Managing Ergonomics in the Workplace

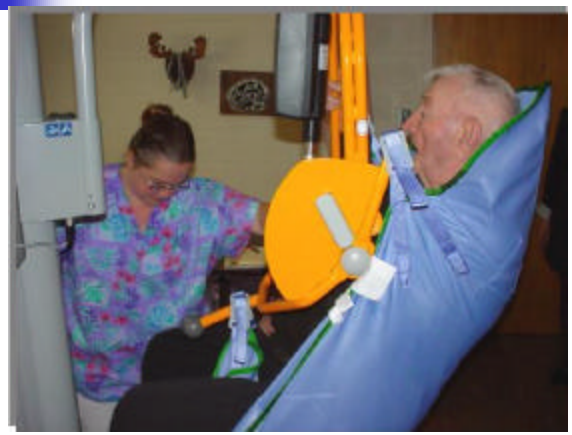
Reducing the Risks Associated with Resident Lifting and Moving

July 27, 2006

Challenges

- The nursing home industry is one of America's fastest growing industries.
- In 2000, approximately 1.9 million direct care workers provided care to 15 million Americans in approximately 21,000 long-term care settings.

Challenges



- Total number of Americans in need of long-term care is expected to rise from 15 million in 2000 to 27 million in 2050.
- The Bureau of Labor Statistics estimates by 2010, industry employment will rise to an estimated 2.7 million workers. This is an increase of roughly 45%.

Challenges

- Long-term care workers face strenuous physical demands and one of the highest rates of injury and illnesses among industries.
- In Minnesota the nursing home TCIR is 10.5 injuries per 100 full-time workers, for private sector sites, and 17.7 for public sector sites.

Overall industry average TCIR is 5.5 – MN rate

Challenges

- As a result, there is an on-going need to convince nursing home employees of the importance of safety management, in recognizing and controlling risk factors associated with resident handling tasks.

Key Management Elements

- Management Acknowledgement / Commitment
- Employee Involvement
- Hazard Identification
- Hazard Control
- Injury Reporting / Case Management
- Training & education
- Review Effectiveness of Management System
- On-going Evaluation and Planning

Management Acknowledges the Problem

- HIGH RATES OF INJURY AMONG NURSING STAFF – PARTICULARLY NA/R's

2003 Minnesota Rates (BLS)
All Injuries and Illnesses per 100 FTE

	total	DART
nursing (private)	10.5	7.5
nursing (public)	17.7	11.8
all private industry	**5.5**	**2.8**

2003 Minnesota Cases
(Workers' Compensation)

percent of all indemnity cases in the nursing home industry classified as WMSD :

58 percent

No wonder nurses are injured!

- In an 8-hour shift, the cumulative weight that nurses lift is equal to an average of 1.8 tons per day

Safe Patient Handling Conference presentation – Audrey Nelson, Ph.D., RN, FAAN, Patient Safety Center of Inquiry, VAMC, Tampa, FL

Whew!

- Nursing is ranked 2nd after industrial work for physical workload intensity

- Nurses have approximately 30% more days off due to back pain as a percentage of all causes compared with 8% for the general population

Safe Patient Handling Conference presentation – Audrey Nelson, Ph.D., RN, FAAN, Patient Safety Center of Inquiry, VAMC, Tampa, FL

Force exerted on low back

- Spinal compression -

- 2-person hook – 858-1477 lbs.
- 1-person hook – 2026 lbs.
- 2-person gait belt – 1034+ lbs.
- 1-person gait belt ~ 1030 lbs.
- 1-person hug lift – 1424 lbs.

safe limit – 764 lbs.

Safe Patient Handling Conference presentations – Audrey Nelson, Ph.D., RN, FAAN, Patient Safety Center of Inquiry, VAMC, Tampa, FL

William Marras, Ph.D., CPE, Institute of Ergonomics, OSU

Force exerted on low back

- Spinal compression -

- 2-person commode to chair ~ 1120 lbs.
- 1-person commode to chair ~ 1500 lbs.
- 2-person wheel chair to bed ~ 1050 lbs.
- 1-person wheel chair to bed ~ 1440 lbs.

  - safe limit – 764 lbs.

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High-risk work environment contributes to:

- high rate of injuries
- higher turnover / rates of absenteeism
- reduced employee morale
- negative affect on the level of care provided
  - familiarity between resident and nurse
  - greater chance of injury to resident during a difficult lift/transfer
  - resident dignity

Management understands the $$$ benefits...

