

Hartman's
In-Service Education SourceBook Series



Working Safely

Body Mechanics in Healthcare



BODY MECHANICS

in Health Care

This material is the result of the hard work of many people, including editors, peer reviewers, and the publisher. There is no single author.

The publisher gratefully acknowledges the following individuals who contributed to this material:

Joan Greene
Education Coordinator
Central Alabama Home Health
Montgomery, AL

Karen A. Hergert, RN, MS
Director of Staff Education
Maristhill Nursing Home
Waltham, MA

Ann M. McCloskey, RN
Staff Development
Lafayette Redeemer
Philadelphia, PA

Barbara Peterson
Staff Development Coordinator
Mount Loretto Nursing Home
Amsterdam, NY

Mary C. Reed, RN, MS
Staff Development Instructor
Our Lady of Mercy Life Center
Guilderland, NY

Janet Sonnenberg
Coordinator of CNA Training
Westshire Care Center
Orlando Park, IL

Paula L. Windler, RN, MS, CLNC
Chandler, AZ



NOTICE TO THE READER

Though the guidelines contained in this text are based on consultations with healthcare professionals, they should not be considered absolute recommendations. The instructor and readers should follow employer, local, state, and federal guidelines concerning healthcare practices. These guidelines change, and it is the reader's responsibility to be aware of these changes and of the policies and procedures of her or his healthcare facility/agency.

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CREDITS

Development Editors: Micki Heskett, Scrivenor Ink
Celia McIntire

Copy Editor: Susan Alvare

Design: John W. Davis

Composition: Celia McIntire

Illustration: Thaddeus Castillo

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Table of Contents

FYI	5	Learning Objective 4: Demonstrate the use of proper body mechanics for resident/client body positioning	38
Introduction and Assessment	7		
Handouts:		Transparencies:	
Assessment (8)		Review of Body Positioning Terms (40)	
Assessment Answer Key (10)		Preparing for Any Body Positioning Task or Transfer (42)	
Key Terms (11)		Assisting with Resident/Client Body Positioning (47)	
Note-Taking Worksheet (12)		Handouts:	
Learning Objective 1: Identify the most common causes of injury to healthcare workers	16	Preparing for Any Body Positioning Task or Transfer (41)	
		Assisting with Resident/Client Body Positioning (43)	
Transparencies:		Learning Objective 5: Demonstrate the use of proper body mechanics for transfers	48
Hazards That Lead to Injury (18)			
Facts About Healthcare Worker Injuries (19)		Transparencies:	
Most Difficult Resident/Client Handling Tasks (20)		Types of Transfers (50)	
Handouts:		Guidelines for Using a Mechanical Lift (54)	
Facts About Healthcare Worker Injuries (21)		Handouts:	
Learning Objective 2: Define good body mechanics and related terms	22	Assisting in Resident/Client Transfers (51)	
		Learning Objective 6: List ways to practice proper body mechanics when assisting with activities of daily living (ADLs)	55
Transparencies:			
What Does "Body Mechanics" Mean? (24)		Transparencies:	
Understanding the Spine (25)		General Suggestions for Assisting in ADLs (56)	
Understanding the Muscles (26)		Tips for Assisting in ADLs (59)	
Maintaining Good Posture and Health (27)		Handouts:	
The ABC's of Good Body Mechanics (28)		Tips for Assisting in ADLs (57)	
Handouts:		Learning Objective 7: List ways to adapt the home for safer body mechanics	60
The ABC's of Good Body Mechanics (29)			
Learning Objective 3: Demonstrate the rules of proper body mechanics	30	Handout:	
		Adapting the Home (61)	
Transparencies:			
Think First! (33)			
The Ten Rules of Proper Body Mechanics (34)			
Body Mechanics Checklist (37)			
Handouts:			
The Ten Rules of Proper Body Mechanics (35)			
Body Mechanics Checklist (36)			

Learning Objective 8: Demonstrate proper body mechanics during ambulation and while assisting a falling person 62

Transparencies:

- Using a Cane to Assist with Ambulation (66)
- Using a Walker to Assist with Ambulation (67)
- Factors that Contribute to Falls (69)

Handouts:

- Assisting the Resident/Client with Ambulation (64)
- Assisting a Falling Person (68)

Learning Objective 9: Demonstrate several safe strength and stretching exercises 70

Transparencies:

- Four Ways of Maintaining Fitness (72)
- The Value of Regular Exercise (74)
- Practicing Posture (75)

