UCLA Health

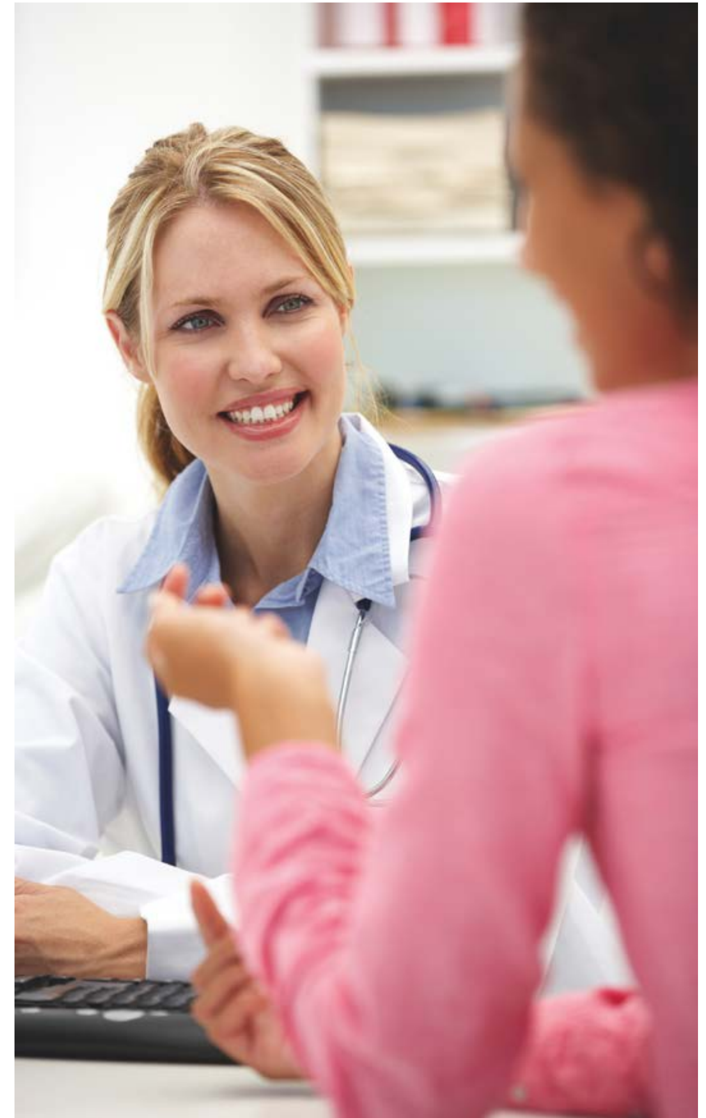
2017 Women's Health Conference

Body & Soul:

Discovering a Healthy U

California Lutheran University

Thousand Oaks



UCLA Health

Parisa Sadoughi, MD

Pain Management

UCLA Health Thousand Oaks

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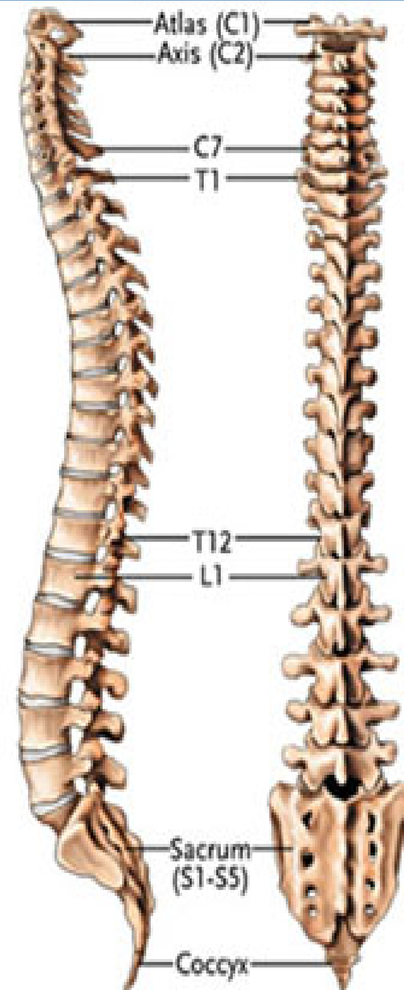
Treating Back Pain

