Station 1

A 75-years old stunded heavy lady has undergone left total knee replacement 2 years ago. She improved tremendously and was able to resume all daily activities. Yet she started to develp pain in her operated knee 1.5 years after surgery. Orthopaedic surgeon tested her range of movement and denied any musculoskeletal cause.

1- What response and physical sign on examination confirm your preliminary diagnosis ?

…….
…… 1.5

2- Describe briefly your pharmacological management of such condition

……. 1

3- Describe the rational for potential therapeutic regional intervention.

……. 1
……..

Total points / 3.5

Station 2

A lady was complaining of pain in the forearm up to the big thumb. The pain was increasing by the end of the day and was burning. She was also complaining of pain in the back of the upper chest.

On examination there is tenderness on C6 spine shooting to the left arm, Paraspinal guarding and tenderness in the same level increasing by lateral rotation of the cervical spine and covering the back of left neck and chest and scapular region.

What is the primary cervical radicular nerve root affected ? 0.5

Figure 1:

1- What is the intervention performed and in what space ? 1

……

2- Is flexion or extension of the neck favourable in such procedure? 0.5

…….

3- Interpret the vertical line of dye at the tip of the needle as well as that posterior to the body of vertebra? 1

Figure 2 & 3 & 4 shows another intervention.

Explain the site and reason for such requirement . 1

Total points /4

Station 3

The attached X-ray belongs to a patient suffering from progressive weakness of both legs with some sphincteric disturbances.

1- What is the type of X-ray and why ? 0.5
……
2- What is the site of pathology? 0.5
……
3- What is the expected response to reflexes of the lower leg ? 0.5
……..
4- What is the expected level of sensory loss? 0.5
……
5- What is your management 0.5

Total points /2.5

Station 4

A middle age patient is suffering from pain on walking. The pain goes down up to the sole of the foot on the left side. X-ray shows first degree spondyolithesis between L5 and sacrum.

On examination there is positive straight leg raising on the left side.

What is expected root involved and why (mention 2 reasons)? 1.5

An intervention was done under C-arm

What is the view in the relevant X-ray? 0.5

Explain the detailed technique to reach such a block 1

Where should the tip of the needle end in the lateral X-ray. 0.5

Total points /3.5

Station 5

Right total hip replacement (patient lies on the lateral position) is planned. Anaesthetist performed spinal block using heavy bupivacaine while the patient was lying on his left side.

Operating table was tilted antitrendlenburg immediately after the spinal block with the patient on his side . B.P and P. dropped acutely; patient felt short of breath and vomited. Resuscitative measures required large doses of inotrope.

1- Would it have been different haemodynamic outcome if patient was turned supine after the block prior to antitrendlenburg position and why?

…….. 1

2- What would have been the proper technique using hyperbaric bupivacaine ?

…….. 1

3- Describe the position and advantage of isobaric bupivacaine in such a case.

……. 1

Total points /3

Station 6

Right hemicolectomy was performed in opioid tolerant patient.

You are responsible for acute pain service.

1- Describe & justify in detail the proper regional block required.

……. 1.5

Block failed:

2- What are the alternative pain relief methods?
(mention briefly 2 methods) 2

……

Total points /3.5

Station 7

A middle age obese lady is suffering from shoulder and back pain. Her main problem is pain while sitting, standing or walking.

On examination of her back: localized excruciating pain on percussion not shooting to the leg.

Plain X-ray, bone scan and lately CT scan was ordered.

1. Why was a bone scan needed despite the plain X-ray ? 0.5
   ……

2. What are the main sites of abnormal uptake in the given bone scan? 0.5
   ……..

3. What is the exact level of abnormality in the lower back and how you fix it? 1
   ……..

4. Why a CT was ordered prior to intervention? 1
   …….

5. Is a Biplanner C-arm advantageous? 0.5

Total points …/ 3.5

Station 8

Male patient is suffering from unilateral severe bouts of deep seated pain in the left eye associated with conjuctival injection, nasal catarr. The attach is fearful stays for few minutes but extremely painful .

