

Ergonomics in the Healthcare Setting

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Ergonomics Human Diversity and Change

The capacity to perform physical work demands varies considerably **not only from individual to individual, but within any given individual over time...** the limitations of this capacity are complex and interrelated.

(NIOSH)

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The Fit Between the Job and the Worker



When there is a **mismatch** between the physical requirements of the job and the physical capacity of the worker... **Work-Related Musculoskeletal Disorders** can result (WMSD's).

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“What is a Work-related Musculoskeletal Disorder?” (WMSD)

- Problems with muscles, nerves, joints and/or ligaments that the performance of work contributes significantly, makes worse and/or increases in longevity.
- Typically the result of **gradual wear and tear**.
- Often associated with **poor body mechanics** and personal **physical/health limitations**.

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“What factors contribute to WMSDs?”

- The task is **not designed** to accommodate the physical and/or cognitive limitations of the worker.
- Poor body mechanics and personal physical/health limitations.
- Gradual wear and tear.

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WMSDs Signs & Symptoms



- Pain or soreness.
- Numbness/tingling in the fingers, hand and/or arm.
- Possible associated redness/loss of color.
- Persistent spasm, aching and/or weakness of an extremity.

...during and/or following a work activity!

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WMSDs 2003*

- 593,000 reported WMSDs resulting in lost time.
- Manufacturing and Service industries accounted for 26% of injuries followed by retail trade (15%)
- 3 occupations - (nursing aides, orderlies and attendants), truck drivers, and non construction laborers accounted for 1 out of every 5 injuries.
- Median number of lost days/injury = 5 days.
- 25% of cases resulting in 21 or more lost days.

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*Bureau of Labor Statistics

WMSD's 2003* (cont.)

INDUSTRY	# (1000's)	Median LT
➤ Nursing Aides, Orderlies	49.1	5
➤ Truck Drivers	43.9	10
➤ Laborers, nonconstruction	36.6	6
➤ Assemblers	19.7	10
➤ Janitors and Cleaners	14.0	5
➤ Registered Nurses	12.4	5
➤ Stock Handlers and Baggers	11.3	5
➤ Construction Laborers	10.8	7
➤ Cashiers	10.0	5
➤ Carpenters	9.3	7

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*WMSDs involving time away from work and median days away from work by occupation - BLS 2003.

Healthcare

Work and Workforce Characteristics

Work

- Wide diversity of situational exposures
- **Handling of unstable load (human beings)**
- Extended work hours commonplace.
- Shift work commonplace.

Worker

- Career duration.
- Typically hired by skill level vs. physical ability.
- "Self-sacrificing" mentality.
- "Western Medicine" mentality.

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Healthcare Lifting



- Lifting inanimate objects as done by support staff versus
- Lifting a patient/resident.
- **Completely different set of problems**
 - patient movement
 - patient fear/ apprehension.

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Ergonomics Lifting

- Several manuals have discussed the proper procedures and techniques for lifting.
- But these may not be applicable for lifts that involve non compact moving patients.
- However you can distill information from the various references that may be useful in determining practices for your institution.

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LIFTING GUIDELINES (WEIGHT) FOR A SINGLE INDIVIDUAL

SEX/AGE	NO RESTRICTION	TRAINING REQUIRED	LIFTING AIDS REQUIRED	NOT RECOMMENDED
MALE <50	0-40 POUNDS	41-60 POUNDS	61- 130 POUNDS	>130 POUNDS
MALE >50	0-30 POUNDS	31-50 POUNDS	51-105 POUNDS	>105 POUNDS
FEMALE <50	0-25 POUNDS	26-40 POUNDS	41-80 POUNDS	>80 POUNDS
FEMALE >50	0-20 POUNDS	21-30 POUNDS	31-60 POUNDS	>60 POUNDS

** pregnant women are not to lift more than 25 pounds

REFERENCES:

Applications Manual for the Revised Lifting Equation, Us Department of Health and Human Services, DHHS (NIOSH)Publication 94-110, NTIS, Springfield, VA 1994.

Grandjean, Etienne Fitting the Task to the Man, A Textbook of Occupational Ergonomics, 4th edition, Taylor & Francis 1988.

The Ergonomics Group, Health and Environmental Laboratories, Eastman Kodak Company, Ergonomic Design for People, Van Nostrand Reinhold, New York, NY, 1986.

