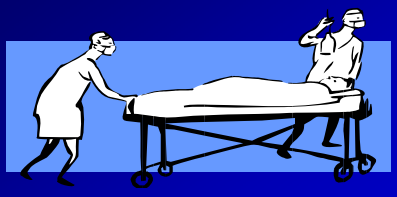
Safe Patient Handling and Movement



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This presentation is based on material I developed for the National Institute for Occupational Safety and Health, the Veterans Administration Patient Safety Center, and the American Nurses Association for a research project to educate student nurses about safe patient handling. You may freely copy this presentation.

You may view the narrated presentation at http://www.cdc.gov/niosh/review/public/safe-patient/introduction.htm

Did You Know?

- **…Nursing is in the top ten industries for musculoskeletal injuries?**
- **…12% of nurses who leave the profession each year do so because of chronic/acute back injuries and pain?**
- **…Over 52% of nurses complain of chronic back pain lasting more than 14 days within the past 6 months?**
- **It's time for change, don't you agree?**

Why Do Nurses Get Hurt?

- We are always lifting, moving and turning patients. This makes us and our muscles tired. When our muscles are tired, we get hurt.
- Patient can't be lifted like boxes, so safe lifting "rules" don't apply.

What Makes Patients Risky?

- Patients can't be held close to the body.
- Patients are bulky.
- Patients have no handles!
- You can't predict what will happen while you're taking care of a patient.
- You never know if a patient can help you or not.

Scope of the Problem

- Incidence rate for nurses is 13 per 100 full time employees (BLS, 2001). *Defined as the # new events reported in a year.*
- Prevalence rate for nurses is 47 per 100 full time employees (Trinkoff, 2002). *Defined as the # nurses with MSD at the time of a survey.*
- Frequency: RNs #5 for MSDs in 2006

The Problem (Cont.)

Manual patient handling has also been linked to increased absenteeism, lost work days, high turnover, low job satisfaction, and low morale.

There is also evidence that manual patient handling may affect the quality of patient care.

Scope of the Problem

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

Tuohy-Main, K. (1997). Why manual handling should be eliminated for resident and carer safety. *Geriaction, 15*, 10-14.

More Risks

- Aging nursing workforce
- Sicker patients
- Heavier patients
- Inaccurate risk perception by care providers

Myths and Facts

Common Beliefs About
Nursing Injuries
And Lifting Equipment

MYTH OR FACT?

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

Not so! Nurses ask strong co-workers to help with patient care four times as often as weaker nurses. Since they're lifting more often, they have a greater chance of getting hurt!

MYTH OR FACT?

"Classes in body mechanics and lifting techniques keep nurses from getting hurt."

The truth is that training alone won't keep you safe.

Myth of "Proper" Body Mechanics

- Early findings of body mechanics studies were:
  - based on static loads (i.e., box with handles)
  - Primarily focused on men
- Inappropriate for patient loads (uneven distribution of weight, dynamic load, context of patient room)
- Concentrate on the lower back for lifting
  - Do not account for other vulnerable body parts involved in types of patient handling tasks (e.g., lateral transfers from gurney to bed along a horizontal plane)
- Do not equip nursing personnel with the capabilities to effectively compensate for loads that typically exceed recommended limits

35 years of Training/Education Alone have not been Effective…

- Brown, 1972
- Dehlin, et al, 1976
- Anderson, 1980
- Daws, 1981
- Buckle, 1981
- Stubbs, et al, 1983
- St. Vincent & Teller, 1989
- Owen & Garg, 1991
- Harber, et al, 1994
- Larese & Fiorito, 1994
- Lagerstrom & Hagberg, 1997
- Daltroy, et al, 1997
- Nelson, et al, 2001
- Hignett, 2003
- Nelson, et al, 2003

MYTH OR FACT?

"Nurses are stronger than warehouse workers."

No, they're not. So why are nurses expected to lift large patients by themselves, and warehouse workers are given equipment to help them move big boxes?

MYTH OR FACT?

"Lifting equipment slows me down."

No, it doesn't! New types of lifting equipment help you finish your work on time with less strain on your muscles.

MYTH OR FACT?

"Patients won't like being moved with slings and lifting equipment."

Actually, research shows that patients feel safer when they are handled and moved with sturdy and strong equipment.

MYTH OR FACT?

"Any lift can be used anywhere."

