NATIONAL INSTITUTE FOR HEALTH AND CARE EXCELLENCE

Health and social care directorate

Quality standards and indicators

Briefing paper

Quality standard topic: Metastatic spinal cord compression

Output: Prioritised quality improvement areas for development.

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Contents

1 Introduction

This briefing paper presents a structured overview of potential quality improvement areas for metastatic spinal cord compression. It provides the Committee with a basis for discussion and prioritising quality improvement areas for developing quality statements and measures, which will be drafted for public consultation.

Structure

The structure of this briefing paper includes a brief overview of the topic followed by a summary of each of the suggested quality improvement areas followed with supporting information.

Where relevant, guideline recommendations selected from the key development source below are presented to aid the Committee when considering specific aspects for which statements and measures should be considered.

Development source

Unless otherwise stated, the key development source referenced in this briefing paper is as follows:

- Metastatic spinal cord compression: diagnosis and management of adults at risk of and with metastatic spinal cord compression. NICE clinical guideline 75 (2008).

Where relevant, guideline recommendations from the key development source are presented alongside each of the suggested areas for quality improvement within the main body of the report.

2 Overview[1]

2.1 Focus of quality standard

This quality standard will cover the diagnosis and management of metastatic spinal cord compression in adults and the prevention of metastatic spinal cord compression in adults at risk.

2.2 Definition

Metastatic spinal cord compression (MSCC) is defined as spinal cord or cauda equina compression by direct pressure and/or induction of vertebral collapse or

[1] Unless referenced in the body of the text sections 2.1 to 2.4 are taken from Metastatic spinal cord compression: diagnosis and management of adults at risk of and with metastatic spinal cord compression. NICE Clinical Guideline 75 (2008) & the National Collaborating Centre for Cancer full guideline (2008).

instability by metastatic spread or direct extension of malignancy that threatens or causes neurological disability.

Lung, breast and prostate cancers are the commonest malignancies causing metastatic spinal cord compression and account for over 50% of cases. In 7% of patients the site of primary tumour may remain unidentified.

2.3 Incidence and prevalence

The true incidence of metastatic spinal cord compression in England and Wales is unknown because cases are not systematically recorded. However, post mortem evidence indicates that it is present in 5–10% of patients with advanced cancer. Evidence from an audit carried out in Scotland between 1997 and 1999 and from a published study from Canada, also suggests that the incidence may be up to 80 cases per million people every year. This equates to approximately 4000 cases each year in England and Wales, or more than 100 cases per cancer network each year.

It is likely that the incidence of metastatic spinal cord compression will increase in the future with improving cancer treatments resulting in better survival rates and outcomes.

The median age at the time of metastatic spinal cord compression diagnosis is 65 years. Audit data suggests that 77% of patients diagnosed with metastatic spinal cord compression had an established diagnosis of cancer whereas 23% presented with metastatic spinal cord compression as the first presentation of malignancy.

Metastatic spinal cord compression occurs when there is pathological vertebral body collapse or direct tumour growth causing compression of the spinal cord or cauda equina. Irreversible neurological damage ensues with resulting paraplegia. Once paraplegia develops it is usually irreversible and can affect the quality of life of both the patient and their carers. These patients often need 24 hour nursing care either in hospital or in the community setting, which has major resource implications on the National Health Service (NHS).

When deciding the most appropriate treatment option for a patient it is important to consider quality of life issues. A number of the clinical symptoms and signs of metastatic spinal cord compression can have a significant impact on quality of life.

The two important groups of symptoms are pain from instability and neurological compromise. The painful paralysis, with or without instability and double incontinence, associated with spinal cord compression from metastases, spinal myeloma or lymphoma, is a common complication in patients with these cancers.[2]

[2] NHS Spinal Task Force (2013) Commissioning Spinal Services - Getting the service back on track.

