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## **Case # 6 - Low Back Pain**

**Presentation:** His primary care physician refers a 50 year old male to you because he is experiencing episodes of low back pain. He states that he is fairly sedentary and has put on a lot of weight recently. He states the pain is confined to the small of his back and gluteal region. The pain is worse when he gets up and moves about and lessens with rest. The pain has persisted for over 3 weeks. He has no history of serious illnesses. His gait is normal and he has no difficulty moving the joints of his lower limb. His straight leg-raising test was negative. There was no significant discrepancy in leg length. You believe he is suffering from low back strain due to pronounced anterior pelvic tilt.

### **Activities:**

- I. Define and demonstrate what is considered good posture.
  - Describe the position of the spine, head and neck, shoulders and scapula, and pelvis in a person with good posture.Define the term "Center of Gravity".
  - Where in the body is this point located?
  - Describe where a straight line through the center of gravity would fall in relation to the cervical and lumbar spine, hip joint, knee joint, and ankle joint.
  - Determine the relationship between the placement of this line and the stable configuration of each segment.
  
- II. Describe and demonstrate the neutral position of the pelvis.
  - What bony landmarks are used to determine pelvic alignment?
  - Name the attachments and actions of the 4 major muscle groups that act to determine proper pelvic alignment.
  - Describe the muscle groups that can produce:  
Anterior Pelvic Tilt  
Posterior Pelvic Tilt  
Lateral Pelvic Tilt
  
- III. Describe how the abdominal muscles can effect pelvic alignment.
  
- IV. Describe exercises to strengthen the appropriate muscle groups to overcome marked anterior pelvic tilt.
  
- V. You review a previous X-ray of your patient's lumbar spine and notice that there is a very acute lumbrosacral angle. You suspect the patient has spondylolsthesis.
  - Describe what occurs to produce such a lesion.
  - How is this lesion diagnosed on x-ray?
  - What muscle groups could be affected as a result of this lesion?