

Key Competency 1. Moving and Handling a Patient with Spinal Precautions

1.0 Knowledge and understanding of the anatomy and physiology of the spine

1.1 Demonstrate knowledge and understanding of the spinal column, including:

- 1.1.1 Anatomy, structure and function
- 1.1.2 Normal alignment and curvatures
- 1.1.3 Cervical Spine
- 1.1.4 Thoracic Spine
- 1.1.5 Lumbar Spine
- 1.1.6 Sacral Spine
- 1.1.7 Spinal cord
- 1.1.8 Spinal nerves
- 1.1.9 Motor and sensory function
- 1.1.10 Autonomic nervous system

1.2 Describe the pathological conditions that can affect the spine that need to be considered when manual handling and positioning patients:

- 1.2.1 Ankylosing Spondylitis
- 1.2.2 Kyphotic/scoliotic deformities
- 1.2.3 Osteoporosis
- 1.2.4 MSCC/Metastases

1.3 Identify and describe other underlying conditions (acute or chronic) that can affect manual handling and positioning techniques:

- 1.3.1 Other traumatic injuries (chest/ abdominal/ upper limb/ lower limb injuries)
- 1.3.2 Respiratory compromise
- 1.3.3 CVS stability
- 1.3.4 Vertebral artery injury
- 1.3.5 Previous surgery
- 1.3.6 Neurological disorder or injury

1.4 Demonstrate an understanding of mechanism of injury, including:

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

2.0 Knowledge, understanding and practical demonstration of safe spinal immobilisation and management

2.1 Demonstrate an understanding of:

- 2.1.1 Spinal precautions and indications for implementation
- 2.1.2 Aims and purpose of spinal precautions
- 2.1.3 The indications for initiating C-Spine immobilisation

2.2 Practically perform and explain the underlying theory of:

- 2.2.1 Manual C-Spine immobilisation
- 2.2.2 C-spine immobilisation using a collar, sizing and use of appropriate device
- 2.2.3 The healthcare professional's role in being part of a team performing head hold log roll/log roll and describe each role
- 2.2.4 Safe assessment and assistance in support of oral nutrition and hydration of the immobilised patient
- 2.2.5 Safe assessment and assistance with elimination needs
- 2.2.6 Safe assessment and support of pressure care
- 2.2.7 Safe positioning

3.0 Potential Complications associated with Spinal injury and Spinal Precautions

3.1 Demonstrate knowledge and understanding of:

- 3.3.1 Patient presentation, potential complications and implications of injury to:
 - Cervical spine
 - Thoracic spine
 - Lumbar spine
- 3.3.2 Immobilisation and its physiological effects on the respiratory system, cardiovascular status, integument/ GI Tract and skin.
- 3.3.3 Specific professional responsibilities relating to the assessment of the patient's risk of pressure damage and awareness of high risk areas
- 3.3.4 Use of a local risk assessment tool and mitigating action plan required in accordance with local policy
- 3.3.5 Documentation of the mitigation for pressure area damage risk
- 3.3.6 With reference to *MASCIP Moving and Handling Guidelines (MASCIP 2015)* for correct evidence based manual handling procedures

3.2 Demonstrate knowledge and understanding of potential complications of inappropriate manual handling of a spinal injured patient:

- 3.2.1 Secondary effects of spinal injury
- 3.2.3 Conversion to, or progression of a spinal cord injury
- 3.3.4 Pain and pain scoring

- 3.3.5 Changes in sensation/motor function
- 3.3.6 CVS status
- 3.3.7 Implications of inappropriate surfaces (mattress)

4.0 Manual Handling Assessment of the Cervicothoracic Spine Injured patient

Head Hold Log Roll

4.1 Demonstrate knowledge and understanding of:

- 4.1.1 Cervical spine biomechanics
- 4.1.2 Upper thoracic spine biomechanics
- 4.1.3 Purpose of head hold
- 4.1.4 The level of injury that you perform head hold log roll (T4 and above)
- 4.1.5 The use and application of cervical collar (refer to collar competencies for full guidance)
- 4.1.6 The frequency required for manual handling procedures for spinal injured patients and describe what influences this
- 4.1.7 When to discontinue continue spinal precautions manual handling techniques
- 4.1.8 When and how to escalate if any changes occur

