

BACK PAIN

GROUP A1



Q1: Which of the following is considered as a red flag in patients with back pain:

- A) History of DM
- B) Family history of back pain
- C) Focal neurologic deficit
- D) Young age



Q2: Most of spinal column tumors are primary tumors:

A) true

B) False



Q3: Which of the following is the duration of chronic back pain:

A) 3-6 weeks

B) 6-12 weeks

C) More than 12 weeks



Objectives:

- 1- Common causes.
- 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
When to refer to specialist.



Diagnosis

Leena Zeitouni



Full Assessment:

1. **History taking.**
2. **Evaluation of Red Flags.**
3. **Psychosocial risk factors/Yellow Flags.**
4. **Physical and neurological exam.**



History

- Personal data.
- The course of **pain**.
- **Constitutional symptoms**.
- Any evidence of a **systemic disease**.
- Any evidence of neurologic problems (associated conditions).
- Past medical/ surgical history.



- Family history
- Medication and allergy history
- Trauma
- Menstrual history
- Occupational and **social** history
- Red flags**
- Psychosocial yellow flags**



Course of Pain

- Site.
- Onset.
- Character
- Radiation.
- Associated symptoms
- Time
- Exacerbation & Relieving factors.
- Severity



RED FLAGS

- Age > 50 y
- Progression of symptoms
- Unintentional weight loss
- Persistent fever
- History of cancer
- Focal neurologic deficit
- Urinary or stool incontinence
- Urinary retention
- Extremity weakness
- Immunosuppression
- IV drug use
- Steroid use
- History of trauma
- Osteoporosis
- History of Recent bacterial infection



“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)



Yellow Flags

- Yellow Flags indicate psychosocial barriers to recovery.

- They include:**

- 1)Belief that pain and activity are harmful.

- 2)'Sickness behaviours' (like extended rest).

- 3)Low or negative mood, social withdrawal.

- 4)Treatment expectations that do not fit best practice.

- 5)Problems with claim.

- 6)Problems at work, poor job satisfaction (Heavy work, unsociable hours (shift work).

Overprotective family or lack of support.



Physical Examination

First: standing/walking position:

A. Look :

- Expose the trunk and lower limbs properly.
- Any deformity, swelling, or skin changes.
- Are shoulders & pelvis level.

Gait:

1. Abnormal types: Antalgic, Trendelenberg, waddling.
2. Heel and toe walking: unable to heel walk= **L4** weakness, unable to toe walk= **S1** weakness .

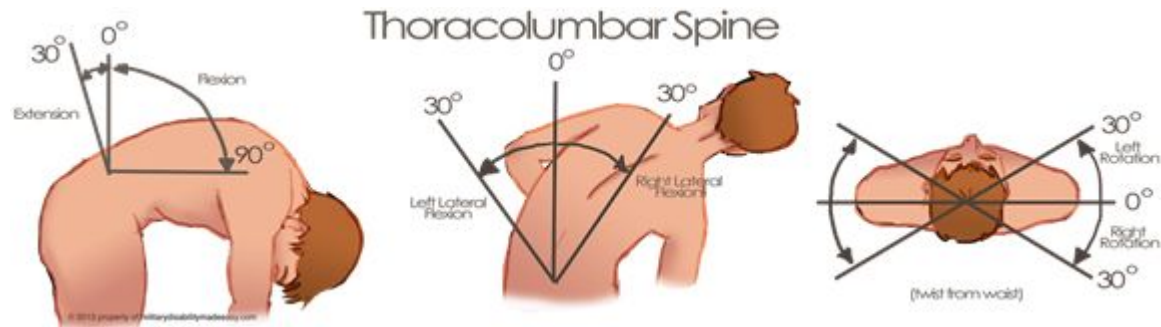


B. Feel:

- i. Palpate spinous processes for tenderness, steps or gaps.
- ii. Soft tissues: temperature, tenderness.

C. Move:

1. Flexion.
2. Extension
3. Lateral bending
4. Rotation



Special test :

- Adams Forward bending test



- **Second: Supine position**

- **Look:**

- Any muscle wasting in the lower limbs.

