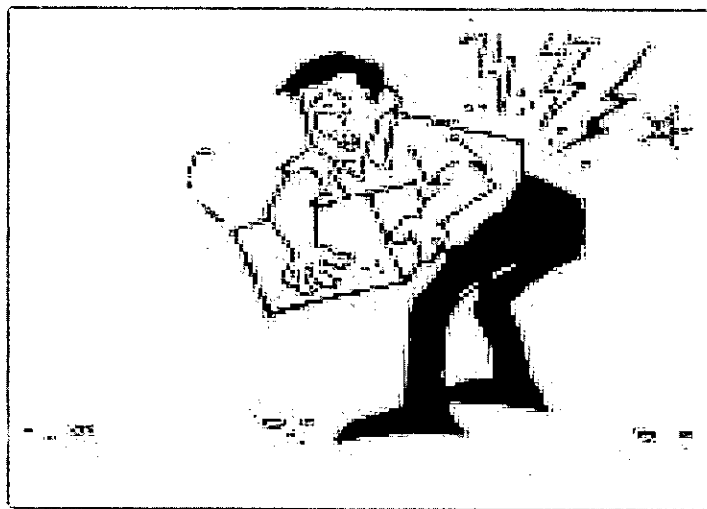


***BODY MECHANICS AND
BACK SAFETY***



IT'S YOUR BACK AT RISK!

Objectives



- Review the importance of body mechanics
- Review basic spine anatomy
- Review essentials of good body mechanics
- Identify risk factors for back injury
- Review proper lifting techniques
- Review transfer techniques
- Review prevention tips for back injury

Importance of Back Safety

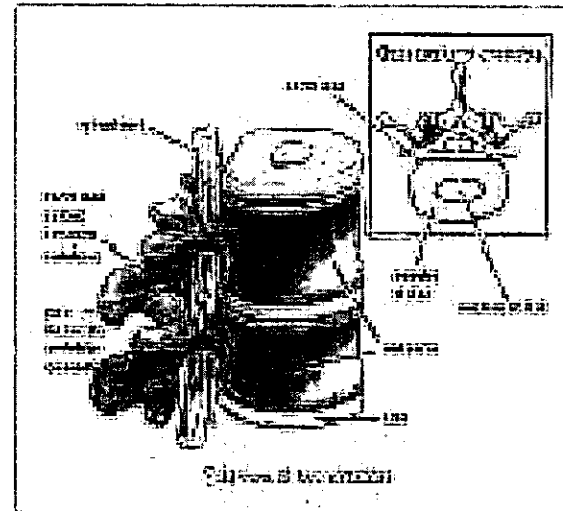


- According to the Bureau of Labor Statistics (BLS), more than one million workers suffer back injuries each year
- According to OSHA, Back injuries rank as the nation's #1 workplace safety problem.
- According to the BLS, back injuries can be the following:
 - ▣ Very painful;
 - ▣ A long term or lifetime disability; and
 - ▣ Expensive to diagnose and treat.
- Lifting is the most common reason for work-related injury.

Anatomy of the spine



- Vertebrae
 - Act as support structure for the body
- Discs
 - Act as “shock absorbers”
- Ligaments
 - Attach bone to bone
- Muscles
 - Support the spine and move the body
- Tendons
 - Attach muscle to bone
- Nerves
 - Exit the spinal column (vertebrae)



