Care
  - Patient Safety
  - Facilities/Engineering
  - Biomedical Services
  - Environmental Services
  - Contracting
  - Occupational Health
  - Industrial Hygiene
  - Nursing research
  - Nursing education

Challenges and Lessons Learned
Laundry and Environmental Services

- Laundry contract modification possible.
- Slings ‘owned’ by environmental services or the units.
- Storage, labelling, circulation and annual inspection and inventory.
- Repositioning sheets incorporated into bed linen process in ICU, PACU, OR, ER and as needed on Med/Surg beds. Inclusion in the housekeeping contract regarding including repositioning sheets in the bed making process.
- For ease of purchase slings should be added into the purchasing system, Defense Acquisition Purchase Agreement (DAPA).

Challenges and Lessons Learned
Laundry and Environmental Services

- Sling Usage:
  - Repositioning Sheets are the base of the program. Used daily on units and portals of entry such as ER, PACU and radiology. This does result in a shorter lifecycle.
  - Hygiene slings, seated slings, transfer sheets were high use.
  - Amputee slings, pediatric slings and limb slings were low use.
- Par levels for repositioning sheets: 1 on bed, 4 on shelf, 1 soiled, 2 out for cleaning and 2 in storage.
- Par levels of 3 for other slings with 1 per bed in storage.
- In-house labeling of slings with fabric marker and potential need for modified curtains.
- Sling sizes: Possible size differences between European and American patients.

Challenges and Lessons Learned

- SPHM subcommittee: For the first few years of the program monthly SPH meetings held. Once in sustainment SPH may be part of the unit leadership meetings.
  - Provided direct link to first line managers and allowed issues to be dealt with on the ground level.

- Mother baby/post partum: Initially the unit personnel may not feel engineering controls are necessary. However, patient population changes may shift the perspective resulting in requests for ceiling lifts.
- Rooms identified for bariatric lifts: 4-bed rooms vs 2-bed rooms

Unit Champions

SUBJECT: Appointment of Additional Duties

1. Effective 21 January, 2011, **Name (Phone Number)** is appointed as the Safe Patient Handling Unit Champion for **Unit Name**. The alternate Safe Patient handling Unit champions are **Name (Phone Number)**.

2. Authority: XXX Memo 385-9.

3. Purpose: Manage and monitor the **Unit Name** Safe Patient Handling Program for implementation and compliance with listed references.

4. Period: Until released by the Department Chief or Supervisor.

5. Special Instructions: Unit Champion Weekly Logs will be completed by all Unit Champions and submitted to the Safe Patient Handling office per current XXX policy. Unit Champions will also complete Safety Huddles with staff on an as needed basis and whenever an injury or near miss occurs related to patient handling. Individuals appointed will execute their respective duties, attend all required training, monthly Unit Champion meetings, and one of the assigned Unit Champions will attend the monthly committee meetings to represent their work area.

Unit Supervisor
Rank
Assignment

Unit Champions

- Unit Champions: Special lanyards, pens, pizza parties etc. to identify them as special staff on the units.
- After Action Review implemented.
- Weekly Log for first few years.

