

## Case Study

**Incident History:** Mrs. Worker was hit by a car in 1986 on the right side and was hospitalized for one week. In 2002, she slipped and fell at work landing on a concrete floor in a puddle.

**Case History:** Seen on 11/13/2008 for an FCE for return to work that was completed successfully. Patient continued with low back pain and was referred for a Functional Diagnostic Assessment on 4/29/2009 to objectively analyze potential underlying causes that may explain current dysfunction and report of pain, thus limiting her ability to rehabilitate successfully.

**Previous Labs and Studies:** She reports that she had a MRI and an EMG for the lumbar spine Right Hip and Right Lower Extremity. The MRI was (+) for fluid on the L4-5 vertebral space.

**Relevant Medical History:** Reports that after her FCE on 11/13/08 she received a shot in her lumbar spine by Dr. S.

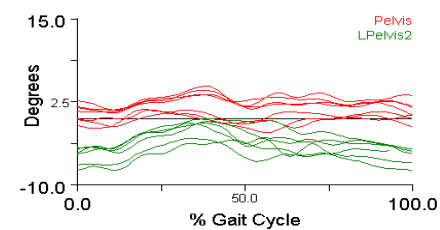
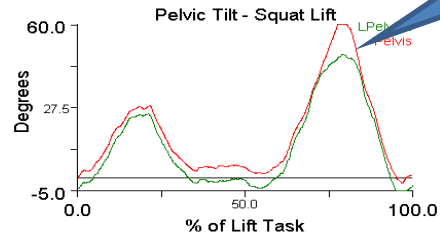
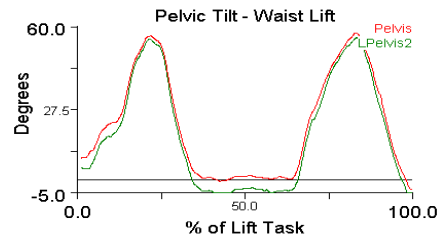
### Findings:



FDA revealed during ambulation the Left hip falls during Right lower extremity single leg stance. This is consistent with the weakness seen in the physical evaluation in the hip abductors. These muscles are used to stabilize the pelvis during ambulation.

Dynamic lifting analysis confirmed that the Right side of the pelvis is anteriorly rotated forward farther than the Left side of the pelvis. This is consistent with the leg length discrepancy seen during the physical evaluation where the Right Low Extremity was found to be shorter than the Left Low Extremity via use of the Weber-Barstow Maneuver.

During waist lifting, Motion Analysis measured the anatomical reference markers on the **Right side** of the body were moving forward versus the markers on the **Left side**.



Biggest difference left half vs. right

During dynamic movement testing, the right side of the pelvis demonstrates starting in a position of increased flexion

versus the left side of the pelvis. This pattern is consistent throughout the evaluation process and during the gait cycle, in which there is a ten degree difference in the two sides of the pelvis.

**Conclusions:** Mrs. Worker demonstrates pelvic instability that causes a leg length discrepancy that causes changes in the pelvic tilt putting increased pressure on the lumbar spine. This leads to altered pulling in the musculature of the hips demonstrated by the (+) Ely test for the hip flexors.

**Outcome:** Patient received targeted physical therapy to the sacroiliac joint and pelvis using manual therapy and muscle energy techniques with specific strengthening of the lumbar spine. Case resolved in 3 weeks. Mrs. Worker called Case Manager and thanked her for helping to get her life back.

**Summary:** This is a great example of the value of motion analysis-based functional diagnostic imaging. Had Mrs. Worker been evaluated within the first 3-4 weeks post injury when rehabilitation was not resolving "back" pain, the actual source of pain would have been identified with a revised diagnosis and treatment plan resulting in case closure within 6-7 weeks rather than 6 years later with significant claim cost savings.