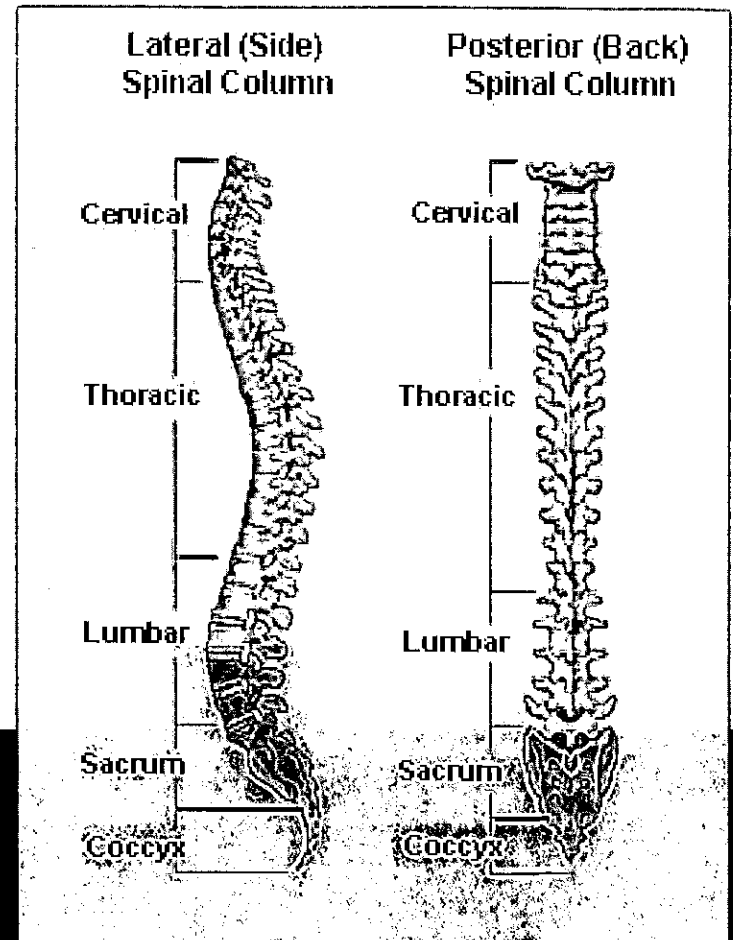
Benefits of Good Posture



- Maintains bones and joints in correct alignment so that muscles are used correctly
- Decreases the abnormal wearing of joint surfaces that could result in degenerative arthritis and joint pain
- Reduces the stress on the ligaments holding the spinal joints together, minimizing the likelihood of injury
- Allows muscles to work more efficiently, allowing the body to use less energy and prevents muscle fatigue
- Helps prevent muscle strain and overuse disorders

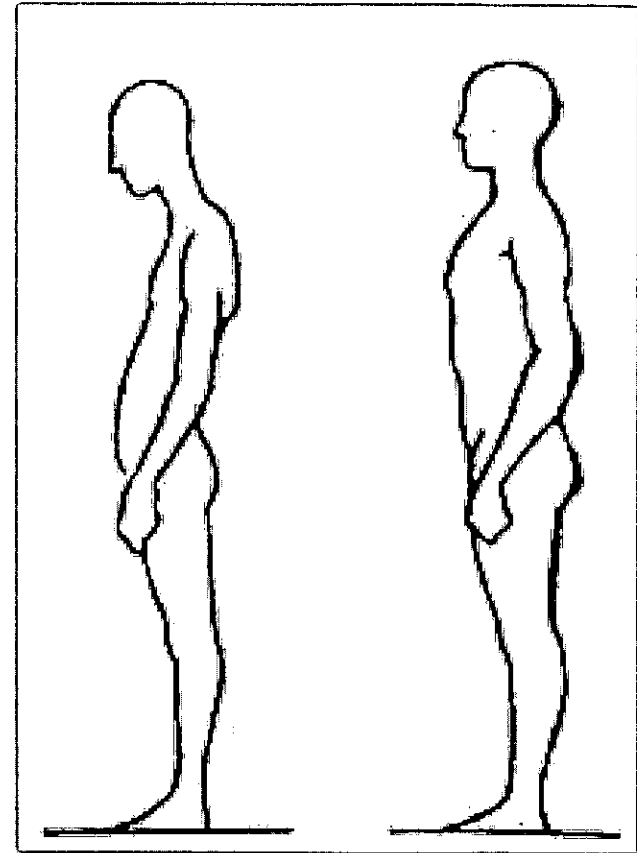
Curves of the Spine

- The Goal is to maintain a “Neutral Spine” or “S” shape



Contributing Factors to Bad Posture

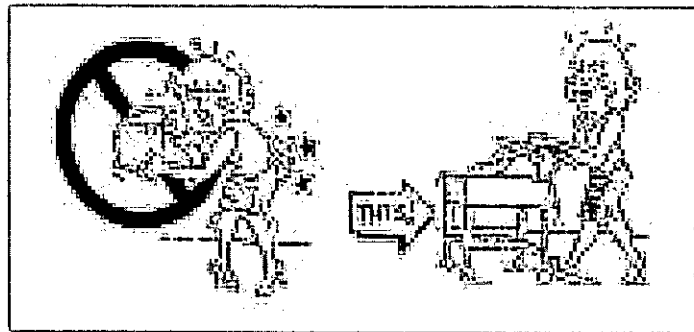
- Poor physical condition
- Extra Weight
- Stress
- Overdoing it
- Repetitive actions
- Weak muscles
- High heeled shoes
- Decreased flexibility
- Prolonged positions



▣ Remember, bad posture can lead to Back Pain!

