

East Midland Spinal Network

Quality Service Improvement Group

Adult In-Patient Collar Care Pathway

For Aspen Classic and Aspen Vista Collars in use across the EMSN



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Classification: General

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Document Purpose	Guidance
Title	EMSN Adult In-Patient Collar Care Pathway
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Circulation	East Midlands Spinal Network Clinical Steering Group (CSG) Quality and Service Improvement Group (QSIG) Network Board
Description	Standardised collar care guidance for use across the EMSN member organisations This pathway is circulated as guidance for adult Spinal Care Services only.
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Background

The Network

The East Midlands Spinal Network (EMSN, the Network) aims to improve outcomes and experience for all spinal patients within the East Midlands region and has innovation, development, audit and research as its core business. The Network is a collaboration between provider and commissioner organisations which facilitates patient access to high quality spinal care across the region, underpinned by best evidence and high-quality education to optimise clinical outcomes. The Network endeavours to provide a safe environment where members of the multi-disciplinary team can openly work together within a collaborative, cooperative culture to share best practice and promote high quality care to continually improve spinal services.

Members of the Network Quality Service Improvement and Education Group (QSIEG) have collaborated to develop a pathway of care, ratified by the Network Board, to support the safe and equitable care of adult spinal patients needing support with collar sizing, fitting and ongoing management. This aims to standardize care across the Network region, but it is acknowledged that there will be minor differences where local variations are applicable (as indicated).

Introduction

This document provides guidance to spinal teams in member organisations across the Network region regarding care of the adult patient requiring a hard collar.

All centre hospitals in the EMSN currently use the same equipment. The collar currently in use across member organisations is a two-piece semi-rigid orthosis made of polyethylene, with a soft foam liner, an anterior opening for a tracheostomy and Velcro straps for easy application and removal (Aspen Classic/Aspen Vista). This collar supports the occiput and chin to help limit the movement of the cervical spine for patients recovering from trauma, pathological conditions or surgery.

Purpose

The purpose of this document is to provide the Network member organisations with structured guidance based on best available evidence and information on the care of patients requiring a cervical collar. Collar care is the management of a patient with a cervical collar (e.g. Aspen Classic/Aspen Vista) in situ. Standardisation of care for patients requiring a cervical collar will help ensure that patients receive equitable care across the region.

Aims of the EMSN Collar Care Pathway

- To provide guidance to spinal teams in member organisations
- To standardise the care of spinal patients requiring a cervical collar across the region
- To enhance the level of care provided for spinal patients requiring a cervical collar
- Prevention of complications and reduce harm resulting from the use of a rigid collar

Scope

This care-pathway applies to the following:

- Any adult spinal patient requiring a cervical collar in any of the EMSN member organisations
- Assessment, management and ongoing follow up care of a patient requiring a collar at all stages in the acute in-patient healthcare setting
- All staff working within each sub-specialty involved in the assessment, treatment and management of patients requiring a cervical collar under their direct care in the acute in-patient setting.

Responsibilities

All healthcare professionals across the Network involved in the care of spinal patients requiring a cervical collar have a responsibility to adhere to good clinical practice. This care pathway offers guidance which can be integrated into local pathways of care. The EMSN will monitor and update this care pathway in line with any changes in the evidence base or specific information relating to the specific collars themselves.

EMSN Inpatient Pathway for use of the Aspen Classic/Aspen Vista Collar

A cervical collar is an orthosis that fits around the neck, anywhere from the jaw, back of the head to the chest. It is used to restrict movement and support the neck to allow healing when treating a cervical injury, fracture, underlying pathological conditions or following a cervical procedure. The collar keeps the neck centrally aligned and supports the c-spine to limit motion, restricting neck flexion, extension, lateral tilt and rotation, but does not restrict axial loading. This prevents further injury, decreases muscle spasms and reduces or controls pain.

The Aspen Classic/Aspen Vista Collar is currently the device of choice across the region. Standardisation of equipment facilitates consistency of care, training and safe patient management. The Aspen Classic/Aspen Vista collar is made from moulded plastic, in two parts (front and back) with removable padded liners, fastened with Velcro. It is applied and secured to create a rigid orthosis to support the head and neck. The Aspen Classic range has four different sized adult collars. The Aspen Vista fits most patients through a system of six height adjustment settings using the adjustment dial. A large patient access window at the front of the neck facilitates access for airway management. Cotton lined pads draw moisture from the patient's skin and foam padding supports optimal pressure distribution. The Aspen classic and Vista collar components are interchangeable and are also compatible with other Aspen Collar accessories making the collar versatile and adaptable to suit most needs of the adult patient requiring a collar.

Aims of care:


- Preventing further spinal injury by support
- Safe sizing and application of the device
- Maintaining patient comfort, positioning and appropriate skin care
- Device maintenance
- Supporting communication and documentation
- Avoiding adverse events all within a competency-based framework.
- Education and information for staff, patients and care givers

Supporting Documents

- EMSN Cervical collar competency document
- Aspen Promedics training video for Healthcare Professionals
- Aspen Promedics training video for patients and care givers
- Aspen Instruction sheets
- Aspen Cervical collar patient information leaflets

Action		Rationale
General Care		
1	<ul style="list-style-type: none"> Confirm that you are capable and confident in your ability to undertake this procedure safely. Maintain level of competence by completing competency training every 2 years as a minimum. 	<ul style="list-style-type: none"> To satisfy clinical governance requirements for maintaining patient safety. Competency framework for healthcare professional as part of spinal service specification (URN 1738)
2	<ul style="list-style-type: none"> Confirm that the patient has capacity. 	<ul style="list-style-type: none"> If the patient does not have capacity, refer to the Mental Capacity Act (MCA) guidance.
3	<ul style="list-style-type: none"> Explain the process to the patient and gain verbal consent for any intervention. 	<ul style="list-style-type: none"> To gain consent and gain improved compliance. NHS consent to treatment guidelines (Informed consent)
4	<ul style="list-style-type: none"> Patients with unstable cervical spine will be nursed flat with neutral spinal alignment including head hold log rolling while awaiting assessment for a 2-piece cervical collar/exchange from a 1-piece hard cervical collar. If the patient has respiratory compromise or head injury, the patient should be supine with a slight bed tilt. If a patient has Ankylosing Spondylitis/ASD/kyphotic deformity they may require support from pillows to maintain natural curve. 	<ul style="list-style-type: none"> Until bony and neurological stability is ensured, management plan confirmed, and cautious re-mobilisation may begin. To prevent respiratory deterioration or distress, to reduce intracranial pressure. To prevent secondary cord injury from Ankylosing Spondylitis/ASD/kyphotic deformity conditions (potentially unstable)
5	<ul style="list-style-type: none"> Ensure the collar is in the correct position and ensure it is securely tightened. 	<ul style="list-style-type: none"> Collars should maintain the neck in a neutral position. The chin should comfortably rest on the chin-shelf or top of the collar. It should be difficult for the patient to move the chin off the chin-shelf and potentially slip inside the collar. Rigid collars will compromise jaw movement if fitted correctly. There should be no pillows (unless stated by Medical Team) behind the head as this will cause the neck to flex forwards and render the collar ill-fitting. There should be finger space between the patient's earlobe and the collar, and one finger space vertically down the back of the ear into the collar. You should just be able to run a finger along the jawline and chin piece of the collar.

