Assignment 12

Low Back Injury Claims

Review Prior Assignment and Answer Questions

EDUCATIONAL OBJECTIVES REVIEW

Estimated time required to complete the Educational Objectives Review: Two hours

E.O. 1 **Explain the challenge of handling back injury claims due to problems in diagnosing back injuries, the prevalence of preexisting conditions, and the influence of nonphysical factors.**

15 minutes

INSTRUCT: Present the following discussion topics:

- Problems in diagnosing back injuries (pg. 2 – 4)
- The prevalence of preexisting conditions (pg. 4 – 5)
- The influence of nonphysical factors (pg. 5 – 6)

Instruct the class to describe, in the members' own words, how each topic adds to the challenge of handling back injury claims. Ask class members to give examples if possible.

DEBRIEF: Have each leader report on the group's description.

CONFIRM: Bring the discussion back to the E.O., and confirm that the students can explain the challenge of handling back injury claims due to problems in diagnosing back injuries, the prevalence of preexisting conditions, and the influence of nonphysical factors.

E.O. 2 **Describe the anatomy of the spine.**

10 minutes

PRESENT: Refer the students to Handout/Transparency #1 and #2. Using the unannotated diagrams provided, review the anatomy of the spine. Annotate the diagrams as you introduce the various points of anatomy, and indicate to the students the areas in which the spine is commonly vulnerable to injury.
(*Anatomy of the Spine* pg. 6 – 10).

> **Note to Instructor:** For the purpose of this discussion, the material works better as overheads.

CONFIRM: Bring the discussion back to the E.O., and confirm that the students can explain describe the anatomy of the spine.

E.O. 3 **Describe the following back injuries and conditions: spinal fractures; spondylolysis and spondylolisthesis; disk bulging and herniation; sprains and strains; dislocations; congenital problems; and degenerative disorders**.

20 minutes

INSTRUCT:

- Ask class to describe the following back injuries and conditions Spinal fractures (pg. 10 – 11)
- Spondylolysis and spondylolisthesis (pg. 11 – 13)
- Disk bulging and herniation (pg. 13 – 15)
- Back sprains, strains and dislocations (pg. 15 – 16)
- Congenital problems (pg. 16 – 18)
- Degenerative disorders (pg. 18 – 20)

Instruct the groups to describe the nature of each of the assigned injuries or conditions, and to explain what would be appropriate treatment.

DEBRIEF: Have each leader report on the group's description and explanation.

CONFIRM: Bring the discussion back to the E.O., and confirm that the students can describe the following back injuries and conditions: spinal fractures; spondylolysis and spondylolisthesis; disk bulging and herniation; sprains and strains; dislocations; congenital problems; and degenerative disorders.

E.O. 4 **Explain how back injuries are diagnosed by using the claimant's medical history, physical examinations, and diagnostic imaging**.

15 minutes

PRESENT: Ask students to explain how the following contribute to diagnosing back injuries.

- Patient medical history
- Physical examinations and clinical tests
- Diagnostic imaging

CONFIRM: Refer the students to Handout/Transparency #3, at the end of this section. Using the notes provided, review the diagnosis of low back injuries using the claimant's medical history, physical examinations, and diagnostic imaging. (*Diagnostic Testing for Back Injuries* pg. 20 – 27).

Note to Instructor: For the purpose of this discussion, the material works better as an overhead than it does as a handout. Bring the discussion back to the E.O., and confirm that the students can explain how back injuries are diagnosed by using the claimant's medical history, physical examinations, and diagnostic imaging.

E.O. 5 **Describe some of the tests used to detect symptom magnification or fabrication**.

20 minutes

INSTRUCT: Refer the students to Handout/Transparency #4, at the end of this section. Have students read the cases aloud and then answer the following:

- What test is the physician conducting?
- What do the results of the test indicate, and why?

CONFIRM: Bring the discussion back to the E.O., and confirm that the students can describe some of the tests used to detect symptom magnification or fabrication.

E.O. 6 **Explain the appropriate uses for various treatments including the following: patient education; medication; and physical treatments (manipulation, physical agents, traction, injection therapy, and back surgery)**.