Avoid the Following...

- Heavy Lifting
- Twisting at the waist
- Reaching and lifting overhead
- Lifting and carrying awkward shaped objects
- Working in uncomfortable position
- Sitting or standing in one position too long



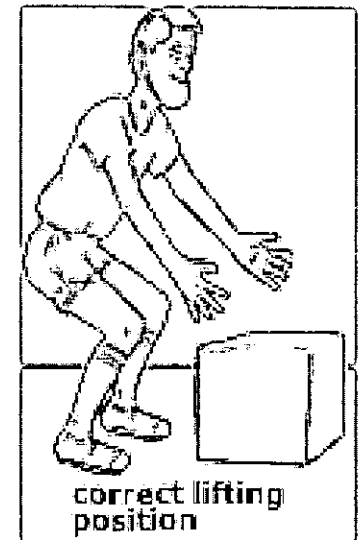
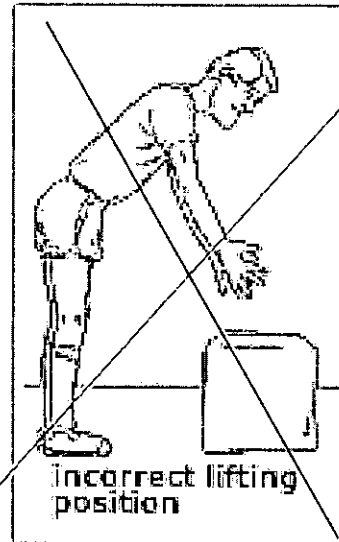
Plan Ahead Before Lifting



- Assess the Surroundings
 - Is the area free of clutter?
 - Are there any cords or obstacles in the way?
 - Can the load be moved in disassembled pieces and reassembled?
- Size the Load
 - Test the weight of the object by lifting a corner
 - Utilize gloves to help improve grip and wear non-skid soled shoes.
 - Use a mechanical device or aid (pushcart, hoyer lift) if possible.

Safe Lifting/Lowering Techniques

- Feet shoulder width apart or “wide stance”
- Center yourself over your feet
- Bend at the knees, not with your back
- Keep your back in “neutral spine” position
- Hold item close to your body
- Lift with your legs, not your back!
- Keep your head up and do not look downward



Carrying the Load

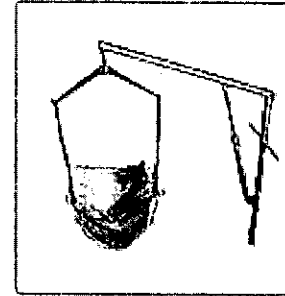


- Keep your back in “Neutral Spine” position
- Walk slowly and securely
- Use your feet to change directions-- Never twist your back!
- Avoid leaning over
- Avoid lifting a load over your head
- If you become tired, set the load down, and rest for a few moments

Utilize Devices



- **Push, don't Pull!**
 - If a pushcart is available, use it!
 - Use both hands to control the load, and stay close to the pushcart.
 - Tie down the load with straps.
- **Mechanical Devices**
 - Hoyer Lifts and Slings
 - Draw Sheets
 - Assistive Devices—walkers, canes, wheelchairs, sliding boards
 - Gait Belts
 - Lift Vest – www.choosethevest.com
- **Ask for HELP if you do not feel safe attempting the lift alone!**



Risk of Injury with Transfers



- Patients (clients) are :
 - Asymmetric, bulky, and cannot be held close to the body
- Many transfers occur in a horizontal plane
 - This requiring use of weaker arm muscles compared to leg muscles
- Sudden changes in load demand can occur
 - For example, a patient's knees "buckle"
- Sudden maximum efforts that are unexpected
 - For example, preventing a patient fall

Types of Transfers



- Vertical
 - Lifting patient out of bed or chair
 - Lifting patient from floor
- Horizontal
 - Turning patient in bed
 - Pulling a patient up in bed
 - Transferring patient from bed to stretcher



Transfer Techniques – Bed



- Scooting up or down in bed:
 - 2 person assist
 - Use a draw sheet
 - Plant your feet, with one pointing toward head of bed
 - Stand as close to the patient as possible, holding onto draw sheet
 - Instruct patient to bend knees and push with legs to assist
 - Scoot patient upward using draw sheet on the count of “3”
 - Do not pull under patient’s underarms

