M1 Post-class Quiz

1. A 30-year-old female patient attends with the following non-traumatic presentation:

* Moderate left of center low back pain with no referral
* Pain on running and walking fast that eases fairly quickly but is proportional to how long they did the activity
* Mild aching on prolonged sitting and standing

1. What is your H1 and what two tests and their results would you do to confirm it.
2. What are your three next most likely differential diagnoses?
3. What is your treatment plan
4. What are your alternative treatments if plan A doesn’t work

A a. Segmental dysfunction –

* ROM flexion or extension proportionately ltd to the intensity of the pain and painful
* PA pressures – pain but no spasm

b. disc protrusion; stress fracture of the pars; zygapophyseal joint arthritis; atypical central or lateral stenosis

c. manipulative therapy, stability therapy and movement rehab

d. if it made the problem worse, then there is likely a significant element of inflammation present. In which case switch to mobilizations and/or electrophysical agents. This would be the same approach if the patient didn’t want or like manipulation. If it didn’t make things worse then I would revisit the diagnosis and if still convinced of it switch to the treatment above.

<https://en.wikipedia.org/wiki/Disc_protrusion>

<http://www.pamf.org/sports/harriss/parsstressfractures.pdf>

<https://en.wikipedia.org/wiki/Lumbar_spinal_stenosis>

1. Which bits of the following patient profile can you discard in making the diagnosis of lumbar segmental dysfunction
   1. Age
   2. Gender
   3. Occupation
   4. Leisure activities
   5. ROM
   6. Pain intensity
   7. Pain behaviour (makes better and worse)
   8. Referred pain extent
   9. Other medical conditions

A a, b,c,d,i

These may be predispositions and can be considered after the diagnosis is made but otherwise they introduce framing and anchoring bias’.

1. A 40-year-old man presents with unilateral neuropathic pain in the upper sacral distribution (S1/2) with ipsilateral somatic low back, buttock and posterior thigh pain. What is the most specific diagnosis that you can come to without more information.

A Radiculopathy. The presence of this type of neuropathic pain (lancinating) is almost pathognomic of spinal nerve or nerve root damage. What it does not tell you is what is causing the radiculopathy; lateral stenosis or disc herniation. To know this, you would need to know about the intensity of the somatic pain and its behavior among other things.

1. A 67-year-old man attends complaining of central high lumbar pain of duration less than two weeks. There was a sudden onset of moderate pain as he sat down in an arm chair that is present whenever walking sitting or standing but that worsens with the latter two. There is referral of a couple of inches on each side of the spine. He has not suffered this pain previously.
2. What is your best fit for the problem
3. What are your best three DDx

A

1. You must be concerned with a pathological fracture possibly caused by metastases. This is reinforced by the problem being in the high lumbar spine (see forbidden area) rather than lower and his being older with no previous history.
2. Very atypical disc herniation; combined central stenosis and disc protrusion; severe spondylosis .

<https://emedicine.medscape.com/article/309615-overview#a5>

1. A 25 yr old male patient presents with central back pain that over the course of a month progresses in intensity and spreads down both posterior thighs and the right calf. The pain is somatic and the SLRs are essentially negative but the slump component of the slump test causes back and thigh pain. Which of these is the most likely diagnosis
2. Cauda equina syndrome from a disc herniation
3. Contained disc herniation (internal derangement)
4. Cancer
5. Segmental dysfunction
6. Posterolateral disc herniation with nerve root compression

A b. This sounds like a disc herniation and more disturbingly like one causing cauda equina syndrome. But there are no neurological symptoms and the SLRs and slump test are negative (the pain on slump testing was only on the slump component which kyphoses the back). It probably is a disc herniation but of the contained variety.

<http://www.bayareapainmedical.com/wlmdscdis.html>

<https://www.physio-pedia.com/Internal_disc_disruption>

1. Which one of the following characteristics is definitive of tendon reflex hyper-reflexia
2. Brisker than the others
3. Clonus within the reflex
4. All four limbs affected
5. Distributed in a segmental pattern

A b. clonus is definitive but not always present and must be elicited by holding the tendon on stretch during the DTR. Brisk reflexes especially when there is nothing to compare them with as in all limbs being brisk may be caused by the patients normal neurological levels or segmental facilitation.