Sizing and Fitting the Collar		
6	<ul style="list-style-type: none"> The patient will need to lie still, not moving the head, neck, shoulders or arms. 	<ul style="list-style-type: none"> To maintain neutral alignment and prevent iatrogenic injury
7	<ul style="list-style-type: none"> Check instructions in the patient case notes regarding the type of device required and how / where it is required. Instructions from the doctor in the case notes should include: <ul style="list-style-type: none"> The times during the day or night when the device should be worn - unless otherwise specified, cervical collars should be worn 24/7. Timing of device removal – length of treatment Precautions during collar care. 	<ul style="list-style-type: none"> Ensure the correct device is fitted as prescribed. Indications for use include post trauma, stable cervical fractures, MSCC/Infection/pathological conditions of the cervical spine, cervical spondylitis, cervical spondylosis, rheumatoid or osteoarthritis of the cervical spine, herniated cervical disc, post spinal surgery, post halo removal and motor neurone disease. <p>Cautions include:</p> <ul style="list-style-type: none"> Mandibular fractures Head/face or neck swelling Vascular injuries (Vertebral/carotid artery) Swallowing difficulties Severe scalp/neck/facial lacerations Confused/agitated patients. Ankylosing Spondylitis <p><i>This pathway does not negate the requirement for healthcare professionals to be trained and competent in the application and ongoing management of a patient with a hard collar (See Appendix 1 for Competency Standards) to be used in conjunction with the EMSN Cervical collar competency document.</i></p>
8	<ul style="list-style-type: none"> Check motor and sensory function to upper and lower limbs before and applying the cervical collar Document findings in the case notes. 	<ul style="list-style-type: none"> To gain baseline neurological status. Documentation standards (time lines)

<p>9</p>	<ul style="list-style-type: none"> • For Aspen Classic only: utilise sizing guide to choose correct size collar. • See Appendix 2 for Aspen Classic sizing guide. 	 <p>The image shows a mobile app interface for the Aspen Cervical Collar Sizing Guide. It includes instructions for checking for a good fit and picking the right size. The 'PICK THE RIGHT SIZE' section features a diagram of a head and neck with a collar, and four size options: EXTRA TALL (yellow), TALL (green), REGULAR (orange, selected), and SHORT (blue).</p>
<p>10</p>	<ul style="list-style-type: none"> • Refer to manufacturer's instructions and teaching materials for 10-16 (Appendix 3 Aspen Vista Collar, Appendix 4 Classic Aspen Collar, Appendix 5 Aspen Promedics collar training video for healthcare professionals) • Pre-form the back ends of the side panels by squeezing them so they stay curved when released. 	<ul style="list-style-type: none"> • Link to Aspen Classic cervical collar instruction sheet for reference https://www.aspenmp.com/media/wysiwyg/downloads/instruction_sheets/RC0009W_CervicalCollar_IFU.pdf
<p>11</p>	<ul style="list-style-type: none"> • With the head held in neutral alignment, press the back panel down (to compress the mattress) and slide it behind the patient's neck. • Centre the back panel so the loop straps are between the ear and the trapezius. 	<ul style="list-style-type: none"> • Link to Aspen Vista cervical collar instruction sheet for reference https://www.aspenmp.com/media/wysiwyg/downloads/instruction_sheets/AC0028G_Cervical_Collar_Vista_TX_IFU.pdf
<p>12</p>	<ul style="list-style-type: none"> • Add the front panel – while pulling the sides of the collar apart, position the chin piece so it touches the patient's chin. Now pivot the collar down and in. Keep the chin piece in contact with the chin as the sides are positioned over the trapezius muscles 	<ul style="list-style-type: none"> • Link to Aspen Promedics Collar training video for healthcare professionals https://www.youtube.com/watch?v=94E3ZIH3wSE
<p>13</p>	<ul style="list-style-type: none"> • For Aspen Vista only: Dial up the height of the collar by pulling outward on the dial and turning clockwise. Stop when it becomes difficult to turn the dial further, and the foam pad on the chin piece is seen to compress. 	<ul style="list-style-type: none"> • Link to Aspen Promedics Collar training video for healthcare professionals https://www.youtube.com/watch?v=94E3ZIH3wSE

14	<ul style="list-style-type: none"> • Check to see that the back of the chin piece is not pressing inward on the throat. If it is, lift the back ends of the side panels up, off of the trapezius muscles, which moves the chin piece forward, away from the throat 	
15	<ul style="list-style-type: none"> • While holding the front panel in place, attach the loop strap on each side. To tighten the collar, anchor your thumb or fingers in the trach hole and peel back the loop strap on one side. Push inward on the back edge of the side panel while pulling the loop strap out. Now lift the strap up and reattach. Keep the back panel centred by tightening the other side equally. Repeat until all 'slack' has been removed and a secure fit has been achieved. 	
16	<ul style="list-style-type: none"> • Check the fit. • Re-tighten, if necessary, on both sides. • Note: if patient changes position e.g. from lying to sitting collar fit will need reviewing. With Aspen Vista adjustments can be made using the dial. 	<ul style="list-style-type: none"> • The patient should be in neutral position and their chin should be well supported by the chin-piece. • All slack between the front and back panels must be removed to ensure a good fit.
17	<ul style="list-style-type: none"> • Check the airway – ensure that the chin piece does not pressing on the patient's throat (the patient may report that the collar feels tight, observe for changes to voice). Any concerns, release the loop straps and lift the ends of the side panels off the trapezius muscles to provide clearance at the throat. Then re-attach the loop straps and again tighten the collar. 	<ul style="list-style-type: none"> • Airway is patent and clear, able to talk, breathe and swallow clearly. No risk of aspiration or respiratory distress
18	<ul style="list-style-type: none"> • Check motor and sensory function to upper and lower limbs after applying the cervical collar - document these in the case notes. • Report any changes or deterioration to the medical team. 	<ul style="list-style-type: none"> • To ensure the application procedure has not altered patient neurology.
19	<p>Observe closely for any complications including, but not exclusively</p> <ul style="list-style-type: none"> • Swallowing, coughing, breathing and vomiting may be problematic with the risk of aspiration • Ineffective immobilisation may result in injuries to the spinal cord • Marginal mandibular nerve palsy with long term sensory compromise • Signs of increased intracranial pressure (reducing GCS) 	<ul style="list-style-type: none"> • To ensure the prolonged use of wearing a collar is not causing any secondary complications.