2.4 Management

Those responsible for organising clinical services for patients with metastatic spinal cord compression face particular challenges as there is no common pathway of entry into the secondary care system. Patients may present acutely with metastatic spinal cord compression under a variety of different specialists unlikely to be members of the oncology multi-disciplinary team (MDT) responsible for the management of the primary disease or its spinal consequences.

Studies have consistently demonstrated that metastatic spinal cord compression is diagnosed late and that the ability to walk after treatment is directly associated with the ability to walk at time of diagnosis. Recovery of mobility is unlikely if paraplegia has become established at the time of diagnosis and this may require 24 hour nursing care and prolonged hospitalisation for the remainder of the patient's illness. [3]

The key investigation for the diagnosis of metastatic spinal cord compression is magnetic resonance imaging (MRI) of the whole spine. Once a diagnosis has been made, the treatment goals include pain relief, restoration of neurological status, prevention of further neurological damage and stabilisation.

See appendix 2 for key priority for implementation recommendations from NICE clinical guideline 75.

[3] NHS Spinal Task Force (2013) Commissioning Spinal Services - Getting the service back on track.

2.5 National Outcome Frameworks

Table 1 NHS Outcomes Framework 2013/14

Domain	Overarching indicators and improvement areas
1 Preventing people from dying prematurely	***Overarching indicator*** 1a Potential Years of Life Lost (PYLL) from causes considered amenable to healthcare i Adults 1b Life expectancy at 75 i Males ii Females ***Improvement area*** 1.4 Under 75 mortality rate from cancer* i One-and ii Five-year survival from all cancers iii One-and iv Five-year survival from breast, lung and colorectal cancer
4 Ensuring that people have a positive experience of care	***Overarching indicator*** 4a Patient experience of primary care i GP services 4b Patient experience of hospital care ***Improvement areas*** **Improving people's experience of outpatient care** 4.1 Patient experience of outpatient services **Improving hospitals' responsiveness to personal needs** 4.2 Responsiveness to in-patients' personal needs **Improving the experience of care for people at the end of their lives** 4.6 Bereaved carers' views on the quality of care in the last 3 months of life **Improving people's experience of integrated care** 4.9 An indicator is under development***
5 Treating and caring for people in a safe environment and protect them from avoidable harm	***Overarching indicator*** 5c Hospital deaths attributable to problems in care ***Improvement areas*** **Reducing the incidence of avoidable harm** 5.1 Incidence of hospital-related venous thromboembolism (VTE) 5.3 Incidence of newly-acquired category 2, 3 and 4 pressure ulcers
Alignment across the health and social care system * Indicator shared with Public Health Outcomes Framework (PHOF) *** Indicator shared with Adult Social Care Outcomes Framework	

Table 2 Public health outcomes framework for England, 2013-2016

Domain	Objectives and indicators
2 Health improvement	***Objective*** People are helped to live healthy lifestyles, make healthy choices and reduce health inequalities ***Indicators*** 2.19 Cancer diagnosed at stage 1 and 2 2.20 Cancer screening coverage
4 Healthcare public health and preventing premature mortality	***Objective*** Reduced numbers of people living with preventable ill health and people dying prematurely, while reducing the gap between communities ***Indicators*** 4.5 Under 75 mortality rate from cancer

3 Summary of suggestions

3.1 Responses

In total 10 stakeholders responded to the 2-week engagement exercise 21 May – 5 June 2013. Suggestions were also provided by specialist committee members.

Table 1 Summary of suggested quality improvement areas

Stakeholders were asked to suggest up to 5 areas for quality improvement. These have been merged and summarised in the table below for further consideration by the Committee (incorporating stakeholder and specialist committee member suggestions). The full detail of the suggestions is provided in appendix 3 for information.

