A safe patient handling continuing education course for allied health professionals

Lindsay M. Bartnik

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A Safe Patient Handling Continuing Education Course for Allied Health Professionals

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The University of Toledo

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Note: This document describes a Capstone Dissemination project reflecting an individually planned experience conducted under faculty and site mentorship. The goal of the Capstone experience is to provide the occupational therapy doctoral student with a unique experience whereby he/she can demonstrate leadership and autonomous decision-making in preparation for enhanced future practice as an occupational therapist. As such, the Capstone Dissemination is not formal research.
The University of Toledo Mission and Continuing Education Curriculum through the Academy of Professional Development

The mission of The University of Toledo is to improve the human condition; to advance knowledge through excellence in learning, discovery and engagement; and to serve as a diverse, student-centered public metropolitan research university. Core values include (1) Compassion, Professionalism and Respect, (2) Discovery, Learning and Communication, (3) Diversity, Integrity and Teamwork, (4) Engagement, Outreach and Service, (5) Excellence, Focus and Innovation, and (6) Wellness, Healing and Safety (UT, 2012).

The Academy of Professional Development is dedicated to providing professional and quality continuing education for a variety of disciplines in fields of education, health science and human service. Programs are developed and presented by professionals using various instructional methods and technology to promote engaged practitioners in optimal learning and discovery. The Safe Patient Handling Continuing Education course encompasses the mission and core values to promote increased professional development, communication and teamwork among the interdisciplinary professionals, and engagement in learning using innovative technologies, to promote the wellness and safety of patients and healthcare professionals at The University of Toledo Medical Center.

Personal Philosophy of Education

In our changing healthcare system, new technology and continuing education drive healthcare practitioners to provide the high quality care and best practice for patients in all healthcare settings. It is our duty as healthcare professionals to sustain and gain knowledge in current evidence-based practices through completion of continuing education. I believe we are continuous learners, and those individuals who seek opportunities to go above and beyond the
requirements for education are the force behind best practice and high quality patient care. Major
concepts involved in this personal continuing education philosophy include adult learning,
intrinsic motivation, and the use of multi-modal learning techniques.

According to Bastable & Garmet (2011) learning can be defined as a change in behavior
that is measured or observed, occurring at any time or place, resulting from exposure to
environmental stimuli. The change in behavior could be an increase in knowledge, attitudes, and
or skills (Bastable & Garmet, 2011). In the Safe Patient Handling Continuing Education Course,
the environmental stimuli will consist of a multi-media presentation in an online format with
several auditory and visual representations, as well as hands-on simulation learning
opportunities. Learning outcomes will be measured through completion of online module
quizzes, completion of two patient criteria assessments through case study scenarios, and the
completion of in-person competency training. This course will be offered through the
Blackboard Learning System, which will aide in providing access to communication with the
teacher and other students completing the course via email and discussion forums if the adult
learner chooses to utilize the opportunity.

I believe successful learning is active-learning, where the learner is involved in the
process and acquires the intrinsic motivation to learn. Tyler (1949) argues that education must
provide opportunities for the student to enter actively into the things that interest him, and of
which they may be deeply involved, as well as learn how to carry on those activities effectively.
Patient handling is a common task among healthcare workers and it is assumed that many of
those individuals involved have the desire to prevent themselves and their patients of injuries.
Therefore the topic of interest, safe patient handling practices, is meant to intrigue and further
educate the population of allied health professionals. Throughout the learning modules in this
course, the learners are provided with the tools to help them carry out the most effective
evidence-based approaches to patient handling and further guide sound clinical decision making.

Within this continuing education course, the population of allied health professionals has
an established base of knowledge within their area practice. The theoretical framework of
constructivism is appropriate to consider in my philosophy as it is believed that learning
continually builds upon prior knowledge, or schema of that student learner. According to Bruner
(1966) important concepts of constructivism is the students’ readiness to learn, content to be
structured so that it can be easily grasped by the learner, and materials designed to facilitate
extrapolation, or having the students go beyond the information given to blend into their real
world situations. Each module within this course will provide the learner with information that
can easily be transferred to the clinical and real world setting. Supplemental readings, videos,
and case study scenarios will also be provided to engage the learner to go beyond the material
presented and relate the information to real practice.

Piaget & Inhelder (1969) hold beliefs that within constructivist philosophy, knowledge is
not merely given but expanded upon through real life experiences that have meaning and purpose
to that learner. Together the use of constructivism and humanistic learning principles within
problem-based learning can help nurses and other allied health professionals make a better
transition of material to their clinical setting (Crawford, 2011). The information within this
continuing education course is relevant and based upon the current needs of the healthcare
profession. Realistic case study examples and problem-based learning methods will help to
facilitate the learning beyond the course and help in the transition of carry-over to practice. The
completion of two assessment criteria and care plans in this course will demonstrate the practical application of this knowledge.

I believe the learner should be presented with multiple teaching modes to provide varied opportunities for learning, since no one individual learns in the same way. Multi-modal teaching is combining multiple methods of teaching to accommodate different learning styles. This may be through pictures, such as diagrams, graphs, or other representations and art forms such as videos. According to Tannerbaum (1998), multimedia is defined as, “an interactive computer-mediated presentation that includes at least two of the following elements: text, sound, still graphic images, motion graphics, and animation.” (p. 4) This definition will be used to describe one of the several teaching methods used within this course.

According to data from 23 studies and meta-studies on multi-modal learning, the Metiri Group, an educating consulting firm, claim that students of all ages actually retain new verbal information, textual or oral, when teachers supplement it with visual models (Weir, 2008). Through this web-based course some of the multi-modes used will include the use of multimedia in each of the web-based modules and end with a hands-on simulation on the use of patient handling equipment. In a study of computer tutorials and adult learning, using paper-based versus animated-enhanced, results showed that those adult student learners in the animated-enhanced group significantly improved the ability to apply knowledge learned than the text-based only group (Ellis, 2004). This helps to validate the use of multi-media within the course, including graphics, pictures, and video demonstration. Technology is ever changing and its use is ever increasing, and becoming more accessible. This course is web-based so it may be accessible to all employees at various times and has opportunities for the use of technology such as voice-over presentation, video demonstrating, and web browsing.
The Safe Patient Handling Continuing Education course relates to the mission and core values of The Academy of Professional Development within The University of Toledo, helping to promote increased professional development, communication and teamwork among the interdisciplinary professionals, and engagement in learning using innovative technologies in the area of safe patient handling practices. This course is founded upon on evidence-based practice, which has the opportunity to move practitioners toward the ultimate goal of The University of Toledo, “to improve the human condition;” including not only the patient, but also healthcare professional.
References


http://www.sciencedirect.com/science/article/pii/S1471595310001368#


Cisco Systems, Inc.


Course Dissemination

This Safe Patient Handling Continuing Education Course is intended to further the education of the allied health employees of The University of Toledo Medical Center, and healthcare professionals within the community, including staff nurses, and nursing assistants, occupational and physical therapists and assistants, and any other rehabilitation and healthcare professionals handling and maneuvering patients on a daily basis.

According to Waters & Rockefeller (2010) health care personnel are required to manually handle patients on a regular basis and face a higher risk of developing musculoskeletal disorders. The solution for these high risk manual patient handling tasks in health is the practice of safe patient handling. Safe patient handling programming refers to policies and procedures that enable healthcare practitioners to assist in moving patients in a way that prevents injury or strain (The American Nurses Association, 2011). The Safe Patient Handling Continuing Education Course aims to further educate allied health professionals in the use of safe patient handling practices and reduce the rate of work-related musculoskeletal disorders. Objectives of this program surround increasing the knowledge base of the health professional in the topic of safe patient handling and movement practices and the use of the current evidence-based solutions which help to reduce and prevent the injuries.

