

Using Proper Body Mechanics

(2 credits)

After completing this section you should be able to:

1. Identify the most common causes of injury to healthcare workers
 2. Define good body mechanics and related terms
 3. Demonstrate the rules of proper body mechanics
 4. Apply principles of body mechanics to your daily activities
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1. Identify the most common causes of injury to healthcare workers

Back injuries make up half of the compensable disorders among people who work in hospitals and long-term care facilities. According to the United States Bureau of Labor Statistics, healthcare workers whose jobs require them to lift or move patients suffer more back injuries and musculoskeletal disorders than any other occupation. The real number of injuries is higher than the figures indicate, because not all injuries are reported.

Hazards that lead to injury are:

- Poor posture
- Out-of-shape/overweight condition
- Failure to prepare
- Incorrect movement
- Failure to wear slip-resistant footwear
- Combative, contracted, or uncooperative residents or clients
- Unpredictable behavior (for example, sudden resistance or grabbing)
- Space limitations
- Lack of assistance
- Lack of assistive devices
- Tight or restrictive clothing that inhibits movement (i.e., bending or stooping)
- Moving too quickly

- Not working at an appropriate height (the back is stooped)

2. Define good body mechanics and related terms

Body mechanics is the way the parts of the body work together whenever you move. When used properly, good body mechanics can save energy, prevent injury, and allow you to effectively push, pull, and lift objects or people who cannot fully support or move their own bodies. Using proper body mechanics will help keep you and your residents/clients safe.

The ABC's of good body mechanics are:

Alignment

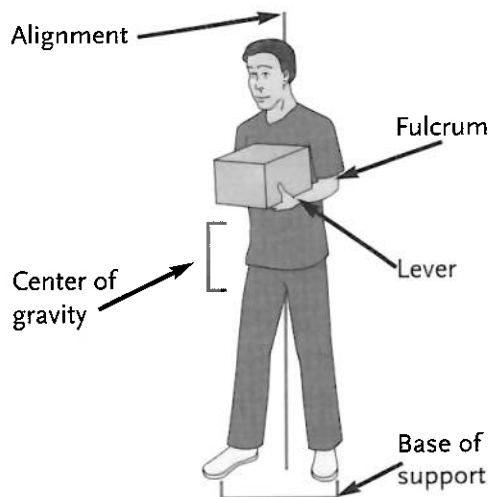
When standing, sitting, or lying down, you should try to have your body in **alignment**. This means that the two sides of the body are mirror images of each other, with body parts lined up naturally. Alignment is based on the word "line." To maintain correct body alignment when lifting or carrying an object, keep the object in front of you, point your feet and body in the direction you are moving, and avoid twisting at the waist.

Base of Support

The feet are the body's **base of support**. This means they are the foundation that supports you when you stand. The wider the base of support, the more stable it is. So a person who is standing with legs apart has a greater base of support, and is more stable, than someone standing with the feet close together.

Center of Gravity

The **center of gravity** in your body is the point where the most weight is concentrated. This point will depend on the position the body is in. When you stand, your weight is centered in your pelvis. A low center of gravity gives a more stable base of support. Bending your knees when lifting an object lowers your pelvis and, therefore, lowers your center of gravity. This gives you more stability and makes you less likely to fall or strain your working muscles.



3. Demonstrate the rules of proper body mechanics

Question: What is the most important part of the body?

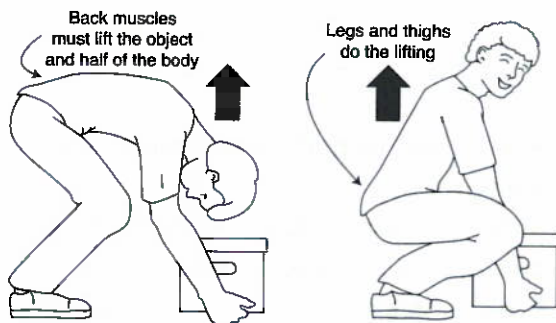
Answer: The brain!

The most important body part should be used the most. THINK before acting. You must think about good body mechanics while performing every task or activity. Always follow the ten rules of proper body mechanics:

1. **Assess the load.** Before attempting a lift, assess the weight of the load to determine if you can safely move the object without help. Know the lift policies at your facility. Never attempt a lift you do not feel comfortable doing. Consider using assistive devices as necessary. When you are satisfied that you can perform the lift alone, or you have enough help to perform the lift, prepare the environment.
2. **Think ahead, plan, and communicate the move.** Scan the environment for any objects in your path or any potential risks, such as a wet or cluttered floor. Ensure the pathway is clear. Account for hazards, like high-traffic areas, combative residents or clients, a person losing balance, or a loose toilet seat. Decide exactly what you are going to do together with the resident/client and any helpers. Agree on verbal cues you will use before attempting to transfer.
3. **Check your base of support and be sure you have firm footing.** Use a wide but balanced stance to increase your base of support, and keep this stance when walking. Do you have enough room to maintain a wide base of support? Are you and your resident/client wearing slip-resistant shoes?
4. **Face what you are lifting.** Your feet should always face the direction you are moving. This enables you to move

your body as one unit and keeps your back straight. Twisting at the waist increases the likelihood of injury.

