Approach to a patient with back pain.

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OBJECTIVES

By the end of session students will be able to:

- ★ Define common causes of acute and chronic back pain.
- ★ Screen red and yellow flags related to back pain.
- ★ Conduct appropriate history and physical exam for individuals complaining of back pain.
- ★ Formulate differential diagnoses for back pain based on history and physical examination.
- ★ Outline appropriate management plan, including investigations and referrals with proper utilization of available resources.
- ★ Provide essential health education and promotion to prevent and relieve back pain.
- ★ Identify the family physician's role in dealing with individuals with back pain.
- ★ Explain the indications for referral to a specialist.

★ This topic will come in the OSCE either as a history station or examination 100%!!!!!

★ لو غطيتوا النقاط اللي بكتبها تحت (بشكل عام بكل ستيشن) بتجيبوا كامل:

★ لما تجيك مريضة تشتكي من ألم بالظهر حققي معها بالتفصيل (هستني كامل امشي عليه سريع سريع) ولا تنسي تغطي الرد فلاقز وتسأليها عن ابرة الظهر ولاازم تمري على ICE

★ بعد ما تخلصي الهستري المفترض انك وصلتي للتشخيص (قولي لها احتمال عندك كذا وكذا) تكلمي عن الانفزتقيشن (إذا يحتاجها المريض) والمانجمنت

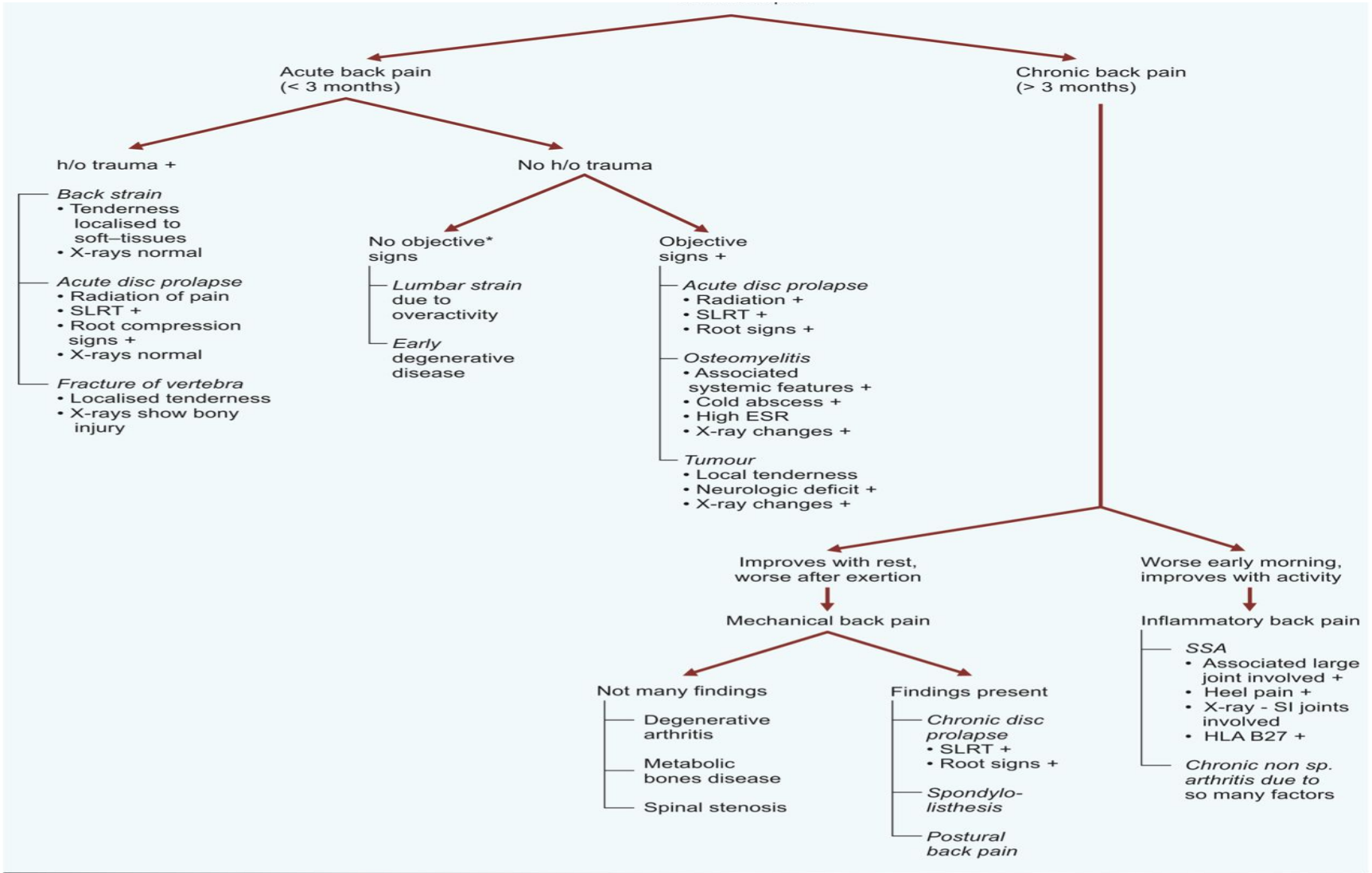
★ لما تتكلمي عن المانجمنت لازم تقولي نون فارماكولوجيكال!!! (دايت وش نوعها | رياضة وش نوعها وكم مدتها..الخ) فارماكولوجكل

