



**PATHWAY AND GUIDANCE FOR THE MANAGEMENT OF SPINAL METASTASES WITH
IMPENDING METASTATIC SPINAL CORD COMPRESSION (MSCC)**

THE CHRISTIE, GREATER MANCHESTER & CHESHIRE

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Introduction

Patients with spinal metastases frequently present with pain; this may be unrelenting, unresponsive to medication and may have a neuropathic element.

All such patients need urgent assessment to rule out metastatic spinal cord compression (MSCC). An audit carried out at The Christie in 2007 showed that when investigated, 50% of these patients do not have MSCC, but many are radiologically diagnosed as 'imminent' or 'impending' MSCC. The experience since the establishment of the MSCC coordination service in November 2013 also shows that between November 2013 and September 2014, 47% of patients referred to the service had confirmed MSCC, 40% had no MSCC, and a significant proportion 13% had impending MSCC.

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. Treatment should be based on the clinical scenario taking into account the patient's symptoms, performance status, extent of metastases, expected prognosis and spinal stability.

The guidance and pathway described below is based on NICE guidance (National Institute for Health and Care Excellence (2012) *NICE Pathways* - <http://pathways.nice.org.uk/pathways/metastatic-spinal-cord-compression>) and current best clinical practice.

Definition

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

1. Diagnosis of metastatic 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. Note: the tumour may be in contact with the spinal cord, but there should be some demonstrable CSF around the spinal cord

Assessment

The following should be assessed and documented for all patients with a diagnosis of impending MSCC. Note: all patients will have had a MR scan prior to this diagnosis.

1. Pain assessment
2. Neurological assessment
3. Spinal stability (see Manchester & Cheshire guidance on Spinal Stability assessment)

Initial management

All patients with suspicious symptoms of MSCC will have been placed on flat bed rest/log rolled and been prescribed Dexamethasone 16 mg with PPI prior to MR scan. Once scan results are available and if compression of the cord has been ruled out then admission and bed rest/log rolling is not routinely recommended and Dexamethasone can be stopped. However, some patients at high risk of compression or 'impending/imminent' compression may have severe pain caused by an unstable spine as a result of a pathological fracture or bony destruction and should be discussed with the spinal team and the tumour site clinicians. Some patients will be more comfortable in bed until the pain has been controlled, but early mobilisation for patients with a stable spine should be encouraged to reduce complications (VTE/chest infection).

Pain control is essential and should be instituted immediately. The WHO three-step pain relief ladder should be followed. Referral to a specialist pain management team should be considered if improvement is not achieved within 24-48 hours of admission.

Rehabilitation and referral to a physiotherapist / OT should be considered early to minimise in-patient hospital stay.

Specific management

This should be individualised based on the clinical scenario. In general this will depend on the prognosis from the cancer and stability of the spine.

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.

(The MSCC Co-ordinator can be contacted for advice and will be able to sign-post to the relevant site-specific Oncology team. This will aid communication and timely management of patient) The following 4 scenarios should describe all presentations of impending MSCC:

Good prognosis-Stable spine:

- **Radiotherapy:** NICE recommends 8Gy SE. There is no current evidence about any additional benefit from multiple fractions. 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 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).
- **Bisphosphonates/Denosumab:** Consider as per NICE recommendations and cancer-specific group guidance.

Good prognosis-Unstable spine:

- **Stabilisation Surgery:** Urgently consider spinal stabilisation surgery for patients with spinal metastases and imaging evidence of structural spinal failure with spinal instability (NICE Pathways 2012).
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; 30 Gy in 10 fractions. If surgery is not feasible then either 8Gy SE or 20 Gy in 5 fractions.
- **Bisphosphonates/Denosumab:** Consider as per NICE recommendations and cancer-specific group guidance.
- **Kyphoplasty/Vertebroplasty:** Not recommended.
- **External spinal support:** Consider external spinal support for patients with severe mechanical and/or imaging evidence of spinal instability, who are unsuitable for surgery (NICE Pathways 2012) This can be used if patient is in pain and while awaiting decision regarding treatment plan.

Poor prognosis- Stable spine:

- **Radiotherapy:** NICE recommends 8Gy SE. No current evidence about any additional benefit from multiple fractions.
- **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:** Should be considered only for patients who have an expected prognosis of >3 months to reduce skeletal related events as per NICE guidance.

Poor prognosis- 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.

- **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 benefit some patients. Consider 8 Gy SE. No indication for fractionated treatment.
- **Bisphosphonates/Denosumab:** Should be considered only for patients who have an expected prognosis of >3 months to reduce skeletal related events as per NICE guidance.

The treatment decision should be made following a discussion with the treating oncology team at The Christie and the spinal surgical team.

Patients with a stable spine do not need hospital admission whilst awaiting assessment and treatment decision unless the pain cannot be managed in an OP setting.

CONSULTATION, APPROVAL & RATIFICATION PROCESS

VERSION CONTROL SHEET

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