Team Medicine

32#

Chronic Back Pain

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· Slides · Doctors notes · Additional

431 Teams medical students

Epidemiology:
-84% of adults experience back pain at some point in their life.
- Incidence age 35- 55 y.o - 90% resolve in 6 weeks - 7% become chronic - M/ F equally affected
- 85% never given precise patho-anatomical dx (This means usually it is non-specific)
- 5th Leading reason for medical office visits
- 2nd to respiratory illness as reason for symptom-related MD visits
- #1 Cause and #1 Cost of work related disability
- Healthcare expenditures $100 Billion per year. - $26.3 Billion attributable to back pain (imagine the amount of money which is lost if you are just investigating for every silly back pain that a patient have)

Back Pain in the Primary Care Clinic
-90% of low back pain is "mechanical' (nothing to worry about)
- Injury to muscles, ligaments, bones, disks
- For many individuals Spontaneous resolution is the rule.
- However, back pain is recurrent or chronic, causing significant pain that interferes with employment and quality of life.
- Rarely, acute back pain is a harbinger of serious medical illness,
- So don't miss them! (Because they maybe life-threatening sometimes)

Causes of nonmechanincal/inflammatory:
- Spondyloarthropathy
- Spinal infection
- Osteoporosis (by itself might not be considered a serious condition. But osteoporosis will predispose patients to get pathological or compression fractures, and that in turn might cause neurological compromise)
- Cancer
- Other systemic disease
- Referred visceral pain

Prognosis: GOOD
- Acute: 50% are better in 1 week; 90% have resolved within 8 weeks
- Chronic: <5% of acute low back pain progresses to chronic pain
- Back pain has a substantial impact on lifestyle and quality of life
- Psychosocial variables are stronger predictors of long-term disability than anatomic findings found on imaging studies.
- Predictors of disabling chronic low back pain at one-year follow-up: (look for the psychosocial factors 1+2+3+4+5)
1- maladaptive pain coping behaviors,
2- functional impairment,
3- poor general health status,
4- presence of psychiatric comorbidities,
5- Nonorganic signs

Risk Factors for onset of back pain: (Why do some people get back pain and some don't?)
- Smoking (smoking not by itself but because it is related to the other co-morbidities)
- Obesity
- Older age
- Female gender
- Physically strenuous work (jobs involving lifting, pulling, or pushing objects of at least 25 pounds)
- Jobs involving prolonged periods of standing or walking, especially among women
- Sedentary work

- Psychologically strenuous work
- Low educational attainment
- Workers' Compensation insurance
- Job dissatisfaction
- Psychological factors such as somatization disorder, anxiety, and depression

Important Questions to ask any patient with back pain:
1. Is systemic disease the cause?
Look for any evidence of systemic disease associated with back pain as the presenting feature
2. Is there social or psychological distress that prolongs or amplifies symptoms?
It might be just a simple muscle strain and the patient keeps exaggerating on this
3. Is there neurologic (serious) compromise that requires surgical intervention?
You know in this case that the damage is a permanent one a cannot be reversed

To Answer These Important Questions →
1. Careful History and Physical Exam + 2. Imaging and Labs WHEN indicated

Differential of Back pain:

Mechanical low back pain
Lumbar strain
Degenerative disease ▪ **Discs (spondylosis)** ▪ **Facet joints**
Spondylolisthesis
Herniated disc
Spinal stenosis
Osteoporosis
Fractures
Congenital disease ▪ **Severe kyphosis** ▪ **Severe scoliosis** ▪ **Possible type II transitional vertebra***
Possible spondylolysis
Possible facet joint asymmetry
Non-mechanical spine disease
Neoplasia ▪ **Multiple myeloma** ▪ **Metastatic carcinoma** ▪ **Lymphoma and leukemia** ▪ **Spinal cord tumors (with extensions to back)** ▪ **Retroperitoneal tumors**
Infection ▪ **Osteomyelitis** ▪ **Septic discitis** ▪ **Paraspinous abscess (in TB)** ▪ **Epidural abscess** ▪ **Bacterial endocarditis**