[redacted] SAFE PATIENT HANDLING (SPH) UNIT CHAMPION WEEKLY LOG

Unit _____ Dates: Sunday_____through Saturday_____

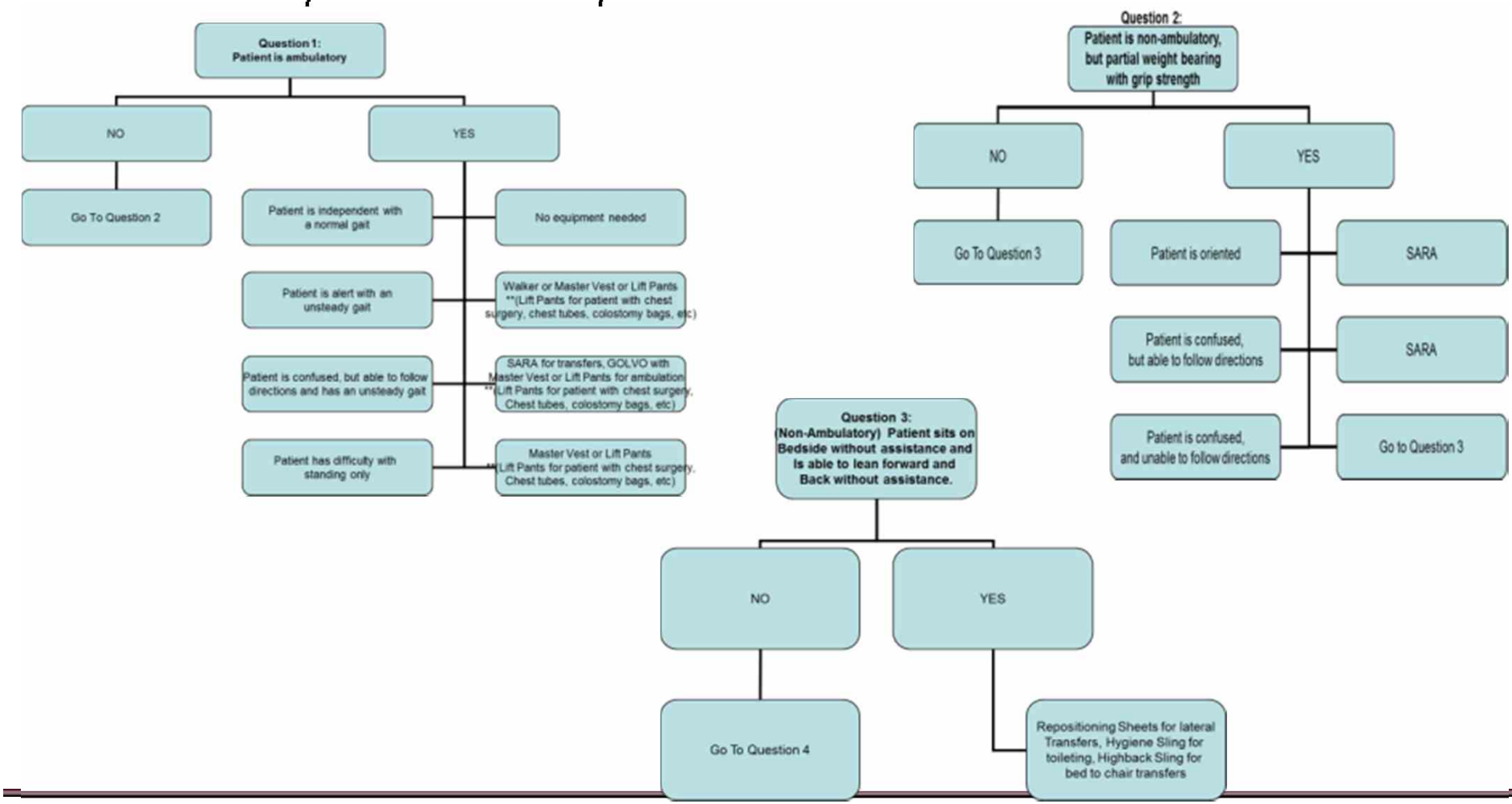
Unit Champion_____

Part I. Being an Unit Champion for your unit:

Indicate the number of times during the past week….	0	1-5	6-10	11-15	16-20	21+
One of your coworkers asked for your advice about SPH						
You met in person with a nurse on a *one-to-one* basis about patient handling tasks						
You met in person with staff in a *group* setting or meeting about patient handling tasks						
You demonstrated the use of a ceiling lift						
You demonstrated use of a floor based lift						
You demonstrated use of an Air Assisted Lateral Transfer device						
You were asked to deal with a problem in the operation of a ceiling lift						
You were asked to deal with a problem in the operation of a floor based lift						
You were asked to deal with a problem in the us of an air assisted lateral transfer device						
You led a Safety Huddle						
You took part in a Safety Huddle						
You attended activities related to being a peer leader, other than those above (meetings with other peer leaders, SPH office, training etc.)						

