

# BACK SAFETY IN THE WORKPLACE



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# Back Safety & Lifting

- Training Objectives:
  - Common Causes of Back Injuries
  - Back Injury Prevention
  - Principles of Safe Handling
  - Proper Lifting Techniques
  - Exercises
  - Summary





# Back Safety & Lifting

## Heavy Lifting

Job requires heavy lifting:

- Use equipment when possible or ask for help.
  - Try to avoid repetitive lifting over a long period of time.

## Twisting

**Twisting at the waist while lifting or holding a heavy load.**

## Reaching & Lifting

**Injury usually occurs when reaching over the head, across a table or out the back of a truck.**

# Back Safety & Lifting

## Carrying & Lifting

- Injury usually occurs when carrying or lifting objects with awkward or odd shapes.

## Awkward Positions

- Poor postures that can contribute to back pain are caused by poor workstation layout and/or equipment design.

## Slips, Trips & Falls

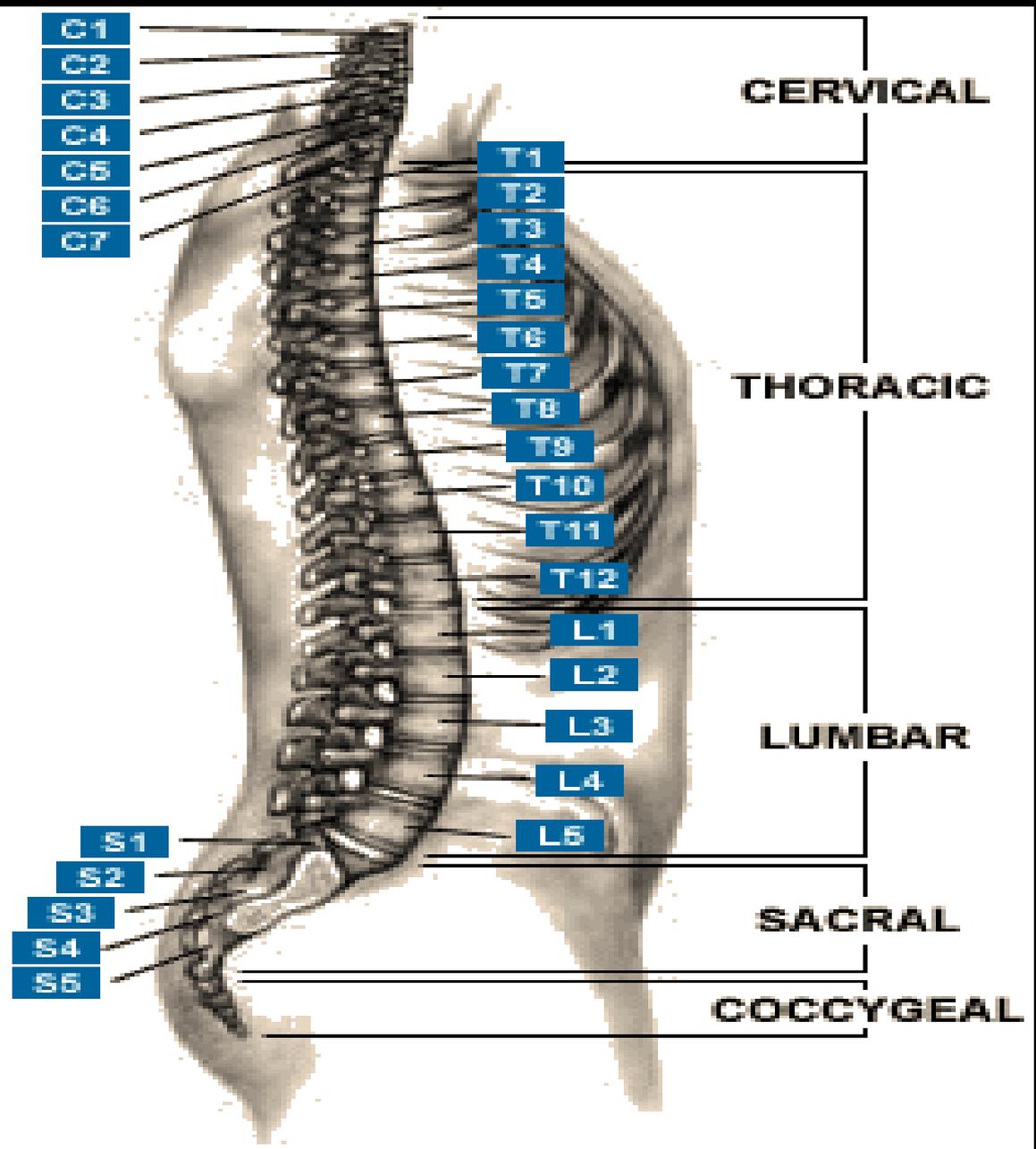
- It is very easy to injure your back, neck or legs while slipping, tripping or falling.

