



# The Royal College of Emergency Medicine

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## Position Statement

### Paediatric Trauma - Stabilisation of the Cervical Spine

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The Royal College of Emergency Medicine (RCEM) recognises that there are nationwide discrepancies in how immobilisation of the cervical spine is achieved during the initial assessment of children who have suffered traumatic injury.

Cervical cord injury in children is a rare but devastating injury. A key principle in reducing the risk of secondary injury is to minimise movement of the cervical spine until an injury has been excluded. This has led to the widespread application of semi-rigid collars to all children with potential injuries to the cervical spine. However, semi-rigid collars are designed to immobilise the cervical spine in ambulatory patients or those undergoing complex extrication at scene (where immobilisation by other means may be impractical). NICE guidelines [1] and JRCALC guidelines [2] still recommend their use although evidence that semi-rigid collars offer extra stabilisation to the spine of patients who are already lying immobile and supine is of poor quality and results are contradictory [3][4]. Guidelines, based on historical consensus, which strongly advocate the use of semi-rigid collars in initial trauma care should not automatically be used to the exclusion of more recent evidence and alternative guidelines nor should they be used as the basis for a 'test of clinical negligence'.

There is increasing concern that semi-rigid collars may cause more harm than good by:

- Distracting a cervical spine fracture or dislocation if applied incorrectly (e.g. wrong size)
- Distressing the child, causing them to move their injured spine *more* rather than less.
- Causing neck stiffness and pain, which then makes it harder to 'clear' the spine clinically, leading to unnecessary investigations and prolonged immobilisation.

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- Raising the intracranial pressure in children with traumatic brain injury (although the studies all involve small numbers of adults and show only small rises in pressure which may not be clinically significant)[5][6][7][8].

The lack of evidence of benefit and concerns surrounding potential harm have led the *Advanced Paediatric Life Support Group* [9], *Resuscitation Council UK* [10] and *International Liaison Committee On Resuscitation (ILCOR)* [11][12] to recommend that semi-rigid collars are **not used** in the initial trauma care of immobilised children.

RCEM agrees with these bodies that immobilisation of the cervical spine in the Emergency Department should initially be achieved by lying the patient supine with Manual In Line Stabilisation (MILS) by an appropriately trained clinician. If this is not practical, consider using head blocks / rolled blankets and tape, with semi-rigid collar as determined by local policy. If the child does not tolerate either MILS or head blocks, carefully consider the risks / benefits of trauma anaesthesia and immobilisation versus allowing the child to find a position of comfort.

If a cervical spine injury is confirmed by imaging (or suspected despite normal radiographs or CT), ongoing immobilisation can be achieved using an appropriately sized rigid collar, applied by a trained clinician and prescribed by a Registrar or Consultant in Spinal Surgery / Neurosurgery.

### **In summary:**

- The use of semi-rigid collars in children is controversial. Not using a semi-rigid collar might be considered reasonable in this group, and use should be determined locally, with this protocolised. If possible, lie the patient supine and provide Manual In Line Stabilisation (MILS). When MILS is not practical, consider using blocks or rolled blankets and tape.
- To prevent secondary injury of the cervical spine, focus on minimising movement of the entire spine, rather than the use of a specific method or device.

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