## 1. Introduction and Scope

1.1 This Guideline has been written to support registered Physiotherapists and Occupational Therapists within the University Hospitals of Leicester (UHL) treating patients admitted to UHL with a suspected or confirmed Spinal Metastases or Metastatic Spinal Cord Compression (MSCC).

1.2 This guideline explains the expectation of registered Physiotherapists and Occupational Therapists assessment and treatment of patient with suspected or confirmed spinal metastasis or MSCC

1.3 This guideline applies to all registered Physiotherapy and Occupational Therapy staff that care for patients with suspected or confirmed Spinal Metastases or MSCC. These staff have a responsibility to follow this guideline.

1.4 Definitions used:

Metastatic Spinal Cord Compression - compression of the spinal cord due to secondary cancer deposits within the spinal column

Red flags - warning signs or indicators of symptoms that are sinister/ serious

Log rolled - rolling the person, whilst lying, in a rigid posture that allows for no spinal rotation/ twisting during the procedure)

## 2. Recommendations, Standards and Procedural Statements

a) The aim of rehabilitation for patients with suspected or confirmed Spinal Metastases or MSCC is to improve quality of life, facilitate functional independence and enable safe, effective and appropriate discharge.

b) Patients admitted to UHL with a diagnosis of suspected or confirmed Spinal Metastases or MSCC, should be treated in line with the NICE guidelines for the treatment of Spinal Metastases and MSCC (NICE guideline [NG234] 2023).

c) The following information is taken from NICE guidelines for the management of Spinal Metastases and Metastatic Spinal Cord Compression

### 2.1 Initial Therapy treatment on admission and immobilisation

a) Referral should be made to Physiotherapy within 24 hours of suspected or confirmed Spinal Metastases or MSCC if spinal stability is uncertain, and physiotherapy opinion is required

b) Initial Physiotherapy assessments and management should commence only following medical guidance (for example Oncologist or Spinal Surgeon) regarding spinal stability. However an initial therapy assessment obtaining subjective information only can be commenced prior to spine stability being confirmed.

c) The patient should have commenced immobilisation in supine immediately, unless this cannot be tolerated due to pain and breathlessness. Try to adjust their position to reduce these symptoms. Partial elevation is documented to have a positive impact on a person's quality of life.

d) Care should be provided through log-rolled movements from side to side to reduce the spinal load; assume the spine is **unstable** until MRI / clinical findings suggest otherwise, and this is documented within the medical notes.

e) If a cervical lesion is suspected – the patient's neck should be immobilised with a hard collar, which will be identified by the medical team and the spinal surgeon. The type of collar will be determined by the level of lesion.

f) During immobilisation, Physiotherapists need to be mindful of the following:

- **Respiratory function**: *BTS/ACPRC guidelines for physiotherapy management of the adult, medical spontaneously breathing patient (2009) recommendation*:
  A cough peak flow should be used regularly to assess the patients cough and ability to clear secretions. When cough peak flow falls below 160 l/min secretions accumulate in the airways therefore adjuncts are needed to help clear chest prophylactically. Spinal cord injury patients may have difficulty clearing secretions primarily due to expiratory muscle weakness and the use of strategies, such as manually assisted coughing (MAC), lung volume recruitment bag (LVR) and mechanical insufflation-exsufflation (MI-E) must be considered and introduced where indicated. Daily respiratory assessments are needed to make sure their cough is effective.

- **Passive/active leg and arm exercises** as able

  If the suspected lesion is below T10 , lower limb movements can be carried out if agreed with the medical team. Passive/active hip flexion to less than 30 degrees, passive/ active hip abduction to less than 45 degrees, both whilst blocking at the pelvis, avoid resisted movements. **All movements should be limited to a range whereby no movement of the pelvis and consequently the spine occurs**

  If the lesion instability indicates that a head hold is required, upper limb movements can be carried out if agreed with the medical team. Either a head-hold or shoulder blocking should be used and shoulder elevation should not exceed 90 degrees

g) Start planning for discharge and ongoing care, including rehabilitation, on admission to hospital.

h) Overall aim for therapy is to focus rehabilitation on the person's priorities and goals to improve:

- Functional independence
- Participation in activities of daily living
- Improving quality of life

i) Best practice would be to offer:

- Specialist rehabilitation (including admission to a specialist rehabilitation unit if appropriate) to people with MSCC who are likely to benefit from it, based on an assessment of their circumstances, level of function and the type of treatment they received

j) Await discussion by medical/ surgical team to establish spine stability and the documentation of that discussion within the medical notes. Patient may be required to receive radiotherapy prior to mobilisation- continue as above until discussion and documentation has occurred and it is safe to mobilise.

