CIELO SPORTS & FAMILY CHIROPRACTIC

Patient's Name : Sample Patient **DOB : 06/25/1990**
Referred By : Sample Doctor **Analysis : 09/09/2024**
Analyzed By : Sample Examine Doctor **DOI : 08/20/2024**

This letter is in reference to the above mentioned patient concerning traumas where injuries were sustained to the patient's cervical region. There are cited references and research studies listed for reliability and validity purposes. Patients are evaluated for ligament laxity for one or more of the following reasons.

Reasons for Medical Necessity:

- Differential diagnosis
- Confirm ligament laxity/connective tissue injury (M24.28)
- Quantify overall Alteration of Motion Segment Integrity (AOMSI) in accordance to the AMA Guides
- Confirm anterior longitudinal ligament and posterior longitudinal ligament instability by quantifying translational and angular motion through flexion/extension stress views
- Confirm alar, accessory, and transverse ligament instability in the upper cervical region through APOM and Lateral bending stress views
- Confirm interspinous ligament instability through flexion stress views
- Motor changes, muscle spasm/guarding (efferent)
- Sensory changes, radicular pain/numbness (afferent)
- + Dejerines, + swallowing, + Valsalva (Space occupying lesion)
- Pain increased with cervical movement
- Muscle atrophy (decreased circumference)
- Herniated disc
- Annular bulging disc

These Cervical ligaments (ALL and PLL) are confirmed insufficient through motion studies and lines of mensuration analysis. I can conclude to a reasonable degree of medical certainty that Sample Patient will have future biomechanical issues in those specified areas stated in the biomechanical report provided.

Description of procedure/service provided(76499-22):

The spinal measurements of angulation and translation are analyzing "Alteration of Motion Segment Integrity", A.O.M.S.I. DXD software is utilized to dynamically assess musculoskeletal structures by capturing articular motion during a dynamic range. This diagnostic tool enables motion analysis to quantify spinal pathologies, and, above all, ligamentous instability in specific spinal regions. The technical work required for this procedure is substantially greater than typically required for this biomechanical interpretation, therefore a modifier was utilized. There was an increase in time pertaining to importing, plotting, and analyzing the three stress views illustrated, as well as increased intensity and mental effort required for precision, accuracy and clarity of quantifying the intersegmental vertebral motions.

Motion of the individual spine segments cannot be determined by a physical examination but is evaluated with flexion and extension roentgenograms. Flexion and extension x-rays are only indicated when the physician suspects motion segment alteration from history or findings on routine x-rays. (page 379 5th edition AMA)

Static vertebral positions to describe subluxations: anterolisthesis, retrolisthesis, flexion, extension, lateral flexion, rotation, and laterolisthesis. (Yochum & Rowe, 1987, P.-162) Simultaneous multilevel anterolisthesis produce a "stepladder" appearance on a lateral radiograph. A lateral flexion view is the most diagnostic in the evaluation of intersegmental derangements. The pathogenesis of anterolisthesis is the combination of loss in disc height and ligament laxity (Yochum & Rowe, 1987, PP.-867-8)

In 1987, Yochum & Rowe published Essentials of Skeletal Radiology, and described the significance of George's line (since 1919). If an anterolisthesis or retrolisthesis is present, then this may be a radiographic sign of instability due to…ligament laxity. (Yochum & Rowe, 1987, P.-149) (2nd Edition) (3rd Edition, P.-207)

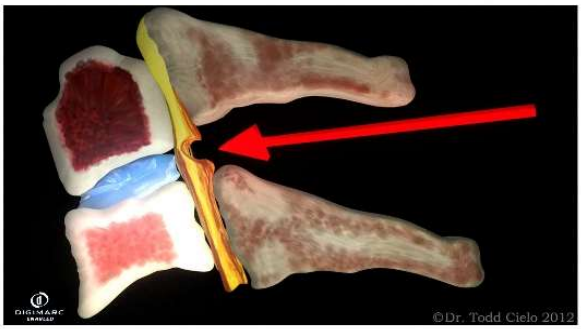
Flexion/extension x-rays (stress views) provide useful information on AOMSI, alteration of motion segment integrity, at a given level. – (6th Ed. AMA, PP.- 578-9)

Dominant motions at the cervical and lumbar spine, where most pathology occurs, are flexion and extension. (5th Ed. AMA, PP.-378-9)

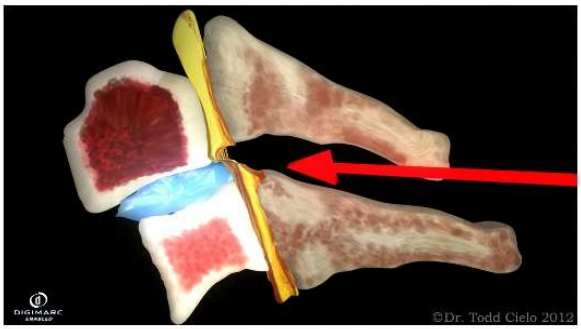
The progressive nature of ligamentous forward flexion injuries includes the use of George's Line in establishing posterior ligamentous damage (PLL). (Croft/Foreman, PP.-287-90.)

Posterior Longitudinal Ligament

The integrity of the posterior longitudinal ligament (PLL) is demonstrated by a forward (anterior) movement (translational motion) of one vertebrae over the vertebrae below or by the posterior widening of the intervertebral disc space (increased disc angle or angular motion). By measuring these discrepancies of George's Line (Yochum & Rowe, p. 149), AOMSI can be quantified and correlated with the AMA guides. (5th edition, p. 378-379).



Widening of the posterior disc



Anterolisthesis

Clinical instability may be demonstrated by standard x-ray (flexion/extension) or motion x-ray, and is often associated within chronic or intractable pain syndromes and neurological symptoms; usually precedes accelerated development of degenerative disc disease and spondylosis at the same levels. (Croft/Foreman, p.51)

To be diagnostic value, clinical symptoms and signs must agree with the imaging findings. In other words, an imaging test is useful to confirm a diagnosis, but an imaging result alone is insufficient to qualify for a DRE category. (5th Ed. P.-378).

There is a 26% error rate subjectively when analyzing these improprieties by hand mensuration. (Siegler and Howe, Inter & Intra examiner reliability of the upper cervical marking system JMPT 1985 8 (2):75-80).

