

Back Injury Prevention



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Injury Stats

- **Back injuries** are the most common lost workday injury
- 50% were caused by lifting; followed by slips and falls; and pushing or pulling.
- 90% of back injuries are sprains or strains; 91% are to lower back.
- More expensive than other lost time claims

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Back Safety



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H.W. Heinrich, 1931

- 88% of all accidents are caused by unsafe acts
- 10% of all accidents are caused by unsafe conditions
- 2% uncatergorized



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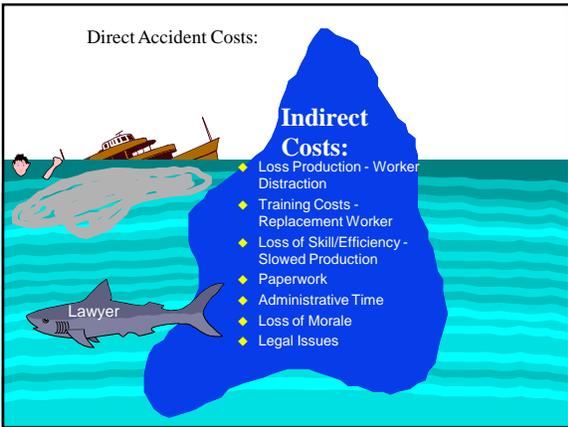
Accident Triangle



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Direct Accident Costs:



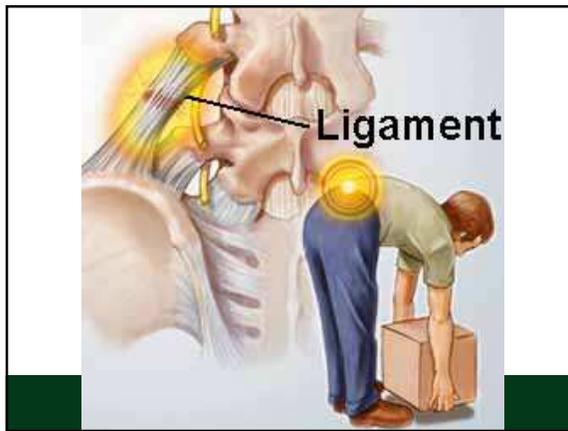
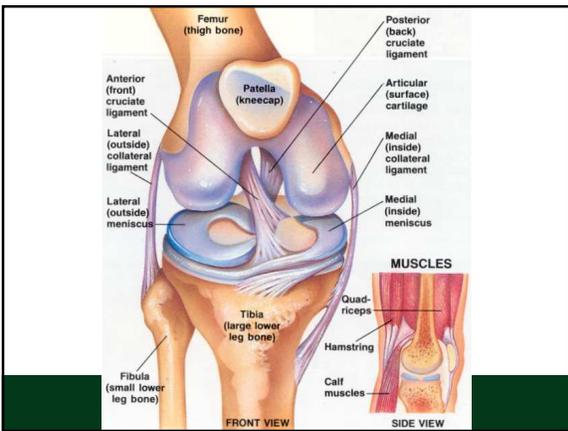


What is a sprain?

A sprain is a stretch and/or tear of a ligament, the fibrous band of connective tissue that joins the end of one bone with another. Ligaments stabilize and support the body's joints. For example, ligaments in the knee connect the upper leg with the lower leg, enabling people to walk and run.

Appendix p. 11, 12.

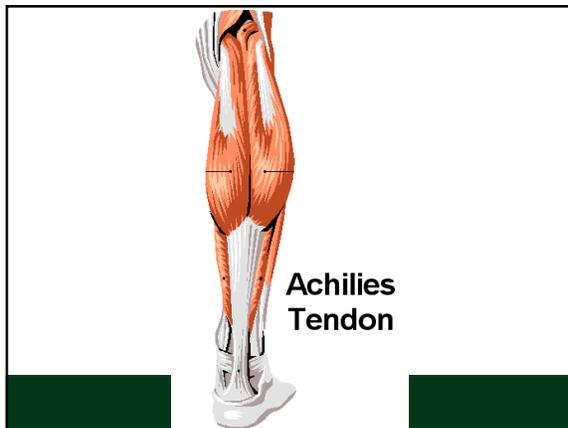
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What is a strain?

- A strain is a twist, pull and/or tear of a muscle and/or tendon. Tendons are fibrous cords of tissue that attach muscles to bone.

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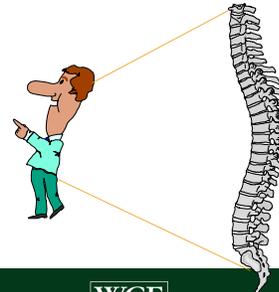


What is muscle soreness?

Sore muscles result primarily from micro-tears in the muscles from muscle overexertion.

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Back Injury Prevention



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Risk Factors

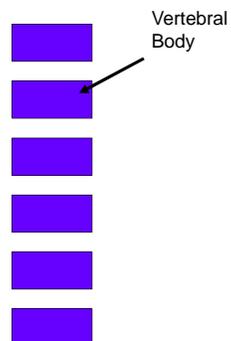
- Heavy physical work
- Static posture - sitting and standing
- Repetitive work
- Slipping, tripping or falling
- Twisting while spine is loaded (carrying something)

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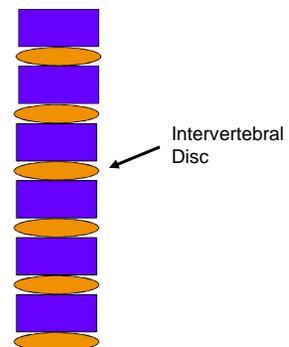
Risk Factors

- Vibration while driving
- Excessive overtime, work-to-rest ratio
- "Attitude" - poor or high-risk attitude
- Lack of work satisfaction and lack of motivation
- Mental fatigue (forgetting to lift properly)