(In **Neoplasia**: it could be a primary malignancy in the spine or it could be more commonly metastatic disease from elsewhere to the spine, and among these you have lymphomas that can deposit in the spine or it could be multiple myeloma. So if an elderly patient comes with bony aches and pains having some lytic lesions in spine, think of multiple myeloma)

Inflammatory arthritis (often HLA-B27 associated)

- **Ankylosing spondylitis**
- **Psoriatic spondylitis**
- **Reiter's syndrome**
- **Inflammatory bowel disease**

Scheuermann's disease (osteochondrosis)

Paget's disease

Usually rheumatoid **arthritis** does not cause back pain except for the cervical involvement. But if you have lower back pain, think of seronegative arthritis

Visceral disease

Pelvic organs

- **Prostatitis**
- **Endometriosis**
- **Chronic pelvic inflammatory disease**

Renal disease

- **Nephrolithiasis**
- **Pyelonephritis**
- **Perinephric abscess**

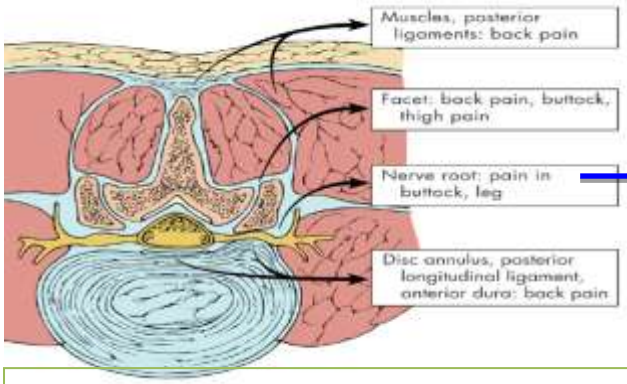
Aortic aneurysm (emergency)

Gastrointestinal disease

- **Pancreatitis**
- **Cholecystitis**
- **Penetrating ulcer**

Fat herniation of lumbar space

Look for the broad categories of pain



Nerve root impingement: These are the patients who come with symptoms suggestive of sciatica

What is sciatica?

Sciatica refers to pain that radiates along the path of the sciatic nerve — which branches from your lower back through your hips and buttocks and down each leg. Typically, sciatica affects only one side of your body. Pain that radiates from your lower (lumbar) spine to your buttock and down the back of your leg is the hallmark of sciatica.

Clues To Systemic Disease (what are the clues that will tell you this is a systemic disease and not just a simple back pain?)

- **Age Over 50 years or less than 40**
- **History of Cancer**
- **Fever** → for presence of infections
- **Unexplained Weight Loss** → to exclude/include malignancies
- **Nighttime pain** → "nocturnal pain" which suggests an inflammatory pain
- **Injection Drug Use** → leads to infections
- **Chronic Infection Elsewhere** → Ex: patient with pulmonary TB can also have spinal TB
- **Duration of pain greater than 1 month**
- **Quality of Pain** → In mechanical pain, like in Osteoarthritis, you take rest and you feel better. On the opposite side, if you have inflammatory arthritis, you get up in the morning and you feel stiff. (So early morning stiffness is a feature of inflammatory arthritis).
- **Infection and Cancer not relieved supine**
- **Unresponsiveness to previous therapies** → Patients with muscle spams and other benign conditions, you give them analgesics and they feel better. But if they are not responding to simple analgesics then you will have to think of some underlying conditions.
- **H/o inflammatory arthritis elsewhere**

On Physical Examination:

- Fever – possible infection
- Vertebral tenderness - not specific and not reproducible between examiners
- Limited spinal mobility – not specific (may help in planning P.T.
- If sciatica or pseudoclaudication present – do straight leg raise

→ Classical claudication is a vascular claudication. Pseudo claudication is a neurogenic claudication.

