The Christie NHS Foundation Trust

CLINICAL GUIDANCE FOR THE MANAGEMENT OF SPINAL METASTASES WITH IMPENDING METASTATIC SPINAL CORD COMPRESSION (IMPENDING MSCC)

Greater Manchester Pathway

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Target audience:	All clinical staff throughout Greater Manchester and East Cheshire		

Key points

- The assessment and management of patients with spinal metastases causing impending MSCC

CONTENTS

1. ASSOCIATED DOCUMENTS

- Standard operating procedure (SOP) for the management of patients with metastatic spinal cord compression (MSCC) within The Christie CP80
  HIVE - SOP for the management of patients with metastatic spinal cord compression (MSCC) within The Christie

- Clinical guidance for metastatic spinal cord compression (MSCC) – Greater Manchester Pathway
  HIVE - Clinical guidance for metastatic spinal cord compression (MSCC) Greater Manchester (GM) pathway

- Advanced practitioner/review radiographer led radiotherapy assessment for metastatic spinal cord compression and metastatic spinal disease within The Christie at Macclesfield site
  HIVE - Advanced practice radiotherapy assessment for MSCC - Macc Advice 7

2. INTRODUCTION

2.1 Purpose

The pathway of assessment and management for patients with spinal metastases causing impending metastatic spinal cord compression (impending MSCC) in the Greater Manchester cancer network.

2.2 Scope

The management of spinal metastases as included in the NICE MSCC Guidance (NG234) 2023 is currently outside the scope of the Christie and GM Alliance MSCC Coordinator service. However, all patients with confirmed MSCC, impending MSCC with neurology and impending MSCC in patients who present with a malignancy of unknown origin will be managed by the service.

3. DEFINITIONS

Term	Meaning
MSCC	Metastatic spinal cord compression
NICE	National institute for health and care excellence
GM Alliance	Greater Manchester and east Cheshire healthcare organisations covered by the MSCC service.
Trust	The Christie NHS Foundation Trust

4. MANAGEMENT OF SPINAL METASTASES WITH IMPENDING MSCC

4.1 Introduction

This pathway and guidance has been written to include updates following the launch of the NICE guideline on spinal metastases and metastatic spinal cord compression (MSCC) (NG234) Sept 2023. However, it is also based on the original NICE MSCC Guidance (CG75) published in Nov 2008, which forms the basis of all the Christie and GM Alliance MSCC guidelines.

Updates to NG234 in September 2023 covers recognition, referral, investigation, and management of spinal metastases and MSCC. It is also relevant for direct malignant infiltration of the spine and associated cord compression. It aims to improve early diagnosis and treatment to prevent neurological injury and improve prognosis.

For the purpose of this guideline, we suggest the definition of impending MSCC as follows:

Impending MSCC is diagnosed when all of the following conditions are met:

1. Diagnosis of cancer
2. No gross neurological deficit (though subtle neurological signs may be present)
3. MRI evidence of spinal metastases with stenosis of the spinal canal due to tumour or vertebral angulation without compression of the cord or cauda equina. Epidural Spinal Cord Compression Scale (ESCC), Bilsky et al 2010, reported on MR or CT scan as 1b or 1c. Note: the tumour may be in contact with the spinal cord, but there should be some demonstrable CSF around the spinal cord and no cord signal change on MR. Signal change requires further radiological investigation and discussion with the MSCC service.

4.2 Initial assessment and management

Person presenting with:

- Pain characteristics suggesting spinal metastases (red flags) and
- Past or current cancer diagnosis and
- No neurological symptoms or signs (if neurological symptoms/signs, initial assessment as per the MSCC pathway).

Consider immobilisation if moderate to severe pain is associated with movement as this can suggest spinal instability. If this is not present and the patient has no neurology, then immobilisation is not required but should be re-assessed if symptoms change.

Carry out a pain assessment and agree a pain management plan. Patients with spinal metastases frequently present with pain; this may be unrelenting, unresponsive to medication and may have a neuropathic element.