★ الحين شوفي اذا تحتاج ريفيرال أو لا

★ اختميها بفولو أب وقولي لو لا قدر الله جاك كذا او كذا روحي الطوارئ

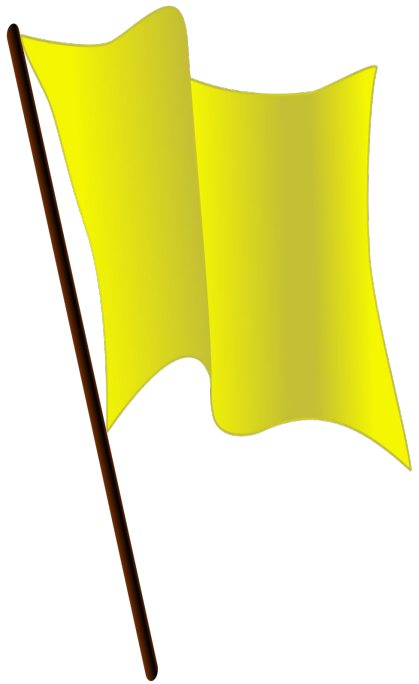
Objective 1:
Define common causes of acute and chronic back pain

- Back pain is an extremely common human phenomenon. According to one study, almost **80%** of persons in modern industrial society will experience back pain at some time during their life. Fortunately, in **70%** of these, it subsides within a month. But, in as many as **70%** of these (in whom pain had subsided), the pain recurs.

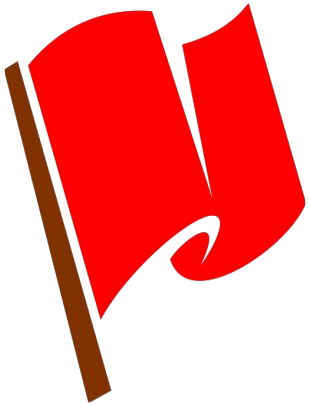


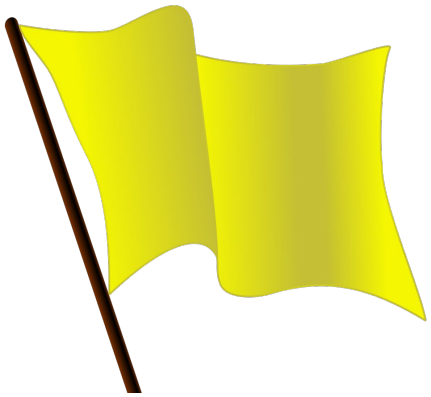
Objective 2:
Screen red and yellow flags related to back pain.

- Yellow flags can relate to the patient's attitudes and beliefs, emotions, behaviours, family, and workplace. The behaviour of health professionals can also have a major influence.
- Key factors in low back pain are:
  - The belief that pain is harmful or severely disabling
  - Fear-avoidance behaviour (avoiding activity because of fear of pain)
  - Low mood and social withdrawal
  - Expectation that passive treatment rather than active participation will help.



