

My Aching Back: Problem Handouts



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My Aching Back

Part 1

Frank, a 39-year-old college professor, was putting dishes into his dishwasher at the end of the day when he felt a sharp pain in his lower back. In addition, he appeared to feel a sensation that could best be described "as a click". Frank took two OTC pain killers and soaked in his hot tub for 20 minutes, and the pain was significantly alleviated.

At noon each day Frank likes to head down to the recreation center and go for a run with two or three other faculty members. The lengths of the runs vary from 3-6 miles during the week. The length of his weekend runs varies between 7-15 miles. The day after his back episode Frank noticed that his back was sore during his daily run, but not to the extent that he had to vary his pace or distance. However, as the next 3 weeks progressed, Frank noticed that the pain was steadily intensifying, to the point where his runs were being cut back significantly in distance and pace. Standing or sitting for prolonged periods of time, as well as rising out of a chair were all becoming increasingly difficult. In addition, he had increased his dosage of OTC pain killers to the maximum. At the suggestion of one of his pre-med students Frank made an appointment with his family physician.

Patient History:

- Unremarkable.
- Height 5'10", weight 155 lbs.
- Blood pressure normal. No significant family history of cardiovascular disease.
- No previous history of musculoskeletal problems.

Physical Examination:

- Efficacy of OTC pain killers diminished since the appearance of the initial symptoms.
- Patient was in obvious pain as he entered the physician's office. Patient expressed an obvious facial grimace as he sat and shifted positions on the chair. Getting out of the chair was equally difficult.
- Patient stated that pain radiated to the right thigh, and down the leg to the foot towards the great toe.
- Pain was somewhat alleviated by assuming the supine position.

The physician's initial diagnosis was that of a prolapsed intervertebral disc in the vicinity of L2. An x-ray series was ordered by the physician, and the patient is referred to an orthopedic surgeon, with the x-ray results to follow.

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Part 2

The attending orthopedic surgeon reviews the family physician's initial diagnosis, and discusses the timeline of actions by the patient immediately following the injury up to today's visit to the surgeon. She immediately dismisses part of the initial diagnosis. Examination of patient's actions, as well as the x-rays ordered by the attending family physician add to the orthopedic surgeon's suspicions. The patient was prescribed oral steroids for a period of 10 days, with a follow-up appointment made 14 days after the initial visit to the orthopedic surgeon.

At the follow-up appointment the patient complained of little or no relief as a result of the oral steroids. Therefore a MRI of the lumbar region was order to confirm the x-ray results. Results of the MRI and a second physical examination by the orthopedic surgeon resulted in the following:

- No intervertebral disc abnormalities in any region of the lumbar spine.
- OTC analgesics do not alleviate any of the pain.
- Although no comparative data was available, the physician suspected a flattening of Frank's lumbar lordosis.
- An abnormal pelvic tilt and rotation of the hip secondary to tight hamstrings, hip rotators and quadratus was detected.
- Frank's pain intensified with extension, lateral bending and rotation of the vertebral column.
- Sensory examination to light touch and pinprick in a dermatomal distribution was normal.
- Straight leg raise test was normal.

Utilizing *sound anatomical logic*, consider the following questions:

1. What is your diagnosis for this patient?
2. What part of the initial diagnosis was immediately dismissed by the attending orthopedic surgeon and why? Defend your answer.
3. Are any of the results listed above (Part 1 and Part 2) aberrant? If so, why, and if not, why not?
4. Give a logical explanation for the abnormal pelvic tilt and rotation of the hip secondary to tight hamstrings, hip rotators and quadratus.
5. Give a detailed anatomical description of the affected area.

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Team and Self Assessment Form

Your name: _____

Please use the rating scale below to describe how you and your team members performed on each of the tasks listed associated with your PBL group's activities. The purpose of the grading is not to divide groups but to reward those making above average effort and to encourage those not giving their fair share to the group overall effort.

5 if Always 4 if Very Often 3 if Sometimes 2 if Rarely 1 if Never

PBL Group Number: _____

Please fill in PBL Group Members' *Last* Names (including your own)

Names _____

Completed assigned tasks _____

Contributed valuable
information to the group _____

Attended group meetings _____

Was honest in reporting
progress about his/her
assigned tasks _____

Participated in writing
final report _____



Now, ***please circle*** the rating below that you feel you would best describe your group's overall performance:

Very good

Good

Barely Acceptable

Poor

Very Poor



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PBL Self Evaluation Form

This evaluation form will not be utilized in assigning any grades. However, it is beneficial to reflect on any progress that you might have made in various areas as a result of participating in a PBL course. Therefore, please evaluate yourself utilizing the following scale.

Scale:

- 5 = Strongly agree
- 4 = Agree
- 3 = Neutral
- 2 = Disagree
- 1 = Strongly disagree

Your name: _____

As a result of my participation in PBL in Human Anatomy I feel that I have improved in the areas of:

1. Effective group participation _____
2. Effective group communication _____
3. Evaluation of myself (self evaluation) _____
4. Evaluation of others (peer evaluation) _____
5. Acquiring information to solve complex problems _____
6. Evaluation of the quality of information needed
to solve complex problems _____
7. Working effectively with others _____



8. Higher-order, critical thinking skills _____

Overall improvement rating of yourself: _____

5 = excellent; 4 = good; 3 = average; 2 = needs work; 1 = poor