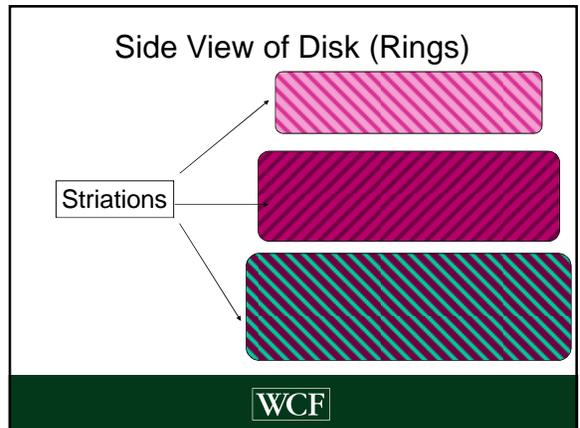
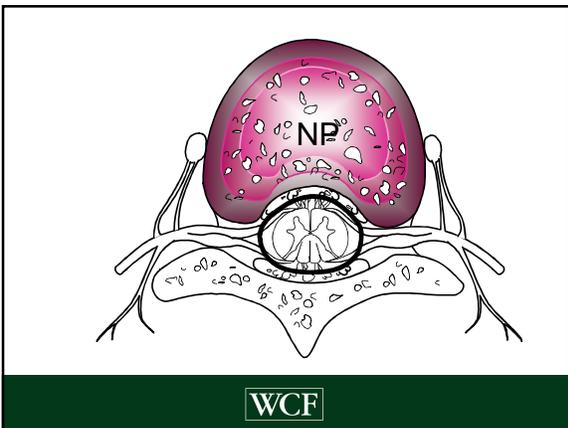
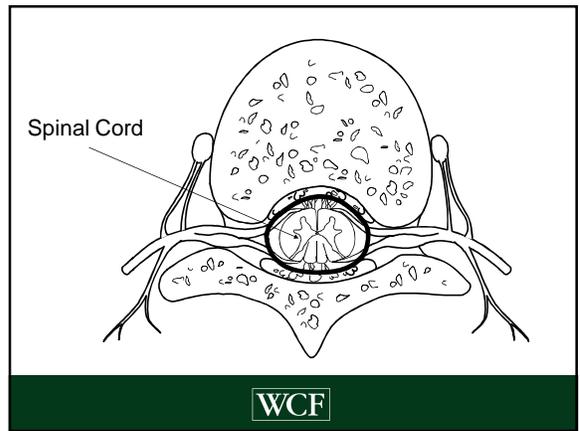
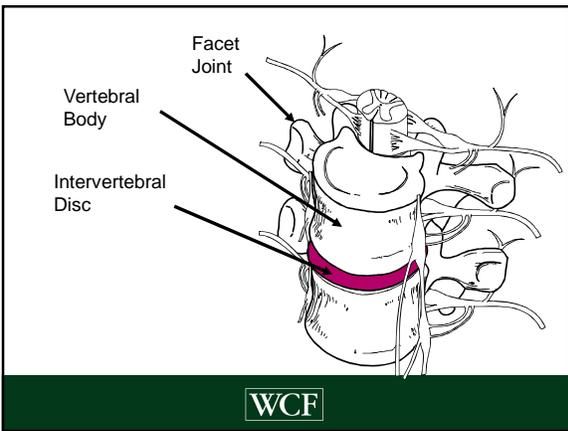
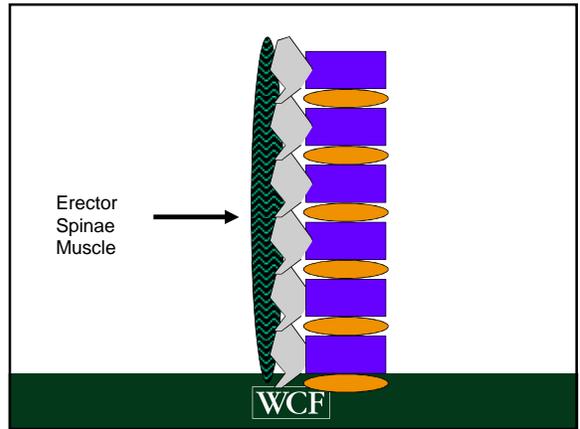
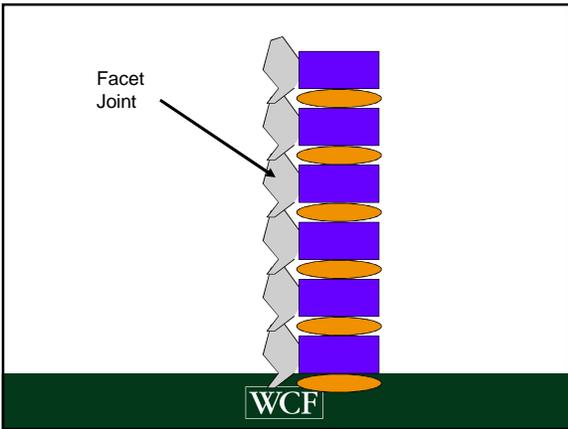
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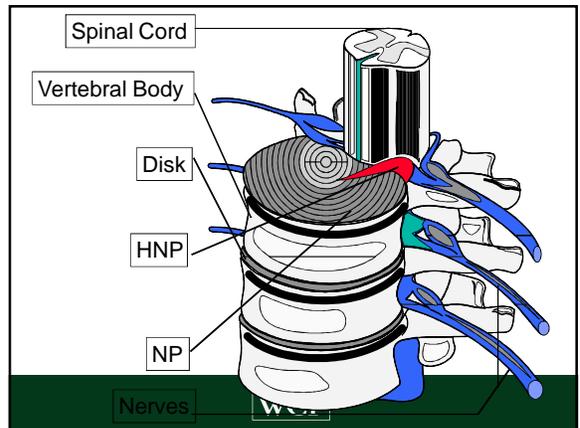
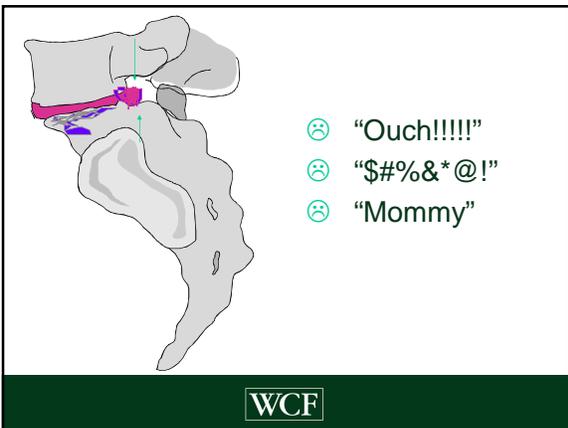
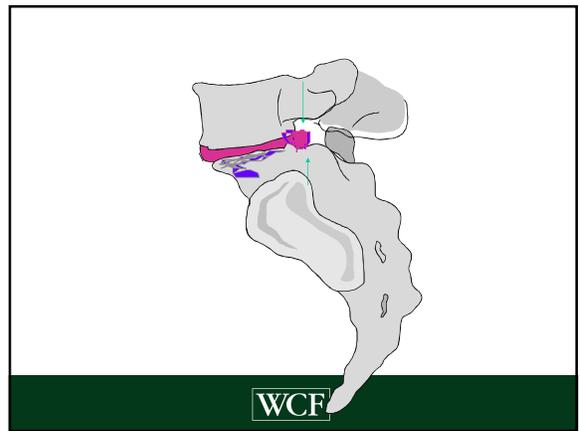
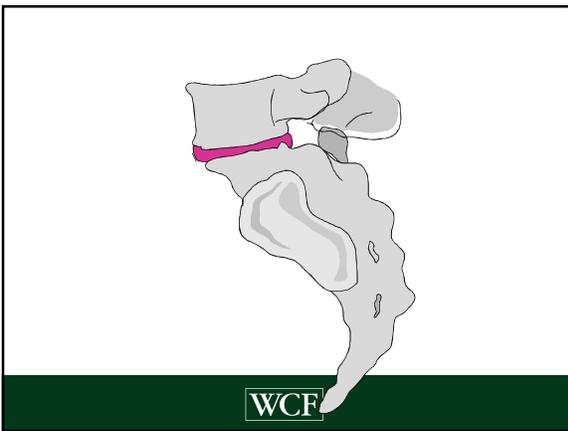
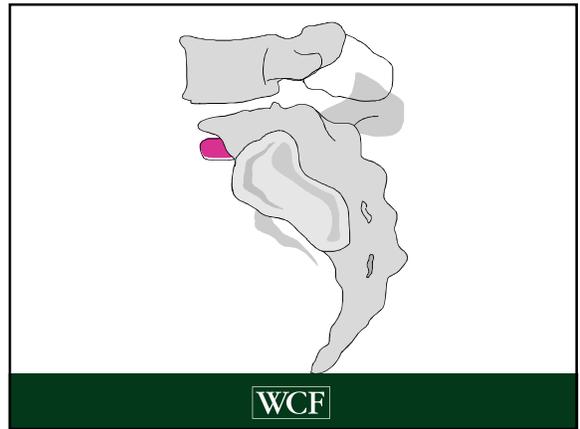
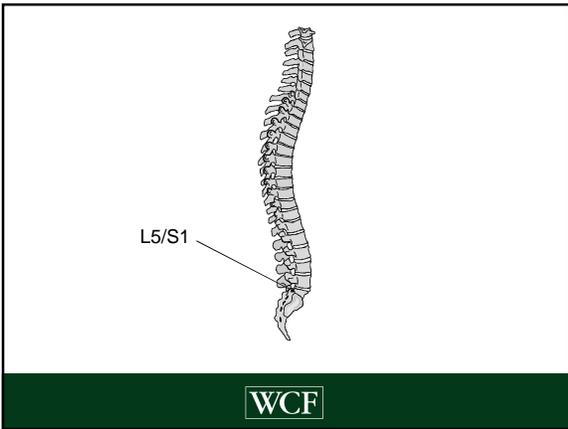