Decision Tree

- Versions of these included in nursing notes to assist staff with decision process and to provide a record of status.



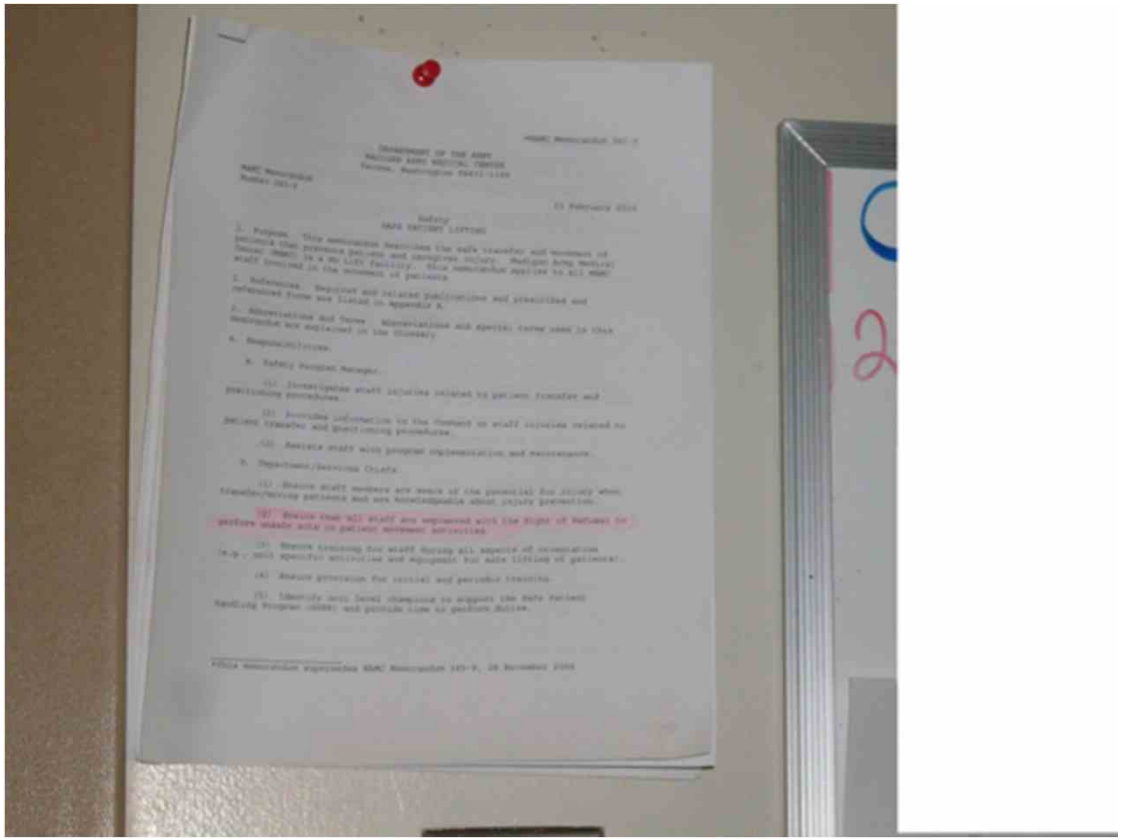
Patient Functional Assessment Form for Lifting

