

PHC

432 Team

23 Back Pain



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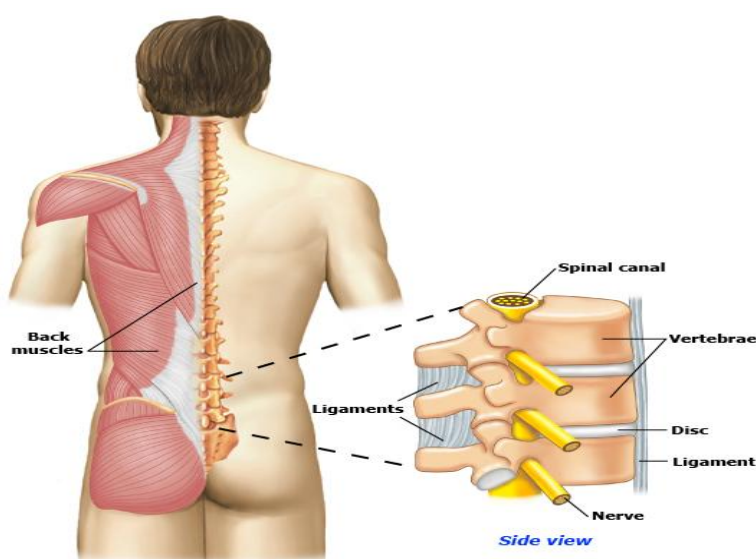


Objectives

1. Common causes and risk factors.
2. Diagnosis including history, Red Flags, Examination
3. Brief comment on 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?**

Introduction:

- Low back pain is one of the most common reasons for visits to physicians in the ambulatory care setting.
- Low back pain is a common ailment that affects most people at least once in their lives.
- The total cost related to back pain is estimated to be >\$100 billion per year in the United States. **High cost due to investigations & treatment which not always necessary**
- If approach is not systematic, cost, identification of non-clinically significant lesions and worsening of psychological condition will all be affected.
- Two thirds of all adults experience back pain.
- It is the second most common reason for physician visits after respiratory tract infection. **Extremely common**
- Simple back pain tends to affect those between 30 and 60 years of age, starting between 30 and 50. First onset outside this range should arouse suspicion of a sinister cause.
- In United Kingdom, around 2.6 million people seeking advice about back pain from their general practitioner each year.



Low back pain can be caused by problems with the **muscles, ligaments, discs, bones (vertebrae), or nerves**. Often back pain is caused by **strains or sprains** involving the muscles or ligaments. These problems cannot always be seen on imaging tests, such as MRIs or CAT scans.

Risk factors:

Modifiable:

Obesity

Smoking

Occupational hazards

Deformity

Previous injury

Non-modifiable:

Genetics

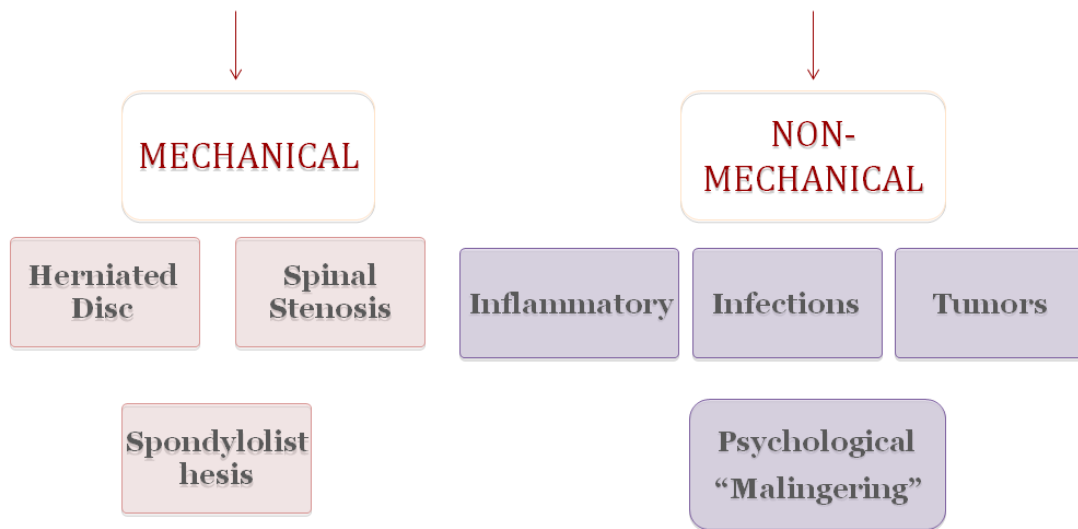
Aging

Classification:

- Back pain is classified as Acute and Chronic:
- Acute back pain is usually the result of an injury or a sudden jolt and can last from a few days to a few weeks; it is generally resolved within 6 to 12 weeks.
- Back pain becomes chronic when it persists for 3 to 6 months beyond the expected healing time.
- About 15% of low back pain cases progress from acute to chronic.

