PHC

432 Handouts

9 Approach to a patient with back pain

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COLOR GUID: Doctor's Notes Team Notes Slides Not important Important **431 team work**

Objectives

1. Common causes
2. Diagnosis including history, Red Flags, Examination (Brief comment on
3. Mechanical, Inflammatory, Root nerve compression, Malignancy(
4. Role of primary health care in management
5. When to refer to specialist
6. Prevention and Education
7. Practical: How to do examination of Back including lower limbs?
8. Reference: NICE guidelines

Introduction:

- It is estimated that up to 84% of adults have low back pain in some point of their lives.
- The second most common cause for physician visits.
- Back pain is a symptom but not a diagnosis.

Causes of low back pain:

1. mechanical
2. non-mechanical (systemic - referred)
3. malingering
4. non-specific

History taking:

1. History of presenting illness: SOCRATES- Constitutional symptoms- Previous episode
2. Risk factor : Smoking – Obesity – Old age – Female – psychological – Trauma – Lifting heavy objects
3. Past medical/ Past surgical
4. Medication History
5. Allergic & blood transfusion
6. Family history
7. Social history: Smoking – Alcohol – History of travelling
8. Systemic review

Classifications:

1. Acute low back pain: pain lasts less than 6 weeks
2. Chronic low back pain: Pain lasts more than 6 weeks

Red flags:

- Trauma
- Unexplained weight loss
- Neurological symptoms
- Age>50
- Fever
- IV drug used

- Steroid use
- History of cancer
- Immunosuppression
- Fecal incontinence
- Saddle anesthesia
- Urinary retention
- No improvement after 6 weeks of conservative management
- Severe or rapidly progressive neurologic deficit

Physical examination:

1. Standing/walking position

Look:

- Any deformity, swelling, or skin changes
- Are shoulders & pelvis level.
- Muscle wasting

Gait:

- Abnormal types: Antalgic, Trendelenburg, waddling.
- Heel and toe walking.

Feel:

- Spinous processes for tenderness, steps or gaps. Soft tissues: temperature, tenderness.

Move:

- Start with active ROM in all 6-directions:

Special test:

- Adams Forward bending test: if thoracic scoliosis is present, then rib hump will become visible.

2. Supine position

Look:

- Note any muscle wasting in the lower limbs.

Feel:

- Leg length discrepancy.

Special tests:

- Straight leg raising test (SLRT):. -A positive test is reproduction of sciatica-i.e. sharp shooting pain that radiates below the knee- between 30° and 70°of hip flexion aggravated with dorsiflexion of the ankle and relieved with knee flexion.

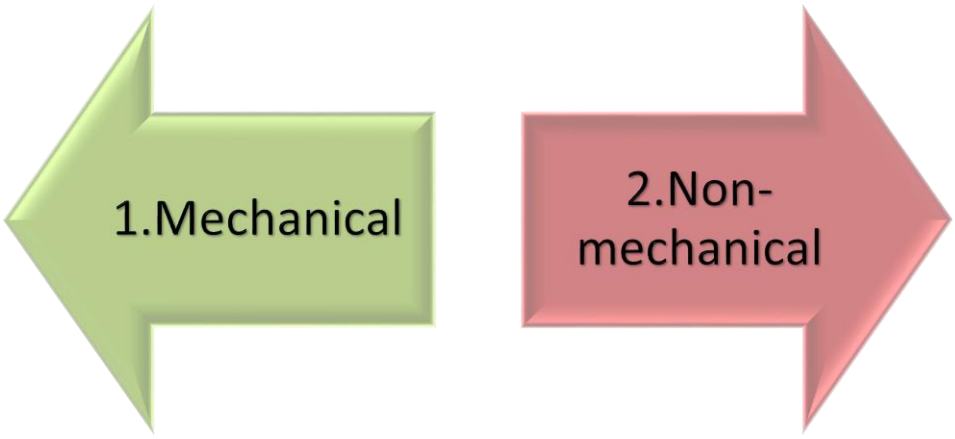
3. Neurologic examination

- Motor, Sensory, Tone and Reflexes

4. Vascular examination

- Pedal pulses (DP & PT) / Capillary refill (normal < 2 seconds).

Differential diagnosis of back pain



1. Mechanical Back Pain:

- A mechanical problem is a problem with the way your spine moves or the way you feel when you move your spine in certain ways.
- Mechanical means the source of the pain may be in the spinal joints, discs, vertebrae, or soft tissues.