	<ul style="list-style-type: none"> • Delayed ventilatory weaning and extubation • Potential problems associated with immobility – pressure sores, deep vein thrombosis, pneumonia etc. • Check for any signs of pain or discomfort 4-6 hourly and administer analgesia as prescribed • Check for hypotension (when/if sitting up). <p>Escalate the following</p> <ul style="list-style-type: none"> • Loss of collar support • Loss of spinal alignment (neck extension/flexion) • Pressure ulcers – direct pressure, shear, rubbing, friction • Neurological compromise – motor or sensory changes (weakness, numbness, loss of sensation to upper or lower limbs) • Non-concordance. 	<ul style="list-style-type: none"> • To prevent complications and irreversible damage
Collar Removal		
20	<ul style="list-style-type: none"> • Unless otherwise stated, the collar should be worn 24/7 and the collar is removed (with appropriate manual immobilisation if required - head hold log roll) only to check the skin for potential pressure damage and to care for hygiene needs. 	<ul style="list-style-type: none"> • Address the patient's independent personal hygiene based on • If the device cannot be removed • If the device can be removed daily • The patient should ideally not shower in the collar as residual wetness will risk skin breakdown – if patients do shower in the collar - change liners immediately.
21	<ul style="list-style-type: none"> • Remove the collar with c-spine precautions, with the head held in neutral alignment. 	<ul style="list-style-type: none"> • Ascertain from medical teams what Spinal Precautions should be maintained or if patient can independently change their collar. Ensure the medical team document this decision in the case notes.
22	<p>Plan the frequency of collar position checks (minimum of 4 hourly or otherwise as stated).</p> <ul style="list-style-type: none"> • Pillows should never be placed behind the patient's head unless the doctor has documented that it is safe to do so in the patient's notes. • Document that the collar remains in the correct position and adjust appropriately if it has moved. 	<ul style="list-style-type: none"> • To ensure the collar remains in the correct position and has not come loose. • Pillows increase anterior flexion, and this has the potential to cause neurological impairment, mal-union and obstruction of the airway. The spine must rest in neutral, and the flexion of the bed should be used to maintain patient comfort. Flexion of the bed must be in-

		line with the hips, reducing unnecessary strain on the spine.
23	<ul style="list-style-type: none"> Perform regular skin checks and observe for signs of pressure damage, in line with local risk assessment (minimum twice daily). Skin to be washed and dried and pressure points examined including back of the neck, ears, occiput (visualising skin through the hair), Adam's apple and sternum. Palpate the scalp for any potential breakdown (bogginess) Do not use talcum powder, barrier creams. Male patients will require daily shave and beards trimmed. Hair must be washed with the head in neutral position – combed and checked for knots or matting. 	<ul style="list-style-type: none"> React to red skin – take action Take into consideration patient preference or cultural differences. Shave/trim beard to prevent irritation and pressure damage to the chin and other areas, and to ensure correct fit. If patient does not want to be clean shaven recommend short trimmed beard.
24	<ul style="list-style-type: none"> Document skin check (even if no issues or signs of pressure damage). Complete a wound assessment chart where applicable 	<ul style="list-style-type: none"> If pressure damage is found - the manufacturers state it is contra-indicated to use dressings as this will reduce air flow, increase moisture and can add further pressure. Seek local Tissue Viability advice.
Pad removal and cleaning		
25	<ul style="list-style-type: none"> Check pads every 12 hours or more frequently as patient condition indicates. Change pads every day, or more frequently if soiled. Pads should be changed daily and may be washed if they become moist or have an odour. 	<ul style="list-style-type: none"> Changing pads allows the foam to re-expand and regain its pressure relieving qualities. Clean pads help to prevent rashes and skin irritation, pressure damage. Follow local infection control policies and manufacturer guidance (see below)
26	<ul style="list-style-type: none"> Remove chin pads by peeling them off the Velcro dots. To remove the back-panel pad, first pull the loop straps through the plastic slots and the pad can then be peeled off the Velcro dots and slid off the loop straps (Refer to Appendix 6) 	<ul style="list-style-type: none"> https://www.aspenmp.com/media/wysiwyg/downloads/instruction_sheets/RC1800D_UpperSpine_PadWashing_I_FU.pdf
27	<ul style="list-style-type: none"> Follow local infection prevention and control policies and guidelines – but pads must be changed daily. 	<ul style="list-style-type: none"> Do not machine wash or use bleach. Use replacement pads during drying time.

	<ul style="list-style-type: none"> Manufacturers suggest you can hand-wash pads with mild soap and warm water then rinse thoroughly. Squeeze out excess water by pressing pads with a towel. Allow to air-dry by laying on a towel 	<ul style="list-style-type: none"> Do not use heat to dry the pads.
28	<ul style="list-style-type: none"> The plastic shell of the collar may be wiped with mild soap and water or a surface disinfection wipe (e.g. Clinell universal wipes). Rinse and towel dry before reattaching pads. 	<ul style="list-style-type: none"> Collars are single patient use only. If a patient is barrier nursed and is subsequently declared free of infection, the collar should be replaced with a new one as sporicidal wipes are not recommended.
29	<ul style="list-style-type: none"> Re-apply new/clean pads. Check that the foam liner pads extend beyond the plastic to prevent skin breakdown. 	<ul style="list-style-type: none"> Do not dispose of pads unless severely soiled or local infection control policies dictate so. They are costly. Plastic parts of the collar should not be touching the skin.
Education and Discharge Planning		
30	<p>Provide educational support for the patient and their family members Including (if applicable):</p> <ul style="list-style-type: none"> When to wear the collar e.g. sleeping, showering, activities Duration of treatment (or if for review in clinic) Not to drive – always sit in the front seat where there is an airbag Take care when/if walking as patient cannot see their feet Avoid extreme bending and twisting Skin care guidance – what to monitor for (smell, pain, discharge) and with routine skin inspections and hygiene Pad removal and cleaning (if appropriate) Removal and reapplication of the collar (if appropriate) 	<ul style="list-style-type: none"> Patient information leaflets Patients should not wear the collar in the shower as residual wetness will risk skin breakdown unless they are able to change pads immediately after showering.
31	<ul style="list-style-type: none"> Provide patient/carer with information leaflet Provide patient/carer with contact details to report any issues. Provide patient/carer with details of follow up/outpatient arrangements. 	<ul style="list-style-type: none"> To empower patient. To ensure the patient is informed
32	<ul style="list-style-type: none"> If appropriate teach patient and/or carer how to remove and re- 	<ul style="list-style-type: none"> To empower the patient