Acute	Subacute	Chronic
< 6 weeks	6 weeks - 3 months	> 3 months

Causes of Back Pain



Red flags: imp

- Age more than 50 years
- History of cancer
- Unexplained weight loss
- Persistent fever
- History of intravenous drug use
- Immunocompromised state
- Recent bacterial infection
- Urinary or stool incontinence
- Urinary retention
- Extremity weakness
- Neurologic deficit
- Trauma

“Red Flag” Symptoms in Back Pain = TUNA FISH

T = Trauma

U = Unexplained Weight Loss

N = Neurologic Symptoms

A = Age > 50

F = Fever

I = IVDU

S = Steroid Use

H = History of Cancer (Prostate, Renal, Breast, Lung)

431 note:

Red flags suggesting a serious back condition:

Hx : Age \geq 50 years ,Unexplained weight loss .

PE : Neurologic findings , Lymphadenopathy .

CANCER

Hx : Age \geq 50 years (> 70 years is more specific) ,Significant trauma ,History of osteoporosis ,Corticosteroid use ,Substance abuse

PE : -VE

Compression fracture

Hx : Fever or chills ,Immunosuppression ,Injection drug use .

PE : Fever (temperature > 100°F or 38°C) Tenderness over spinous processes

INFECTIION

History: During taking history, you must cover the following:

- The course of **pain**.
- Is there evidence of a **systemic disease**?
- Is there evidence of **neurologic problems**?
- **Occupational** history.
- **Red flags**.

Examination: <https://www.youtube.com/watch?v=MsUmSdHxR8E>

Differentiation:

Mechanical Back Pain

- ① Diffuse and unilateral.
- ② Deep and dull.
- ③ Moderate intensity.
- ④ Relieved by **Rest**.
- ⑤ Increased by **Activity** and at the **end of the day**.
- ⑥ History of previous episodes.
- ⑦ Cause:
 - Injury.
 - Poorly designed chairs.

Inflammatory Back Pain

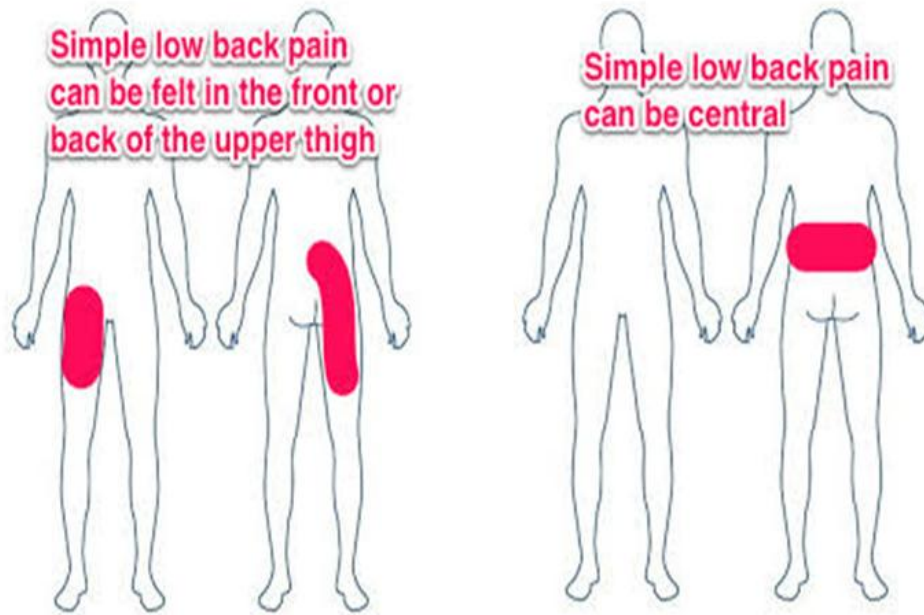
- ① Chronic Pain.
- ② Insidious onset.
- ③ Throbbing, Aching.
- ④ Exacerbated by **Rest**.
- ⑤ Relieved by **Activity** and is worst at **morning** and **end of the day**.
- ⑥ Morning Stiffness.

Differential diagnosis of low back pain

Mechanical low back pain	Non-mechanical spine disease	Visceral disease
Lumbar strain	Neoplasia	Pelvic organs
Degenerative disease	<ul style="list-style-type: none"> Multiple myeloma Metastatic carcinoma Lymphoma and leukemia Spinal cord tumors Retroperitoneal tumors 	<ul style="list-style-type: none"> Prostatitis Endometriosis Chronic pelvic inflammatory disease
<ul style="list-style-type: none"> Discs (spondylosis) Facet joints 		Renal disease
Spondylolisthesis		<ul style="list-style-type: none"> Nephrolithiasis Pyelonephritis Perinephric abscess
Herniated disc	Infection	Aortic aneurysm
Spinal stenosis	<ul style="list-style-type: none"> Osteomyelitis Septic discitis Paraspinous abscess Epidural abscess Bacterial endocarditis 	Gastrointestinal disease
Osteoporosis		<ul style="list-style-type: none"> Pancreatitis Cholecystitis Penetrating ulcer
Fractures	Inflammatory arthritis (often HLA-B27 associated)	Fat herniation of lumbar space
Congenital disease	<ul style="list-style-type: none"> Ankylosing spondylitis Psoriatic spondylitis Reiter's syndrome Inflammatory bowel disease 	
<ul style="list-style-type: none"> Severe kyphosis Severe scoliosis Possible type II transitional vertebra* 	Scheuermann's disease (osteochondrosis)	
Possible spondylolysis	Paget's disease	
Possible facet joint asymmetry		

Simple back pain:

- Simple back pain accounts for more the 60% of all causes of back pain.
- Causes mostly originate from musculoskeletal for example: strained muscle, sprained ligament and herniated disc etc...
- No signs or symptoms of systemic diseases or presence of red flags.
- Treatment usually Non-steroidal anti-inflammatory drugs and muscle relaxant.
- It's also called 'mechanical low back pain' in which the symptoms by definition cannot be ascribed to a particular pathology (infection, tumor, osteoporosis, fracture, radicular syndrome, Caudaequinasyndrome(CES)).