Possible fracture	Possible tumour or infection	Possible significant neurological deficit
From history		
Major trauma Minor trauma in elderly or osteoporotic	Age >50 or <20 years History of cancer Constitutional symptoms (fever, chills, weight loss) Recent bacterial infection IV drug use Immunosuppression Pain worsening at night or when supine	Severe or progressive sensory alteration or weakness Bladder or bowel dysfunction
From physical examination		
		Evidence of neurological deficit (in legs or perineum in the case of low back pain)





The presence of red flags in acute low back pain suggests the need for further investigation and possible specialist referral as part of the overall strategy. If there are no red flags present in this situation it is safe to reassure the patient and move ahead with a multimodal management approach.

The presence of yellow flags may highlight the need to address specific psychosocial factors as part of a multimodal management approach.

Objective 3:
Conduct appropriate history and physical exam for individuals complaining of back pain.

HISTORY OF PRESENTING ILLNESS

- **S**ite?
- **O**nset?
- **C**haracter?
- **R**adiation?
- **A**ssociated?
- **T**iming?
- **E**xacerbating?
- **S**everity?

PAST HISTORY

- Past medical history (Including cancer and psychiatric issues)
- Past surgical History
- Past trauma
- History of blood transfusion

FAMILY HISTORY

- Of similar condition
- Any inherited diseases that run in the family.
- History of Cancer

MEDICATIONS HISTORY -INCLUDING ALLERGY OR STEROIDS

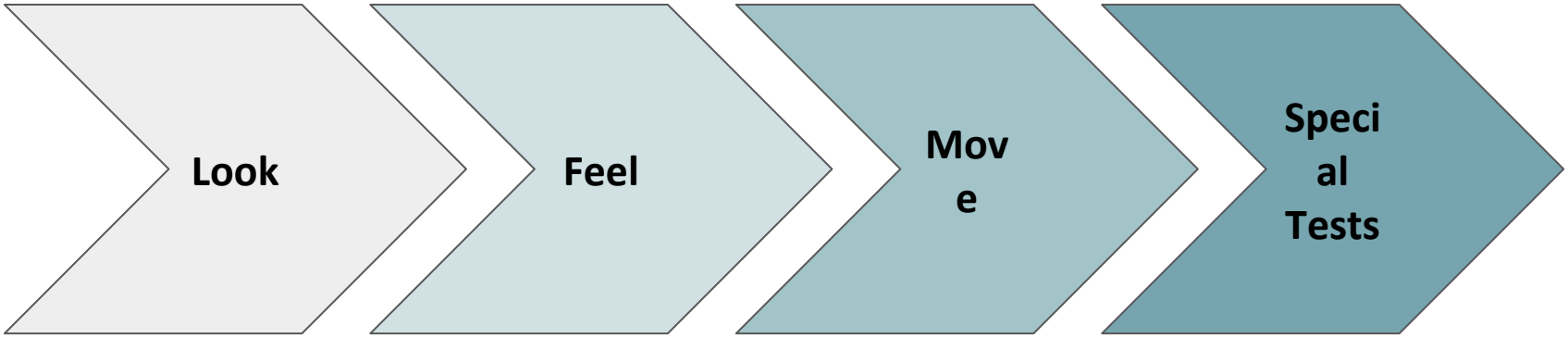
SOCIAL HISTORY

- Smoking
- Alcohol
- Illicit drug usage
- Recent Travel
- Contact with infected people
- Immunization history

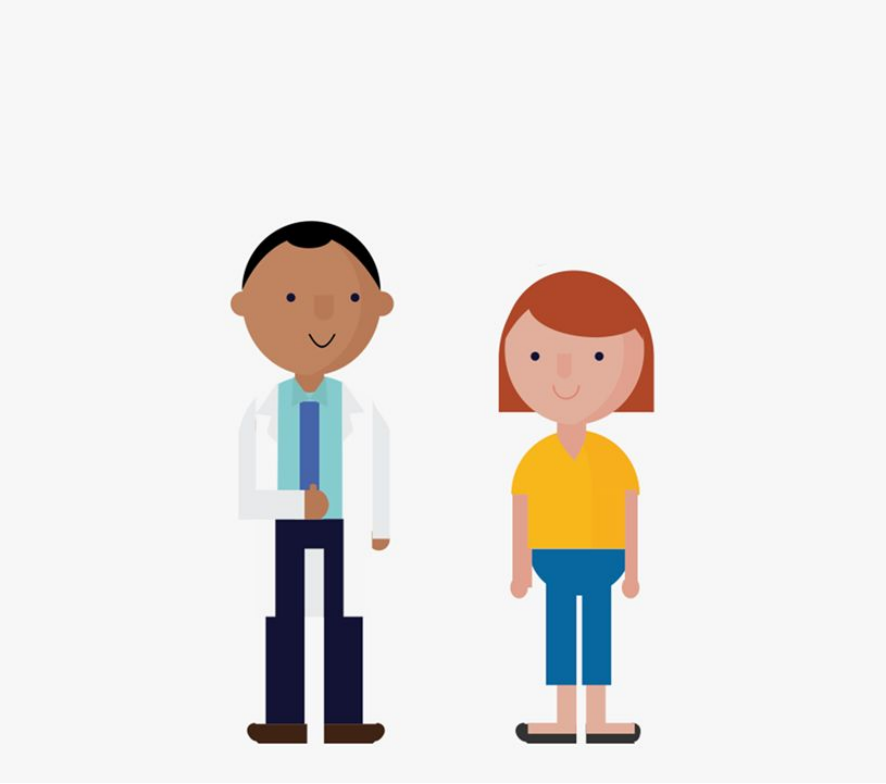
Don’t forget ICE How does it affect the patient functionally and mentally