Parisa Sadoughi, MD

Anatomy of the Spine



Risk Factors

- OCCUPATIONAL HAZARDS
- SEDENTARY JOBS
- increasing age: up to age 60, male = female after 60,women > male due to osteoporosis.
- size and shape of spinal canal
- Smoking- cough
- extended driving, due to low back strain
- stress and other psychological factors
- strenuous physical labor

- Prevalence - 50% of all adults have low back pain every year
- 15 – 20% seek medical attention
- #1 cause of disability for Americans younger than 45 years of age

Natural History of Low Back Pain

- 70 % IMPROVE WITHIN 2 WEEKS
- 90 % IMPROVE WITHIN 6 WEEKS
- 3% DO NOT IMPROVE WITHIN 6-12 WEEKS
  - 50 % of low back pain (LBP) cost is due to these patients

- Family physicians and internists
- Physiatrists
- Chiropractors
- Neurologists
- Pain specialists and anesthesiologists
- Pain psychologists
- Spine surgeons

Diagnosis Of Low Back Pain

- When did the pain begin?
- What precipitated it; was there an injury, or did it occur spontaneously?
- Does it stay in the back, or does it travel down the leg, and it so, where in the leg does it go?
- What makes the pain better, and what makes it worse?
- Is there any weakness associated with it?
- Is there any loss of bowel or bladder control?

Physical Exam

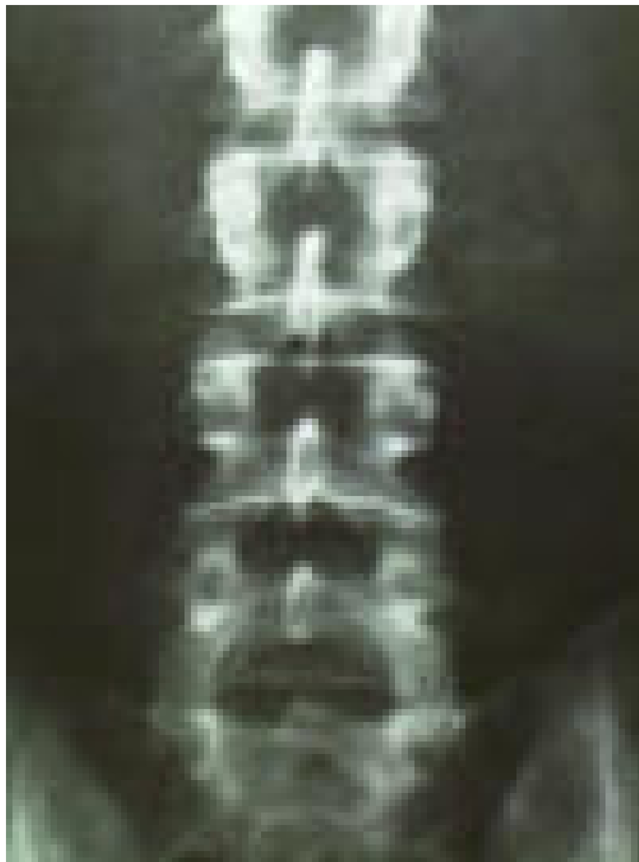
- Tenderness to palpation over the lumbar spine
  - Bone and joint involvement
- Weakness in the lower extremities
  - Nerve Involvement
- Range of motion limitations
  - Muscle, nerve, and/or arthritis