20 minutes

INSTRUCT: Divide the following treatment approaches among the different groups (or students):

- Patient education
- Medication
- Physical treatments
- Injection therapy
- Back surgery

Instruct the groups to create a case study to illustrate a situation in which the assigned treatment approach would be appropriate. The groups should be prepared to explain the following in the members' own words:

1. What is involved in the treatment, or how is it implemented?
2. In what specific way does the treatment benefit the injured individual?
3. Are there any concerns or considerations associated with the treatment or its effectiveness?

DEBRIEF: Have each group leader read the group's case study aloud and explain the treatment, the way the way in which the treatment benefits the injured person, and any concerns or considerations associated with it.

CONFIRM: Bring the discussion back to the E.O., and confirm that the students can explain the appropriate uses for various treatments.

E.O. 7 **Given a claim, identify possible psychological challenges; describe the anatomy and trauma issues in lay terms; explain whether the injury is likely to be accident related; and identify indicators of inappropriate treatments.**

20 minutes

INSTRUCT: Refer the students to Handout/Transparency #5 at the end of this section and divide the case studies among groups. Instruct the groups to review their assigned case, and to do the following:

1. Identify any possible psychological challenges involved in the claim.
2. Describe the injury and its symptoms in the members' own words.
3. Explain whether the injury is likely to be accident-related, and why.
4. Identify any indicators of inappropriate treatment.

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DEBRIEF: Have each group leader read the group's assigned case study aloud, and report on the group's findings.

CONFIRM: Bring the discussion back to the E.O., and confirm that the students can identify possible psychological challenges; describe the anatomy and trauma issues in lay terms; explain whether the injury is likely to be accident related; and identify indicators of inappropriate treatments.

E.O. 8 **Define or describe each of the Key Words and Phrases for this assignment.**

INSTRUCT: Depending on time remaining consider covering the following sets of key words and phrases: or have students do exercises.

- Cervical vertebra, thoracic vertebra, lumbar vertebra, sacrum, coccyx
- Spinous process, lamina, transverse process, vertebral foramen, pedicle
- Dislocation, subluxation, spondylolisthesis, spondylolysis, disk herniation
- Laseque's sign, Linder's sign, Fabere's sign, Hoover test, Burns' test

Instruct the groups to define or describe, in the members' own words, the words or phrases in their assigned group.

Allow 5 minutes for completion.

DEBRIEF: Have each leader report on the group's definitions and descriptions.

CONFIRM: Bring the discussion back to the E.O., and confirm that the students can define or describe each of the Key Words and Phrases for this assignment.

ADDITIONAL EXERCISES

Note to Instructor: These additional exercises have been provided to supplement the material found in this assignment. You may wish to use these exercises as tests or assignments, or you may wish to have students use them simply as a review of what they have learned.

TRUE/FALSE EXERCISE

Estimated time required to complete the True/False exercise: 10 minutes (5 to complete; 5 to review)

Indicate with a check mark whether the following statements are **TRUE** or **FALSE**.

TRUE	FALSE	
☐	☐	1. Almost one third of all workers compensation, lost-time claims are due to back injuries, and more than 90 percent of these are low back injuries.
☐	☐	2. A chronic condition is one with a sudden and severe onset, traceable to a specific event; an acute condition is one of long duration that recurs frequently and changes little.
☐	☐	3. Most low back injury claims are related to the five lumbar vertebrae and most low back pain involves the L4 and L5 vertebrae.
☐	☐	4. Spinal fractures are less of a problem than many chronic back conditions because they usually heal without any residual problems.
☐	☐	5. Sciatica is a vague diagnosis that means pain along the sciatic nerve, but the diagnosis does not address the cause of the pain.
☐	☐	6. X-rays are an effective tool for diagnosing acute low back pain and can usually detect things that would not be revealed by reviewing the medical history or conducting a physical examination.
☐	☐	7. Studies consistently show that patient education reduces the use of medical resources and helps to speed recovery.
☐	☐	8. Lumbar discectomy may relieve symptoms faster than nonsurgical therapy, but the long-term outcomes of discectomy are similar to those achieved with conservative care.
☐	☐	9. Thermography involves the injection of radio-opaque dye into the spinal column so that X-rays can outline the spinal cord and nerves.
☐	☐	10. Laseque's sign, Linder's sign, and Fabere's sign are all tests for symptom magnification or fabrication.

