

Low Back Pain: PBL

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Pooja Amy Shah, MD

Assistant Professor, Columbia University/New York-Presbyterian Hospital, New York, New York.

Dr. Shah is a graduate of the University of Texas Medical Branch in Galveston. She completed her family medicine residency at Boston University Medical Center, where she served as chief resident. Dr. Shah's primary responsibilities at Columbia University/New York-Presbyterian Hospital include hospital inpatient teaching faculty, director of musculoskeletal education, director of the integrative medicine track, primary care provider, and medical student educator. She was awarded three Weil Foundation grants, which helped her implement and direct an integrative medicine track for the family medicine residents at Columbia University/New York-Presbyterian. In 2014, she completed Harvard Medical School's International Structural Acupuncture Course for Physicians. Dr. Shah is currently expanding her training and work in mind-body medicine and chronic pain management. Her clinical practice is based upon the fundamental philosophy of treating every patient as a whole person, while providing excellent, compassionate, and evidence-based care.



Heather Paladine, MD, MEd, FAAFP

Family Physician; Director/Director of Women's Health, New York Presbyterian-Columbia University Medical Center Residency Program; Assistant Professor of Medicine, Center for Family and Community Medicine, Columbia University Medical Center

Dr. Paladine lives and practices full-spectrum family medicine in Manhattan, New York, where she supervises residents and medical students, and treats a predominantly Latino, low-income patient population. She focuses in women's health, including maternity care and reproductive health. In addition to her work as a physician, Dr. Paladine mentors residents and medical students as a preceptor in clinic and hospital environments and is a member of the board of directors of the New York State Academy of Family Physicians and chair of its Public Health Commission. She believes that the United States needs a health care system based on primary care, and that the public must learn more about family medicine to pave the way.



Learning Objectives

1. Practice applying new knowledge and competencies gained from low back pain sessions, and receive feedback from expert faculty.
2. Interact collaboratively with peers to solve complex and challenging case-study scenarios.
3. Develop problem-solving skills that promote effective reasoning to manage low back pain within the context of professional practice.



Audience Engagement System

Step 1

Step 2

Step 3

FMX

Chief Complaint

“My back is killing me!”

FMX

History of Present Illness

- AA is a 55yo man with a 5 year history of back pain.
- It started after an MVA 5 years ago.
- He has seen multiple physicians for this, including primary care, orthopedic surgery, and pain management.
- He says that “nothing has worked.”

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Past Medical History

- He has a history of obesity, HTN, and depression.

FMX

Medications, Allergies

- He’s tried NSAIDs, acetaminophen, cyclobenzaprine with no help.
- He’s had some improvement with short term courses of opiates from previous physicians.

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Social History

- He used to work in construction
- However, he has not been able to work since the MVA
- He asks you about applying for disability due to back pain
- He smokes cigarettes, and denies any alcohol or drug use

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Physical Examination

- He appears uncomfortable sitting in a chair.
- What would you focus on here?

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Laboratory/Radiology

- He brings in a recent outside MRI
- It shows lumbar degenerative disc disease at multiple levels, no focal disc herniation



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Assessment

What is your differential diagnosis?

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Plan

How would you design a comprehensive pain management plan for this patient?



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Self-Care

LBP Duration	Acute < 4 weeks	Subacute or Chronic > 4 weeks
Advice to Remain Active, Expectations Management	✓	✓
Books, handout	✓	✓
Application of Superficial Heat (SOE: mod)	✓	?

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Pharmacologic Therapy

For acute LBP: more effective than placebo, no intervention, or usual care.
For chronic LBP: versus placebo, sham, no treatment, usual care, or wait list.

LBP Duration	Acute < 4 weeks	Subacute or Chronic > 4 weeks
Acetaminophen (= placebo)		
NSAIDs (SOE: low-mod/mod)	✓	✓
Skeletal Muscle Relaxants / Benzodiazepines (SOE: mod / low)	✓	✓
Opioids (SOE: low/mod)	✓	✓
Steroids (= placebo)		
Tramadol (SOE: mod)		✓
Duloxetine (SOE: mod)		✓

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Non-pharmacologic Therapies

LBP Duration	Acute < 4 weeks	Subacute or Chronic > 4 weeks
Exercise (SOE: low / mod)	✓	✓
Multidisciplinary rehabilitation (SOE: mod)		✓
Acupuncture (SOE: mod)	?	✓
Psychological therapies (SOE: low):		✓
Massage (SOE: low)		✓
Low level laser therapy (SOE: low)		✓
Yoga, tai chi (SOE: low)		✓
Spinal manipulation (SOE: mod)		✓

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Chief Complaint

Persistent low back pain



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History of Present Illness

- BB is a 77yo woman with back pain for about two years
- It's gradually gotten worse
- Her legs feel tired and weak, especially when climbing stairs
- What other symptoms would you ask about?

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Past Medical History

- High blood pressure
- Osteoporosis

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Physical Examination

- She's sitting on a chair, bending forward seems to help her pain.
- What would you focus on for the remainder of the exam?

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Assessment

- What do you think is her likely diagnosis?
- What is your differential diagnosis?
- Would you order imaging? Other tests?

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Plan

- What would you recommend?
- At what point would she benefit from surgery?

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A Note on Spinal Stenosis



- Sparse evidence on the utility of history & exam for identifying lumbar spinal stenosis
- Symptoms: Numbness, weakness, cramping or pain in the legs, thighs or feet causing difficulty in ambulation, radicular pain, abnormal bowel/and or bladder function, loss of sexual function, partial or complete leg paralysis (medical emergency)
- High quality studies show a trade-off between sensitivities and specificities, resulting in modest to poor likelihood ratios (1.2 for pseudoclaudication, 2.2 for radiating leg pain)
- Changing symptoms on downhill treadmill testing are associated with the highest positive likelihood ratios
- The usefulness of pain relieved by sitting for predicting presence of spinal stenosis ranges from poor to high

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Chief Complaint

Back and leg pain



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History of Present Illness

- CC is a 34yo woman who was helping a friend move last weekend, which she will never do again.
- There was no specific precipitating incident, but since then she's had pain in her lower back and also right leg.

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History of Present Illness

- List the history questions you would like to ask her.
- What would be potential red flags in the HPI?



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Past Medical History

- What potential red flags would concern you here?

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Medications, Allergies

She's tried Ibuprofen with some improvement.

No allergies.



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Physical Examination

Vital signs are normal.

She's sitting but mildly uncomfortable.

- What would you focus on in the exam?
- Which maneuvers would you like to do?

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Laboratory/Radiology

- Are there tests and studies you would order at this point?

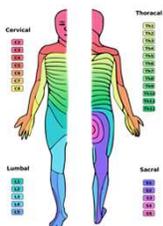
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Assessment

- What is your assessment?

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Assessment of Lumbar Radiculopathy



Nerve Root	L4	L5	S1
Weakness	Quadriceps extension (rising from a squat)	Foot dorsiflexion (walking on heels)	Foot plantar flexion (walking on toes)
Reflex	Patellar	None	Achilles

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Plan

- What would you recommend?
- Consider medications vs. non-medication treatments.

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Thank you

For more information contact:
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Associated Sessions

Low Back Pain: Myths and Science

Low Back Pain: Ask the Expert

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