Exams & Tests to Assess Low Back Pain

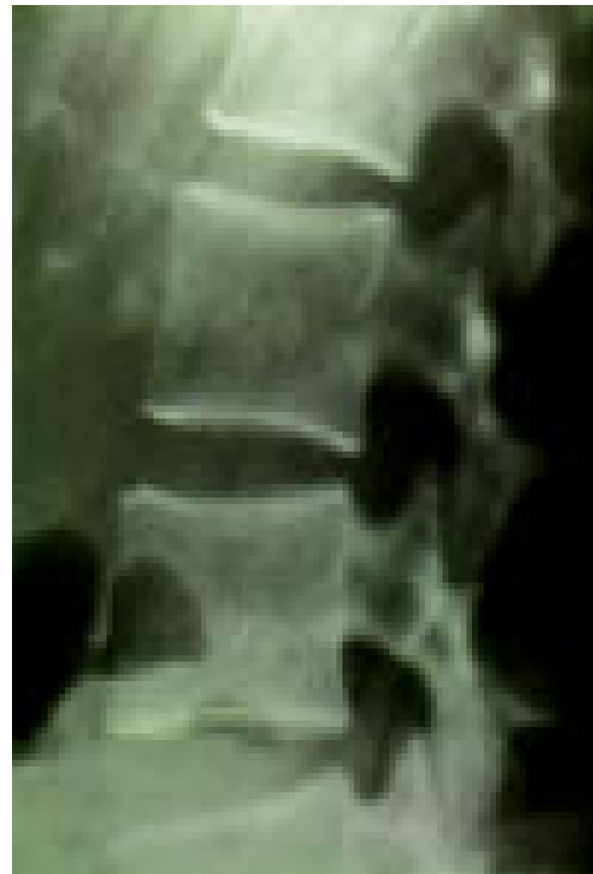
- Lumbar spine x-rays (films)
- CT scans (computed axial tomography scans)
- MRI scans (magnetic resonance imaging)
- Myelograms
- Post myelographic CT scans,
- EMG/NCV (electromyogram/nerve conduction velocity) studie
- Discograms
- Bone density tests