# Back Safety & Lifting

## Sitting or Standing

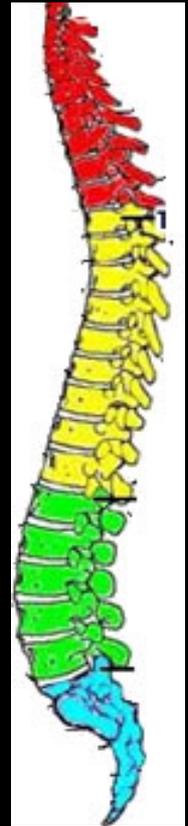
- Sitting or standing too long in one position. Sitting can be very hard on the lower back.
- For every 45 min. of sitting, stand up and take a stretch.
- For every one to two hours standing, sit down or move around and stretch.





# BACK Facts

- 80% of the population can expect to have back pain at some time in their lives.
- About 8 million Americans suffer new back injuries every year.
- Twice as many back injuries occur at home as in the workplace.
- About 400,000 people suffer disabling back injuries each year.
- Sooner or later 8 out of 10 adults at some point in their lives will experience back pain that impairs activity.



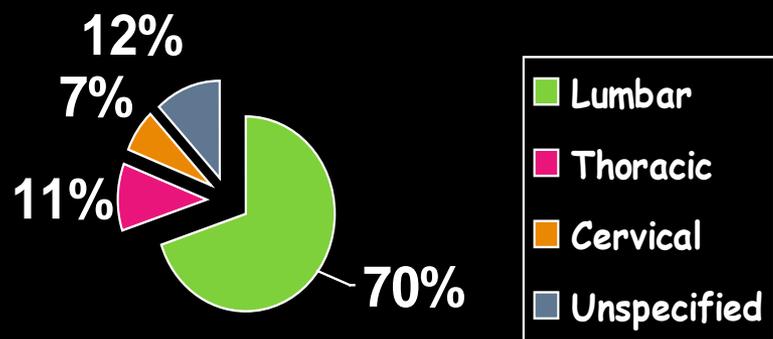
# Common Back Disorders

- Acute strains and sprains
- Muscle spasm
- Herniated Disc





# Back injuries involving lost work



The majority of back injuries that result in lost work time involve the lumbar region.

# Leading Causes of Back Problems

- Poor Body Mechanics
- Stressful Living & Working
- Loss of Flexibility
- Loss of Strength



