

Sussex Trauma Network:

Post-Acute Collar Care Pathway



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1 Introduction

The long-term conservative management of patients with stable/ unstable cervical spine fractures secondary to trauma requires adherence to a clearly defined, structured approach.

Patients with unstable cervical spine fractures are at high risk of neurological deterioration if appropriate care and immobilisation are not provided.

A significant proportion of these patients are being managed conservatively, without surgery, by immobilisation in a rigid collar. This particularly applies to older patients with multiple comorbidities. This proportion is increasing.

It is unrealistic for all patients with unstable cervical spine fractures to remain as inpatients in the Major Trauma Centre (MTC) or a Spinal Injury Unit (SIU) until stability has been achieved because this:

- would unnecessarily reduce capacity in the MTC or SIU
- could give poor patient experience as the patient might be separated from family, friends, and home

However, the care needed by someone in a hard collar varies considerably depending on the independence of the patient and associated healthcare needs.

2 Purpose of the Pathway

The aims and objectives of this document are:

- To provide a network-wide approach to the management of patients with unstable cervical spine fractures
- Reduce variation in quality of care across the network
- To provide information on:
 - how to safely manage cervical injury in a rigid collar to prevent complications of pressure area damage and neurological deterioration
 - available training for management of these patients
 - who to contact and sources of advice for the team or patient, relative or carer providing the care if there are any concerns.
- To define:
 - persons who can provide care
 - sites where care can be safely provided
 - teams and services responsible for providing the care
 - a clear pathway for follow up and review
 - standard and agreed pathway documentation.

This document is designed to support patients who have sustained a cervical spine injury that is being managed conservatively and have been prescribed a hard collar by the on-call specialist spinal team at the MTC.

This may include patients who are non-weight bearing, patients who require rehabilitation, and those who are mobile but required to wear a hard collar to immobilise their cervical spine.

This document does not apply patients with spinal cord injury (SCI) patients. They require specialist referral to the SCI specialist rehabilitation centres and follow a different pathway.

3 Definitions

3.1 Cervical Spine

The 'neck' has seven vertebral bodies and includes the odontoid peg which helps the patient to be able to rotate their head.

The spinal cord is part of the central nervous system and runs down the middle of the spinal column, with peripheral nerves exiting in-between adjacent vertebrae.

There are also important ligaments and muscles in the cervical spine which help to maintain alignment and help with movement.

3.2 Cervical Spine Injury

Cervical spine injury for the purposes of this pathway and the collar care which is required includes the following only:

- A fracture to a vertebral body in the cervical spine
- A disruption to the transverse ligament in the cervical spine

There may be other reasons to why the spine consultant has prescribed a hard collar. All other reasons than those stated above will come with specific instructions from the spine consultant and advice may vary. This document is focused on unstable cervical injuries as these injuries are more complex and are at a higher risk of causing harm to the patient.

3.3 Stability

A **stable fracture** is an injury in which there is low risk of damage to spinal cord because significant movement at the fracture site is unlikely or impossible. This injury does not require an operation and the spinal cord is not compressed.

A stable injury maybe managed in a hard collar to maintain the bone alignment and reduce the risk of the fractured bone displacing and compromising the spinal cord.

An **unstable injury** is an injury in which there is high risk of damage to the spinal cord because significant movement at the fracture site is possible. It may need an operation to stabilize it, but an unstable injury may also be managed in a hard collar.

Management of both stable and unstable injuries require individuals to know how to provide collar care safely.

Injuries that have been diagnosed as stable or unstable will both require further investigation if the patient develops any neurological deterioration.

3.4 Hard Collar

The network uses a few different hard collars for cervical injuries. These are used to provide immobilisation of the cervical spine, to provide alignment of the spine and reassurance to the patient.

The hard collars currently used within the MTC and TUs and wider network are as below:

- The **Aspen Collar** – the manufacturer’s website, which has a brochure and fitting instructions, can be found at www.aspenmp.com/aspennr-cervical-collar.html
- The **Miami J Collar** – the manufacturer’s website, which has a brochure and fitting instructions, can be found at www.ossur.com/en-sg/bracing-and-supports/spine/miami-j
- The **Miami Select Collar** – the manufacturer’s website, which has a brochure and fitting instructions, can be found at www.ossur.com/en-sg/bracing-and-supports/spine/miami-j-select

We advise referring to the [Cervical Collar Care Prescription](#).