This web-based course consists of four modules utilizing multiple teaching modes to provide varied opportunities for learning including voice-over PowerPoint presentations, video demonstration, still-frame visual media, completion of patient assessments through case studies scenarios, opportunities for web-browsing, and a hands-on simulation in the form of an in-person competency training. The healthcare practitioners completing this continuing education course will be required to demonstrate competencies in safe patient handling practice through a passing
score of 80% or greater on the three module quizzes and provide the instructor with hard copies of two patient assessment and criteria care plans from the case study examples provided in module four (see Appendix A for each Module Quiz and Appendix B for the Patient Assessment and Criteria Care Plan documents). Once each student completes the last module, an in-person competency training session should be completed within 14 days. The student will demonstrate competency in the use of patient handling equipment and technology, consisting of one lab contact hour (see Appendix C for Competency Training Check-off Sheet).
Course Outline

Health Science and Human Service

Program: The Academy of Professional Development

Course Name: A Safe Patient Handling Continuing Education Course for Allied Health Professionals

Contact Hours: 4 hours

Potential Textbooks or Other Resource Material:

The four web-based modules are available in a PowerPoint Presentation format. Other resources may include by is not limited to, patient lifting equipment manuals, algorithms and patient assessment handouts, legislative materials, and use of the World Wide Web.

Teaching and Learning Experiences: This web-based course consists of four modules utilizing multiple teaching modes to provide varied opportunities for learning including voice-over PowerPoint presentations, video demonstration, still-frame visual media, completion of patient assessments through case studies scenarios, opportunities for web-browsing, and a hands-on simulation in the form of an in-person competency training. Continuing education credit will be provided via Blackboard Learning.

Course Relationship to The University of Toledo’s Mission and Philosophy

The mission of The University of Toledo is to improve the human condition; to advance knowledge through excellence in learning, discovery and engagement; and to serve as a diverse, student-centered public metropolitan research university. Core values include (1) Compassion, Professionalism and Respect, (2) Discovery, Learning and Communication, (3) Diversity, Integrity and Teamwork, (4) Engagement, Outreach and Service, (5) Excellence, Focus and Innovation, and (6) Wellness, Healing and Safety.

This course encompasses the mission and core values to promote increased professional development, communication and teamwork among the interdisciplin ary professionals, engagement in learning innovative technologies to promote the wellness and safety of patients and healthcare professionals.

Course Relationship to The University of Toledo Continuing Education Curriculum Design

The Academy of Professional Development is dedicated to providing professional and quality continuing education for a variety of disciplines in fields of education, health science and human service. Programs
are developed and presented by professionals using various instructional methods and technology to promote engaged practitioners in optimal learning and discovery. The Safe Patient Handling Continuing Education course encompasses the mission and core values to promote increased professional development, communication and teamwork among the interdisciplinary professionals, and engagement in learning using innovative technologies, to promote the wellness and safety of patients and healthcare professionals at The University of Toledo Medical Center.

**Course Objectives and Student Learning Outcomes:**

At the completion of Module One: *An Introduction to Musculoskeletal Injuries and Safe Patient Handling Practice:*

- The learner will be able to recognize or recall, some of the common definitions in Safe Patient Handling Practice, recognize the causes of work related musculoskeletal disorders in U.S., the myths associated with patient handling, the current legislation on safe patient handling initiatives, and the evidence-based practices within safe patient handling and movement practice, as evidenced by a passing score of 75% or greater on the module quiz.

At the completion of Module Two: *Beyond using Proper body mechanics: The Risks and Solutions:*

- The learner will be able to recognize or recall the basic components of the use of proper body mechanics and what the literature says in regards to common complications of patient transfer tasks, high-risk patient handling tasks, ergonomic stressors within healthcare, and the basic components to an ergonomics program that promotes safe patient handling practices, as evidenced by a passing score of 75% or greater on the module quiz.

At the completion of Module Three: *Repositioning, Transfer, and Patient Lifting Devices:*

- The learner will be able to recognize or recall Several manual and mechanical lifting, transfer, and repositioning devices, the technique and appropriate use of various devices, and the use of each device within the hospital and rehabilitative setting by a passing score of 75% or greater on module quiz.

At the completion of Module Four: *Patient Assessment Criteria and Care Plans: Promoting Clinical Decision Making:*

- The learner will be able to recognize or identify the evidence-based protocol for patient assessment related to patient handling, the purpose for the use of assessment criteria, care plans, and algorithms in patient handling, general directions for all tasks in patient handling according to research, and the appropriate use of the evidence-based protocols through two case study scenarios through the correct completion of two assessment criteria and care plan documents, graded by instructor during the 1 hour in-person competency training.
## Course Content

<table>
<thead>
<tr>
<th>Course Topics</th>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td><strong>Module 1: An Introduction to Musculoskeletal Injuries and Safe Patient Handling Practice</strong></td>
<td>This module includes the definitions in Safe Patient Handling Practice including Musculoskeletal Disorders (MSDs) and Safe Patient Handling, the current statistics of injuries among healthcare workers in the U.S. and causes of musculoskeletal disorders. Module also includes the common myths associated with safe patient handling, the current legislation on safe patient handling initiatives, and the safe patient handling evidence-based practices.</td>
</tr>
<tr>
<td><strong>Module 2: Beyond Using Proper body Mechanics: The Risks and Solutions</strong></td>
<td>This module answers the question, what is proper body mechanics, why we learn about it, and what the literature explains. The complications of patient transfer tasks, high-risk patient tasks, ergonomics stressors in healthcare, ergonomics training, and program components will be discussed based upon Water’s (2007) Revised Lifting Equation from the National Institute for Occupational Safety and Health. The module will also discuss practical use of these practices in the clinical setting, recommendations, and quick tips.</td>
</tr>
<tr>
<td><strong>Module 3: Repositioning, Transfers, and Patient Lifting Devices</strong></td>
<td>Discussion of basic ergonomic guidelines to proper lifting in various settings and patient situations as recommended by such organizations as the Occupational Safety and Health Administration, American Nurses Association, the American Occupational Therapy Association, and American Physical Therapy Association. Guidelines from various organizations will help to promote learning for employees in various professions (e.g. nursing, therapy...</td>
</tr>
</tbody>
</table>
Module 4: Patient Assessment Criteria and Care Plans: Promoting Clinical Decision Making

Two patient mobility assessments will be discussed; initial and ongoing. The overall goal for the employee is to learn the basic components of the assessment and develop problem solving capabilities for determining the most appropriate type of lift, transfer, and/or repositioning techniques with a wide range of patients in hospital and rehabilitative settings.

Competency Training:

At the completion of the four modules, the student learner will have completed the following:

- Module Quiz 1
- Module Quiz 2
- Module Quiz 3
- Patient Assessment and Criteria Care Plan (2 Case Study Scenarios); hardcopies to instructor

Once the student completes the above modular quizzes and care plan assignments, within 14 days the student must sign-up for the in-person competency training check-off. Sign-up will occur through Blackboard System and will require an additional 1 hour for a hands-on simulated experience.

Room locations, hours for open practice and training, materials, and check-off sheets for instructions will be posted on Blackboard and will occur at various times due to instructor availability.
AN INTRODUCTION TO MUSCULOSKELETAL INJURIES AND SAFE PATIENT HANDLING PRACTICE

MODULE ONE

LEARNING OBJECTIVE

Participants will be able to recognize or recall:
- Common definitions in Safe Patient Handling Practice
- Causes of work-related musculoskeletal disorders in U.S.
- Myths associated with patient handling
- Legislation on safe patient handling initiatives
- Evidence-based practices within safe patient handling and movement practice

CONTENT OUTLINE

- Definitions in Safe Patient Handling Practice
  - Musculoskeletal Disorders (MSDs)
  - Safe Patient Handling
- Current statistics of injuries among healthcare workers in the U.S. and causes of musculoskeletal disorders
- Myths associated with safe patient handling
- Current legislation on safe patient handling initiatives
- Safe Patient Handling Evidence-Based Practice

MUSCULOSKELETAL DISORDERS (MSDs)

“...Injuries or disorders of the muscles, nerves, tendons, joints, cartilage, and spine that occur as a result of awkward postures, repetitive motion, repeated impacts, or heavy, frequent, or awkward lifting”

(Dregeren, 2006)

- Does not include slips, trips, falls, or motor vehicle accidents

DID YOU KNOW?