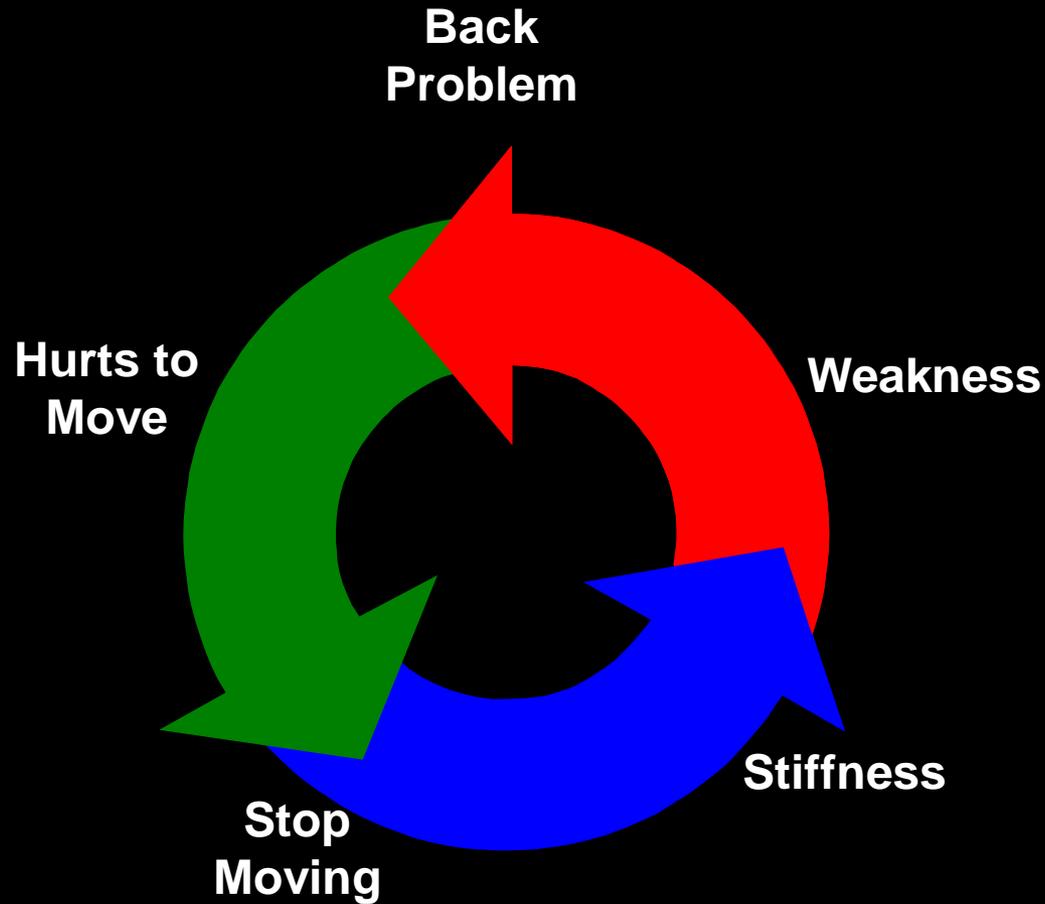
Source: The Saunders Group

EMERGENCY



SORE BACK?

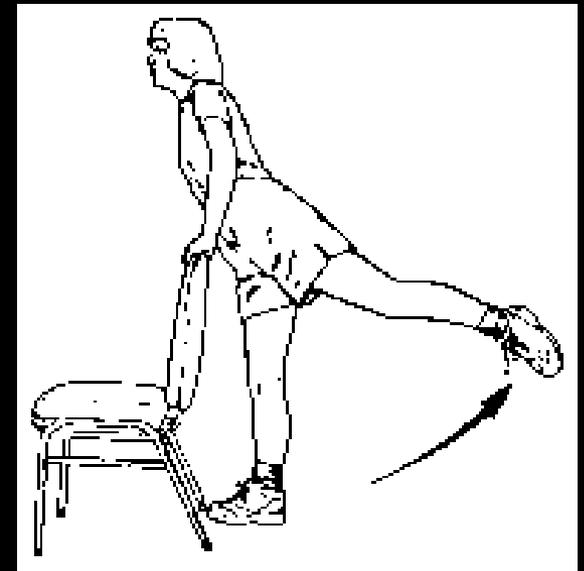
# Back Injury Cycle



Source: The Saunders Group

# How do I Take Care of My Back?

- ✓ Body Mechanics
- ✓ Proper Lifting Techniques
- ✓ Exercise
- ✓ Stretching
- ✓ Correct Posture





# Body Mechanics

"It's not how much you lift or move, but the way you do it!"

## General Rules:

- 1) Push vs. Pull
- 2) Keep Work Within "Strike Zone"
- 3) Keep Load Close To Body
- 4) Use Abdominal Bracing
- 5) Pivot with Feet - Avoid Twisting
- 6) Team Work vs. Mule Work

# Proper Lifting Techniques

## Power Position:

- Wide base of support
- Feet shoulder width apart
- Back straight
- Head and shoulders up
- Bend at hips and knees - NOT BACK!
- Keep load close to body
- Tighten stomach muscles
- Use leg, hip and buttock muscles
- Breathe out with lift





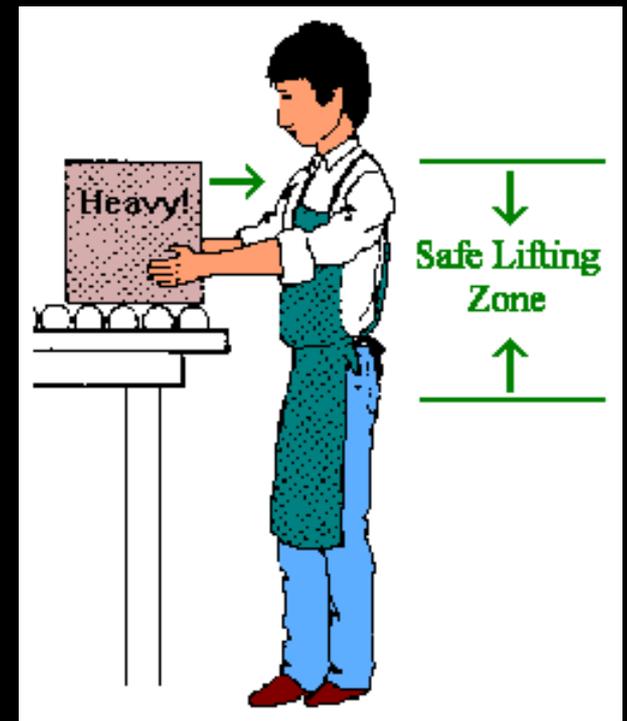
# Avoid Lifting and Bending Whenever You Can

## Place objects up off the floor.

Set objects down on a table or other elevated surface instead of on the floor.