DRE differentiators for clinical findings are used to place an individual in a DRE category: (4th Ed. PP.- 98-9,109) (5th Ed. PP.- 378-9,392) (6th Ed. PP.- 578-9,564)

1. **Alteration of motion segment integrity (AOMSI) documenting increased translational or angular motion**
2. Radiculopathy (herniated disc)/Electrodiagnostic verification
3. Asymmetry of spinal motion (ROM)
4. Muscle guarding/Muscle spasm
5. Reflexes
6. Weakness/atrophy
7. Cauda Equina syndrome

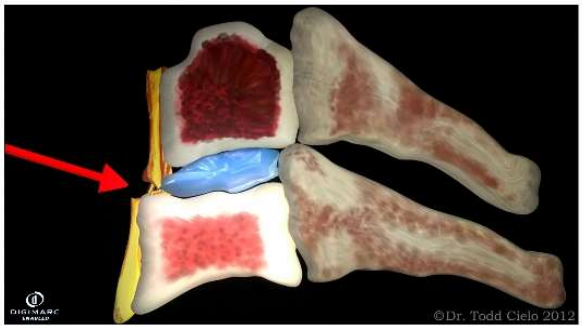
We can classify patients into categories by determining time of injury and by carefully evaluating the patient. However, the phases of injury do overlap significantly. (Croft & Foreman PP.- 452-62)

- Phase I (acute inflammatory), 0-72 hrs.
- Phase II (repair phase), 48hrs.-6 mo.
- Phase III (remodeling phase), 3 wks-12 mo.
- Phase IV (chronic/permanent), 12 months and beyond

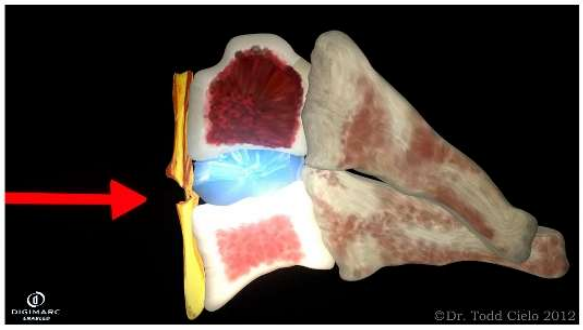
There are residual effects that Sample Patient will incur over time due the ligament laxity (M24.28) damage that was directly related to the trauma on 08/20/2024. The anterior longitudinal ligament (ALL) along with the posterior longitudinal ligament (PLL) in the Cervical spine have a primary responsibility to stabilize the anterior and posterior movement of the vertebra. Since both the ALL and the PLL are damaged there is excessive translation and angulation which can be viewed in the Biomechanical Report which was analyzed on 09/09/2024 from Cervical stress views which were taken on 08/29/2024. These two parameters are measured through an analysis called Lines of Mensuration which objectively isolates and quantifies ligament laxity in stress views (flexion/extension).

Anterior Longitudinal Ligament

The integrity of the anterior longitudinal ligament (ALL) is demonstrated by a backward (posterior) movement (translational motion) of one vertebrae over the vertebrae below or by the anterior widening of the intervertebral disc space (increased disc angle or angular motion). By measuring these discrepancies of George's Line (Yochum & Rowe, p. 149), AOMSI can be quantified and correlated with the AMA guides (5th edition, p. 378-379).



Retrolisthesis



Widening of the anterior disc

When the ALL and/or PLL is damaged or stretched a cascade of residual changes will occur due to the trauma on 08/20/2024 in the patient's Cervical spine due to the following future histological alterations:

1. PLL and ALL have ligament laxity (M24.28) damage which will be the reasons for the compromised segments listed in the reports along with the precursor to the mechanical alterations to the cervical spine.
2. Vertebral endplate changes due to the excessive loading of the Sharpey's fibers which adhere the disc to the endplate.
3. PLL attaches to the Sharpey's fibers, which in turn, will cause severe mechanical stress to the annular fibers of the adjacent discs.
4. ALL attaches to the annular fibers of the disc, which in turn, will cause severe disruption of the normal anatomy of the adjacent disc.
5. Accelerated post-traumatic degenerative disc changes.
6. Retrolisthesis causes foraminal encroachment, therefore disturbing the afferent and efferent branches of the nerve roots.
7. The adjacent discs at the levels of the ligament laxity will invaginate the endplates, Shmorl's nodes will form, annular fibers will tear thus causing disc lesions and an overall morphologic alteration of nucleus pulposus will occur.

The DXD software (AOMSI) correlates with theAMA Guidelines 4th Ed. (PP.- 98-9,109), 5th Ed. (PP.- 378-9) and the 6th Ed. (PP.- 578-9,564-70).

This software is designed to detect and evaluate ratable impairment established by the AMA Guidelines. Translation motion is measured by determining the anterior/posterior movement greater than 3.5 mm in the cervical spine, greater than 2.5 mm in the thoracic spine, and greater than 4.5 mm in the lumbar spine which is quantified on flexion and/or extension radiographs. In addition, angular motion is utilized which can't be greater than 11° in the cervical spine, greater than 15° at L1-2, L2-3, and L3-4, greater than 20° at L4-5, and greater than 25° at L5-S1in the lumbar spine which can be quantified on the flexion radiograph.

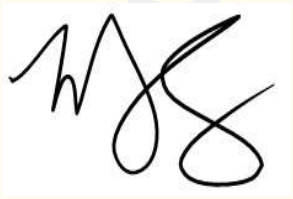
In 1998 "digitizing" was included in the Clinical Practice Guidelines #1, and its review by an independent research agency (ECRI – the Collaborating Center for the World Health Organization). The Clinical Practice Guidelines #1 was accepted for inclusion in the US government's National Guideline Clearinghouse of the Agency for Healthcare Policy and Research (AHCPR): 1998. Radiographic Digitizing is rated as "Established".

"The use of the guides requires the Physicians to use the same skills, knowledge, and ability as in the therapeutic practice of medicine for the collection of data and making of an accurate diagnosis. The Guides then used to channel that information and then translate that into an impairment number."
(p. 27, 6th Edition AMA guides, Impairment rating and the Law)

Most pain is associated with movement or a specific motion which affects our active daily living (ADL), duties under duress, and loss of enjoyment in everyday life. Since pain is coupled with motion, our static films will not fully, nor accurately diagnose the hypermobility due to variations of edema, adjacent muscle spasm and degree of the acute spinal injury of the vertebral joints in question. Common symptoms of MVA patients are diagnosed with headaches, TMJ dysfunction, posterior neck pain, muscle spasm, decrease range of motion and radicular symptoms. This diagnostic procedure will evaluate the posterior longitudinal ligament (PLL) and anterior longitudinal ligament (ALL) of the spine and the instability will be tangibly measured through the AMA Guides to the Evaluation of Permanent Impairment.

If there are any questions or concerns please feel free to call my office. The following biomechanical report will illustrate stress views to accurately achieve translation and angular measurements.