What is your primary diagnosis? 0.5

What is your medical management ? 1

A nerve stimulator was used to block the source . The needle was introduced from the lateral side of the face above the zygoma of the mandible using the C-arm in the operating theatre.

What is the anatomical site aimed at (by the needle)in the A/P view? 1

What is the picture should the dye delineate on injection? 0.5

What is the ideal site patient should mention on electric stimulation? 0.5

Total points /3.5

Station 9

A female patient is suffering from metastatic cancer breast. She is on :

- ***Oxycontin 40 mg B.D.***
- ***Lactulose daily***
- ***Oxycodone 5 mg for break-through pain***
- ***Venlafaxine (effexor)75 mg daily***
- ***Naproxen 250mg BD***
- ***Omeprazol 20 mg daily***

She started to feel nausea and vomiting metoclopramide 10 mg 4 time /day failed to control her sickness.

What is the mode of action of metoclopramide? 1

Husband noticed that she is getting progressively drowsy- despite stopping the antiemetic – and more nauseated.
Physician requested blood chemistry and CT abdomen.

What are the possible causes of the recently developing nausea and vomiting? Mention at least 2 main reasons. 2

Patient passed away 3 days later.

Total points /3

Station 10

Male patient is suffering from advanced cancer pancreas with extensive retroperitoneal paraortic lymph node .

Medical treatment failed to alleviate his epigastric & back pain. Intervention under C-arm was performed.

What is the level of intervention from the associated X-ray?	0.5
Where should the needle end in the lateral X-ray?	0.5
What is the name of the block?	0.5
Enumerate the nerve roots involved.	0.5
& what is the concentration and volume of neurolytic drug used?	1

Total points /3

Station 11

Obese patient is suffering from back pain.

What is the position of C-arm in the shown figure?	0.5
What is the target?	0.5
What does the dye delineate?	0.5
Where does the dye end anteriorly?	0.5
How can you reproduce such a pain prior to intervention?	0.5
Enumerate the nerve supply of such intervention.	0.5

Total points /3

Station 12

A laborer - who used to carry heavy objects – is unable to lift anymore goods.

He is walking while leaning forward and complains of back and upper thigh pain.

An intervention was performed bi-laterally

What is the view in figure I ?	0.5
Where is the level of the needle in figure II?	0.5
What does the dye delineate in figure III?	0.5
Based on your diagnosis, where is the dye supposed to be on the lateral X-ray?	0.5
What exercise/ training you should request the patient to perform regularly after the block and why ?	1.5

Total points /3.5

Station 13

A doctor is suffering from back pain. Facetal injection improved his back temporarily. Prior to radiofrequency denervation, local blocks at different levels were done. Picture shows the initial intervention.

Where is the tip of the needle on the AP and oblique view?	0.5
Where is the tip of the needle on the lateral view and why?	1
Which block is done? And for which structure?	1
What is the volume of local anaesthetic used?	0.5

Total points /3

Station 14

An inoperable squamous cell carcinoma bladder cancer has had a haemostatic dose of radiotherapy to control the bleeding two years ago.

Patient started to suffer from weakness and inability to walk, burning pain with numbness in the legs.

The pain is occasionally shooting, relieved by hot foments and not coinciding with a dermatological level.

What is the source of pain in such condition and how can you explain its cause? 1

An intervention was done to alleviate the pain (see Fig.)

What is the target aimed at on the AP and lateral views? 1

A thermistor probe was fixed to the affected leg during and for an hour after the intervention. Why? 1

Enumerate the sites of lumbar sympathetic ganglia. 1

Total points /4

Station 15

What is the level of dermatome in 1?	0.5
What is the type of vertebra shown?	0.5
What is the name of the needle presented ?	0.5
What is the name given to the needle used with nerve stimulator?	0.5

Using a nerve stimulator for a block:

What is the accepted intensity lowered to and associated with a perfect block?	1
Mention 2 blocks using 5 cm length needle.	0.5

Total points /3.5