

[REDACTED]

October 27, 2015

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Dear [REDACTED]

Report of my review of the imaging studies for [REDACTED] ([REDACTED]) obtained before and after the accident I question dated 6/3/14.

First, concerning images of the lumbar spine and sacrum, there is a developmental variation at the lumbosacral junction. For the purposes of this report, the lowest visible reasonably complete disk space with be termed S1/S2. This assumes that the T12 vertebral body is not rib bearing. The S1/S2 disk space is normal in appearance. Using this convention, the S1 vertebral segment is asymmetrically lumbarized on the left, meaning the left side of S1 is not completely fused to the rest of the sacrum. There is no counting film available to prove this numbering is correct, I would need to see a thoracic spine study. It is possible that there are in fact 6 lumbar vertebral bodies, and numbering would be different in that case.

Radiographs of the lumbar spine and sacrum dated 4/24/08 reveal normal alignment of the L5 vertebral on S1. Shallow posterior vertebral marginal osteophytes border the L2/3 disk space, and minor ventral marginal osteophytes border the L2/3, L3/4 and L4/5 disk spaces. Disk space narrowing is noted most at L2/3 and L3/4.

Radiographs of the cervical spine dated 4/17/09, including frontal, lateral AAP open mouth and oblique views demonstrate minimal anterior slippage of C3 on C4 (anterolisthesis), and 10-20% anterolisthesis of C4 on C5, and a mild retrolisthesis (posterior slippage) of C5 on C6 and C6 on C7. The C5/6 and C6/7 disk spaces are markedly narrowed related to chronic disk disease, with osteophytes bordering the degenerated disk margins (disk-osteophyte complexes) ventrally and dorsally, with mild central spinal canal stenosis at both levels related to the posterior osteophytes. Uncovertebral joint osteophytes and facet degeneration also contributes to foraminal stenosis, moderate on the right at C4/5, and C6/7 and mild to moderate bilaterally at C5/6, and mild on the left at C4/5, 5/6 and 6/7.

Radiographs of the lumbosacral spine and sacrum/coccyx dated 8/11/12, and lumbar spine radiographs dated 8/20/12, now show an anterolisthesis of L5 on S1, 10-15%, not seen on the prior radiographs. The frontal view is rotated, making frontal alignment difficult to assess, there may be mild dextroscoliosis.

MR images of the lumbar spine dated 8/21/12 confirm a normal appearing disk at S1/S2 and anterolisthesis of L5 on S1, similar to prior plain radiographs. The L5/S1 disk is desiccated and uncovered by the listhesis, and bulges slightly without a focal disk herniation. Disk desiccation is also present at L2/3, L3/4 and L4/5, with mild disk bulges at each level. Ventral disk/osteophyte complexes extending toward the pre-vertebral soft tissues are present at all levels from L2/3 through L5/S1. Axial views show severe facet degenerative disease at L5/S1, with joint effusions and articular process osteophytes, with thickening of the ligamentum flava, contributing to mild central spinal canal stenosis, mild to moderate left S1 lateral recess stenosis, and mild bilateral foraminal narrowing, as well as accounting for the Spondylolisthesis at this level. Facet degeneration is also present at L4/5, although less severe than at L5/S1.

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On the day of the accident, 6/3/14, a number of imaging studies were performed:

Radiographs of the sacrum/coccyx showed no change.

An MR exam of the cervical spine reveals a small degenerative cyst base at the base of the odontoid process of C2. Anterolisthesis of C3 on C4 and C4 on C5 is unchanged since the prior studies of 4/17/09. Left facet degeneration at C3/4 underlies the listhesis and C3/4, and right facet disease at C4/5. Markedly narrowed disk spaces are present at C5/6 and C6/7 with marrow signal changes, marginal osteophytes, and mild retrolisthesis of C5 on C6 and C6 on C7, also unchanged. MR shows mild chronic degenerative changes in vertebral marrow at C5/6 and C6/7. Axial images demonstrate right sided uncinete spurs and right facet degeneration at C4/5 with moderate right foraminal stenosis, bilateral uncovertebral osteophytes at C5/6, with moderate bilateral foraminal stenosis, and a posterior disk/osteophytes complex at C6/7 mildly narrowing the central spinal canal. No changes noted since prior exam.

A CT exam of the cervical spine also on 6/3/14 reveals a mild anterolisthesis at C3/4 with unilateral left facet degeneration, a C4/5 anterolisthesis with right side facet degeneration (as noted on MR), C5/6 and C6/7 D/O complexes with mild retro at C5/6. Bilateral uncinete osteophytes C5/6 (right greater than left), and a disk/osteophytes complex at C6/7 with mild central stenosis are also seen on the MR. Narrow disk spaces. No change appreciated since prior studies.

Subsequent studies include:

C spine and L spine radiographs dated 11/13/14 with flexion/extension views in both regions, no change since prior studies although flexion and extension stress views have no comparison. No sign of instability in cervical spine, anterolisthesis still present at C3/4 and C4/5, retrolisthesis at C5/6, or lumbar spine (L5/S1 anterolisthesis). No change since priors.

MR studies of the cervical and lumbar spine performed on 12/2/14 show no change since prior studies.

Cervical spine radiographs on 5/19/15 now show post-operative changes of anterior cervical fusion from C5-C7 with an anterior plate and intradiskal cages associated with interval disk space widening at C5/6 and C6/7. Pre-existent C3/4 and C4/5 subluxations were not treated and appear unchanged since priors.

Lumbar spine radiographs performed on 7/30/15 and 8/14/15 now show post op changes of posterior fusion with pedicle screws bilaterally at L5 and S1, joined by paired posterior rods. Two metal markers within the L5/S1 disk space suggest the presence of an intradiskal cage/spacer. The pre-existent L5/S1 anterolisthesis is still present but slightly reduced since pre-fusion studies.

To summarize, there are significant chronic degenerative changes on all studies in the lumbar and cervical regions, without any appreciable changes in any of the findings between the studies done before and after the accident on 6/3/14.

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