Yours in Health,



Sample Examine Doctor
Examining Doctor
CIELO SPORTS & FAMILY CHIROPRACTIC
3710 W EUCLID AVE
TAMPA, FL 33629

Sample Doctor
Referred By
CIELO SPORTS & FAMILY CHIROPRACTIC
3710 W EUCLID AVE
TAMPA, FL 33629

CIELO SPORTS & FAMILY CHIROPRACTIC

Patient's Name : Sample Patient **DOB : 06/25/1990**
Referred By : Sample Doctor **Analysis : 09/09/2024**
Examined By : Sample Examine Doctor **DOI : 08/20/2024**

DXD CERVICAL RADIOGRAPHIC SPINAL ANALYSIS

This report is compiled upon evidence-based objective biomechanical analysis and protocols that have been established for Roentgenometric Digitization of the spine. This evaluation will not include a pathological report. The Digital Radiographic Images used were of acceptable quality and in compliance with normal protocols for X-ray digitization. This report follows the AMA Guides to The Evaluation of Permanent Impairment, 5th Edition, Errata.

+AOMSI qualifying the patient for 25% Impairment of Whole Person according to the AMA Guides to the Evaluation of Permanent Impairment, 5th Edition, page 392, Table 15-5.

The spinal measurements of angulation and translation are analyzing “Alteration of Motion Segment Integrity”, A.O.M.S.I. DXD software is utilized to dynamically assess musculoskeletal structures by capturing articular motion during a dynamic range. This diagnostic tool enables motion analysis to quantify spinal pathologies and, above all, ligament laxity (M24.28) in specific spinal regions. The Mensuration Analysis is considered "Established" by the World Health Organization and can be found in the US National Guideline Clearinghouse.

Lateral Cervical Spine :

There is a spondylolisthesis at C3-4. Interruptions of George's Line at C2-3, C3-4 and C4-5 during the lateral stress views (flexion/extension) are indicative of ligamentous instability, sub-failure, or insufficiency from the evaluation of translational motion. (Yochum & Rowe, Essentials of Skeletal Radiology, p.149, 2nd Edition)(3rd Edition, P.-207).

Cervical Study : ALTERATION OF MOTION SEGMENT INTEGRITY (AOMSI) QUANTIFICATION

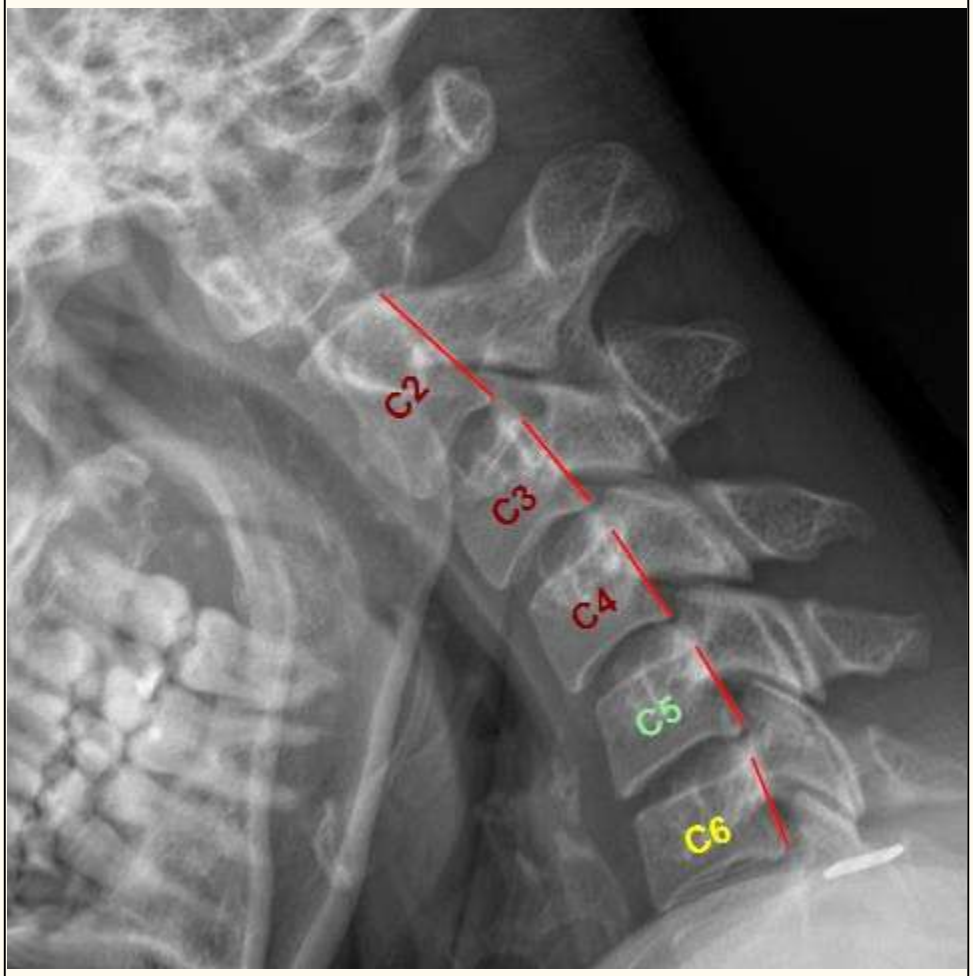
- The angular motion segment integrity is compromised and ratable at C2-3.
- The translational motion segment integrity is compromised and ratable at C3-4.

IMPRESSIONS:

1. Cervical motion study (C2-C6) indicates Angular Motion Segment Integrity change at C2-3. The impairment of the Cervical region is due to ratable Loss of Motion Segment Integrity and is ratable at 25% for Cervical spine (AMA Guides, Fifth Edition, Errata). This patient’s digital analysis reveals Loss of Motion Integrity in extension at C2-3=12.85 (Calculated Angulation) degrees.
   Cervical motion study (C2-C6) indicates Translational Motion Segment Integrity change at C3-4. The impairment of the Cervical region is due to ratable Loss of Motion Segment integrity and is ratable at 25% for Cervical spine (AMA Guides, Fifth Edition, Errata). This patient’s digital analysis reveals Loss of Motion Integrity at C3-4=3.63 mm (Total Translation).
2. Ligamentous instability is present in the Cervical spine.
3. Interruptions of George's Line at C2-3, C3-4 and C4-5 during the lateral stress views (flexion/extension) are indicative of ligamentous instability, sub-failure, or insufficiency from the evaluation of translational motion.