	apply the collar.	<ul style="list-style-type: none"> Self-care and management strategies to prevent complications on D/C
33	<ul style="list-style-type: none"> Refer patient to appropriate outpatient service. 	<ul style="list-style-type: none"> To ensure continuity of care. Follow local procedure.
Documentation		
34	<ul style="list-style-type: none"> Ensure doctor has documented requirement for collar. 	<ul style="list-style-type: none"> In line with communication and documentation standards/standards of practice
35	<ul style="list-style-type: none"> Note the size and type of the collar – i.e. size of Aspen Classic or note the height setting of the Aspen Vista, and note of the fit (finger test as mentioned earlier) 	<ul style="list-style-type: none"> Vista Collar settings range from 1 to 6
36	<ul style="list-style-type: none"> Document the method of application/removal e.g. positioning/manual handling of patient/immobilisation using head hold log roll Record time and date of application/removal 	<ul style="list-style-type: none"> In line with documentation standards, local care plans
37	<ul style="list-style-type: none"> Record the results of pre and post application or alteration neurovascular checks, vital signs, neuro and respiratory status and skin integrity. 	<ul style="list-style-type: none"> In line with documentation standards, local care plans. Escalation protocols to reduce harm
38	<ul style="list-style-type: none"> Pain should be scored by an appropriate pain scale, recorded and treated accordingly. 	<ul style="list-style-type: none"> Pain management polices
39	<ul style="list-style-type: none"> Document any teaching delivered 	<ul style="list-style-type: none"> Evidence of training/CPD/Competency attainment in clinical practice
40	<ul style="list-style-type: none"> Date of collar care clinic appointments – referral to community service/follow up service 	

Appendix 1. Competency Standards for Aspen Classic/Aspen Vista Collar

In order to care safely and effectively for a patient requiring the application, removal and ongoing care of an Aspen Classic/ Aspen Vista Collar, the following Competency Standards are required An understanding and demonstrable skill regarding	
1	Indications and contra-indications for the use of the collar
2	Identification of the aim of orthotic intervention and to check if the device meets these aims
3	Visual checks of the collar's fit with adjustment as appropriate
4	Checking for damage, wear and faults
5	Management of associated risks
6	Associated manual handling issues
7	Pain management factors
8	Factors affecting safe operation and application of the collar
9	Precautions to be taken into consideration when applying the collar
10	Safe, correct application, positioning and removal of the collar
11	Adjusting the collar settings
12	Awareness of when and how the collar should be worn
13	Patient information leaflets and teaching required
14	Completing a care plan and ongoing documentation
15	Providing instructions and advice
16	Limitations of the collar
17	Stock management
18	Arranging patient follow up
19	Skin checks, hygiene care, reviews and equipment maintenance i.e. how to change and clean the pads
20	Other sources of advice and support – reporting and escalating

Key Competency 4. Cervical Collars

Through discussion, demonstration and observation, workbook completion and Q&A, the healthcare professional must demonstrate;

1.0 Knowledge and understanding of the anatomy and physiology of the Cervical Spine

1.1 Demonstrate knowledge and understanding of the cervical spine, including:

- 1.1.1 Anatomy, structure and function of the cervical spine
- 1.1.2 Anatomy, structure and function of the head and neck
- 1.1.3 Normal alignment and curvature
- 1.1.4 Cranio-cervical junction
- 1.1.5 Atlantoaxial spine
- 1.1.6 Sub-axial spine
- 1.1.7 Cervico-thoracic junction
- 1.1.8 Movements of the cervical spine
- 1.1.9 Spinal cord
- 1.1.10 Spinal nerves and distribution
- 1.1.11 Cranial nerves
- 1.1.12 Cervical and brachial plexuses
- 1.1.13 Motor and sensory function (head, neck, upper limbs)
- 1.1.14 Muscles supporting the neck
- 1.1.15 Vascular supply of the neck
- 1.1.16 Central and peripheral nervous systems
- 1.1.17 Cervical spine biomechanics

1.2 Describe the pathological spinal conditions that can affect the application and use of a collar on the cervical spine including;

- 1.2.1 Ankylosing Spondylitis
- 1.2.2 Osteoporosis
- 1.2.3 MSCC/metastases

- 1.2.4 Rheumatoid arthritis
- 1.2.5 Torticollis/subluxation
- 1.2.6 Cervical spine deformities

1.3 Demonstrate knowledge and understanding of the mechanisms of injury to the cervical spine, including:

- 1.4.1 Compression injury
- 1.4.2 Hyperflexion injury
- 1.4.3 Extension injury
- 1.4.4 Rotational injury

1.4 Demonstrate knowledge and understanding of cervical spine injury with reference to;

- 1.4.1 Type of injury (level, structures involved and stability)
- 1.4.2 Signs and symptoms of SCI
 - Dermatomes
 - Myotomes
 - Tone
 - Reflexes
 - Coordination
 - Shock (spinal/neurogenic)
 - Autonomic/Somatic nervous systems
 - Respiratory compromise
 - CV status
- 1.4.3 Signs and symptoms of peripheral nerve injury (sensation, muscle strength and motor coordination)
- 1.4.4 Signs and symptoms of vertebral artery insufficiency/injury (VBI)

2.0 Demonstrate the Principles of Safe Cervical Spine Immobilisation with a Rigid Cervical Collar

2.1 Demonstrate knowledge and understanding of the indications for use with reference to;

- 2.1.1 Intended use/purpose
- 2.1.2 Post- operative/ surgical management

- 2.1.3 Conservative management of spinal fractures
- 2.1.4 Acute Spinal column/cord injury (unstable injuries)
- 2.1.5 Spinal malignancy (MSCC, TB, Infection)
- 2.1.6 Transition between different orthotic devices

2.2 Demonstrate knowledge and understanding of the contra-indications for use in terms of;

- 2.2.1 Absolute Contraindications
 - Cervical angulation (fixed)
 - Impaled foreign object in the neck
 - Massive soft tissue injury/swelling to the neck/underlying structures
 - Compromised airway
 - Hypersensitivities/allergies to any of the collar materials
- 2.2.2 Relative Contraindications
 - Unsecured airway
 - Vomiting
 - Mandible or soft tissue injuries with potential for airway compromise
 - Pre-existing anatomical abnormalities