Lumbosacral X-Ray

AP



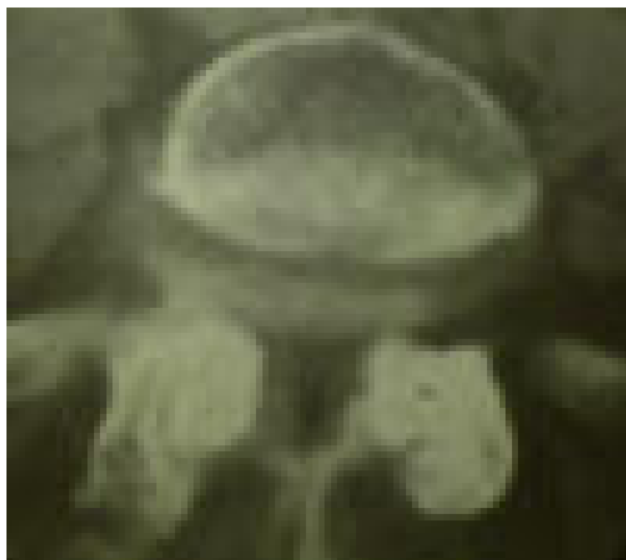
Lateral

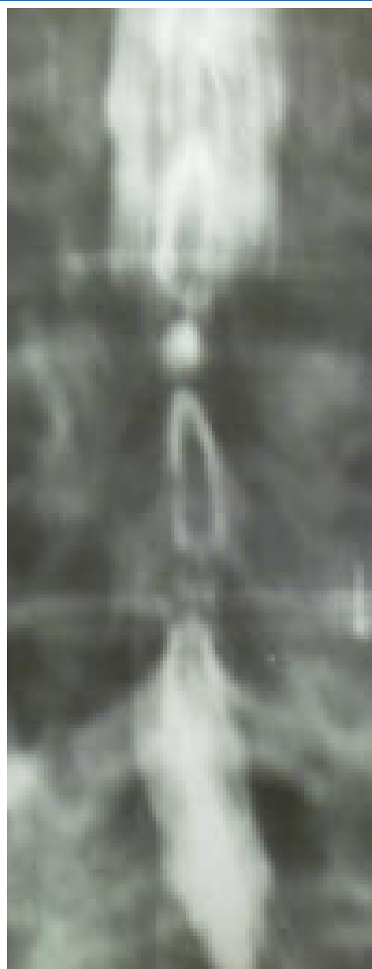


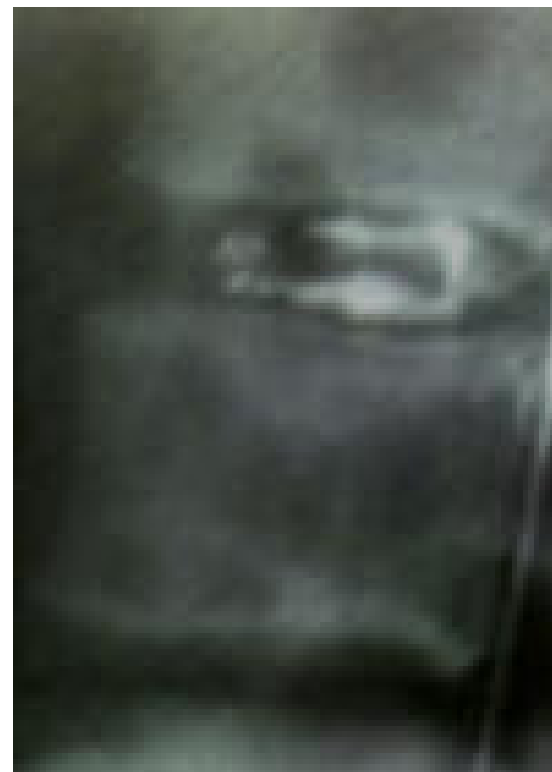
When To Order Radiological Evaluation

- To rule out compression fracture or other bony damage, especially if over 50 (plain films or CT)
- In patients with known osteoporosis or history of cancer
- If no red flags, no need for imaging or lab for first 4-6 weeks of conservative therapy for LBP as 90% recover within one month!

CT Scan, Myelogram, Discogram







When To Order Radiological Evaluation

- Consider MRI if no improvement after 4-6 weeks conservative treatment

- MRI for suspicion of Cauda Equina Syndrome

MRI

Initial Condition

L3

L4

L5

Cauda equina

Thecal sac

Nerve

Disc protrusion at L4-5 and L3-4 with encroachment on the neural elements and right side nerve.

Initial Condition

R Back L

L4-5 Disc

Front

Herniated disc material surgically removed

L4-5 Disc

Disc protrusion at L4-5 with encroachment on the neural elements and right side nerve.

Subsequent Condition

R Back L

L4-5 Disc

Front

Recurrent herniation of the remaining L4-5 disc with encroachment on the neural elements and right side nerve.

Back

Front

Area Of Injury

L4

L5

S1

Lateral View

L3

L4

L5

MRI Film Print

Sagittal section through lumbar spine

R L

MRI Film Print

Cut section through L4-5 disc space

R L

MRI Film Print

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Causes Of Pain in Lower Back & Extremities

- Sprained/strained ligaments, tendons, muscles
- Herniated discs
- Spinal Stenosis
- Degenerative disc disease
- Spondyolisis, Spondylolisthesis
- Facets joints arthritis
- Sacroiliac joint
- Osteoporosis
- Ankylosing Spondylitis
- Arthritis (osteoarthritis and rheumatoid arthritis)

- Deformities (Kyphosis, Lordosis, Scoliosis)
- Fibromyalgia, myofascial pain
- Emotional stress
- Vertebral body fractures
- Infection (osteomylitis, abscess, archiedoditis)
- Osteomalacia
- Cancer
- Referred pain
- Reflex sympathetic dystrophy (RSD)