Suggested area for improvement	Stakeholder
Service configuration • Multidisciplinary Team (MDT)/MSCC Co-ordinator • Local networks with pathway audit and governance • On call service • External peer review • Timely documentation	NHSE, NICN, RH, SCM, SCR
Early detection • Patient education • Education & training of health care professionals	NHSE, NWLCSU, RCN, RH, SBNS, SCM, SCR
Imaging • Choice of imaging modality • Timing of imaging assessment	NHSE, RCN, RH, SCM, SCR

Suggested area for improvement	Stakeholder
Treatment • Interventional radiology • Timely intervention • Low dose radiation therapy • Access to surgery	NHSE, MUK, RCN, SCM, SCR
Supportive care and rehabilitation • Co-ordination of rehabilitation & discharge planning • Physiotherapy and occupational therapy • Support and management of people with an unknown primary	NHSE, NICN, SCM, SWLS

Table 2 Stakeholder details (abbreviations)

The details of stakeholder organisations who submitted suggestions are provided in the table below.

Abbreviation	Full name
NWLCSU	Cancer Commissioning Team West and South, North West London CSU
MUK	Medtronic UK
NHSE	NHS England
PSF	NHS Commissioning Board Patient Safety Function
NICN	Northern Ireland Cancer Network
RH	Rowcroft Hospice
RCN	Royal College of Nursing
SBNS	Society of British Neurological Surgeons
SCM	Specialist Committee Member
SCR	The Society and College of Radiographers
SWLS	The South West London MSCC Service

4 Suggested improvement area: Service configuration

4.1 Summary of suggestions

Stakeholders highlighted that a multidisciplinary team (MDT) within a spinal centre should be available 24 hours a day. It was also suggested that any hospital providing surgical services for metastatic spinal cord compression should have a defined multi-disciplinary decision making process in place with 24 hour availability. More specifically, in relation to the membership of the MDT, stakeholders raised the importance of the provision of an MSCC co-ordinator and their role in co-ordinating urgent and emergency spinal assessment and care.

Stakeholders highlighted the establishment of local networks and relationships between spinal surgical centres and their catchment areas as important for driving improvement in this area. Common audit and governance across the whole care pathway was raised as an essential area for quality improvement. Stakeholders specifically highlighted the need for improved communication including handover of patient information including scans.

Stakeholders suggested that there should be an on call spinal surgery service in each region based on surgeons trained in spinal reconstructive surgery.

Stakeholders highlighted the importance of continuing external peer review of services for spinal metastases and metastatic spinal cord compression.

Stakeholders suggested that spinal stability and mobility should be documented in patient's notes within 12 hours of diagnosis. This was raised as stakeholders felt it is important for the patient and staff to know what is considered safe with regards to moving and handling.

The following specific areas for quality improvement and potential development by the QSAC were highlighted, shown in the table below alongside recommendations that have been provisionally selected from the development source to support potential statement development.

Suggested quality improvement area	**NICE CG75 recommendation**
MDT/MSCC coordinator	Recommendations 1.1.2.1, 1.1.2.2, 1.1.2.3, 1.1.2.4 & 1.1.2.5
Local networks with pathway audit and governance	Recommendations 1.1.1.1, 1.1.1.2 & 1.1.1.4

On call service	Recommendations 1.1.2.4 & 1.1.2.5
External peer review	Not directly covered in NICE clinical guideline 75 and no recommendations are presented.
Timely documentation	Not directly covered in NICE clinical guideline 75 and no recommendations are presented.

4.2 Selected recommendations from development source

Recommendations from the development source relating to the suggested improvement areas have been provisionally selected and are presented below in inform QSAC discussion.

MDT/ MSCC coordinator

NICE CG75 Recommendation number 1.1.2.1

> Each centre treating patients with MSCC should identify or appoint individuals responsible for performing the role of MSCC coordinator and ensure its availability at all times.

NICE CG75 Recommendation number 1.1.2.2

> Each centre treating patients with MSCC should have a single point of contact to access the MSCC coordinator who should provide advice to clinicians and coordinate the care pathway at all times.