No, you must use equipment that matches what the patient needs. Also, the size of a room and what's in the room make a difference, too.

Two important facts about patient handling

1. There is no safe way to manually lift a fully dependent patient, even with 2 care givers!
2. Training in good body mechanics has not been shown to be effective in reducing risk of back disorders for patient handling tasks.

What's Ergonomics?

Ergon
Greek for "work"

Nomos
Greek for "laws"

So, ergonomics is the "laws of work!"

Ergonomics means fitting the job to the worker

- NOT fitting the worker to the job.

Here's What *Patient Care Ergonomics* Can Do for You!

- It doesn't expect you to get into an awkward or uncomfortable position to get your job done. Your job should fit you!
- It matches you to your job by understanding the limits of the size, shape, and performance capabilities of your body.
- It says that when your job demands seem greater than your physical abilities, be careful! You're at a higher risk for injury.

How can *Patient Care Ergonomics* help you?

- It identifies risk factors in your **job tasks** that may injure you
- It identifies risk factors in your work **environment** that may injure you
- It gives you specific steps to take to reduce your risk of injury

Why Are *Patient Care Ergonomics* Important?

- Once you can identify risky patient handling tasks and environments, you can take steps to protect yourself and your patients!

Risks of Job Tasks

What do you need to look for in your **job tasks** that may injure you?

Risks of Job Tasks

- Awkward postures
- Lifting heavy loads
- Excessive pushing/pulling
- Frequent/repeated lifting and moving
- Tasks that last a long time (duration)
- Reaching

.

The amount of body weight manually handled by a caregiver under IDEAL conditions should not exceed 35 lbs.

Patient handling is NOT an ideal condition!

Risks of Job Environments

Now, what do you need to look for in your **work environment** that may injure you?

Risks of Job Environments

- Slip, trip, and fall hazards
- Uneven work surfaces (stretchers, beds, chairs, toilets at different heights)
- Space limitations (small rooms, lots of equipment)

Other Risks

- Let's not forget that there are some other factors that affect risk for injury from patient handling and movement
  - Enough help (so you have someone to help you lift)
  - Enough patient handling equipment that's in good condition (so you have something to help you lift)

How Do We Move/Lift Patients?

- **Lateral transfers:** Move patients sideways. For example, from a bed to a stretcher
- **Stand assists:** Move patients with some ability to bear weight from sitting to standing positions.
- **Full assists:** Relocate completely and partially dependent patients with the use of lifts.
- **Reposition:** Move patients up or side-to-side in bed or pull patients up in chairs, etc.

Why Use Equipment?

- Patients weigh too much for you to lift them without mechanical assistance
- Frequent unassisted lifting and movement of heavy loads using awkward postures causes muscle and joint discomfort and damage
- Patient handling equipment saves your back!

You have HELP Moving Patients!

Here are examples of patient handling equipment that can help decrease the risk of musculoskeletal injury while you perform patient handling tasks.

Patient Handling Technology

- There are many types and brands of patient handling equipment
- Each maker has specific operating instructions for its equipment
- Be sure to ask about infection control strategies before using a piece of patient handling equipment.

Examples of Assistive Patient Handling Equipment

- Gait belts
- Powered sit-to-stand lifts
- Sliding sheets
- Mobile floor-based lifts
- Ceiling mounted lifts
- Lateral transfer devices

Evidence of Effectiveness of Participatory MSD Prevention Programs

- Participatory programs have been shown to be effective in reducing risk of MSDs in hospital work environments.
  - 50% reduction in total injuries
  - 26% reduction in lost time injuries
  - 19% reduction in injuries > 3 days
  - 25% reduction in low back injuries.

(Bohr PC, Evanoff BA, Wolf LD, 1997)

Other Successful Solutions

Collins, J. W., Wolf, L., Bell, J, & Evanoff, B. (2004). An evaluation of a "best practices" musculoskeletal injury prevention program in nursing homes. *Injury Prevention, 10*, 206-211.

Interventions:

- **Mechanical lifts and repositioning aids**
- **Zero lift policy**
- **Employee training on lift usage**

Results:

- **Injury Incidence decrease**
- **Lost Work Days incidence decrease**
- **Workers' Comp cost savings**
- **Initial investments (equipment & training) recovered in 3 years**

Other Successful Solutions

Li J, Wolf L, Evanoff B (2004) Use of mechanical patient lifts decreased musculoskeletal symptoms and injuries among health care workers. *Injury Prevention*,*10*(4):212-6.