SHORT ANSWER EXERCISE

Estimated time required to finish the completion exercise: 15 minutes (10 to complete; 5 to review)

Briefly answer each of the following questions.

1. What are the specific physical causes of low back pain, identifiable by modern technology?

2. List the five types of vertebrae and indicate the number of each.

3. What are the symptoms of sciatica?

4. What is the difference between dislocation and subluxation?

5. What are the four major degenerative back disorders?

6. What is the primary problem with medical histories as a diagnostic tool?

7. What is the structure and purpose of an intervertebral disk?

8. What factors can increase an individual's risk of back sprains and strains?

9. According to the AHCPR, under what circumstances should a physician treating a lower back injury consider a referral for a surgical consultation?

10. Briefly describe the ankle jerk reflex test and what it indicates.

MATCHING EXERCISE

Estimated time required to complete the matching exercise: 10 (5 to complete; 5 to review)

Match each term with the appropriate definition, description or explanation.

A. Wedge compression fracture	1.___ A test in which the patient stands and bends forward to touch his or her toes; if the patient bends the knee on the affected side while flexing the spine, the test is positive for sciatic spinal nerve root compression
B. Sprain	2.___ A spinal fracture that results when the injured person's spine is straight when force is applied
C. Spinal stenosis	3.___ Diagnostic imaging that can evaluate the extent of disk damage and evaluate the patient's pain response by injecting dye directly into the nucleous pulposus of the disk
D. Computerized tomography	4.___ An injury that results when back muscles or ligaments are stretched or torn; it is usually caused by improper performance of ordinary activities such as bending or lifting, or by accident
E. Bursting compression fracture	5.___ A spinal fracture that results when the injured person is bending forward when force is applied causing the spine to suddenly flex beyond its normal range
F. Strain	6.___ A congenital condition in which the fifth lumbar vertebra is fused to the sacrum
G. Bertolotti's syndrome	7.___ A test in which the patient is supine with the knee flexed, the outside of the ankle resting on the knee of the opposite leg, and the knee depressed; pain when the knee is depressed indicates arthritis in the hip
H. Knee flexion test	8.___ An injury that results from working a muscle beyond its normal capacity, often due to repetitive activity
I. Discography	9.___ A degenerative condition characterized by bony narrowing of the central spinal canal or the lateral nerve root exits
J. Patrick's test	10.___ Diagnostic imaging that can reveal problems such as herniated disks; tumors; nerve root or spinal cord compression; congenital problems; cervical or lumbar spondylolysis; and degenerative arthritis

SAMPLE EXAM QUESTIONS

Estimated time required to complete the sample exam questions: 20 minutes

Circle the most appropriate answer for each question.

1. (E.O. 1)

   All of the following describe problems with which claims representative must deal relating to the diagnosis of back problems, EXCEPT:

   a) The term "low back pain" is not an acceptable diagnosis, because it does not indicate the cause of the pain.
   b) If an accident aggravates a preexisting condition, the injury is not compensable..
   c) Most low back injuries have no identifiable cause, and when the origin of the injury is not traceable to a specific event, policy coverage is questionable.
   d) Low back pain can be caused by metabolic diseases, circulatory problems, kidney infections, stomach ulcers, viral pneumonia, tipped uterus, ovarian infections and cancer.

2. (E.O. 3)

   Which one of the following most accurately describes a low back injury or condition?

   a) Spinal stenosis is characterized by a misalignment of facets in a specific vertebrae..
   b) Facet Tropism is a degenerative disk condition normally experienced with aging adults.
   c) Disk herniation is a condition in which the intervertebral disk ruptures through its capsule and presses against the spinal nerve.
   d) Spondylolysis is a lateral curvature of the spine.