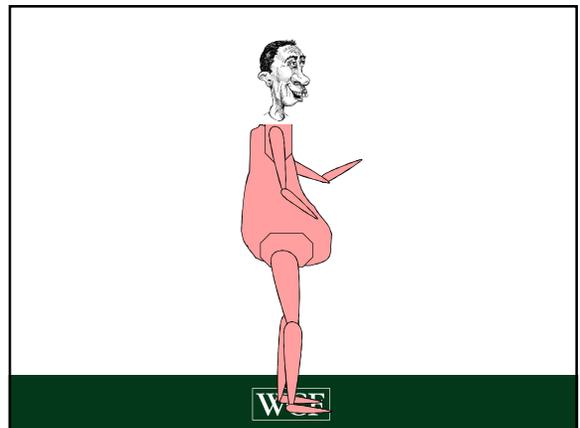
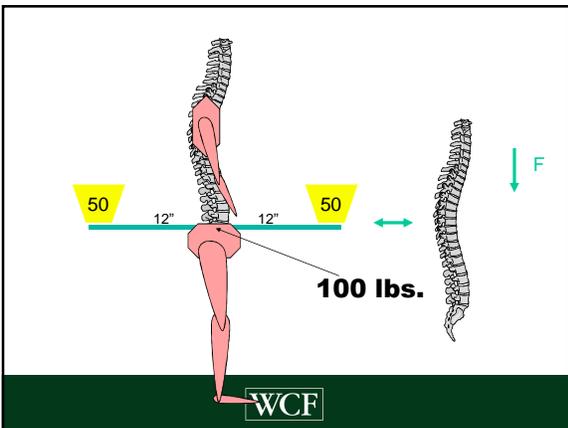
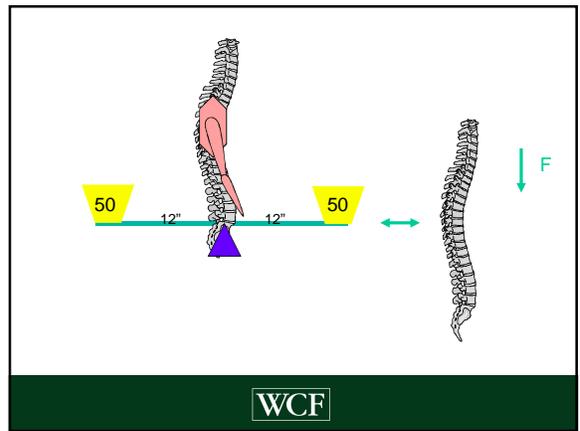
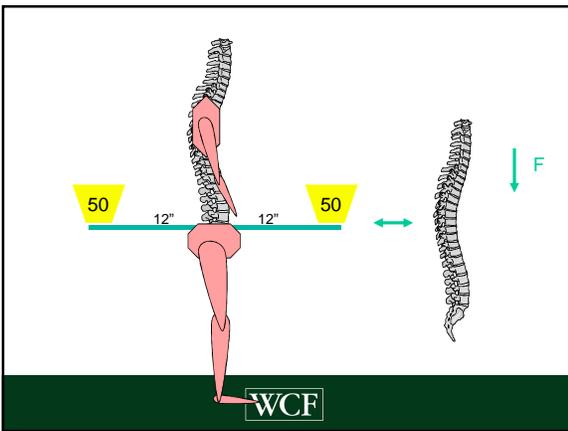
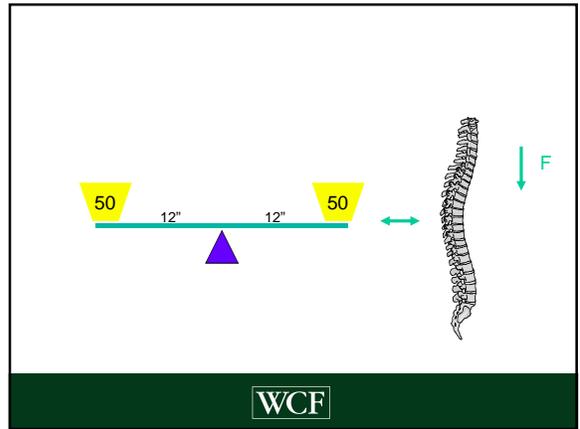
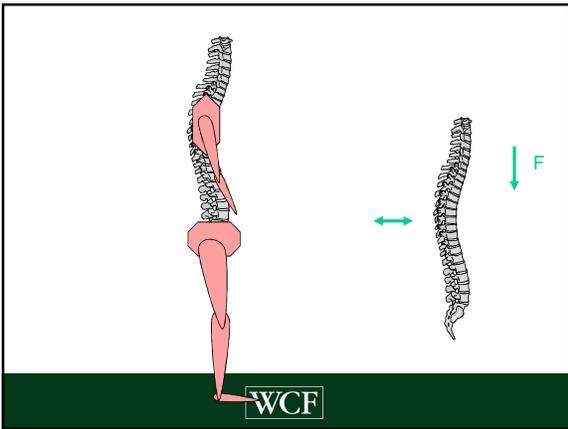
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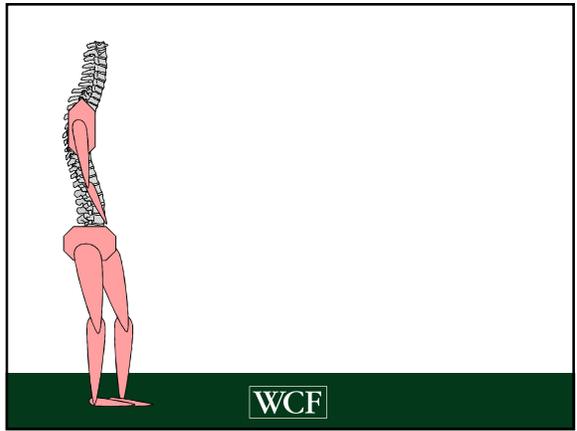
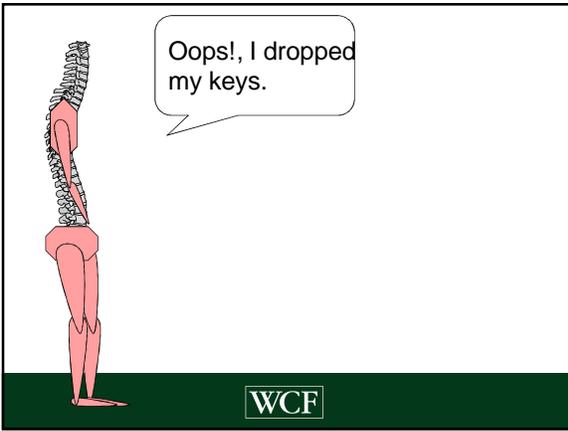
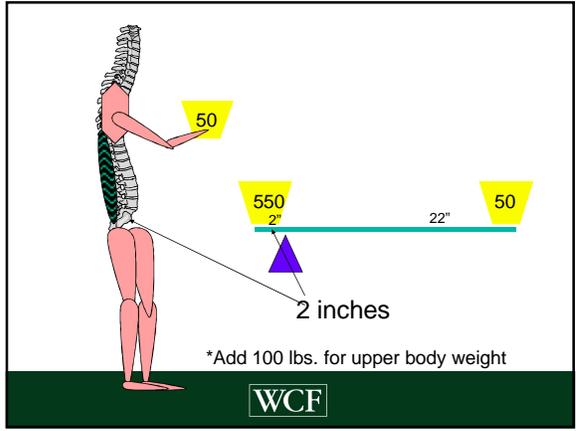
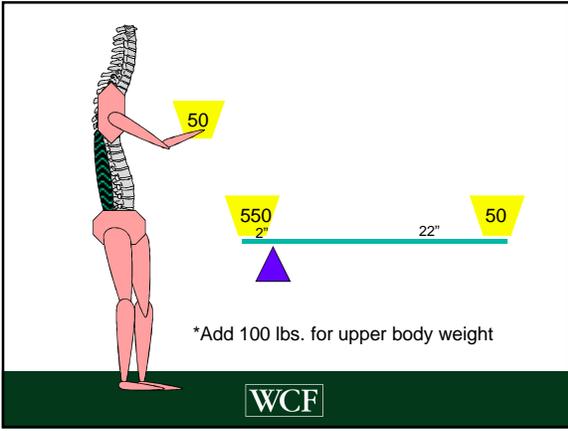
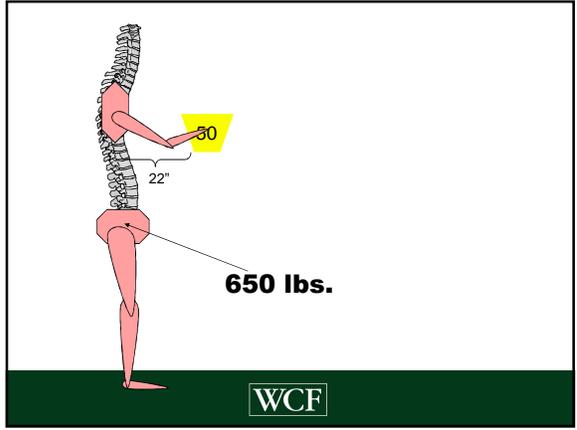
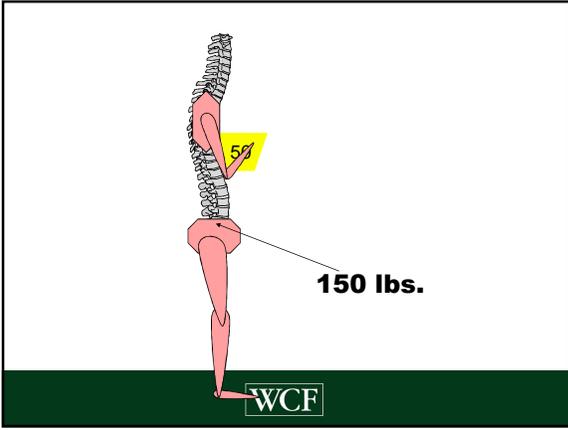