- Nursing assistants had a higher number of any work-related MSDs than any other occupation in 2011
- In a 2011 ANA survey, 80% of nurses reported they were working with MSD pain
- 62% cited a disabling musculoskeletal injury as one of their top health and safety concerns
WORK-RELATED MUSCULOSKELETAL DISORDERS

- Nurses rank in top ten incidence of work-related musculoskeletal disorders (MSDs)
- 12% leave profession due to back injuries
- 52% complain of chronic back pain
- Many MSDs directly relate to handling of patients
  (Baranino, Schwartz, & Rich, 2009)
- Occupational and physical therapists at risk of developing work-related injuries

HEALTHCARE AND MSDs

- "Industries reporting a large number of cases of back injuries include hospitals and personal care facilities."
  (OSHA, 2012)
- MSDs associated with:
  - Ways in which various tasks are performed
  - Positioning of the body
  - Type of physical work
  - Amount of time exposed
  - Repetitiveness

SYMPTOMS OF MSDs

- Early stage:
  - Pain may disappear after rest
- Intermediate stage:
  - The body part aches and feels weak soon after starting work; lasts until well after finishing work.
- Advance stage:
  - Body part aches and feels weak at rest
  - Sleep may be affected
  - Light tasks become difficult
- Other symptoms/signs:
  - Tingling, numbness, fatigue, weakness
  - Redness, swelling, compromised joint movement

WHAT IS THE ANSWER?

- Prevention of MSDs through:
  - Practice of ergonomics
  - Safe Patient Handling Practices
  - Eliminate manual lifting of patients
  - Incorporating use of technology
  - Increased staff communication
  - Development of policies and procedures

WHAT IS SAFE PATIENT HANDLING?

Refers to policies and procedures that enable healthcare practitioners to assist in moving patients in a way that prevents injury or strain

(Sources: American Nurses Association, 2011)

SAFE PATIENT HANDLING AND MOVEMENT (SPHM)

- SPHM Program
  - Uses assistive devices to help reduce staff injury and improve safe delivery of patient care
  - Assistive equipment and devices significantly reduce the risk of musculoskeletal injury to healthcare staff
  - Overhead ceiling and floor-based lifts, lateral transfer devices, friction-reducing devices

(Sources: Baranino, Schwartz, & Rich, 2009)
TIMELINE AND LEGISLATION

SAFE PATIENT HANDLING TIMELINE
- OSHA issues ergonomic standard in 2000
  - Repealed by Congress
- OSHA developed set of guidelines for Nursing Homes
  - Guidelines for Nursing Homes: Ergonomics for the Prevention of Musculoskeletal Disorders

HANDLE WITH CARE PROGRAM
- In 2003 ANA launched nationwide program
- Mission:
  - "to mount an industry-wide effort to prevent back and other musculoskeletal injuries through greater awareness and training, with increased use of assistive equipment and patient handling devices."
- ANA Handle With Care® Backgrounder

ASSOCIATION OF OCCUPATIONAL HEALTH PROFESSIONALS IN HEALTHCARE
- July 2004 AOHHP
  - Issued a position statement on patient handling

NO SET STANDARDS
- "While there is no national, formal standard for safe patient handling, OSHA addresses ergonomic concerns, including safe patient handling, through the general duty clause that requires every employer to provide a safe and hazard-free work environment."

10 STATES ENACTED LEGISLATION
- Since 2003:
  - 10 states have enacted safe patient handling laws, with a resolution from Hawaii
MYTHS ASSOCIATED WITH PATIENT HANDLING

Myth # 1:
“Training in body mechanics is effective in preventing job-related injuries”

Not effective when used alone

COMMON MYTHS IN PATIENT HANDLING

MYTH # 2

“Therapists and nurses communicate well and speak the same language when making decisions about patient handling”

Communication needs improvement

MYTH # 3

“The use of patient-handling equipment is impersonal”

Based upon the technique, rather than equipment

MYTH # 4

“If a facility buys lifting equipment, the staff will use it”

Equipment requires staff training, education, enforcement of protocols in patient handling
MYTH # 5

"Lifting patients is the only high-risk patient handling task"

Many patient handling tasks are high-risk!

WHERE DO WE GO FROM HERE?

EVIDENCE-BASED PRACTICES

- Growing body of evidence support new interventions
  - Not used on consistent basis in U.S.
  - Equipment and devices have strong level of evidence
    (Nelson & Badger, 2005)

EVIDENCE-BASED PRACTICES

- Most promise and strongest level of evidence:
  - Use of patient handling equipment/devices
  - Patient ergonomics assessment protocols
  - Patient assessment, care plans, algorithms
  - Safe lifting or no lift policies
  - Lift teams

TYPES OF PATIENT HANDLING EQUIPMENT

- Vertical Transfers
  - Powered Full Body Sling Lifts
  - Floor-Bound Lifts
  - Ceiling-Hung Lifts
  - Powered Sling Lifts
  - Non-Powered Sling Lifts
  - Low-Profile Transfer Aids
  - Gait Transfer Belts
- Lateral and Repositioning Transfers
  - All-Wheel Systems
  - Non-Reducing Slide Devices
  - Mechanical Lateral Transfer Aids
  - Sliding Boards
  - Transfer Chairs
  - Powered Transport Devices
  (Nelson, 2005)

PATIENT ERGONOMIC ASSESSMENT PROTOCOLS

- Patient ergonomic assessment protocols
  - Patient assessment
  - Develop care plans
    - Type of task, type of equipment/device, number of healthcare providers to complete task, and special considerations
  - Algorithms
SAFE LIFTING POLICIES
- Part of comprehensive approach to reducing work-related MSDs
- Provides clearly written guidelines for safe lifting, patient assessments, staff training requirements, lifting procedures, equipment maintenance

LIFT TEAMS
- Defined as, “two physically fit people, competent in lifting techniques, working together using mechanical equipment to accomplish high-risk patient transfers”

BENEFITS OF LIFT TEAMS
- Safe for patients,
- Increased comfort
- Quality of care for patients
- Decrease in injuries to nurses and therapy personnel,
- Decrease in lost and restricted days
- Decrease in compensation and medical dollars

FUTURE OF SAFE PATIENT HANDLING PRACTICE
- Teach new evidence-based approaches to schools
- Nursing, occupational, physical therapy
- Apply research to the clinical settings
Don’t be another statistic!

ANA TO DRAFT STANDARDS
- ANA to draft standards for employees by end of 2013
- Message behind new draft standards issued by the American Nurses Association
  “Safe patient handling should be standard practice, not best practice.”

FINAL THOUGHT
Caregivers, healthcare professionals are at a great risk of MSDs, shortened careers, long term disability, reduced earnings due to routinely performing high risk manual patient handling
(Hetson, Mohacki, Bilzerian, 2009)
Be the one to prevent these adverse outcomes, make it your responsibility to know how to work safely!
SUMMARY

- Familiar with definitions common in patient handling, causes of MSDs, myths associated with patient handling, current legislation, and evidence-based practices that help to provide the best practice in the healthcare setting.