## Raise / lower shelves.

The best zone for lifting is between your shoulders and your waist. Put heavier objects on shelves at waist level, lighter objects on lower or higher shelves.



# Why Focus on Conditioning?

- ✓ Strength and Stability
- ✓ Flexibility
- ✓ Aerobics for Endurance
- ✓ Anaerobic for Recovery

# Benefits of Conditioning

- ✓ Increased Strength
- ✓ Increased Endurance
- ✓ Decreased Risk of Injury
- ✓ Better Job Performance



# Start Safe - The Warm-Up

Begin with 5 - 10 minute warm-up

- Should be specific to activity
- Gradually increase intensity

Stretch lightly (after warm-up)

- Don't overstretch
- Hold each stretch for at least 20 seconds

# Aerobic Exercise

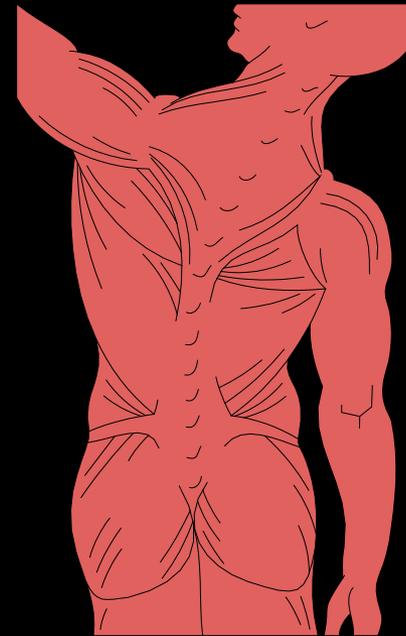
- ✓ 60 minutes per day
- ✓ Weight Management Benefit
- ✓ Enhanced Circulation
- ✓ Healthier Heart
- ✓ Decrease High Cholesterol



# Strength & Flexibility...

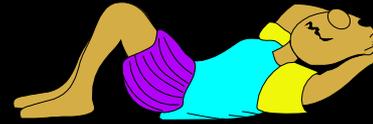
## Areas of Focus

- **Trunk**
  - Abdominals
  - Extensors
- **Legs**
  - Quads
  - Gluts
  - Hip Flexors

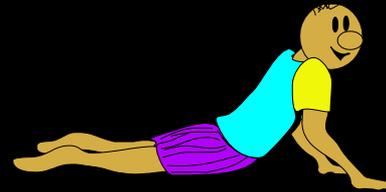


# Stability Exercises

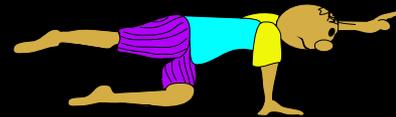
- Crunches



- Press Ups



- Bird Dog



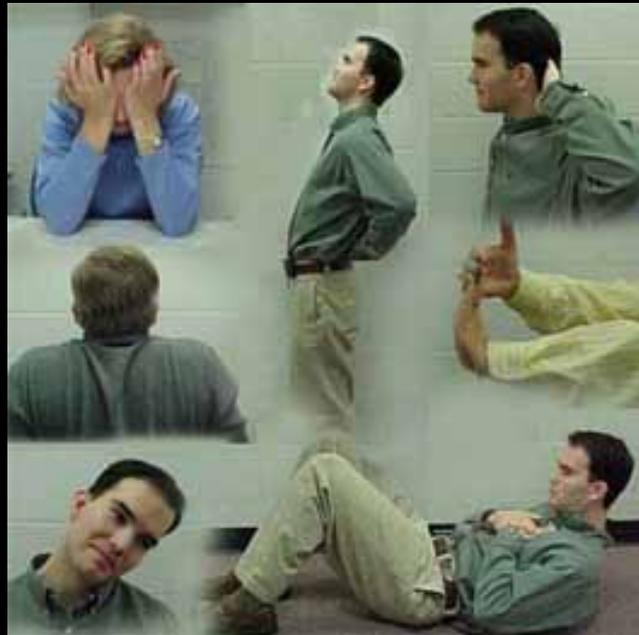
# Cool Down

- Prevents injury
- Rids muscles of waste products
- Returns heart rate and blood pressure to normal