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Ergonomics In Health Care

- The General Assembly in Maryland passed two bills directed at ergonomics in health care
- Both of these bills were passed by the General Assembly and signed into law by the governor
- This presentation will
 - discuss these laws
 - How they can impact health care
 - Steps to comply with these law

Ergonomics In Health Care

- Code of Maryland Regulations (COMAR)
- Title 19 – Health Care Facilities
 - Subtitle 3 Hospitals and related institutions
 - Article 337 Part X - Safe Patient Lifting
 - Defines safe patient lifting as the use of mechanical lifting devices instead of manuals lifting to lift transfer and reposition patients
 - Subtitle 14 nursing homes
 - Article 1410 - Safe Patient Lifting
 - Does not define safe patient lifting

Ergonomics In Health Care

- The bills require each Hospital and nursing home to
 - Establish a safe patient lifting committee or workgroup
 - Equal membership from management and employees
 - Develop a safe patient lifting policy
 - Policy goal to reduce employee associate with patient lifting

Ergonomics in Health Care

- While developing the policy the committee/ workgroup shall consider based on patient population, appropriateness and effectiveness of
 - Hazard assessment
 - Lifting devices
 - Training
 - Specialized lifting teams
 - Incorporating into renovation or construction
 - Evaluation process for the effectiveness of the policy

Worker Hazard Assessment

- Under the personal protective equipment (PPE) standard employers are required to conduct an assessment of all the hazards in the workplace (29 CFR 1910.132).
- This is to include ergonomic as well as physical hazards.
- Corrective actions and PPE required to be protect the worker.

Worker Hazard Assessment

- The assessment for patient lifting should focus on
 - injury rates to workers identified with patient movement.
 - A survey of staff may also be useful
 - Number and location of patients that pose a fall risk.
 - Special situations in which patients require assistance out of and into vehicles

Patient handling hazard assessment

- To determine the level to which the patient can assist the HCW and what level of assistance may be required
- Should become part of the patient chart
- Should be completed at least of the beginning of each shift and
- Reviewed by the person assigned to lift or move the patient

Patient Handling Hazard Assessment

- Should be completed in writing by some one familiar with the patient and lifting procedures
- Several assessment forms are available
- A form should be selected that will complement the procedures and practices currently in place

Mechanical lifting devices

- The variety of lifting devices and their wide range of costs require that evaluations be conducted to determine the best fit with in the institution
- Added to the evaluations should be transfer devices that would allow for transfer from bed to bed or reposition the patient in bed

Specialized Lift Teams

- Specialized lift teams that can respond rapidly to the need for a patient move may work in some institutions but not others some factors that come into play are
 - Patient needs
 - Size of institution
 - Current culture within the staff
 - Team member selection

Training

- Training is critical for any successful program
- Patient hazard assessment
 - Staff should be trained in the assessment procedures
- Lifting equipment
 - Staff should know the use and limitation of all equipment used
 - Team members should be training in techniques as well as procedures for handling patient concerns

Specialized Lift Teams

- If specialized lift teams are to be used to lift without lifting equipment these individuals need to be
 - Physically able to lift patients
 - Training in the procedures to be used
 - Trained in patient care issues
 - Maintain physical ability

Renovation and New Construction

- Renovation and new construction
 - The policy should provide for physical space and construction design for lifting devices as needed by the institution based on the assessment of the institution's patient lifting needs.
 - During the period before implementation of new construction or renovation consideration should be given to portable devices or other devices to move patients

Program Evaluation

- Evaluation to determine the effectiveness of the safe patient lifting program
 - Compare injury rates to baseline year
 - Compare survey to baseline survey
 - Conduct satisfaction survey
 - Of staff in use of equipment
 - Of patients in the procedures used and staff competency

Ergonomics in Health Care So what do I do?

- Get administration buy in - it is Maryland law
- Develop your committee
- Develop a generic Policy
- Evaluate and prioritize the problems that need to be addressed
- Evaluate solutions to these problems
- Implement solutions
- Evaluate effectiveness

Ergonomics in Health Care
What can happen if I do nothing?

- This is a big issue among the health care unions – so you might see crop up in union negotiations
- Long term care facilities have been identified by OSHA as a targeted employer with
 - Guidelines specific to long term care
 - Aggressive enforcement
- Increased injuries to staff and patients

Ergonomics in Health Care
What can happen if I do nothing?

- Maryland by passing these laws have established that patient lifting in Hospitals and Nursing Homes a recognized hazard to the employee
- OSHA/MOSH can site under the General Duty Clause
 - Employers shall provide employees a workplace free of recognized hazards

- The Johns Hopkins University
- Center for Excellence in Healthcare Safety and Environmental Health



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