3. (E.O. 4)

   Which of the following accurately describes a clinical test used in the diagnosis of low back pain?

   a) In Waddell's test, the patient stands and bends forward to touch his or her knees. If the patient bends the knee on the affected side, the test is positive for sciatic spinal root compression.
   b) A positive finding In an axial loading test means that the patient is suffering from spondylolisthesis..
   c) In the Babinski test, the physician runs a pointed object along the bottom of the patient's foot. If the great toe flexes backward, this can be an indication of a lesion.
   d) All of the above

4. (E.O. 5)

A test for symptom magnification in which the examiner places his or her hands under the patient's heels while the patient lies supine and asks the patient to lift one leg off the table, keeping the knees straight is called the

a) Hoover test.
b) Burns' test.
c) Waddell's test.
d) Patrick's test.

5. (E.O. 7)

Diagnosing low back pain can be difficult, as can choosing appropriate treatment. Which of the following is an indicator of inappropriate treatment for a low back injury?

a) A patient who receives chiropractic manipulation between fourteen and twenty-eight days after the injury
b) A patient who receives transcutaneous electrical nerve stimulation as treatment for osteoarthritis
c) A patient who is placed in pelvic traction in order to resolve facet tropism
d) All of the above

6. (E.O. 8)

Treatment provided by chiropractors that varies from gentle stretching of back joints to forceful rotation of the flexed spine is referred to as

a) Correction.
b) Manipulation.
c) Traction.
d) Subluxation.

ANSWERS TO THE ADDITIONAL EXERCISES

TRUE/FALSE

1. T
2. F
3. T
4. T
5. T
6. F
7. T
8. T
9. F
10. F

SHORT ANSWER

1. The specific physical causes of low back pain, identifiable by modern technology are disk herniation; spondylolisthesis and spondyloysis; spinal stenosis; vertebral fractures; tumors; infections; and inflammatory diseases. (pg. 4)
2. There are seven cervical vertebrae, twelve thoracic vertebrae, five lumbar vertebrae, one sacrum which is formed by the fusion of five small sacral vertebrae and the coccyx, formed by the fusion of four or five small vertebrae. (pg. 7)
3. The symptoms of sciatica are pain in the buttock, thigh, knee and even toes on one side. Usually a dull ache, the pain can become very sharp and piercing. If pressure or pinching on the spinal nerve continues, actual nerve damage can result, causing either numbness or muscle weakness in the leg. (pg. 15)
4. Dislocation is the complete displacement of one or both bones of a joint. Subluxation is a partial displacement of bones away from their customary alignment in the joint. (pg. 16)
5. The four major degenerative back disorders are spondylolysis, osteoarthritis, degenerative disk disease, and spinal stenosis. (pg. 18)
6. The primary problem with medical histories as a diagnostic tool is that they can become "contaminated" by misinformation given by the patient, or by assumptions made by the physician on the basis of vague or incomplete information provided by the patient. (pg. 21)
7. An intervertebral disk is made of compressible cartilage and acts as a shock absorber between the vertebrae. (pg. 8)
8. Poor posture, lack of exercise, emotional stress, and obesity can increase an individual's risk of back sprains and strains. (pg. 15)
9. According to the AHCPR, the treating physician may consider referral for consideration when all of the following conditions are met: symptoms of sciatica persist without improvement; the sciatica is sever and disabling; and there is clinical evidence of nerve root compromise. (pg. 33)
10. In the ankle jerk reflex test, the doctor strikes the Achilles tendon with a rubber hammer to test the reflexes related to the L4-L5 disks and the S1-S2 disks. A diminished ankle jerk reflex is indicative of sciatic nerve entrapment. (pg. 21)

