

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.**

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## 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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ISBN 1-888343-15-X

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**R**esearch 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.