Transfer Techniques - Chair



- From Sit to Standing:
 - Have patient scoot to edge of bed with feet flat on floor (non-skid soled shoes or socks)
 - Instruct patient to assist by using arms to “push”
 - Bend knees and place one foot pointing in direction of movement to prevent twisting at the spine
 - Remember to keep spine in good alignment
 - Stand close to patient and lift using legs
 - Some patients may benefit from “rocking” for momentum to assist them in coming to stand

Transfer Techniques – Stretcher



- For a dependent lateral (horizontal) transfer from stretcher to bed
 - 4 people required: 2 people at head of bed, and 2 people towards foot of bed
 - Use friction reducing device such as a sheet
 - Keep feet apart and planted on the floor
 - Maintain minimal to no knee flexion
 - Keep back in neutral position
 - Stand as close to the patient as possible to minimize reaching

Back Injury Prevention

- Regular Exercise
 - Eat a healthy diet
 - Obtain and keep a healthy weight
 - Maintain good posture
 - Perform gentle stretching before and after your shift
 - Exercise proper body mechanics
- Plan ahead
 - Modify your position and environment to promote a safer and more efficient work area (ergonomics)
 - Good sleeping habits and positioning



Maintaining Good Posture




- **Standing**

- If you must stand for long periods of time, use a footrest or anti-fatigue mats.
- Select and use appropriate footwear that is comfortable.

- **Sitting**

- Sitting is actually harder on your back than standing.
- If you must sit for long periods of time, consider using a pillow or towel to support your lower back.
- Make sure that when you are sitting that your knees are slightly higher than your hips, with feet flat on the floor.

- **Sleeping**

- Firm mattress.
 - Sleep on your side with your knees bent or on your back.
 - Avoid sleeping on your stomach with your head resting on a stack of pillows.
- 

General Exercises

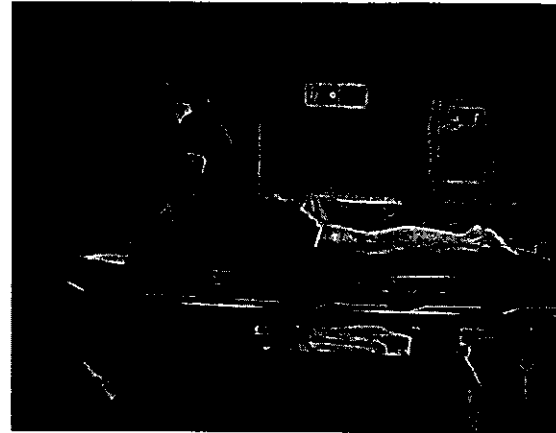


- Stretches:
 - to keep your muscles and other supporting tissues flexible and less prone to injury.
- Crunches/core strengthening
- Aerobic exercises:
 - to condition your heart and other muscles, maintain health, and speed recovery.
 - ▣ Walking
 - ▣ Swimming/pool exercises
 - ▣ Stationary bicycle

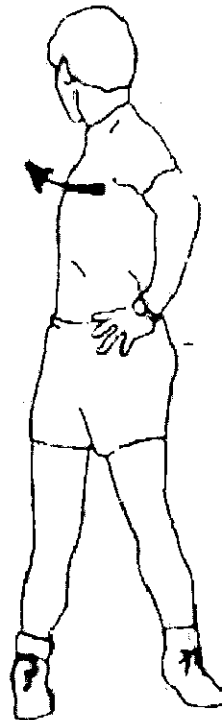
***Always obtain approval from your doctor prior to starting an exercise program

Stretches

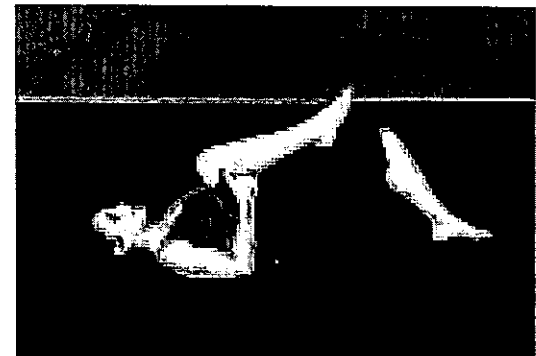
Back extension stretch



Trunk Rotation
Stretch



Single knee to chest



Keep in Mind...



- “An ounce of prevention is worth a pound of cure” . . . Benjamin Franklin