NICE CG75 Recommendation number 1.1.2.3

> The MSCC coordinator should:
>
> - provide the first point of contact for clinicians who suspect that a patient may be developing spinal metastases or MSCC
> - perform an initial telephone triage by assessing requirement for, and urgency of, investigations, transfer, and treatment
> - advise on the immediate care of the spinal cord and spine and seek senior clinical advice, as necessary
> - gather baseline information to aid decision-making and collate data for audit purposes

- identify the appropriate place for timely investigations and admission if required
- liaise with the acute receiving team and organise admission and mode of transport.

NICE CG75 Recommendation number 1.1.2.4

The optimal care of patients with MSCC should be determined by senior clinical advisers (these include clinical oncologists, spinal surgeons and radiologists with experience and expertise in treating patients with MSCC), taking into account the patient's preferences and all aspects of their condition, with advice from primary tumour site clinicians or other experts, as required.

NICE CG75 Recommendation number 1.1.2.5

Every centre treating patients with MSCC should ensure 24-hour availability of senior clinical advisers to give advice and support to the MSCC coordinator and other clinicians, inform the decision-making process and undertake treatment where necessary.

Local networks with pathway audit and governance

NICE CG75 - Recommendation 1.1.1.1

Every cancer network should have a clear care pathway for the diagnosis, treatment, rehabilitation and ongoing care of patients with metastatic spinal cord compression (MSCC).

NICE CG75 - Recommendation 1.1.1.2 (key priority for implementation)

Every cancer network should ensure that appropriate services are commissioned and in place for the efficient and effective diagnosis, treatment, rehabilitation and ongoing care of patients with MSCC. These services should be monitored regularly through prospective audit of the care pathway.

NICE CG75 - Recommendation 1.1.1.4

Every cancer network should have a network site specific group for MSCC. The group should include representatives from primary, secondary and tertiary care and should have strong links to network site specific groups for primary tumours.

On call service

NICE CG75 Recommendation number 1.1.2.4

The optimal care of patients with MSCC should be determined by senior clinical advisers (these include clinical oncologists, spinal surgeons and

radiologists with experience and expertise in treating patients with MSCC), taking into account the patient's preferences and all aspects of their condition, with advice from primary tumour site clinicians or other experts, as required.

NICE CG75 - Recommendation 1.1.2.5

> Every centre treating patients with MSCC should ensure 24-hour availability of senior clinical advisers to give advice and support to the MSCC coordinator and other clinicians, inform the decision-making process and undertake treatment where necessary.

External peer review

External peer review is not directly covered in NICE clinical guideline 75 and no recommendations are presented relating to the suggested quality improvement area.

Timely documentation

Timely documentation is not directly covered in NICE clinical guideline 75 and no recommendations are presented relating to the suggested quality improvement area.

4.3 Current UK practice

A study by Vaqas et al[4] (2011) highlighted that a clearly specified MSCC co-ordinator as a single point of referral is not being employed. The study involved retrospective identification of patients referred with metastatic spinal cord compression to a hospital during a 12 month period. The time from presentation to imaging and neurosurgical or oncological intervention was calculated. Results showed that 87 patients with metastatic spinal cord compression were referred to the neurosurgical registrar on call (MSCC co-ordinator). Over 95% of these patients had an MRI of the whole spine within 24 hours of presentation. 16 of these patients were operated on for spinal cord decompression within a median time of 3 days (range 1-7) but of these the majority were referred via an alternative route.

The Patient Safety function of the NHS Commissioning Board has produced a Signal[5] report concerning the harm associated with failure to rapidly diagnose and treat spinal cord compression and poor handling of patients where it is suspected or diagnosed. Following a serious incident and a letter of concern from a GP cancer lead, 334 relevant incident reports were identified in the National Reporting and Learning System (NRLS). There were two reports of patient death, 33 of severe harm and 60 relating to moderate harm. Delayed diagnosis or treatment was identified in 193 cases and poor handling was identified in 30 cases. In 25 cases there was difficulty in the identification of the team responsible for the management

[4] Vaqas B, Wykes V, David KM et al. (2011) Metastatic spinal cord compression: single unit experience. British Journal of Neurosurgery 25 (2): 186

[5] NHS Commissioning Board Patient Safety (2010) Delay in diagnosis and treatment of spinal cord compression.

of the patient. For patients with cancer there were also transport issues in relation to radiotherapy treatment at a different hospital and 43 of these incidents occurred following the publication of the NICE guidance.

