



## SGH-TSH CLIN352 Clinical Business Rule

### CERVICAL COLLARS FOR SUSPECTED CERVICAL SPINE INJURY IN THE EMERGENCY DEPARTMENT

<b>Cross References</b> (including NSW Health/ SESLHD policy directives)	<a href="#">SGH-TSH CLIN048 Cervical (Philadelphia) Collar – Care of a Patient Requiring A</a> <a href="#">SGH CLIN361 Clearance of a Suspected Cervical Spine Injury in the Emergency Department, St George Hospital</a>
<b>1. What it is</b>	Guide to the use of soft (foam) collars in patients with suspected cervical spine injury in the Emergency Department
<b>2. Risk Rating</b>	Medium
<b>3. Employees it Applies to</b>	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. The Sutherland and St George Hospitals supply soft collars in small (40cm/7.5cm), medium (50cm/10cm) and large (52cm/12.5cm)

#### 4.1 INCLUSION AND EXCLUSION CRITERIA

Patients should be considered for application of a soft cervical collar where the following criteria are met:

##### 4.1.1 Inclusion Criteria

- Suspicion for a traumatic cervical spinal injury with a Glasgow coma score (GCS) of 15
- Suspicion for a traumatic cervical spinal injury with an altered level of consciousness and no acute injury identified on CT c-spine (eg fracture, dislocation, ligamentous disruption, paravertebral soft tissue swelling suggestive of ligamentous disruption, intervertebral disc bulging with impingement on spinal cord presumed to be acute, spinal cord trauma, epidural haematoma)

#### 4.1.2 Exclusion Criteria

- Neurosensory deficit suspicious for a spinal cord injury (apply Philadelphia collar)
- Confirmed cervical spine injury (apply Philadelphia collar)
- Surgical Airway
- Penetrating neck trauma

#### 4.2 SCENARIO AND COURSE OF ACTION

- Patient arrives via ambulance with stiff neck collar – transfer to ED bed, apply padding under occiput, change to soft collar.
- Unconscious patient arrives via ambulance with stiff neck collar – transfer to ED bed, apply padding under occiput, expedite imaging. If cervical injury on CT – apply Philadelphia collar. If no cervical injury – apply soft collar and lateral support (sandbags). Once patient in ICU – follow [SGH CLIN361 Clearance of a Suspected Cervical Spine Injury in the Emergency Department, St George Hospital](#)
- Patient has suspicion for a spinal cord injury (limb weakness / deficit) or injury found on imaging – apply Philadelphia collar and padding under occiput – expedite imaging and await neurosurgical advice
- Patient presents to ED with no collar – does not meet NEXUS / Canadian c-spine clearance criteria – apply soft collar, position patient supine on bed and apply padding under occiput

**Applying a soft collar means continue spinal care precautions  
(log roll with inline stabilisation +/- sandbags)**

#### 4.3 APPLICATION INFORMATION

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. Please see [Appendix 1](#) for a diagram on measurement and application:

- The ends of a correctly sized soft collar should meet / slightly overlap at the back of the patient neck.
- The soft collar can be trimmed to fit and re-covered with the additional cover supplied
- In adults, padding under the head (approximately 2cm) may optimise the neutral position
- In children, padding under the torso (dependent on size and age) may optimise the neutral position
- 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