Complicated back pain:

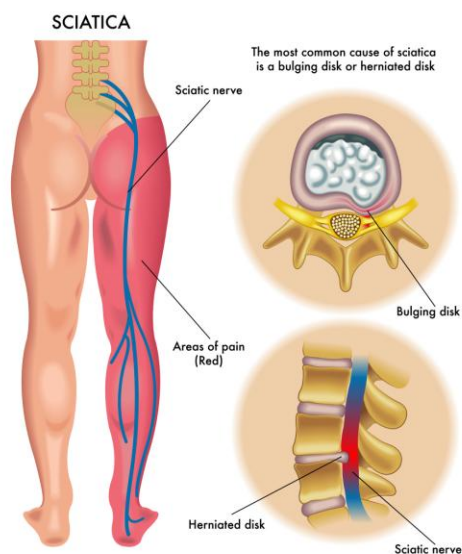
- Accounts for 37% of all causes of back pain. **Less common**
- Presence of systemic signs, symptoms or risk factor e.g. fever, weight loss, history of prior cancer..etc.
- Most common causes include:
 1. Inflammatory arthritis e.g. Ankylosing spondylitis, Rheumatoid arthritis.
 2. Neoplastic.
 3. Infection: can cause pain when they involve the vertebrae, leading to Osteomyelitis.
- Plain film and ESR is needed, if either abnormal consider magnetic resonance imaging or computed tomography.

Radiculopathy:

- Lumbosacral radiculopathy is a condition in which a disease process affects the function of one or more lumbosacral **nerve roots**.
- Depending upon the nature and location of intraspinal compression, roots may be injured at any disc level, from the L1-2 level to the level of their exit into their neural foramina. It can be due to:
 1. Herniated Disc. **Most common**
 2. Spondylosis (spinal stenosis due to degenerative arthritis of the spine).
 3. Spondylolisthesis (anterior displacement of a vertebra on the one beneath it, usually worse with standing and walking).
 4. Non-skeletal nerve root compression and non-compressive mechanisms such as infection, inflammation, neoplasm and vascular disease.

The Pain could be:

- Classic radiating pain (spinal nerve injury).
- Localized lumbosacral pain (Blood vessels, dura mater and longitudinal ligaments).
- Non-localized, non-radiating pain (muscle, bone and ligaments outside spinal canal).
- Referred pain (abdominal viscera).



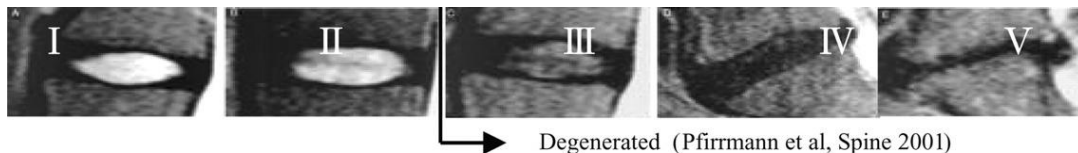
Sciatica: If a bulging or herniated disk presses on the main nerve that travels down your leg, it can cause sharp, shooting pain through the buttock and back of the leg.

Radicular (or nerve root pain) may occur with low back pain. Sciatica is a lay term for pain extending into the leg buttock, thigh, calf or heel.

Mechanical problems:

- 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

The most common mechanical cause of back pain is a condition called **intervertebral disk degeneration**, which simply means that the disks located between the vertebrae of the spine are breaking down with age.



Siemens: Magnetom Symphony

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Hitachi Medical: AIRIS Mate

Other mechanical causes of back pain:

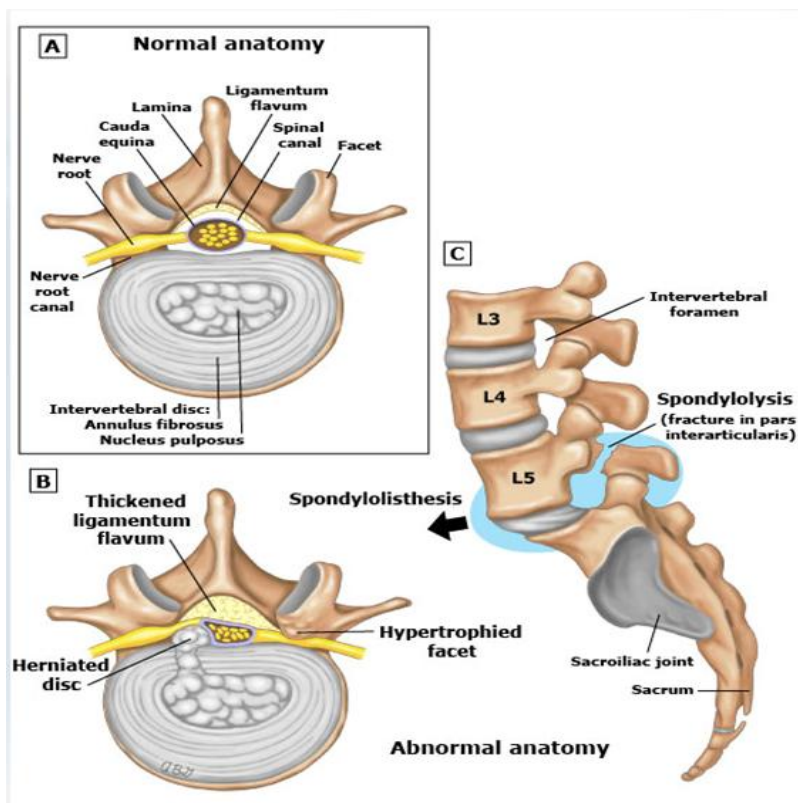
- Spasms
- Muscle tension
- Ruptured disks, which are also called herniated disks.

Degenerative changes:

- Resulting bony overgrowth (osteophytes) or disc herniation may directly impinge on spinal nerve roots or the spinal cord, or their effect may be primarily to produce instability and misalignment of the spine (ie, degenerative spondylolisthesis) that in turn produces pain and neurologic deficit.

Disc herniation:

- Also called disc degeneration, is the usual cause of a herniated disc, as we age the discs in our back lose some of the fluid that helps them stay flexible. The outer layer of the discs can form tiny tears or cracks. The thick gel inside the disc may be forced out through those cracks and cause the disc to bulge or break open directly under the spinal nerve root, so a herniation in this area puts direct pressure on the nerve, which in turn can cause **sciatica**. (Radicular pain due to mechanical cause)
- Depending upon the nature and location of intra-spinal compression, roots may be injured at any disc level. Most frequent presentation is **L5 and S1 radiculopathies**.
- There may be numbness, muscular weakness, pins and needles or tingling and difficulty in moving or controlling the leg. Typically, the symptoms are only felt on one side of the body.



Disc herniation and foraminal stenosis due to spondylotic degeneration are the most common etiologies for lumbosacral radiculopathy, and clinical symptoms are self-limited in most cases.

Immediate diagnostic testing is **not necessary** for patients with suspected radiculopathy who are neurologically intact and at low risk for neoplastic, infectious, or inflammatory etiologies.

Frequent presentation of radiculopathies including herniated disk:

Root	Pain	Sensory loss	Weakness	Stretch reflex loss
L1	Inguinal region	Inguinal region	Rarely hip flexion	None
L2-L3-L4	Back, radiating into anterior thigh, and at times medial lower leg	Anterior thigh, occasionally medial lower leg	Hip flexion, hip adduction, knee extension	Patellar tendon
L5	Back, radiating into buttock, lateral thigh, lateral calf and dorsum foot, great toe	Lateral calf, dorsum foot, web space between first and second toe	Hip abduction, knee flexion, foot dorsiflexion, toe extension and flexion, foot inversion and eversion	Semitendinosus/semibranosus (internal hamstrings) tendon

Root	Pain	Sensory loss	Weakness	Stretch reflex loss
S1	Back, radiating into buttock, lateral or posterior thigh, posterior calf, lateral or plantar foot	Posterior calf, lateral or plantar aspect of foot	Hip extension, knee flexion, plantar flexion of the foot	Achilles tendon
S2-S3-S4	Sacral or buttock pain radiating into the posterior aspect of the leg or the perineum	Medial buttock, perineal, and perianal regions	Weakness may be minimal, with urinary and fecal incontinence as well as sexual dysfunction	Bulbocavernosus, anal wink

Investigations:

- Not needed unless there is a presence of red flags, or the patient at a high risk of neoplasia, inflammation or infection.
- If so, magnetic resonance imaging is recommended.

Treatment:

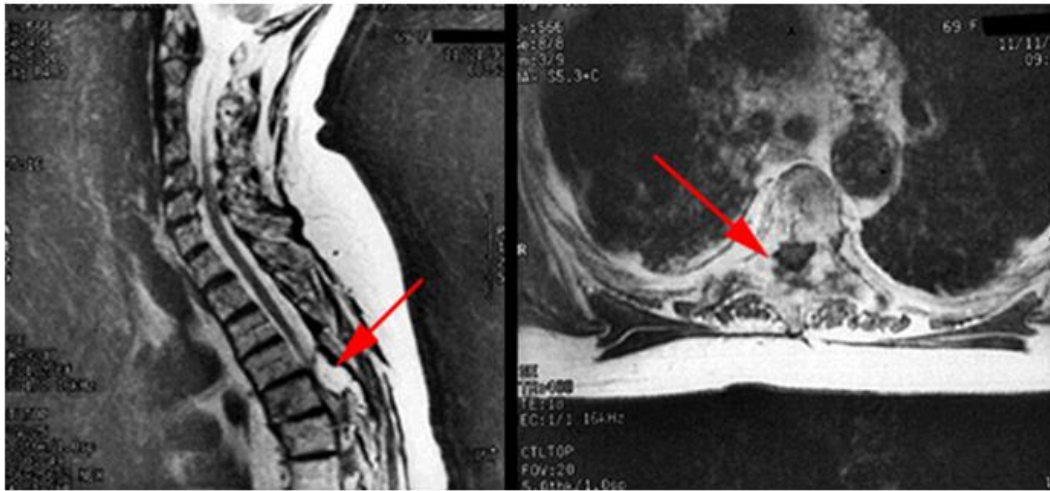
- The objectives of treatment are to ameliorate pain and to address the specific underlying process if necessary.
 - **Nonsteroidal anti-inflammatory drugs** or acetaminophen and activity modification are the mainstay of treatment.
 - **Physical therapy** is often tried for patients with mild to moderate persistent symptoms, but evidence of effectiveness is lacking.
 - **Opioids** and muscle relaxant to treat acute, severe pain.
 - **Surgery** is preserved for patients who have persistent, disabling radiculopathy due to a herniated lumbar disc (The majority of herniated discs will heal themselves in about six weeks and do not require surgery)