Cost of lift / transfer / reposition aides

vs.

Cost of worker's comp. / medical / lost time / re-training / administrative...

Minnesota Cases
(Workers' Compensation)

Estimated total cost (wages and medical) for WMSD indemnity cases closed in 2004 in the nursing home industry:

$20,000 per case

Wyandot Nursing Home

- reduced work comp. claims by 97%
- zero transfer injuries
- $55,000 payroll savings due to less turnover, OT, & absenteeism (2001)
- $116,000 investment vs. $400,000 annual return

Management Commitment

There needs to be a belief that the S&H efforts can be accomplished, staff are capable of implementing the necessary measures, and the efforts will be effective

Safe resident handling becomes a high priority…

- Safe Resident Handling initiative:
  - value employees as much as residents
  - use of lift, transfer & repositioning aides becomes the norm
  - 2-person transfers and proper body mechanics will not prevent injuries

Action Plan

- What tasks need to be accomplished to reach the desired goal
  - assign task responsibilities
  - establish time-lines for completion
  - track progress

Change the Work Culture

- Change the “old” way of thinking and doing
  - value employees as much as residents
- Establish accountability
  - mid-managers & supervisors responsible for injuries, lost-time, & worker compensation losses
  - promote work practices that prevent injuries

Change the Work Culture

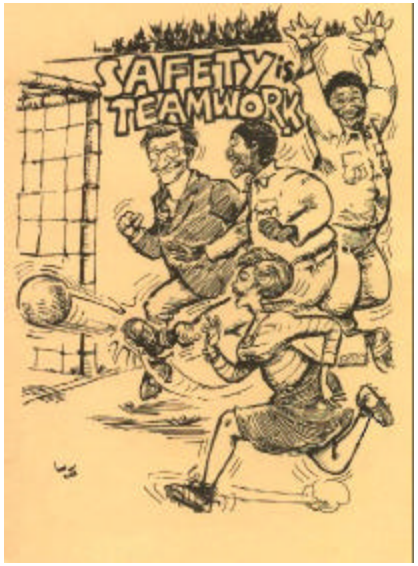
- Accountability most effective when a work environment is provided that encourages and allows for adherence to “best” practices
  - facility, equipment, and training resources provided
- Supervisory staff insist on compliance with established “safe-resident-handling” practices
- Employees accept the new way of performing the work

How do we accomplish this?

Establish a Working Team

- Assign a team leader
- Other members assigned individual roles
  - unit-specific tasks
  - include employees who are affected by the work and potential changes

defn. of **Team** - a group organized to work together...



Identify the High-Risk Units & Tasks

- Worker compensation data
  - type & number of cases
  - severity
- 300 Log injury/illness data
- accident investigation reports / 1st reports of injury
- Site evaluation

Prioritize high-risk tasks

- Injury incidence rates / injury severity
- Surveys
  - “Prioritizing High Risk Patient Handling Tasks”
  - facility-developed staff survey
- *Direct feedback*

-- focus on the current resident & staff needs --

Site Evaluation

Evaluate the work-site and gain employee feedback:

- What tasks are the most difficult to perform and pose the greatest risk of injury
- What factors contribute to the high-risk

Employee Feedback

- What situations / conditions increase a care-givers risk of back strain and injury?

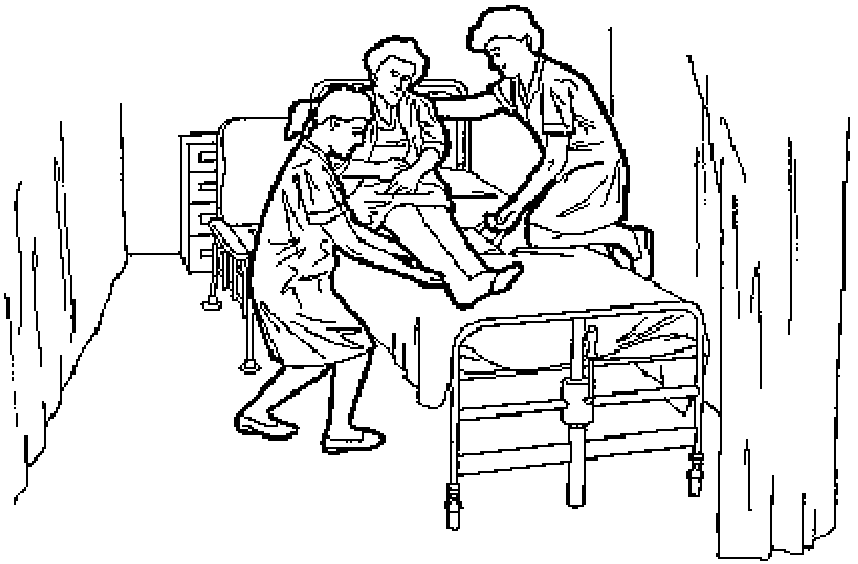
- What specific care tasks are most difficult?
  - which lifts, transfers are most difficult...
  - which residents are most difficult to work with...

