CERVICAL (PHILADELPHIA/PHILLY) COLLAR - CARE OF A PATIENT REQUIRING A

1. Purpose	This clinical business rule is to determine when to apply a Philadelphia collar, where and how to fit and care for Philadelphia Collars in all clinical areas at SGH and TSH. This ClBR doesn't include clearance of C-spine injuries- please refer to clearance ClBR for c-spine clearance – see SGH CLIN361 *Clearance Of A Suspected Cervical Spine Injury In The Emergency Dept. St George Hospital*
2. Risk Rating	Medium
3. National Standards	1 – Clinical Governance 3 – Preventing and Controlling Healthcare-Associated infection 5 – Comprehensive Care
4. Employees it Applies to	Registered Nurses, Medical and physiotherapy staff required to fit and care for patients requiring a Philadelphia collar.

5. PROCESS

Philadelphia collars are used on patients with highly suspected or confirmed c-spine injuries.

5.1 PATIENTS WHO REQUIRE A PHILADELPHIA COLLAR

- Patients with suspected c-spine injury based on mechanism
- Patients with c-spine tenderness post injury
- Patients with sensory and/or motor deficits following injury
- Patients with confirmed spinal injury on medical imaging

*Multi trauma patients may have a c-spine injury without tenderness or deficits on examination. These patients should have a collar applied until clinically and/or radiologically cleared.

For clearance of a patient's c-spine and removal of the collar refer to assessment CBR and NEXUS criteria - SGH CLIN361 *Clearance Of A Suspected Cervical Spine Injury In The Emergency Dept. St George Hospital*

A hard collar applied by pre hospital staff should be replaced within 4 hours of arrival to prevent pressure injury and improve patient comfort.

5.2 WHO CAN APPLY A PHILADELPHIA COLLAR:

- Staff must receive education to apply the Philadelphia collar
- Two staff are needed for fitting and application of the cervical collar
- Staff 1 and 2 **must** either be a MO, RN or Physiotherapist trained in this procedure
- Unaccredited ENs / AINs / Orderlies can assist with log rolling under the direction of the RN. They are **not** to hold the head or provide collar care.

5.3 SIZING:

- Adjustable Philadelphia collars are most commonly used within SGH and TSH. These collars fit the majority of adults. (Varies fixed size Philadelphia collars exist for patients that do not fit into the adjustable Philadelphia collar) These collars are fitted by measuring (height) tip of chin to suprasternal notch/sternal notch and around neck (circumference). If the patient's neck height falls between two sizes, apply the smaller size first. If the patient's circumference measurement falls between two sizes, apply the larger size first.

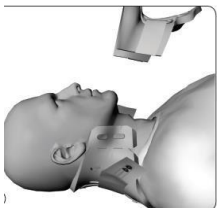
5.4 PRE PROCEDURE

- Explain procedure to patient and gain informed consent.
- Assess patient's neurological status.
- 1st staff member is to maintain head/neck stabilisation while 2nd staff member begins to measure and apply collar.
- Remove stiff/hard neck collar (if insitu). Visually inspect neck and ensure it is free of any debris or fluid. Cover any wounds with appropriate dressings and remove any jewellery.

5.5 APPLICATION

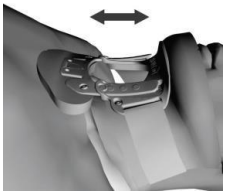
Step 1

Place back of collar on patient while one staff member continues to maintain stabilisation of head and neck. To achieve best positioning without compromising stabilisation, it may require the staff member to push down into the bed as they are sliding the back of the collar under the patient. Ensure the collar is positioned under ear lobes, arrow is pointing up and the collar piece is central.



Step 2

Prior to measurement, ensure neutral c-spine alignment so that measurements and fitting is correct. A folded towel (height approximately 1-2 cm) can be placed underneath the adult patient's head to assist in maintaining normal cervical spine alignment and will also help with comfort.



