

## AOMSI Radiology Report Optional –

### Total Linear and Relative Translation (Flexion/Extension)

Create a Report - Polly PI

Must select at least one

- Angulation Analysis (Flexion - 5th or 6th Editions)
- Relative Translation (Flexion/Extension - 5th or 6th Editions)
- Linear Translation (Flexion/Extension - 5th Edition only)

Optional

- Measurement Graphs
- Posterior Vertebral Body Line Analysis - George's Line (Neutral)
- ALL and PLL Diagrams and Explanations
- Total Linear and Relative Translation (Flexion/Extension)
- Relative Translation (Neutral)
- Linear Translation (Neutral)
- Images with Dot Placement

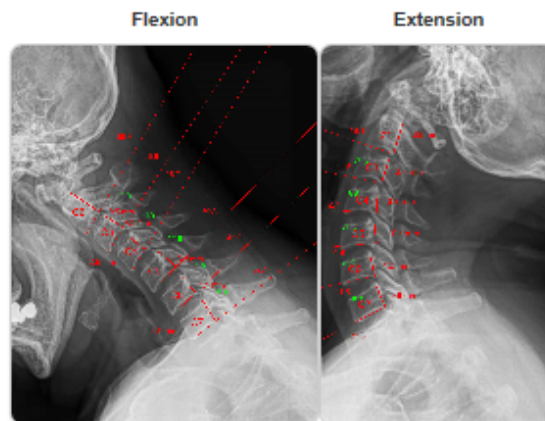
< Back      Exit      Next >

This option shows both the Flexion and Extension Linear Translation in one table with the Total Linear Translation, and it also shows the Flexion and Extension Relative Translation in another table with the Total Relative Translation.

# Total Linear and Relative Translation Measurements

## Clinical Relevance of Measurements & Analysis

Total Translation for either the Linear or Relative methodologies is discussed in the AMA Guides Newsletter and the scientific literature.<sup>1-2,5-6,9</sup> The significance of the Total Translation values is to demonstrate a perspective of the total range of motion in combining both flexion and extension of the cervical spine in comparison to the flexion and extension being evaluated separately. The thresholds for Total Translation have been corrected in the AMA Guides 5th Edition (errata) and are listed here to be consistent with the scientific literature and the updated AMA Guides in that the combining of the flexion and extension have a corrected threshold of >7.0mm for the Linear Translation method and the Relative Translation has a threshold of >40% when combining flexion and extension measurements. Flexion and extension have individual thresholds for AOMSI determination as described in the main body of this report that qualify the patient for a permanent impairment rating if the thresholds are met. The Total Translation table below is presented for a summary of the translation methods for the AMA Guides 5th Edition and for additional perspective for alteration of motion segment integrity across the full range of flexion and extension. When both flexion and extension have an AOMSI diagnosis on multiple segments, it often qualifies the patient for a higher DRE Cervical Spine Category of Impairment (5th Edition) or a higher Class rating (6th Edition).<sup>1-6</sup>



## Total Linear and Relative Translation Measurements

Linear Translation				Relative Translation			
Motion Segment	Flexion Linear Translation (mm)	Extension Linear Translation (mm)	Linear Translation Total (mm)	Motion Segment	Flexion Relative Translation (%)	Extension Relative Translation (%)	Relative Translation Total (%)
C2-C3	0.5 posterior	<b>3.8 posterior</b>	3.3	C2-C3	1.8	11.9	10.1
C3-C4	<b>4.9 posterior</b>	<b>3.7 posterior</b>	-1.2	C3-C4	14.6	11.5	-3.1
C4-C5	<b>7.9 anterior</b>	<b>3.9 posterior</b>	<b>11.8</b>	C4-C5	<b>29.6</b>	11.2	<b>40.8</b>
C5-C6	<b>3.8 posterior</b>	<b>10.1 posterior</b>	6.3	C5-C6	10.6	<b>29.1</b>	18.5
C6-C7	1.5 posterior	<b>4.2 posterior</b>	2.7	C6-C7	4.2	11.9	7.7

*This table is a summary of the translation measurements and their respective thresholds. Linear translation and relative translation are displayed separately. Each translation method has a separate total translation value. Total Translation is defined as the sum of both the flexion and extension translation measurements. The measured linear translation anterior and posterior translation measurements from the flexion and extension views are summed and displayed in the linear translation total columns. This total sum gives a total translation number demonstrating the overall ligament laxity from flexion and extension injuries combined. The threshold for total linear translation measurement is 7.0mm. The relative translation flexion and extension calculations are added and displayed in the Relative Translation Total column. The threshold for total relative translation is a % calculation added from extension and flexion measurements that are greater than 40%. Any measurements that exceed thresholds have been bolded. Any individual flexion or extension measurements that exceed the 3.5mm linear translation, or 20% relative translation thresholds are also bolded. The method for determining the measurements and calculations for linear and relative translation are explained in Figures B & C of this report.<sup>1-6</sup>*