4 Who is this guidance aimed at?

It is aimed at staff involved in collar care:

- Rehabilitation or Inpatient teams on non-specialist sites
- Community care or rehabilitation teams
- Domiciliary Care providers
- Nursing home teams

5 STN Post-Acute Collar Care MATRIX

The STN Post-Acute Collar Matrix – as shown below - has been developed by the Spinal Trauma Steering Group and STN rehabilitation group. The purpose of the matrix is to facilitate discharge decision-making for spinal injury patients leaving the MTC and to create a standardised practice across the Sussex Trauma Network.

The Matrix takes into consideration the risk of development of neurological deficit, and the environment where appropriate collar care can be provided. Workforce competence, training, and confidence in providing collar care have been highlighted as the main contributor to whether a healthcare environment will take on such a task.

In this Matrix, four Spine Care Needs levels are defined that outline the care and rehabilitation needs of a patient in a hard collar and what pathway should be implemented to ensure the safe and correct care is provided for their cervical spinal injury. Using the Post-Acute Collar Matrix at the MTC, a timely and effective discharge plan can be made.

- **Level 1** – A patient who has a stable cervical injury and can be taught how to manage their daily collar care independently.
- **Level 2** – A patient who has a stable cervical injury but is unable to provide their own daily collar care.
- **Level 3** – A patient who has an unstable cervical injury who will require three people to provide daily collar care with a head-hold. Apart from the collar care required, the patient is independent.

The person who takes responsibility for the head-hold must be trained and have a signed MTC competency assessment form from the MTC/ TU. They should not be a friend/family member/ carer but someone with a healthcare registration. This registered individual will be the team leader and instruct and guide the collar care.

NOTE: Specialist plaster/casting technicians who have a signed MTC competency assessment form and have received collar care training are able to conduct the head hold and lead collar care for the unstable cervical injury patient.

- **Level 4** – A patient who has an unstable cervical injury and requires the same degree of collar care as a level 3 patient. However, the patient is not independent or is residing in a nursing home and/or requires rehabilitation.

If there is no neurological deficit, then a suitable rehabilitation facility is required and the MTC will provide education on collar care with a head-hold to the healthcare professionals involved and sign a competency assessment form.

If the patient has neurological deficit, a specialist SCI referral will be made, which is outside of this pathway.

STN Post-Acute Collar Care MATRIX

Spinal Care Need Level	Assistance needed with collar	Cervical spine stability	Rehabilitation post cervical fracture	Daily collar care needed	Head-hold needed	Care description	Location of care provision	Risk level
Level 1	Independent	Stable	No	Depends on skin integrity	No	Remove line <ul style="list-style-type: none"> No rehabilitation needed Independent collar care 	<ul style="list-style-type: none"> Home 	LOW
Level 2	Minimal supervision	Stable	Maybe	Depends on skin integrity	No	Remove line <ul style="list-style-type: none"> Assistance from trained and competent family or HCA for skin assessment 	<ul style="list-style-type: none"> Home Rehab facility Nursing home 	LOW
Level 3	Maximum	Unstable	No	Yes	Yes	<ul style="list-style-type: none"> Unstable requiring supportive spinal handling for daily collar care. Remove line Could use step-down unit specific for unstable c-spine. Patient could go home if they have trained district nurse available daily. 	Remove line <ul style="list-style-type: none"> Home with DN support/fracture clinic support Non weight bearing beds 	MEDIUM to HIGH
Level 4	Maximum	Unstable	Yes	Yes	Yes	<ul style="list-style-type: none"> National spinal pathway patients – Rehabilitation in line with collar prescription. General Rehab facility 	<ul style="list-style-type: none"> Spinal cord injury centre Non weight bearing bed Nursing home 	HIGH

6 Where must the patient be to get adequate collar care?

When deciding where a patient can be placed after discharge from the MTC, the following factors must be considered to ensure appropriate care is provided and to minimise complications:

- Stability of the injury and frequency of collar care needed
- Whether the patient requires other inpatient care
- Whether the patient needs supervision/ assistance to mobilise due to poor balance, strength, or cognition

These are combined in the Spine Care Needs level (see [STN Post-Acute Collar Care MATRIX](#)) which assists in deciding where a patient can be safely cared for in regard to their collar care.

Level 1 and 2 patients, who have a stable cervical injury, have a clear discharge pathway with minimal risk.

However, Level 3 patients, who have an unstable cervical injury require more complex discharge planning. Level 3 patients are independent but require three people to provide their collar care, which is needed daily and should include a head-hold. The discharge plan will rely on district nurse engagement and/or access to a Fracture Clinic.