Place the front piece of collar to front of neck ensuring the patients chin rests in the chin-cup. Slide the lower section down or up to align the bottom of opening with sternal notch and to ensure neck isn't hyper/hypo extended. Observe the number that is in line with correct fit and then fit off the patient

Step 3

Lift the front away from patient, remove sticky tabs and push the two tabs to lock into the correct size which was measured for the patient.

Once locked into position the collar cannot be re sized.

Step 4

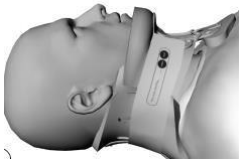
Adjust circumference by tearing away sections of the back piece foam (if any portion of back section is visible through front window, tear 1 tab section from both sides until not visible).

Centre the collar by the head holding person confirming alignment

Step 5

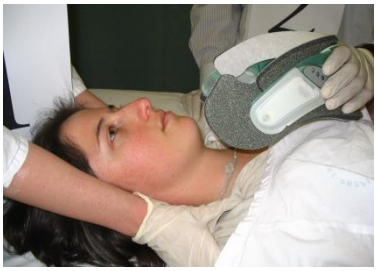
Apply the front of the collar with the chin secured in the chin-cup.

Ensure the patient can open their mouth and feels comfortable.



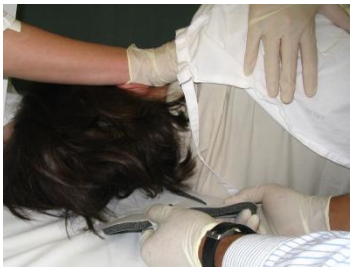
5.6 PROCEDURE FOR COLLAR REMOVAL, SKIN INSPECTION AND SKIN CARE

- Skin care and pressure area inspection is to occur twice a day.
- For inpatients that are bed bound, collar care needs to occur 4/24 and pressure area surveillance to occur twice daily.
- A care plan specific to the patients' needs must be documented in the patient centred care plan.
- Pressure area care and surveillance of the patient with an abnormal imaging and cervical spine injury on **full spinal precautions** must be directed by the Neurosurgical Consultant / Registrar until stability or definitive orthotic immobilisation is arranged.
- Collars are to be cleaned and any removable foam inserts changed once a day, preferably on the morning shift for continuity (refer to the below point for the process for instructions for cleaning).
- Inform the patient
- Administer analgesia and/or sedation as clinically indicated and prescribed.
- Gather all necessary skin care and wound management equipment and staff (according to log roll requirements) before commencement
- Remind the patient of the procedure and ensure the patient will be compliant when the collar is removed. If the patient is not going to be compliant, sedation may be required. Consult with the medical officer managing the patient if you are concerned.
- Assess the patient neurologically to establish a baseline before collar care is undertaken
- Staff 1 to hold the patient's head ensuring spinal alignment is maintained using bi-trapezius grip/hold.
- Staff 2 to loosen the collar & remove front section

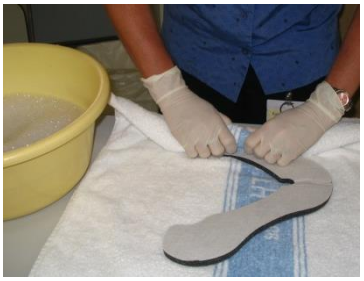


- Staff 2 to clean the hard plastic parts of the collar with mild soapy water and dry it with disposable towel. Change any inserts / lining on the morning shift and as clinically indicated.

- Staff 2 to clean the front of the neck and sternum with facial soap inspecting for pressure areas under the chin, jaw line, ears, collar bone and the top of the sternum, then rinse and dry well (no powder or lotion).
- Two to three extra staff called for the log roll
- Log roll patient onto side off the collar ensuring spinal alignment is maintained
- Staff 2 to remove back of collar, clean, dry and replace lining, clean and dry the back of the neck and inspect occipital area and areas in contact with collar. Consider clipping hair from the occipital area if there is difficulty assessing this area for pressure injuries. If a pressure injury is identified refer to Appendix 1: collar pressure injury flow chart for management guidelines.
- Staff 2 to replace back of collar in position on the back of the patients' neck



- Patient is log rolled back ensuring collar is straight when patient returns to supine position.
- Staff 2 to replace the front section of the collar.
- Reassess the patient neurologically for changes. Activate a CERS (Clinical Emergency Response System) call for the patient immediately if a neurological change is detected according to the adult BTF (Between the Flags) calling criteria.
- Ensure the patient is comfortable
- The soiled liner can now be washed with mild soap and water, then rinsed and wrung out gently in a towel and then can be placed flat to dry



- Head holding is not required when the cervical spine has been cleared of an injury or a stable fracture or ligamentous injury has been diagnosed. However care must be taken to ensure the patients head remains in an anatomical alignment on turning and lateral positioning (as long as the patient is able to do this).