FLEXION LATERAL RADIOGRAPH

Patient Name : Sample Patient
Film Date : 08/29/2024 **S.I.D.** : 40"
Analysis : 09/09/2024
Referred By : Sample Doctor

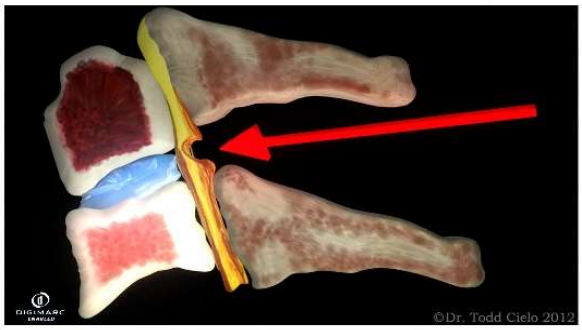


Abnormal / Ratable
Normal
Last Segment

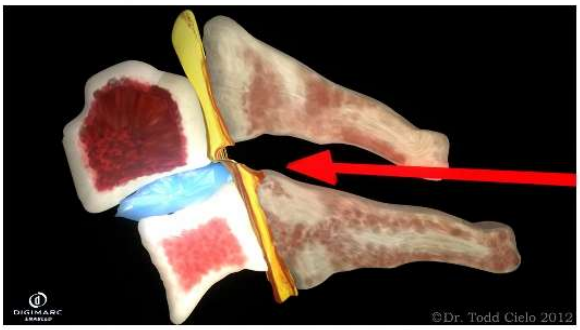
FLEXION LATERAL RADIOGRAPH
TRANSLATION (mm)

Posterior Longitudinal Ligament

The integrity of the posterior longitudinal ligament (PLL) is demonstrated by a forward (anterior) movement (translational motion) of one vertebrae over the vertebrae below or by the posterior widening of the intervertebral disc space (increased disc angle or angular motion). By measuring these discrepancies of George's Line (Yochum & Rowe, p. 149), AOMSI can be quantified and correlated with the AMA guides. (5th edition, p. 378-379).



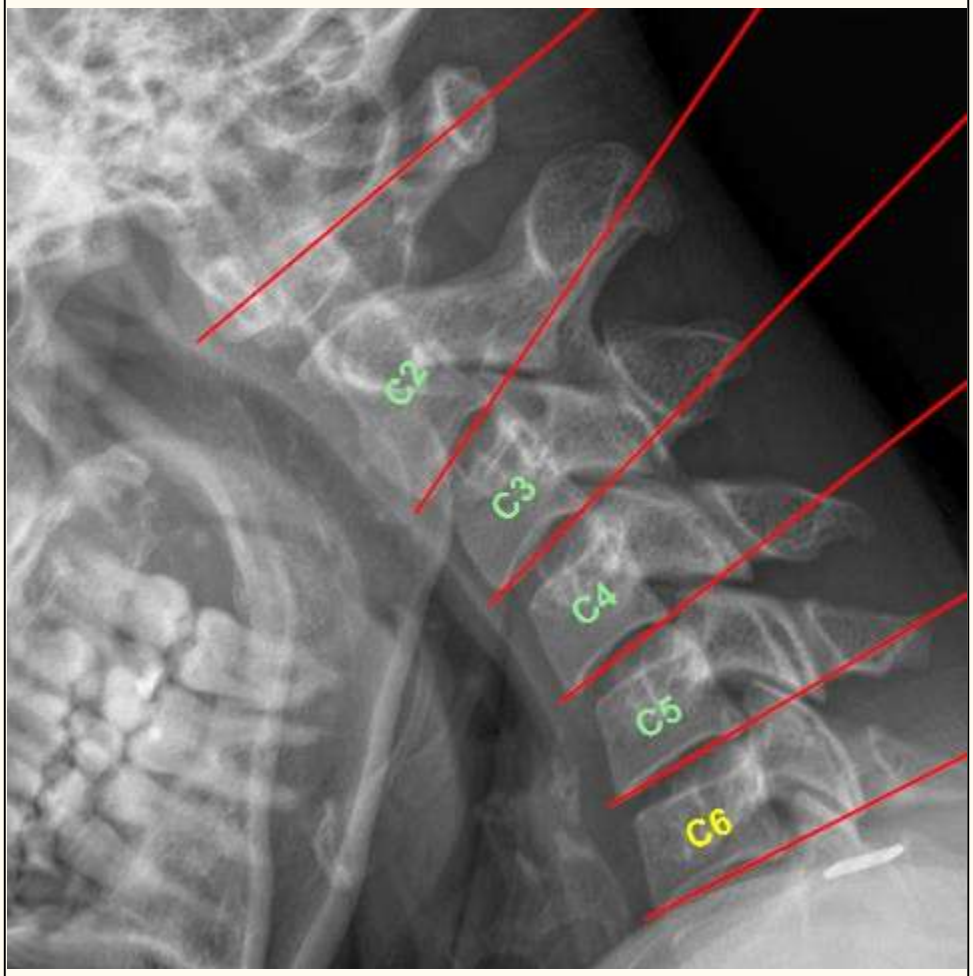
Widening of the posterior disc



Anterolisthesis

FLEXION LATERAL RADIOGRAPH

Patient Name : Sample Patient
Film Date : 08/29/2024 **S.I.D.** : 40"
Analysis : 09/09/2024
Referred By : Sample Doctor

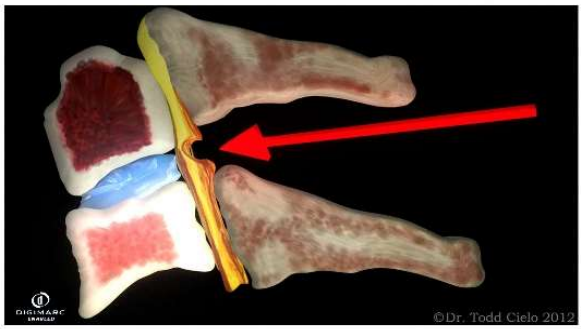


Abnormal / Ratable
Normal
Last Segment

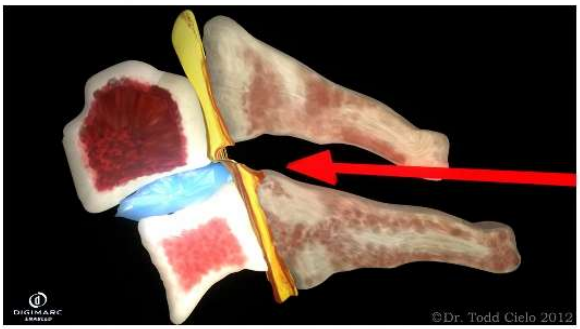
FLEXION LATERAL RADIOGRAPH
ANGULATION (Degrees)

Posterior Longitudinal Ligament

The integrity of the posterior longitudinal ligament (PLL) is demonstrated by a forward (anterior) movement (translational motion) of one vertebrae over the vertebrae below or by the posterior widening of the intervertebral disc space (increased disc angle or angular motion). By measuring these discrepancies of George's Line (Yochum & Rowe, p. 149), AOMSI can be quantified and correlated with the AMA guides. (5th edition, p. 378-379).