Interventions:
- **Mechanical lifts**

Results:
- **Injury Rate decrease**
- **Lost Work Day injury rates decrease**
- **Workers' Comp cost savings**
- **Improvement in musculoskeletal comfort**

Key Points for Caregivers

- Assess the patient
- Assess the area
- Decide on equipment
- Know how to use equipment
- Plan lift and communicate with staff and patient
- Work with another team member
- Have the right equipment available, in good working order, conveniently located

Assessing the Patient

- ✓ Ability of the patient to:
  - ✓ provide assistance
  - ✓ bear weight
  - ✓ cooperate & follow instructions
- ✓ Upper extremity strength of the patient
  - ✓ How strong?
- ✓ Patient height and weight
  - ✓ How big? How heavy?

Assessing the Patient (cont.)

- ✓ Special patient conditions likely to make transfer or repositioning tasks more challenging:
  - ✓ abdominal wounds
  - ✓ contractures
  - ✓ presence of tubes
  - ✓ pregnancy

Assessing the Patient (cont.)

- ✓ Other circumstances affecting patient handling and movement tasks
  - ✓ Physician orders or physical therapy recommendations
    - ✓ Example: When you must maintain a patient's knee or hip flexion during transfers

Completing a Care Plan

- ✓ Consider:
  - ✓Type of task to be completed; for example, transferring, repositioning, walking, or toileting.
  - ✓Type of equipment or assistive devices needed.
  - ✓Number of caregivers needed to complete the task safely.

What's an Algorithm?

- It's a helpful rule.
- Just as there are rules for safe driving or safe administration of medication, there are rules for safe patient handling and lifting.
- We call these step-by-step rules "algorithms."

Lifting and Moving Algorithms

- They give you a step-by-step process that allows you to find out the safest way to accomplish the task you are trying to perform, such as transferring a patient from bed to chair.
- These algorithms help ensure that both you and the patient won't get hurt during the activity.

Who Wrote These Algorithms?

- They were developed by a group of nursing experts
- They were tested with different patient populations in a variety of settings
- The US Department of Labor's Occupational Safety and Health Administration (OSHA) recommends them

When Should I Use Them?

- Use the Algorithms for every patient who needs help moving
- For each of these patients, use the Algorithms to determine the *safest equipment* and *patient handling technique* to use for *each activity/movement* that will be completed
- The Algorithms provide *general* direction
- Use your *professional judgment* in applying them to help ensure patient/caregiver safety
- After a while, you'll get used to using them.

What Tasks Do the Algorithms Cover?

There are algorithms for the following activities:

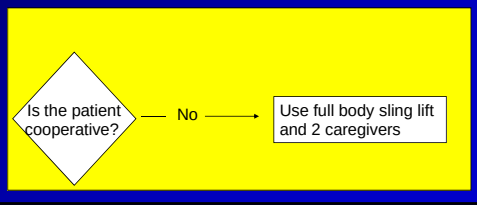
1. Transfer To and From: Bed to Chair, Chair to Toilet, Chair to Chair, or Car to Chair
2. Lateral Transfer To and From: Bed to Stretcher, Trolley
3. Transfer To and From: Chair to Stretcher, Chair to Chair, or Chair to Exam Table

What Tasks Do the Algorithms Cover?

4. Reposition in Bed: Side to Side, Up in Bed
5. Reposition in Chair: Wheelchair or Dependency Chair
6. Transfer a Patient Up from the Floor

What Do They Look Like?

- Questions are placed in a diamond and actions are in rectangles, like this:



Using the Algorithms

- Algorithm #1:
  "Transferring Patient from Bed to Chair."
- Let's walk through the steps…

Fred V.'s History

- Fred is an 80 year old resident of a long term care facility. He weighs 156 pounds and is 5' 9" tall. He has dementia and a history of falls. Although some days he is cooperative, on other days he is combative and fearful. When he is cooperative, he can bear weight. Otherwise, he resists standing. He is to be moved from bed to wheelchair everyday.

Assessment of Fred V.

I. Level of Assistance
   - Dependent

II. Can the patient bear weight?
   - No, because the patient is not cooperative

III. Does the patient have the upper extremity strength needed to support his weight during transfers?
   - No; because the patient is unreliable for using his upper extremity strength

Assessment of Fred V.