2.3 Demonstrate knowledge and understanding of the precautions for use in patients with underlying conditions acute or chronic with reference to;

- 2.3.1 Fractures to head/face/base of skull/ proximal clavicle/manubrium
- 2.3.2 Soft tissue trauma to head/face/neck
- 2.3.3 TBI/head injuries/raised inter-cranial pressure
- 2.3.4 Agitated/confused patients/uncooperative patients
- 2.3.5 Respiratory compromise
- 2.3.6 CVS stability
- 2.3.7 Vertebral artery injury
- 2.3.8 Previous surgery
- 2.3.9 Neurological disorder or injury
- 2.3.10 Skin conditions (acute or chronic)
- 2.3.11 Distraction injuries

- 2.3.12 Additional equipment (tracheostomy, central lines, drains, ICP bolt)
- 2.3.13 Ankylosing Spondylitis/Cervical spine deformity

2.4 Demonstrate knowledge and understanding of cervical spine immobilisation with reference to;

- 2.4.1 Positioning/Spinal alignment
- 2.4.2 Effects of postural changes/deformity
- 2.4.3 Fracture/spinal injury classification
- 2.4.4 Level of fracture/spinal injury
- 2.4.5 Function of a collar
- 2.4.6 Limitations of a collar
- 2.4.7 Immobilisation and its physiological effects on the respiratory system
- 2.4.8 Immobilisation and its physiological effects on nutrition and hydration
- 2.4.9 Hygiene and skin care

2.5 Describe the potential complications and adverse effects associated with immobilisation in a cervical collar in relation to;

- 2.5.1 Pressure sores/skin ulceration
- 2.5.2 Intra-cranial pressure
- 2.5.3 Vascular compromise/compression
- 2.5.4 Respiratory compromise/restriction (mechanical)
- 2.5.5 Neurological compromise
- 2.5.6 Psychological issues
- 2.5.7 Patient positioning

2.6 Describe the reasons for potential harm from wearing a Cervical Collar with reference to;

- 2.6.1 Application in the presence of contra-indications
- 2.6.2 Poor or incorrect application of a collar
- 2.6.3 Insufficient monitoring
- 2.6.4 Insufficient patient information/guidance
- 2.6.5 Incompetence/inexperience
- 2.6.6 Inappropriate collar
- 2.6.7 Complications of inappropriate manual handling

3.0 Practical Assessment of Cervical Collar Application Procedures

3.1 Undertake the following procedures correctly in line with local standards of practice;

Demonstrate comprehensive use of all the following pre-application checks

- 3.1.1 Correctly confirm the patient's identity
- 3.1.2 Introduction of self to patient
- 3.1.3 Gain appropriate consent (and check if patient has capacity)
- 3.1.4 Maintain all principles of infection prevention and control (IPC) procedures including hand hygiene and use of PPE.
- 3.1.5 Assess the need for pain relief prior to procedure, administer as appropriate and monitor its subsequent effect
- 3.1.6 Confirm collar requirements (with the spinal team- ensuring that instructions have been clearly communicated and documented) and injury sustained
- 3.1.7 Check for and identify indications, contra-indications and precautions
- 3.1.8 Explanation and discussion of the procedure to patient (identifies aim of collar intervention, what is happening and why) to the patient regardless of conscious state.
- 3.1.9 Check for faults/wear/damage/soiling of collar
- 3.1.10 Skin check prior to application
- 3.1.11 Pre-procedural neurological status/observations to be performed and documented
- 3.1.12 Assess and document patients pre-procedural pain (VAS score)
- 3.1.13 Routine observations
- 3.1.14 Where ICP bolt is in situ check ICP pressure and parameters before commencing Procedure)
- 3.1.15 Prepare all resources required in advance of the procedure (staff, equipment)

Demonstrate application of the collar: Unstable/stable Cervical spine injuries

- 3.1.16 Correct application in supine lying (2-person technique, no pillows unless postural support is required e.g. AS patients).
- 3.1.16 Spinal Precautions
 - Manual C spine immobilisation

- Head hold/log roll

Demonstrate application of the collar for the cervical spine: Post-Operative

- 3.1.17 Correct application in supine lying/sitting (1-person technique)
- 3.1.18 Aspen Vista collar application
 - Preparation (perform the collar, check all plastic covered and pads in correct position)
 - Placement (back panel/front panel)
 - Sizing and height adjustment
 - Position/alignment
 - Verbal communication with patient

Demonstrate use of post application checks including;

- 3.1.19 Check correct fit of the collar:
 - Comfort and fit (secured)
 - Visible sternal notch
 - Collar height (flush with the chin)
 - Slack out/close fitting
 - Throat area clear (can speak and swallow)
- 3.1.20 Re-assessment of airway
- 3.1.21 Re-assessment of neurological status
- 3.1.22 Re-assessment of pain (VAS score)
- 3.1.23 Re-assess observations
- 3.1.24 Patient positioned correctly/spinal alignment
- 3.1.25 Patient comfortable
- 3.1.26 Patients care needs are addressed
- 3.1.27 Documentation of the mitigation for pressure area damage risk (with reference to *MASCIP Moving and Handling Guidelines (MASCIP 2015)* for correct evidence based manual handling procedures.

4.0 Assessment and Management of Patients Immobilised in a Cervical Collar

4.1 Practically perform and explain the underlying theory of;

- 4.1.1 Cervical immobilisation (aims and purposes)
- 4.1.2 Spinal precautions (aims and purposes)
- 4.1.3 Manual C-Spine immobilisation
- 4.1.4 Patient positioning
- 4.1.5 Head hold/log roll
- 4.1.6 Cardiac arrest procedures
- 4.1.7 Managing a vomiting/aspirating patient

4.2 Undertake the following procedures correctly in line with local standards of practice

- 4.2.1 Ensure the bed is at the correct height for the designated head holder and collar applicator
- 4.2.2 Position patient in correct starting position (flat supine, in spine neutral) for the procedure (describe chosen technique and when to use other techniques)
- 4.2.3 Request that the patient lay still and avoid resisting or assisting during the procedure.
- 4.2.4 Pre-procedural neurological assessment and observations
- 4.2.5 Clear verbal communication is highlighted to patient and staff on application/removal of the collar.
- 4.2.6 Skin checks/pressure area management
- 4.2.7 Cleaning/washing/hygiene care of patient and collar
- 4.2.8 Change of pads
- 4.2.9 Pre and post collar checks
- 4.2.10 Correct hand positioning of the head for C spine immobilisation.
- 4.2.11 Correct execution of head hold log roll procedure (maintenance of neutral alignment with no rotation of spinal segments)
- 4.2.12 On completion of the procedure ensure the patient is in alignment.
- 4.2.13 Assessment and documentation of findings, pre, peri and post procedure
- 4.2.14 Re-assessment of patient, collar and observations at timed intervals

