

How Are You Lifting, Pulling, and Pushing in SPD?

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Objectives:

Define the term ergonomics.

Discuss what it means to use proper versus improper body mechanics.

Discuss the statistics of injury associated with the non-use of proper body mechanics.

Discuss techniques healthcare workers can use in various settings to prevent prolonged injuries.

Discuss spinal injuries associated with improper ergonomics



You are exhausted! This whole week has been spent standing on your feet for 8-12 hours, meeting deadlines, and exceeding vigorous expectations. Your favorite reality television show, soap opera, or drama series finds itself watching you most of the time when you get in from working those extended days, evenings, or nights. As efficient and diligent you find yourself working within the areas of decontamination, sterilization, sterile storage, distribution, or preparation and packaging; you have found yourself in a physically decomposed predicament. Are you using the appropriate body mechanics?

What is ergonomics?

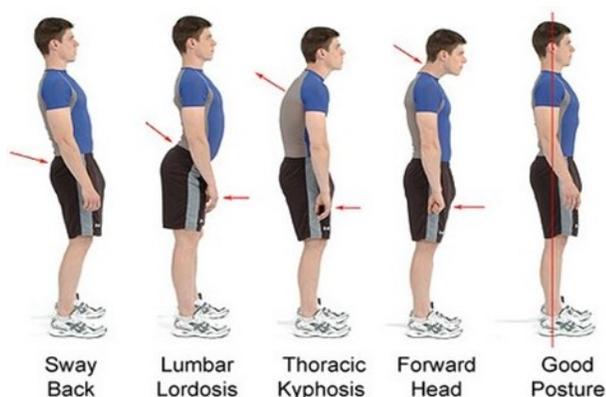
When people envision the term ergonomics, they often get an image of a secretary sitting at a technical work station, slouched down in his or her chair, typing away. Ergonomics, however, can be associated with all professionals, not just your typical office personnel.



As coined by OSHA, the science used to fit the job to the worker defines ergonomics (Chobin, 2013). For instance, it would be unrealistic and unsafe to ask a healthcare worker to lift a 400 pound individual without any healthcare equipment to make that particular job easier on the worker. Sterile processing technicians have a physically demanding job. In sterile processing, it may be precarious for the worker to attempt to perform specific tasks on the job that involve them overreaching, pulling and pushing heavy items excessively. Trauma can occur when the appropriate ergonomics is not used. Technicians are at risk when they excessively reach for sterilized items being sorted, attempt to reach for items on higher shelves above shoulder level, push and pull heavy carts repetitively, and stand in one position while sorting instrumentation, while they rest their wrists on hard counter tops (Chobin, 2013). Ergonomics redefined can be stated as utilizing the appropriate posture, body mechanics, equipment, and resources in order to avoid injuries while performing a job.

What is improper body mechanics?

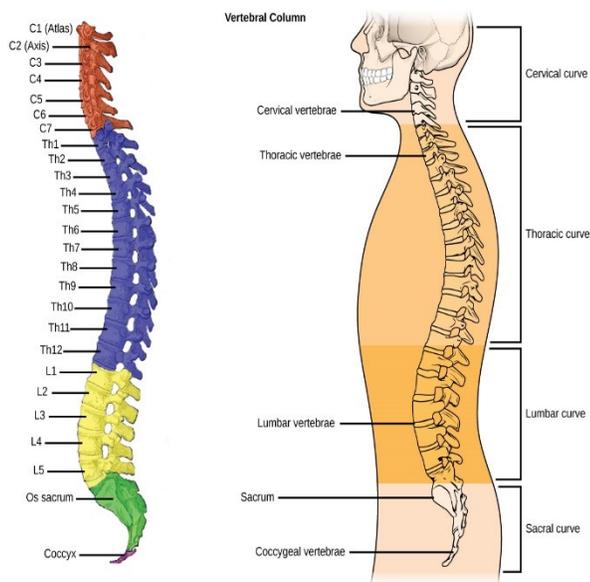
Everything starting at an individual's posture, to the way they stand, walk, bend, reach, push, pull, sleep, and sit should be done utilizing appropriate body mechanics. Improper body mechanics results when the lifting capacity has exceeded the individual's lifting ability, reasonable limits of forces exerted on the musculoskeletal system have



been beyond reason, and ,furthermore, when the weaker muscles of the arms and shoulders are utilized more frequently for lifting, rather than the stronger muscles of that individuals legs (Beecher & Wheeler-Vickery, 2008). Additional factors that can contribute to improper body mechanics and injury include some of the following:

Lack of training

- Lack of equipment training
- Fatigue at the end of a shift
- Repetitive tasks
- Twisting and lifting
- Lifting across barriers
- Lifting in a compromised position
- Lifting using one hand
- Lifting heavy items without assistance from others



Spinal injuries

Improper body mechanics can result into significant spinal injuries. Musculoskeletal injuries occurred in approximately 17% of 80 people presented within a study, with a 40-50% prevalence annually, and a 35-80% prevalence within a lifetime (Baptiste & Nelson, 2004). The human spine is composed of vertebrae, which consist of 33 bones which encase the spinal cord. It also consists of discs, ligaments, muscles, and nerves. All of these components work together to support, protect, and provide flexibility. Discs contain fibrocartilage and lay between the vertebrae. These discs act as “shock absorbers” when an individual sits, stands, walks, and lifts (University of Virginia, 2016). Nerves are responsible for carrying out messages throughout the body. Finally, the muscle and ligaments are responsible for producing movement.

Various spinal injuries or disorders that can result from improper body mechanics can include: lower back pain, herniated disc, facet joints, spondylosis, spondylolisthesis, and spinal stenosis. Lower back pain is prevalent in healthcare workers today. This ailment is caused by extensive sitting, quick movements, heavy lifting, spinal fractures, degenerative disc disease, spasms of the muscles, fibromyalgia, and more. Excessive or improper movement can cause the disc within the vertebrae to protrude causing a herniated disc. Most of these occurrences occur within the lumbar and sacrum area. Excessive leaning forward as well as twisting can degenerate the facet joints. Spondylolysis occurs when there is a weakness in a section of the vertebra called the pars interarticularis (Cleveland Clinic, 2014). Spondylolisthesis occurs when the vertebrae slips, resulting in a restricted range of motion. Spinal stenosis can be a congenital (condition in which you are born with) disease or a condition that occurs with age that causes narrowing of the spine. The narrowing causes the spinal cord and/or nerves to compress resulting in pain. All of these disorders or injuries can be reduced or eliminated through the use of appropriate body mechanics.



How can I use proper body mechanics?

Appropriate body mechanics can be initiated with the appropriate training. Many facilities give their employees continuing education opportunities in which they learn how to utilize proper ergonomics. Other facilities mandate this training during new hire orientation. According to literature produced by the University of Virginia (2016), proper body mechanics can be demonstrated by doing the following:

- Make sure your feet are planted firmly before initiating movement
- Do not bend at the waste, bend at your knees
- You can support your spine by tightening your muscles when you lift
- Utilize both hands
- Make sure a load is close to your body when moving it
- Use the muscles in your legs when you lift
- Always keep your body in an upright, natural position

Lifting should not restrict your breathing, if it does get help before you lift

In conclusion, sterile processing technicians and other hospital staff are at an increased risk of spinal injury that has resulted from improper ergonomics. With training and education, and the alleviation of bad habits such as poor posture and slouching when sitting, the technician may decrease their risk of injuries. In order to be more productive, the healthcare worker should never take short cuts in order to get the job done. If it is quicker to retrieve an item through over reaching, think twice. Unfortunately, your spine may suffer from it!

How Are You Lifting, Pulling, and Pushing in SPD?**Post Test 2016**

1. Trauma occurs when proper ergonomics is used.
TRUE FALSE
2. Utilizing the appropriate body posture, mechanics, and equipment when lifting, and other resources while working can define ergonomics.
TRUE FALSE
3. Lack of training for healthcare staff can result in the use of improper body mechanics.
TRUE FALSE
4. It is okay to lift items with one hand to avoid injury.
TRUE FALSE
5. Human vertebrae's consist of 33 bones.
TRUE FALSE
6. The vertebrae acts as "shock enablers".
TRUE FALSE
7. The nerves in the spine are responsible for full range of motion.
TRUE FALSE
8. Facet joints can weaken by leaning to the side when a person sleeps at night.
TRUE FALSE
9. When the spine widens it results in spinal stenosis.
TRUE FALSE
10. Lifting that restricts your breathing can indicate that you need assistance before lifting.
TRUE FALSE

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