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<b>5. Keywords</b>	Cervical Spine, Immobilisation, Trauma
<b>6. Functional Group</b>	Emergency, Trauma, Surgery
<b>7. External References</b>	<ol style="list-style-type: none"> <li>1. Asha SE, Curtis K, Healy G, Neuhaus L, Tzannes A, Wright K. Neurologic outcomes following the introduction of a policy for using soft cervical collars in a suspected traumatic cervical spine injury: A retrospective chart review. 2020; . Emergency Medicine Australasia; doi: 10.1111/1742-6723.13646.</li> <li>2. Kwan I, Bunn F. Effects of prehospital spinal immobilization: a systematic review of randomized trials on healthy subjects. Prehospital and disaster medicine. 2005;20(01):47-53.Quinn J, Enraght-Moony E. Spinal immobilisation: Evidence Review. Brisbane: Queensland Ambulance Service,; 2015:1-11. <a href="https://prehospitalandretreivalmedicine.files.wordpress.com/2015/05/spinal-immobilisation_evidence-review_170314_v3_eem.pdf">https://prehospitalandretreivalmedicine.files.wordpress.com/2015/05/spinal-immobilisation_evidence-review_170314_v3_eem.pdf</a></li> <li>3. Queensland Ambulance Service. Clinical Practice Procedures: Trauma/Cervical collar. Brisbane: Queensland Government; 2016.</li> <li>4. Australian and New Zealand Committee on Resuscitation. ANZCOR Guideline 9.1.6 – Management of Suspected Spinal Injury. Australia 2016:1-6. <a href="http://resus.org.au/wpfb-file/anzcor-guideline-9-1-6-spinal-jan16-pdf/">http://resus.org.au/wpfb-file/anzcor-guideline-9-1-6-spinal-jan16-pdf/</a></li> <li>5. Miller CP, Bible JE, Jegede KA, Whang PG, Grauer JN. Soft and rigid collars provide similar restriction in cervical range of motion during fifteen activities of daily living. Spine. 2010;35(13):1271-1278</li> </ol>
<b>8. Consumer Advisory Group (CAG) approval of patient information brochure (or related material)</b>	Not Applicable
<b>9. Implementation and Evaluation Plan</b> Including education, training, clinical notes audit, knowledge evaluation audit etc	<p>Consultation with key stakeholders regarding education, training and equipment has occurred (ED, ICU, Anaesthetics, Neurosurgery, Trauma, Surgical ward educators and NUMs).</p> <p>An education strategy and launch date has been developed</p> <p>Monitoring of application technique, compliance and adverse events will be conducted by the trauma service's comprehensive trauma quality monitoring program.</p>
<b>10. Knowledge Evaluation</b>	<p>Q1: What are the NEXUS criteria?</p> <ul style="list-style-type: none"> <li>- Normal alertness</li> <li>- No intoxication with medications, etoh, illicit drugs</li> <li>- No painful distracting injury</li> <li>- No midline cervical tenderness</li> <li>- No neurological deficit or symptoms (paraesthesias)</li> </ul> <p>Q2: At what time point should a Philadelphia Collar be applied?</p> <p>A: In patients with a neurological deficit or radiological evidence of a cervical spine injury or cervical cord neurology,</p> <p>Q3: What is the appropriate course of action if a patient has a normal CT scan but ongoing cervical midline tenderness?</p>



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	A: A soft (foam) collar and neurosurgical consult.
<b>11. Who is Responsible</b>	St George Hospital Trauma Committee

<b>Approval for CERVICAL COLLARS FOR SUSPECTED CERVICAL SPINE INJURY IN THE EMERGENCY DEPARTMENT</b>	
<b>Nurse Manager TSH</b>	Name/position: Amanda Jackson, A/Nurse Manager Emergency Date: 09.12.20
<b>Nurse Manager SGH</b>	Name/Position: Melanie Lax, Nurse Manager Emergency Department Date: 08.12.2020
<b>Medical Head of Department SGH</b>	Name/position: Jacqueline Weeden, Emergency Department Staff Specialist Date: 08.12.20
<b>Medical Head of Department TSH</b>	Name/position: Andrew Finckh, Director Department of Emergency Date: 08.12.20
<b>Executive Sponsor SGH</b>	Name/position: Dr Heidi Boss, Director of Medical Services SGH Date: 04.03.2021
<b>Executive Sponsor TSH</b>	Name/position: Dr Van Nguyen, Director of Medical Services TSH Date: 05.03.2021
<b>Contributors to CIBR development</b> e.g. CNC, Medical Officers (names and position title/specialty)	Kate Curtis, Trauma CNC SGH Mark Davies, Director of Neurosurgery SGH; Alex Tzannes, Trauma Staff Specialist SGH; Lauren Neuhaus, Emergency CNC SGH; Sarah Jones, ICU CNC SGH Elizabeth Walters, Emergency CNC TSH (review) Stephen Asha, Emergency Staff Specialist (review)



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### Revision and Approval History

Date	Revision number	Reason	Author (Position)	Revision due
Sep 2016	0		Kate Curtis CNC Trauma	Sep 2019
Nov 2020	1	Review – Inclusion of TSH	Lauren Neuhaus CNC SGH ED	Nov 2024

### General Manager's Ratification

Name: Paul Darcy (SGH) Date: 03.03.2021

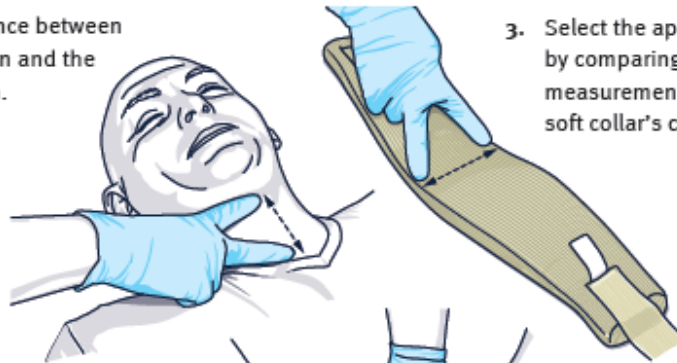
Name: Vicki Weeden (TSH) Date: 26.02.2021



**APPENDIX 1 – 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 suprasternal notch.



3. Select the appropriate size collar by comparing the patient's neck measurement to the width of 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.



6. Ensure the patient's chin rests on top of the collar and they are able to open their mouth

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