REFERENCES


REFERENCES


Module Two: Beyond Using Proper Body Mechanics: The Risks and the Solutions

Learning Objectives
Participants will be able to recognize or recall
- Basic components of proper body mechanics
- Complications of patient transfer tasks
- High-risk patient handling tasks
- Ergonomics stressors in healthcare
- Basic ergonomic program components

Content Outline
- What is Proper Body Mechanics?
- Why do we learn about it? What does the literature say?
- Complications of Patient Transfer Tasks
- High-Risk Patient Handling Tasks
- Patients in 2023
- Disease Evidence
- Ergonomics
- Stressors in Healthcare
- Water’s Lifting Equation
- Ergonomic Training
- Program Components
- Use in clinical setting
- Recommendations and Quick Tips

What is Proper Body Mechanics?
The use of one’s body to produce motion that is safe, conserves energy, and is anatomically efficient; all of which allows the individual to maintain balance and control

Why Learn About It?
- Provides less stress on body
- May help to prevent injury
- Conserves energy
- Can ensure clinician and patient safety

Recap: Injuries Still Occur...
- Nurses and therapists, orderlies, and nursing assistants are still acquiring injuries
- Focus on proper body mechanics and training efforts by themselves is...NOT WORKING!
Body Mechanics and Evidence-Based Practice
- Over-reliance of body mechanics in healthcare
- Strong level of evidence that technique training has no impact on working practices or injury rates (Nguyen, 2005)
- For those hospitals and rehabilitation centers who focused solely on technique training (e.g., teaching proper body mechanics) alone

Complications of Patient Transfer Tasks
- Patients are not shaped like a box
- Body parts unevenly distributed
- Patients do not have handles
- Frail, elderly patients
- Presence of contractures, open wounds

Complications of Patient Transfer Tasks
- Uncooperative or combative patients
- Obesity epidemic
- Unpredictability of patient transfers
- Obstacles such as furniture, equipment, machines, tubes, catheters, wires, or small rooms/bathrooms

High Risk Patient Handling Tasks
- Transfers to and from:
  - Bed → Chair → Toilet, Chair → Chair → Stretcher, Chair → Examination Table, Chair → Chair
- Lateral Transfers to and from:
  - Bed stretchers, bath seat
- Repositioning in:
  - Bed
  - Wheelchair
  - Geriatric Chair

High Risk Tasks in Critical Care
- Pushing occupied beds, stretchers
- Latent patient transfers
- Moving to head of the bed, "Boothing Up in Bed"
- Making occupied beds
- Applying anti-embolism stockings
- Lifting or moving heavy equipment

Patients in 2013
- Patients are sicker, older and heavier than 10 years ago
- Expected to continue with aging of "baby boomers"

"It is a perfect storm. As the economy got weird, people waited until they got sicker to come to the hospital. The county even has had increased numbers in their number of hospitalizations. Uninsured patients are increasing in numbers. We just had our first 300-pound patient admitted and the hospital is cutting back on staff.

-Washington State Hospital Representative

No paper, pen & paper, 2007
Obesity Epidemic
- Over 35% of adults in the U.S.
- Close to 17% of children (2-19)
- By 2030, obesity rate could top 44% nationally
- Click on the link below to see report and each state's obesity statistics
  http://health.america.org/report/100

What is the Answer?

ERGONOMICS!
“Designing all the components of the work environment to best accommodate the capabilities of the worker” (Karsh, 2001)

“The scientific study of the relationship between people and their occupation, equipment, and environment” (Petras, 1986)

Ergonomic Stressors in Healthcare
- Force
- Contact Stress
- Repetition
- Vibration
- Awkward Postures

Injury

Water’s Lifting Equation
- Waters (2007)
  - Established Revised Lifting Equation
  - Recommends maximum of 35 lb, ideal conditions
  - Assistive devices should be used/more caregivers

How Do You Determine How Much You Are Lifting?
Based upon patient assessment criteria: using 75 lb, weight limit
- The Veterans Integrated Service Network 8 (VISN 8) Patient Safety Center of Inquiry
  - Developed algorithms to help healthcare workers differentiate between dependent and partial weight bearing patients

Example
A nurse is responsible for raising a patient’s leg off the bed while preparing the leg for surgery
- Patient weighs 250 lb, dependent and unconscious
  - Is it safe to lift the leg?

Patient’s leg estimated weight = 39 lbs.
(Approximately 16% of total body weight)

Not safe, even in ideal conditions
(Waters, 2007; Chaffin, 2009)
Example

- One nurse and one occupational therapist are helping a patient to stand from a chair after knee surgery.
- Patient weighs 180 lbs; can assist only partially (about half of weight, 90 lbs.)
- Is it safe to lift?
- Each person to lift 45 lbs.

Not safe to lift, use lifting device or sit-to-stand device

(Waters, 2007; Oshin, 2009)

Ergonomics Training

- OSHA recommends patient lifting be minimized in all cases and eliminated when possible (U.S. Department of Labor, OSHA, 2004)

1. Recognize the signs and symptoms of MSDs for early reporting
2. Identify jobs or tasks that have ergonomics stressors capable of causing MSDs
3. Know how to control ergonomics stressors

Ergonomics Program Components

- Establishment of Policies and Procedures
- Training, continuing education, competency check-offs
- Patient Lift Teams
- No Lift Policy/Safe Lifting Policy
- Patient Assessment Criteria and Care Plan
- Algorithms
- Clinical Decision Making

Patient Lift Teams

- "Two physically fit people, competent in lifting techniques, working together, using mechanical equipment to accomplish high-risk patient transfers" (Bonaccorso, Hetzel, McPherson, & Sieders, 2006, p. 411)
- Trained in anatomy, body mechanics, use of mechanical lifting and transfer devices
- Performs scheduled and on-call patient transfers

No Lift Policy

- Provide clear understanding of program elements
- Defines staff roles and responsibilities
- Includes all staff affected by patient handling
- Guides patient assessment
- Training requirements
- Equipment storage
- Maintenance procedures

Recommendations by NIOSH To Prevent MSDs

- Participate in ergonomic training
- Use ergonomic assistive devices
  - Manual and mechanical aids
- Use proper body mechanics!
- Notify employer promptly of injury at work

(NIOSH, 2012)
Use of Proper Body Mechanics in the Clinical Setting

- Physical exertion may still be required
- Assistive devices first!
- Remember Water's (2007) Lifting Equation?
What is recommended to be the maximum weight a healthcare worker should lift during their daily encounters with patients and equipment?

35 pounds, only under most ideal conditions!

Ergonomic Strategies

Quick Tips

Bedside Care

- Instead of reaching while performing bedside tasks,
  move along side of patient’s bed

Bedside Care

Manually Moving Patients

- Stand as close to patient without twisting your back,
  keep your knees bent and feet apart
  one foot in the direction of the move
  use gentle rocking motions

Repositioning Patients
Repositioning Patients

- Head of bed should be flat or down
- Raise patient’s knees
- Encourage patient to assist

Manually Moving Patients

Applying Stockings

- Push them while standing at foot of the bed
- Bed height should be at comfortable height

Summary

General Risks Factors to Healthcare Workers

- Weight / Height Differences
- General Health / Fitness
- Alertness
- Strength
- Fatigue / Level of Fatigue
- Interaction
- Communication

HOSA, Handle with Care™ [2008]
Directions for Module Quiz

Review the materials
Complete Module Two Quiz

References


References


Module Three: Repositioning, Transfers, and Lifting Devices

Learning Objective
- Participants will be able to recognize or recall
  - Manual and mechanical lifting, transfer, repositioning devices
  - Appropriate use of assistive devices
  - Patient criteria for the use of each device

Outline of Module
This module will describe and discuss:
- The Need
- Technologies in Safe Patient Handling Practice and Movement
  - Vertical and Lateral Transfer Aides
    - Description
    - Advantages
    - Patient abilities
    - Type of task for transfer
    - Considerations for use

Recap
- Nurses rank in top ten incidence of work-related musculoskeletal disorders (MSDs)
- 52% leave profession due to back injuries
- 12% complain of chronic back pain
- Many MSDs directly relate to handling of patients
  (Arcaro, Silvers, & Parks, 2009)
- Occupational and physical therapists at risk of developing work-related injuries
- Dargh, Huddleston & King (2009)
  - 16.5 per 100 FT (OTs)
  - 16.9 per 100 FT (PTs)

The Need
- "Technological solutions are needed to address the prevalence of musculoskeletal injuries in nursing and healthcare related to patient handling and movement tasks." (Lloyd, 2006)

The Answer
- Task requiring more than 35 lbs. will require the use of patient handling equipment. (Wines, 2007)
**What are the Technologies in Safe Patient Handling?**