→ The Straight leg raise (=Lasegue's sign) is a test done during the physical examination to determine whether a patient with low back pain has an underlying herniated disk, often located at L5

How to perform the test? → http://www.youtube.com/watch?v=sTIPOKhAzZM

*The straight leg raise test is positive if pain in the sciatic Distribution is reproduced between 30° and 70° passive flexion Of the straight leg. Dorsiflexion of the foot exacerbates the pain

- Positive test reproduces the symptoms of sciatica – pain that radiates below the knee (not just back or hamstring)
- Ipsilateral test sensitive – not specific: crossed leg is insensitive but highly specific
- L-5 / S-1 nerve roots involved in 95% lumbar disc herniations

Imaging (x-RAY/CT/MRI)

- Usually unnecessary & not helpful
- Plain Radiography limited to patients with:
  - -findings suggestive of systemic disease
  - -trauma
  - -Age>50years
- Failure to improve after 4 to 6 weeks
- CT and MRI more sensitive for cancer and infections – also reveal herniation and stenosis
- Useful if they have sciatica → in case of in sciatica, you are suspecting a disc prolapse
- Reserve for suspected malignancy, infection or persistent neurologic deficit

→ X-RAY/CT/MRI .These are not necessarily in acute back pain. If someone comes with acute back pain, just give simple treatment and follow him up later… unless there are systemic problems like eye manifestations or lung findings…etc. Or if there is Hx of trauma, do imaging to look for fractures.

Why Not Get Imaging Studies for Acute Back Pain?

- Imaging can be misleading: Many abnormalities as common in pain-free individuals as in those with back pain
- If under age 60
- Low yield: Unexpected x-ray findings in only 1 of 2,500 patients with back pain
- May confuse: Bulging disk in 1 of 3
- Herniated disks in 1 of 5 pain-free individuals If over age 60 and pain free
- Herniated disk in 1 of 3
- Bulging disk in 80%
- All have age-related disk degeneration
- Spinal stenosis in 1 of 5 cases

CT SCAN

- **Shows bone (e.g., fractures) very well**
- **Good in acute situations (trauma)**
- **Soft tissues (discs, spinal cord) are poorly visualized**
- **CT-myelogram adds contrast in the CSF and shows the spinal cord and nerves contour better**

MRI

- **Shows tumors and soft tissues (e.g., herniated discs) much better than CT scan**
- **Almost never an emergency**
- **Exception: Cauda equina syndrome**

TERMINOLOGY

Terms used to describe conditions related to the back, based upon:

- **Radiological findings - (spondylosis, spondylolisthesis, spondylolysis)**
- **Physical findings (lumbar lordosis, kyphosis, scoliosis), and**
- **Clinical or neurologic features (neurogenic claudication, radiculopathy, sciatica, cauda equina syndrome).**
- **Clinical entities that have been associated with low back pain symptoms that are either hard to reliably diagnose or are not clearly associated with symptoms, including the piriformis syndrome, "back mouse," annular tears, and sacroiliac joint dysfunction.**

Spondylosis: arthritis of the spine. Seen radiographically as disc space narrowing and arthritic changes of the facet joint.

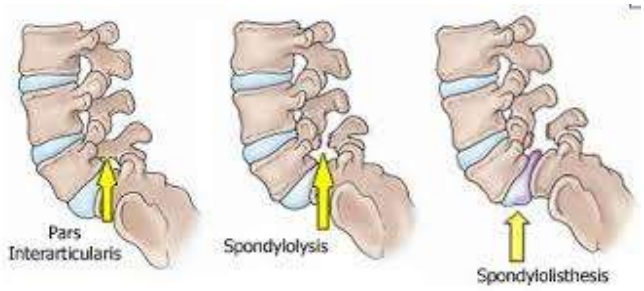
→ It is degenerative conditions "age-related 'wear and tear'" in which discs between the vertebrae begin to break down, erode, or collapse, resulting in bone rubbing against bone.

Spondylolisthesis: Anterior displacement of a vertebra on the one beneath it. A radiologist determines the degree of slippage upon reviewing spinal x-rays. Slippage is graded I through IV.