4.2 Undertake the following procedures safely:

- 4.2.1 Infection control procedures (hand hygiene PPE)
- 4.2.2 Gain appropriate consent for moving and handling
- 4.2.3 Provide explanation of the procedure (what is happening and why) to the patient regardless of conscious state.
- 4.2.4 Assess the need for pain relief prior to procedure, administer as appropriate and monitor its subsequent effect
- 4.2.5 Check for and identify any contra-indications/precautions to the manoeuvre
- 4.2.6 Note baseline neurological status/ observations
- 4.2.7 Prepare required resources (minimum 5 staff members, pillows, towels)
- 4.2.8 Ensure the bed is at the correct height for the designated head holder.
- 4.2.9 Position patient in correct starting position (supine) for the procedure (describe chosen technique and when to use other techniques)
- 4.2.10 If collar in situ, ensure it is well fitting prior to manoeuvre
- 4.2.11 Request that the patient lay still and avoid resisting or assisting during the procedure.
- 4.2.12 Secure all attachments (lines, catheter, drains, tubes)
- 4.2.13 Assess the need for a pillow between lower limbs for support
- 4.2.14 Take the role of lead person at head end position
- 4.2.15 Provide clear verbal communication is highlighted to all staff on the movement cues for coordinated movement (i.e. ready, steady, roll)
- 4.2.16 Ensure that the team are correctly positioned
- 4.2.17 Use Correct hand positioning of the head in preparation for the manoeuvre.
- 4.2.18 Use Correct execution of head hold log roll procedure (maintenance of neutral alignment with no rotation of spinal segments)
- 4.2.19 On completion of the procedure ensure the patient is in alignment.
- 4.2.20 Ensure comprehensive and accurate Assessment and documentation of findings, pre, peri and post procedure

5.0 Manual Handling Assessment of the Thoracolumbar Spine Injured patient

Log Roll

5.1 Demonstrate knowledge and understanding through discussion, with reference to the evidence base of:

The effects of spinal trauma to the:

- 5.1.1 Mid to lower thoracic Spine biomechanics
- 5.1.2 Lumbar spine biomechanics
- 5.1.3 The level of injury that you perform a log roll (Below T4)
- 5.1.4 The frequency required for manual handling procedures for spinal injured patients and describe what influences this
- 5.1.6 When to discontinue continue spinal precautions manual handling techniques
- 5.1.7 When and how to escalate if any changes occur

5.2 Undertake the following procedures safely:

- 5.2.1 Infection control procedures (hand hygiene PPE)
- 5.2.2 Gain appropriate consent
- 5.2.3 Provide explanation of the procedure (what is happening and why) to the patient regardless of conscious state level of consciousness.
- 5.2.4 Assess the need for pain relief
- 5.2.5 Understand any contra-indications/precautions to the manoeuvre
- 5.2.6 Note baseline neurological status/ observations
- 5.2.7 Prepare required resources (4 staff members, pillows, towels)
- 5.2.8 Ensure the bed is at the correct height
- 5.2.9 Position patient in correct starting position (supine) for the procedure
- 5.2.10 Establish a designated lead person for the log roll
- 5.2.11 Request that the patient lay still and avoid resisting or assisting during the procedure.
- 5.2.12 Secure all attachments (lines, catheter, drains, tubes)
- 5.2.13 Assess the need for a pillow between lower limbs for support
- 5.2.14 Clear verbal communication is highlighted to all staff on the movement cues (i.e. ready, steady, roll, and to roll on roll)
- 5.2.15 Ensure that the team are correctly positioned
- 5.2.16 Correct execution of the log roll procedure
- 5.2.17 Monitoring of alignment during the procedure (maintenance of neutral alignment with no rotation of spinal segments)
- 5.2.18 Check patient status during the procedure
- 5.2.19 On completion of the procedure ensure the patient is in alignment.
- 5.2.20 Assessment and documentation of findings, pre, peri and post procedure

Appendix 1. Recommended Reading

- National Trauma Competencies. Adult ward nursing competencies for the major trauma patient
<http://nebula.wsimg.com/3e0ac2e3371037b6f8864ba5bb5535b5?AccessKeyId=3902D5FF5C6A88146946&disposition=0&alloworigin=1>
- CC3N competency framework. National competency framework for registered nurses in adult critical care. Trauma speciality competencies.
https://www.cc3n.org.uk/uploads/9/8/4/2/98425184/step_1_trauma_competencies.pdf
- MASCIP guidelines on manual handling of suspected or actual spinal injured patients
<https://mascip.co.uk/wp-content/uploads/2015/02/MASCIP-SIA-Guidelines-for-MH-Trainers.pdf>
- Nice Guideline; Spinal Injury: assessment and initial management. Feb 2017.
www.nice.org.uk/guidance/ng41
<https://www.nice.org.uk/guidance/ng41/resources/spinal-injury-assessment-and-initial-management-pdf-1837447790533>