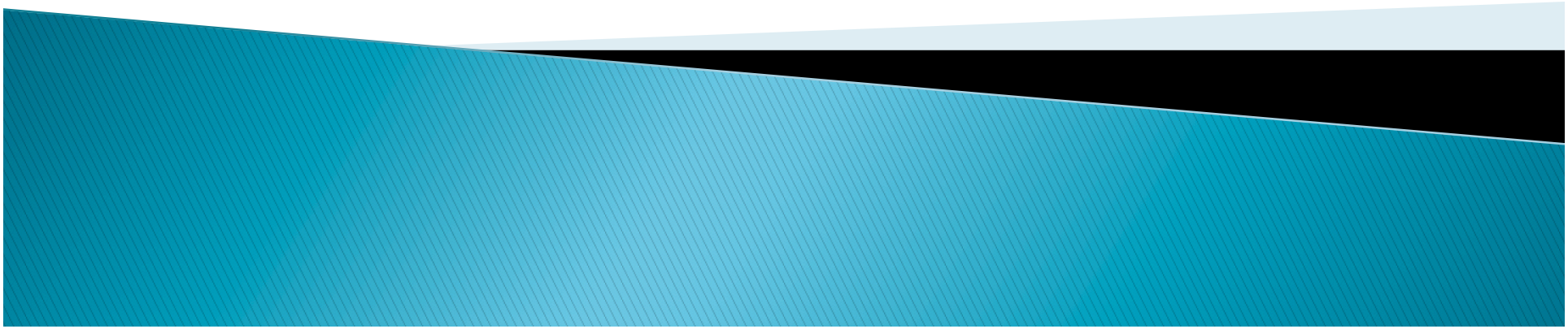
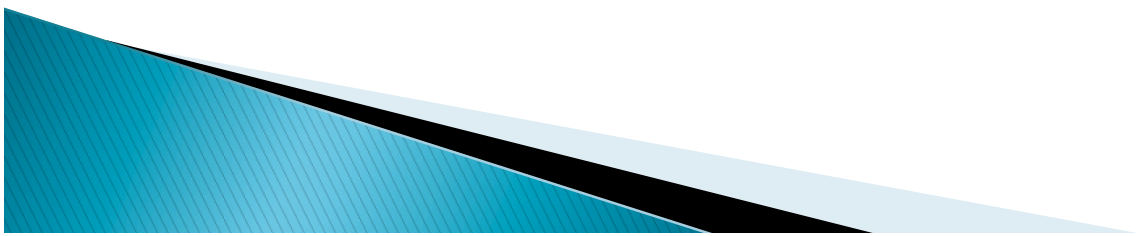
Back Injury Prevention



Back Injury Prevention

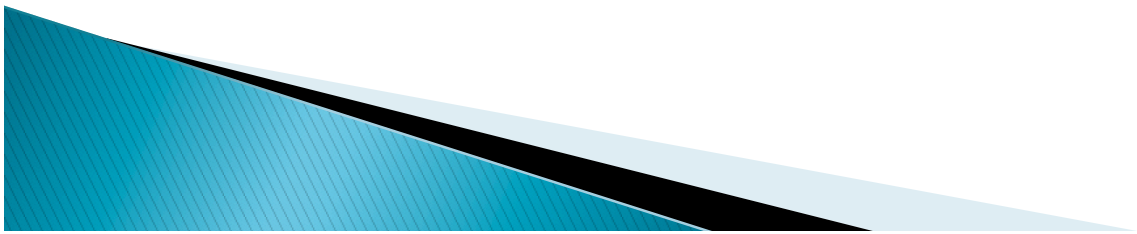
Training Outline

- Basic Structures & Functions of the Back
- Common Back Injuries
- Maintaining a Healthy Back