**Vertical Transfer Devices**
- Powered Full Body Sling Lifts
- Floor-based Lifts
- Ceiling-Mounted Lifts
- Powered Standing Aids
- Non-Powered Standing Aids
- Gait/Transfer Belts

**Lateral/Repositioning Transfer Devices**
- Air-Assisted Systems
- Friction-Reducing Sliding Devices
- Mechanical Lateral Transfer Aids
- Sling Boards
- Transfer Chairs
- Powered Transport Devices

**Powered Full-Body Sling Lift**

- Most commonly used patient lifting technology
- Floor-based vs. Ceiling-mounted
- The patient-care sling is "a fabric device that is used with mechanical lifting equipment to temporarily lift or suspend a patient or body part to perform a patient-handling task" (Mensel, Muir, & Wells, 2006)
- Advantages:
  - No physical lift or repositioning required by healthcare provider
  - Battery powered

**Floor-Based Lifts**

- Constructed on a base, moveable across floor
- Advantages
  - Portable
  - Eliminates manual lift
  - Most have ability to lift patient from floor
- Patient Abilities
  - Unable to bear weight
  - May not be cooperative or limited upper extremity strength

**Floor-Based Lifts**

- Used with:
  - Positioning patients in seated position
  - Transport to another area (e.g. bed to chair, chair to bed, chair to toilet)
- Considerations:
  - Not used for long-distance transporting
  - Difficult to operate in small spaces (e.g. bathrooms)
  - May be unavailable during high-demand times of shift
  - Requires storage space
  - Requires push/pull forces of the caregiver

**Using a Floor-Based Lift**

**Transfer Video**

**Ceiling-Mounted Patient Lifts**

- Suspended from tracks mounted on ceiling
  - Single-track
  - Limited to dedicated pref
  - Transverse track
  - Broader coverage
- Advantages:
  - Does not impede on floor space
  - Easier access
  - Transfers safely in tight spaces
  - Requires fewer caregivers
Ceiling-Mounted Patient Lifts

- Patient abilities:
  - Unable to bear weight
  - Uncooperative, or no upper extremity strength
- Used with:
  - Any vertical transfer, in allowance with length of track
- Considerations:
  - Restricted to locations for installation
  - Larger capital investment, however may increase productivity and longevity of operation

Powered Standing Lift

- Patient abilities:
  - Partially bear weight
  - Non-ambulatory
  - Cooperative
- Use with:
  - Sitting to standing position
  - To and from chair, wheelchair, bed, toilet, commode
- Considerations:
  - Not for individuals with limited cognitive impairments, are combative, or unpredictable

Non-Powered Standing Aids

- Allows for patients with reduced leg and/or abdominal strength to stand with little needed support
- May be free-standing or attached to beds
- May be an alternative to a bed rail, as it can pose as an entrapment risk

Gait/Transfer Belts

- Used with:
  - Assisting patient to one position to another
  - Patient ambulation
- Considerations:
  - Not used designed for lifting weight of patient
  - Not appropriate for cognitively impaired, combative, or unpredictable patients
  - Not for bariatric patients
Proper Use of a Gait Belt

Step 1: Explain procedure, place belt around patient’s waist.

Step 2: Thread the gait belt behind the teeth of the belt.

Step 3: Pull belt through snug around the waist.

Step 4: Insert belt tail through opposite buckle so that the teeth holds the loop.

Step 5: Ensure belt is snug, about a hands width should fit.

Step 6: Position yourself next to the patient. Closest hand holding the belt in hand, other hand supporting their shoulder in front.

Step 7: Ensure foot position.

*Note: For patients with limited mobility or sensory impairment:
- Footrest on bed if needed
- Feet slightly apart, one in front of the other

Considerations

Do not:
- Place over breast area
- Proximal (close) to under arms
- Over wounds, incisions, burns
- Place over or under: Foot, G tubes
- The with dependent, noncooperative, combative, or unconscious patients

Do:
- Place above tubes
- Place above incision, burn, or wound areas
**Proper Use of a Gait Belt**

- **Step 1: Ready**
- **Step 2: Steady**
- **Step 3: Stand**

**Air-Assisted Lateral Transfer Systems**

- **Lateral Transfer Equipment**
  - Consists of a deflated specialty air mattress installed beneath the patient.
  - Attached portable air supply inflates mattress.
  - Air flows through perforations, uniting weight of patient, reducing forces of weight of patient during lateral transfer.
  - Advantages:
    - Used for patients who require little or no assistance during transfer.
    - Suitable for patients with special conditions such as burns, or pressure ulcers.
    - No maximum weight capacity.

**Air-Assisted Lateral Transfer Systems**

- **Patient abilities**
  - Partially or unable to assist.
- **Used with**
  - Transferring patients between parallel surfaces.
- **Considerations**
  - Two caregivers needed to perform task: three or more with heavier patients.
  - Bariatric use.

**Friction-Reducing Devices**

- **Lateral Transfer Equipment**
  - Constructed of synthetic, smooth material which reduces friction during lateral transfer.
  - With or without handles, washable or disposable.
  - Advantages:
    - Multiple uses, portable, easy accessible, low cost.
  - Patient abilities:
    - Partially or unable to assist.

**Friction-Reducing Devices**

- **Lateral Transfer Equipment**
  - Used with:
    - Lateral transfers to parallel surfaces including:
      - Bed > patient (new versus), repositioning in bed, breezing up in bed, range of motion.
      - Transfers to same height surface.
  - Considerations:
    - Not for horizontal transfers.
    - Not for repositioning bariatric patients.
    - Uses two or more caregivers, three or more with heavier patients.

**Friction-Reducing Slide Sheets**

- **Repositioning Video**
Mechanical Lateral Transfer Aids
Lateral Transfer Equipment
- Provide mechanized or powered assist for horizontal transfers
- Used alongside stretchers
- Advantages:
  - Significantly reduce risk of injuries to caregivers
  - Appropriate for bariatric population and completely dependent patients

Sliding Boards
Lateral Transfer Equipment
- Made with smooth, rigid material, acts as a supporting bridge for slide transfers
- Advantages:
  - Low cost
  - Maintains functional level, increasing independence
  - Patient abilities:
    - Unable to bear weight on lower extremities
    - Stable trunk or balance
    - Able to flex at the hip and knees
    - Good use of arms

Transfer Video

Slide Board Transfers

Sliding Boards
Lateral Transfer Equipment
- Used with:
  - Lateral transfers from seated position
- Considerations:
  - Not for completely dependent patients, obese patients, or patients with limited ability to follow directions

Transfer Chairs
Lateral Transfer Equipment
- Chair converts to flat stretcher
  - Chair > bed, bed > stretcher (rise versus)
- Helps to eliminate vertical transfer

Powered Transport Devices
Lateral Transfer Equipment
- Assists transporting patients in bed, stretcher, wheelchair
- Attaches to equipment or integrated within the device
- Reduces the push forces, varies speed of propulsion
Summary and Progress in Future Practice

- Basic understanding
- Manual / Mechanical equipment
- Use of the devices
- Patient criteria associated with device / equipment
- Progress of development
- Improving work environment for healthcare professional and patients

Directions for Module Quiz

- Review PowerPoint
- Complete Module Three Quiz

Resources

Americans with Disabilities Act

- Access To Medical Care For Individuals With Mobility Disabilities
  [http://www.ada.gov/nondiscrimination.htm](http://www.ada.gov/nondiscrimination.htm)

References

Learning Objective

- Participants will be able to recognize or identify
  - The evidence-based protocol for patient assessment related to patient handling
  - The purpose for the use of assessment criteria, care plans, and algorithms in patient handling
  - General directions for all tasks in patient handling according to research
  - Appropriate use of the evidence-based protocols through two case study scenarios

Content Outline

- Evidence-Based Safe Patient Handling Program Resources
- Assessment Criteria
- Care Plans
- Algorithms
- General Directions for all Tasks
- Key Points for Caregivers
- Case Study Scenarios