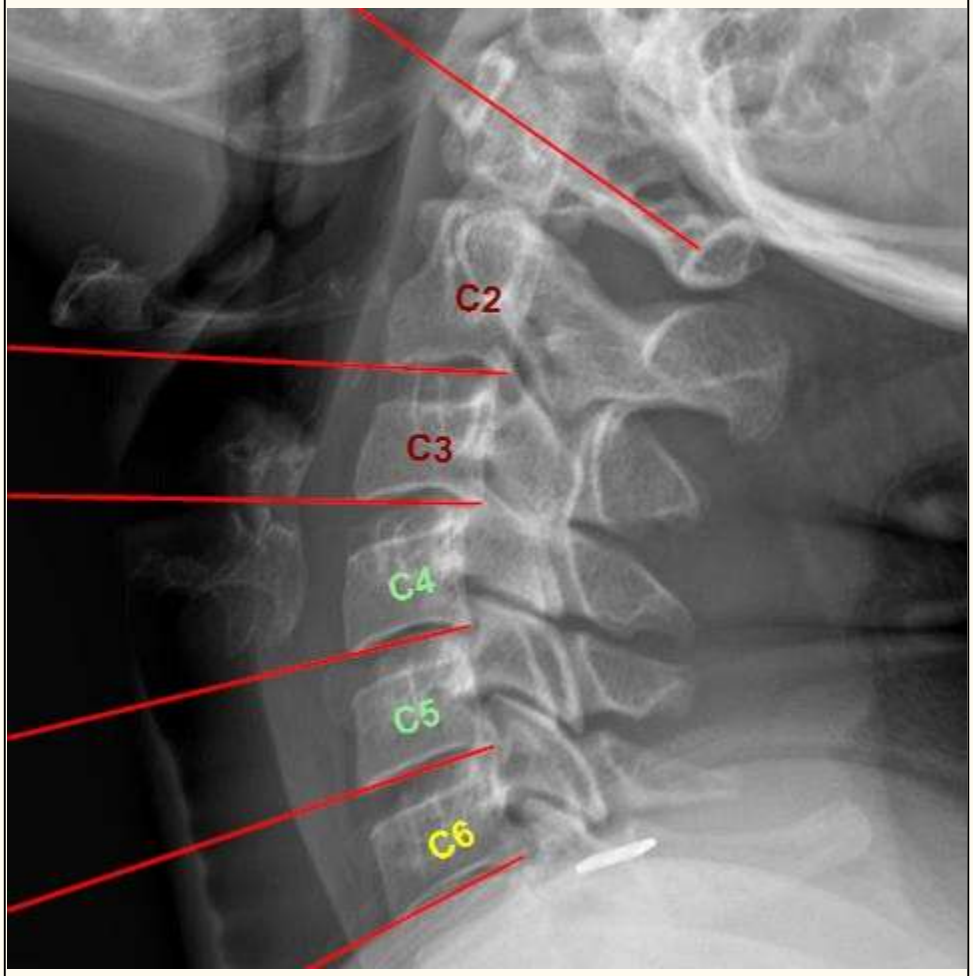
Widening of the posterior disc



Anterolisthesis

EXTENSION LATERAL RADIOGRAPH

Patient Name : Sample Patient
Film Date : 08/29/2024 **S.I.D.** : 40"
Analysis : 09/09/2024
Referred By : Sample Doctor

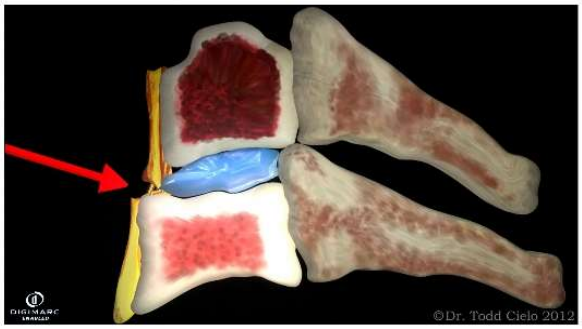


Abnormal / Ratable
Normal
Last Segment

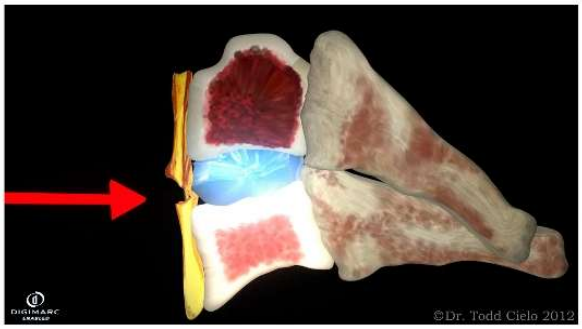
EXTENSION LATERAL RADIOGRAPH
ANGULATION (Degrees)

Anterior Longitudinal Ligament

The integrity of the anterior longitudinal ligament (ALL) is demonstrated by a backward (posterior) movement (translational motion) of one vertebrae over the vertebrae below or by the anterior widening of the intervertebral disc space (increased disc angle or angular motion). By measuring these discrepancies of George's Line (Yochum & Rowe, p. 149), AOMSI can be quantified and correlated with the AMA guides (5th edition, p. 378-379).