- 4.2.15 Accurate completion of care plan/bed chart/patient documentation
- 4.2.16 Advice and information to patient
- 4.2.17 Patient position, pain, observations
- 4.2.18 Patient care needs addressed

4.3 Document the following post-procedure in line with local and professional standards of practice

- 4.3.1 The assessment of the patient's risk of pressure damage and awareness of high risk areas
- 4.3.2 Use of a local risk assessment tool and mitigating action plan required in accordance with local policy
- 4.3.3 Mitigation for pressure area damage risk
- 4.3.4 With reference to *MASCIP Manual Handling Guidelines (reference)* for correct evidence based manual handling procedures
- 4.3.5 Include in medical notes/nursing notes/care plans intervention and care needs

4.4 Demonstrate knowledge and understanding through discussion with reference to;

- 4.4.1 On-going patient and collar assessment (2 BD twice daily – once per shift)
- 4.4.2 Any changes communicated, documented and handed over
- 4.4.3 Clear instructions and relevant patient information provided to patient and family/carers
- 4.4.4 Patient and family/carers self-management on collar safety
- 4.4.5 Escalation of complications/issues on discharge (who to contact/where to go)
- 4.4.6 Collar care plan on discharge
- 4.4.7 Follow up provisions/post discharge
- 4.4.8 Patients/carers understanding of information provided and resolution
- 4.4.9 Handover/information requirements to community healthcare professionals

Appendix 2- Sizing Guide Aspen Classic Cervical Collar

Aspen® Cervical Collar Sizing Guide


CHECK FOR A GOOD FIT

1. The chin must be flush with the front of the chin piece plastic.
2. The FlexTabs™ on the front and back panels should be flexed.
3. The collar should be "snug" but not touch the tracheal area.

PICK THE RIGHT SIZE

With the head in the neutral or desired position, place the guide on the highest point of the trapezius and flat against the side of the head.

Sight an imaginary perpendicular line from the bottom of the chin back to the guide and select the proper size Aspen Collar.



EXTRA TALL











TALL

REGULAR

SHORT

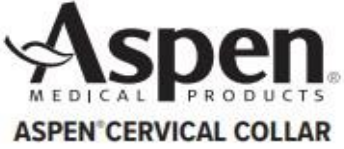

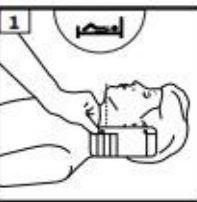

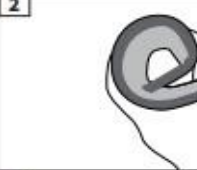
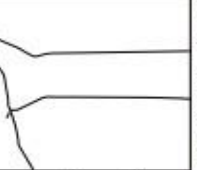


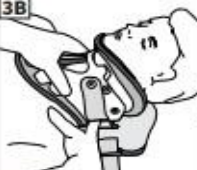



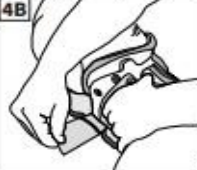

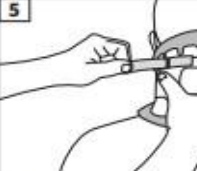

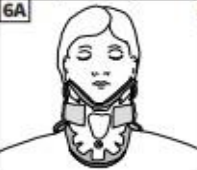

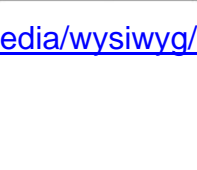
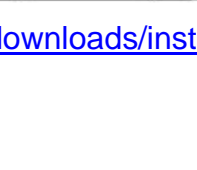
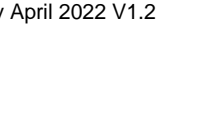

Proper training in the use of this device should take place before it is applied. These directions are guidelines only and are not offered as medical recommendations.

