BASS British Association of Spine Surgeons

British Orthopaedic Association

BOA STANDARD

ASSESSMENT OF THE SPINE IN THE TRAUMA PATIENT

April 2025

Background

This guideline describes the clinical and radiological standards for assessment following blunt spinal injury and outlines temporary protective measures until these have been completed.

Exclusion: Penetrating spinal column injury confirmed on imaging, which mandates immediate referral to a spinal surgical team.

Standards for Practice

1. A spinal immobilisation protocol (including collars, log rolling and patient transfers) must be in place across all trauma networks and apply to all prehospital and hospital services.
2. Spinal injury should be assumed in all patients and spinal immobilisation and precautions must continue until excluded by clinical assessment and appropriate imaging.
3. For patients with cervical kyphosis in ankylosing spondylitis, their usual spinal position must be maintained and supported whilst immobilised in line.
4. The following should heighten the index of suspicion for spinal injury, and their presence or absence should be documented *:
    - Age and comorbidities (including osteoporosis and ankylosing spondylitis)
    - Mechanism of injury
    - Pain or neurological symptoms on sitting, standing or walking if no other symptoms or signs are present.
    - Inability to rotate the cervical spine 45 degrees if no other symptoms or signs are present
    - Pain, tenderness and neurological features with the patient supine and log rolled
5. If general clinical or neurological assessment is abnormal, spine precautions must continue until discussion with the regional spinal service as defined by the Spinal Cord Injury (SCI) BOASt: https://www.boa.ac.uk/resource/boast-the-management-of-traumatic-spinal-cord-injury.html
6. Computed Tomography (CT)
    - Multidetector CT remains the initial modality for imaging a traumatic spine injury. A slice thickness of 0.5mm is optimal for the cervical spine, and 0.5mm to 1.0mm or the remaining spine
    - Fracture, subluxation or ligamentous injury of the cervical spine requires CT angiography to exclude blunt cerebrovascular injury (Denver criteria)
    - Whole-body trauma CT (pan-scan) should include cervical spine imaging
    - Brain CT for head injury should include occiput to T4 with sagittal and coronal reconstructions
7. Magnetic Resonance Imaging (including Axial, Sagittal, Coronal reconstructions with STIR T1 and T2 sequences) is an alternative in any patient with:
    - Contraindications to ionising radiation (e.g. pregnancy)
    - Suspicion of, or inability to exclude injury due to clinical status (e.g. unconscious)
    - Ambiguous CT findings
    - Neurological symptoms or signs or suspected spinal cord injury (See SCI BOAST: https://www.boa.ac.uk/resource/boast-the-management-of-traumatic-spinal-cord-injury.html)
    - Spinal ankylosis with pain or indeterminate CT appearances
8. An initial report of spine imaging by a suitably qualified radiologist should be available within one hour and a definitive report within 24 hours of injury.
9. If a fracture is to be treated non-operatively, the decision-making team should specify the degree of stability of the fracture and details of the planned non-operative management, such as use of collar/ brace, including duration, care and changing procedures.
10. A clear treatment plan including follow up arrangements must be included in the medical records and made available to the patient.

* See NICE NG41 (https://www.nice.org.uk/guidance/ng41)