

PATIENT'S NAME: [REDACTED]

AGE: 7

REFERRED BY: [REDACTED]

ANALYSIS: 11/10/2009

DATE OF FILMS: 11/06/09

REPORT: 11/11/2009

RADIOGRAPHIC BIOMECHANICAL REPORT

This report is based upon biomechanical analysis and protocols that have been established for roentgenological digitization of the spine. This evaluation will not include a pathological report. Radiographic images used were of acceptable quality and in compliance with normal protocols for x-ray digitization. This report is based on digitization printout.

Lateral Cervical Spine: There are abnormal Lateral Baselines. Retrolisthesis at C2, C3 and C4. Interruptions of the George's Line at C2/C3, C3/C4, C4/C5, and are indicative of ligamentous instability or sub failure. Jackson's angle demonstrates hypolordosis and there appears to be abnormal stress lines at C4/C5. There are abnormal Lateral Vertebral Offsets at C2, C3 and C4.

Cervical Motion Study: There are abnormal Lateral Baselines. The Atlas/Skull angle is 1.37° during flexion and 14.71° during extension. The translational motion segment integrity appears to be compromised at C2 and C3. The angular motion segment integrity appears to be below ratable threshold.

IMPRESSIONS:

1. Cervical motion study (C7-C1) indicates translational motion segment integrity change at C2 and C3. The impairment of the cervical region is due to ratable loss of motion segment integrity and is ratable at 25% for cervicothoracic spine (AMA Guides, Fifth Edition). This patient's digital analysis reveals loss of motion integrity at C2 = 5.06 mm Anterior and C3 = 4.32 mm Anterior yielding an impairment estimate based on plain film forensics at 25% whole body.
2. Ligamentous instability is suggested in the cervical spine.
3. Interruptions of the George's Line at C2/C3, C3/C4, C4/C5, and are indicative of ligamentous instability or sub failure.
4. Lateral Posterior Vertebral Offset at C2, C3 and C4.

*Measurements over 1mm Translation and / or over 7° Angular Variation are considered to be clinically significant and in excess of normal flexibility of the cervical spine. (SPINE 2001, February; 26(3): (256-261), Lin, Tsai, Chu and Chang.

**Abnormal measurements of more than 11° Angular Variation and / or greater than or equal to 3.5mm Translation (Loss of Motion Segment Integrity) by definition constitutes ligament damage which results in instability and calculates a whole person impairment of 25% to 28%. (Guides to the Evaluation of Permanent Impairment, Fifth Edition, 2000.) DRE Category IV

***"Lateral shift of Atlas on Axis greater than 1.7mm is considered subluxation and associated with poor prognosis for whiplash injury"
Krakenes J, Kaale BR, Moen G, Nordli H, Gilhus NE, Rorvik J. MRI assessment of the alar ligaments in the late stage of whiplash injury- structural abnormalities and observer agreement. Neuroradiology 2002 Jul;44(7):617-24