The MTC will work closely with clinic and community settings to provide training and support for this group of patients. The MTC will provide train the trainer training for the STN.

Level 4 patients who will need rehabilitation in a neuro or general rehabilitation setting may not have reached the threshold required for a rehabilitation unit or community rehabilitation whilst they are wearing a hard collar. In this case the patient will need to be admitted to an interim placement whilst awaiting rehabilitation and not reside in the acute ward setting.

7 Who can be responsible for providing collar care?

This depends on the stability of the spinal injury. But in each case the patient, carer, or healthcare professional will have been taught collar care by the MTC/TU staff and will have a completed a MTC competency assessment form as evidence. If the patient is being discharged from the trauma unit, healthcare professionals based at the trauma unit will have received training from the MTC and have the competency document completed. The trauma unit can then competently deliver training for the collar care required.

The competency assessment form provided has been compiled by the practice education team in neurosurgery at the MTC and is based on the National Major Trauma Nursing Group competencies.

7.1 Stable cervical spine injury

One competent person is required.

This can be any of:

- a competent patient
- a competent carer
- a competent relative

7.2 Unstable cervical spine injury

Three competent people in total are required.

A competent health care professional who has a registration number (GMC, NMC, HCPC) is required to hold the patient's head.

Note: Specialist plaster/casting technicians who have completed the MTC competency assessment form and training can also manage and lead the collar care for unstable injuries and provide head hold themselves.

Two others from the following can assist:

- a competent healthcare professional
- a competent carer
- a competent relative

8 Defining Competency

All guidelines and education about providing collar care are based on manufacturer recommendations for the collar in use, [MASCIP Moving and handling recommendations](#) and by the experienced, competent spinal MDT at the major trauma centre at Royal Sussex County Hospital.

Competency is related to safely being able to manage collar care for the stable and unstable cervical spine and being able to efficiently identify common complications (Appendix 2, Collar Care Competency Assessment Forms)

9 How often is collar care required?

Collar care for Level 1 & 2 patients is required at least three times a week as long as pressure areas are intact, and skin is at minimal risk of breakdown.

A pressure area risk assessment tool is to be completed weekly to assess the risk of skin breakdown.

If the patient already has pressure damage or is assessed as high risk of developing pressure damage, collar care should be conducted daily, and in extreme cases twice a day to reduce pressure damage developing further.

Level 3 & 4 patients require daily collar care as a minimum to ensure the collar is well fitting and to assess skin integrity.

10 Access to Education and Advice

The MTC will provide train the trainer education for the TU and rehabilitation settings outside of the MTC. This will be the MTC education. Hard collar representatives can also provide training regarding the collar itself if required. The main source of collar care advice will be on the collar care prescription form.

A Training video will also be created for access through the trust website and YouTube channel for continued support after the patient leaves the MTC.

MTC discharge:

Monday to Friday (08:00-17:00)

Contact Spinal practitioners via

E-mail on uhsussex.spinalpractitioners@nhs.net OR

Telephone: **07887597236** or **07887617357**

TU discharge:

Any patient being discharged from the TU with a hard collar should be provided with a point of contact who is competent in delivering collar care and has completed the MTC competency assessment form and training.

11 Documentation and Care Handover

All patients referred to the neurosurgeons for an opinion on a cervical injury will have a completed Cervical Collar Care Prescription chart as required ([Appendix 4: Cervical Collar Care Prescription](#)). The cervical collar care prescription form is attached to the [Referapatient](#) electronic referral system. If the patient is being discharged from the MTC, the patient will also have a paper copy on them. The collar care prescription form will also be used in referrals to the community care setting and to rehabilitation settings.

12 Links to other Network documents

This guidance refers to and links with the following STN and Trust publications:

- STN Guideline – Spinal Cord Injury – still pending but will be at <https://www.bsuh.nhs.uk/stn/docs/>

13 References

- MASCIP (Multidisciplinary Association of Spinal Cord Injury Professionals) - [Moving and Handling patients with actual or suspected spinal cord injuries](#)
- Referapatient - www.referapatient.org/

14 Appendices

14.1 Appendix 1 – Abbreviations

GMC	General Medical Council
HCPC	Health and Care Professions Council
MASCIP	Multidisciplinary Association of Spinal Cord Injury Professionals
MDT	Multi-Disciplinary Team
MTC	Major Trauma Centre
NMC	Nursing and Midwifery Council
ODN	Operational Delivery Network
SCI	Spinal Cord Injury
SIU	Spinal Injury Unit
STN	Sussex Trauma Network
TU	Trauma Unit
TUs	Trauma Units

14.2 Appendix 2 – Collar Care Competency Assessment Forms

Developed by Emily Spence, Practice development senior sister, Neurosciences, Stroke & Neurorehabilitation 2018, reviewed Jan 2020.