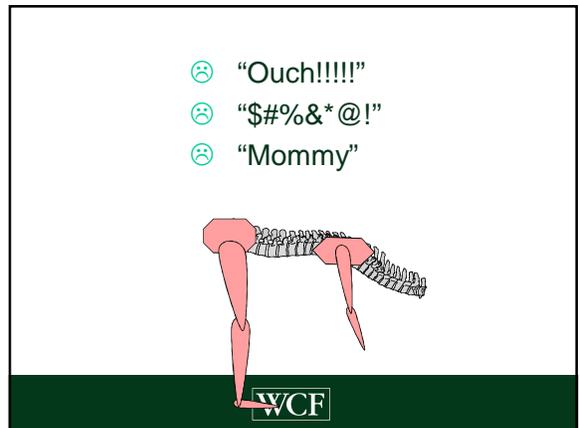
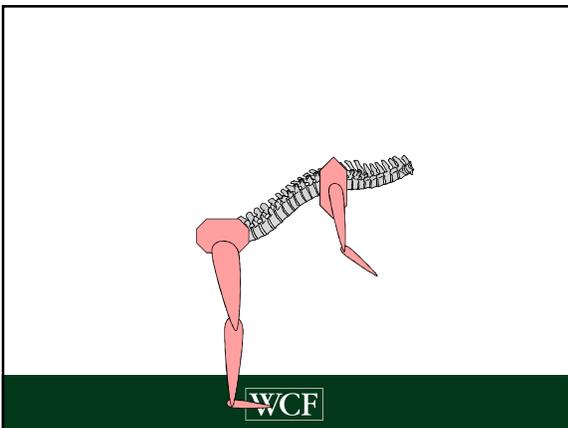
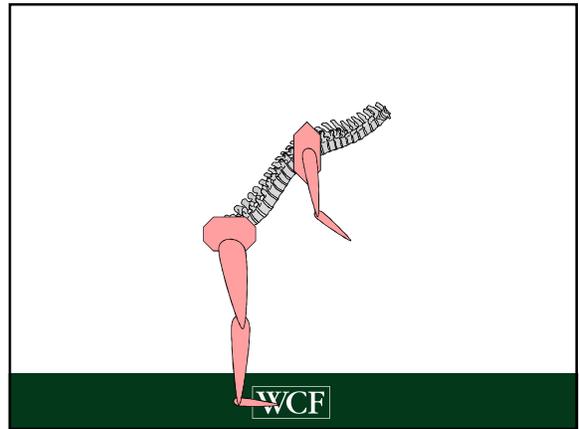
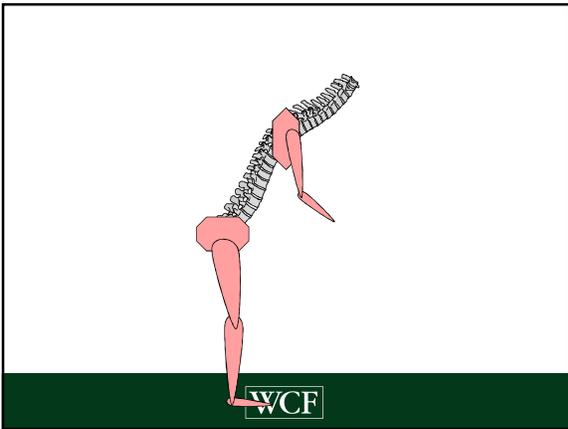
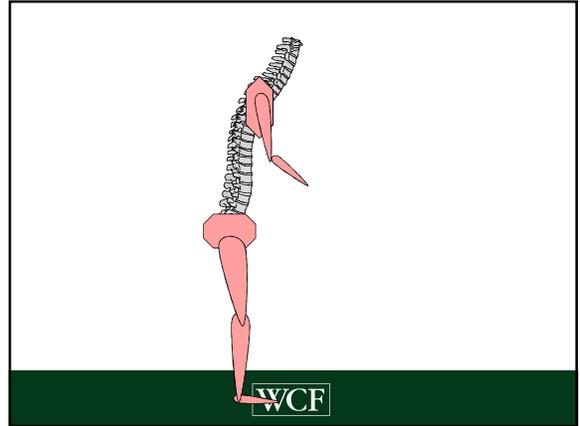
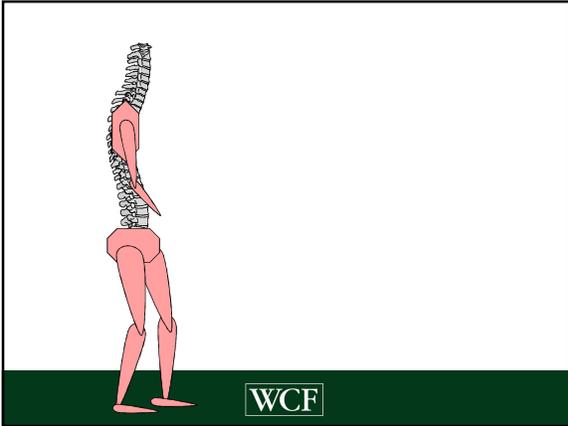
