

Assessing the C-Spine: Canadian C-Spine Rule

Katie Turnbull

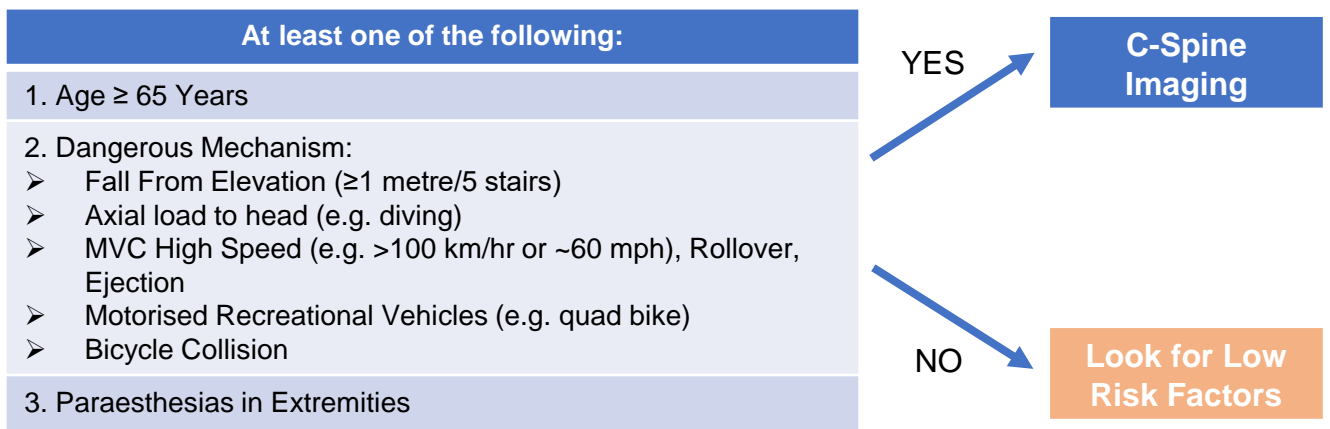
University of Glasgow – Medical Student – Emergency Medicine Block

Introduction

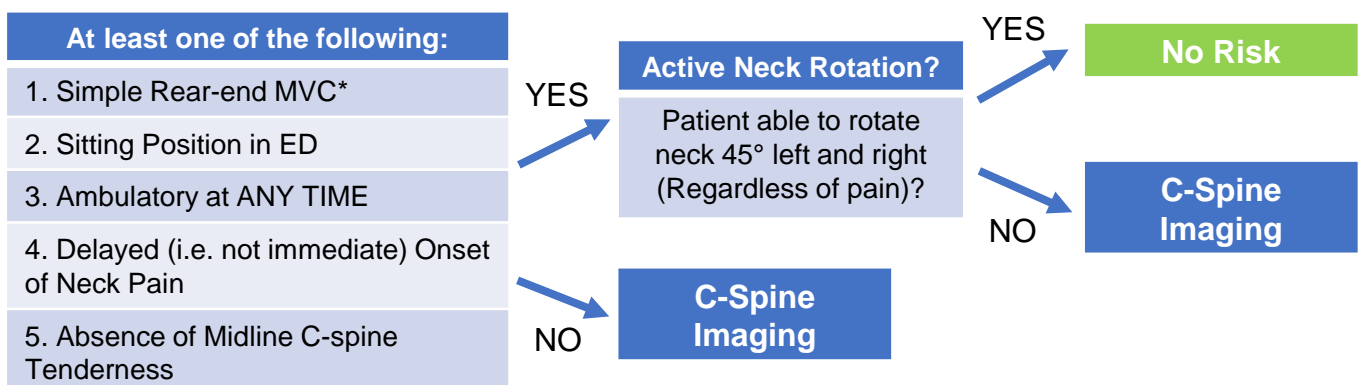
Canadian C-Spine Rule is a set of guidelines that help emergency department clinicians select which alert and stable patients should receive C-spine radiography [1]. It was established to enable patient management to become standardised and more efficient as well as to reduce the cost from unnecessary imaging [1]. Patients need to be alert and stable to be included before being categorised into either high risk, low risk or no risk (shown below) [1,2,3].

