

I'll Back Talk if I Want To!



Everyone has one, might as well take care of it.

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Women in Agriculture
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Objectives

- Define and discuss back pain and its causes
- Review the anatomy and common injuries
- Walk through the steps of diagnosis and treatment
- Review ways to prevent back pain

Disclosures

- No financial or commercial relationships with topics discussed
- Employed by CHI and TPN
- Member of AMSSM and ACSM
- Opinions are my own

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Introduction

- Scribner, Nebraska native
- Attended Logan View High School, Midland University, ATSU-KCOM
- Completed Family Medicine residency in Lincoln in 2016
- Completed Sports Medicine fellowship in Wichita in 2017

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Back Pain Stats

- Top 5 reason to seek PCP care
 - Affects 5-6% of US adults daily
 - 30% of US adults report pain in past 3 months
- First episode between 20-40 years old
 - Lifetime prevalence 60-84%
- Resolution in 6 months: 73%
- Chronic pain: 25-62% of patients
- Cost of pain: \$100 billion in 2016
 - Direct: medical treatments
 - Indirect: missed days of work, reduced productivity



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Definitions

- Acute back pain
 - <4 weeks of pain
- Subacute back pain
 - 4-12 weeks of pain
- Chronic back pain
 - More than 3 months of pain
- Radicular pain
 - Pain that radiates
 - May also have weakness or sensation changes
- Sciatica
 - Pain or numbness in posterior or lateral leg

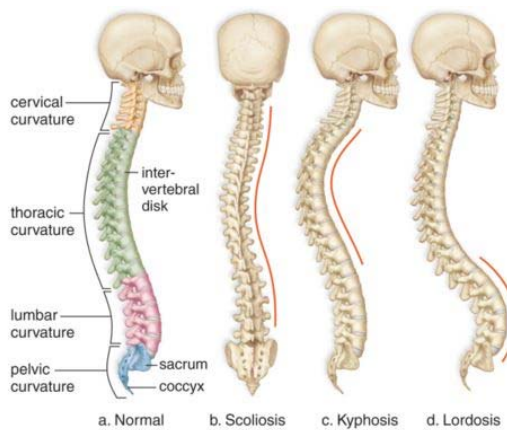


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Definitions

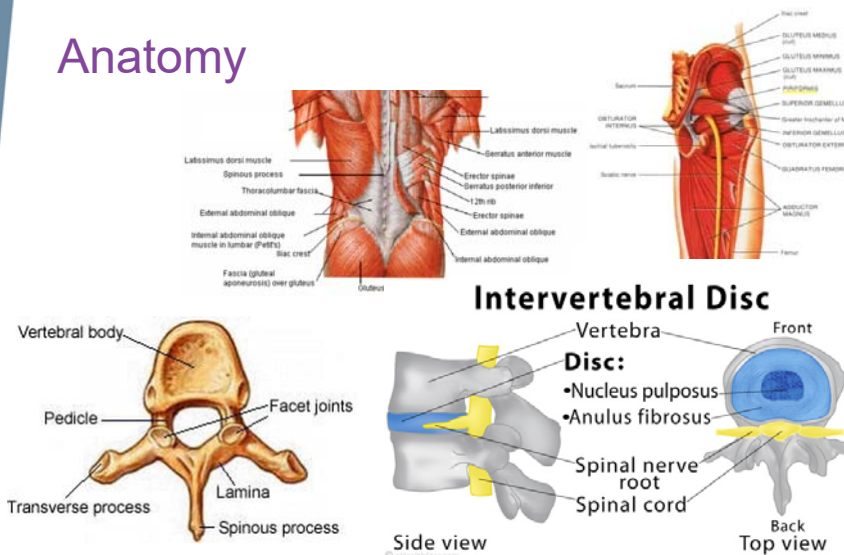
- Cervical Spine
 - Neck
- Thoracic Spine
 - Upper back
- Lumbar Spine
 - Low back
- Lordosis
 - Inward curve
- Kyphosis
 - Outward curve
- Scoliosis
 - Sideways curve



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Anatomy



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Common Injuries



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Symptoms

- Soreness
- Radiation of pain down buttock and leg
- Burning/electric/tingling sensation
- Muscle spasm
- Weakness in leg or foot
- Numbness in leg or foot
- “Red flag”: fever, night sweats or pain, incontinence, weight loss, groin numbness

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Initial Self Care

- Avoid bed rest!
- Modify activities
- Start OTC meds
- Ice first 48 hours then heat

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Diagnosis

- History
 - OPQRSTi?
 - Trauma?
 - Age?
 - Neurologic changes?
 - Incontinence?
 - Signs of infection?
 - Weight loss?
 - Nighttime pain?
 - What makes pain worse or better?
 - History of cancer, osteoporosis, drug or steroid use?
 - Previous injury or surgery or infection?