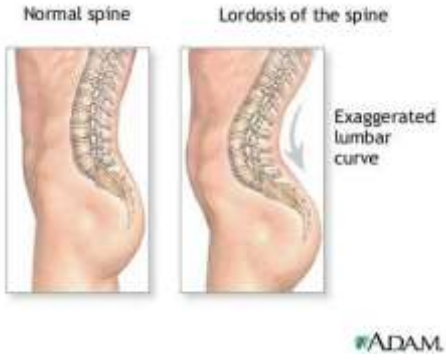
→ Backward displacement is referred to as retrolisthesis

Spondylolysis: a fracture in the pars interarticularis where the vertebral body and the posterior elements, protecting the nerves are joined. In a small percent of the adult population, there is a developmental crack in one of the vertebrae,

usually at L5.
→ It is a condition in which there is a defect in a portion of the spine called the pars interarticularis (a small segment of bone joining the facet joints in the back of the spine)



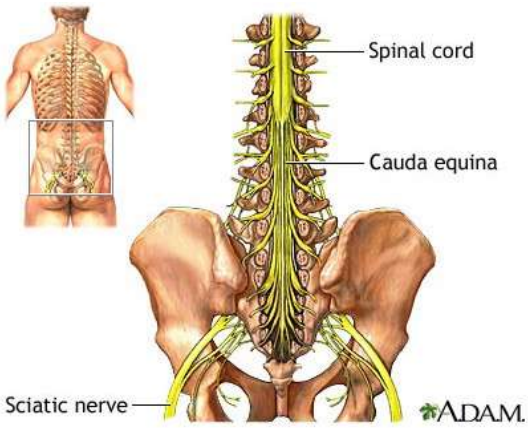
lordosis: Lordotic curves refer to the inward curve of the lumbar spine (just above the buttocks).
→Too much lordotic curving is called swayback (lordosis). Lordosis tends to make the buttocks appear more prominent.



Kyphosis: Kyphotic curves refer to the outward curve of the thoracic spine (at the level of the ribs).
Scoliosis: Scoliotic curving is a sideways curvature of the spine and is always abnormal.

Cauda equina syndrome: is a serious condition where the nerves at the very bottom of the spinal cord become compressed. Symptoms include:
lower back pain
numbness in your groin
paralysis of both legs
rectal pain
bowel disturbance
inability to pass urine "retention" or incontinence
pain in the inside of your thighs

Needs emergent surgical referral!!

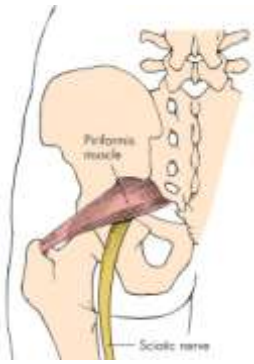


Radiculopathy: refers to disease of the spinal nerve roots. Radiculopathy produces pain, numbness, or weakness radiating from the spine

The clinical presentations vary according to the level of nerve root or roots involved. The most frequent are the L5 and S1 radiculopathies (**Lumbosacral radiculopathy)**. Patients present with pain, sensory loss, weakness, and reflex changes consistent with the nerve root involved.

!!Doctor said: You should know the dermatomes involved!!

Piriformis syndrome: a condition in which the piriformis muscle compresses or irritates the sciatic nerve passing deep or through it. The piriformis muscle is a narrow muscle located in the buttocks. Pain on resisted abduction / external rotation of leg



Sciatica: The sciatic nerve is the longest nerve in your body. It runs from your spinal cord to your buttock and hip area and down the back of each leg. In sciatica there is pain, numbness, tingling in the distribution of the sciatic nerve, radiating down the posterior or lateral aspect of the leg, usually to the foot or ankle.

Causes:

-herniated disk
-foramenal or spinal stenosis (narrowing of the spinal canal)
-ligamentous hypertrophy
-other space filling lesions: cysts, tumor, abscess
-viral or immune inflammation
-can occur w/ peripheral nerve involvement

→ Classically the patient says: I get pain when I bend forward or when I sneeze, or when I cough

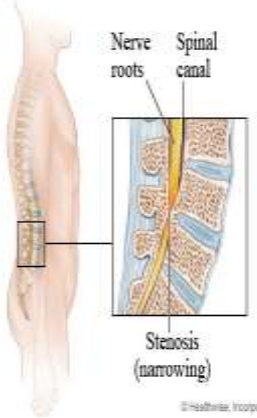
Lumbar spinal stenosis: local, segmental, or generalized narrowing of the central spinal canal by bone or soft tissue elements, usually bony hypertrophic changes in the facet joints and by thickening of the ligamentum flavum. It has a subtle presentation.