Acute Low Back Pain

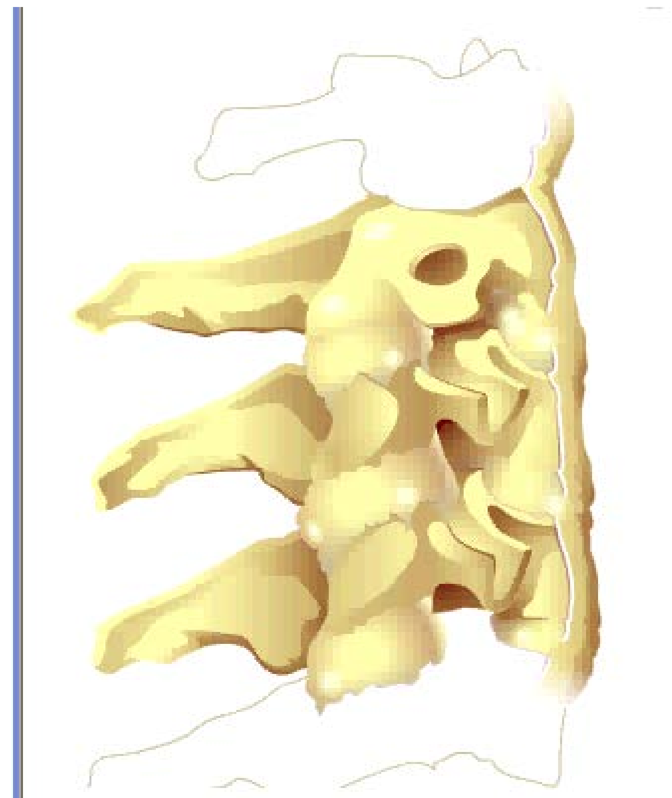
- Less than 3 months onset
- Non-Radiating vs. Radiating Low back pain
- Initial Treatment is usually the same
  - EXCEPT Loss of bowel/urine/numbness in genital area

Acute LBP Treatment

- Relative rest for a few days
- More than 2 days of bed rest increases chance of muscle weakness/de-conditioning
- Ice/Heat
- NSAIDS +/-Analgesics +/-Muscle relaxants
- May benefit from steroid pack
- Chiropractor
- Acupuncture

Non-Radiating Low Back Pain Causes

- BACK STRAIN-Muscles
- Osteoarthritis of spine
- Cancer
- Fracture
- Osteoporosis
- Spondylolisthesis
- Spondylysis
- Ankylosing spondylitis

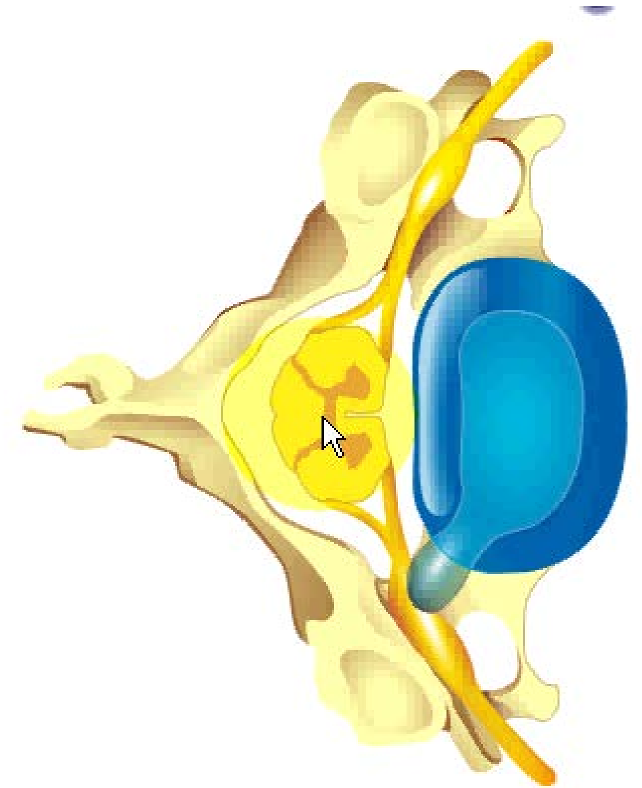


Myofascial Pain

- Exercises
- Massage
- Pevention
- Trigger Points- palpable taut bands that radiate pain/tingling into the buttocks or lower extremity
  - Treated with injections of local anesthetic (and perhaps steroid)
  - Spray & stretch with home program
  - Deep cross tissue massage

Radiating Low Back Pain

- Disc Herniation
- Nerve Impingement
- Spinal Stenosis
- Sacroiliac joint dysfunction
- Myofascial Pain
- Cancer
- Infection



