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

THE CHRISTIE, GREATER MANCHESTER & CHESHIRE

Procedure Reference:		Version:	*V4*
Document Owner:	Dr V. Misra	Accountable Committee:	*MSCC Network Group* *Acute Oncology Group*
Date Approved:	*October 2014*	Review date:	*January 2023*
Target audience:	*All Clinicians*		

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 January 2013 and December 2017, 43% of patients referred to the service had confirmed MSCC, the same number of 43% had no MSCC, and a significant proportion 13% had impending MSCC. The number of patients with impending cord compression is likely to be much higher than 13% as the majority of these are managed by the oncology team and therefore not referred to the MSCC service.

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
4. Epidural Spinal Cord Compression (ESCC) Scale, 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.

Patients with radiologically impending MSCC and a neurological deficit should be managed as per the confirmed MSCC pathway (see 'Pathway management of metastatic spinal cord compression MSCC' - https://www.christie.nhs.uk/patients-and-visitors/services/metastatic-spinal-cord-compression-mscc/information-for-professionals/network-flowchartpathway)

Assessment

The following should be assessed and documented for all patients with a diagnosis of impending MSCC. Note: all patients will have had an MR scan prior to this diagnosis. If a diagnosis of impending MSCC is made on an outpatient MR scan, urgent face to face assessment should be arranged with the oncology team whom the patient is under.

1. Pain assessment
2. Neurological assessment
3. Spinal stability (see Greater Manchester & Cheshire guidance on Spinal Stability assessment - http://www.christie.nhs.uk/services/i-to-q/metastatic-spinal-cord-compression-mscc/information-for-professionals/guidelines/)

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, if there is severe pain, especially on movement, and radiology suggests spinal instability patient should be discussed with the tumour site clinician and if appropriate, referred to the spinal surgeons for their opinion. 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.

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 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 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**.** Surgical intervention 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 Salford Royal (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.

Good prognosis-Unstable spine:

- **Stabilisation Surgery:** Urgent spinal opinion 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.
  Referral process to SRFT as above - https://patientpass.srft.nhs.uk/website/#/login
  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 as a standalone procedure but can be considered in conjunction with surgical stabilisation to augment fixation.
- **External spinal support:** Consider external spinal support for patients with severe mechanical and/or imaging evidence of spinal instability, not suitable 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

Version	Date	Author	Status	Comment
V1	27/10/14 06/05/15	Vivek Misra Lena Richards MSCC Sub-group Lena Richards	Creation	 Reviewed content Reviewed content Reviewed content
V2	17/11/16	Lena Richards	Reviewed	Updated
V3	5/1/17	Lena Richards	Reviewed	Updated with current data
V4	30/11/2020	Lena Richards Vivek Misra Rajat Verma	Reviewed	Updated with spinal team opinion