Caudaequina: Rare but serious condition

- This is a serious neurological problem affecting a bundle of nerve roots that serve lower back and legs.
- It can cause weakness in the legs, numbness in the "saddle" or groin area, and loss of bowel or bladder control.
- Bowel or bladder dysfunction may be a symptom of severe compression of the caudaequina, which is a medical emergency. Urinary retention with overflow incontinence is typically present, often with associated saddle anesthesia, bilateral sciatica, and leg weakness.
- The caudaequina syndrome is most commonly caused by tumor or a massive midline disk herniation.

Investigation:

- Magnetic resonance imaging.



The scans demonstrate a large epidural lesion compressing the spinal cord

Management:

- The management of true caudaequina syndrome frequently involves **surgical decompression**. When caudaequina syndrome is caused by a herniated disk early surgical decompression is recommended.

Acquired conditions and diseases:

Many medical problems can cause or contribute to back pain. They include:

- Scoliosis: a curvature of the spine that does not usually cause pain until middle age.
- various forms of arthritis (**inflammatory problems**), including osteoarthritis, rheumatoid arthritis, and ankylosing spondylitis :
 - Osteoarthritis managed by: Lifestyle modification (such as weight loss and exercise) and analgesics.
 - No cure is known for ankylosing spondylitis, although treatments and medications are available to reduce symptoms and pain.

- Rheumatoid arthritis: The goal of treatment for RA is:

1- Alleviating the current symptoms (analgesics)

2- Preventing the future destruction of the joints.

(DMARDs & anti-inflammatory agents)



- Spinal stenosis, a narrowing of the spinal column that puts pressure on the spinal cord and nerves.
- Osteoporosis, itself is not painful, it can lead to painful fractures of the vertebrae. (Fractured vertebrae are often the result of osteoporosis, other severe causes: falls + RTA)
- Other causes of back pain include pregnancy
- Kidney stones or infections.
- Endometriosis (which is the buildup of uterine tissue in places outside the uterus).
- Fibromyalgia, a condition of widespread muscle pain and fatigue.

Infections and tumors

- Although they are not common causes of back pain
- Infections can cause pain when they involve the vertebrae, a condition called osteomyelitis, or when they involve the disks that cushion the vertebrae, which is called diskitis
- Tumors also are relatively rare causes of back pain. Occasionally, tumors begin in the back, but more often they appear in the back as a result of cancer that has spread from elsewhere in the body (prostate, breast and lung cancers..). Usually metastasize from primary site to spine to cause Neoplastic epidural spinal cord compression (ESCC).
- Malingering pain, intentional deceptive behavior, not a medical or psychiatric disorder. The diagnosis of malingering rests upon the identification of an external or “secondary” gain being present as the main

Investigation for back pain:

-Diagnostic imaging

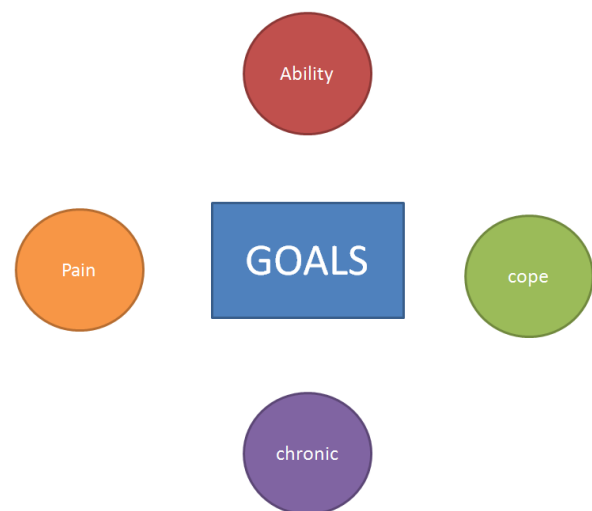
- This is indicated only if serious or specific pathology is likely.
- Plain X-ray of the lumbar spine **arthritis** of the joints between the vertebrae and the breakdown (degeneration) of the discs between the spinal bones.
- Check injuries to the spine, such as **fractures or dislocations**.
- Check the spine for effects from other problems, such as infections, tumors, or bone spurs.
- Check for abnormal curves of the spine, such as scoliosis, in children or young adults.
- Check the spine for problems present at birth (congenital conditions), such as spina bifida, in infants, children, or young adults.
- Check changes in the spine after spinal surgery.
- CT scans often show stress fractures and spondylolisthesis best.
- MRI: MRI is the most useful investigation in nerve root compression, discitis and suspected neoplastic disease.