Patient Name _____ Rm. # _____ Date _____

Functional Ability	Equipment Recommended
Ambulatory – Independent – Normal gait	-None
Ambulatory with unsteady gait - Rehab (s/p CVA, hip prosthesis, etc.) - Difficulty standing only - Confused, able to follow directions	-Ambulating sit-to-Stand Portable Lift or Floor Based Sling Lift with walking vest
Partial weight bearing (> 20%) – Non ambulatory –Oriented -Confused -Sensitive -"Pear-shaped"	-Sit-to-Stand Portable Lift
Sits on bedside without assistance, able to lean forward and back unassisted (adequate hip extension) – non-ambulatory and no weight-bearing	-Ceiling Lift or Floor Based Sling Lift with Full body sling or hygiene sling
Sits on bedside with assistance (rail or person), unable to lean forward then back without assistance (poor hip extension)	-Ceiling Lift or Floor Based Sling Lift with Full body Sling or -Hygiene sling with safety belt or Hygiene Vest for toileting
Unable to sit without full back support, supports head	-Ceiling Lift or Floor Based Sling Lift with Full body Sling or -Hygiene sling with safety belt or Hygiene Vest for toileting
Requires full back and head support – upright - reclined	- Ceiling Lift or Floor Based Sling Lift with Highback Sling - Highback sling with 4-point bar
Must remain supine	- Air Assisted Lateral Transfer Device
Amputee – single low AKA(mid femur or more remaining) - single or double low AKA - Single or double high AKA (less than half femur) - Bilateral disarticulation (no femurs remaining)	- Standard sling configuration -Universal sling with leg supports in amputee configuration or Amputee sling -Amputee sling, Comfort sling or Hygiene vest -Comfort sling, Hygiene vest or Ambulation vest
Special Considerations	To be determined on an individual

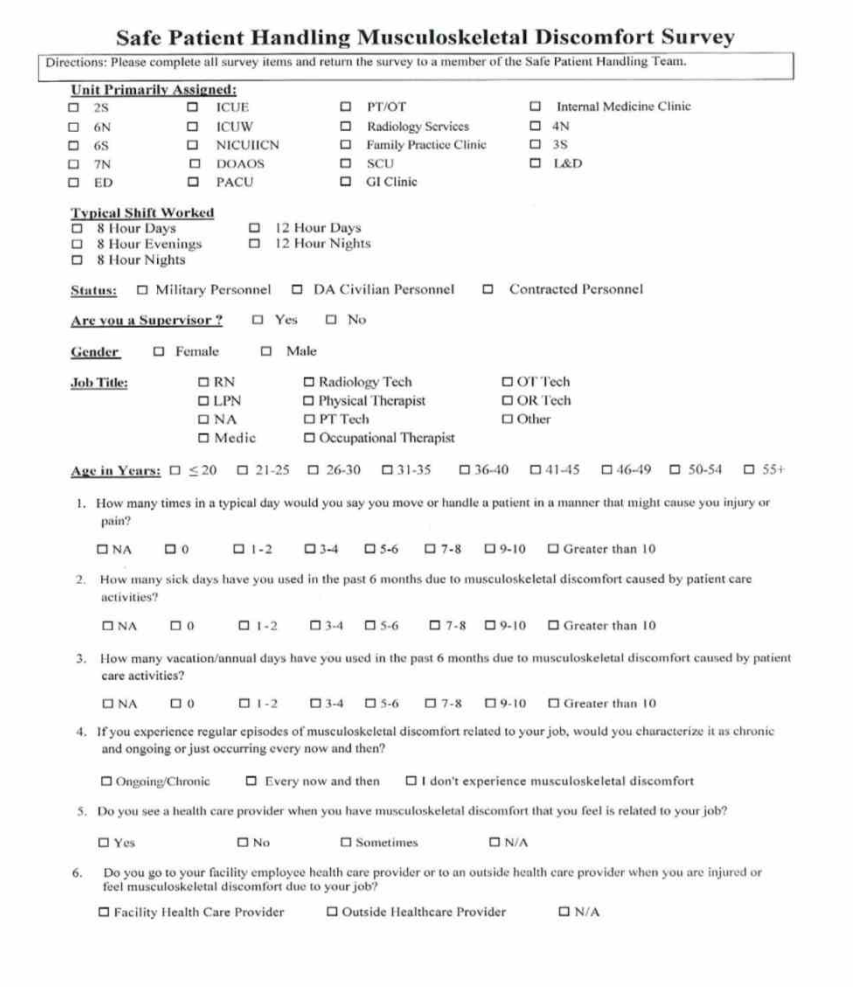
Policy

"Ensure all staff are empowered with the right of refusal to perform unsafe acts in patient movement activities".