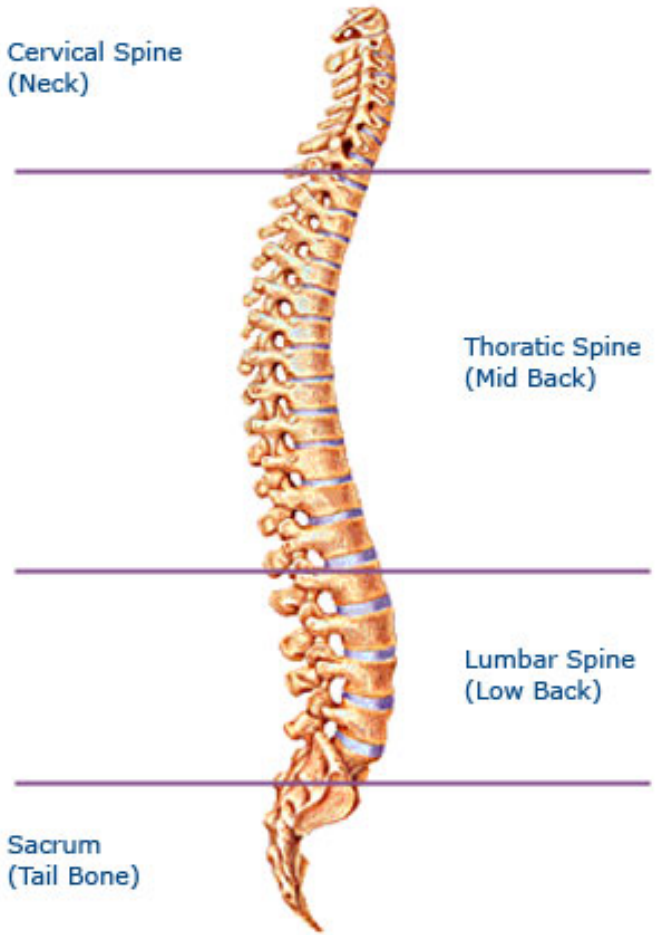


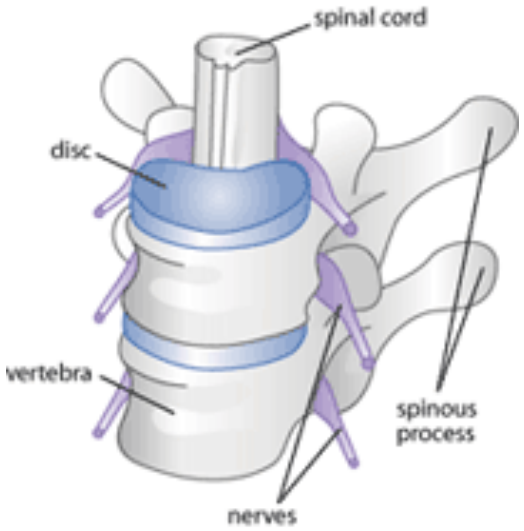
Back Injury Prevention

- Back Injury Risk Factors
- Manual Material Handling
- Proper Lifting Techniques
- Other Back Stressors



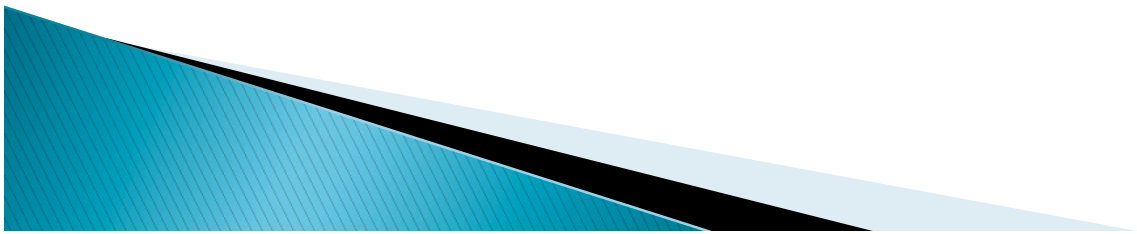
Structures of the Spine





Functions of the Spine

Summary of the Spine's Functions	
Protection	• Spinal Cord and Nerve Roots • Many Internal Organs
Base for Attachment	• Ligaments • Tendons • Muscles
Structural Support	• Head, Shoulders, Chest • Balance and Weight Distribution
Flexibility & Mobility	• Flexion (forward bending) • Extension (backward bending) • Side Bending (left and right) • Rotation (left and right) • Combination of the above

