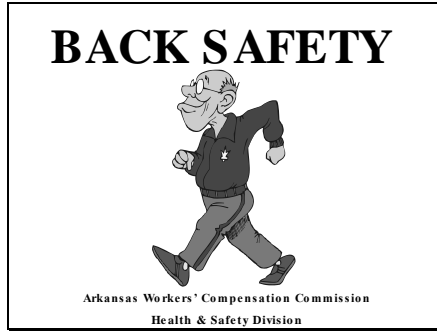


Slide 1




Slide 2

- **More than one million workers suffer back injuries each year**
- **Back injuries account for one of every five workplace injuries or illnesses**
- **One-fourth of all compensation indemnity claims involve back injuries**

Slide 3

Back Safety

- **Anatomy of the Back:
Why Do Injuries Occur?**
- **The Spine**



Slide 4

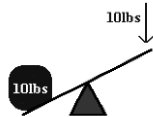
Types of Injuries

- Degeneration - a process where wear and tear causes deterioration. The disk is subjected to different types of stress as we use our backs each day.
- Eventually, disks can collapse or herniate; vertebrae can shift; bone spurs can develop.
- Acute or immediate injuries to the back can be caused by tearing or straining ligaments and muscles.
- Muscles can also spasm due to stress or tension.

Slide 5

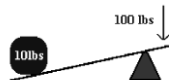
The Forces Involved

- Think of your back as a lever. With the fulcrum in the center of the lever, it only takes 10 pounds of pressure to lift a 10 pound object.



Slide 6

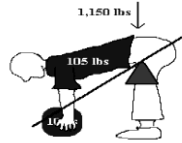
If you shift the fulcrum to one side, it takes much more force to lift the same object. Your waist actually acts like the fulcrum in a lever system, and it is not centered.



In fact, it operates on a 10:1 ratio. Lifting a 10 pound object actually puts 100 pounds of pressure on your lower back.

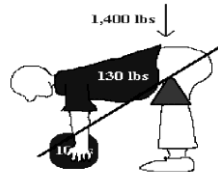
Slide 7

When you add in the 105 pounds of the average human upper torso, you see that lifting a 10 pound object actually puts 1,150 pounds of pressure on the lower back.



Slide 8

If you were 25 pounds overweight, it would add an additional 250 pounds of pressure on your back every time you bend over.



Slide 9


Contributing Factors

- **Poor physical condition** - Good physical condition is important for preventing strains, sprains, and other injuries.
- **Poor posture** - Avoid leaning forward (unsupported) when you sit, or hunching over while you're standing.
- **Extra weight** - The more you weigh, the more stress it puts on your back.
- **Stress** - Tense muscles are more susceptible to strains and spasms.
- **Overdoing it** - Don't be afraid to ask for help.

Slide 10


Common Causes of Back Injuries

- Heavy lifting
...especially repetitive lifting over a long period of time....



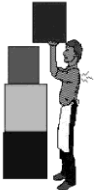
Slide 11

- Twisting at the waist while lifting or holding a heavy load
(This frequently happens when using a shovel.)



Slide 12

- Reaching and lifting
...over your head, across a table, or out the back of a truck...



Slide 13

- **Lifting or carrying objects with awkward or odd shapes**



Slide 14

- **Working in awkward, uncomfortable positions
...gardening, kneeling, tasks that require you to bend over for long periods of time...**



Slide 15

- **Sitting or standing too long in one position
(Sitting can be very hard on the lower back.)**



Slide 16

- It is also possible to injure your back slipping on a wet floor or ice.



Slide 17

How to Prevent Back Injuries

Avoid Lifting and Bending Whenever You Can:


- Place objects up off the floor
- Raise / lower shelves
- Use carts and dollies

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- Use cranes, hoists, lift tables, and other lift-assist devices
- Bend the knees to keep your spine in better alignment.
- Instead of using your back like a crane, you allow your legs to do the work.

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**Follow these steps
when lifting:**

1. Take a balanced stance with your feet about a shoulder-width apart. One foot can be behind the object and the other next to it.

2. Squat down to lift the object, but keep your heels off the floor. Get as close to the object as you can.

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3. Use your palms (not just your fingers) to get a secure grip on the load. Make sure you'll be able to maintain a hold on the object without switching your grip later.

4. Lift gradually (without jerking) using your leg, abdominal and buttock muscles and keeping the load as close to you as possible. Keep your chin tucked in so as to keep a relatively straight back and neck line.

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5. Once you're standing, change directions by pointing your feet in the direction you want to go and turning your whole body. Avoid twisting at your waist while carrying a load.

6. When you put a load down, use these same guidelines in reverse.

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**Also follow these
lifting tips:**

- ❖ Reduce the amount of weight lifted.
- ❖ Use handles and lifting straps.
- ❖ Get help if the shape is too awkward or the object is too heavy for you to lift and move by yourself!

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Body Management

- ❖ Stretch first
- ❖ Slow down
- ❖ Rest your back
- ❖ Sleep on a firm mattress.
- ❖ Get in shape

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**Exercises to minimize
problems with back pain**

American Academy of Orthopaedic Surgeons Public Information

Exercises to strengthen your muscles:

Wall slides to strengthen back, hip, and leg muscles:

- Stand with your back against a wall and feet shoulder-width apart. Slide down into a crouch with knees bent to about 90 degrees. Count to five and slide back up the wall. Repeat 5 times.



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Leg raises to strengthen back and hip muscles:

- Lie on your stomach. Tighten the muscles in one leg and raise it from the floor. Hold your leg up for a count of 10 and return it to the floor. Do the same with the other leg. Repeat five times with each leg.



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Leg raises to strengthen stomach and hip muscles:

- Lie on your back with your arms at your sides. Lift one leg off the floor. Hold your leg up for a count of 10 and return it to the floor. Do the same with the other leg. Repeat five times with each leg. If that is too difficult, keep one knee bent and the foot flat on the ground while raising the leg.



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You can also sit upright in a chair with legs straight and extended at an angle to the floor.

- Lift one leg waist high. Slowly return your leg to the floor. Do the same with the other leg. Repeat five times with each leg.



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Partial sit-ups to strengthen stomach muscles:

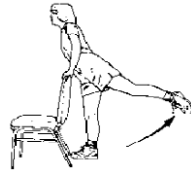
- Lie on your back with knees bent and feet flat on floor. Slowly raise your head and shoulders off the floor and reach with both hands toward your knees. Count to 10. Repeat five times.



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Back leg swing to strengthen hip and back muscles:

- Stand behind a chair with your hands on the back of the chair. Lift one leg back and up while keeping the knee straight. Return slowly. Raise other leg and return. Repeat five times with each leg.

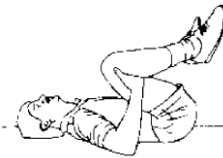


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Exercises to decrease the strain on your back:

- Lie on your back with your knees bent and feet flat on your bed or floor. Raise your knees toward your chest. Place both hands under your knees and gently pull your knees as close to your chest as possible.


➤ Do not raise your head. Do not straighten your legs as you lower them. Start with five repetitions, several times a day.



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Lie on your stomach:


- Place your hands under your shoulders with your elbows bent and push up. Raise the top half of your body as high as possible, allowing your hips and legs to remain flat on the bed or floor. Hold the position for one or two seconds. Repeat 10 times, several times a day.



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Stand with your feet slightly apart:

- Place your hands in the small of your back.
- Keep your knees straight.
- Bend backwards at the waist as far as possible and hold the position for one or two seconds.



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Thank You!