- Full blood count, ESR, CRP, urine analysis if cancer, infection or inflammation suspected.
- LFTs may be helpful. Alkaline phosphatase can be elevated in metastatic disease and Paget's disease of bone.
- PSA will be raised particularly in carcinoma of the prostate.
- Urinary hydroxyproline will be markedly elevated (with increased bone turnover) in Paget's disease of bone.
- Nephrolithiasis may produce red cells in the urine.

Role of PHC: imp

Goals of treatment for back pain:

- **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.**



Important to know:

- Usually gets better **without** any treatment.
- **Exercise and surgery** are not usually used to treat acute back pain.
- The majority of episodes are due to a muscular strain which usually **resolve with time** - because muscles have a good blood supply to bring the necessary nutrients and proteins for healing to take place -.
- Not all treatments work for all conditions or for all individuals with the same condition, and many find that they need to try several treatment options to determine what works best for them.
- The management is according to the cause. But first we have to assess the educational level of the patient.

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

*Nonspecific low back pain (LBP) symptoms lacking clear, specific cause.

A. First visit:

1. Patient education:

Reassure the patient that the prognosis is often good, with most cases resolving with little intervention.

Advise the patient to stay active, avoiding bed rest as much as possible, and to return to normal activities as soon as possible.

Advise the patient to avoid twisting and bending.

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

3. 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**

B. Second visit:

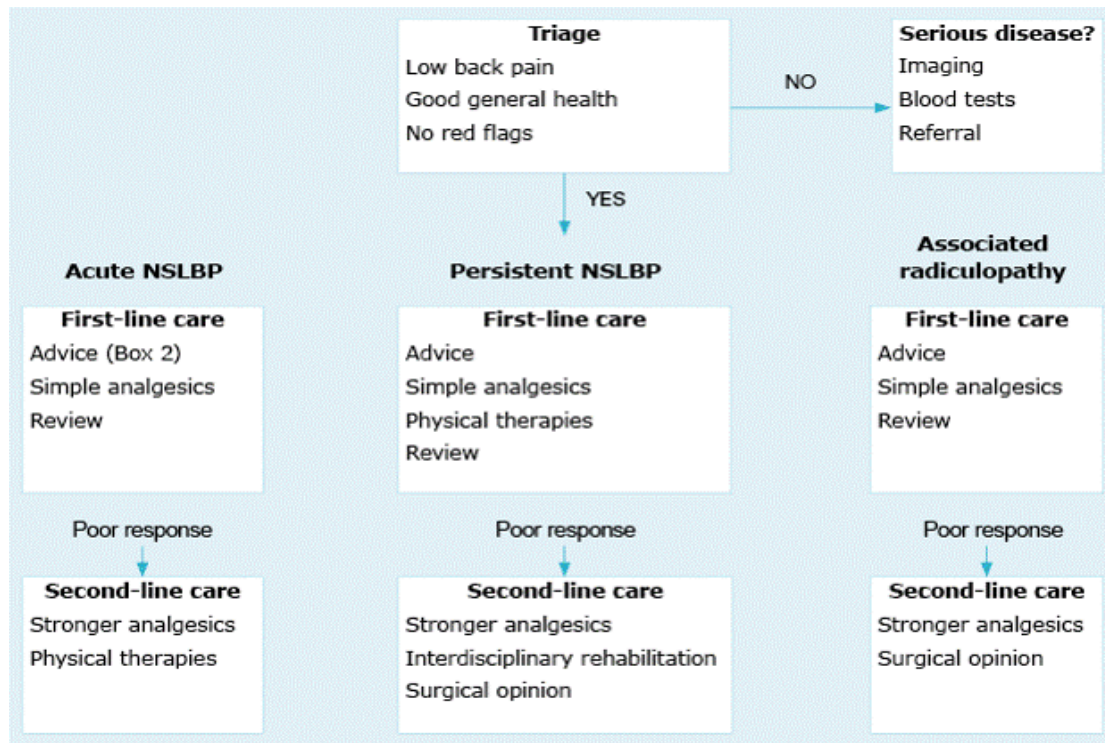
Two to four weeks after the initial visit, if the patient has not improved.

1. Changing to a different non steroidal anti-inflammatory drug

2. Referral for physical therapy:McKenzie method* and/or spine stabilization if it is not the first episode

3. Referral to a spine subspecialist if pain is severe or limits function

*<http://www.biomedcentral.com/1741-7015/8/10/figure/F1>



Unsupported management:

- Oral Steroids.
- Acupuncture.
- Exercise.
- Lumbar Support.
- Massage.
- Spinal Manipulation and Chiropractic Techniques.

INADVISABLE !

- ***Bed Rest:***

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

Prolonged bed rest can also cause adverse effects such as joint stiffness, muscle wasting, and loss of bone mineral density, pressure ulcers, and venous thromboembolism.