### 2.2 Initial assessment

a) Once spine is stable/safe, Physiotherapist mobilises the patients as documented by medical/surgical team.

b) In supine, the Physiotherapist carries out Neurological assessment of Muscle Power and Sensation testing.

c) If assessment, including imaging, suggests spinal stability is likely (before or after treatment), start testing this by graded sitting followed by weight bearing.

d) Monitor neurological sysptoms and pain continuously during mobilisation

e) Continue to unsupported sitting, transfers and mobilisation if, during graded sitting and weight bearing there is:

- No evidence of orthostatic hypotension
- No significant increase in pain and symptoms
- No deterioration in neurological symptoms

**If there is a significant increase in pain or neurological symptoms when the person begins graded sitting and mobilisation:**

- Return them to a position where these changes reverse
- Reassess the stability of their spine

f) For a person with a MSCC for whom surgery, radiotherapy or other oncology treatments are not appropriate, mobilisation should still be carried out if possible.

### 2.3 Therapy Intervention

a) Time-scales for treatment will vary upon the individual needs and abilities of the patient, and the treatment progression should therefore relate to function and neurological deficit.

b) Either Occupational Therapy or Physiotherapy assessment to establish previous baseline.

c) Functional assessment of muscle power, sensation, proprioception.

d) Gradual sitting: if patient has had prolonged period lying flat it may be necessary to gradually bring patient up to sitting position.

- Initially to 45 degrees
- continue to 90 degrees

**e)** If there is any deterioration in Neurological signs or worsening symptoms during gradual sitting, **return the patient immediately to lying flat.**

**f)** If the patient can tolerate sitting up, as detailed above, with no deterioration in neurology, continue with functional assessment as appropriate: rolling, lying to sitting, sitting balance, standing and mobilising as appropriate.

**g)** Set appropriate, realistic goals with patient, and record them within the medical notes.

**h)** Breathing exercises, upper/ lower limb exercises.

**i)** All patients with MSCC should have regular re-assessment for any changes in their neurological condition; this can be completed by any appropriately trained member of the MDT. Re-assessment should be completed and recorded during every therapy treatment session and the treatment plan revised accordingly.

**j)** Rehabilitation should be patient-centred with short-term, realistic goals which focus on functional outcomes in order to achieve the best quality of life for each individual patient.

**Patients with complete / incomplete paraplegia will require:**

- Practice rolling, moving from lying to sitting
- Sitting balance work
- Transfer assessment: banana board / Rotunda / Hoist
- Wheelchair Assessment
- Wheelchair skills if required
- Provision of equipment / Wheelchair prescription
- Independent adjustment of seating position / pressure care.
- Identify relevant provision of care services for discharge.
- Access visit to property if required and make relevant referrals.

**Note:**

- **If pain persists, consider referral to orthotics for use of external support (hard collar and / or brace)**

- **If patient has not achieved sitting balance, they are unlikely to be able to do sliding board transfers and will require hoisting**

### 2.4 If Spine unstable

a) Await Orthopaedic review and any surgical plan.

b) If not for surgery, patient may require bracing. This decision should be considered in the context of spinal stability and the individual needs of the patient – any brace needs to be fitted by Orthotics – arranged by medical team via ICE referral.

c) Continue input as on admission / initial assessment- bed exercises, respiratory input see point **2.1**

d) Once a brace has been fitted, then spinal stability in the brace should be confirmed and documented with the medical / spinal team prior to progressing mobility. Once confirmed, the patient should be treated as spine-stable, therefore progress through point **2.2**.

### 2.5 If requiring a Hard Collar

a) Typically an Aspen collar arranged by contact with medical / orthopaedic team from Ward17 LRI.

b) Spinal Nurses can be contacted to arrange training to staff / relatives and carers regarding use of collar and for concerns with collar position or cleaning neck / change pads, via Ward 17 LRI

### 2.6 Options for Discharge to consider with patients and carers

- Home with package of care and equipment
- Consider in-patient rehab
- Consider referral to community therapy services on discharge
- Hospice for symptom control or end of life care
- Nursing Home placement

## 3. Education and Training

a) All Physiotherapists and Occupational Therapists working with this patient group will undertake education and training on the treatment of patients with MSCC

b) All Physiotherapists and Occupational Therapists will follow the assessment and competence process outlined below for proof of training and competence

| Procedure / Process for the assessment of Physiotherapist and Occupational Therapist competence | |
|---|---|
| **No** | **Action** |
| 1 | Physiotherapists and Occupational Therapists must read Spinal Metastases and MSCC NICE guidelines 2023 |
| 2 | Physiotherapists and Occupational Therapists must read UHL Therapy Guideline for Spinal Metastases and MSCC |
| 3 | Physiotherapists and Occupational Therapists must access UHL Therapy presentation on Spinal Metastases and MSCC profession specific (OT or Physiotherapy) found on the OT/PT drive<br>The training covers:<br>• Identification of the signs and symptoms of MSCC, their implications and red flags.<br>• The contra-indications and precautions needed when treating patients with MSCC<br>• Techniques for shoulder blocking and pelvis blocking during passive movement (Physiotherapy specific) |

| Procedure / Process for the assessment of Physiotherapist and Occupational Therapist competence | |
|---|---|
| | • Use of the Aspen Collar and the correct positioning of it.<br>• Physiotherapy specific assessment of a patient with MSCC (Neurology, Respiratory, spine unstable/stable +/- bracing) |
| 4 | Complete profession specific competence under guidance from your supervisor |

Physiotherapists and Occupational Therapists to be assessed for competence following initial training, the outcome recorded on the forms (Appendix 1 and Appendix 2)

Physiotherapists and Occupational Therapists should keep this record within their Continuous Professional Development (CPD) file

Self assessment by reading guideline every 12 months subsequently.