Causes of Mechanical LBP:

- Degenerative disc and/or facets
- Compression fracture
- Herniated nucleus pulposus (HNP)
- Spinal stenosis
- Spondylolysis and/or spondylolisthesis
- Lumbosacral Spine Sprain/Strain Injuries

Herniated nucleus pulposus (HNP):

- The nucleus pulposus "inner core" leaks out.
- The weak spot in the outer core of the disc is directly under the spinal nerve root.
- A herniation in this area puts direct pressure on the nerve, leading to nerve root compression.
- Most commonly between L4-L5, L5-S1
- Herniation in lumbar region is known as sciatica.
- **Nerve Root Compression:**
  - Classic nerve root compression is characterized by radicular pain (along the dermatome) arising from nerve root impingement.
  - The most common cause: **Herniated Discs**

Impingement pain	Irritation pain
• Sharp pain • Well localized • Paresthesia • Positive straight leg raising sign • Neurologic deficits • Pain radiation below the knee	• Dull pain • Poorly localized • Without paresthesia • Not associated with a positive straight leg raising sign

- **Sciatica (Lumbar Radiculopathy):**
  - Is a bulging or herniated disk presses on sciatic nerve that travels down your leg,
  - It results in a sharp, shooting pain through the buttock and back of the leg.
  - It might be associated with:
  - Numbness
  - muscular weakness
  - pins and needles or tingling
  - Difficulty in moving or controlling the leg.
  - Typically, the symptoms are only felt on one side of the body.

2. Non-Mechanical back pain:

A. Inflammatory back pain
B. Infectious back pain
C. Neoplastic back pain

A. Inflammatory back pain:

- Inflammation and ossification of intervertebral discs, joints, and ligaments that leads to rigidity of the spine.
- Most commonly affected joint is sacroiliac joint.
- Causes:
- Ankylosing Spondylitis
- Reactive arthritis
- Psoriatic arthritis
- Enteropathic arthritis
- **Characteristic:**
  - Onset of pain < 35 years, and is insidious.
  - Pain persists for more than 3 months.
  - Throbbing pain
  - The back pain and stiffness worsen with immobility, especially at night and early morning.
  - The back pain and stiffness tend to ease with physical activity and exercise.

- NSAIDs are very effective in relieving pain and stiffness in most patients.

B. Infectious back pain:

- Osteomyelitis or discitis.
- Not a common causes of back pain.
- Suspected in :
- IV drug users, dialysis, indwelling catheter

C. Neoplastic back pain:

- Either due to Primary or metastatic spinal Tumors.
- People older than 50 years are more likely to have back pain secondary to a metastatic tumor.
- Most common spinal tumor by far is metastatic carcinomas.
- Primary neoplasm that metastaszie to spine includes:
- Breast
- Prostate
- Kidneys
- Lung neoplasms
- Lymphoma
- Multiple myeloma
- **Symptoms:**
  - Gradually worsening back pain is the initial feature of SC neoplastic disease in about 90% of adult patients.
  - The pain either Localized or radicular pain.
  - Worse with recumbent position.
  - Limb paresthesia or weakness.
  - Fever, weight loss.
  - Paraplegia, Bowel or Bladder dysfunction (late finding).

Investigations:

- Nonspecific Low back pain does not require routine imaging or diagnostic testing.

1. Labs:

- *ESR, C-Reactive Protein (CRP), WBC* help in detecting infections or malignancy.
- Urine Dipstick: Subclinical pyelonephritis & Bence Jones Protein (Multiple Myeloma).

2. Plain X-Rays :

- Does not detect disc herniation
- Shows: Infection, Fracture, Malignancy, Spondylolisthesis, Degenerative

diseases
- Views: Anteroposterior and lateral views

3. CT:
- Shows bone structures better:
  - Sacroiliac joint disease, Fractures, Spondylolisthesis, Degenerative changes

4. MRI:
- Best initial test.
- Used for disc herniation, spinal stenosis, osteomyelitis, discitis, abscess, bone metastases, and neural tube defects.
- Axial and sagittal views.
- Indications of MRI:
  - Failed course of conservative treatment for at least 3 month.
  - Neurologic sign and symptoms

Management of Back Pain

1. Nonpharmacological Treatment
- *EXERCISE: All patients with subacute or chronic low back pain should be advised to remain as active as possible.*

2. Pharmacological Treatment
3. Surgical Treatment

Bed Rest: INADVISABLE!