## Suggestions:

- Stretch should last 15 or more seconds
- Gently stretch for 10 minutes

# STRETCH!!



# Stretches & Flexibility

- Lower Trunk Rotation



- Hamstring Stretch

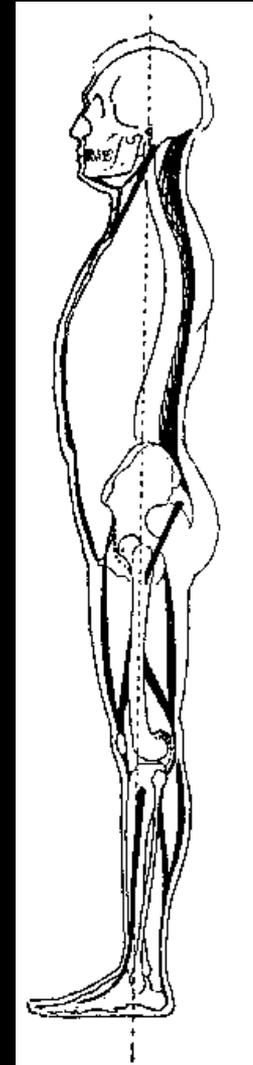


- Quad Stretch



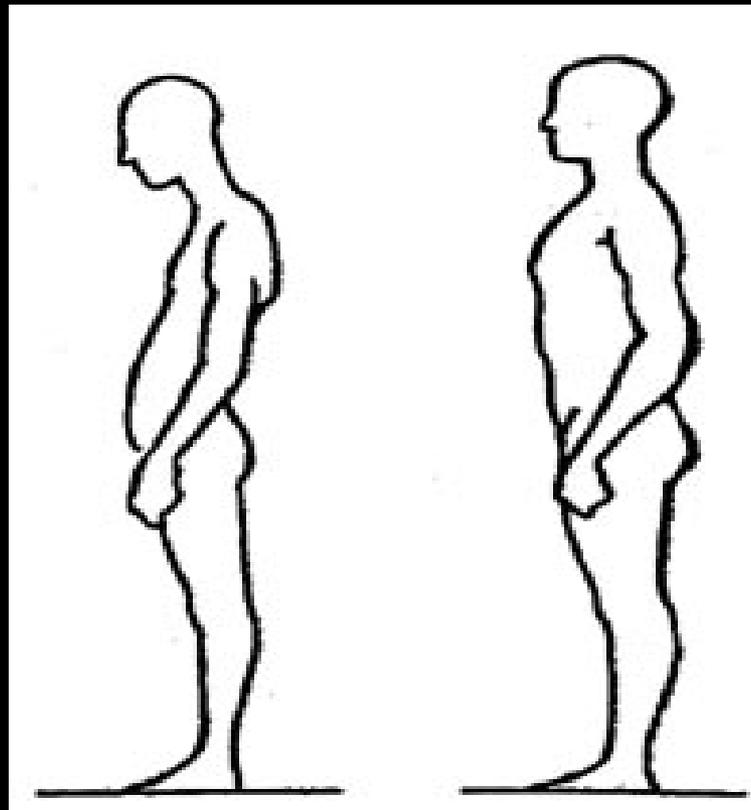
# Correcting Posture

1. Sit Straight
2. Stretch Out
3. Walk Tall



# Posture

Bad posture can be the cause of spinal pain, it can make existing pain worse, and it certainly can make the pain last a lot longer.



# Other Ways to Take Care of Your Back

- Relaxation Techniques
  - Staying Hydrated
  - Stress Management
  - Rest/Sleep

# Water

- We need at least eight 8 oz glasses of water a day (64 ounces)
- The human body can live weeks without food, but only a few days without water!



# Ways to Relief Stress

- Breathing techniques
- Exercise regularly
- Rest & Relaxation
- Express your feelings



# Sleeping



## DON'T

- Sleep on a sagging mattress
- Sleep in one position too long

## DO

- Sleep on a mattress that is firm
- Sleep on a king or queen size bed allows freedom to change positions frequently

# Injury Prevention Tips

- ❖ Increase intensity/duration gradually
- ❖ Use proper technique
- ❖ Use appropriate equipment
- ❖ Do not ignore aches/pains

# CAUSES OF INJURIES

- ❖ Increasing activity too quickly
- ❖ Poorly functioning equipment
- ❖ Improper form
- ❖ Working through pain
- ❖ Lack of conditioning