5.7 CLEANING AND MAINTENANCE

- Appropriate hygiene and product cleaning are an important part of a patient's recovery. In addition, it will keep the patient clean, comfortable and prevent skin irritation and pressure injuries.
- Ensure one staff member continues to maintain c-spine alignment while the other staff member removes the collar. Manual in-line stabilisation must be maintained whilst turning a patient for pressure area surveillance and care.
- After the collar is removed, gently clean the patient's neck and face with soap and water; observe for any signs of skin irritation or pressure areas. The patient's neck and face should be dried completely before the collar is reapplied.
- The entire collar can be cleaned with mild soap and clean water. The collar should be dried completely with a cloth or air-dried before it is reapplied to the patient. While a mild disinfectant is acceptable, do not use harsh chemicals or bleach.

5.8 DOCUMENTATION

- Document assessment and care given in the clinical notes on eMR. This must include a further Waterlow with skin inspection.
- Recheck neurologic status and note any alteration and document these findings in patients' progress notes.
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- If a pressure injury is noted:
    - Complete a Pressure Injury Notification form (see appendix 1) for hospital acquired pressure injuries and non-hospital acquired pressure injuries
    - A wound chart must be completed.
    - Pressure injuries that are hospital acquired or worsening of existing pressure injuries are a clinical incident and must be notified via the Incident Information Management System (IIMS) and the IIMS notification number documented in the clinical notes.
    - At SGH Pressure injuries that are hospital acquired or worsening of existing pressure injuries require a Huddle-up form to be completed on EMR. Document the procedure, size/type of collar used and skin status including any dressings applied.

5.9 FITTING CONCERNS

- SGH: For ill-fitting collars at SGH, contact the Trauma Physiotherapy pager #412, Trauma CNS pager #012, Neurosurgical Registrar pager #938 or Orthotist (Ph 9522 2990).
- TSH: For Ill-fitting collars at TSH, contact the TSH Emergency Department CNE /CNC (PH 9540 7115 or pager #106)

5.10 DEFINITIONS

- Philadelphia collar: Rigid, foam collar (This CBR governs application of this collar)
- Miami J collar is a long term collar and is ordered by the Neurosurgical registrar or Neurosurgeon
- Aspen collar is a long term collar and is ordered by the Neurosurgical registrar or Neurosurgeon
- C-Spine: The c-spine is the most superior portion of the vertebral column, lying between the cranium and the thoracic vertebrae.