Ensure adequate pain relief, including non-opioid or opioid analgesic medication, individually or in combination and re-assess at each patient review.

Consider giving corticosteroids for people without neurological symptoms or signs if they have:

- Severe pain, or
- A haematological malignancy

Offer 16 mg of oral dexamethasone (or equivalent parenteral dose) for confirmed haematological malignancy as soon as possible and discuss with their haematologist. Contact the MSCC coordinator if advice is required

Carry out MRI within 1 week at the local hospital if spinal metastases are suspected. Patients should be counselled to report any new or changing symptoms immediately. If new neurological symptoms occur whilst awaiting the scan, then the patient should be re-assessed and considered for escalation via the suspected MSCC pathway.

If MRI is contraindicated, carry out a CT scan of the whole spine.

- Consider multiplanar viewing or 3-plane reconstruction of recent or new CT images to assess spinal stability and plan vertebroplasty, kyphoplasty or spinal surgery.
- Consider using a validated scoring system for spinal stability and prognosis as part of a full clinical assessment.
- If assessment, including imaging, suggests spinal stability is likely, start testing this by graded sitting followed by weight bearing.

From diagnosis onwards:

- Develop a personalised care plan with the person, taking advice from the MDT and other relevant clinicians (see management section below for details). This should include a holistic needs assessment and opportunity to discuss advance care planning.
- Give opportunities to the person and their family or carers to discuss issues and ask questions such as what their diagnosis means, and the risks and benefits of treatment options.
- Give advice on how to access support to help with psychological, emotional, spiritual and financial needs – often the disease site specialist nurses or local Maggie's centre can help.
- Offer support and rehabilitation based on ongoing review of the management plan and holistic needs.
- Start planning for discharge and ongoing care on admission to hospital.
- Offer supportive care to prevent and manage complications.
- Ensure adequate pain relief is continued, with regular review, including consideration of:
    - a bisphosphonate for spinal involvement from myeloma or breast cancer, or for prostate cancer if conventional analgesia does not control pain.
    - denosumab for bone metastases from breast cancer and solid tumours other than prostate.

NB – If the person has neurological symptoms or signs and a completed MRI whole spine is reported as confirmed or impending MSCC, contact the MSCC coordinator immediately (also refer to the clinical guidance for MSCC – Greater Manchester pathway).

4.3 Management of Impending MSCC (ESCC grade 1b – 1c)

Patients with impending MSCC need prompt and effective management for symptom control and to prevent progression to MSCC and the onset of any neurological deterioration.

With a diagnosis of impending MSCC, a treatment decision should not be made without discussion with an appropriate oncologist. If the patient does not have a named oncologist, advice can be sought via the MSCC coordinator at The Christie (0161 446 3000). All patients should be referred to the site-specific Oncology team for advice on the cancer treatment and prognosis. Local Acute Oncology Teams should be involved early on and should facilitate communication between the admitting team and the site-specific Oncology team at The Christie.

Discussion with an oncologist should establish if the patient is a surgical candidate and if there are any signs of spinal instability. This includes considering:

- the primary cancer

- burden of cancer
- estimated prognosis
- medical comorbidities
- baseline performance status
- radiological signs of spinal instability
- clinical signs of spinal instability

The patient should then align with one of the 4 categories below and the treatment options within each category should be considered.

Patients with no signs of spinal instability do not need hospital admission whilst awaiting assessment and treatment decision unless the pain cannot be managed in an OP setting.

4.3.1 Suitable for surgery - Stable spine

- Kyphoplasty/Vertebroplasty: Consider if mechanical pain is resistant to conventional analgesia or in the presence of vertebral body collapse in patients with stable spines.