Evidence-Based Safe Patient Handling Program Protocols

- VISN Patient Safety Center of Inquiry
- Assessment Criteria and Care Plan
- Algorithms
- Clinical Decision-Making

Patient Assessment Criteria Resource

- Print VISN 8 Patient Safety Center of Inquiry’s Assessment Criteria and Care Plan for Safe Patient Handling and Movement Document

Purpose of Patient Assessment Criteria

- Evaluates critical patient characteristics
- Helps to select the safest equipment and techniques for patient handling and movement tasks
- Specific to patient’s needs and/or goals in rehabilitation
  - Develops care plan
Identify Patient Criteria

Assessment Criteria and Care Plan for Safe Patient Handling and Movement

- Physical Analysis
  - Assess the patient’s ability to handle their own weight
  - Consider the patient’s balance and coordination
  - Evaluate the patient’s muscle strength and endurance
- Posture Analysis
  - Observe the patient’s posture and body alignment
  - Note any deviations from normal posture
- Environmental Analysis
  - Assess the environment for hazards that could affect patient handling
- Psychosocial Analysis
  - Evaluate the patient’s mental and emotional state
- Other Factors
  - Consider the patient’s medical history and current condition

Conditions Affecting Handling

The patient's ability to handle their own weight and perform self-care is crucial in determining the need for assistance and the type of handling equipment used. Factors that can affect handling include:

- Physical fitness
- Muscular strength
- Coordination
- Balance
- Age
- Cognitive abilities

Identify the Lift/Transfer Devices

Lift/Transfer Device

Patient Information

- Name:
- Age:
- Weight:
- Height:
- Medical Condition:
- Special Needs:

Assessment and Care Plans

Assessing the Patient

- What is the patient’s height and weight?
- Body Mass Index (BMI)

Assessing the Patient

- What is the patient’s strength and condition?
  - Upper extremity strength
  - Open wounds, abdominal wounds, skin sensitivity, contractures, presence of tubes, pregnancy

(Neuro, 2005)
Care Plan Considerations

- Focus on:
  - Type of task (e.g., transferring, repositioning, ambulating, toileting)
  - Type of equipment
  - Number of health professionals
  - Special considerations

(Nelson, 2006)

Assessing the Patient (Cont.)

- Other situations:
  - Physician, physical, or occupational therapy orders
  - Examples:
    - During transfers, patient must keep R knee in flexion
    - NWB (Non-weight bearing) to R upper extremity
    - Patient OOB every 2-4 hours

(Nelson, 2006)

Next Step...

- Following Algorithm to choose appropriate patient handling technique / equipment

Algorithms

- Clinical tool based on evidence
- A pathway to help healthcare personnel make decisions based upon patient criteria
- Provider is taken through a series of questions, with each question leading to an action path
- Finite number of steps

(Nelson, 2006)

Algorithms

- Helps with clinical decision making
- Builds on patient assessment criteria
- Plans for following high-risk patient handling tasks
- “Not prescriptive and should not replace sound clinical judgment” (Nelson, 2006)

General Directions for All Tasks Associated with Patient Handling
### General Directions for All Tasks Associated with Patient Handling

1. Note key assessment factors including:
   - Physical ability to assist, ability to follow instructions, cooperative level
2. Review algorithm to determine:
   - Number of caregivers, type of equipment and technique
3. Check weight capacity of equipment
4. Remove any obstacles to perform task

5. Ensure equipment is in working order
6. Ensure other personnel are available to help
7. Bed adjusted to waist/elbow of personnel performing bed-related patient handling
8. Explain procedure to patient and personnel in assistance
9. Adhere to contact precautions

### Key Points for Caregivers

- Assess the patient
- Assess the area
- Decide on the equipment
- Know how to use the equipment
- Plan the lift and communicate with the staff and the patient
- Work with another team member
- Have the correct equipment available, in working order and condition, have it accessible

### Assessment Criteria and Care Planning

- They are ongoing!
- Patient criteria changes due to:
  - Mobility/physical status
  - Surgical procedures
  - Medication
  - Cooperative levels
  - Motivation levels
  - Other conditions:
    - Wounds, fractures, tubes, cardiac, respiratory

### Case Study

- For the following slides:
  - Read case study scenarios
  - Fill out the Assessment Criteria and Care Plan for Safe Patient Handling Movement Document
  - Choose the appropriate algorithm for the task
  - Follow the questions to find the best safe patient handling equipment or technique to use

### Case Study # 1

- Mr. Johnson is 64 years old and has been in critical care for 3 days post left below knee amputation (LKA). He presents with a history of falls, diabetes, and wound dressings on his right foot. Mr. Johnson has upper extremity strength and remains cooperative during his stay. Currently he is unable to bear weight on both lower extremities due to pain and wound dressings. He is 5'9" (70") and weighs 200 lbs (90.7 kg) and his physician has requested he be out of bed. You decide to transfer him to his wheelchair bedside the bed.

- What would be the best safe patient handling technique and/or equipment to use?
Case Study: Mr. Johnson

- Dependent
- No weight bearing capability
- Upper extremity strength
- Cooperative
- Weight

Conditions affecting transfer techniques

History of falls, wounds affecting transfer, amputation

Case Study: Ms. Martinez

- Dependent
- Limited weight bearing; partial
- Limited upper extremity strength
- Cooperative
- Weight

Conditions affecting transfer techniques

Paralysis, fractures

Case Study #2

- Ms. Martinez is a 55-year-old, recently admitted due to acquiring a traumatic brain injury. She is completely dependent for transfers and has limited weight bearing capabilities. She is weak due to multiple fractures and paralysis, but able to follow simple commands. Her height is 5’3” (65”) and weighs 150 lbs. (68 kg). She is due for an x-ray which is located on a different floor. She will need to be transferred from her patient bed to a stretcher after breakfast this a.m. and transported to her appointment.

- What would be the best safe patient handling technique and/or equipment to use?

Directions for Competency Training

- Finish completing “Assessment Criteria and Care Plan” Documents
- Sign Up for Competency Training
- Review Materials from Modules
References


Appendix A

Module One: Introduction to Musculoskeletal Disorders and Safe Patient Handling Practice

Quiz # 1

1. Injuries or disorders of the muscles, nerves, tendons, joints, cartilage, and spine that occur as a result of awkward postures, repetitive motion, repeated impacts, or heavy, frequent, or awkward lifting are referred to as a
   a. Work-related injury
   b. Musculoskeletal disorder
   c. Health-care injury
   d. Repetitive stress disorder

2. Symptoms of a musculoskeletal disorder.
   At what stage does a person have body parts that ache and feet weak at rest, sleep may be affected, and light tasks become difficult?
   a. Early Stage
   b. Intermediate Stage
   c. Late Stage
   d. Advanced Stage

3. The use of many evidence-based practices can help to prevent musculoskeletal disorders among healthcare workers. What does the literature suggest healthcare workers eliminate?
   a. Practice of ergonomics
   b. Use of proper body mechanics
   c. The manual lifting of patients
   d. Incorporating the use of technology

4. What is safe patient handling?
   a. Refers to policies and procedures that help to keep patients from receiving MRSA
   b. Refers to procedures that assist caregivers in purchasing lift through grant proposals
   c. Refers to policies and procedures that enable healthcare practitioners to assist in moving patients in a way that prevents injury or strain
   d. Refers to policies and procedures that enable administration to enforce healthcare practitioners to complete training in ergonomics

5. Which is not an example of a patient handling assistive device
   a. Cotton sheet or ‘chuck’
   b. Over-head ceiling lift
   c. Friction-reducing slide sheet
   d. Slide board
6. True or False
   Occupational Safety and Health Administration (OSHA) developed a set of guidelines for Nursing Homes to help prevent musculoskeletal disorders among healthcare workers.
   a. True
   b. False

7. True or False
   Training in body mechanics has been proven as the number one effective approach in preventing job-related injuries according to recent research.
   a. True
   b. False