Principles of management:

- Underlying systemic disease is rare.
- Most episodes of back pain are unpreventable.
- Psychosocial issues are often important, and relevant.
- Talking to the patient and explaining the issues involved are critical to successful management.

Evidence-Based Medicine Findings :

Oral drugs	Local injection	Nondrug
Analgesics	EPIDURAL STEROID	Heat therapy
Antidepressant	FACET JOINT	physiotherapy
Muscle relaxant	TRIGGER POINT AND LIGAMENTOUS	Acupuncture
NSAIDS		

Surgery:

Minimally invasive surgical procedures are often a solution for many causes of back pain.

Surgery may sometimes be appropriate for patients with:

- Lumbar disc herniation, Lumbar spinal stenosis or spondylolisthesis.
- Scoliosis.
- Compression fracture.

When to refer to specialist: Imp

Emergency: referral within hours.

Urgent: referral within 24 - 48 hours.

Soon: referral within weeks.

Depending on the clinical situation, consider communicating with the specialist consultant to determine the urgency and timelines for referral.

Emergency	Urgent	Soon
<ul style="list-style-type: none">• Cauda equina syndrome.	<ul style="list-style-type: none">• Infection.• Trauma.• Tumor Susbection.• IV drugs.	<ul style="list-style-type: none">• 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.

1-Level of low back pain and/or leg pain:

- If pain is **not alleviated by non-surgical treatments** and has continued for a few weeks or months, it may be time to see a spine surgeon.
- If the pain is **severe**, then it may be advisable to consult with a spine specialist sooner.

2- Ability to function with the low back pain:

- Perhaps even more important than the level of low back pain and/or leg pain is the **patient's ability to continue to function in everyday activities.**
- If one is not able to go to work, drive to the store, and complete other activities of daily living, it may be advisable to consider specialist sooner rather than later.

While patient is waiting to be seen by specialist:

General advice is analgesia. Advices the patient, tests are needed to clarify the diagnosis but that results may be inconclusive.

3- CaudaEquina 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: refer urgently to spinal surgery

Urgent referral to ER for pain control, will need prompt investigation.

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

POSSIBLE ETIOLOGY	HISTORY FINDINGS	PHYSICAL EXAMINATION FINDINGS
Cancer	<p>Strong: Cancer metastatic to bone Intermediate: Unexplained weight loss</p> <p>Weak: Cancer, pain increased or unrelieved by rest</p>	Weak: Vertebral tenderness, limited spine range of motion
Cauda equina syndrome	Strong: Bladder or bowel incontinence, urinary retention, progressive motor or sensory loss	<p>Strong: Major motor weakness or sensory deficit, loss of anal sphincter tone, saddle anesthesia</p> <p>Weak: Limited spine range of motion</p>
Fracture	<p>Strong: Significant trauma related to age*</p> <p>Intermediate: Prolonged use of steroids</p> <p>Weak: Age older than 70 years, history of osteoporosis</p>	Weak: Vertebral tenderness, limited spine range of motion
Infection	<p>Strong: Severe pain and lumbar spine surgery within the past year</p> <p>Intermediate: Intravenous drug use, immunosuppression, severe pain and distant lumbar spine surgery</p> <p>Weak: Pain increased or unrelieved by rest</p>	<p>Strong: Fever, urinary tract infection, wound in spine region</p> <p>Weak: Vertebral tenderness, limited spine range of motion</p>

Prevention and Education:

There are some things you can do that may help to prevent back pain. And they can prepare you for faster recovery if you do have back pain.

1) Include physical activity in daily routine:

Exercise is both an excellent way of preventing back pain and of reducing it.

- For most healthy adults, the Department of Health and Human Services recommends at least **150 minutes a week** of moderate aerobic activity or **75 minutes a week** of vigorous aerobic activity and strength training exercises at least twice a week.
- Combine **aerobic** exercise, such as swimming or walking, with exercises that **strengthen and stretch** back muscles and abdomen.

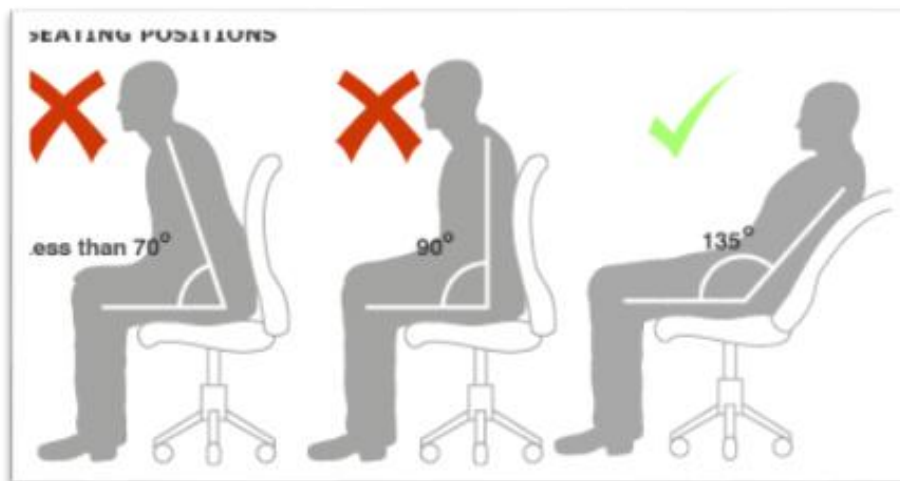
2) Posture:

- **Standing:**

Stand upright, with your head facing forward and your back straight.

