

NATIONAL INSTITUTE FOR HEALTH AND CARE EXCELLENCE

SCOPE

1 Guideline title

Spinal injury assessment: assessment and imaging and early management for spinal injury (spinal column or spinal cord injury).

1.1 Short title

Spinal injury assessment

2 The remit

The Department of Health has asked NICE: 'To produce guidance on the assessment and imaging of patients at high risk of spinal injury.'

NICE is developing 5 pieces of guidance relating to trauma, with expected publication dates in June and October 2015 (to be confirmed). Each piece of guidance will focus on a different aspect of trauma care.

- [Complex fractures: assessment and management of complex fractures \(including pelvic fractures and open fractures of limbs\)](#)
- [Fractures: diagnosis, management and follow up of fractures \(excluding head and hip, pelvis, open and spinal\)](#)
- [Major trauma: assessment and management of airway, breathing and ventilation, circulation, haemorrhage and temperature control.](#)
- [Spinal injury assessment: assessment and imaging of patients at high risk of spinal injury](#)
- [Trauma services: service delivery of trauma services](#)

NICE has commissioned the National Clinical Guideline Centre (NCGC) to develop the trauma guidance. The fractures, complex fractures, spinal injury assessment and major trauma guidelines will start development approximately

6 months before the development of the trauma service delivery guideline.

3 Clinical need for guidance

3.1 *Epidemiology*

- a) Spinal injury involves traumatic fracture or derangement of the spinal column, sometimes leading to spinal cord injury. If suspected spinal injury occurs, careful immobilisation is of great importance. Occasionally spinal cord injury may occur in the absence of overt spinal column damage. Such injuries often lead to serious neurological damage, causing paraplegia, tetraplegia or death.
- b) The main causes of spinal injury are road traffic collisions, falls, violent attacks, sporting injuries and domestic accidents. Although spinal injury affects all ages, young and middle aged men and older women tend to be the populations at highest risk. Half of all spinal injuries affect the cervical spine.
- c) Approximately 500–600 people sustain acute traumatic injuries to the spinal cord each year in the UK. A European study suggests about five times as many people will suffer a spinal fracture or dislocation alone. Approximately 5% of people experiencing high energy poly-trauma have an unstable spinal column injury.

3.2 *Current practice*

- a) Initial assessment is a triage procedure carried out by pre-hospital care staff to establish the existence or likely existence of an injury, the severity and range of traumatic injuries found. All patients with major traumatic injuries whether or not they include spinal injuries, should be taken to the local trauma unit or centre, usually by emergency services.
- b) There are differences in the mode of immobilisation of patients with suspected spinal injuries across the UK. While all people will need

immobilisation after a suspected spinal injury, there is no clear single best method or clinical working practice identified.

- c) If a patient with a suspected spinal cord injury has been sent to a local trauma centre or trauma unit, treating consultants are expected to contact the on-call consultant in a spinal cord injury centre for advice on management and referral. Patients are referred to spinal cord injuries units for acute care and rehabilitation.
- d) Once in the trauma centre, trauma unit or spinal cord injury centre, spinal imaging and assessment is needed and should be reviewed by an appropriately trained radiologist.
- e) After the acute stage, later assessment of disabilities and need for rehabilitation should occur, as it is a critical part of maximising recovery from spinal injury.
- f) The patterns of referral of people with spinal cord injury to spinal cord injury centres are inconsistent, with only 7% of cases referred within 1 day of injury, and 59% being admitted within 1 month. Such delays may lead to complications and longer hospital stays. These delays may be partially due to inappropriate methods of assessment.

4 The guideline

The guideline development process is described in detail on the NICE website (see section 6, 'Further information').

This scope defines what the guideline will (and will not) examine, and what the guideline developers will consider. The scope is based on the referral from the Department of Health.

The areas that will be addressed by the guideline are described in the following sections.

4.1 *Population*

4.1.1 Groups that will be covered

All adults, young people and children who present with suspected spinal column or spinal cord injury secondary to a traumatic event.

4.1.2 Groups that will not be covered

People whose spinal injury is caused by disease, rather than a traumatic event.

4.2 *Healthcare setting*

All settings in which NHS care is received or commissioned.

4.3 *Clinical management*

4.3.1 Key clinical issues that will be covered

- a) Initial triage and management by pre-hospital care staff:
 - primary survey assessment for spinal injury with specific risk tools
 - methods to protect spine and transfer patient
 - determining the immediate destination of patient.

- b) Acute-stage clinical assessment:
 - primary survey assessment for spinal injury

- c) Acute-stage clinical management of early medical intervention (such as anti-inflammatories, antioxidants and anti-excitotoxins).

- d) Acute-stage imaging assessment of different imaging modalities, such as:
 - X-ray (including dynamic fluoroscopy)
 - CT
 - MRI.

Further imaging assessment in people who may have clinical signs of spinal injury, but who have normal or indeterminate findings on initial imaging.

- e) Timing of referral and the criteria for acceptance by tertiary services.
- f) Skills to be present within the multidisciplinary team
- g) Documentation of clinical assessments and management for people with spinal injuries (including pre hospital and hospital documentation)
- h) Information and support needs of patients and their families and carers when appropriate.

4.3.2 Clinical issues that will not be covered

- a) Prevention of traumatic spinal injury.
- b) Management of spinal injury in a tertiary centre.
- c) Management and follow-up of pathological conditions predisposing to spinal injury (such as osteoporosis and osteoarthritis).

The following NICE guidance will be cross referred to

- d) Major trauma (pain relief and airway management)
- e) Head injury

4.4 Main outcomes

- a) Adverse effects associated with assessment, imaging, stabilisation and transfer
- b) Diagnostic accuracy (sensitivity and specificity).
- c) Complications of poor handling, poor resuscitation and delayed bony stabilisation.

- d) Functional scales that quantify level of disability, such as the SCIM III.
- e) Health-related quality of life.
- f) Healthcare contacts; duration and continuity.
- g) Return to normal activities.
- h) Morbidity.
- i) Mortality.
- j) Patient-reported outcomes.

4.5 *Economic aspects*

Developers will take into account both clinical and cost effectiveness when making recommendations involving a choice between alternative interventions. A review of the economic evidence will be conducted and analyses will be carried out as appropriate. The preferred unit of effectiveness is the quality-adjusted life year (QALY), and the costs considered will usually be only from an NHS and personal social services (PSS) perspective. Further detail on the methods can be found in 'The guidelines manual' (see 'Further information').

4.6 *Status*

4.6.1 *Scope*

This is the final scope.

4.6.2 *Timing*

The development of the guideline recommendations will begin in June 2013.

5 Related NICE guidance

5.1 *Published guidance*

- [Patient experience in adult NHS services](#). NICE clinical guideline 138 (2012).
- [Head injury](#). NICE clinical guideline 56 (2007).

5.2 *Guidance under development*

NICE is currently developing the following related guidance (details available from the [NICE website](#)):

- Head injury. NICE clinical guideline. Publication expected January 2014.
- Non complex Fractures. NICE clinical guideline. Publication expected TBC 2015.
- Complex fractures. NICE clinical guideline. Publication expected TBC 2015.
- Major trauma. NICE clinical guideline. Publication expected TBC 2015.
- Trauma services. NICE clinical guideline. Publication expected TBC 2015.

6 Further information

Information on the guideline development process is provided in the following documents, available from the NICE website:

- [How NICE clinical guidelines are developed: an overview for stakeholders the public and the NHS](#)
- [The guidelines manual](#). 2012

Information on the progress of the guideline will also be available from the [NICE website](#).