- IDEAS
- Concerns
- Expectations

PHYSICAL EXAMINATION:
IN BOTH STANDING AND SUPINE POSITION



STARTING WITH STANDING POSITION



1. LOOK (INSPECTION):

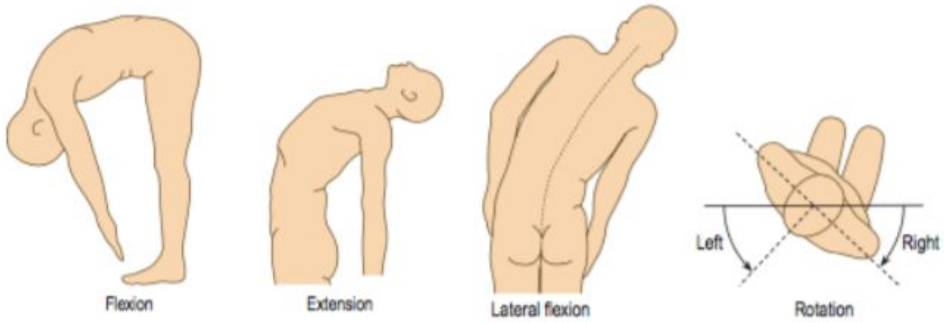
- ➔ Expose the trunk and lower limbs properly.
- ➔ Examine front and back.
- ➔ Notice any deformity (look from front, sides and behind), swelling, or skin changes (scars, hairy tuft, “café au lait” spots.)
- ➔ Notice normal thoracic kyphosis and lumbar lordosis.

- ➔ Notice if the patient is consistently standing with one knee bent (suggestive of nerve root tension) and check for muscle wasting.
- ➔ Shoulders & pelvis level.

FEEL (PALPATION):

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

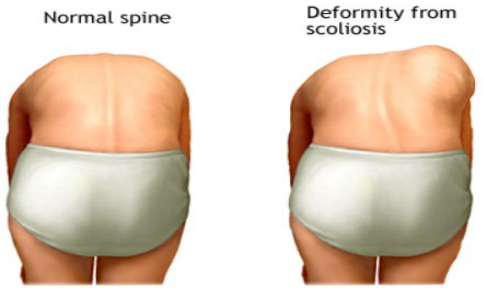
- ➔ Palpation occurs:
  1. centrally
  2. unilateral
  3. Soft tissues



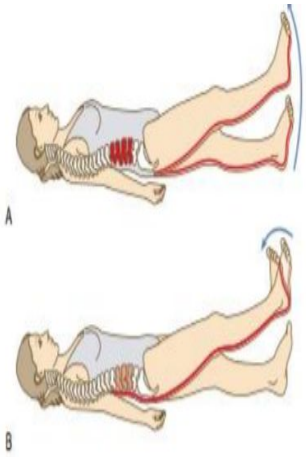
MOVE:

- ➔ There are three main movements of the lumbar spine:
  1. Flexion
  2. Extension
  3. Lateral bending
  4. Rotation

SPECIAL TEST:

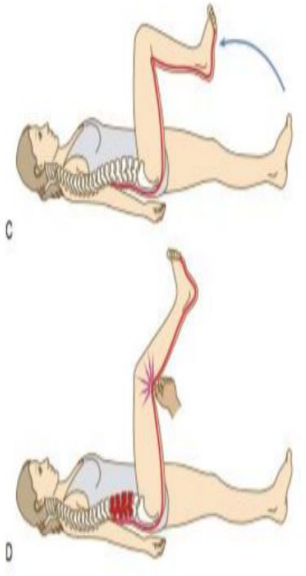


- Adams Forward bending test:
  - Full forward flexion until back is horizontal to the floor.
  - If thoracic scoliosis is present, then rib hump will become visible.

