

**On-line Table: Demographics, CCI measurements, interpretation of CT using proposed CCI cutoffs, imaging findings, and clinical information**

ID	Age (yr)/Sex	Left Sag Avg CCI (mm)		Right Sag Avg CCI (mm)		Left Cor Avg CCI (mm)		Right Cor Avg CCI (mm)		Initial CT Findings of Atlanto-Occipital Injury		Follow-Up MRI/CT Findings	Mechanism of Injury	Clinical Signs/Symptoms at Presentation	Treatment
		Avg CCI (mm)	Right Avg CCI (mm) <sup>a</sup>	Left Avg CCI (mm) <sup>a</sup>	Right Avg CCI (mm) <sup>a</sup>	Avg CCI (mm)	Revised CCI (mm) <sup>b</sup>	Pang et al <sup>2</sup> Avg CCI (4.0 mm)	Gire et al <sup>3</sup> Revised CCI (2.5 mm)	3 SDs above Age-Specific Mean	2 SDs above Age-Specific Mean				
1	1/M	4.8	3.9	4.7	4.8	4.0	5.1	Positive	Positive	Positive	OC-C1 and C1-C2 widening	MRI: TM disruption	MVA	Resp insuff, SCI, quadriplegia	Fusion
2	3/M	2.3	2.9	1.8	2.1	2.4	3.1	Negative	Negative	Negative	None	MRI: TM disruption	Hit by car	Resp insuff, quadriplegia	Fusion
3	7/F	2.0	2.6	2.6	2.3	2.5	3.7	Negative	Negative	Negative	REH	MRI: TM lifted off clivus	MVA	Resp insuff, triplegia	Fusion
4	3/M	1.9	2.5	2.0	2.0	2.3	3.3	Negative	Negative	Negative	None	MRI: TM lifted off odontoid	MVA	Resp insuff, SCI, paraplegia	Fusion
5	6/F	1.9	2.7	2.4	2.2	2.7	4.1	Negative	Negative	Negative	Retro-odontoid hematoma	MRI: TM disruption	MVA	Resp insuff, hemiplegia	Fusion
6	13/M	3.3	3.2	4.0	3.7	4.0	4.9	Negative	Positive	Positive	Perimedullary SAH	MRI: TM disruption	MVA	Resp insuff, neck pain	Fusion
7	4/F	2.1	2.3	2.6	2.4	2.7	3.0	Negative	Negative	Negative	REH	MRI: TM lifted off clivus	MVA	Neck pain	Conservative
8	10/M	3.3	2.9	3.7	3.5	2.6	4.2	Negative	Positive	Positive	REH	MRI: TM lifted off clivus	MVA	Resp insuff, TBI, hemiparesis	Conservative
9	10/M	2.2	2.3	2.6	2.4	2.4	3.1	Negative	Negative	Negative	REH	MRI: TM lifted off clivus	High-speed boating accident	Neck pain	Conservative
10	9/F	7.1	8.1	6.7	6.9	7.7	8.9	Positive	Positive	Positive	Obvious OC-C1 malalignment	MRI: TM disruption	MVA	Resp insuff, SCI, quadriplegia	Fusion
11	3/F	5.7	4.7	5.0	5.4	4.9	6.0	Positive	Positive	Positive	OC-C1 and C1-C2 widening, perivertebral hematoma	NA	Hit by car	Resp insuff, quadriplegia	Patient deceased
12	6/M	3.1	4.1	3.2	3.2	4.4	4.8	Positive	Positive	Positive	REH	CT: New calcification in TM, decreased (normal) CCI	Hit by car	Neck pain, myelopathy	Fusion
13	6/M	5.3	6.2	5.6	5.5	7.0	8.2	Positive	Positive	Positive	REH: OC-C1 joint space hemorrhage	NA	MVA	Resp insuff	Patient deceased
14	16/M	1.2	1.1	1.3	1.3	1.1	1.5	Negative	Negative	Negative	None	MRI: TM disruption	MVA	Neck pain	Conservative

**Note:**—Resp insuff indicates respiratory insufficiency; ID, identification; OC-C1, occipital condyle-C1; TBI, traumatic brain injury; Sag, sagittal; Avg, average; TM, tectorial membrane; REH, retroclival epidural hematoma; MVA, motor vehicle collision; SCI, spinal cord injury; NA, not applicable; Cor, coronal.

<sup>a</sup> Pang et al<sup>2</sup> Avg CCI.

<sup>b</sup> Gire et al<sup>3</sup> revised CCI.