# Treat Injuries the RICE Way!

Rest - avoid using affected area until pain-free

Ice - for 20 minutes at a time every few hours

Compression - pressure bandage to reduce swelling

Elevation - raise at or above heart level

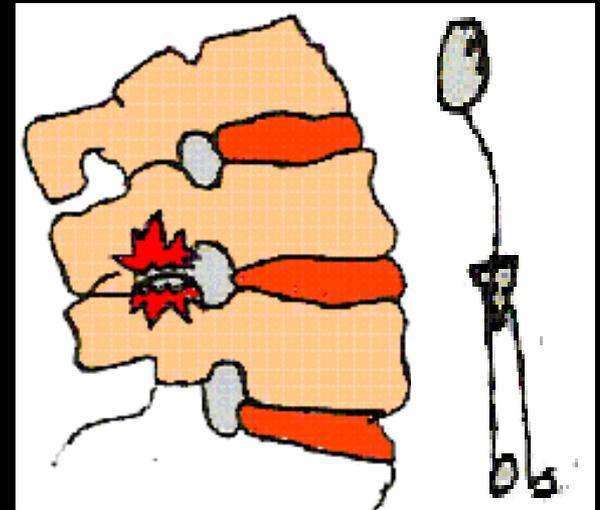
# When to See Your Doctor

- Injured limb/joint is deformed
- Broken skin over injury site
- Numbness, tingling
- Inability to move area without pain
- Joint feels unstable
- Can not bear weight
- Swelling
  - Does not improve within 48 hours
  - Begins within 30 minutes of injury

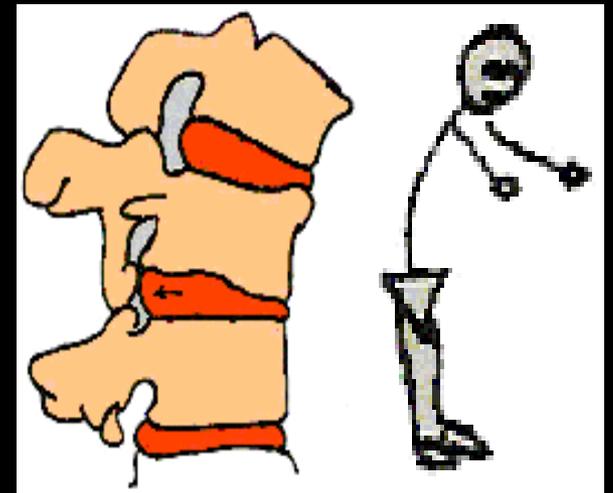
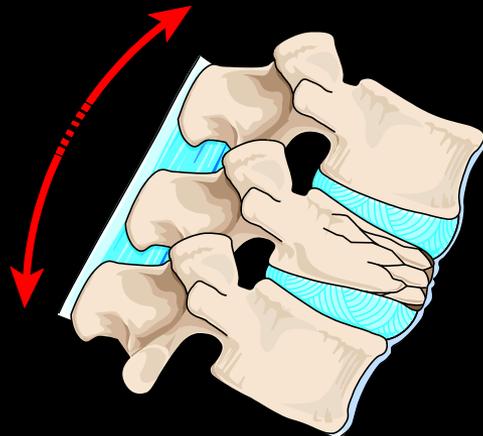


# Back Safety & Lifting

- Back Injury Prevention Cont.:
  - Avoid Hyper extension movements of the back.



- Avoid Hyper flexion movements of the back.