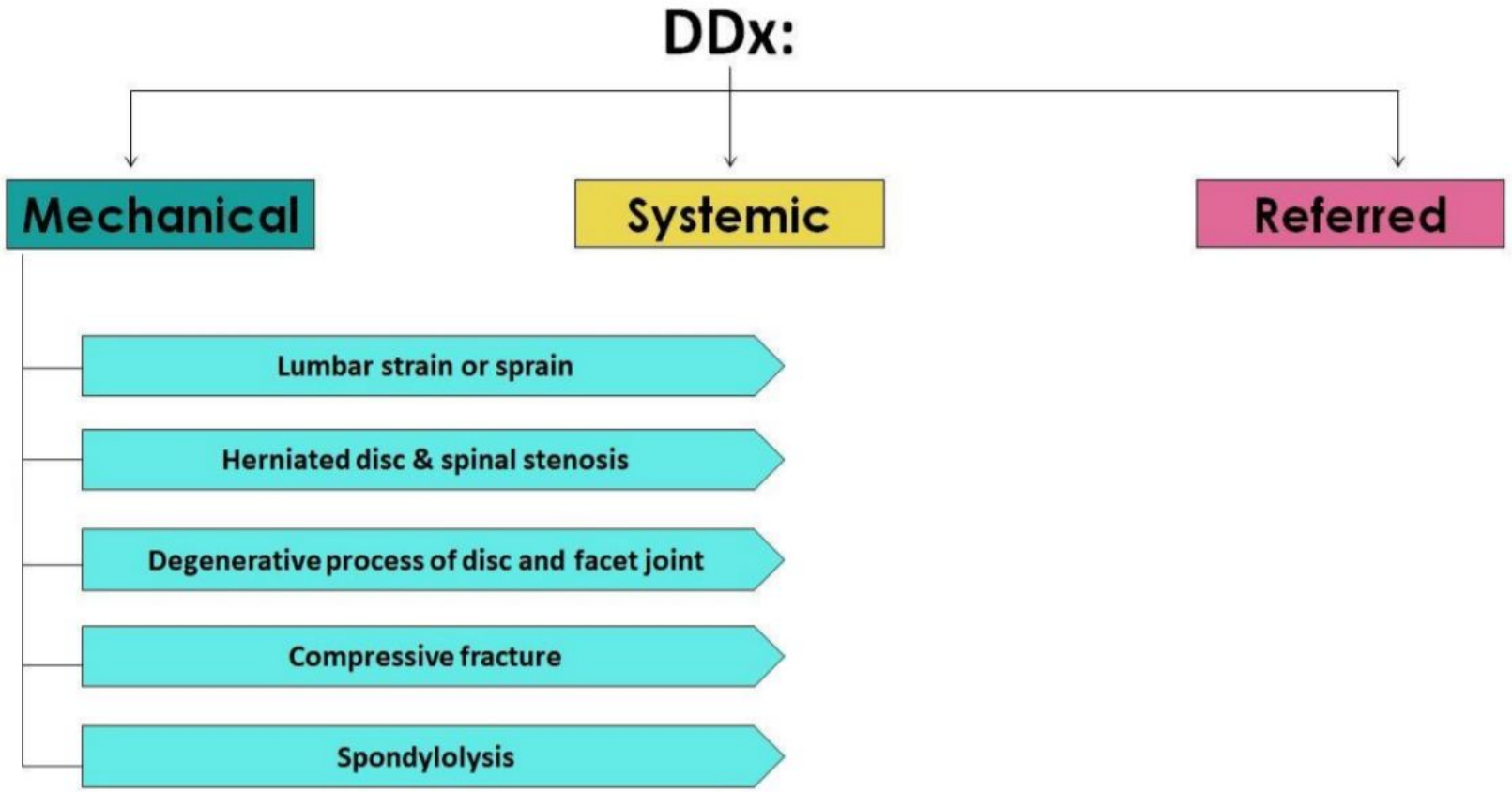


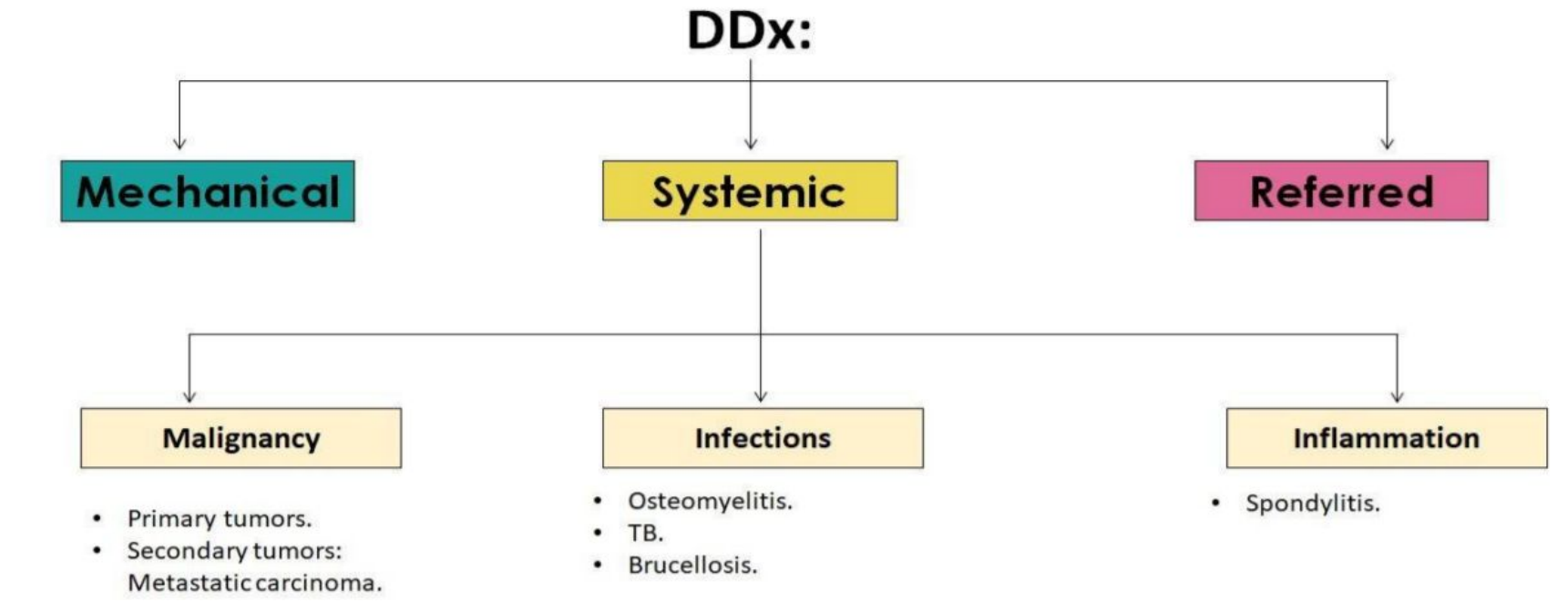
- Straight leg raising (SLR) test:
  - With the patient supine, passively elevate the leg, the examiner's hand behind the heel-with knee extended while observing the patient's face for any signs of discomfort.
  - • A positive test is reproduction of sciatica (Sharp shooting pain radiating below knees between 30° and 70° of hip flexion.
  - • The pain is aggravated with ankle dorsiflexion and relieved with knee flexion