14.2.1 Nursing Care of a Patient requiring A Cervical Collar - Verbally demonstrates underpinning knowledge

Standards/Performance criteria	Date	Self- Assessment	Assessor signature
Identifies and discusses indications for the use of a collar.			
Explain principles for cervical collar use and maintenance			
Discusses precautions required to maintain patient safety at all times in regard to the collar.			
Identifies potential complications that may arise as a result of the patient having to wear a collar			
Discusses the appropriate documentation used to support safe and effective patient care			
Demonstrates understanding of the positioning of a patient prior to the undertaking of collar care and discusses why this may require a second health professional.			
Discusses the importance of pressure area care for a patient with a collar			
Discusses safety aspects when delivering care for the patient			
Verbalises and discusses how often the pads of the collar should be washed and changed			
Discusses what action to take if the patient has a poor fitting collar			
Discusses importance of patient and family/carer in care education			

14.2.2 Nursing Care of a Patient requiring A Cervical Collar - Demonstrates competence through observation/assessment of practice

Standards/Performance criteria

Date	Self- Assessment	Assessor signature
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Identifies why particular patient has a collar and reads the medical notes to ensure understanding of patient action plan.
 Introduces self to patient, explains interventions and provides rationale gaining informed consent where possible.
 Refers to the patient's daily collar assessment care plan to identify what care is required for the patient
 Assesses collar to ensure appropriate fit of collar prior to care using the correct method stipulated in the care plan
 Performs collar care as stipulated in the care plan, ensuring safety of the patient at all times.
 Assesses skin underneath the collar for evidence of pressure damage as well as skin integrity.
 Changes the collar pads as per guidance and demonstrates appropriate technique of cleaning the pads (at a suitable time)
 Replaces collar and checks fit and positioning
 Documents all actions and escalates care as necessary.

14.3 Appendix 3 – Escalation Protocol

EMERGENCY DEPARTMENT

Please attend the emergency department if:

- The patient develops new severe neck pain
- The patient develops new weakness or sensory changes
- The patient develops breathing problems
- The patient develops bladder or bowel dysfunction

MTC discharge

SPINAL PRACTITIONERS

Please contact the spinal practitioner in working hours when:

- The pads/collar needs replacing
- You need to chase up a follow up appointment/ imaging

Spinal practitioners' email: uhsussex.spinalpractitioners@nhs.net

Spinal practitioners' phone: **07887597236** or **07887617357**

TU discharge

If the patient requiring collar care is being discharged from the TU then the TU is required to give the patient/relative and healthcare professionals, contact details for a competent team to manage any questions or concerns relating to the collar or collar care.

14.4 Appendix 4 – Cervical Collar Care Prescription chart

For the document – Cervical Collar Care Prescription – which is used at the MTC, see the next page.

CERVICAL COLLAR CARE PRESCRIPTION

Patient Name:		Hospital Number:	
Consultant responsible for spinal management:			
Consultant responsible for patient's overall care:			
Date of advice:	Time of advice:	<input type="checkbox"/> Advice face to face <input type="checkbox"/> Telephone advice <input type="checkbox"/> Referapatient advice	
Name of person completing form:	Designation: Bleep:	Signature:	

Diagnosis.....

1. Is a collar needed? No *If no, go to Q8* Yes Hard
 - a. Any restrictions on mobilising? No Yes _____
2. How long is the collar required for? (if other please specify)

6 weeks 3 months Other _____
3. When does the collar have to be worn?

24 hours When out of bed When walking Other _____
4. What position can the collar be changed in?

Lying Sitting
5. Do they need a head hold for collar changes?

No Yes
6. Can the patient shower without their collar?

No Yes, in sitting Yes, in standing
7. Can the patient shave without their collar?

No Yes, in sitting Yes, in standing N/A
8. Is further imaging needed?

No Yes
9. Timing of imaging

2 weeks 6 weeks 3 months Other _____

Cervical X Ray AP / Lateral Cervical CT Scan
10. Follow up with spinal surgeon

Not needed Yes When _____

ANY CONCERNS Monday- Friday 8-6pm contact Spinal Practitioners 07887617357 07887597236
 Out of hours- please contact neurosurgical registrar: phone 62032