- **Feel:**

- Check for LLD

- (ASIS to medial malleolus).



Special tests:

- Straight leg raising test (SLRT):
- A positive test is reproduction of **sciatica** .
- The pain is **aggravated** with dorsiflexion and **relieved** with knee flexion.



Neurologic examination:

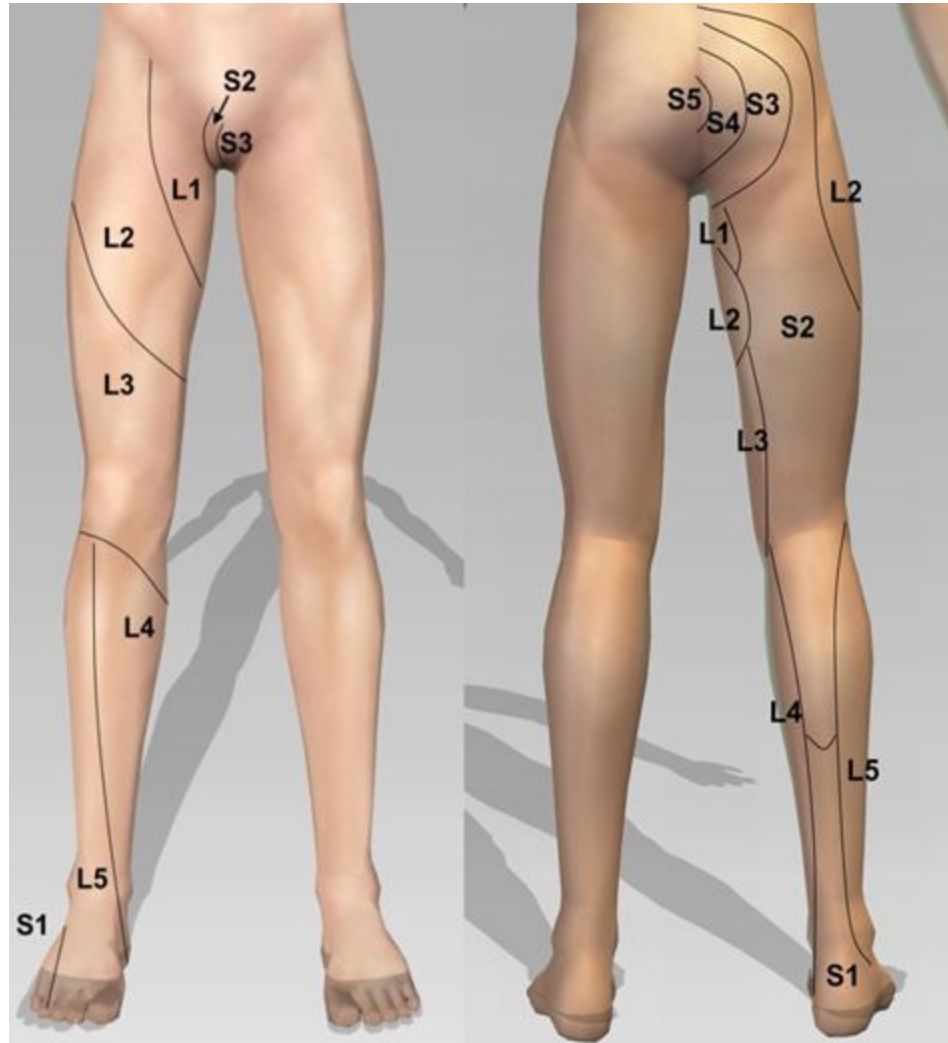
- **Motor:**
 - Hip flexion (L2)
 - Knee extension (L3)
 - Ankle dorsiflexion (L4)
 - EHL (L5)
 - Ankle plantar flexion (S1)



- Sensory:

- Tone

- reflexes



- Vascular examination:

- Pedal pulses (DP & PT).