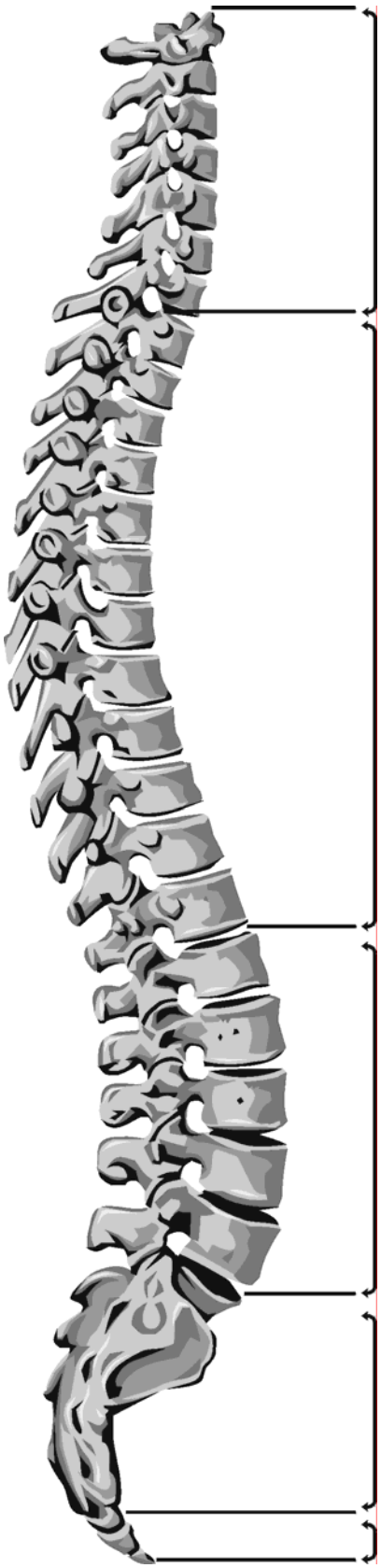
MATCHING

1. H
2. E
3. I
4. B
5. A
6. G
7. J
8. F
9. C
10. D

SAMPLE EXAM QUESTIONS

1. B
2. C
3. C
4. A
5. B
6. B

HANDOUT/TRANSPARENCY #1



HANDOUT/TRANSPARENCY #2

HANDOUT/TRANSPARENCY #3

Diagnostic Testing for Back Injuries

Medical History

- most accurate diagnostic method, although susceptible to "contamination"
- age, gender, occupation, hobbies, daily routine
- type of sensation (pain, numbness), first instance of pain, location of pain, time of day of pain, activities that worsen/alleviate pain

Physical Examination and Clinical Tests

- circumference measurements – atrophy
- reflex tests – ankle jerk test (sciatic nerve impairment); Babinski test (lesion); patellar reflex (femoral nerve problems L2, L3 and L4)
- clinical tests of function or performance – Laseque's sign, Linder's sign, knee flexion tests (herniated disk); Fabere's sign/Patrick's test (arthritis in the hip)

Diagnostic Imaging

- X-ray – 1 in 2,500 detects something > medical history or physical exam
- computerized tomography – herniated disks, tumors, nerve root or spinal cord compression, congenital problems, spondylolysis, and degenerative arthritis
- myeligraphy – herniated disks, tumors, spinal inflammation, and congenital defects
- bone scan – fractures or deterioration not shown by X-ray
- magnetic resonance imaging – soft tissue injuries and herniated disks
- electromyogram – herniated disk and source of nerve root irritation
- discography – identifies which lumbar vertebra to fuse
- thermography – inaccurate and unreliable

HANDOUT/TRANSPARENCY #4

Case 1

Dr. Tim Tulley is examining a patient, Bryce Cranshaw, who has visited his office complaining of lower back pain. Bryce is unhappy about his condition, and expresses the worry that function or performance tests may aggravate the injury. It takes some time before Dr. Tulley can convince Bryce to allow him to try some simple tests. With Bryce standing, Dr. Tulley places one hand on each of Bryce's shoulders, and gently presses downwards. He asks Bryce if the pressure causes him any pain. Bryce indicates, obviously relieved, that it does not.

Case 2

Brenda Banks, a workers compensation claim representative, has sent Martin Astor to Dr. Anita Rajdami. Brenda has asked for a second opinion concerning Martin's alleged lower back injury. Martin has been complaining of pain and weakness in his left leg. However his own physician has provided no adequate diagnosis. Dr. Rajdami asks Martin to lie flat on his back on the examination table. She places one hand under each of his heels, and asks him to raise his left leg. Martin apparently makes a concerted effort, however he finally indicates that he is unable to do so. During his attempts, Dr. Rajdami feels no downward pressure under the right heel.