Spinal Canal Stenosis

- Greater than 50 years of age (usually in 60's or 70's)
- LBP and leg pain with walking
- Neurologic Claudication
- Can be unilateral or bilateral
- Increased pain with down hill walking and better with walking uphill
- + "shopping cart" sign

Lumbar Radiculopathy -“Sciatica”

- 1-2% of LBP patients have a compressed or inflamed lumbosacral nerve root
- Most common levels are L4-5 and L5-S1 (90% involve these two levels)
- Mechanism-annular degeneration leads to fissuring or tearing of the annulus which leads to disk rupture

Radicular Symptoms

- **Increased** pain with:
  - -forward flexion
  - -sitting, driving in car
  - - cough, sneeze and bowel movement
- **Decreased** pain with:
  - -lying supine
  - -knees flexed
  - -standing

Radiculopathy - Treatment

- 50% with “sciatica” recover within 1 month with conservative therapy
  - Dynamic exercise, gravity traction
  - NSAID’s/ muscle relaxants
  - Consider narcotics for short term
- 70% of the others within 4-6 weeks
- 90% can be treated conservatively
  - usually LBP resolves before leg pain

Radiculopathy - Treatment

- Epidural sterioid injections
  - interlaminar
  - caudal
  - transforaminal (SNRB)
- Indications
  - Relief of pain from nerve root irritation
  - Diagnosis of root level involved (SNRB)
- Medrol dose pack may be tried, if not contraindicated (infection, diabetes)

Radiculopathy - Treatment

- SURGERY-5-10 % with disc herniation undergo surgery (~280,000 per year in the US)

Facet Diseases

- Pain may be localized to low back or radiate into buttocks and posterior thigh
  - Unusual for this pain to go below the knee
  - Worse with extension and with prolonged standing
  - Can be dull toothache pain or sharp stabbing pain

Facet Diseases

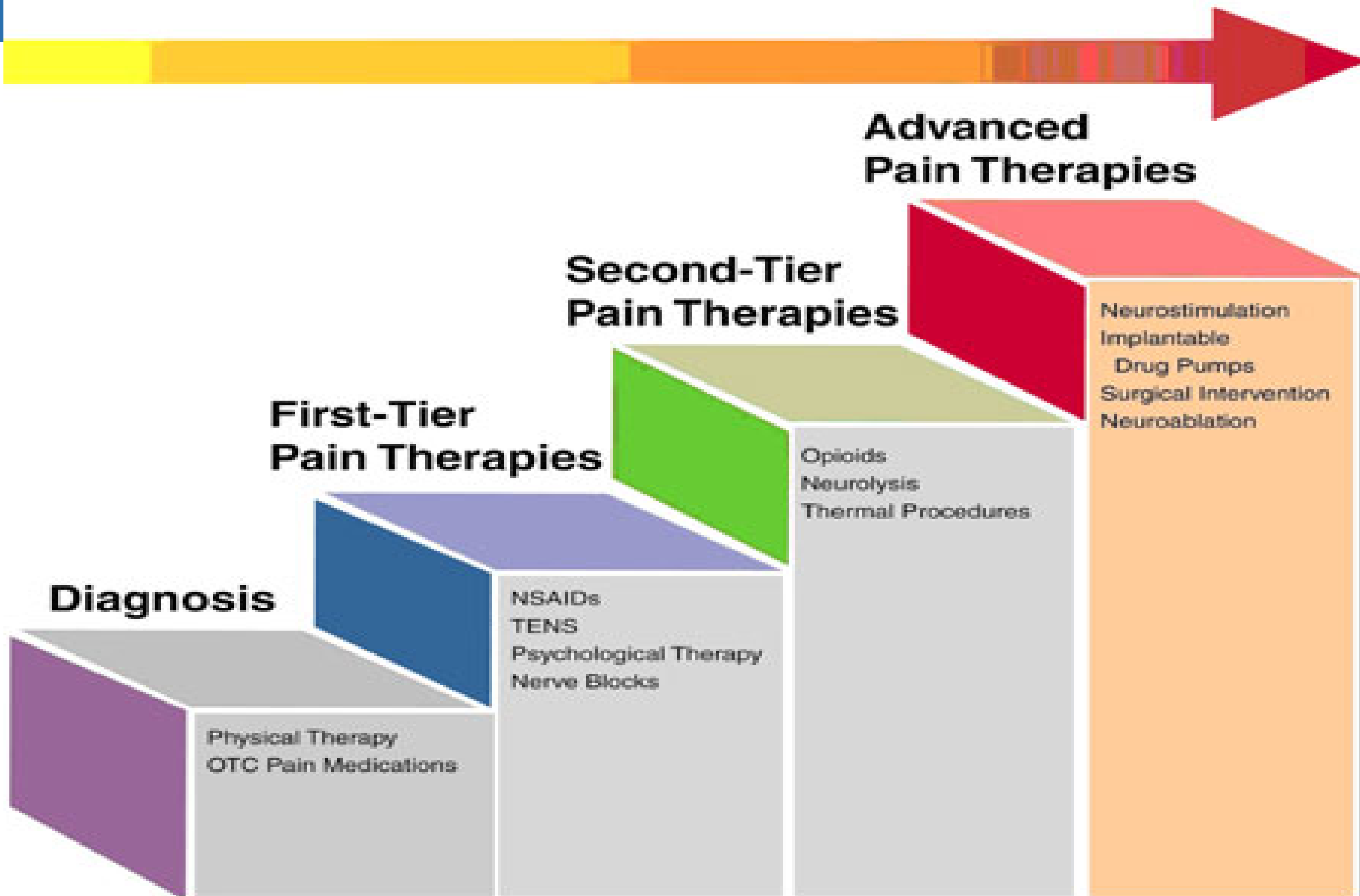
- Treatment
  - Lumbar stabilization program
  - Facet mobilizations
  - Intra-articular injections under fluoroscopy
  - Medical branch blocks/ denervation under fluoro (diagnosis and treatment)