- Capillary refill



Common Causes

Rahaf Altwijri

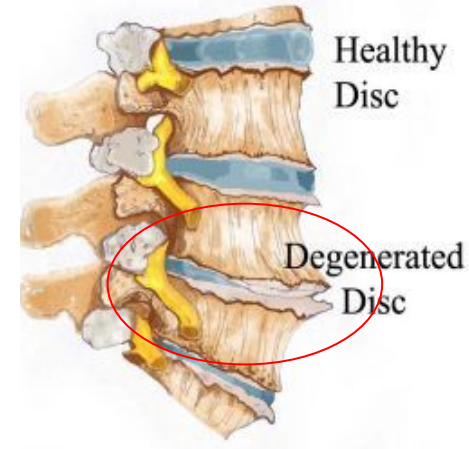


Common causes:

1. Degenerative disc disease:

It's a progressive degeneration of the discs. Over an individual's lifespan, the discs become less hydrated and thus, provide less cushion and become prone to cracks.

These discs then often begin degenerating which can cause pain and stiffness.



2. Facet joint arthropathy:

Facet joint arthropathy refers to arthritis in the joints connecting the vertebrae to one another (facet joints). This can lead to bone spurs around the joint and may cause low back pain.

3. Spondylolisthesis:

Spondylolisthesis is a condition in which one of the vertebrae of the lower spine slips forward in relation to another. usually caused by stress on the joints. this condition can cause low back pain and sciatica.

4. Lumbar spinal stenosis

is a condition in which the vertebral canal is narrowed. This is often caused by inflammation.



Common causes:

5. Infections:

Like tuberculosis and Brucellosis.

6. Tumors.

7. cauda equina syndrome:

which causes weakness and bowel or bladder dysfunction as well as low back pain.

8. Osteoporosis:

Decreased bone mass of the vertebra. There's 2 types:

- Primary Osteoporosis: (affect every bone) Postmenopausal Osteoporosis or Senile osteoporosis.
- Secondary Osteoporosis: Drug induced (steroids, alcohol, smoking), Hyperparathyroidism, hyperthyroidism, Malignancy.

9. Trauma.

10. Improper posture.



Case

Munira Almehsen



A 55 y/o female came to the clinic complaining of back pain for the past few weeks, looks fatigued, lost weight, and says the the pain worsens at night.

What other Qs you may ask ?!



Brief comments on:

- ★ Mechanical back pain.
- ★ Inflammatory back pain.
- ★ Root nerve compression.
- ★ Malignancy.



Mechanical back pain

Mention some characteristic and causes !



characteristic

- ★ Deep and dull.
- ★ Relieved by Rest.
- ★ Diffuse and unilateral.
- ★ Increased by activity and at end of the day.
- ★ Moderate intensity.



causes

- ★ Trauma.
- ★ Improper posture.
- ★ Poorly designed chairs.
- ★ Obesity/ pregnancy.
- ★ Lifting heavy weight.



Inflammatory back pain

Mention some characteristic !



- ★ Chronic pain.
- ★ Gradual onset.
- ★ Increased by Rest.
- ★ Relieved by activity.
- ★ Worst at morning and the end of the day.
- ★ Associated with morning stiffness.



Nerve root compression



It may be secondary to:

- ★ Disc herniation.
- ★ Osteoarthritis.
- ★ Facet joint hypertrophy.
- ★ Ligamentous hypertrophy.
- ★ Neoplastic disease.
- ★ Scoliosis.



Malignancy



- ★ Most spinal column tumors are metastatic and majority of them coming from tumors in the breast, prostate, kidney, lung or thyroid.
- ★ Usually produce back pain that does not diminish with rest, and the night time pain may be worse than daytime pain.
- ★ Patient already has a known primary tumor in another part of the body.
- ★ If the tumor causes back pain only, and is sensitive to radiation, radiation therapy can often diminish the pain without spine surgery.