5. **Keep your back straight.** Keeping your head up and shoulders back will keep your back in its proper position. Take a deep breath to help regain correct posture.
6. **Begin in a squatting position and lift with your legs.** Bend at the hips and knees and use the strength of your leg muscles to stand and lift the object. You need to push your buttocks out to accomplish this. Before you stand erect with the object you are lifting, remember it is your legs, not your back, that will enable you to lift. You should be able to feel your leg muscles as they work. Lifting with the large leg muscles decreases stress on the back.



7. **Contract (tighten) your stomach muscles when beginning the lift.** This will help to take weight off the spine and maintain alignment.
8. **Keep the object close to your body.** This decreases the length of the lever arm (distance from your center of gravity to the object being carried) and the stress to your back. Lift objects to your waist. Carrying them any higher can compromise your balance.

9. **Do not twist.** Turn and face the area you are moving the object to and then set the object down. Twisting increases the stress on your back and should always be avoided. The muscles that you use to twist are not that strong; therefore twisting is not as stable as turning your whole body as one unit.
10. **Push or pull when possible rather than lifting.** When you lift an object, you must overcome gravity and be able to balance the load. When you push or pull an object, you only need to overcome the friction between the surface and the object. You can use your body weight, rather than your lifting muscles, to move the object. Push rather than pulling whenever possible, and stay close to the object to decrease the length of the lever arm. Use both arms and tighten the stomach muscles.

Apply the following rules to every transfer, as necessary:

- Think Ahead.
- Rearrange.
- Get Help.

4. Apply principles of body mechanics to your daily activities

Some common examples of applying body mechanics include the following:

Lifting a heavy object from the floor.

To lift a heavy object from the floor, spread your feet apart and bend your knees. Using the strong, large muscles in your thighs, upper arms, and shoulders, lift the object and pull it close to your body to a point level with your pelvis. By doing this you keep the object close to your center of

gravity and base of support. When you stand up, push with your strong hip and thigh muscles to raise your body and the object together.

Always face the object or person you are moving. Do not twist when you are moving an object. Pivot your feet instead of twisting at the waist.

Helping a resident/client sit up, stand up, or walk.

Whenever you need to support a resident/client's weight, you can protect yourself by assuming a good stance. Your feet should be about 12 inches or hip-width apart, one foot in front of the other, and your knees should be bent. Your upper body should stay upright and in alignment at all times.

If the person starts to fall, you will be in a good position to help support him or her. Never try to catch a falling person. In the event of a resident/client falling, you should assist him or her to the floor or a level area. If you try to reverse a fall in progress, you will probably injure yourself and/or the person.

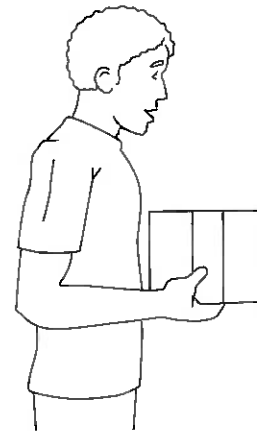
Making a bed, or any job that requires bending.

Anytime a task requires bending, you should use a good stance, bending your knees to lower yourself rather than bending from the waist. This allows you to use the big muscles in your legs and hips rather than straining the smaller muscles in your back. If you are making an adjustable bed, adjust the height to working level, usually waist high. If you are making a regular bed, you may need to put one knee on the bed, lean, or even kneel to

support yourself at working level. Avoid bending at the waist.

In addition, always keep the following tips in mind to avoid strain and injury:

- When standing for long periods, stand with feet apart and one foot slightly forward.
- Keep your back straight. Squat instead of bending over.
- Use both arms and hands when lifting, pulling, pushing, or carrying objects.
- Hold objects close to you when you are lifting or carrying them.



- Push, slide, or pull objects rather than lifting them.
- Move or position furniture so that you do not have to bend or reach.
- Avoid twisting at the waist. Instead, turn your whole body. Your feet should point toward the object or person you are lifting.
- Let the resident/client know what you will do so he or she can help if possible.
- Count to three and lift or move on three so everyone moves together.
- Report to your supervisor if your assignments include tasks you feel you cannot safely perform.
- Never attempt to lift an object or a client that you feel you cannot safely handle.