Employee Feedback

- Are certain manual transfers difficult to perform? If so, why?
  - -- resident-specific –
- Are certain over-the-bed tasks difficult?
  - -- resident-specific –
- What can be done to reduce the risk?
  - Are mechanical lift-aides available when needed?

Safe Weight Limit

- Consider up to a 35 lb. weight restriction for lifting
  - to coincide with NIOSH RWL and existing research



Employee Feedback

- Do staff follow care plan requirements **always**?

- How are residents lifted from the floor?

Employee Feedback

- Are ambulation tasks difficult? (resident-specific)
  - resident unexpectedly stops bearing-weight
  - resident not supporting their weight well
  - uncooperative
  - history of falls

Facility evaluation

- What facility characteristics contributes to the injury risk?
  - facility design
  - room lay-out / design
  - patient conditions

Equipment Inventory

- Mechanical lifts
- Beds
- other transferring and moving devices
  - low-friction devices
  - lateral transfer aides
  - gait belts
  - shower/commode chairs
  - ...other transfer devices

Resident Population

- Level of dependency
  - total / extensive assistance required
  - limited assistance required
  - independent

Resident Assessment Guidelines

- Assessment tools
- Algorithms for safe patient lifting and moving

- Assess the:
  - resident
    - ability to bear weight & provide assistance
    - level of cooperativeness
    - cognitive ability
    - upper-extremity strength
    - height / weight
    - existing medical conditions
  - area
    - room lay-out
    - facility design
    - existing furnishings & equipment

On-going Resident Assessments

- Care staff know what's "normal"
- They must report changes promptly
- Assessments done as frequently as needed
- Communicate changes to all shifts

Selecting Appropriate Resident Handling Aides *(example: limited assistance)*

	Method of Transfer								
Transfer Type	**Full Sling Lift**	**Stand Assist Lift**	**Lift Walkers**	**Stand Assist Aid**	**Gait Belt w/ Handles**	**Friction Reducing Aid**	**Unassisted**	**Manual Assist**	**Other (specify)**
1) Bed to Chair Chair to Bed			X						
2) Chair to Chair Wheelchair to Toilet			X						
3) Bathing, Weighing				X				X	
4) Lateral Bed to Stretcher						X		X	
5) To Standing Position for Ambulation				X				X	
6) Repositioning in Bed								X	
7) Repositioning in Chair								X	
8) Lift from Floor									
9)									

What is needed?

- Based on the needs of the resident's and current inventory of equipment

- 1 mechanical lift for every 8-10 residents who need assistance
- a combination of ceiling, full-assist floor lifts, partial-assist lifts, ambulation equipment, beds, and other alternative handling devices
- sufficient numbers of slings and other accessories to accommodate residents

Recommend Solutions

- ceiling-mounted lift systems
- full & partial assist lifts
- bariatric aides
- turning & repositioning devices
- ambulation aides
- ...other assist devices for moving residents
- beds
- administrative controls

Recommend Solutions

- vendor & product search
  - strong, stable, & appropriate for resident
  - efficient, maneuverable, versatile
  - easy to understand and operate
- vendor demonstrations
- observations / field-testing

Recommend Solutions

- Employee involvement in observing, testing, and providing recommendations
  - better acceptance if involved in the decision-making process