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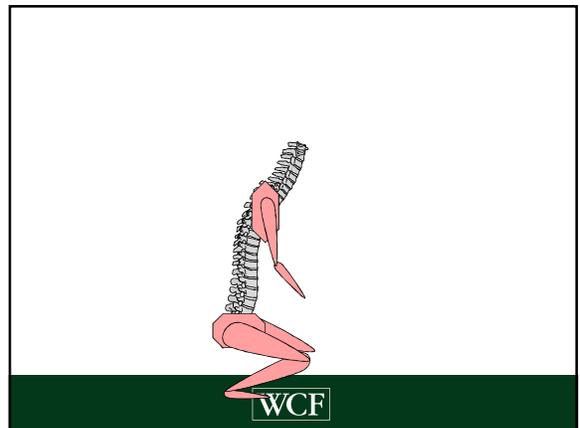
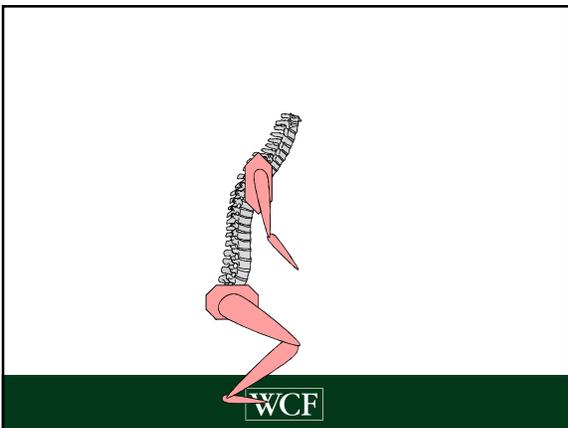
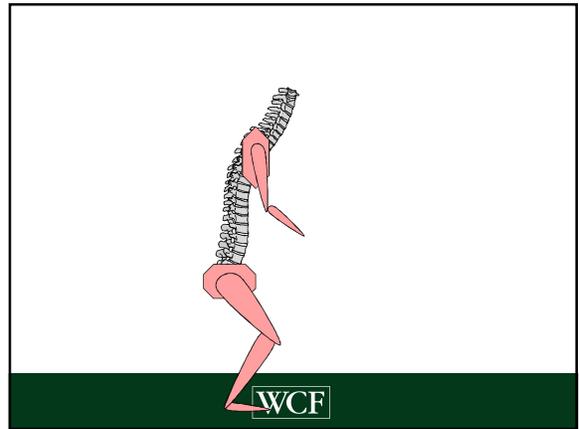
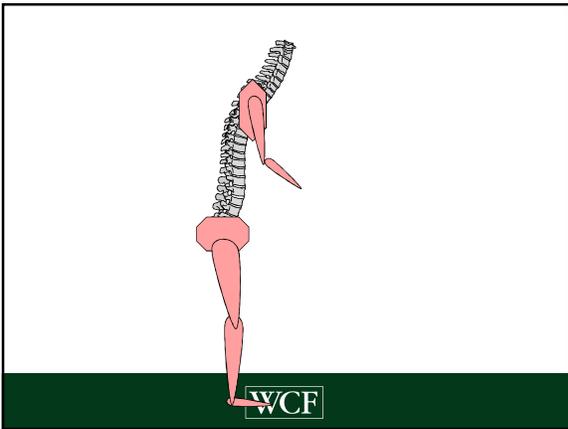
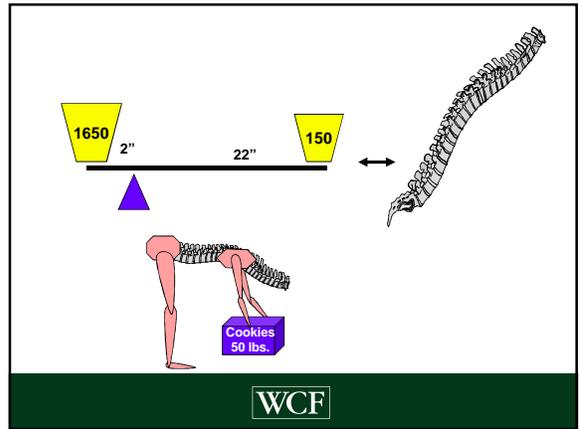
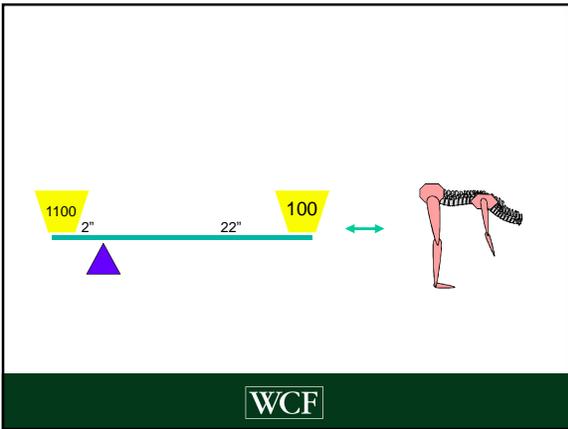