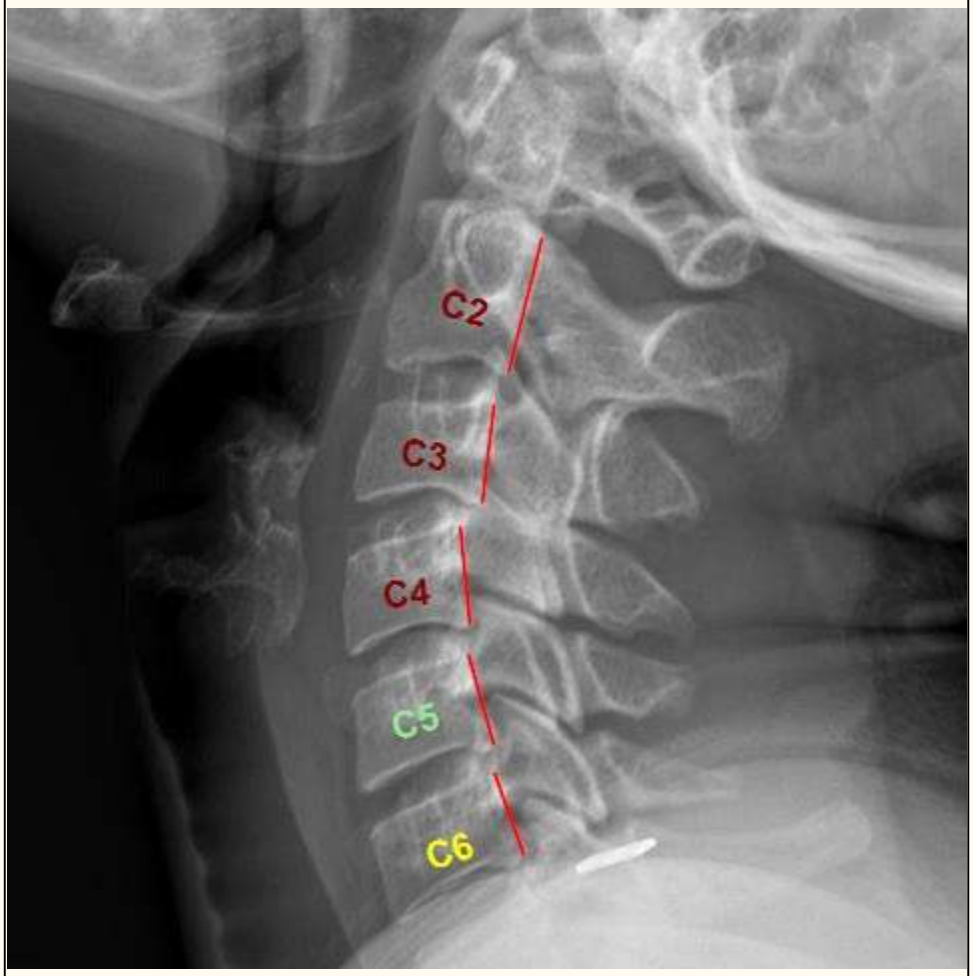
Retrolisthesis



Widening of the anterior disc

EXTENSION LATERAL RADIOGRAPH

Patient Name : Sample Patient
Film Date : 08/29/2024 **S.I.D.** : 40"
Analysis : 09/09/2024
Referred By : Sample Doctor

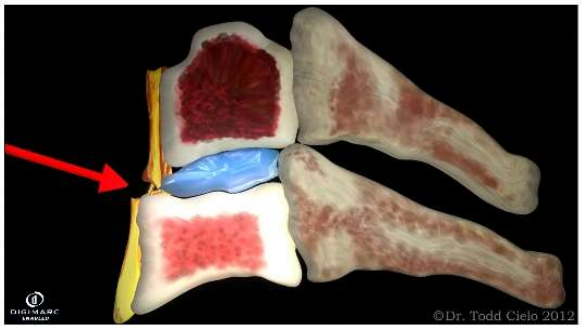


Abnormal / Ratable
Normal
Last Segment

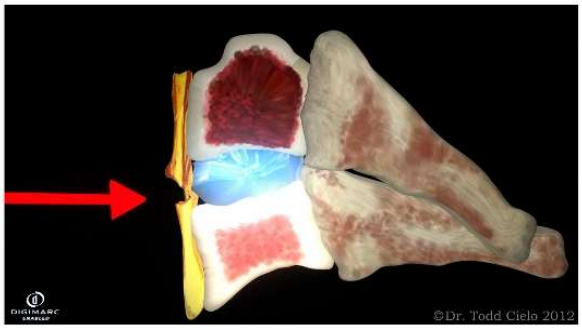
EXTENSION LATERAL RADIOGRAPH
TRANSLATION (mm)

Anterior Longitudinal Ligament

The integrity of the anterior longitudinal ligament (ALL) is demonstrated by a backward (posterior) movement (translational motion) of one vertebrae over the vertebrae below or by the anterior widening of the intervertebral disc space (increased disc angle or angular motion). By measuring these discrepancies of George's Line (Yochum & Rowe, p. 149), AOMSI can be quantified and correlated with the AMA guides (5th edition, p. 378-379).



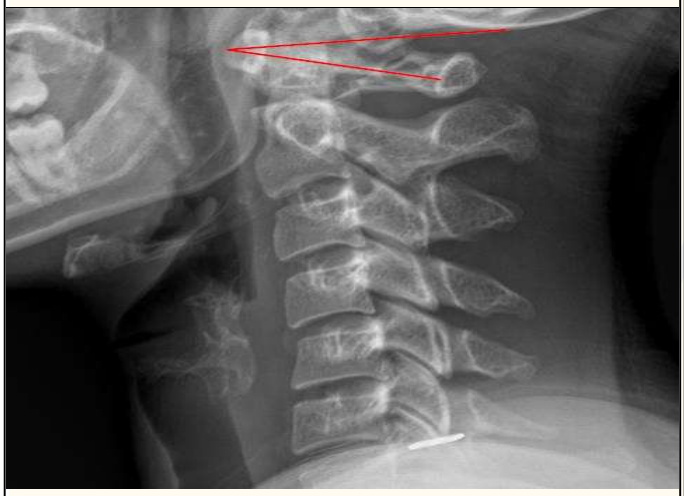
Retrolisthesis



Widening of the anterior disc

NEUTRAL LATERAL RADIOGRAPH

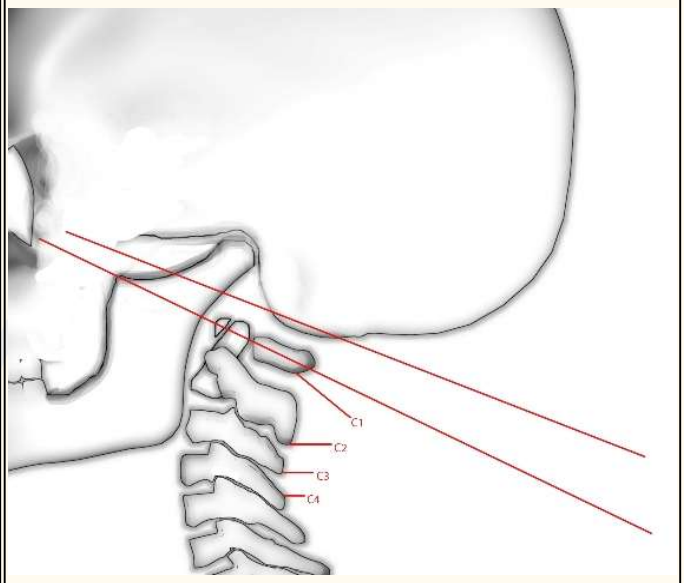
Patient Name	**: Sample Patient**
Film Date	**: 08/29/2024** **S.I.D. : 40"**
Analysis	**: 09/09/2024**
Referred By	**: Sample Doctor**



