

Safe Lifting



Proper Material handling

January 2007

When you leave here you will have a better understanding of:

- Who is responsible for preventing back injuries
- The anatomy of the back
- Proper material handling

Why should you care?

- 80% of all Americans will experience a back injury severe enough to require medical attention.
- Back injuries are the second leading cause for lost work time.
- A back injury could make your life miserable.***



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Who is Responsible



Whether faculty or staff, student or visitor, **everyone** is responsible for good environmental, health and safety practices, including the prevention of back injuries.

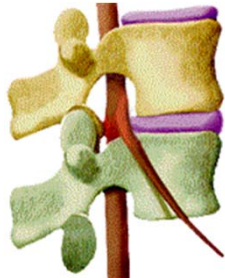
Anatomy of the back



- The spine has three curves
 - Cervical - neck
 - Thoracic - back
 - Lumbar - lower back
- The goal is to maintain the **natural curve**.

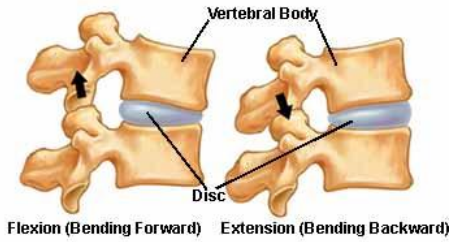
Anatomy of the back

- Spine functions as support for head
- Protects spinal cord
- Nerves run from spinal cord to all parts of the body
- Intervertebral discs serve as cushions between vertebrae



Anatomy of the back

Facet Joints in Motion



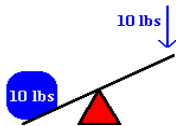
Anatomy of the back



- The back's function is support.
- Lifting with your back puts stress on back muscles, ligaments, and discs.

Proper Material Handling

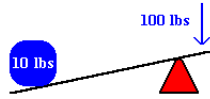
- The closer an object is, the easier it is to lift.



- When the fulcrum is in the center of the lever, it only takes 10 pounds of pressure to lift a 10 pound object.

Proper Material Handling

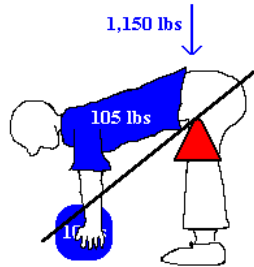
- If the fulcrum is shifted to one side (bending at the waist), it takes much more force to lift the same object.



- It operates on a 10:1 ratio. Lifting a 10 pound object actually puts 100 pounds of pressure on your lower back.

Proper Material Handling

- Add 105 pounds for the average person's upper body. A 10 pound object can put 1,150 pounds of pressure on your lower back.



Proper Material Handling

- Plan ahead and don't hurry



- Store heavy or frequently used objects at or near waist height



Proper Material Handling

- Be sure the destination and path are clear



- Wear comfortable shoes and clothing that allow for proper body mechanics



- Get help for heavy or awkward shaped objects

Proper Material Handling

- Lifting

1. Move close to the object (Separate feet shoulder-width apart)
2. Bend at the knees
3. Tighten stomach muscles
4. Lift with your legs, holding the object close



Proper Material Handling

- Lifting to chest height

1. Move close to shelf or destination
2. Separate feet with one foot forward
3. Tighten stomach when lifting
4. Elbows at side and reposition hands

Proper Material Handling

□ Lifting very light objects

1. Lean over the object
2. Hold on to something for support
3. Bend one knee slightly
4. Extend the other leg back



Proper Material Handling

- Carry objects close
- Break loads into smaller pieces to avoid excess weight
- Shoulder long and narrow objects



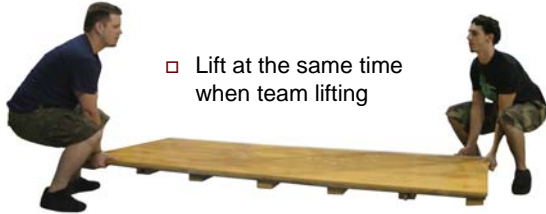
Proper Material Handling



- Turn by pointing toes and pivoting
- When loading/unloading a cart, point one toe toward the cart and the other toward the counter/shelf

Proper Material Handling

- Check the weight of the object before lifting



- Lift at the same time when team lifting

Proper Material Handling

- Use a handcart for large or heavy objects
- Push or pull from waist height
- When pulling don't twist



More Back Safety

- Squat instead of bending to work on low items



- When standing for extended periods, raise one leg on a support. Change legs periodically



Summary

- **Everyone** is responsible for preventing back injuries
- Goal is to ***maintain the natural curve*** of your back
- Proper material handling is important
 - Plan ahead
 - Lift and carry properly
 - Use the golfer's lift for very light objects

References

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Questions?