Appendix 3. Manufacturer's Instructions Sheet: Aspen Vista Cervical Collar

<div style="text-align: center;">  <p>ASPEN VISTA[®] CERVICAL COLLAR & ASPEN VISTA[®] TX COLLAR</p> </div> <p> CERVICAL COLLAR ZERVIKALORTHESE CUELLO CERVICAL COLLARE CERVICALE COLLIER CERVICAL NEKBRACE KRČNI LÍMEC HALSHVIRVELKRAVE АУХЕНІКО КОЛАРО CERVICAL KRAGE SZYNY KOLNIERZ ORTOPEDYCZNY КАУЛАТУКІ НАСКРАЖЕ ШЕЙНЫЙ КОРСЕТ COLAR CERVICAL ШЕЋЕ </p> <div style="display: flex; justify-content: space-around;">  <p>ASPEN VISTA CERVICAL COLLAR</p> </div> <div style="display: flex; justify-content: space-around;">  <p>ASPEN VISTA TX COLLAR</p> </div> <div style="margin-top: 20px;"> <p>MD MEDICAL DEVICE</p> <p>1P SINGLE PATIENT / MULTIPLE USE</p> <p>CAUTION</p> <p></p> <p>CE EC REP EMERGO EUROPE Pl. Messegrotest 23 2546 AP The Hague The Netherlands</p> <p>Pat. aspenmp.com/patents</p> <p>Aspen Medical Products, LLC 6401 Oak Canyon, Irvine, CA 92618-5202 USA aspenmp.com • +1-800-295-2776 • +1-949-681-0200 ©2021 Aspen Medical Products, LLC. All Rights Reserved AC0028G revised 04/2021</p> </div>	<p>1</p> 	<p>1. PREPARATION With the head in a neutral alignment, press the back panel down onto the bed and slide it behind the patient's neck. The loop straps should be between the patient's ear and the top edge.</p> <p>2. PLACEMENT The front panel should be at the lowest setting to begin. While pulling the sides of the front panel apart, position the bottom of the tracheal aperture at the sternum level. Position the sides up and over the trapezius muscles. It is OK if the chin piece is not touching the chin.</p> <p>3. SIZING While holding the collar against the chest, pull out the dial to attach. Turn the dial clockwise to size the piece. When the chin piece is supporting the chin, release the dial and it will auto-lock.</p> <p>4. TIGHTENING A. While holding the front panel in place, attach the loop strap to each side. B. To tighten, anchor your fingers in as the collar and peel back the top strap on one side, tighten and reattach. Tighten the other side equally and repeat as needed to ensure a snug, symmetrical fit. C. Check to see if the back of the chin piece is not pressing inward on the throat. If it is, lift the back ends of the side panels up and off the trapezius muscles.</p> <p>TIPS</p> <ol style="list-style-type: none"> The patient's chin should be close to the front of the chin piece but the back of the chin piece should not press on the patient's throat. All space between the front and back panels must be removed to ensure a secure fit. The patient should be in a neutral head/neck position, so it may be desirable to readjust the height and the back panel straps. <p>INTENDED USE To provide motion restriction of the cervical spine.</p> <p>INDICATIONS Decompressive procedures, Fracture management, Postural stabilization, Whiplash, Spinal stenosis, Cervicogenic headache, Cervical disc syndrome, Musculoskeletal pain, Radiculopathy.</p> <p>CONTRAINDICATIONS Hypersensitivity or allergies to any of the materials from which the brace is made. Avoiding all the symptoms to be treated by circulatory disorders. Patients who are not allowed to wear a brace according to medical instructions.</p> <p>PRECAUTIONS READ INSTRUCTIONS BEFORE USE. Proper training in the use of this device should take place before it is applied. These directions are guidelines only and are not offered as medical recommendations. If you suffer from a serious medical condition, we strongly suggest that you consult with a licensed health care professional before using this product. Proper fitting is required for this product to be effective. Under some circumstances, this product may be prescribed by a physician. Please see the linked warranty for further information.</p> <p>CARE INSTRUCTIONS Wash each only at 15° C. Wash with mild detergent in dry. Do not use bleach or other chemicals.</p> <p>MATERIALS ABS, Nylon, HDPE, Polycarbonate, Deriv, Polyurethane, Carbon.</p> <p>NOT MADE WITH NATURAL RUBBER LATEX.</p> <p>DISPOSAL Product may be safely disposed in accordance with local laws.</p> <p>REPORTING Please report any serious incidents involving the use of this device to both the Competent Authority in your state and to the nearest office listed on this document.</p> <p>LIMITED WARRANTY Aspen Medical Products, LLC, Irvine, CA 92618, warrants to the user who originally purchases this product that it has been defectively manufactured and workmanship. The warranty of Aspen Medical Products, LLC in the event of a defect of workmanship shall be to repair or replace the defective product or parts.</p> <p>Aspen Medical Products, LLC shall have no obligation under this limited warranty to the user if the product was not purchased from Aspen Medical Products, LLC through its authorized distributors or distributors.</p> <p>(a) The product is, allowed. (b) The product is not supplied by Aspen Medical Products, LLC or its authorized distributors. (c) The product is not used in accordance with the Aspen Medical Products, LLC Instructions for Use.</p> <p>Our statements of fact were prepared under the best of our knowledge. The information is a general statement of fact and does not constitute an offer of insurance. Full and complete details, conditions, exclusions, and limitations are contained in the policy. This product is not intended to be used as a substitute for medical advice or treatment. The user should consult with a licensed health care professional for medical advice. The user should not use this product if it is damaged or if it does not meet the user's needs. The user should consult with the user's physician for more information. The user should consult with the user's physician for more information. The user should consult with the user's physician for more information.</p> <p>This warranty gives specific legal rights and you may have other rights depending on your jurisdiction.</p> <p>Listing of authorized distributors in your area is available upon request.</p>
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Appendix 4. Manufacturer's Instructions Sheet: Aspen Vista Cervical Collar

 <p>ASPEN[®] CERVICAL COLLAR</p> <p>CERVICAL COLLAR ZERVIKALORTHESE CUELLO CERVICAL COLLIER CERVICAL NEKBRACE KRČNÍ LÍMEC HALSHVIRVEL KRAVE KRČNÍ LÍMEC CERVIKAL KRAGE SZYJNY KOLNIERZ ORTOPEDYCZNY KALLIATUKI NACKKRAGE ШЕЙНЫЙ КОРСЕТ COLAR CERVICAL 颈托</p> 			<p>1. SIZING Measure head in desired position. Place the string guide against head at the highest point of the shoulder muscle. Draw an imaginary line from chin bottom to string guide then select collar size.</p>	
			<p>2. PRE-FORM Roll up the back panel.</p>	<p>3. POSITION FRONT A. Place sides of the front panel outward. Place chin piece directly under the chin. Generally, the chin should not extend beyond the edge of the plate. B. Push the sides of the front panel up over shoulder muscles around the neck.</p>
			<p>4. ATTACH FRONT A. While holding the front panel with one hand, center the back panel and attach both sides to the front. B. While holding the front panel in place with one hand, pull outward then secure the back panel straps to the front of the collar. Repeat as needed for a proper fit.</p>	<p>5. ADJUSTMENTS Tighten the Occipital Support Strap by separating the back panel to the neck and pulling until all slack is removed. NOTE: It is not necessary to tighten the Occipital Support Strap on supine patients.</p>
			<p>6. PROPER FIT A. The patient's chin should be flush with the end of the collar chin piece. The inner back bar should not be touching the airway. If it does, re-fit with the next taller size. B. All slack should be removed from the collar back. The back panel should be centered. From the front, the back straps should be symmetrical.</p>	<p>INTENDED USE To provide motion restriction of the cervical spine.</p>
			<p>INDICATIONS Decompressive procedures, Fracture management, Postsurgical stabilization, Whiplash, Sprains/strains, Cervicogenic headache, Cervical disc syndrome, Musculoskeletal pain, Radiculopathy.</p>	<p>CONTRAINDICATIONS Hypersensitivity or allergies to any of the materials from which the brace is made. Swelling of the lymphatic tissue caused by circulatory disorders. Patients who are not allowed to wear a brace according to medical instructions.</p>
			<p>PRECAUTIONS READ INSTRUCTIONS BEFORE USE. Proper fitting in the use of this device should take place before it is applied. These directions are guidelines only and are not offered as medical recommendations. If you suffer from a serious medical condition, we strongly suggest that you consult with a licensed health care professional before using this product. Proper fitting is required for this product to be effective. Under some circumstances, this product may be prescribed by a physician. Please use the linked warning for further information.</p>	<p>CARE INSTRUCTIONS Hand wash only at 30° C. Wash with mild detergent. Air dry. Do not use bleach or other chemicals.</p>
		<p>MATERIALS HDPE, Nylon, Polyurethane, Cotton.</p>	<p>NOT MADE WITH NATURAL RUBBER LATEX.</p>	
		<p>DISPOSAL Product may be safely disposed in accordance with local laws.</p>	<p>REPORTING Please report any serious incident involving the use of this device to both the Competent Authority in your state and to the manufacturer (linked on this document).</p>	
		<p>LIMITED WARRANTY Aspen Medical Products, LLC, Irvine, CA 92618, warrants to the user who originally purchases this product that it is free from defects in material and workmanship. The sole obligation of Aspen Medical Products, LLC in the event of breach of warranty shall be to repair or replace the defective product or part(s).</p> <p>Aspen Medical Products, LLC shall have no obligation under this limited warranty in the event: (a) The product was not purchased from Aspen Medical Products, LLC or through its authorized channels of distribution; (b) The product is altered; (c) Any parts not supplied by Aspen Medical Products, LLC are incorporated into the product; or (d) The product is not used in accordance with the Aspen Medical Products, LLC instructions for use.</p>	<p>THE INFORMATION IS THE PROPERTY OF ASPEN MEDICAL PRODUCTS, LLC. IT IS NOT TO BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM, WITHOUT THE WRITTEN PERMISSION OF ASPEN MEDICAL PRODUCTS, LLC. THE INFORMATION IS PROVIDED AS IS WITHOUT WARRANTY OF ANY KIND, INCLUDING MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. THE USER ASSUMES ALL LIABILITY FOR ANY DAMAGE, INCLUDING PERSONAL INJURY OR DEATH, ARISING FROM THE USE OF THIS PRODUCT, WHICH ARE HEREBY DISCLAIMED AND EXCLUDED BY ASPEN MEDICAL PRODUCTS, LLC.</p>	
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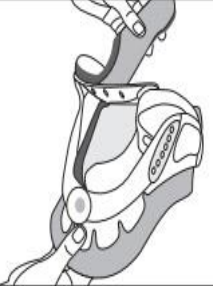
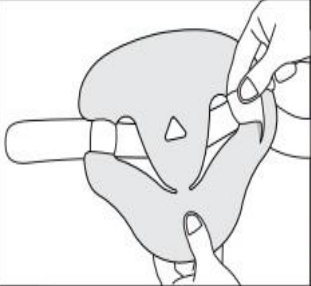
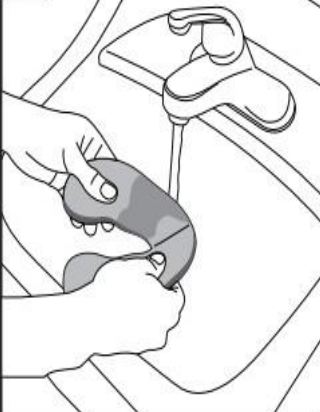