Atlas Angle : 17.02 °

Standard Lateral

Neutral Lateral W/B [C7-SK]



Atlas Angle

Patient Name	**: Sample Patient**
Film Date	**: 08/29/2024** **S.I.D. : 40"**
Analysis	**: 09/09/2024**
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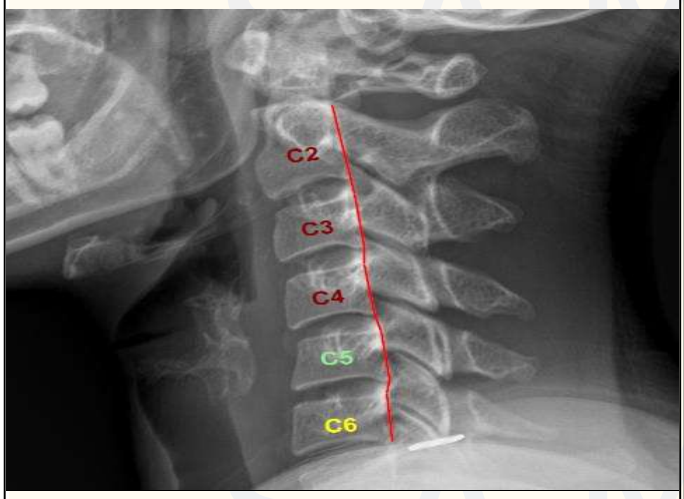
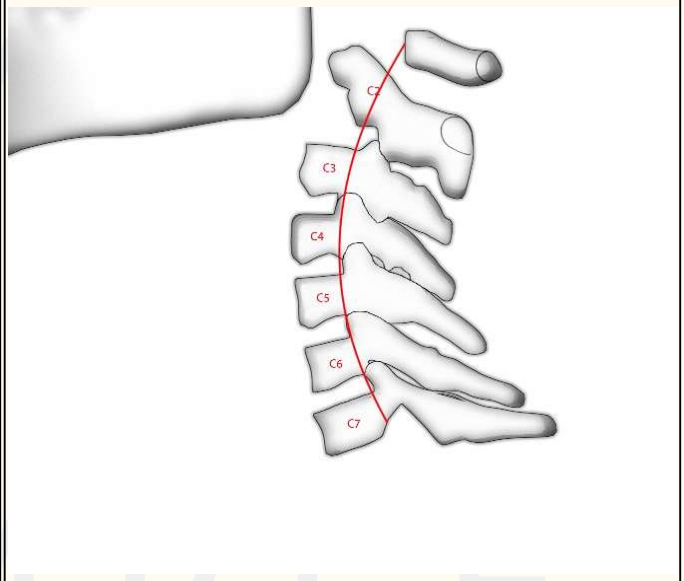


George's Line

Standard Lateral

Neutral Lateral [C7-SK]



George's Line

George's Line is also known as the posterior vertebral alignment line and the posterior body line. George's Line is a measure of spinal ligament integrity of the posterior longitudinal ligament and vertebral body alignment. The key landmark is the alignment and integrity of one vertebra to each superior and inferior vertebra. The normal translation or laxity of each vertebral motor unit is 0.0 to 0.6 mm. Normally there is a smooth vertical alignment of each posterior body corner. Interruption of a smooth curve is indication of ligament instability due to fracture, dislocation or trauma with ligamentous sub-failure or degenerative joint disease which can cause or aggravate spinal stenosis with resultant altered spinal biomechanics and degeneration. (Yochum/Rowe)

Patient's Name : **Sample Patient** **DOB : 06/25/1990**
Referred By : **Sample Doctor** **Analysis : 09/09/2024**
Examined By : **Sample Examine Doctor** **DOI : 08/20/2024**

ALTERATION OF MOTION SEGMENT INTEGRITY (AOMSI)

	Patient (mm)		Established Abnormal (mm)	Established Ratable (mm)	Total Translation (mm)	% Foraminal Encroachment
	A	P				
C2-3	1.01	1.40	0.60 - 3.50	3.50	**2.41**	16.80
C3-4	0.35	3.28	0.60 - 3.50	3.50	**3.63**	39.36
C4-5	0.94	1.29	0.60 - 3.50	3.50	**2.23**	15.48
C5-6	-0.64	1.19	0.60 - 3.50	3.50	**0.55**	14.28

Abnormal / Ratable Segment **Normal Segment**

Translational loss of motion segment integrity is defined as an anteroposterior motion of one vertebra over another that is greater than 3.5 mm.

Motion Segment Integrity, Translational
A - Anterior , P - Posterior

Translational motion is measured by determining the anteroposterior motion of one vertebra over another. Alteration of motion segment integrity (AOMSI) is defined by translational motion that is greater than 3.5 mm in the cervical spine, 2.5 mm in the thoracic spine and 4.5 in the lumbar spine. Using DRE Cervical Category IV, loss of motion segment integrity may be assessed as 25%-28% Impairment of the Whole Person. Using DRE Lumbar Category IV, loss of motion segment integrity may be assessed as 20%-23% Impairment of the Whole Person.

	Patient (°)		Established Abnormal (°)	Established Ratable (°)	Calculated Angulation (°)	
	I (Flex)	S (Ext)			I (Flex)	S (Ext)
C2-3	10.20	-1.72	7.00 - 11.00	11.00	**2.96**	**12.85**
C3-4	7.24	-14.57	7.00 - 11.00	11.00	**0.51**	**9.28**
C4-5	7.75	-5.29	7.00 - 11.00	11.00	**4.23**	**3.38**
C5-6	3.52	-8.67	7.00 - 11.00	11.00	---	---

Abnormal / Ratable Segment **Normal Segment**

Loss of motion segment integrity is defined as motion at the spinal level in question that is more than 11° greater than at either adjacent level. (Calculated difference, not raw angle)

Motion Segment Integrity, Angular
I - Inferior , S - Superior

A motion segment of the spine is defined as two adjacent vertebrae, an intervertebral disc and the vertebral facet joints. Loss of motion segment or structural integrity is defined as abnormal back-and-forth motion (translation) or abnormal angular motion of a motion segment with respect to an adjacent motion segment. The angular loss of integrity is defined as a difference in the angular motion of two adjacent motion segments greater than 11° at C2-3, C3-4, C4-5, C5-6, C6-7, greater than 15° at L1-2, L2-3, L3-4, and greater than 20° at L4-5 in response to flexion and extension. Loss of integrity of the lumbosacral joint is defined as an angular motion between L5-S1 that is 25° greater than motion at L4-5 level at 20° (Ref: AMA Guides to the Evaluation of Permanent Impairment, Fifth Edition) or an angular motion between L5-S1 that is 25°. Loss of integrity is defined as translational motion greater than 3.5 mm in the cervical spine or 5 mm in the thoracic and lumbar spine (Fourth Edition) and/or motion at the level in question that is more than 11° greater than at either adjacent level. (Calculated difference, not raw angle)