- ★ Primary tumors of the spinal column are very rare. They are more common in younger adults.
- ★ If the primary tumor causes a fracture in the spine or leads to neurological problems, surgery is usually needed to stabilize the spine.
- ★ The metastatic tumors are usually associated with other symptoms such as ?!! loss of appetite, un-planned weight loss, nausea and vomiting, or fever/chills/shakes. This type of tumor is more common among older adults



Role of PHC in back pain management

Noha Almndeel



- 1-initial evaluation.
- 2-initial management of simple cases.
- 3-referral of complicated cases.
- 4-prevention and education



Recommendations and Instructions

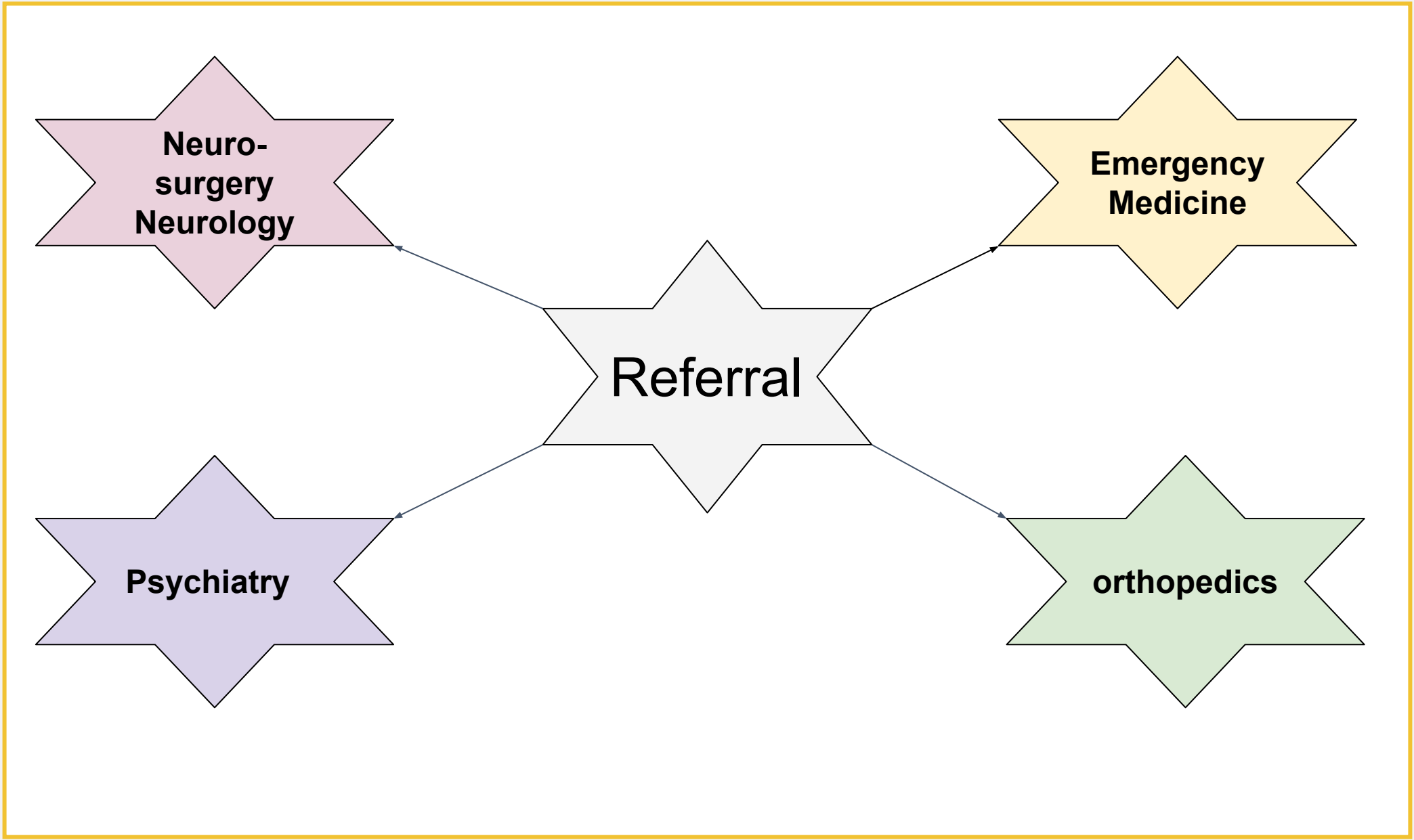


- **Bed rest** is recommended for a few patients with severe back pain and muscle spasms.
- **Physical activity** is recommended in other cases to promote rapid recovery from back pain.
- **Ice and heat application** it is helpful to relax the muscles and decrease muscle inflammation.
- Prescribe **medications**.