5 Suggested improvement area: Early detection

5.1 Summary of suggestions

Stakeholders raised the issue of education for patients as an area for quality improvement. Provision of written, accessible information on symptoms and signs of cord compression to all patients with cancer was highlighted as important in encouraging early presentation.

Stakeholders highlighted the importance of education, training and raising awareness amongst health professionals. Stakeholders mentioned health care professionals in general and also specifically: primary care teams, GPs, oncologists, MSCC co-ordinators and hospital doctors. Spinal surgical training was raised in addition to general training in this area.

The following specific areas for quality improvement and potential development by the QSAC were highlighted, shown in the table below alongside recommendations that have been provisionally selected from the development source to support potential statement development.

Suggested quality improvement area	**NICE CG75 recommendation**
Patient education	Recommendations 1.3.1.1 & 1.3.1.2
Education & training of health care professionals	Not directly covered in NICE clinical guideline 75 and no recommendations are presented.

5.2 Selected recommendations from development source

Recommendations from the development source relating to the suggested improvement areas have been provisionally selected and are presented below in inform QSAC discussion.

Patient education

NICE CG75 Recommendation number 1.3.1.1 (key priority for implementation)

> Inform patients at high risk of developing bone metastases, patients with diagnosed bone metastases, or patients with cancer who present with spinal pain about the symptoms of MSCC. Offer information (for example, in the form of a leaflet) to patients and their families and carers which explains the symptoms of MSCC, and advises them (and their healthcare professionals) what to do if they develop these symptoms.

NICE CG75 Recommendation number 1.3.1.2

> Each centre treating patients with MSCC should have a single point of contact to access the MSCC coordinator who should provide advice to clinicians and coordinate the care pathway at all times.

Education & training of healthcare professionals

Education and training of healthcare professionals is not directly covered in NICE clinical guideline 75 and no recommendations are presented relating to the suggested quality improvement area.

5.3 Current UK practice

Hutchison et al[6] (2012) undertook a study with the aim of determining patient and staff views on the provision of relevant information to patients with a diagnosis of or considered to be at high risk of developing metastatic spinal cord compression. A total of 56 patients with metastatic spinal cord compression were interviewed. These patients had been admitted to a large regional cancer centre in Scotland over a 6-month period. Fifty members of staff working in the cancer centre were also surveyed using similar questions. Results showed that:

- 4% of staff reported giving written information about metastatic spinal cord compression to patients with a confirmed diagnosis.
- 54% of staff reported giving prophylactic information about metastatic spinal cord compression to patients, although the majority of the patients (86%) said they would have wanted this information.
- 20% of patients said they received written information about metastatic spinal cord compression and 77% said they wanted it.
- Patients generally did not access additional information about MSCC and were dependent on the limited amount provided by the health-care team.

A study by Sweeney[7] (2011) involved the completion of a retrospective audit of all patients with metastatic spinal cord compression treated in Taunton with radiotherapy between May 2009 and September 2010. Staff also completed a short questionnaire, which was adapted from the NICE Audit Tool, and these results were also analysed. Results demonstrated that patients at risk of developing metastatic spinal cord compression were not being informed of the risk and what to do regarding symptom onset.

[6] Hutchison C, Morrison A, Rice AM et al. (2012) Provision of information about malignant spinal cord compression: perceptions of patients and staff. International Journal of Palliative Nursing 18 (2): 61-8.
[7] Sweeney J (2011) The smart route to a NICE future; introducing a smartcard for patients at risk of metastatic spinal cord compression has the potential to improve quality of life and save up to 17.5 million nationally. European Journal of Cancer 47: (Supplement 1) S300.