-Bilateral radicular signs should alert to possibility.
-radiation to buttocks, thighs, lower legs
-pain increase with extension (standing, walking- worse on flat)
-pain decrease with flexion (sitting, stooping forward shopping trolley sign)
- Can be mistaken for Claudication. Neurogenic claudication (pseudo claudication)
- 1 or both legs
- Admit if progressive / or else CT scan

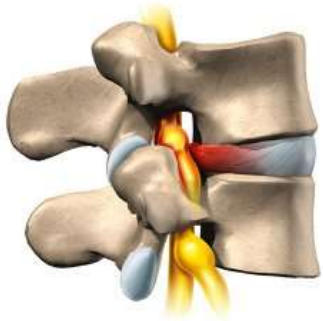
Management:

Symptoms of pseudoclaudication without neurologic deficits: manage symptomatically

With neurologic deficits: Call the surgeon



Disc Herniation: A Tears in the annulus. (Herniation of nucleus pulposus).
-Compression of the nerve root in the foramen leads to pain
-98% disc herniations: L4-5; L5-S1
-Impairment: Motor and Sensory L5-S1
*L5: Weakness of ankle and great toe dorsaflexion
* S1: Decrease ankle reflex
*L5 & S1: Sensory loss in the feet



Why Not Get an Operation for a Herniated Disk?

- Most of the time ask the patient to rest and they will have spontaneous recovery, but if you have persistent neurological deficit for > 6 wks, then you may consider surgery

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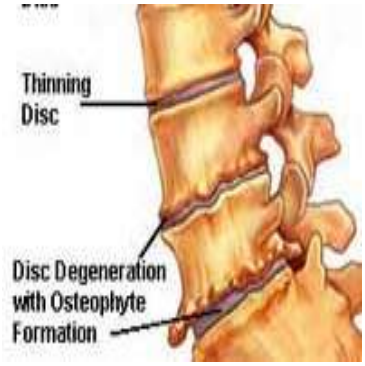
Disc Degeneration:
-With age and repeated efforts, the lower lumbar discs lose their height and water content ("bone on bone") -> (so the height of the patient also decreases)
-Abnormal motion between the bones leads to pain



Low Back Pain - natural history

- Most episodes of LBP are self-limited.
- These episodes become more frequent with age.
- LBP is usually due to repeated stress on the lumbar spine over many years ("degeneration"),
-An acute injury may cause the initiation of pain.
-LBP is often attributed to disc degeneration, which is the primary target for many diagnostic approaches
- The importance of imaging findings associated with disc degeneration (osteophytes, disc narrowing, and herniation) remains unclear.
- Muscular and ligamentous sources of pain may be equally important

Waddell Signs For Non-organic Pain

(http://www.youtube.com/watch?v=hAFXHb9tK78)
They are a group of physical signs which may indicate non-organic "psychological" component to chronic low back pain"

- Superficial non-anatomic tenderness → you compress over the vertebral bodies and there is no pain, you compress somewhere else and patient has tenderness.
- Pain from maneuvers that should **not** ellicit pain → if you do straight leg raising test is normal, but if you do minimal elevation the patient screams with pain.
- Distraction maneuvers that should elicit pain **BUT** don't → distract the patient while you are examining
- Disturbances not consistent with known patterns of pain
- Over-reacting during the exam
- Not definitive to rule out organic disease

→ Why would someone do this? – To seek attention – to be absent from work – for compensation claims

First Episode Acute LBP: Red Flags for Emergent Surgical Consultation

Cauda equina syndrome

- **Bilateral sciatica, saddle anesthesia, bowel/bladder incontinence**

Abdominal aortic aneurysm

- **Pain pattern is variable**
- **Bruits**
- **+/- pulsatile abdominal mass**

Significant neurologic deficit

- **If they can't walk, they can't be sent home**

What Are the Red Flags for Serious Low Back Pain?