**When / where to refer
patients with back pain to
specialist?**





IN GENERAL, PRESENCE OF RED FLAGS IS INDICATION FOR REFERRAL .

- Cauda Equina Syndrome - **EMERGENCY** referral to **ER**.
- Severe unremitting worsening of pain (at night and pain when lying down), consider infection/tumor – **URGENT** referral to **ER** for pain control –will need prompt investigation.
- Significant trauma – consider fractures – check for instability and refer **URGENTLY** to **spinal surgery (Neurosurgery)/(orthopedics)**
- Weight loss, fever, history of cancer/HIV – consider infection/tumor – refer **URGENTLY** for **MRI Scan** and to **spinal surgery(Neurosurgery) (orthopedics)**



IN GENERAL, PRESENCE OF RED FIAGS IS INDICATION FOR REFERRAL .

- Use of IV drugs or steroids –consider infection / compression fracture – **URGENT** referral to **spinal surgery (Neurosurgery)**
- Patient over 50 (if first ever episode of serious back pain) – refer **SOON** for prompt **investigation/spinal surgery (Neurosurgery)**
- Widespread neurological signs–consider infection/tumor /neurological disease –refer **SOON** to **neurology/spinal surgery (neurosurgery)** /investigate further.



Prevention and education

Sara Aldokheel



1- Lose weight :

too much upper body weight can strain the lower back; you can use the healthy weight calculator to find out whether you need to lose weight or not.

2- Wear proper shoes:

they can help reduce the pressure on your back.

3- Avoid sudden movements.

4- Try to reduce any stress, anxiety and tension, which can all cause or worsen back pain.

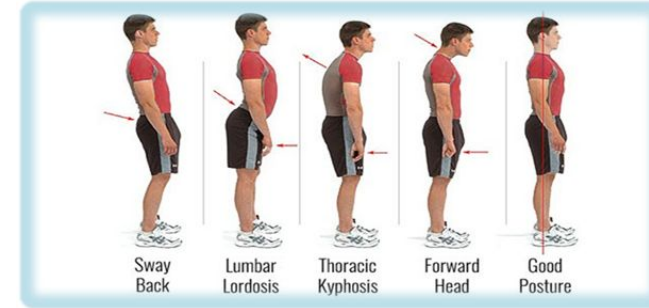
5- Stay active with regular exercise:

Exercise is both an excellent way of preventing back pain and of reducing it, but should seek medical advice before starting an exercise programs if you've had back pain for six weeks or more.



6- Posture:

How you sit, stand and lie down can have an important effect on your back. The following tips should help you maintain a good posture.



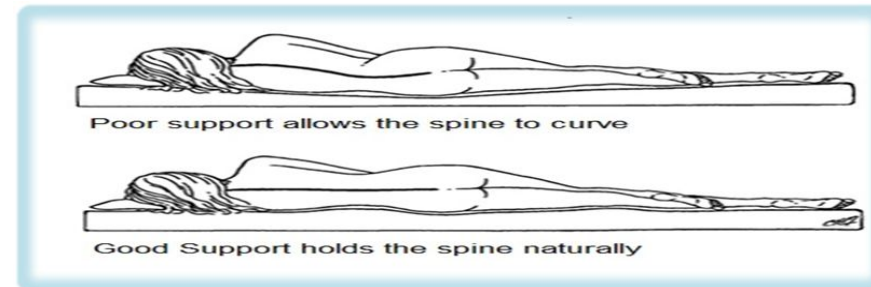
7- Standing:

Stand upright, with your head facing forward and your back straight. Balance your weight evenly on both feet and keep your legs straight.



8- Sitting and driving:

Make sure you sit upright with support in the small of your back. Your knees and hips should be level and your feet should be flat on the floor.



9- Sleeping:

Your mattress should be firm enough to support your body while supporting the weight of your shoulders and buttocks, keeping your spine straight.



10- Lifting and carrying:

One of the biggest causes of back injury, particularly at work, is lifting or handling objects incorrectly.