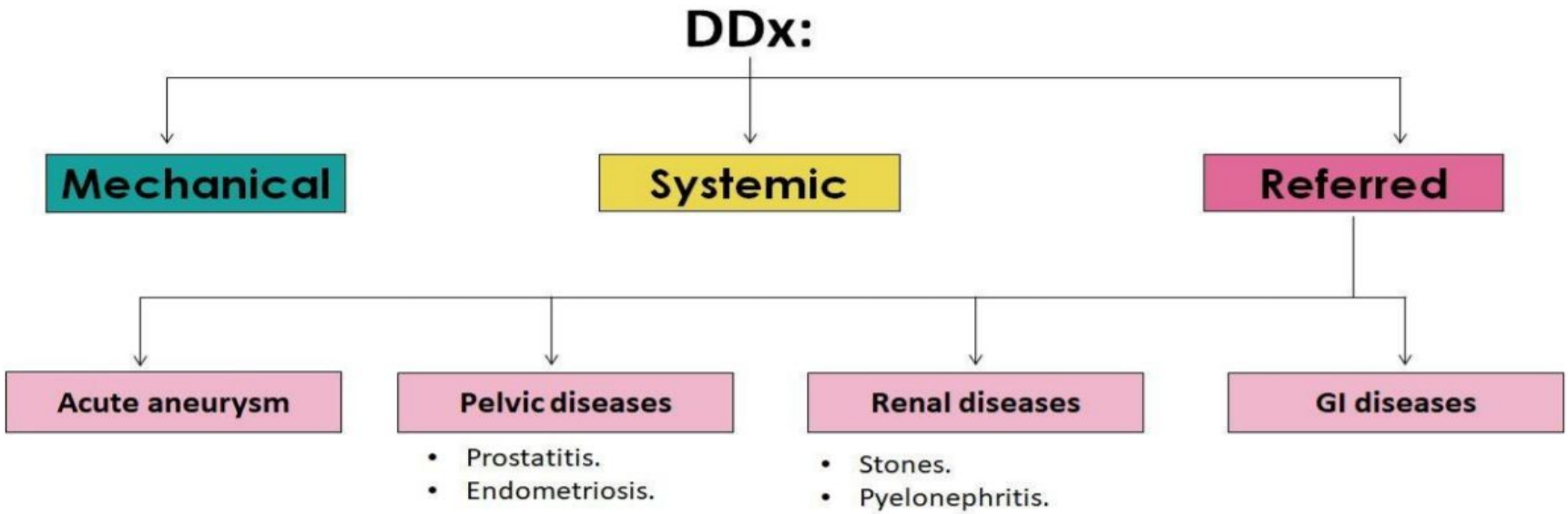
NEUROVASCULAR ASSESSMENT OF THE LOWER LIMBS



Objective 4:
Formulate differential diagnoses for back pain based on history and physical examination.




DDx:
Mechanical
Systemic
Referred
Malignancy
Infections
Inflammation
• Primary tumors.
• Secondary tumors: Metastatic carcinoma.
• Osteomyelitis.
• TB.
• Brucellosis.
• Spondylitis.


DDx:
Mechanical
Systemic
Referred
Acute aneurysm
Pelvic diseases
Renal diseases
GI diseases
• Prostatitis.
• Endometriosis.
• Stones.
• Pyelonephritis.

Objective 5:
Outline appropriate management plan, including investigations and referrals with proper utilization of available resources.

Indications of different modalities

MRI:

- Major risk factors for cancer
- signs of cauda equina syndrome(Urinary retention, faecal incontinence, saddle anaesthesia.)
- Risk factors for spinal infection
- Severe neurological deficits
- Progressive motor weakness, motor deficits at multiple neurological levels.

CT:

- If an MRI is contraindicated or unavailable and the above diagnoses are suspected a CT lumbar spine may be indicated after discussion with a neurosurgeon and radiologist.
- Vertebral fracture suspected with significant trauma.

X-RAY

- Vertebral fracture suspected in:
- Osteoporotic bone (elderly, corticosteroid use) with minimal or no trauma

Objective 6:
Provide essential health education and promotion to prevent and relieve back pain.

How can we prevent back pain?

- ★ **Good posture** while standing, sitting, sleeping, driving, etc
- ★ **Stretching** and yoga.
- ★ **Exercising**.
- ★ Avoid lifting heavy objects.
- ★ **Lose weight**.
- ★ Vitamins: Get enough calcium and vitamin D.

Objective 7:
Identify the family physician's role in dealing with individuals with back pain.

General Overview - Role of PHC

- **Ask** about and address the patient's concerns and goals.
- **Relieve** the pain.
- **Improve** associated symptoms, such as sleep or mood disturbances or fatigue.
- **Maximize** functional status.
- **Educate** patients about the natural history of back pain.
- **Prevention** heavy lifting, socio-demographic factors such as smoking and obesity.
- **Referral** of complicated cases.

Why is PHC important?

- A patient suffering from back pain books an appointment in a private hospital.
- Does he really know where to go? Neuro? Ortho? Onco? ..etc?
- Family Medicine, in addition to the previous, is:
  - Cost effective for the patient.
  - Time effective.
  - Patient-centered.

Approach of a Family Physician

WHAT TO KEEP IN MIND?

- RED FLAGS.
- Differentials (ordered by the most common.)
- Causes of referral \ indications for diagnostics.

Steps: History, Examination, Management, Follow-up accordingly.