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Diagnosis

- Exam
 - Inspection
 - Spinal alignment, posture, gait
 - Palpation
 - Bone or soft tissue tenderness
 - ROM
 - Strength
 - Special Testing
 - Straight Leg Raise, Slump, Stork, FABER
 - Reflexes
 - Sensation

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Differential

- Muscle strain
- Ligament sprain
- Inflexibility & muscle imbalance
- Joint arthritis
- Spinal stenosis
- Congenital issues
- Herniated disc
- Fracture
- Infection
- Inflammatory disease
- Tumor
- Abdominal or pelvic conditions
- Shingles

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Mechanical Injuries

- Sprains & Strains & Joint inflammation
 - Paraspinals, piriformis, gluteals, SI Joint
- Injury to the muscle or surrounding soft tissues or joints
- May be due to overuse or sudden abnormal movements
- Can be spinal or pelvic

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Inflexibility & Muscle Imbalance

- Tight hamstrings
- Weak core and pelvic musculature



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Degenerative causes

- Stenosis or arthritis
- Develop over time or due to previous injury and pinch on nerves or soft tissues
- May be due to hip arthritis

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Congenital Causes

- Scoliosis
- Transitional vertebrae
 - L5 or S1
- Spina Bifida Occulta
- Scheuerman's kyphosis
 - Rigid kyphosis
 - Vertebral wedging

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Disc Injury

- Bulging or herniated disc
 - Disc outer ring gets inflamed and torn
 - Disc inner jelly substance pushes into tear and presses on surrounding nerves
 - Pain worse with flexion

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Fracture

- Due to trauma or overuse
- Compression
 - Falls
 - Osteoporosis
- Spondylolysis or Spondylolisthesis
 - Repetitive motion activity
 - Pain worse with extension

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Inflammatory Causes

- Psoriatic Arthritis
- Rheumatoid Arthritis
- Ankylosing Spondylitis

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Other

- Infection
- Abdominal/Pelvic disorder
 - Pancreatitis, kidney stone, UTI, AAA
- Shingles
- Tumor
 - Cauda equina, cancer metastasis

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Testing

- Lab Work
 - Blood counts, urine sample, CRP, ESR, biopsy
- EMG/NCT
 - Localize nerve lesions

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Testing

- Imaging
 - Indications
 - Trauma, red flag symptoms, longer than 6 weeks
 - X-rays
 - First choice
 - May not match symptoms
 - CT Scan
 - Bone Scan
 - MRI
 - High rate of abnormal in asymptomatic patients
 - Disc disease in 9-93%
 - Stenosis in 21% over age 60

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Treatment – Oral Medication

- Anti-inflammatories*
 - Ibuprofen (Motrin, Advil), naproxen (Aleve)
 - Meloxicam (Mobic), celecoxib (Celebrex)
 - Prednisone**
 - Aspirin
- Muscle relaxers*
 - Cyclobenzaprine (Flexeril), tizanidine (Zanaflex), metaxalone (Skelaxin), diazepam (Valium)
- Pain relievers
 - Acetaminophen (Tylenol)**
 - Narcotic (Norco, Vicodin, Ultram, Percocet)***
- Other**
 - Gabapentin (Neurontin)
 - Topiramate (Topamax)
 - Duloxetine (Cymbalta)

Legend:
 * First Line
 ** Second Line
 ***Special cases/not recommended

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Treatment - Topical

- Heat*
- Ice**
- Patches
 - Lidocaine**
 - Flector**
 - Opioid***
 - Salon Pas**
- Creams
 - Voltaren, Pennsaid**
 - Icy Hot, BioFreeze, Aspercreme**

Legend:
 * First Line
 ** Second Line
 ***Special cases/not recommended

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Treatment - Injections

- Epidural***
 - Best for disc herniation and radiculopathy
- SI Joint**
- Trigger Point**



Legend:
* First Line
** Second Line
***Special cases/not recommended

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Treatment - Bracing

- Lumbar Support OTC**
- Warm & Form Brace***
- Kinesio taping***



Legend:
* First Line
** Second Line
***Special cases/not recommended

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Treatment – Physical Therapy

- Exercises*
 - McKenzie Method
 - Spine stabilization
 - Balance and strengthen pelvic and core muscles
- Traction**
 - Inversion Table, Door Traction
- Modalities**
 - TENS
 - Estim
 - Ultrasound/Laser

Legend:
 * First Line
 ** Second Line
 ***Special cases/not recommended

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Treatment - Other

- Chiropractic Medicine*
- Osteopathic Manipulation*
- Acupuncture*
- Massage*
- Cognitive Behavioral Therapy*
 - Mindfulness, Relaxation, EMG Feedback
- Exercise*
 - Tai Chi, Yoga, Pilates
- Surgery***
- Herbal Therapies***

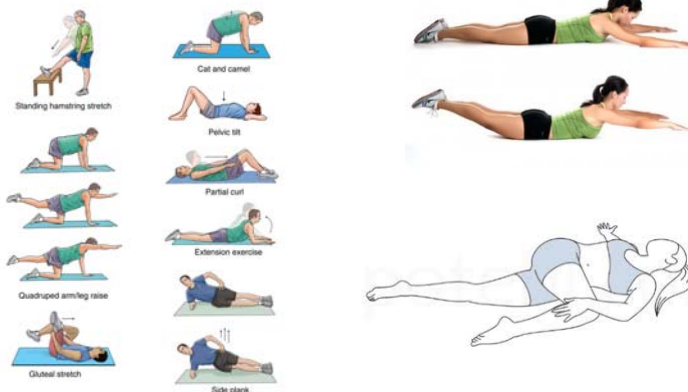
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 * First Line
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Prevention - Exercises

Low Back Pain Exercises



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Prevention – Lifting Techniques



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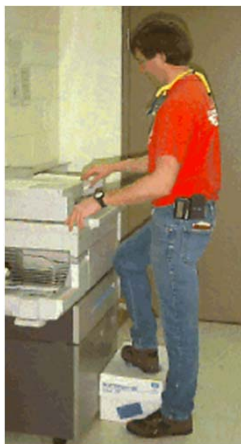
Prevention – Activity Modification

- Avoid backpack weight of more than 20% of body weight
- Avoid repetitive motion
- Ergonomic modification

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Prevention - Work Place Exercises



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Resources

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Questions?



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Thank You!



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