Handouts:

- Group Stretching (73)
- Strength-Building Exercises (76)

Learning Objective 10: Demonstrate the proper way to use facility equipment when assisting with transfers 77

Learning Objective 11: List facility rules on proper transfers 78

Closing and Skills Demonstrations 79

Handout:

- Checklists for Skills Demonstrations (80)

References 85

In-Service Evaluation Form 86

Certificate of Completion 87

Record Keeping Form 88

For More Information 89

Research shows that nursing assistants and home health aides have a high probability of experiencing lower back pain and/or injury due to the strains of transferring clients or residents and the improper use of body mechanics. Many para-professionals perceive an aching back as a standard physical stress of their job. The purpose of this in-service is to highlight activities that research indicates are frequently dangerous and to correct poor lifting and transferring techniques by demonstrating proper techniques. Adopting simple methods in lifting and transferring has several benefits, from decreasing back pain to building lower back strength. This in-service will show you how to ease the physical stresses your aides and assistants experience every day and reduce their potential for injuries.

It is important to note here that back belts are NOT endorsed by the National Institute for Occupational Safety and Health (NIOSH) as an injury-prevention measure. In a two-year study conducted by the Back Belt Working Group of NIOSH, back belts were shown to provide no protection against injury resulting from repeated lifting, pushing, pulling, twisting, or bending. This finding may be due to the fact that many people assume that by wearing a back belt they do not have to pay attention to good body mechanics. Back belts do not take the place of proper body mechanics!

Another problem that can affect the practice of good body mechanics in nursing homes and hospitals is that often these facilities are understaffed or unable to invest in enough mechanical lifts to go around. In a study conducted by Garg, et al. (see References section, page 85) the researchers discovered that many of the employees they surveyed don't use the mechanical devices anyway, for a number of reasons: they considered the devices to be too time-consuming, unsafe for themselves and the persons in their care, or in poor repair. Many of them didn't even know how to use the devices in the first place. All of these problems are

unfortunate, since mechanical lift devices are meant to make lifting and transferring easier and safer for all concerned. These are all problems that can be addressed in this in-service, as appropriate.

The lesson plan is organized by learning objectives. Each learning objective has its own lesson plan with learning activities. Along with the lesson plan, we provide teaching tools, including transparency masters, handouts, and assessments. These teaching tools are referenced in the lesson plan. You may choose to use some or all of these tools in your presentation. Every in-service educator should be able to tailor this material to fit the needs of their students and facility or agency.

To use the transparency master, convert them to acetates for use with an overhead projector. If overhead projection is not convenient in your presentation area, copy the information from the transparency masters onto a chalkboard or flip chart.

To use handouts, photocopy the number needed for your group. Consider using different colors of paper to organize the different handouts or to make some stand out. Limited permission is granted to photocopy the handouts for use at the site originally purchasing this in-service. Photocopying other parts of this in-service, including the lesson plan, is expressly prohibited.

Because the in-service covers a lot of material, you may wish to divide your presentation into a few different in-services. We do strongly recommend that the first three learning objectives be presented prior to any portion of the transfer section.

Some additional resources on body mechanics and transferring can be ordered from various agencies and organizations. We include order forms in this in-service to request these materials.

We hope you find this in-service helpful, and, as always, your comments and suggestions are very welcome.

Happy Teaching!

Introduction and Assessment

Estimated Time: 15-20 Minutes

Tools: Handout Intro-1 Assessment
Handout Intro-2 Assessment Answer Key
Handout Intro-3 Key Terms
Handout Intro-4 Note-Taking Worksheet

Learning Activity: **Discussion**

Distribute Handout Intro-1 Assessment Allow 5 minutes to complete.

Distribute Handout Intro-2 Assessment Answer Key Review the correct answers. Ask if the assessment unveiled any important issues the participants would like to cover in this session. Discuss participants' expectations and needs before the in-service rather than afterward in an evaluation. If the group is reluctant to speak, try one of the following discussion lead ins:

- How many of you ache at the end of a typical work day. Why?
- How many exercise regularly? How often? What type of exercise?
- What items on the pre-test did you answer incorrectly?
- Share a few transfer or lifting nightmares.
- Review your accident and injury logs. Identify the "trouble spots" and present them to participants. Ask for any additions they have to your lists.