6. Cross References	SGH CLIN361 *Clearance Of A Suspected Cervical Spine Injury In The Emergency Dept. St George Hospital* SGH ICU CLIN035 *Cervical Spine Clearance - Patients with a Major trauma in the Adult Intensive Care Unit SGH* SGH-TSH CLIN352 - *Cervical Collars for Suspected Cervical Spine Injury in Emergency Department*
7. Keywords	Cervical, Collar, Philadelphia, Pressure injury
8. Document Location	Trauma, C
9. External References	1. Maschmann, C, Jeppesen, E, Afzali Rubin, M & Barfod, C 2019, 'New clinical guidelines on the spinal stabilisation of adult trauma patients – consensus and evidence based', *Scandinavian Journal of Trauma, Resuscitation and Emergency Medicine*, vol 27. Available from: https://doi.org/10.1186/s13049-019-0655-x 2. Lacey, L, Palokas, M & Walker, J 2019, 'Preventative interventions, protocols or guidelines for trauma patients at risk of cervical collar related pressure ulcers: a scoping review', *JBI database of systematic reviews and implementation reports*, Available from: https://www.ncbi.nlm.nih.gov/pubmed/31464850. 3. Ham, HW, Schoonhoven, LL, GalerA & Shortridge-Baggett, LL 2014, 'Cervical collar-related pressure ulcers in trauma patients in intensive care unit', *Journal of trauma nursing : the official journal of the Society of Trauma Nurses*, vol. 21, no. 3, pp.94-102. Available from: https://www.ncbi.nlm.nih.gov/pubmed/24828769. 4. Ackland, H.M, et al. Factors predicting cervical collar-related decubitus ulceration in major trauma patients. Spine, 2007. 32(4): 423-8.
10. Consumer Advisory Group (CAG) approval	Not Applicable
11. Aboriginal Health Impact Statement	The Aboriginal Health Impact Statement does not require completion because there is no direct or indirect impact on Aboriginal people. This document outlines the clinical management of cervical collars which are consistent across population groups. Approval: T22/
12. Implementation and Evaluation Plan	**Implementation:** The document will be published on the SGH-TSH business rule webpage under trauma protocols and distributed via the monthly SGH-TSH CGD report Education is provided and a collar fitting competency assessment performed for all Emergency nurses across SGH-TSH. **Evaluation:** Monitoring of application technique, compliance and adverse events are reviewed by the trauma CNS, CNC and educator teams.
13. Knowledge Evaluation	**Q1:** Which patient require a Philadelphia collar? A1: - Patients with suspected c-spine injury based on mechanism – Patients with c-spine tenderness post injury

	– Patients with sensory and/or motor deficits following injury – Patients with confirmed spinal injury on medical imaging **Q2:** Who can fit a Philadelphia collar? A2: Staff must receive education to apply the Philadelphia collar and two staff are needed for fitting and application of the cervical collar
14. Who is Responsible	St George Hospital Trauma Committee

Approval for**: CERVICAL (PHILADELPHIA/PHILLY) COLLAR - CARE OF A PATIENT REQUIRING A**	
Specialty/Department Committee	Committee: SGH/TSH Network Trauma Committee Chairperson: Dr Mary Langcake, Director of Trauma Services. Date: 12.08.2021
Nurse Manager (SGH)	Andrew Bridgeman, Nurse Manager, Surgery, Periop Anaesthetics and Trauma. Date: 21.02.2022
Nurse Manager (TSH)	Joanne Newbury, Co-Director Nursing and Operations Date: 21.02.2022
Medical Head of Department (SGH)	Dr Mary Langcake, Director of Trauma Services. Date: 12.08.2021
Medical Head of Department (TSH)	Dr Oliver Barrett, ED Head of Department Date: 08.03.2022
Executive Sponsor	Dr Mary Langcake, Director of Trauma Services. Date: 16.03.2022
Contributors to ClBR	Dr Mary Langcake, Director of Trauma services SGH Dr Alex Tzannes, Trauma Staff Specialist SGH Rochelle Cummins, Emergency CNC SGH Jennifer Ings, A/District Trauma CNC Kelly Wright, Emergency CNC TSH Kelly Sharp, CNS 2 Trauma SGH Matthew Dutton Wound CNC SGH Apryle Repole Wound CNC TSH Dr Siobhann Ritson Staff Specialist Emergency Medicine TSH

Revision and Approval History				
Revision Date	Revision number	Reason	Coordinator/Author (Position)	Revision Due
Aug 2013	1		Kate Curtis CNC Trauma	Aug 2016
Aug 2016	2		Kate Curtis CNC Trauma	Aug 2019
Aug 2021	3	Review - Update of terminology, application process and links.	Kelly Sharp CNS 2 Trauma	Aug 2024
Mar 2022	4	Combine - cervical (philadelphia/philly) collar - care (048) and cervical collar - pressure injury surveillance(035)	Janine Bothe CNC Surgery	Mar 2025

General Manager's Ratification	
Angela Karooz (A/GM SGH)	Date: 22.03.2022
Nicole Wedell (A/GM TSH)	Date: 29.03.2022

Appendix 1 Pressure injury notification on eMR