Survey Tools

- Equipment Use Survey
- Discomfort Survey



Safe Patient Handling Musculoskeletal Discomfort Survey

Directions: Please complete all survey items and return the survey to a member of the Safe Patient Handling Team.

Unit Primarily Assigned:

☐ 2S ☐ ICUE ☐ PT/OT ☐ Internal Medicine Clinic
☐ 6N ☐ ICUW ☐ Radiology Services ☐ 4N
☐ 6S ☐ NICUIICN ☐ Family Practice Clinic ☐ 3S
☐ 7N ☐ DOAOS ☐ SCU ☐ L&D
☐ ED ☐ PACU ☐ GI Clinic

Typical Shift Worked

☐ 8 Hour Days ☐ 12 Hour Days
☐ 8 Hour Evenings ☐ 12 Hour Nights
☐ 8 Hour Nights

Status: ☐ Military Personnel ☐ DA Civilian Personnel ☐ Contracted Personnel

Are you a Supervisor ? ☐ Yes ☐ No

Gender ☐ Female ☐ Male

Job Title:

☐ RN ☐ Radiology Tech ☐ OT Tech
☐ LPN ☐ Physical Therapist ☐ OR Tech
☐ NA ☐ PT Tech ☐ Other
☐ Medic ☐ Occupational Therapist

Age in Years: ☐ ≤20 ☐ 21-25 ☐ 26-30 ☐ 31-35 ☐ 36-40 ☐ 41-45 ☐ 46-49 ☐ 50-54 ☐ 55+

1. How many times in a typical day would you say you move or handle a patient in a manner that might cause you injury or pain?

   ☐ NA ☐ 0 ☐ 1-2 ☐ 3-4 ☐ 5-6 ☐ 7-8 ☐ 9-10 ☐ Greater than 10

2. How many sick days have you used in the past 6 months due to musculoskeletal discomfort caused by patient care activities?

   ☐ NA ☐ 0 ☐ 1-2 ☐ 3-4 ☐ 5-6 ☐ 7-8 ☐ 9-10 ☐ Greater than 10

3. How many vacation/annual days have you used in the past 6 months due to musculoskeletal discomfort caused by patient care activities?

   ☐ NA ☐ 0 ☐ 1-2 ☐ 3-4 ☐ 5-6 ☐ 7-8 ☐ 9-10 ☐ Greater than 10

4. If you experience regular episodes of musculoskeletal discomfort related to your job, would you characterize it as chronic and ongoing or just occurring every now and then?

   ☐ Ongoing/Chronic ☐ Every now and then ☐ I don't experience musculoskeletal discomfort

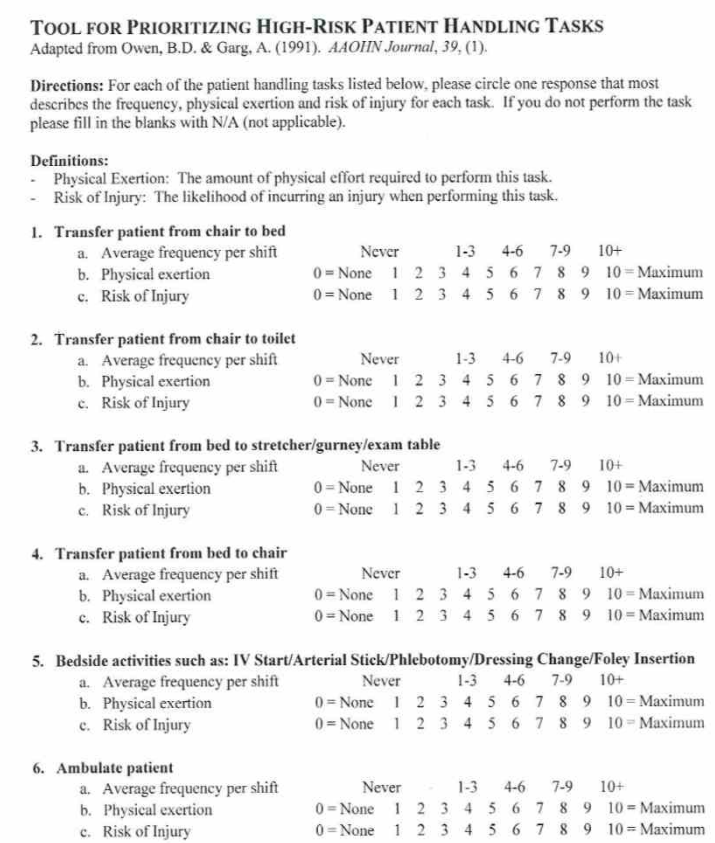
5. Do you see a health care provider when you have musculoskeletal discomfort that you feel is related to your job?