Distribute Handout Intro-3 Key Terms and Handout Intro-4 Note-Taking Worksheet Tell participants to take notes during class to help them arrange and remember the information. They may want to refer to the Key Terms handout throughout the in-service for definitions of important words.

Assessment

Name: _____ Date: _____

Fill in the blank.

Complete each of the following statements with the appropriate word or words from the word bank. Use each word only once. Some of the words will not be used.

Arms	Feet	Muscles	Trunk
Bending	Injury	Neck	Waist
Fatigue	Legs	Transfers	

1. Good body mechanics is important to prevent _____ and _____.
2. When performing _____ it is very important to have good body mechanics.
3. The largest and strongest muscles in the body are located in the _____ and _____.
4. A human's base of support are the _____.
5. Bending at the _____ is never a good idea when lifting heavy objects.

True or False.

Write T (true) or F (false) for each of the following statements.

6. _____ If my back doesn't hurt, I must be doing everything correctly.
7. _____ Back pain is unavoidable.
8. _____ When lifting heavy objects, it is best to lift quickly and turn by twisting the upper body.
9. _____ If you know your body, almost everything can be lifted alone.
10. _____ Pulling residents or clients out of bed is better than lifting them.
11. _____ The person you are transferring should relax while you move him or her.
12. _____ The lower back is your most important body part.
13. _____ Being overweight doesn't affect lifting or transferring.
14. _____ Residents or clients should stretch before you lift them.
15. _____ Abdominal muscles support your spine when you lift.
16. _____ Base of Support is an alternative rock and roll band.
17. _____ Good posture is also known as body alignment.
18. _____ The natural curves of the spine are the cervical, thoracic, and lumbar curves.
19. _____ The muscles in the hands are used to lift heavy objects.
20. _____ Bending from the waist prevents strains and fatigue.
21. _____ Good bed positioning will help a resident or client maintain joint range of motion.

22. _____ Always transfer toward the resident's or client's strong side.
23. _____ By using your body weight, not your back, when moving someone you will help prevent injury to yourself.
24. _____ Relaxation techniques and regular breaks provide no benefit to avoiding fatigue and injury.
25. _____ Never use slow, smooth motions or tell residents/clients you are about to move them as this will scare them.
26. _____ Posture exercises can build strength and muscle flexibility.
27. _____ When completing a two person transfer, communication between the two caregivers is the least important part of the task.

Multiple Choice.

For each of the following statements, write the letter of the answer that best completes the statement.

28. _____ When lifting a load you should:
- a. get close to the load and tighten the abdominal muscles.
 - b. stand three feet away and tug hard.
 - c. both.
29. _____ When turning you should:
- a. move the upper body only.
 - b. move the whole body.
 - c. neither.
30. _____ When transferring weak persons from a bed to a wheelchair you should:
- a. use your knees to brace against their knees to prevent their knees from buckling.
 - b. lock the wheelchair.
 - c. both.

Assessment Answer Key

1. **Injury, Fatigue**
2. **Transfers**
3. **Arms, Legs**
4. **Feet**
5. **Waist**
6. **False.** You could be doing damage to your back and not be aware of it.
7. **False.**
8. **False.** Lifting should be done smoothly and without twisting.
9. **False.** There are times when you will need help lifting heavy persons or objects.
10. **True.** It is easier on your body to push or pull a person out of bed, as long as it is safe for the person. This keeps the weight of the person on the bed and floor, not on you.
11. **False.** Residents/clients should assist you as much as possible in their transfers.
12. **False.** Your brain and its ability to think are the most important.
13. **False.** Being overweight can cause lifting difficulties, especially if you are also out of shape.
14. **False.** You should stretch before you do any strenuous lifting.
15. **True.** Contracting or tightening your abdominal muscles can decrease the strain on your back.
16. **True.** However, it is also an important concept in body mechanics!
17. **True.**
18. **True.**
19. **False.** The muscles in your hands should do very little of the work of lifting.
20. **False.** Bending from the waist can increase muscle strain and fatigue.
21. **True.**
22. **True.**
23. **True.**
24. **False.**
25. **False.** Always use slow, smooth motions. Always tell the resident or client what you are about to do so that he or she can assist when possible.
26. **True.**
27. **False.** Communication between the two people who are transferring a resident or client is extremely important, because it helps them work together and avoid injury either to themselves or the person they are transferring.
28. **a.** get close to the load and tighten the abdominal muscles.
29. **b.** move the whole body.
30. **c.** both.