

Supplementary Table:**Impact of varying CDR risk factor interpretation on number of children CDR positive[#] and number of CDR positive children actually imaged (n= 973)**

CDR	CDR interpretation	Number CDR Positive (+)	Percentage CDR + (95% CI)	Number of CDR + children imaged in our cohort (%)
NEXUS	No variation	430	44.2 (41.0,47.4)	325/430 (75.6%)
	Retrospectively applied researcher applied definition of distracting injury using NEXUS definitions	401	41.2 (38.1,44.4)	
	Paraesthesia only not included in focal neurology definition	422	43.4 (40.2,46.6)	
PECARN	Most inclusive PECARN definitions. Any history of neck pain (pre- hospital or ED) in any child 2 and older, and any restriction in neck movement	663	68.1 (65.1,71.1)	359/663 (54%)
	History of neck pain only in ED in any child 2 and older, and any restriction in neck movement	605	62.2 (59.0,65.2)	
	History of neck pain in ED only and neck movement < 45 degrees or torticollis	585	60.1(57.0,63.2)	
	As per most inclusive PECARN definitions but using researcher applied definitions of substantial Injury based on hospital records of actual injury rather than bedside definitions of suspected substantial injury.	648	66.6(63.5,69.6)	
CCR*	Definitive indications for imaging only used as specified in methods and most conservative interpretation of bicycle collision	472	48.4 (45.3,51.7)	236/472 (50%)
	As above but including all bicycle accidents	498	51.1(48.0,54.4)	

NEXUS- National Emergency X-Radiography Low Risk Criteria;^{17,18} CCR -Canadian C-Spine rule(CCR);¹⁹ PECARN -Paediatric Emergency Care Applied Research Network;²³ CDR - clinical decision rule; ED – emergency Department

[#]CDR positive - includes only those variables definitively recorded as present (excludes unknowns) to ensure rates are not over-estimated

* For reasons discussed in the methods, CCR positivity is more difficult to interpret and only a minimum number can be calculated.