CERVICAL COLLARS FOR SUSPECTED CERVICAL SPINE INJURY IN THE EMERGENCY DEPARTMENT

| Cross references (including NSW Health/SESIAHS policy directives) | SGH CLIN035 - Cervical Collar - Pressure Area Surveillance In A Patient With A (SGH)  
SGSHHS CLIN_ED - Clearance Of A Suspected Cervical Spine Injury  
SGH CLIN340 - Spinal Clearance – Patients With Major Trauma in the Adult Intensive Care Unit (SGH) |
|---|---|

1. What it is
Guide to the use of soft (foam) collars in patients with suspected cervical spine injury in the Emergency Department*

2. Risk Rating
Medium

3. Employees it applies to
Medical and nursing staff assessing and caring for patients with a potential cervical spine injury in the Emergency Department

4. Process
A cervical collar is an orthopaedic device that may be used to physically and consciously acknowledge the potential for c-spine injury. Although available devices may limit movement within the c-spine, no device has been shown to immobilise it completely. There is a lack of evidence for the efficacy of spinal immobilisation in the prevention of spinal cord injury (SCI). There is evidence however that rigid collars can lead to significant complications and morbidity when used to immobilise the c-spine. These complications and difficulties with rigid cervical collars include:

- patient discomfort
- pressure areas
- increased intracranial pressure
- increased neck pain
- causing/worsening SCI (e.g. in ankylosing spondylitis)
- impaired ventilation
- aspiration risk
- masking of neck/occipital injuries.

Soft cervical collars mitigate some of these issues. The cervical soft collar is a disposable single use device made from soft, open-cell foam plastic with a cotton stockinette cover and touch tape closure. St George Hospital supplies soft collars in small (40cm/7.5cm), medium (50cm/10cm) and large (52cm/12.5cm)

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<tr>
<th>Indications</th>
<th>Contraindications</th>
<th>Complications</th>
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| Suspicion of a cervical spine or spinal cord injury | Surgical Airway  
Penetrating neck trauma | Discomfort  
Anxiety |

Applying a soft collar means continue spinal care precautions (log roll with inline stabilisation +/- sandbags)
Scenario and course of action

1. Patient arrives via ambulance with stiff neck collar – transfer to ED bed – apply padding under occiput – expedite assessment and/or imaging – if unlikely patient will undergo imaging +/- clearance within an hour, change to soft collar.


3. Patient has clear spinal cord injury (limb weakness / deficit) or bony injury found on imaging – apply Philadelphia collar – apply padding under occiput – await neurosurgical advice

4. Patient presents to ED with no collar – does not meet NEXUS / c-spine clearance criteria – apply soft collar – position patient supine on bed and apply padding under occiput

Additional information

1. The aim of the soft (foam) cervical collar is to act as a marker for staff to apply spinal care principles whilst minimizing equipment related adverse events.

2. The ends of a correctly sized soft collar should meet / slightly overlap at the back of the patient neck.

3. The soft collar can be trimmed to fit and re-covered with the additional cover supplied

4. In adults, padding under the head (approximately 2cm) may optimise the neutral position

5. In children, padding under the torso (dependent on size and age) may optimise the neutral position

6. If not contraindicated (eg, pelvic, thoracolumbar spine fractures), the head of the bed should be elevated 30 degrees to aid comfort, swallowing and respiratory function.
Measurement and application

1. Gently align the patient's head to a neutral anatomical position or position of greatest comfort.

2. Measure the distance between the base of the chin and the suprastomal notch.

3. Select the appropriate size collar using a tape measure or by comparing the patient's neck measurement to the width of the soft collar's chin support.

4. Slide the collar under the patient's neck (right to left) until the adhesive Velcro strap is clearly visible.

5. Mould the soft collar around patient's neck and secure the Velcro tabs.

6. Ensure the patient's chin rests on top of the collar and they are able to open their mouth.
5. **Keywords**  
Cervical Spine, Clearance, Trauma

6. **Functional Group**  
Emergency, Trauma, Surgery

7. **External references**
https://prehospitalandretrievalmedicine.files.wordpress.com/2015/05/spinal-immobilisation_evidence-review_170314_v3_eem.pdf
7. Sporer KA. Why we need to rethink C-spine immobilization: we need to reevaluate current practices and develop a saner cervical policy. EMS world. 2012;41(11).

9. **Implementation and Evaluation Plan**
Consultation with key stakeholders regarding education, training and equipment has occurred (ED, ICU, Anaesthetics, Neurosurgery, Trauma, Surgical ward educators and NUMs).
An education strategy and launch date has been developed
Monitoring of application technique, compliance and adverse events will be conducted by the trauma service’s comprehensive trauma quality monitoring program.

10. **Knowledge evaluation**
Q1: What are the NEXUS criteria?  
   - Normal alertness  
   - No intoxication with medications, etoh, illicit drugs  
   - No painful distracting injury  
   - No midline cervical tenderness  
   - No neurological deficit or symptoms (paraesthesias)
Q2: At what time point should a Philadelphia Collar be applied?  
A: In patients with a neurological deficit or radiological evidence of a cervical spine injury or cervical cord neurology,
Q3: What is the appropriate course of action if a patient has a normal CT scan but ongoing cervical midline tenderness?  
A: A soft (foam) collar and neurosurgical consult.

11. **Who is responsible**  
St George Hospital Trauma Committee
Approval for CERVICAL COLLARS FOR SUSPECTED CERVICAL SPINE INJURY IN ED SGH

<table>
<thead>
<tr>
<th>Specialty/Department Committee</th>
<th>Committee title: Trauma Committee</th>
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<tbody>
<tr>
<td>Chairperson name/position: A/Prof Richard Morris</td>
<td>Date: 13.09.16</td>
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<tr>
<th>Nurse Manager</th>
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<th>Nurse Manager</th>
<th>Name/position: Leanne Horvat, Nurse Manager Emergency TSH</th>
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<th>Medical Dept Head</th>
<th>Name/position: Andrew Finckh, Director Department of Emergency TSH</th>
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<tr>
<th>Contributors to CIBR development</th>
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<td>Elizabeth Walters, Emergency CNC TSH (review)</td>
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Revision and Approval History

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<th>Date</th>
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<th>Author (Position)</th>
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<tr>
<td>September 2016</td>
<td>0</td>
<td>Kate Curtis CNC Trauma</td>
<td>September 2019</td>
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General Manager's Ratification

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<th>Name: Karen Becker (TSH)</th>
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