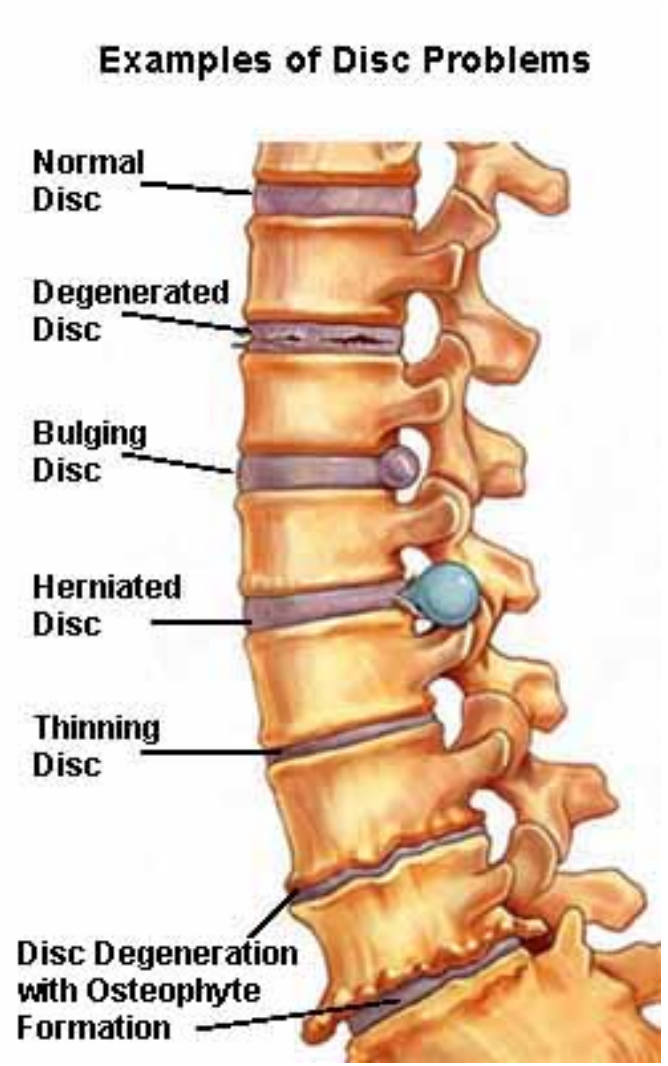


Back Injuries

- All of us will suffer from Low Back Pain
- Acute events vs. cumulative trauma

Back Injuries

- Muscle and Tendon Sprains
- Ligament Strains
- Vertebrae Factures
- Disc Problems



Maintaining a Healthy Back

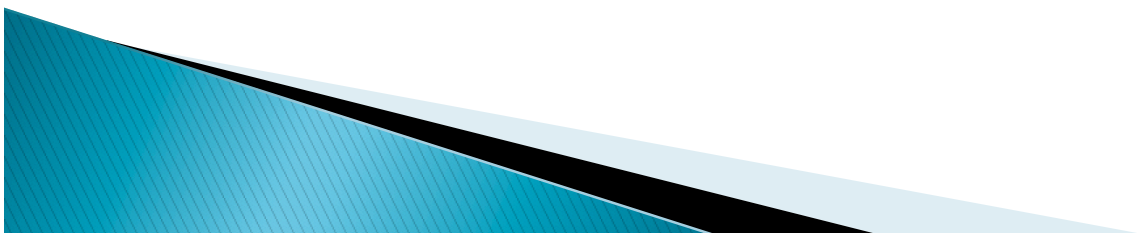
- We use are backs 24/7; how we live affects our back's health. We should:
  - Reduce Stress
  - Balance Diet
  - Exercise
  - Appropriate Rest

Back Injury Risk Factors

- General Health
- Injury History
- Recreational Activities

Back Injury Risk Factors

- Home Activities- appropriate rest, more activity, or totally passive (couch potato)
- Work Tasks- lifting, lowering, carrying, pushing & pulling, awkward and static postures



Controlling Back Stressors

- Minimize the amount of weight handled; several trips is better than one;
- Use a material handling device; hand-truck, forklift, cart, etc.
- Breakdown/repackage load into smaller loads.