IV. Patient's level of cooperation and comprehension
   - No: Unpredictable

V. Weight: 156 Height: 5' 9"

VI. Special circumstances?
   - History of Falls

VII. Transfer To and From Bed to Chair, which calls for "Algorithm #1"

Selecting Equipment

- Select the most appropriate equipment and the number of staff members needed, based on your assessment.

The Answer

- *Use full body sling lift and 2 caregivers.*
- Here's why:
  - Although the patient can sometimes bear weight, he is uncooperative. The "No" answer to the "Is the Patient cooperative?" question in the diamond leads you to the action in the rectangle: "Use full body sling lift and 2 caregivers."

Assessment and Algorithms

- These two go hand in hand.
- Assess the patient.
- Determine what activity you must perform.
- Follow the algorithm rules to learn what action is recommended.
- Complete your activity safely.

High Risk Tasks: Med/Surg Units

- Transfer from bed to chair*
- Transfer from bed to stretcher***
- Moving Occupied bed or stretcher**
- Making occupied bed* ***
- Bathing a confused or totally dependent patient
- Lifting a patient up from the floor*
- Weighing a patient*
- Applying antiembolism stockings
- Repositioning in bed* ***
- Making occupied bed* ***
- Extensive dressing changes*

* Lifts ** Bed mover or powered bed *** Lateral transfer aid (FRD)

High Risk Tasks: Long Term Care

- Repositioning in Bed*
- Making occupied bed*
- Transferring patient from bathtub to chair*
- Transferring patient from wheelchair to bed*
- Transferring patient from wheelchair to toilet*
- Lifting pt. up from the floor*
- Weighing a patient*
- Applying antiembolism stockings
- Bathing pt. in bed*
- Bathing a patient in a shower chair /trolley*
- Un/dressing pt.*
- Repositioning patient in dependency chair*
- Making occupied bed*
- Feeding bed-ridden patient
- Changing absorbent pad*

* Lifts ** Bed mover or powered bed *** Lateral transfer aid (FRD)

High Risk Tasks: Operating Room

- Standing long periods of time
- Lifting and holding patient's extremities*
- Holding retractors/organs for long periods of time
- Transferring patients on and off operating room tables/beds* ***
- Reaching, lifting and moving equipment
- Repositioning patients on operating room beds***
- Reaching for equipment

* Lifts ** Bed mover or powered bed *** Lateral transfer aid (FRD)

High Risk Tasks: Critical Care Units

- Transporting patients (Road Trips)**
- Lateral Transfers (bed to stretcher)***
- Lifting patient to the head of the bed* ***
- Repositioning patient in bed from side to side* ***
- Making occupied bed* ***
- Applying antiembolism stockings
- Vertical Transfers (bed/chair/commode)*
- Reaching behind & around for equipment, etc.
- Bending (very frequent)

* Lifts ** Bed mover or powered bed *** Lateral transfer aid (FRD)

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Real World Situations

- Some hospitals don't have modern patient handling equipment
- Some hospitals don't use safe patient handling algorithms
- What to do?
  - You can refuse to perform an unsafe activity.
  - Ask your supervisor for guidance
  - Form a patient safe lifting committee/ask union

NNA Actions

- 6 states have passed SPHM legislation
- NNA bill based on model legislation passed in Minnesota
- Sheila Leslie will sponsor the bill
- Nurses must ask their state legislators to support passage of this bill. Nevada Hospital Association likely to fight it.

Resources

- ANA's Handle with Care program
  - http://www.nursingworld.org/handlewithcare/
- VA Patient Safety Center: http://www.visn8.med.va.gov/patientsafetycenter/ (Algorithms available there.)
- NIOSH:
  - http://www.cdc.gov/niosh/topics/ergonomics/
  - http://www.cdc.gov/niosh/review/public/safe-patient/introduction.htm

Resources

- Nelson, A. (Ed.) (2005). *Safe patient handling and movement: A guide for nurses and other health care providers.* www.springerpub.com
- Nelson, A., Motacki, K., & Menzel, N. (2009). *Illustrated guide to safe patient handling and movement.* www.springerpub.com
- Waters, T. R. (2007). When is it safe to manually lift a patient? *American Journal of Nursing (107)* 8, 53-58.