- **Sitting:**

Choose a chair that allows you to rest both feet flat on the floor while keeping your knees level with your hips. Some people find it useful to use a small cushion to support the small of the back.



- **Driving:**

- Make sure that your lower back is properly supported.
- Correctly positioning your wing mirrors will prevent you from having to twist around.
- Your foot controls should be squarely in front of your feet.
- If you are driving long distances,
- Take regular breaks so that you can stretch your legs.

- **Sleeping:**

- **Putting a couple of pillows** under your knees cuts the pressure in half.
- **Lying on your side** with a pillow between your knees also reduces the pressure.
- Sleeping on your abdomen can be hard on your back .If you can't sleep any other way, reduce the strain on your back by **placing a pillow** under your pelvis and lower abdomen.

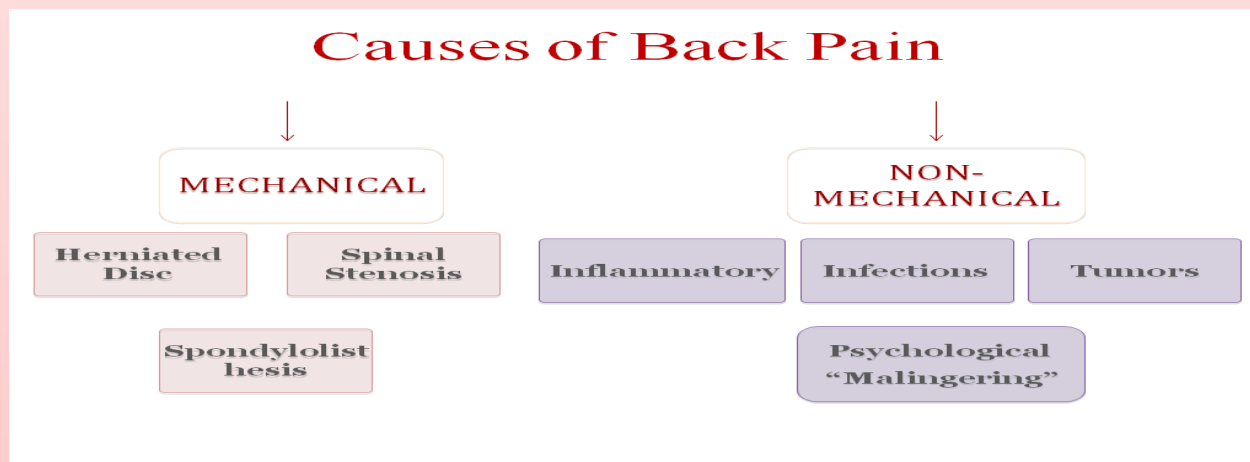
- **Lifting:**

Kneel down on one knee with the other foot flat on the floor as near as possible to the item you are lifting. Lift with your legs, not your back, keeping the object close to your body at all times.



Summary

- Low back pain is the second most common reason for physician visits after respiratory tract infection. **(Extremely common)**
- **Risk factors:** **Modifiable:** Obesity, Occupational hazards, Deformity, Previous injury. **Non-modifiable:** Genetics **and** Aging



- **Red flags: imp:** Age more than 50 years, History of cancer, Unexplained weight loss, Persistent fever, History of intravenous drug use, Immunocompromised state, Recent bacterial infection, Urinary or stool incontinence, Urinary retention, Extremity weakness, Neurologic deficit, Trauma .
- Acute back can last from a few days to a few weeks; it is generally resolved within **6 to 12 weeks**. Chronic Back pain when it persist for **3 to 6 months** beyond the expected healing time.
- Lumbosacral radiculopathy is a condition in which a disease process affects the function of one or more lumbosacral **nerve roots**.
- Cauda equine symptoms: Sudden onset of new urinary retention, fecal incontinence saddle(perineal) anesthesia, radicular (leg) pain often bilateral, loss of voluntary rectal sphincter contraction.
- **When to refer to specialist: Imp: go page 21**

Summary

- **Role of PHC: imp: (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.**)

Questions

- 1) Which of the following is the most common radiculopathy affecting the lumbosacral spine?
 - A. L2
 - B. L3
 - C. L4
 - D. S1

- 2) Which of the following is a red flag sign/symptom of back pain?
 - A. History of cancer.
 - B. Kyphosis.
 - C. Age less than 50.
 - D. Shingles.

- 3) Which of the following elements is the most important in evaluating back pain?
- A. Lumbar x-ray.
 - B. Acupuncture.
 - C. Taking a history.
 - D. Prescribing a medication and waiting for an effect.
- 4) In a patient with acute low back pain without the presence of red flags or signs of systemic diseases, the most initial investigation is:
- A. X-ray
 - B. CT scan
 - C. No need for any investigation.
 - D. MRI
- 5) 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.

Answers:

- 1st Questions: **D**
- 2nd Questions: **A**
- 3rd Questions: **C**
- 4th Questions: **C**
- 5th Questions: **B**

432 PHC Team Leader

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