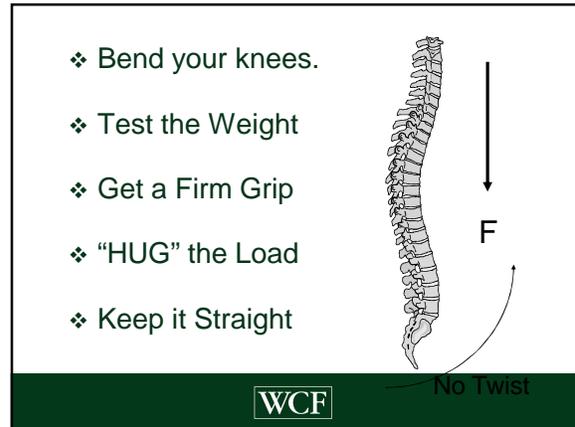
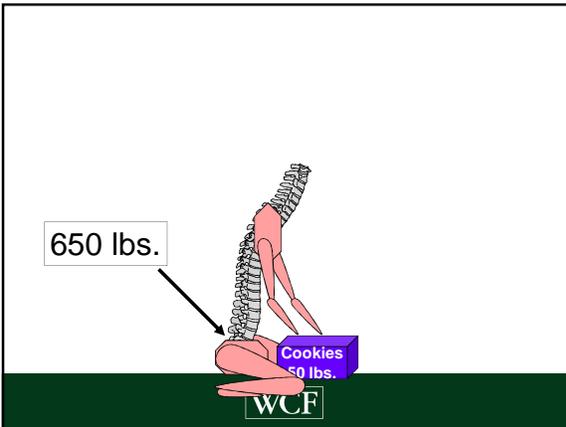