[https://www.aspenmp.com/media/wysiwyg/downloads/instruction_sheets/RC0009W_Cervical Collar IFU.pdf](https://www.aspenmp.com/media/wysiwyg/downloads/instruction_sheets/RC0009W_CervicalCollar_IFU.pdf)

Appendix 5. Aspen Promedics Collar Training Video for Healthcare Professionals

<https://www.youtube.com/watch?v=94E3ZIH3wSE>



Appendix 6. Manufacturer's Instructions Sheet: Pad removal and washing instructions

		ENGLISH
1		<p>1. PAD REMOVAL Remove the pads from the product by peeling the pad away from the hook dots.</p> <p>2. CLEANING A. Hand wash pads with mild soap and warm water. Do not machine wash or use bleach. Rinse thoroughly. B. The plastic shell of the product may be wiped with mild soap and water. Rinse and towel dry before re-attaching pads.</p> <p>3. DRYING Squeeze out excess water by pressing pads with a towel. Allow to completely air dry by laying on a towel. Do not use heat to dry. Use replacement pads during drying time.</p> <p>INTENDED USE Not applicable.</p> <p>INDICATIONS Not applicable.</p>
		
2A		<p>CONTRAINDICATIONS Hypersensitivity or allergies to any of the materials from which the brace is made. Swelling of the lymphatic tissue caused by circulatory disorders. Patients who are not allowed to wear a brace according to medical instructions.</p> <p>PRECAUTIONS READ INSTRUCTIONS BEFORE USE. Proper training in the use of this device should take place before it is applied. These directions are guidelines only and are not offered as medical recommendations. If you suffer from a serious medical condition, we strongly suggest that you consult with a licensed health care professional before using this product. Permanent injury may result from any improper use of this product. Proper fitting is required for this product to be effective. Under some circumstances, this product may be prescribed by a physician. Please see the accompanying limited warranty for further information.</p> <p>CARE INSTRUCTIONS Hand wash only at 30° C; Wash with mild detergent; Air dry; Do not use bleach or other chemicals.</p> <p>MATERIALS Nylon, Cotton, Polyurethane.</p> <p>NOT MADE WITH NATURAL RUBBER LATEX.</p> <p>DISPOSAL Product may be safely disposed in accordance with local laws.</p> <p>REPORTING Please report any serious incident involving the use of this device to both the Competent Authority in your state and to the manufacturer (listed on this document).</p> <p>LIMITED WARRANTY Aspen Medical Products, LLC, Irvine, CA 92618, warrants to the user who originally purchases this product that it is free from defects in material and workmanship. The sole obligation of Aspen Medical Products, LLC in the event of breach of warranty shall be to repair or replace the defective product or part(s).</p> <p>Aspen Medical Products, LLC shall have no obligation under this limited warranty in the event: (a) The product was not purchased from Aspen Medical Products, LLC or through its authorized channels of distribution; (b) The product is altered; (c) Any parts not supplied by Aspen Medical Products, LLC are inserted into the product; or (d) The product is not used in accordance with the Aspen Medical Products, LLC Instructions for Use.</p> <p>THE FOREGOING IS THE SOLE AND EXCLUSIVE REMEDY FOR FAILURE IN SERVICE OF, OR DEFECT IN, THE PRODUCT. ASPEN MEDICAL PRODUCTS, LLC SHALL NOT BE LIABLE UNDER THIS OR ANY IMPLIED WARRANTY FOR ANY DIRECT, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES. THIS WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING THE WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR USE, AND ALL OBLIGATIONS OR LIABILITIES ON THE PART OF ASPEN MEDICAL PRODUCTS FOR DAMAGES ARISING OUT OF OR IN CONNECTION WITH THE USE OF THE PRODUCTS, WHICH ARE HEREBY DISCLAIMED AND EXCLUDED BY ASPEN MEDICAL PRODUCTS, LLC.</p> <p>This warranty gives you specific legal rights and you may have other rights which vary from location to location.</p> <p>A listing of authorized distributors in your area is available upon request.</p>
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https://www.aspenmp.com/media/wysiwyg/downloads/instruction_sheets/RC1800D_UpperSpine_PadWashing_IFU.pdf

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