- Stabilisation Surgery: Patients with pain and vertebral body collapse/fracture due to metastases should be referred to spinal team for discussion**.** Not recommended for stable spines with pain controlled by conventional analgesia. Do not offer spinal stabilisation surgery to prevent MSCC in patients with spinal metastases without pain or instability, except as part of a randomised controlled trial (NICE Pathways 2012). Where surgical opinion is required, patients to be referred to SRFT using the patient pass online referral system - https://patientpass.srft.nhs.uk/website/#/login. Eliciting prognosis is the responsibility of the referring team.

- Bisphosphonates/Denosumab: Consider as per NICE recommendations and cancer-specific group guidance.

- Radiotherapy: After stabilisation surgery; 20 Gy in 5 fractions. If surgery is not feasible then either 8Gy in 1 fraction or 20 Gy in 5 fractions.

4.3.2 Suitable for surgery - Unstable spine

- Stabilisation Surgery: Urgent spinal opinion via patient pass, for consideration of surgery for patients with spinal metastases and imaging evidence of structural spinal failure with spinal instability (NICE Pathways 2012). To make a surgical decision, an MRI whole spine with STIR and T1 and T2 imaging, axial and sagittal, is required. Also required, is a CT scan with axial sagittal and coronal reconstructions.

It is recommended that patients be urgently assessed by the spinal surgical team and should have a surgical decision within 48hrs after all imaging is available to the surgical team and if suitable the surgery should be arranged as soon as possible and before development of any neurological deficit.

- Radiotherapy: After stabilisation surgery; 20 Gy in 5 fractions. If surgery is not feasible then either 8Gy in 1 fraction or 20 Gy in 5 fractions.

- Bisphosphonates/Denosumab: Consider as per NICE recommendations and cancer-specific group guidance.

- Kyphoplasty/Vertebroplasty: Not recommended as a standalone procedure but can be considered in conjunction with surgical stabilisation to augment fixation.

4.3.3 Unsuitable for surgery - Stable spine

- Radiotherapy: NICE recommends 8Gy in 1 fraction. In selected patients, multiple fractions may help provide better tumour regression or longer local disease control; 20 Gy in 5 fractions is recommended for these patients.

- Kyphoplasty/Vertebroplasty: Consider if mechanical pain is resistant to conventional analgesia or in the presence of vertebral body collapse.

- Stabilisation Surgery**:** Not recommended.

- Bisphosphonates/Denosumab: Consider as per NICE recommendations and cancer-specific group guidance.

4.3.4 Unsuitable for surgery - Unstable spine

- Stabilisation Surgery: NICE recommends stabilisation surgery even if the patient has been paralysed for over 24 hours, if the pain is resistant to conventional analgesia; however overall general condition and prognosis should be carefully assessed for each patient and a referral only made to the spinal surgical team if it is felt the patient could benefit from surgery.

- External Spinal Support: Should be considered for patients with severe mechanical pain, who are unsuitable for surgery.

- Radiotherapy: May not improve mechanical pain but can improve some patients pain and prevent neurological deterioration. Consider 8Gy in 1 fraction. In selected patients, multiple fractions may help provide better tumour regression or longer local disease control; 20 Gy in 5 fractions is recommended for these patients.

- Bisphosphonates/Denosumab: Consider as per NICE recommendations and cancer-specific group guidance.

5. CONSULTATION, APPROVAL & RATIFICATION PROCESS

This document is produced via the Greater Manchester MSCC Steering Group, with internal Christie approval from The CSSS Quality and Governance Committee. The document is ratified by the Document Ratification Committee.

6. REFERENCES (IF APPLICABLE)

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7. VERSION CONTROL SHEET

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V2	17/11/16	Lena Richards	Closed	Updated
V3	05/01/17	Lena Richards	Closed	Updated with current data
V4	30/11/20	Lena Richards Vivek Misra Rajat Verma	Closed	Updated with spinal team opinion
V5	01/10/25	Claire Shanahan	Final	Updated with new NICE MSCC Guidance 2023 Acknowledged contributors: • Lena Richards • Zhu Chuen Oong • Jennifer King