Contributing Elements

- Carrying material over uneven surfaces
- Twisting in any form
- Jerking while lifting
- Reaching for a load
- Bending while carrying a load
- Carrying material over slippery surfaces
- Carrying loads that are too heavy
- Physical conditioning
- How many lifts have been performed

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Lifestyle Factors

- Research indicates that 8-10 glasses of water a day could significantly ease back and joint pain for up to 80% of sufferers.
- Smoking
- Depression
- Lack of Sleep
- Family problems

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Lifestyle Continued

- Substance abuse
- Lack of physical activity/too much physical activity
- Poor muscle endurance and poor trunk muscle stabilization
- Excessive weight
- Previous problems

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Slip, Trip, and Fall

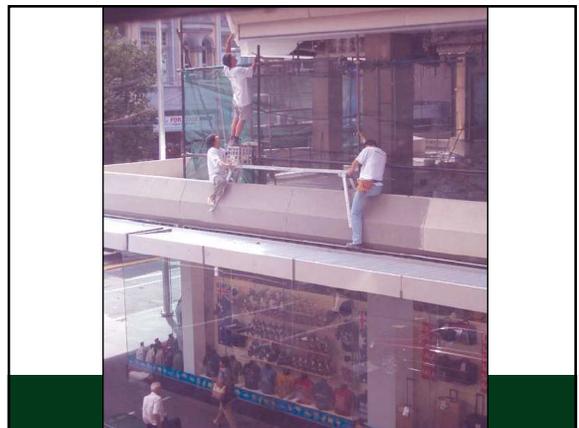
- Ice/Snow
- Wet Floors
- Floor surfaces
- Cords
- Shoe selection

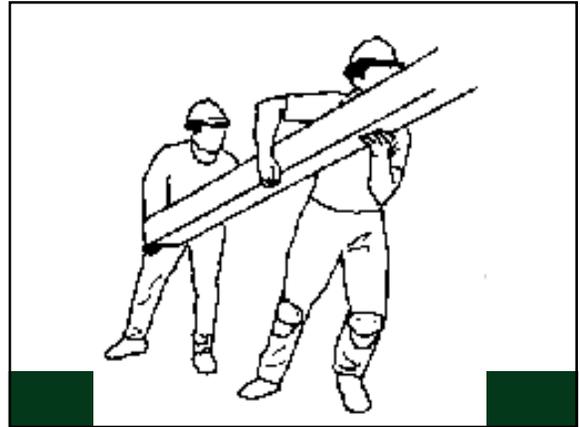
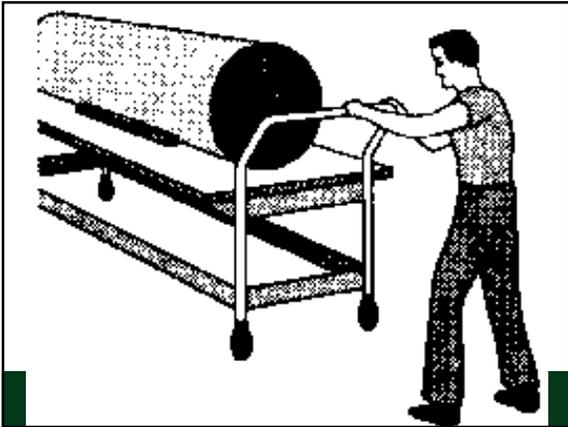
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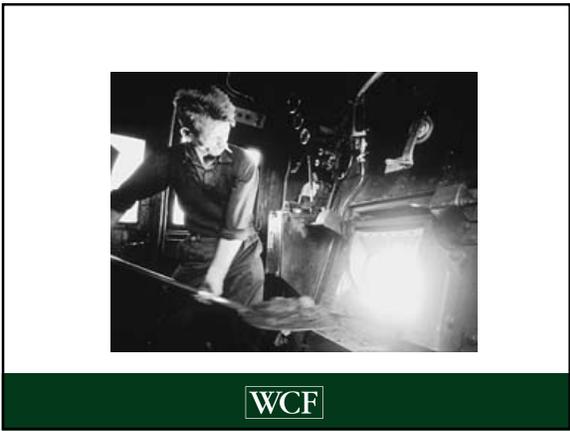
Posture

