Introduction to Back Health

**Week One.** Back pain:
- Incidence
- Common causes
- Common injuries
- Q & A
- Exercises to practice

**Week Two.**
- Workstation ergonomics
Introduction to Back Health

Week Three:

- The problem with everyday activities
  - sitting
  - standing
  - sleeping
  - lifting
- The problem with many traditional gym exercises
- Exercises to practice
Introduction to Back Health

Week Four:
- Core stability: why is it important?
  - Spine, pelvis, scapular, & neck stability and mobility
- Exercises to practice

Week Five:
- Feel-good moves for your back
- What can you do to manage pain?
- Exercises to practice
Introduction to Back Health

Week Six:
- Training your muscles for life!
- Components of fitness
- Exercises to practice
80% of adults will have low back pain at some point in their lives. Poor body mechanics is a major factor in preventable back pain.
Back Pain Statistics

• At least 50% of working Americans admit to having back pain symptoms annually

• The ACA estimates that 31 million Americans are experiencing LBP at any given time

• ~$50 billion is spent annually treating back pain in the U.S.

• Leaning forward 30° in an attempt to get closer to the computer screen puts 3-4 times more strain on the back
Back Pain Statistics

• Low back pain is the #1 cause of work-related disability in people under 45 in the U.S.

• LBP is the 2nd most common reason reported for missing work

• LBP is the 5th most common reason for all health care visits

• 90% of people will improve without surgery
Percentage of adults in the U.S. who believed select sources were the cause of their back pain as of February 2017, by age

- Too much exercise: 2% (18 to 30), 4% (31 to 45), 13% (46 to 60), 18% (61 years and older)
- Not enough exercise / weak muscles: 26% (18 to 30), 28% (31 to 45), 25% (46 to 60), 28% (61 years and older)
- Sitting at a desk at work: 24% (18 to 30), 27% (31 to 45), 24% (46 to 60), 27% (61 years and older)
- Physical work: 31% (18 to 30), 30% (31 to 45), 27% (46 to 60), 27% (61 years and older)
- Psychosomatic illness: 5% (18 to 30), 9% (31 to 45), 9% (46 to 60), 9% (61 years and older)
- Overweight: 22% (18 to 30), 28% (31 to 45), 21% (46 to 60), 28% (61 years and older)
- Stress: 38% (18 to 30), 41% (31 to 45), 38% (46 to 60), 38% (61 years and older)
- Genetic predisposition: 10% (18 to 30), 14% (31 to 45), 16% (46 to 60), 18% (61 years and older)
- Accident: 10% (18 to 30), 11% (31 to 45), 16% (46 to 60), 21% (61 years and older)
- Spinal disc herniation: 6% (18 to 30), 18% (31 to 45), 18% (46 to 60), 31% (61 years and older)
- Other: 13% (18 to 30), 13% (31 to 45), 18% (46 to 60), 28% (61 years and older)
- Don't know: 8% (18 to 30), 4% (31 to 45), 4% (46 to 60), 3% (61 years and older)
- Prefer not to answer: 3% (18 to 30), 1% (31 to 45), 4% (46 to 60), 8% (61 years and older)

Source: Statista Survey
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Additional Information:
United States: Statista Survey; February 16 to 27, 2017: 711 Respondents; 18 years and older; respondents who suffered at least once per month from back pain
Impact of Back Pain on Daily Life

- Maintaining relationships with family and friends (n = 4786): 5% no longer able, 22% less able
- Driving (n = 3874): 23% no longer able, 24% less able
- Having sexual relations (n = 3708): 19% no longer able, 24% less able
- Maintaining an independent lifestyle (n = 4780): 6% no longer able, 24% less able
- Working outside home (n = 4228): 32% no longer able, 29% less able
- Attending social activities (n = 4675): 14% no longer able, 34% less able
- Walking (n = 4822): 7% no longer able, 40% less able
- Household chores (n = 4658): 12% no longer able, 42% less able
- Lifting (n = 4784): 23% no longer able, 49% less able
- Exercising (n = 4615): 23% no longer able, 50% less able
- Sleeping (n = 4794): 9% no longer able, 56% less able

% respondents
Types of Low Back Pain

- Acute: lasts less than 6 weeks
- Subacute: lasts between 6-12 weeks
- Chronic: lasts longer than 12 weeks
Low Back Pain can be classified into three broad categories

1. LBP potentially associated with another specific cause (e.g. cancer, fracture, ankylosing spondylitis, arthritis, car accident)
2. LBP associated with radiculopathy or spinal stenosis
3. LBP that is nonspecific (>85% of cases) — generally muscular pain.
Possible Specific Diagnoses

• Herniated/ruptured disc
• Degenerative disc disease
• Pinched nerve (radiculopathy), spinal stenosis, sciatica
• Arthritis, Osteoporosis
• Spinal misalignments (scoliosis, lordosis, kyphosis)
• Muscle strains, ligament sprains, lax ligaments
Since most LBP is muscular, we must attend to everyday activities in which we use our muscles inappropriately.

<table>
<thead>
<tr>
<th>Activities of Daily Living</th>
<th>Potentially harmful exercises</th>
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</thead>
<tbody>
<tr>
<td>Sitting</td>
<td>Many “ab” exercises</td>
</tr>
<tr>
<td>Standing</td>
<td>Deadlifts</td>
</tr>
<tr>
<td>Sleeping</td>
<td>Toe touches</td>
</tr>
<tr>
<td>Bending over and lifting</td>
<td>Windmills</td>
</tr>
<tr>
<td>Shoveling, raking, vacuuming</td>
<td>Donkey kicks</td>
</tr>
<tr>
<td>Gardening</td>
<td>Unsupported side bends</td>
</tr>
</tbody>
</table>
Spinal Anatomy

Neutral Spine: four natural curves in ideal alignment
Herniated Disc

Normal anatomy

Herniated disk

Compressed spinal nerve
Herniated disk

Compressed spinal nerve
Herniated disk

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Other Disc Problems

- Normal disc
- Degenerative disc
- Bulging disc
- Herniated disc
- Thinning disc
Spinal stenosis

PINCHED NERVE

Normal spinal canal

Degenerative changes and bone spurs

Compressed spinal nerve

Sciatica

Areas of pain (Red)

Sciatic nerve
Osteoarthritis (Degenerative Joint Disease)

Osteoporosis (porous bones)

- Normal spine
- Osteoarthritic spine
  - Disk
  - Nerve
  - Vertebra
  - Bone spur
  - Narrowed disk

Spinal osteoporosis

- Normal vertebra (cross section)
- Compressed osteoporotic vertebra (cross section)
Let’s Stand and Do This Now!
Spinal Misalignments

Scoliosis
- Spine is “S” or “C” shaped

Kyphosis
- Thoracic spine curves outward

Lordosis
- Lumbar spine curves inward
Spinal ligaments can become overstretched or sprained. Lax ligaments lead to spinal instability.
Muscles can become strained ("pulled")
Prevention: Keep muscles strong, yet flexible! Develop good body awareness

- Chest stretch
- Cat/Camel
- Bridge
- Wall plank
- Low back stretch
- Low back strengthener

MODIFIED COBRA
QUESTIONS?
This Presentation Was Brought to You By:

MOVE MORE...SIT LESS...FEEL GREAT!