## 4. Monitoring and Audit Criteria

| What will be measured to monitor compliance | How will compliance be measured | Lead | Frequency | Reporting arrangements |
|---|---|---|---|---|
| All appropriate staff receive initial MSCC competence training | Induction | Therapy Clinical Team Leader | As required - for all staff new to post | Therapy Mandatory Training Database |
| All appropriate staff review their MSCC competence/compliance annually | Appraisal | Therapy Clinical Team Leader | Annually | Therapy Mandatory Training Database |
| Any adverse incident notification submitted, if Physiotherapist or Occupational Therapist is unable to treat patient due to lack of competence or treatment given to patient is incorrect | Datix system | Therapy Clinical Team Leader | As incidents arise | Therapy Quality & Safety Meeting |

## 5. Supporting Documents and Key References

West of Scotland cancer network (2007).

***West of Scotland Guidelines for Malignant Spinal Cord Compressions.*** **Scotland: NHS West of Scotland Cancer Network:** https://www.woscan.scot.nhs.uk/nhs-woscan-guidelines/

**Protocol for mobilisation and rehabilitation – the Christie NHS Foundation Trust (2016):** https://www.christie.nhs.uk/media/5714/guidelines-on-mobilisation-and-rehabilitation.pdf

**NICE guidelines**
https://www.nice.org.uk/guidance/ng234/resources/spinal-metastases-and-metastatic-spinal-cord-compression-pdf-66143896133317

## 6. Key Words

MSCC, spinal metastases, log roll, Aspen Collar

## Useful contacts

MSCC coordinator UHL ext 17528

MSCC MDT meeting Fridays @ 15:00 – a retrospective review of patients with Surgeons and Oncologist

Ward 17 (spinal ward) LRI ext 15323

| DEVELOPMENT AND APPROVAL RECORD FOR THIS DOCUMENT | | | |
|---|---|---|---|
| **Author / Lead Officer:** | Rebecca Loomes | | **Job Title:** Therapy Clinical Team Leader |
| **Reviewed by:** | Ryan Newton – Macmillan Clinical Specialist Physiotherapist<br>Josephine Hunt – Macmillan Clinical Specialist Occupational Therapist | | |
| **Approved by:** | CSI Quality and Safety Committee | | Date Approved: |

| REVIEW RECORD | | | |
|---|---|---|---|
| **Date** | **Issue Number** | **Reviewed By** | **Description Of Changes (If Any)** |
| December 2023 | V2 | | Addition of Occupational Therapists to guideline, |
| | | | |
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**Physiotherapist self-certified competence form** **Appendix 1**

| Action | Self-certified completed (Print, Sign and date) |
|---|---|
| Read NICE Guideline [NG 234] Spinal Metastases and metastatic spinal cord compression and reflect and demonstrate learning | |
| Read UHL Therapy Guideline for MSCC | |
| Can Identify signs and symptoms of MSCC and their Implications, Including Red Flags | |
| Can demonstrate understanding of contraindications and precautions with MSCC | |
| Can demonstrate understanding of use of Aspen collar and correct positioning | |
| Can demonstrate appropriate assessment of patient with MSCC - Spine unstable - Shoulder and Pelvis blocking during passive movement - Spine stable +/- bracing | |

During this training review you have deemed yourself competent on the advice and techniques required and equipment whilst working alongside Senior Physiotherapists. You must review these competencies regularly every 12 months or at any time you feel not competent.

I feel confident with all the equipment, knowledge and current guidelines for working with this patient group. It is my responsibility to seek training from my supervisor to meet this competence as required.

| | |
|---|---|
| **Name:** | **Signed:** |
| **Designation:** | **Date:** |

**Occupational Therapist self-certified competence form** **Appendix 2**

| Action | Self-certified completed (Print, Sign and date) |
|---|---|
| Read NICE Guideline [NG 234] Spinal Metastases and metastatic spinal cord compression and reflect and demonstrate learning | |
| Read UHL Therapy Guideline for MSCC | |
| Can Identify signs and symptoms of MSCC and their Implications, Including Red Flags | |
| Can demonstrate understanding of contraindications and precautions with MSCC | |
| Can demonstrate understanding of use of Aspen collar and correct positioning | |
| Can demonstrate appropriate assessment of patient with MSCC - Spine unstable - Shoulder and Pelvis blocking during passive movement - Spine stable +/- bracing | |

During this training review you have deemed yourself competent on the advice and techniques required and equipment whilst working alongside Senior Physiotherapists. You must review these competencies regularly every 12 months or at any time you feel not competent.

I feel confident with all the equipment, knowledge and current guidelines for working with this patient group. It is my responsibility to seek training from my supervisor to meet this competence as required.

| | |
|---|---|
| **Name:** | **Signed:** |
| **Designation:** | **Date:** |