



# Material Handling Back Safety

Safety and Environmental Management System

SEMS 4-23

As a food service and housekeeping operations we face potential hazards concerning back pain and back injuries. There is the potential for muscular strains and sprains from lifting and moving objects such as:

- Grocery boxes
- Laundry bags (dry and wet)
- Equipment, mop buckets, pots and pans
- Mattresses

To understand a “safe lifting system” to prevent back pain and injury you must understand how it (lifting system) affects the entire “back system.” If you do, you will better understand how it is possible to prevent back pain and injury. The back is involved in virtually every physical movement we perform:

- Standing
- Bending
- Sitting
- Sleeping
- Lifting

## **Back System Anatomy**

The back is composed of:

- Spine/vertebrae:
  - The spine is shaped slightly like an “S”
- Cervical (bones of the neck):
  - especially susceptible to injury because they are so small, located forward at the top of the “S”
- Thoracic (bones of the middle back):
  - Located backward at the middle of the “S”
- Lumbar (bones of the lower back):
  - susceptible to injury because it receives the most stress and strain of any part of the back, located forward at the bottom of the “S”
- Sacral (fused bones forming lower spine)
- Coccyx (tailbone)
- Disks:
  - the cushions between the vertebrae that prevent the bones from rubbing together, likened to a soft hockey puck

When lifting, it is necessary to keep the back in its natural “S” curve

This posture keeps the disks spread evenly so they will not be pinched on one side or the other when the back is bent. If the back is out of the “S” curve, bending puts tremendous pressure on one side of the disk or the other. Eventually the disk will break, tear, or leak from excessive wear due to improper lifting, twisting or bending which can lead to back pain or major problems for the back.



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Muscles and ligaments of the back hold the vertebrae together and allow the body to straighten up and lift. Abdominal muscles allow bending forward and give support to the back.

If the body stretches too far these ligaments and muscles can stretch and tear causing pain. These ligaments and muscles will usually heal by themselves, but pain is present until they do. Sprains and strains cause the majority of back pain or injury. Strengthen these muscles by exercising. The spinal cord is made up of a group of nerves running from the brain that branch out to all parts of the body and is protected by the vertebrae.

## **Causes of Back Pain:**

- The back deteriorates from wear, tear and misuse over the years.
- Stress on the back comes from:
  - Excessive forward bending
  - Heavy lifting
  - Standing or sitting (poor posture)
  - Sports with body impact or twisting

## **Muscle strains and joint and ligament sprains result from:**

- Bending too far or too long
- Heavy lifting
- Twisting suddenly

## **Herniated (ruptured/torn) disk result from:**

When the soft inner portion of the disk protrudes into the spinal canal and presses against a nerve root or the spinal cord which can cause Sciatica (pain or numbness down the back of the leg).

## **Correct Lifting Techniques**

NOTE: There is a 10:1 ratio of lifting pressure on the back vs. the weight of the load being lifted if the load is being lifted correctly. If the load is being lifted incorrectly, the pressure is increased.

- Select the location where the load is to go and clear a site for it
- Clear a path to take the load
- Size up the load: size, bulk, and weight. If load is too large, bulky, or heavy; divide the load, make more than one trip or get assistance.
- Squat, keeping feet shoulder width apart
- Pull chin in towards body
- Keep the back in its natural curve (this technique spreads the disks evenly over the bones of the vertebrae, reducing pressure on the entire back system)
- Get a good grip on the load, pulling it against your body
- Lift the load with the legs
- Do not jerk the load
- Do not lift and twist
- Always turn your feet in the direction the load is to go