   ☐ Yes ☐ No ☐ Sometimes ☐ N/A

6. Do you go to your facility employee health care provider or to an outside health care provider when you are injured or feel musculoskeletal discomfort due to your job?

   ☐ Facility Health Care Provider ☐ Outside Healthcare Provider ☐ N/A

- High Risk Task Survey



TOOL FOR PRIORITIZING HIGH-RISK PATIENT HANDLING TASKS

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

Directions: For each of the patient handling tasks listed below, please circle one response that most describes the frequency, physical exertion and risk of injury for each task. If you do not perform the task please fill in the blanks with N/A (not applicable).

Definitions:
- Physical Exertion: The amount of physical effort required to perform this task.
- Risk of Injury: The likelihood of incurring an injury when performing this task.

1. Transfer patient from chair to bed

a. Average frequency per shift — Never 1-3 4-6 7-9 10+
b. Physical exertion — 0 = None 1 2 3 4 5 6 7 8 9 10 = Maximum
c. Risk of Injury — 0 = None 1 2 3 4 5 6 7 8 9 10 = Maximum

2. Transfer patient from chair to toilet

a. Average frequency per shift — Never 1-3 4-6 7-9 10+
b. Physical exertion — 0 = None 1 2 3 4 5 6 7 8 9 10 = Maximum
c. Risk of Injury — 0 = None 1 2 3 4 5 6 7 8 9 10 = Maximum

3. Transfer patient from bed to stretcher/gurney/exam table

a. Average frequency per shift — Never 1-3 4-6 7-9 10+
b. Physical exertion — 0 = None 1 2 3 4 5 6 7 8 9 10 = Maximum
c. Risk of Injury — 0 = None 1 2 3 4 5 6 7 8 9 10 = Maximum

4. Transfer patient from bed to chair

a. Average frequency per shift — Never 1-3 4-6 7-9 10+
b. Physical exertion — 0 = None 1 2 3 4 5 6 7 8 9 10 = Maximum
c. Risk of Injury — 0 = None 1 2 3 4 5 6 7 8 9 10 = Maximum

5. Bedside activities such as: IV Start/Arterial Stick/Phlebotomy/Dressing Change/Foley Insertion

a. Average frequency per shift — Never 1-3 4-6 7-9 10+
b. Physical exertion — 0 = None 1 2 3 4 5 6 7 8 9 10 = Maximum
c. Risk of Injury — 0 = None 1 2 3 4 5 6 7 8 9 10 = Maximum

6. Ambulate patient

a. Average frequency per shift — Never 1-3 4-6 7-9 10+
b. Physical exertion — 0 = None 1 2 3 4 5 6 7 8 9 10 = Maximum
c. Risk of Injury — 0 = None 1 2 3 4 5 6 7 8 9 10 = Maximum

Good for Staff, Good for Patients

- Patient handling program elements should be included anywhere patients are manually handled.
- Safe patient handling equipment can be used beyond a typical ‘bed to chair’ or ‘bed to stretcher’ transfer.
- Now that the program has matured, can begin to look into patient outcomes.
  - Early mobilization
  - Fall prevention
  - Reduction or prevention of pressure ulcers
  - Rehabilitation

Questions?

POC:

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Army Institute of Public Health
Ergonomics Program
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(410) 436-8864