Pavlov's Ratio

Segment	Vertebral Width (mm) (B)	Cervical Sagittal Diameter (mm) (A)	Pavlov's Ratio (A/B)
C3	15.53	15.13	0.97
C4	15.64	14.76	0.94
C5	16.25	15.57	0.96
C6	18.10	15.55	0.86

>1.0 is Optimal
0.85 is Borderline Stenotic
<0.80 is Stenotic and Pathological

FLEXION LATERAL RADIOGRAPH

Patient Name : Sample Patient **S.I.D.** : 40"
Film Date : 08/29/2024
Analysis : 09/09/2024
Referred By : Sample Doctor

VERTEBRAL PLOTTING POINTS

EXTENSION LATERAL RADIOGRAPH

Patient Name : Sample Patient **S.I.D.** : 40"
Film Date : 08/29/2024
Analysis : 09/09/2024
Referred By : Sample Doctor

VERTEBRAL PLOTTING POINTS

NEUTRAL LATERAL RADIOGRAPH

Patient Name : Sample Patient **S.I.D.** : 40"
Film Date : 08/29/2024
Analysis : 09/09/2024
Referred By : Sample Doctor

VERTEBRAL PLOTTING POINTS

Flexion - Extension Stress View

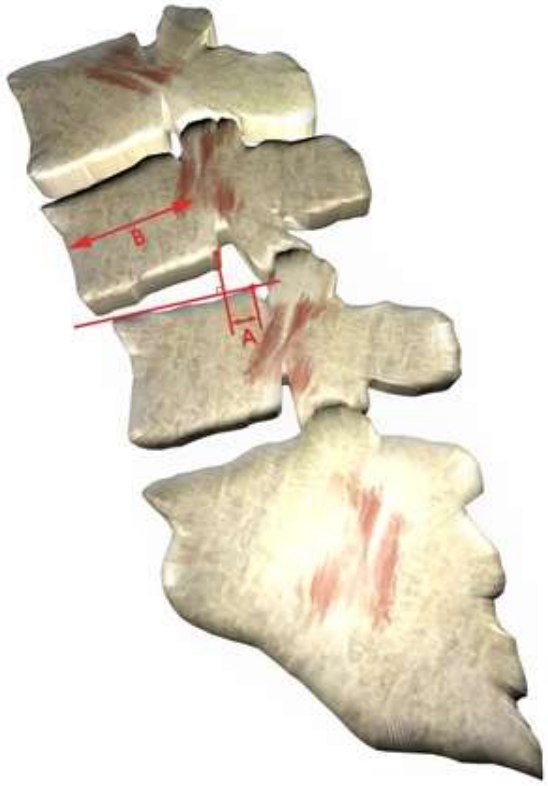
TABLE 5-7 Checklist for the Diagnosis of Clinical Instability in the Middle and Lower Cervical Spine.

Element	Point Value
Anterior elements destroyed or unable to function.	2
Posterior elements destroyed or unable to function.	2
Positive stretch test	2
Radiographic criteria *	4
A. Flexion/extension x-rays	
1. Sagittal plane translation > 3.5 mm or 20% (2 pts)	
2. Sagittal plane rotation > 20° (2 pts)	
OR	
B. Resting x-rays	
1. Sagittal plane displacement > 3.5 mm or 20% (2 pts)	
2. Relative sagittal plane angulation > 11° (2 pts)	
Abnormal disc narrowing / widening	1
Developmentally narrow spinal canal	1
1. Sagittal diameter < 13 mm	
OR	
2. Pavlov's ratio < 0.8†	
Spinal cord damage	2
Nerve root damage	1
Dangerous loading anticipated	1

Total of 5 or more = unstable

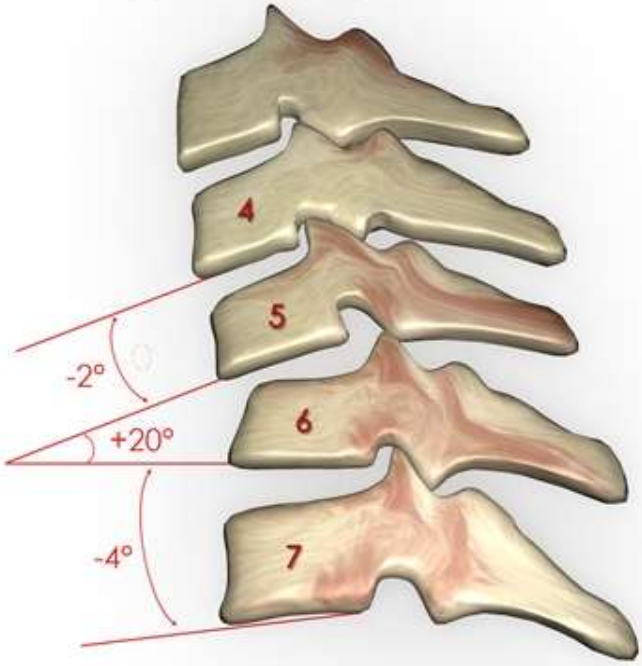
* See Figures 3-35 and 5-36 for information on making these measurements.
† See Figure 5-35

Translation (mm)



A line is drawn along the posterior bodies of the vertebrae below and above the motion segment in question on dynamic(flexion and extension), lateral roentgenograms of the spine. The distance between lines A and B and the distance between lines B and C at the level of the posteroinferior corner of the upper vertebral body are summed. A value greater than 2.5 mm in the thoracic spine, greater than 4.5 mm in the lumbar spine, and greater than 3.5 mm in the cervical spine qualifies as loss of structural integrity.

Angulation (degrees)



ABNORMAL ANGLE { = 20 - (-2) = 22 ; = 20 - (-4) = 24 } > 11°

*White/Panjabi interpret a difference of 11 degrees or greater than the adjacent angle interspace as evidence of clinical instability.

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I have determined that this radiographical stress view study is medically necessary to analyze and quantify translational and angular motion of the Cervical spine. There are cited references (page 14) and demonstrative color copyrighted images (pages 2,3,7,8,9,10,11 and 13) for comprehension, validity, and reliability purposes.

Sample Examine Doctor
Examining Doctor