8. Many patient handling tasks have been proven ‘high-risk,’ which of the following is not a ‘high-risk’ patient handling task according to research?
   a. Feeding a patient in bed
   b. Bathing a patient
   c. Applying anti-embolism stockings
   d. Assisting a patient to scoot to the edge of the bed

9. The American Nurses Association launched a nationwide program. The mission is “to mount an industry-wide effort in health care to prevent back and other musculoskeletal injuries through greater awareness and training, with increased use of assistive equipment and patient handling devices.”
   What is this program initiative called?
   a. Safer Patient Handling Program
   b. Handle With Care Program
   c. Patient Safety Center of Inquiry
   d. Handle Patients Safely

10. Which is not proven an evidence-based practice that provides the most promise and strongest level of evidence?
    a. Use of patient handling equipment/devices
    b. Providing the facility with more Certified Nursing Aides
    c. Patient ergonomic assessment protocols
    d. Safe lifting or no lift policies
Module Two: Beyond Using Proper Body Mechanics: The Risks and Solutions

Quiz # 2

1. The use of one’s body to produce motion that is safe, conserves energy, and is anatomically efficient; all of which allows the individual to maintain balance and control is the definition of
   a. Ergonomics program
   b. Proper body mechanics
   c. Yoga program
   d. Energy conservation

2. Which is not a complication of patient transfer tasks?
   a. Frail, elderly patients
   b. Presence of contractures
   c. Cooperative patients
   d. Obese patients

3. Over 35 percent of adults in the U.S. are obese. By 2030 the obesity rate could top what percent nationally according to 2012 data if trends do not change?
   a. 40 percent nationally
   b. 44 percent nationally
   c. 60 percent nationally
   d. 70 percent nationally

4. What is the definition of ergonomics?
   a. Refers to policies and procedures that help to keep patients from receiving MRSA
   b. The scientific study of the relationship between people and their occupation, equipment, and environment
   c. Refers to policies and procedures that enable healthcare practitioners to assist in moving patients in a way that prevents injury or strain
   d. Designing components of the environment that help to help reduce falls

5. Which is not an example of an awkward posture?
   a. Reaching above one’s head
   b. Kneeling
   c. Performing the same motion continuously
   d. Leaning over beds

6. According to Tomas Waters who established the Revised Lifting Equation in 2007, what is the recommended maximum lifting a healthcare provider should complete even in the most ideal conditions?
   a. 45 lbs.
   b. 51 lbs.
   c. 35 lbs.
   d. 50 lbs.
7. True or False.
Training in body mechanics has been proven effective in preventing job-related injuries according to recent research.
   a. True
   b. False

8. According to research patient handling tasks within critical care have been proven ‘high-risk,’ which of the following has not been proven a ‘high-risk’ patient handling task?
   a. Pushing occupied beds or stretchers
   b. Making occupied beds
   c. Repositioning patients in bed or geriatric chair
   d. Distributing medication intravenously

9. True or False
OSHA recommends patient lifting be minimized in all cases and eliminated when possible.
   a. True
   b. False

10. Which is not an ergonomics program component?
    a. Training staff only in proper body mechanics
    b. Establishment of policies and procedures for training, continuing education and competency check-offs
    c. Patient assessment criteria and care plan
    d. Algorithms

11. During bedside care, instead of reaching while performing bedside tasks what could you do?
    a. Call for an aide to complete the bedside task
    b. Wait until the person can complete it themselves
    c. Raise the bed to the appropriate level and reach across the bed
    d. Raise the bed to a comfortable level and move along side of the patient’s bed

12. Which of these components does not fit within a safe lifting or no lift policy?
    a. Provides definitions of staff roles and responsibilities
    b. Provides a guide for patient assessment
    c. Explains procedures for manually lifting patients and body parts over 35 lbs.
    d. Explains maintenance procedures for equipment and storage
Module Three: Repositioning, Transfer, and Lifting Devices

Quiz # 3

1. True or False
   Tasks requiring the caregiver to lift more than 35 lbs. will require the use of patient-handling equipment.
   a. True
   b. False

2. Which is considered a vertical transfer device?
   a. Powered transport system
   b. Friction-reducing slide sheet
   c. Sliding board
   d. Floor-based lift

3. What is an advantage of a ceiling-mounted lift?
   a. Costs less than many other commercial devices
   b. Takes up storage space
   c. Transfers safely in tight spaces
   d. Requires more caregivers

4. Which is a consideration when using a floor-based lift?
   a. May be difficult to operate in small spaces
   b. Is restricted to locations for installation
   c. Not designed for lifting the weight of the patient
   d. Requires more caregiver

5. What is an advantage of a powered standing lift?
   a. Can use with combative patients
   b. Enhances circulation and clinical outcomes, enabling the patient to stand for a period of time
   c. Allows for transfers with dependent patients
   d. Is best for individuals with hip instabilities

6. What should you consider when properly using a gait belt?
   a. Place over breast area
   b. Place proximal (close) to the under arms
   c. Place above tubes or incisions
   d. Place under Peg or G tubes
7. What is one way you could use a friction-reducing slide sheet?
   a. Any vertical transfer
   b. Transferring a patient from the bed to a wheelchair
   c. Boosting patients to the head of the bed
   d. Repositioning bariatric patients

8. What patient abilities should not be present when deciding to use a slide board?
   a. Good use of arms
   b. Unable to bear weight on lower extremities
   c. Patients with a hearing impairment
   d. Patients with a limited ability to follow directions

9. According to research patient handling tasks within critical care have been proven ‘high-risk,’ which of the following has not been proven a ‘high-risk’ patient handling task?
   a. Pushing occupied beds or stretchers
   b. Making occupied beds
   c. Repositioning patients in bed or geriatric chair
   d. Distributing medication intravenously

10. What device helps to assist in transporting patients in a bed, stretcher, or wheelchair that attaches to equipment or is integrated within the device?
    a. Ceiling-mounted lift
    b. Floor-based lift
    c. Powered transport device
    d. Motorized wheelchair
### Module Quiz Answer Key

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<th>Quiz # 2</th>
<th>Quiz # 3</th>
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# Appendix B

## Assessment Criteria and Care Plan for Safe Patient Handling and Movement

### I. Patient’s Level of Assistance:

- **Independent**—Patient performs task safely, with or without staff assistance, with or without assistive devices.
- **Partial Assist**—Patient requires no more help than standby, cueing, or coaxing, or caregiver is required to lift no more than 35 lbs. of a patient’s weight.
- **Dependent**—Patient requires nurse to lift more than 35 lbs of the patient’s weight or patient is unpredictable in the amount of assistance offered. In this case assistive devices should be used.

*An assessment should be made prior to each task if the patient has varying level of ability to assist due to medical reasons, fatigue, medications, etc. When in doubt, assume the patient cannot assist with the transfer/repositioning.*

### II. Weight-Bearing Capability

- **Full**
- **Partial**
- **None**

### III. Bilateral Upper-Extremity Strength

- **Full**
- **Yes**
- **Partial**
- **No**
- **None**

### IV. Patient’s level of cooperation and comprehension:

- **Cooperative**—may need prompting; able to follow simple commands.
- **Unpredictable or varies** (patient whose behavior changes frequently should be considered as unpredictable), not cooperative, or unable to follow simple commands.