* Diagnostic\ Lab tests\ referral if needed.

Management Options

- Analgesics
- NSAIDs
- Muscle relaxants
- Bed rest vs staying active? **If chronic back pain, never recommend bed rest!!!! If acute pain recommend 2 weeks bed rest (مو معناته اعطيها اجازة مرضيه إنّما المعنى ما تسوي أكتفتيز شديدة ومرهقة) AKA sedentary life.**
- Massage?
- Back specific exercise therapy? Heat / Cold therapy?

Objective 8:
Explain the indications for referral to a specialist.

"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)

When to refer surgical?

- **Urgent/Emergency referrals:**
  - Cauda equina syndrome.
  - Fracture

- **Elective**:
  - Herniated lumbar disc
  - Spinal stenosis

When to refer diagnostic?

- No improvement with conservative therapy in sciatica patients.
  → Referral: Neurologist, Orthopedic , Neurological Surgeon
- Not improved acute lower back pain.
  → Refer to physical therapy, not improved?
  → Referral: Orthopedic or Rheumatologist for diagnostic evaluation
- Suspicion of fracture, infection and tumors.
- Sometimes referral is simply to provide reassurance.

Emergency: referral within hours

Urgent: referral within 24 to 48 hours

Soon: referral within weeks

Level of low back and/or leg pain

- Pain is not alleviated by non-surgical treatments and has continued for a few weeks or months → Spine surgeon (Orthopedic)

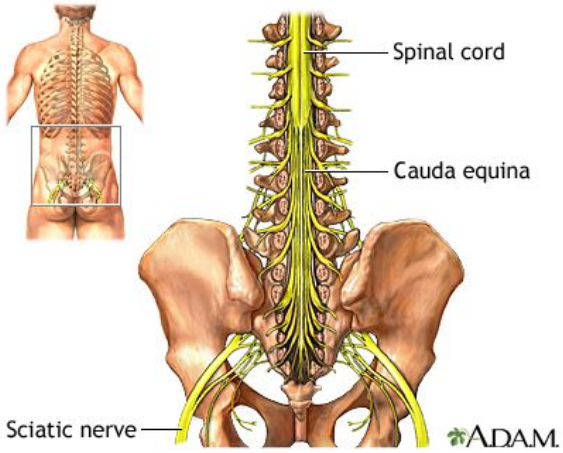
Ability to function with low back pain

- If the patient's ability to function in everyday activities is impaired, it's advisable to consider going to a specialist soon.
- While waiting to be seen by a specialist:
  1. Analgesia
  2. Tests for diagnosis → results may be inconclusive

Cauda equina syndrome.

- Severe low back pain
- Saddle anesthesia
- Recent onset of bladder dysfunction
- Recent onset of bowel incontinence

  → EMERGENCY referral to ER.



Significant trauma or fracture

- Check for instability
- Refer URGENTLY to spinal surgery

Infection or Tumor

- Severe unremitting (non-mechanical) worsening of pain (at night and pain when lying down):
  1. URGENT referral to ER for pain control
  2. Will need prompt investigation.
- Weight loss, fever, history of cancer/HIV:
  1. Refer URGENTLY for MRI Scan and to spinal surgery.

Use of IV drugs or steroids

- Consider infection /compression fracture
- URGENT referral to spinal surgery.

Q1: Which one of the following is not considered as a red flag of back pain?

A. Sudden foot drop
B. Trauma
C. History of malignancy
D. Ankylosing spondylitis

Q2: What does Positive Adams Forward bending test indicate of ?

A. Lordosis
B. Kyphosis
C. Compression fracture
D. Scoliosis

Q3: A 53 year old female Saudi patient, complaining of back pain when she bends forward or prays.
What is the most likely cause ?

A. Vertebral fracture
B. TB
C. Osteoarthritis
D. Disc herniation

Q4: A 40 year old male Patient claims of sharp shooting pain while doing straight leg raising test. What should you think of?

A. Osteoarthritis
B. Ankylosing spondylitis
C. Sciatica
D. Fracture

Q5: A35 Y/O male came to you complaining of back pain, urinary retention, loss of anal tone, anesthesia in the perineal space. Which of the following is the best thing to do next?

A. Reassurance and treat him conservatively
B. Order an x-ray and ask him to come back after 2 weeks
C. Refer him soon to an orthopedic
D. Refer him to the ER

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THANK YOU FOR LISTENING!

Any questions?