Case 3

Darren Hodge has complained of pain in his left buttock and thigh since a fall at work, and has been off for several weeks. His claim representative has referred him to Dr. Wilf Andersen. Dr. Andersen asks Darren to sit on the examining table so that he can measure his calves. With Darren seated, the doctor raises Darren's right foot until the knee is straight, and then measures the circumference of the right calf. As he is completing the measurement, Dr. Andersen explains that back problems are often reflected in muscle atrophy, which results in a noticeable difference in the size of the two legs. Then Dr. Andersen raises Darren's left foot, and measures the left calf. During both measurements, Darren sits relaxed on the examining table.

Case 4

Gloria Brezski has visited Dr. Jeanette Lee, several times over the past months, complaining of lower back pain. Dr. Lee has taken a complete medical history , performed diagnostic tests, and has even sent Gloria for an MRI. Unfortunately, she has not been able to diagnose the cause of Gloria's pain, and has simply prescribed rest and medication. Gloria has returned again. She indicates that the stress of her constant discomfort is making things difficult at work. Dr. Lee asks Gloria to kneel on the examining room chair, bend forward, and touch the floor. Gloria is able to perform the test with ease.

Case 5

Kathy O'Reilly has been off work for two months as a result of a lower back injury. Although she is cooperative, and appears to want to return to work, her medical progress has been disappointing, and she continues to complain of pain, stiffness and numbness. The claim representative, Dave Adler, has requested a second opinion from Dr. Geoff Sims. The doctor asks Kathy to bend forward and touch her toes, but Kathy indicates that pain prevents her from doing so. Later, with Kathy sitting on the examination table, Dr. Sims asks her to lean forward and grasp her ankles. Kathy becomes irritated, and points out that if she cannot touch her toes standing, its is unlikely that she can grasp her ankles while sitting.

HANDOUT/TRANSPARENCY #5

Case 1

Jack Bernstein is a computer programmer with GameMaster Technologies, a software developer specializing in computer games. Several of the company's star programmers are in their late teens and early twenties, and at thirty-five, Jack often feels "old" and "out of touch". His sedentary job and a fondness for fast food have caused him to gain weight, and his doctor has told him to lose forty pounds. One afternoon, Jack offers to help move some boxes of files to the storage room. He bends over, grasps a box, and straightens up. Immediately, he feels a severe pain in his lower back. As the afternoon wears on, the pain intensifies, and Jack decides to visit his doctor. The doctor diagnoses a herniated L4-L5 disk, and prescribes painkillers and a week of bed rest. By the end of the week, the pain is radiating from Jack's back through his right buttock and down his right thigh. The injury adds to Jack's feelings of being "old", and he falls into a mild depression, for which his doctor prescribes antidepressants. As Jack's condition has not improved, the doctor recommends first traction and subsequently epidural blocks. Unfortunately, the pain continues to be debilitating. Finally the doctor recommends surgery.

Case 2

Leanne Frost is a fifty-year-old widow who has worked as a public school teacher for the past twenty-five years. While she enjoyed her job initially, she has found it increasingly stressful. Over the past couple of years, Leanne has complained of a variety of medical problems, including "back trouble", migraines, digestive problems, and neck pain. For the past six months, she has been seeing an herbalist and an acupuncturist and has apparently felt much better. One day on her way to work, Leanne is involved in a motor vehicle accident for which she is entirely at fault. There is only moderate vehicle damage, and the other driver ,who was wearing a seatbelt, is uninjured. Leanne, who was not wearing a seatbelt, is shaken up and suffers some bruises. The following day, she complains of lower back pain, and hamstring spasms and tightness. A visit to her doctor results in a diagnosis of traumatic spondylolisthesis. The doctor prescribes one week bed rest, plus aspirin and steroids. He also refers Leanne to a chiropractor for eight weeks of manipulation treatments.