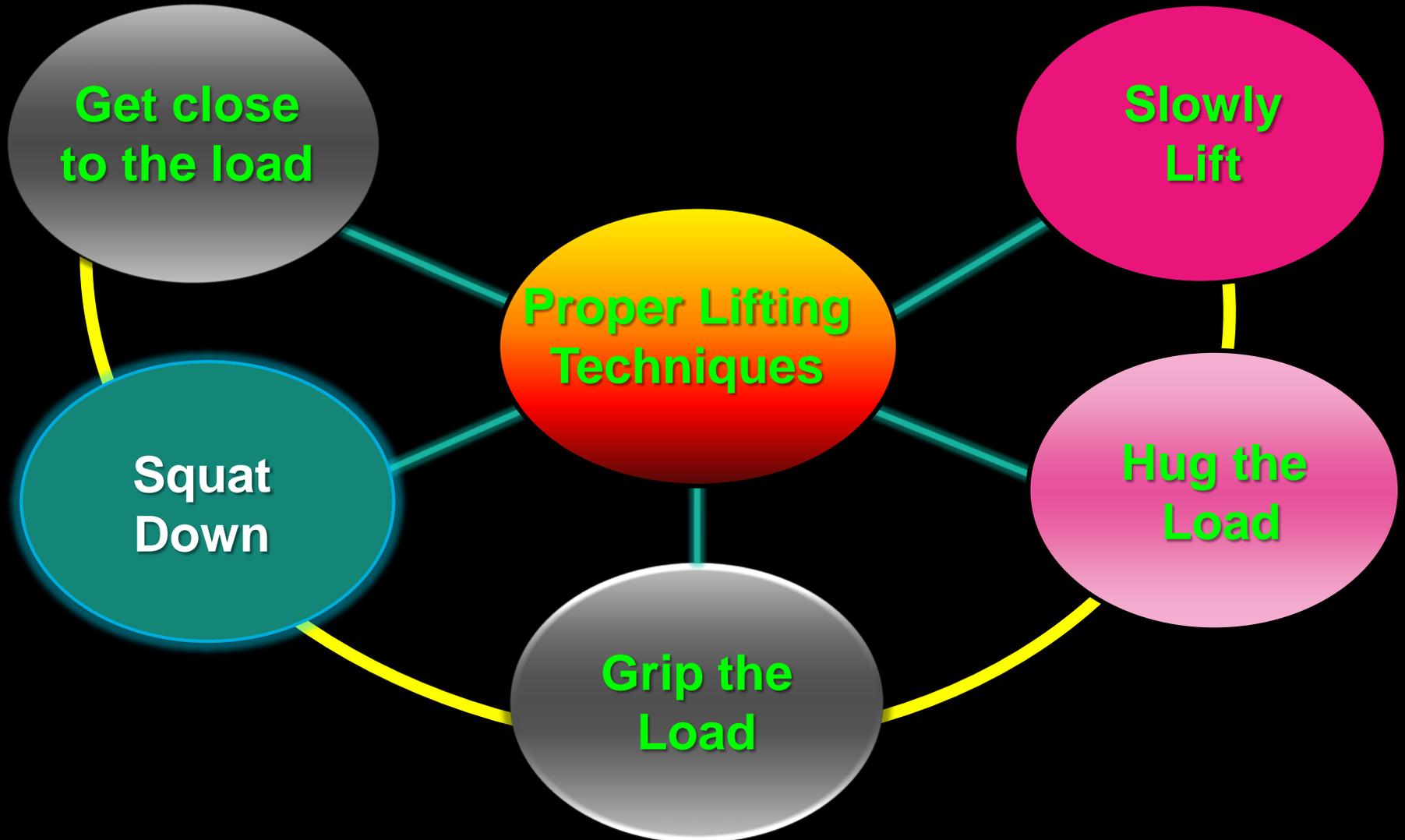
# Back Safety & Lifting

- **Back Injury Prevention cont.:**

- Maintain good posture
- Lift objects holding them close to your body
- Never “twist” when carrying, handling, or transferring a heavy object
  - Avoid “locking out” the knees
  - Use proper lifting techniques



# Back Safety & Lifting

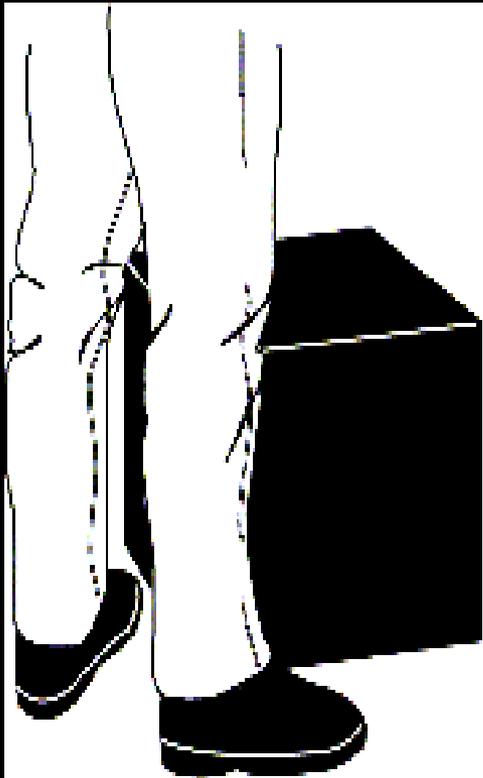


# Back Safety & Lifting

Get close  
to the load

- Proper Lifting Techniques

- Get as close to the load as possible with your feet wide apart about shoulder width, with one foot slightly in front of the other for balance.

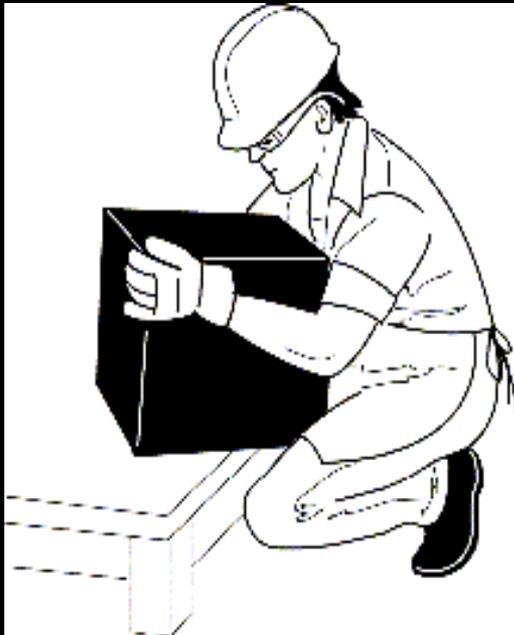


- Test the object's weight before lifting it.
- Ask for assistance from a co-worker when appropriate.
- Have the object close to the body and put less force on the low back.
- Avoid rapid, jerky movements.