- Fever, weight loss, night sweats
- Acute onset in the elderly
- Intractable pain—no improvement in 4 to 6 weeks
- Nocturnal pain or increasing pain severity
- Morning back stiffness with pain onset before age 40
- Neurologic deficits, bilateral or alternating symptoms.
- Sphincter disturbance
- Immunosuppression
- Infection (current/recent)
- Claudication or signs of peripheral ischaemia
- History of malignancy

What are the conditions you will be worried about (Serious Low Back Pain)?

- Herniated disk
- Spinal stenosis
- Cauda equina syndrome
- Inflammatory spondyloarthropathy
- Spinal infection
- Vertebral fracture (not traumatic fractures, but compression fractures due to osteoporosis)
- Cancer

!!Doctor said: You should memorize these; you need to know the conditions by heart, which are the bad conditions that cause back pain!!

Ankylosing spondylitis: (AS) is a type of inflammatory arthritis that targets the joints of the spine. It first affects the sacroiliac (SI) joint, where the spine attaches to the pelvis, and then starts to affect other areas of the spine. The hips and shoulders can be affected, and so can the eyes, skin, bowel and lungs. Symptoms of AS include back pain, stiffness and reduced mobility in the spine. Ankylosing spondylitis affects men more often than women. The condition usually appears between the ages of 15 and 45 years. There is no cure for AS, however, there are things you can do to help control symptoms.

How to Diagnose Inflammatory Back Disease (Ex: Ankylosing Spondylitis)

From History

- Insidious onset, duration >3 months
- Symptoms begin before age 40
- Morning stiffness >1 hour
- Activity improves symptoms
- Systemic features: Skin, eye, GI, and GU symptoms
- Peripheral joint involvement
- Infections

Physical examination

- Limited axial motion in all planes
- Look for signs of infection (*Staph, Pseudomonas, Brucella*, and TB)
- Systemic disease (AS, Reiter's, psoriasis, IBD)
  -Ocular "eye" inflammation
  -Mucosal ulcerations
  -Skin lesions
- Do **Schober's Test** to test for spinal mobility

Schober's test is a test used in rheumatology to measure the ability of a patient to flex his/her lower back While the patient is in a standing position the examiner makes a mark approximately at the level of L5 (fifth lumbar vertebra). The examiner then places one finger ~5 cm below this mark, and another, second, finger, ~10 cm above this mark. The patient is asked to touch his/her toes without flexing the knee joints. By doing so, the distance between the two fingers of the examiner increases. However, a restriction in the lumbar flexion of the patient reduces this increase; if the distance increases less than 5 cm, then there is an indication that the flexion of the lower back is limited. For instance, this test is diagnostically useful as part of a clinical diagnosis of syndromes such as ankylosing spondylitis

How to perform the test →(http://www.youtube.com/watch?v=YULeqz1G1HU)

X-Ray Changes: (in Ankylosing Spondylitis)

Sacroiliitis

Bamboo sign

(seen in ankylosing spondylitis as a result of vertebral body fusion)

Scenario: low back pain, <40 yrs, early morning stiffness, bamboo sign on x-ray, or sacroiliitis → This is AS

→ **Evaluation in (older) adults**
- History and physical exam
- **Immediate X –Ray recommended**
- Screening laboratory tests
  -CBC
  -Sedimentation rate (+protein electrophoresis if ESR elevated)

Case 1: An obese 65-year-old man presents complaining of back pain that began 5 days ago while shoveling snow. The pain becomes worse when he stands. On exam: The spine is non-tender, and pain increases with forward bending. Straight leg raising test is negative, and he has no neurologic deficits.

Management : (Patient does not have any of the red flag symptoms) therefore, only Watchful Waiting

- Patient education (Restrictive movement is a misconception, because this will aggravate the pain. Allow patient to exercise to strengthen muscles.)