Manual Material Handling

- What is Manual Material Handling:

  - lifting
  - lowering
  - pushing
  - pulling
  - and carrying ...

of tools, equipment, product, supplies, etc.

How much can you safely lift?

- *It depends on a number of factors:*
  - Who is doing the lifting (age, physical condition, time at work, etc.);
  - How frequent are the lifts (lifts per minute);
  - Is twisting and bending part of the lift;
  - Object weight, size, contents, and shape (hand holds)

Proper Lifting

- Factors to consider:

1. Object weight, size, contents, shape - hand holds

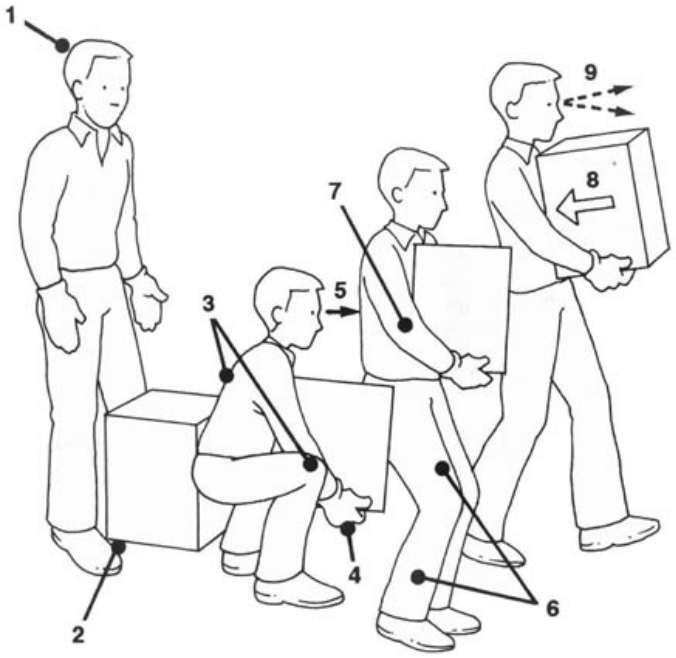
2. Frequency of the lifts

3. Vertical distance of the lifts

4. Horizontal distance between the object and person

Proper Lifting Technique

1. Plan the lift
2. Spread feet shoulder width apart
3. Bend at the knees
4. Head up and chin up



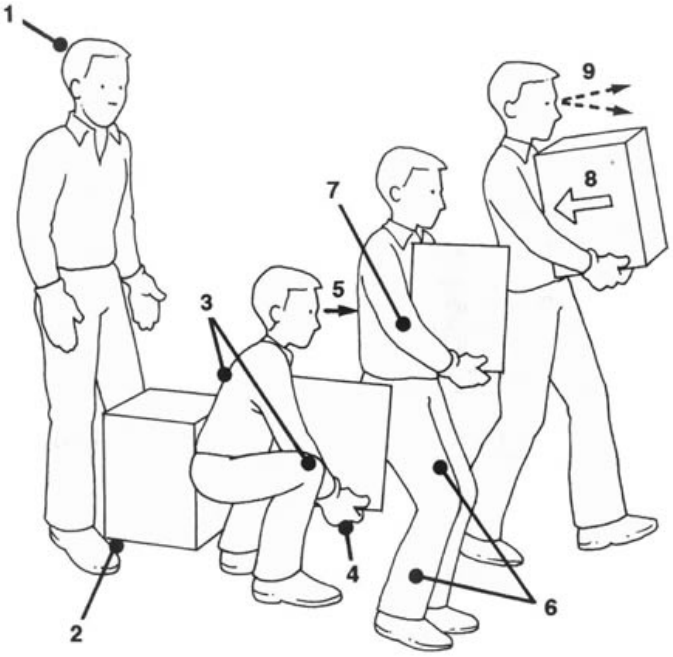
Proper Lifting Technique

5. Lift slowly and evenly

6. Avoid twisting & bending

7. Keep load close to the body

8. Maintain clear field of view



Other Back Stressors

- Prolonged Standing
- Prolonged Sitting
- Using Tools, vibration
- Pushing & Pulling
- Prolonged & Frequent Bending, Reaching and Turning