- Push rather than pull .
- Distribute the weight evenly



Q1: Which of the following is considered as a red flag in patients with back pain:

A) History of DM

B) Family history of back pain

C) Focal neurologic deficit

D) Young age



Q2: Most of spinal column tumors are primary tumors:

A) true

B) False



Q3: Which of the following is the duration of chronic back pain:

A) 3-6 weeks

B) 6-12 weeks

C) More than 12 weeks



References:

AWAJI, M. A. "EPIDEMIOLOGY OF LOW BACK PAIN IN SAUDI ARABIA". JOURNAL OF ADVANCES IN MEDICAL AND PHARMACEUTICAL SCIENCES. (2016):1-9.

DEYO, RICHARD A., AND YUH-JANE TSUI-WU. "DESCRIPTIVE EPIDEMIOLOGY OF LOW-BACK PAIN AND ITS RELATED MEDICAL CARE IN THE UNITED STATES." SPINE 12.3 (1987): 264-268.

HOY, DAMIAN, ET AL. "A SYSTEMATIC REVIEW OF THE GLOBAL PREVALENCE OF LOW BACK PAIN." ARTHRITIS & RHEUMATISM 64.6 (2012): 2028-2037.

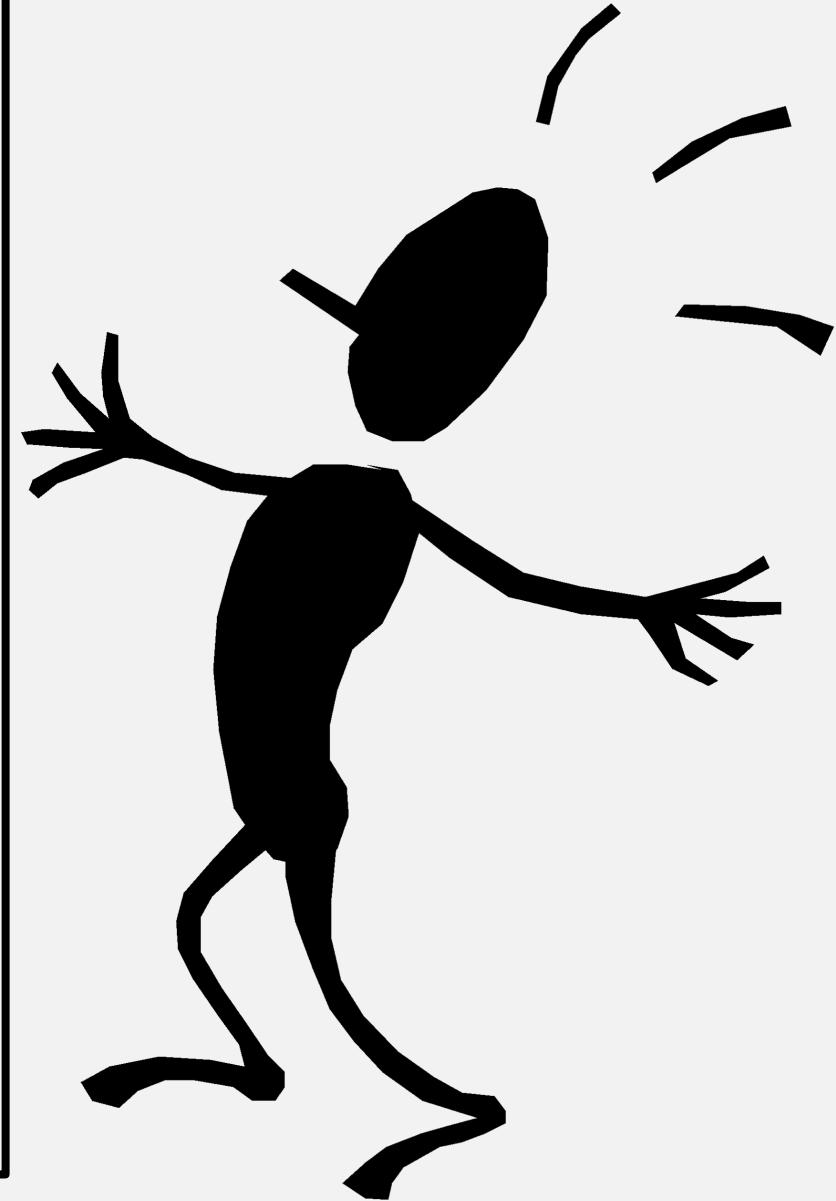
[HTTPS://WWW.UPTODATE.COM](https://www.uptodate.com)