Spontaneous recovery is the rule

Those who remain active despite acute pain have less future chronic pain

Exercise has Prevention Power: Muscle strengthening and endurance exercises

- Rest: 2 to 3 days or less (do not let patient inactive for a long period)
- Analgesics to permit activity: acetaminophen, NSAIDs, codeine
- Reassess if pain worsens

…….The patient returns in *6 weeks* because the *pain* has not decreased. His legs feel heavy (*weakness*), and he has had some *incontinence* in the last week. On exam: He now has *bilateral weakness of ankle dorsiflexion*, *absent ankle jerks*, and *saddle anesthesia*

▶ **Diagnosis – Cauda equina syndrome**

Case 1: A 32-year-old man complains of severe low back pain of gradual onset over the past few years. The pain is much worse in the morning and gradually decreases during the day. He denies fever or weight loss but does feel fatigued On exam: There is loss of lumbar lordosis but no focal tenderness or muscle spasm. Lumbar excursion on Schober test is 2 cm. No neurologic deficits.

▶ **Diagnosis – Ankylosing Spondylitis**

Case 3: **A 40-year-old woman complains of continuous and increasing back pain for 3 months that worsens with movement. She has noted nightly fevers and chills. She is in a methadone "a synthetic opioid" maintenance program. On exam she is exquisitely tender over L4 and the right sacroiliac joint with paravertebral muscle spasm. No neurologic deficits. Old needle tracks in both arms. Lab: Hbg 11.5 mg%, WBC 9,000 (normal), ESR 80 mm/h (elevated).**

Diagnosis – Chronic spinal infection

→Because of h/o 3 mothns, it cant be pyogenic infection.
DDx → chronic TB/Brucellosis, and source of infection is: IV drug abuse

Red Flags for Spinal Infections

- Historical clues
  Fever, rigors
  Source of infection: IV drug abuse, trauma, surgery, dialysis, GU, and skin infection
- Physical exam clues
  Focal tenderness with muscle spasm
  Often cannot bear weight
  Needle tracks
- Lab clues: Mild anemia, elevated ESR, and/or CRP

Case 4: **A 60-year-old man complains of the insidious onset of low back pain that worsens when he lies down, so he sleeps in a recliner. There is a remote history of back injury. He has lost 20 lb in the past 6 months**
On exam he has lumbar spine tenderness but no neurologic deficits
Laboratory: Hgb 9 mg%, WBC 9,000,
ESR 110 mm/h, monoclonal spike on serum protein electrophoresis

Diagnosis – Multiple Myeloma

→ in multiple myeloma, Bence Jones protein is positive

Red flags for spinal malignancy
Pain worse at night
Often associated local tenderness
CBC, ESR, protein electrophoresis if ESR elevated
Key point: Nocturnal back pain, weight loss, and ESR >100 mm/h suggests malignancy

Case 5: **An 82 "old"-year-old woman experienced sudden sharp low back pain while gardening that has persisted and worsened. The pain does not radiate. On exam: She is grimacing in pain; vital signs are normal; thoracic kyphosis, loss of lumbar lordosis, and palpable muscle spasm. An x-ray was done: showing multiple compression fractures.**

- **Diagnosis – Osteoprosis with compression fracture**

→ Patient most probably has osteoporosis.
She bent forward and left somtheing heavy causing compression fracture of the spine.

Features of Acute Compression Fractures
- No early warning, often occurs with forward flexion during normal activity or with trivial trauma
- Severe spinal pain
- Marked muscle spasm
- Some relief with recumbency

Key Points About Acute Back Pain

- 90% of cases due to mechanical causes and will resolve spontaneously within 6 weeks to 6 months
- Pursue diagnostic work-up if any red flags found during initial evaluation
- If ESR elevated, evaluate for malignancy or infection
- In older patients initial x-ray useful to diagnose compression fracture or tumor*

Summary

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Caused by :

- herniated disk
  -A Tears in the annulus
  -Compression of the nerve root in the foramen leads to pain
  -98% disc herniations: L4-5; L5-S1
  -Impairment: Motor and Sensory L5-S1
  -L5: Weakness of ankle and great toe dorsaflexion
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- foramenal or spinal stenosis
  -Bilateral radicular signs should alert to possibility.
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  -pain increase with extension (standing, walking- worse on flat)
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  - Can be mistaken for Claudication. Neurogenic claudication (pseudo claudication)