Bed rest should not be recommended for patients with nonspecific acute low back pain.

Approach to the Treatment of Non-specific Acute Low Back Pain:

1. First visit:
A. Patient education:
- Reassure the patient that the prognosis is often good.
- Advise the patient to stay active, avoiding bed rest as much as possible.

B. Initiate trial of a non-steroidal anti-inflammatory drugs or acetaminophen.

C. **Consider a muscle relaxant based on pain severity**
   - Because all muscle relaxants have adverse effects, such as drowsiness, dizziness, and nausea, they should be used cautiously

2. Second visit:

- Two to four weeks after the initial visit, if the patient *has not improved*
- Changing to a different non-steroidal anti-inflammatory drug
- Referral for physical therapy: spine stabilization if it is not the first episode
- Referral to a spine subspecialist if pain is severe or limits function

Role of PHC:

- ***Educate*** patient about the natural history of back pain.
- ***Ask*** about and address the patient's concerns and goals.
- ***Maximize*** functional status.
- ***Relief*** the pain.
- ***Improve*** associated symptoms, such as sleep or mood disturbances or fatigue.
- ***Referral*** of complicated cases.
- ***Prevention.***

1. **Emergency (referral within hours)**
   - Cauda equina syndrome.

2. **Urgent: (referral within 24 - 48 hours)**
   - Infection.
   - Trauma.
   - Tumor Susbection.
   - IV drugs.

3. **Soon (referral within weeks)**
   - Severe pain.
   - Not alleviated by non-surgical methods. (4 to 6 weeks for patients with a herniated disc. 8 to 12 weeks for patients with spinal stenosis)
   - Widespread neurological signs.
   - Affect patient's functions.

When to refer to specialist:

1. **Level of low back pain and/or leg pain:**
   - If pain is not alleviated by non-surgical.
   - If the pain is severe.

2. **Inability to function with the low back pain**

3. **Cauda Equina Syndrome:**
   - Refer to ER Sudden onset of new urinary retention, fecal incontinence, saddle(perineal) anesthesia, radicular (leg) pain often bilateral, loss of voluntary rectal sphincter contraction.

4. **Infection or tumor:**
   - Refer urgently severe unremitting (non-mechanical) worsening of pain at night and pain when lying down.

5. **Significant trauma or fractures:**

6. **Use of IV drugs or steroids:**
   - Urgent investigation required.
   - In case of suspected infection, consider blood work (CBC, ESR and CRP). If blood work is positive, proceed to MRI, if available.
   - In case of suspected compression fracture, proceed to standing AP and lateral X-rays. Risk factors for compression fractures include: severe onset of pain with minor trauma

7. **Weight loss, fever, loss of appetite:**
   - refer urgently for MRI Scan and to spinal surgery, if indicated.

8. **Widespread neurological signs:**
   - Investigate further and refer soon if indicated

9. **Failure of conservative treatment.**

10. **Progressive weakness in the legs.**

NICE Guidelines – Low Back Pain

1.2 Information, education and patient preferences
1. Promote self-management.
2. Information on the nature of non-specific low back pain.
3. Physically active.
4. Take into account the person's preferences.
5. Treatment options: an exercise program, a course of manual therapy or a course of acupuncture.

Questions

1) Which of the following is not a risk factor for back pain?

A. Obesity.

B. Heavy physical work.

C. Ethnicity.

D. Stress and distress.

2) A patient came with lower back pain with morning stiffness exacerbates by rest and relived by activity?

A. Mechanical back pain

B. Inflammatory back pain

C. Tumor

D. Nerve root compression

3) 30 year old women had low backache 3 days ago, while taking further history, she said that they were moving to a new house and she was lifting heavy objects, the most probable diagnosis is:

A. Spinal stenosis.

B. Prolapsed disc.

C. Rheumatoid arthritis.

D. Fracture.

4) All of the following are red flag signs of back pain except?

A. Onset age either <20 or >55 years.

B. Duration less than 6 weeks.

C. Bowel or bladder dysfunction.

D. Spinal deformity

Answers:

1st Question: C

2nd Question: B

3rd Question: B

4th Question: A