The rule does not apply in non-trauma cases, GCS <15, unstable vital signs, age <16 years, acute paralysis, known vertebral disease, previous c-spine surgery or pregnancy [4]. Therefore, clinical judgement and discussion with a senior is advised (ST4 or above). Exceptions to the rule can be made if justifiable clinical grounds exist.

Step 1: High Risk

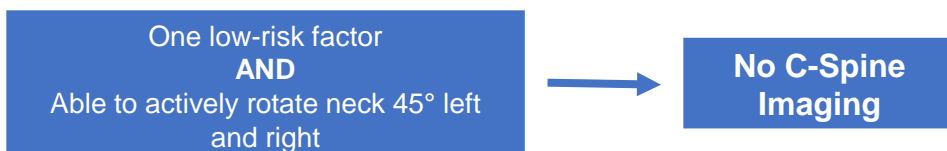


Step 2: Low Risk

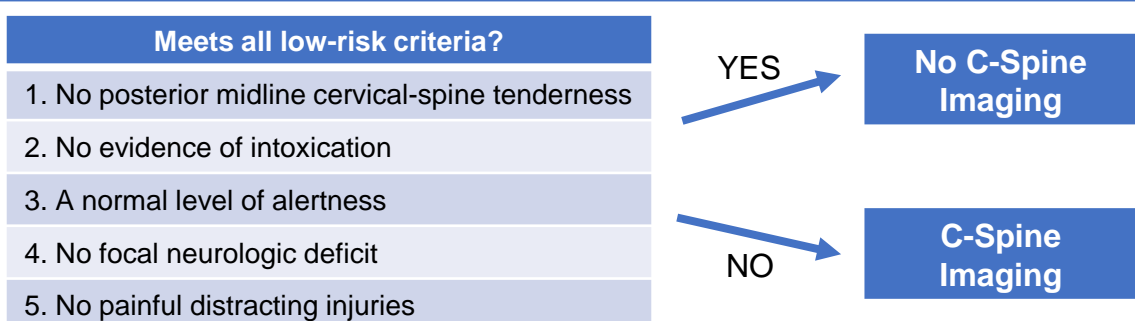


*Excludes – Pushed Into Oncoming Traffic, Hit by Bus/Large Truck, Rollover or Hit by High-Speed Vehicle

Step 3: No Risk



National Emergency X-Radiography Utilisation Study (NEXUS) Criteria [5]



The Canadian C-Spine Rule has been found to be more sensitive and specific for cervical-spine injury than the NEXUS Criteria with its use resulting in lower radiography rates [5].

References

- [1] Stiell IG, Wells GA, Vandemheen KL et al. The Canadian C-Spine Rule for Radiography in Alert and Stable Trauma Patients. The Journal of American Medical Association [Internet]. 2001 October [cited 2020 October 8]; 286: 1841-1848. Available from <https://jamanetwork.com/journals/jama/fullarticle/194296>.
- [2] NICE. Trauma [Internet]. UK: NICE; 2018 March [cited 2020 October 8]. Available from <https://www.nice.org.uk/guidance/qs166/chapter/Quality-statement-4-Assessment-for-cervical-spine-injury>.
- [3] Ramos J, Morgan MA et al. Canadian C-spine rules [Internet]. Radiopaedia; 2005-2020 [cited 2020 October 8]. Available from <https://radiopaedia.org/articles/canadian-c-spine-rules-3?lang=gb>.
- [4] Hoffman JR, Mower WR, Wolfson AB et al. Validity of a Set of Clinical Criteria to Rule Out Injury to the Cervical Spine in Patients with Blunt Trauma. The New England Journal of Medicine [Internet]. 2000 July [cited 2020 October 9]; 343: 94-99. Available from <https://www.nejm.org/doi/full/10.1056/nejm200007133430203>.
- [5] Stiell IG, Clement CM, McKnight RD et al. The Canadian C-Spine Rule versus the NEXUS Low-Risk Criteria in patients with trauma. The New England Journal of Medicine [Internet]. 2003 December [cited 2020 October 9]; 349: 2510-8. Available from <https://www.nejm.org/doi/full/10.1056/nejmoa031375>.