Symptoms : pain, numbness, tingling in the distribution of the sciatic nerve, radiating down the posterior or lateral aspect of the leg, usually to the foot or ankle

If sciatica or pseudoclaudication present – do straight leg raise
L-5 / S-1 nerve roots involved in 95% lumbar disc herniations

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Kyphosis: Kyphotic curves refer to the outward curve of the thoracic spine (at the level of the ribs).

Scoliosis: Scoliotic curving is a sideways curvature of the spine and is always abnormal.

Radiculopathy: refers to disease of the spinal nerve roots. The most frequent is lumbosacral radiculopathy Patients present with pain, sensory loss, weakness, and reflex changes consistent with the nerve root involved.

Cauda equina syndrome: is a serious condition where the nerves at the very bottom of the spinal cord become compressed. Symptoms include:

-numbness in your groin
-paralysis of both legs
-rectal pain
-bowel disturbance
-inability to pass urine "retention" or incontinence
-pain in the inside of your thighs

- It refers to a characteristic pattern of neuromuscular and urogenital symptoms resulting from the simultaneous compression of multiple lumbosacral nerve roots below the level of the conus medullaris.

- Symptoms include low back pain, sciatica, saddle sensory disturbances, bladder and bowel dysfunction, and variable lower extremity motor and sensory loss. (L3, L4, L5)

- **This is a surgical emergency!**

Piriformis syndrome: a condition in which the piriformis muscle compresses or irritates the sciatic nerve passing deep or through it. The piriformis muscle is a narrow muscle located in the buttocks. Pain on resisted abduction / external rotation of leg

Red Flags for Emergent Surgical Consultation

Cauda equina syndrome
- Bilateral sciatica, saddle anesthesia, bowel/bladder incontinence

Abdominal aortic aneurysm
- Pain pattern is variable
- Bruits
- +/- pulsatile abdominal mass

Significant neurologic deficit
- If they can't walk, they can't be sent home

Ankylosing spondylitis: (AS) is a type of inflammatory arthritis that targets the joints of the spine. It first affects the sacroiliac. The hips and shoulders can be affected, and so can the eyes, skin, bowel and lungs. Symptoms of AS include back pain, stiffness and reduced mobility in the spine.

- From history :
  - Insidious onset, duration >3 months
  - Activity improves symptoms
- Physical examination
  - Limited axial motion in all planes
  - Do **Schober's Test** to test for spinal mobility
  - Systemic disease (AS, Reiter's, psoriasis, IBD)
  - -Ocular "eye" inflammation
  - -Mucosal ulcerations
  - -Skin lesions

Para spinal abscess:

- Acute paraspinal infections are most commonly bacterial while sub-acute could be anything. (staph Aureus, E. Coli, TB, Brucella). - Localized back pain is the 1st symptom other symptoms include; fever, chills and anight sweats.

- There is usually limited motion of the spine that is affected, and movement typically produces severe muscle spasms.
- Compression of the spinal cord or the cauda equina can lead to paralysis or varying degrees of weakness, numbness and bladder dysfunction.

Questions

A 37 years old male came to hospital at 7am suffering from early morning stiffness which started before 5 months ago. He mentioned that the stiffness relived during the day. In X-ray bamboo sign was found. What is the most likely diagnosis?

A- Herniated disc
B- Spinal stenosis
C- Ankylosing Spondylitis
D- Osteoporosis

A patient came to the ER at 2am with lower back pain and numbness in the groin area. You suspect Cauda equaina syndrome. What is your investigation modality in this situation?

A- MRI
B- CT scan
C- X-ray
D- Lumber puncture

Which of the following considered as a red flag for emergent surgical consultation in acute lower back pain?

A- Paget's disease of bone
B- Spondylosis
C- Osteoporosis
D- Abdominal aortic aneurysm

Answers

C-A-D