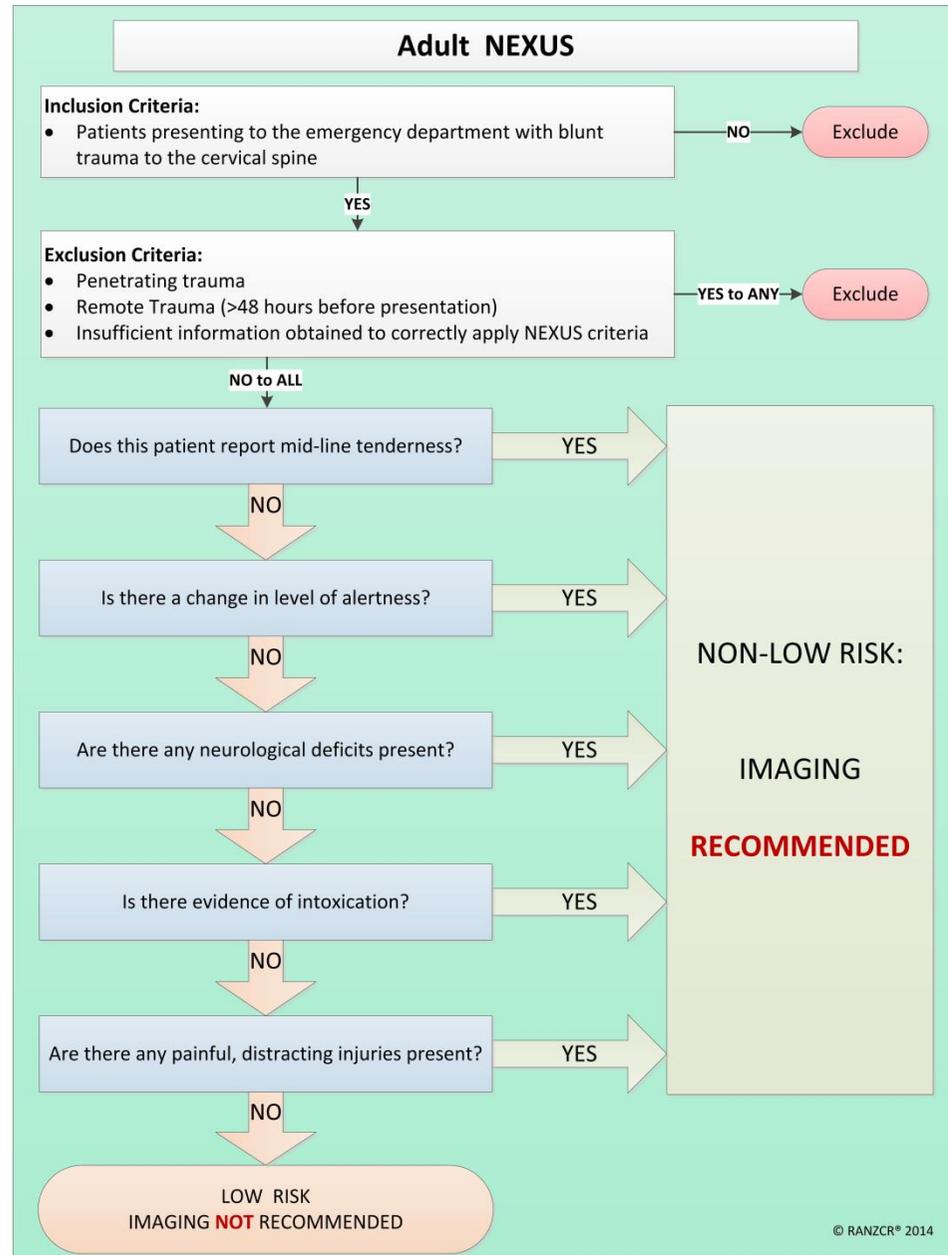


NEXUS

Algorithm:



Summary Statement:

In 2000, Hoffman et al published the results of a large multicentre prospective observational study that enrolled 34,069 patients from 21 hospitals who presented to the emergency department with cervical spine symptoms following blunt trauma. These findings established the validity of the NEXUS criteria, a set of five clinical assessment items to identify patients at very low risk of cervical spine injury. Patients were considered to be at low risk of cervical spine injury if all of the criteria were fulfilled, in which case, clinical clearance of the cervical spine could occur without radiographic imaging.

The outcome measure of this study was ‘clinically significant injury,’ which the authors defined as:

“any injury except isolated injury in the absence of associated bony, ligamentous or spinal cord injury which would be unlikely to result in harm to the patient if undetected”.

Such insignificant minor injuries were categorised as fracture of the spinous or transverse process, endplate or trabecular bone; osteophyte fracture exclusive of corner or teardrop configuration; vertebral body compression fracture with less than 25% loss of height; Anderson and D’Alonzo Type I odontoid process fracture, and avulsion without ligamentous involvement.

The main limitations of NEXUS include the lack of precise definitions of the five criteria which may result in significant variability in the application of the tool. Whilst the definition of altered mental status is generally accepted to be a Glasgow Coma Scale (GCS) score of less than 15, the interpretation of intoxication and painful distracting injury may vary considerably between emergency medicine physicians who are unfamiliar with how these were originally defined in the derivation study.

Reference:

Hoffman JR, Mower WR, Wolfson AB, Todd KH, Zucker MI. Validity of a set of clinical criteria to rule out injury to the cervical spine in patients with blunt trauma. National Emergency X-Radiography Utilization Study Group. *N Engl J Med.* 2000; 343(2): 94-9.