Sacroiliac Dysfunction

- Pain is located in the low back and radiates into the buttocks and posterior thighs
  - Special tests not very reliable
  - Patients will point to SI as source of pain
  - Can have associated piriformis spasm with “sciatica”
  - Common in pregnancy

Sacroiliac Dysfunction

- Treatment
  - NSAID’s
  - Heat/ice
  - Correct leg length discrepancy
  - SI mobilization
  - SI belt
  - Intra-articular injection under fluoroscopy


The Chronic Pain Treatment Continuum
Advanced Pain Therapies
Second-Tier Pain Therapies
First-Tier Pain Therapies
Diagnosis
Physical Therapy
OTC Pain Medications
NSAIDs
TENS
Psychological Therapy
Nerve Blocks
Opioids
Neurolysis
Thermal Procedures
Neurostimulation
Implantable
Drug Pumps
Surgical Intervention
Neuroablation

RED FLAG

- CAUDA EQUINA SYNDROME
    - Urine retention/fecal incontinence/saddle anesthesia
- EMERGENCY SURGERY

RED FLAG

- Spinal Infections

  -fever with or without chills

  -worsening back pain, especially at night

  -increased risk if:

    - IV drugs
    - Immunocompromised
    - Recent bacterial infection (UTI, wound, dental work)

RED FLAG

- 3% with acute LBP may have a potentially life-threatening condition

  -fever/chills

  -unexplained weight loss

  -persistent night pain

  -teenagers

  -greater than 50 years old

  -previous history of cancer (may require early imaging)

RED FLAG

- Possible Epidural Abscess (MRI)

  -fever

  -progressive neurological deficits

  -localized tenderness over abscessed bone

RED FLAG

- AAA

  -sudden searing intensifying pain from back to lower extremities

  -abdominal ultrasound

  -consider vascular consult

References

- drugabuse.com/library/the-effects-of-opiate-use/
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- Pain Review. Steven D. Waldman; Saunders Elsevier.2009

Thank you!

Dr. Parisa Sadoughi
Pain Management
UCLA Health Thousand Oaks
100 Moody Court, Suite 200
Thousand Oaks, CA 91360

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