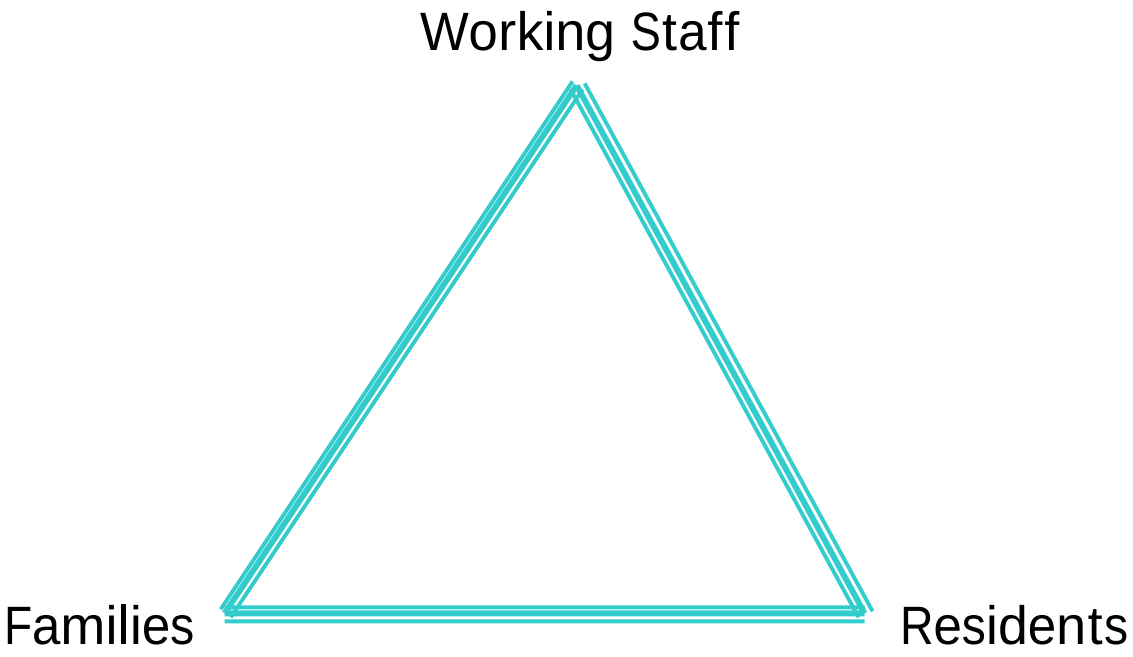
Implement Recommended Solutions

- Purchase equipment
  - *technical service available*
  - *parts availability*
  - *storage requirements*
  - *battery life / charging*
  - *lift base height & width / adjustability*
  - *requirements for operation*
  - *sling types / sizes*
  - *versatility……*
- Implement administrative controls

Implement Recommended Solutions

- **Staff education & training**
  - vendor assistance to demonstrate equipment use
  - competency-based
  - educate on factors that contribute to high-risk of injury

Educate all who are affected:



Accountability

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- Safe Resident Handling work policy
- Insistence on use of lifting & moving aides
- Preceptors / care coaches / team leaders
- Discussion of best practices, issues / solutions... during staff meetings, in-services, performance reviews...

On-going Support of SRH Initiative

- Support and comply with SRH policy
- Set a good example for staff
- Respond to issues that may discourage adherence to ‘best-practices’ and increase injury risk
- Resolve issues that discourage adherence to ‘best-practices’

Evaluate the Effectiveness

- reduction in the # of work comp. cases
  - reduced severity
- reduction in the # of injuries related to resident lifting and moving
- employee acceptance of SRH practices
- equipment availability and maintenance
- absenteeism, turnover, productivity, morale, resident care

Evaluate the Effectiveness

- Cost savings
  - what was the investment vs. cost of injuries (based on past data)
    - work comp. premium
    - medical costs

other costs: over-time, re-training, other administrative costs...

THE HIDDEN COSTS OF INJURIES

DIRECT COST

- Compensation Payments
- Medical Cost

INDIRECT AND HIDDEN COSTS OF INJURIES

- Replacing Employees
- Investigation Time
- Supervision Time
- Training
- Staff Moral
- Possible Patient Injury
- Break-up Work Team
- Administrative Time
- Overtime Paid
- All Other Costs

References

- Patient Care Ergonomics Resource Guide: Safe Patient Handling and Movement, Patient Safety Center of Inquiry
- Guidelines for Nursing Homes, OSHA 3182
- Nursing Home e-tool
- Diamond Insurance Limited Lift Safety Program
- Guldmann Care Lift Management
- Berkley, LLC – implementing a low-lift work environment at a public nursing home
- ...field observations and other safety & ergonomic management references