[HTTP://BESTPRACTICE.BMJ.COM](http://bestpractice.bmj.com)

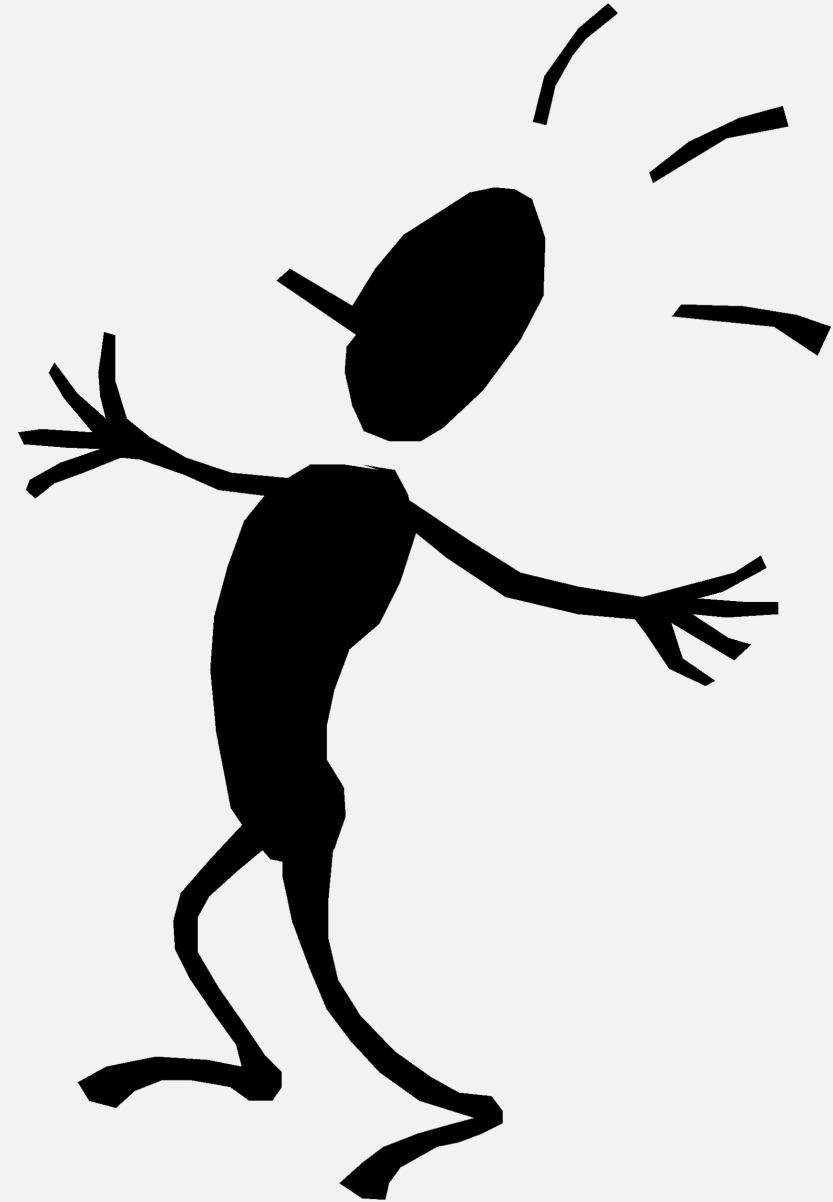
[HTTPS://WWW.NICE.ORG.UK](https://www.nice.org.uk)

APLEY'S SYSTEM OF ORTHOPAEDICS AND FRACTURES, NINTH EDITION

CLINICAL EXAMINATION, 7TH EDITION "TALLEY AND O'CONNOR



ANY QUESTIONS ?



THANK YOU