# Back Safety & Lifting

## Squat Down

- Proper Lifting Techniques Cont.:
  - Keep yourself in an upright position while squatting to pick up.
  - Squat by bending the knees and hips.
  - Keep the three Curves of the Back properly aligned:
    - Ears, Shoulders, and Hips are in a straight line.



# Back Safety & Lifting

## Grip the Load

### ■ Proper Lifting Techniques Cont.:

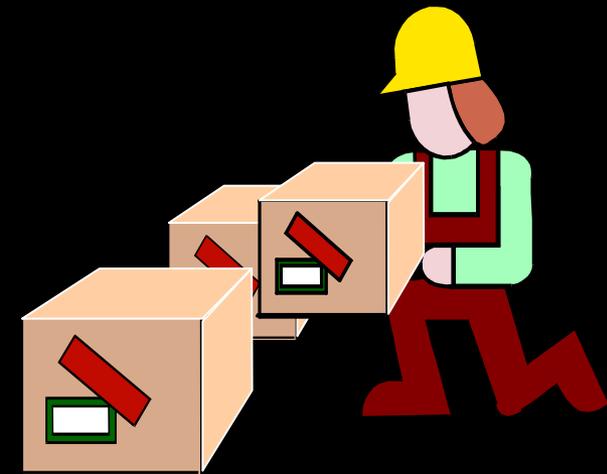
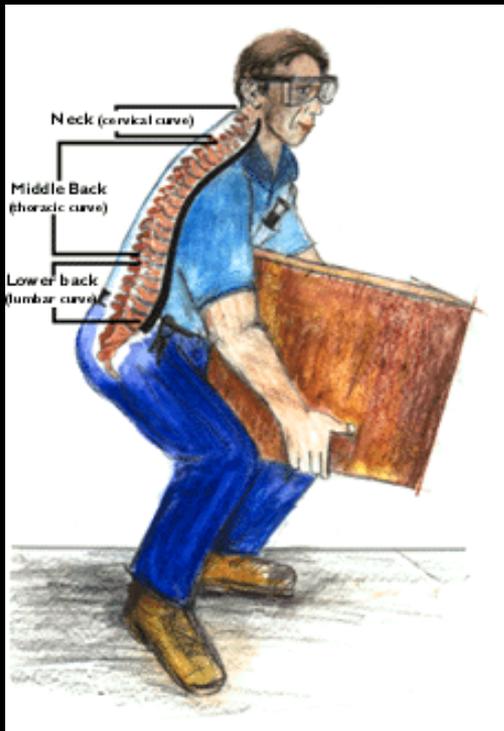
- Tightening the stomach helps support the spine.
- Do not hold your breath while tightening the muscles.
- Get a firm grasp of the object before beginning the lift.
  - Use both hands.
  - Use whole hand, not just fingers.
  - Use gloves as needed to prevent “pinched” grips or to protect the hands during lift.



# Back Safety & Lifting

## Hug the Load

- Proper Lifting Techniques Cont.:
  - Legs are the strongest muscles in the body – so use them.
  - Avoid back flexion.
  - Hold objects close to body.
  - Slide the object from the knee on the ground to mid-thigh.
  - Keep the head forward.
  - Hug the object to your stomach & chest.



# Back Safety & Lifting

## Slowly Lift

- Proper Lifting Techniques Cont.:
  - Lift with the legs to allow the body's powerful leg muscles to do the work.
  - Flex the knees and hips, not the back.
  - Avoid bending & twisting at the waist.
  - Try to keep the back "straight" during the lift.
  - Do not look down at the object during lift.
  - Look up to help "straighten" the position of the back for a safer lift.
  - Never Bend, Lift, and Twist at the same time.



# Back Safety & Lifting

- Takeaways:
  - Common Causes of Back Injuries
  - Back Injury Prevention
  - Principles of Safe Handling
  - Proper Lifting Techniques
  - Exercises

# Environmental Health and Safety

## Programs and Services

- Fire Protection Engineering
  - Life Safety & Emergency Preparedness
  - Environmental Compliance
  - Laboratory Safety
  - Occupational Safety
  - Occupational Health and Medical Surveillance
  - Materials Management
  - Industrial Hygiene
  - Chemical Hygiene
  - Safety Training
- 
- Location: University Health Services Bldg, Room 002 (basement)
  - Phone number: 744-7241                      Email: [EHS@okstate.edu](mailto:EHS@okstate.edu)
  - Website: <http://ehs.okstate.edu/>

# Back Safety & Lifting

- Any Questions, Comments!!!