### V. Weight: _________ Height: ___________

**Body Mass Index (BMI) [needed if patient’s weight is over 300 lbs]**¹: _________

*If BMI exceeds 50, institute Bariatric Algorithms*

*The presence of the following conditions are likely to affect the transfer/repositioning process and should be considered when identifying equipment and technique needed to move the patient.*

### VI. Check applicable conditions likely to affect transfer/repositioning techniques.

- **Hip/Knee/Shoulder Replacements**
- **History of Falls**
- **Paralysis/Paresis**
- **Unstable Spine**
- **Severe Edema**
- **Very Fragile Skin**
- **Respiratory/Cardiac Compromise**
- **Wounds Affecting Transfer/Positioning**
- **Amputation**
- **Urinary/Fecal Stoma**
- **Contractures/Spasms**
- **Tubes (IV, Chest, etc.)**
- **Fractures**
- **Splints/Traction**
- **Severe Osteoporosis**
- **Severe Pain/Discomfort**
- **Postural Hypotension**

**Comments:**

- ________________________________________________________
- ________________________________________________________
- ________________________________________________________

### VII. Appropriate Lift/Transfer Devices Needed:

**Vertical Lift:**

- ________________________________________________________
- ________________________________________________________
- ________________________________________________________

**Horizontal Lift:**

- ________________________________________________________
- ________________________________________________________
- ________________________________________________________

**Other Patient Handling Devices Needed:**

- ________________________________________________________

**Sling Type:** Seated_____ Seated (Amputee)_____ Standing_____ Supine_____ Ambulation_____ Limb Support_____  

**Sling Size:**

- ________________________________________________________

**Signature:** ____________________________________________  

**Date:** ________________________________________________

¹If patient’s weight is over 300 lbs, the BMI is needed. For Online BMI table and calculator see:  
http://www.nhlbi.nih.gov/guidelines/obesity/bmi_tbl.htm
Appendix C
Competency Training Check-Off Sheet

Name: ____________________________________________________________

Instructor: _____________________________________________________________________

Date: _________________________________________________________________________

Gait Belt

<table>
<thead>
<tr>
<th>Procedure (Bed &gt; Wheelchair/ Chair/ Bedside commode)</th>
<th>Incomplete</th>
<th>Completed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Explains the transfer procedure to the patient</td>
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</tr>
<tr>
<td>Ensures bed breaks are locked</td>
<td></td>
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</tr>
<tr>
<td>Positions wheelchair/chair/bedside commode near bed (90 degrees to bed)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Raises bed to appropriate height for patient</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Positions gait belt around waist; threads belt behind teeth</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pulls tight; comfortable around patient; threads belt through loop</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Positions themselves next to the patient</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Closest hand holding the belt in back; other hand supporting their shoulder in front</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ensure foot position; feet flat on floor; adjusts height of bed if needed; feet slightly apart, one in front of the other</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Instructs patient to place hands at sides, ready to push down against mattress; leaning forward from hips</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Communicates with patient effectively during transfer</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ready, steady, stand</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Transfers safely to wheelchair, chair, bedside commode etc.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Removes gait belt from patient</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Uses proper body mechanics throughout task</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Comments:</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Note: Must receive 13/15 steps 'Completed' to receive a passing score*
Ceiling-Mounted Lift

<table>
<thead>
<tr>
<th>Procedure (Bed &gt; Wheelchair/Chair/Bedside commode)</th>
<th>Incomplete</th>
<th>Completed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Explains the lift procedure to the patient</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Positions wheelchair/chair/bedside commode near bed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Raises bed to appropriate height (elbows or to avoid excessive trunk flexion)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Positions sling under the patient per manufacturer’s directions</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Has patient cross their arms</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Attaches sling clips for a comfortable seated position</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Raises patient lift 2-4 inches above the bed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Uses manual or powered transverse</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Locks breaks of wheelchair/commode/geriatric chair</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Communicates with other healthcare provider during transfer</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lowers patient into wheelchair/commode/geriatric chair</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Detaches sling</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Removes sling from under patient, moves lift away from area</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Uses proper body mechanics throughout task</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Comments:</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Note: Must receive 12/14 steps ‘Completed’ to receive a passing score*

Powered Standing Lift

<table>
<thead>
<tr>
<th>Procedure (Bed &gt; Wheelchair/Chair/Bedside commode)</th>
<th>Incomplete</th>
<th>Completed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Explains the lift procedure to the patient</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Positions wheelchair/chair/bedside commode near bed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Assists patient to edge of bed; knees at 90 degree angle</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Raises bed to appropriate height (if needed)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Positions sling around the patient per manufacturer’s directions</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Positions patient arms outside of the sling</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Position the lift stand in front of patient and lock the wheels (per manufacturer’s instructions)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Assists patient to place feet on platform</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Attaches sling clips for a comfortable seated position; attach appropriate color-coded loops to end of lift arm per manufacturer’s instructions</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Communicates with patient they will stand</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Using the remote control, raise resident to a standing position per manufacturer’s instructions</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Unlock wheels (or lock, depending on manufacturer’s instructions)
Transports to destination (chair, commode, etc.)
Lowers patient into wheelchair/commode/geriatric chair
Detaches sling
Removes sling from around patient, moves lift away from area
Uses proper body mechanics throughout task

Comments:

*Note: Must receive 15/17 steps ‘Completed’ to receive a passing score

### Slide Board Transfer

<table>
<thead>
<tr>
<th>Procedure (Bed &gt; Wheelchair/Chair/Bedside commode)</th>
<th>Incomplete</th>
<th>Completed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Explains the transfer procedure to the patient</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Positions wheelchair/chair/bedside commode at 90 degrees to bed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Assists patient to edge of bed; knees at 90 degree angle</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Raises bed to appropriate height; matching height or higher than ending location</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Removes arm rest of wheelchair; lowers arm rest of commode (if applicable)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Locks breaks of wheelchair; commode, or chair etc. (if applicable)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Assists in placing board under patient</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Communicate with patient on appropriate technique to use; placement of board, transfer weight through use of arms, utilize arm rest at opposite end when transferring</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Faces patient during transfer; guides patient through transfer</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Removes sliding board from patient</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Replaces arm rest; raises arms rest etc. (if applicable)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Uses proper body mechanics throughout task</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Comments:

*Note: Must receive 10/12 steps ‘Completed’ to receive a passing score
# Friction-Reducing Slide Sheet

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Incomplete</th>
<th>Completed</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Explain the transfer procedure to the patient</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Receives supplies; slide sheet</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Raises bed to appropriate height (elbows or to avoid excessive trunk flexion)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ensures bed is locked</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Positions sheet under the patient per manufacturer’s directions using side to side rolling technique</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Communicate with other healthcare provider</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Places stretcher and bed side by side</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Applies breaks; ensures surfaces are same height or that ending location is slightly lower</td>
<td></td>
<td></td>
</tr>
<tr>
<td>One person at patient’s shoulder and hip</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Second and third healthcare provider at side of second transfer surface (i.e. stretcher); between shoulder/hip; hip/lower leg of patient</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Healthcare providers positioning feet in walking stance</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Healthcare provider # 1 (pushing pt.—weight shifts to front foot during maneuver)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Healthcare provider # 2 (pulling pt.—weight shifts to rear foot during maneuver)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Healthcare provider # 3 (see above depending upon pushing/pulling technique)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Utilized planned account (One, two, three); communicated with other healthcare providers</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Completed transfer safely</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Removed friction-reducing slide sheet using side to side rolling technique</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Uses proper body mechanics throughout task</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Comments:</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Note: Must receive 14/16 steps ‘Completed’ to receive a passing score*

**Circle which Provider (i.e. #1, #2, or #3); either pushing or pulling technique depending upon testers location and role**
### Modules

<table>
<thead>
<tr>
<th>Modules</th>
<th>Pass Y/N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Module Quiz Completion (3)</td>
<td></td>
</tr>
<tr>
<td>Patient Criteria and Care Plan Completion (2 Case Study Scenarios)</td>
<td></td>
</tr>
</tbody>
</table>

### Procedure

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Final Scores</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gait Belt (15)</td>
<td></td>
</tr>
<tr>
<td>Ceiling-Mounted Lift (14)</td>
<td></td>
</tr>
<tr>
<td>Powered-Standing Lift (17)</td>
<td></td>
</tr>
<tr>
<td>Slide Board (12)</td>
<td></td>
</tr>
<tr>
<td>Friction-Reducing Slide Sheet (16)</td>
<td></td>
</tr>
</tbody>
</table>

**Final Score:**  / 74

*Note: Must receive passing scores for “Module Quiz Completion” and “Patient Criteria and Care Plan Completion,” 64/74 to receive final passing score*