1. A patient presents with right low back pain known to be caused by segmental dysfunction but with a Babinski response in the left foot. There are no neurological symptoms. Which of the following actions is the most reasonable
2. Ignore it as it is isolated and continue with the treatment
3. Complete a full neurological exam that finds nil else and discuss the results with the patient and saying you didn't think there was problem and recommend continuing the treatment
4. Complete a full neurological exam that finds nil else and discuss the results with the patient and refer them back to their physician

2 or 3. The decision is really about risk-benefit. Given that the sign is isolated from other central signs and symptoms it is probably either a congenital anomaly or due to an remembered past injury probably in childhood. I personally would continue with treatment if the patient was OK with that. But there is not really a wrong answer except the first one.

1. A 38 year old female complains of right low back, buttock, thigh and calf pain of three weeks duration. The pain is described as severe, which when pushed she says the pain is an 8 in the back and a 6 in the leg. Answer the following questions and give reasons for the answers:
2. Is the pain neuropathic (lancinating)
3. Is this a disc herniation
4. What is the more objective measure, her description of it being severe or the 8.
5. How would you determine how functionally severe is the pain

A

1. almost certainly not as lancinating pain is almost always much worse than somatic pain that is felt in the back
2. do not know. There is not enough information, you need to know the behavior of the pain and whether there is a radiculopathy (confirmatory not diagnostic).
3. Neither are objective as pain is subjective but her spontaneous description of the pain being severe is probably more accurate than the elicited 8.
4. How much limitation of function does the pain cause

<https://en.wikipedia.org/wiki/Neuropathic_pain>

<https://www.merriam-webster.com/dictionary/lancinating>

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3454549/>

1. A 52 year old woman complains of very severe pain in the right buttock only. There is no history of trauma. The pain is a progressive ache on prolonged sitting that goes from none to severe the longer she sits. She also has severe sharp pain on unguarded movements including turning during the night, this wakes her. This sharp pain becomes a severe ache and eases off over one two hours. She is unable to bear weight through that leg and walks with an antalgic limp. Fortin’s finger test is positive and all movements are limited and painful especially ipsilateral side flexion and extension. Answer the following:
   1. What is your most likely H1 and why
   2. What 3 other questions and 2 other tests would confirm it
   3. What are three DDx

A

1. Sacroiliitis – probably reactive arthritis but possibly septic arthritis.
   1. Evidence of other joint involvement or previous episodes
   2. Gut, eye or facial/tendon problems
   3. Are you feeling OK
   4. SLR and hip should be very positive and worse when done actively or resisted
   5. Palpation of sacral sulcus should be very tender
   6. If her temmperature is raised and/or she is not feeling well the concern is septic sacroiliitis
2. Atypical sacroiliac biomechanical dysfunction with micro-traumatic arthritis atypical lumbar biomechanical dysfunction, acute gluteal bursitis.
3. A SLR is positive at 55 degrees. List 6 possible causes and the illness script for each:

A

* Radiculopathy from disc herniation
  + Severe back and leg pain, obligate functional loss of walking (can only limp), pain on walking and sitting, very positive SLR, all ROM affected, deformity and signs of radiculopathy
* Radiculopathy from lateral stenosis
  + Moderate to severe back and leg pain, elective functional loss of walking needs to rest and standing after a time, pain on walking and standing, positive SLR, extension and side flexion ROMs affected, signs of radiculopathy
* Compression of the dural sheath of the lower lumbar roots by disc herniation
  + As for the first but without the radiculopathy signs
* Compression of the dural sheath of the lower lumbar roots by lateral stenosis
  + As for the second but without the radiculopathy signs
* Torn gluteal muscle
  + Sudden onset often with direct trauma, tender to palpation and hematoma often present, hip flexion and SLR ltd, pain on gluteal contraction, no back pain
* Torn hamstring muscle

Sudden onset usually while undergoing eccentric contraction, tender to palpation and hematoma or divot may be felt, hip flexion not painful but trunk flexion and SLR are and contraction of hams painful

* Hip pathology
  + Hip flexion, trunk flexion and SLR positive, ROM of hip ltd, usually in capsular pattern, and painful, no back pain
* Severe pathology posterior to the axis of flex/extension of the hip (sign of the buttock)
  + Hip flexion, SLR and trunk flexion positive, painful weakness of hip extension, swollen buttock (usually), non-capsular pattern of hip restriction, empty end feel.
* Acute SIJ pathology (arthritis or severe biomechanical dysfunction)
  + Fortin’s finger test positive, hip flexion and SLR positive especially actively or with resistance, trunk flexion positive, sacral sulcus tender, belting helps the SLR and hip flexion tests.

<https://www.sciencedirect.com/topics/neuroscience/straight-leg-raise>