- Standing
- Sitting
- Lying down
- Picking up items/people
- Stooping

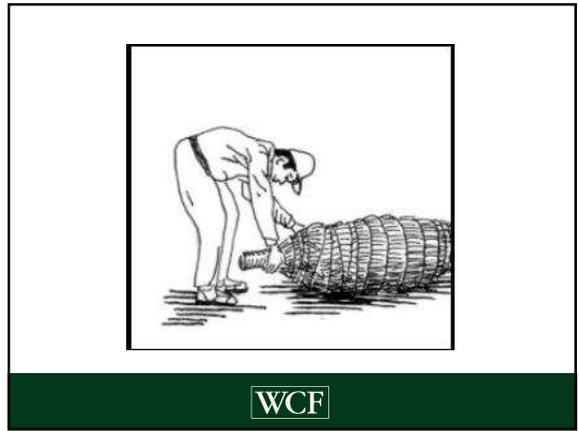
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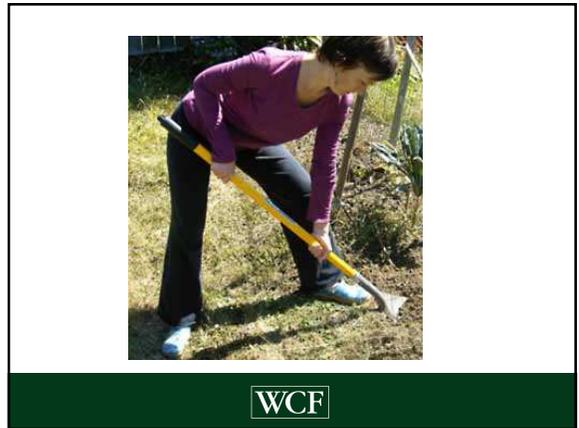
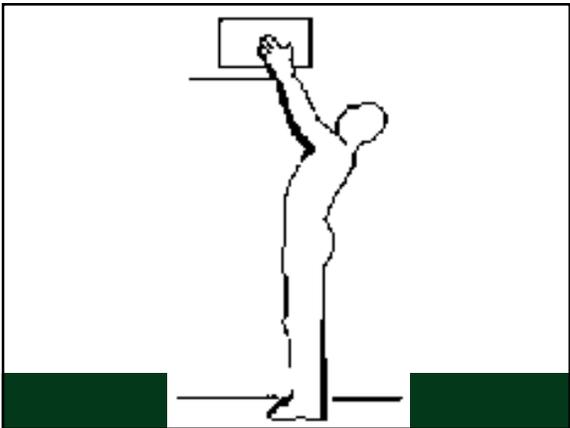




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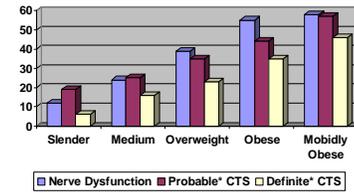
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Prevalence of Cumulative Trauma Syndrome (CTS) by Body Mass



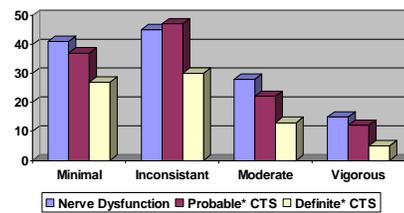
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Body Mass Facts

- 55% of American workforce is overweight or obese
- The average American is 7 pounds heavier than they were 10 years ago
- Obesity is the 2nd leading preventable cause of death in US after smoking, responsible for 300,000 deaths per year

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Prevalence of Cumulative Trauma Syndrome (CTS) by Exercise Level



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Prevention Tips

1. Participate in a conditioning program to build muscle strength
2. Do stretching exercises daily
3. Always wear properly fitting shoes
4. Nourish your muscles by eating a well-balanced diet
5. Warm up before any moderate to strenuous activity (work, sports, practices, etc.)
6. Use or wear protective equipment appropriate for that activity

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Precautions :

- Warm up before any moderate to strenuous activity. This will help increase your speed and endurance.
- Stretch slowly and gradually, holding each stretch to give the muscle time to respond and

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Warm-up ~~WARM UP EXERCISES~~ prepares your body for physical exertion.

The primary reason athletes warm up are to improve performance and avoid injury.

Eating a meal bring blood from the muscles to the internal organs. So you are especially injury-prone *right after meals!*

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Correct Stretching

- Relaxed, slow and frequent.
- No bouncing or stretching to the point of pain.
- Hold for 3-5 relaxing breaths
- Do both sides

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Links to Exercise

- http://www.shelterpub.com/fitness/getting_in_shape/on_the_job.html
- http://www.goforyourlife.vic.gov.au/hav/article_s.nsf/pages/Stretches_and_back_care_exercises
- http://www.dcdactor.com/pages/rightpages_wellnesscenter/homeexercises/homeexercise_back.html
- http://www.healthworkplaceweek.ca/2004/pdf/A_Stretch_Break_Program_for_Your_Workplace.pdf

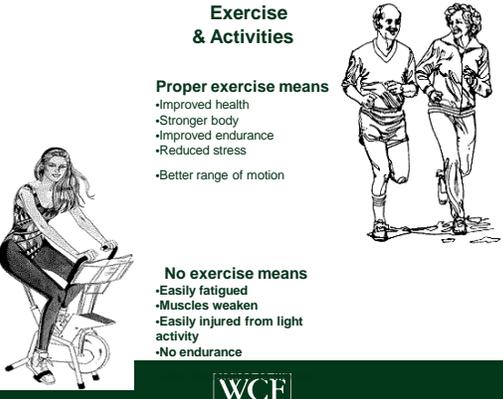
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Lack of fitness is more of a risk factor than smoking, high blood pressure and elevated cholesterol for cardiovascular disease and premature death.

C. Everett Koop, former US Surgeon General

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Exercise & Activities



Proper exercise means

- Improved health
- Stronger body
- Improved endurance
- Reduced stress
- Better range of motion

No exercise means

- Easily fatigued
- Muscles weaken
- Easily injured from light activity
- No endurance

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Key Points:

- Back injury is cumulative trauma injury.
- Proper lifting does not come naturally.
- Never twist your back while you are carrying a load.

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Resources

- http://www.worksafebc.com/publications/health_and_safety/by_topic/assets/pdf/back_talk.pdf
- <http://www.cdc.gov/search.do?action=search&subset=niosh&queryText=back+injury+prevention&x=15&y=11>
- <http://www.nlm.nih.gov/medlineplus/tutorials/howtopreventbackpain/htm/index.htm>

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Questions?

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