Similar results were found by Sweeney & Fitzpatrick[8] (2011) when they undertook a small retrospective audit of patients treated with radiotherapy and analysed the results in comparison with the NICE guideline. The results showed that patients at risk were not being alerted to signs and symptoms of metastatic spinal cord compression and what action to take should they occur. Results also showed there were gaps and delays in detection, diagnosis and treatment due to methods of referral identified in the current pathway.

To explore the patient perspectives of care of metastatic spinal cord compression in England and Wales the Guideline Development Group (GDG) for NICE clinical guideline 75[9] wrote to all relevant patient/carer organisations and charities whose members and contacts included patients with metastatic spinal cord compression and their carers and families. Individuals were invited to describe their experience of the condition and their interaction with health services. Several themes emerged including patients' unawareness of early symptoms, general practitioner's lack of awareness of early symptoms and signs, delays in diagnosis and treatment, lack of supportive and rehabilitative care, and ineffective communication throughout.

A Scottish audit[10] also showed that there were significant delays from the time when patients first develop symptoms to when general practitioners and hospital doctors recognise the possibility of metastatic spinal cord compression and make an appropriate referral.

The Mount Vernon Cancer Network's (2012) Acute Oncology Group (NAOG) commissioned an audit[11] of patients diagnosed with metastatic spinal cord compression via MRI across their network to measure current practice against NICE guidance (2008). The audit includes patients who were diagnosed with metastatic spinal cord compression between June 2010 and November 2011. There was little evidence found of the provision of written information for patients particularly given that 59% of patients (22 of 37) had known bone metastases and high numbers of patients came in with neurological symptoms (94% - 35 of 37 patients).

[8] Sweeney J, Fitzpatrick C (2011) Local and wider implications of implementing NICECG75 in a newly opened radiotherapy department. Clinical Oncology 23: (3) S55.
[9] National Collaborating Centre for Cancer (2008) Clinical Guideline 75 Metastatic spinal cord compression: diagnosis and management of adults at risk of and with metastatic spinal cord compression.
[10] Levack, P, Collie D, Gibson A et al. (2001) A prospective audit of the diagnosis, management and outcome of malignant cord compression (CRAG 97/08). Edinburgh: CRAG.
[11] Mount Vernon Cancer Centre (2012) Metastatic spinal cord compression audit.

6 Suggested improvement area: Imaging

6.1 Summary of suggestions

Stakeholders highlighted the importance of appropriate imaging for diagnosis and management of metastatic spinal cord compression. It was suggested that written protocols for investigative imaging and referral of suspected metastatic spinal cord compression will streamline patient management and provide a framework for staff to use.

Timely access to diagnostic imaging was highlighted as an area for quality improvement. It is suggested that there should be access to MRI scanning 24 hours a day in spinal centres undertaking management of metastatic spinal cord compression.

The following specific areas for quality improvement and potential development by the QSAC were highlighted, shown in the table below alongside recommendations that have been provisionally selected from the development source to support potential statement development.

Suggested quality improvement area	**NICE CG75 recommendation**
Choice of imaging modality	Recommendations 1.4.1.1 & 1.4.1.2
Timing of imaging assessment	Recommendations 1.1.1.3, 1.4.3.1 & 1.4.3.3

6.2 Selected recommendations from development source

Recommendations from the development source relating to the suggested improvement areas have been provisionally selected and are presented below in inform QSAC discussion.

Choice of imaging modality

NICE CG75 Recommendation number 1.4.1.1

> MRI of the spine in patients with suspected MSCC should be supervised and reported by a radiologist and should include sagittal T1 and/or short T1 inversion recovery (STIR) sequences of the whole spine, to prove or exclude the presence of spinal metastases. Sagittal T2 weighted sequences should also be performed to show the level and degree of compression of the cord or cauda equina by a soft tissue mass and to detect lesions within the cord itself.

Supplementary axial imaging should be performed through any significant abnormality noted on the sagittal scan.

NICE CG75 Recommendation number 1.4.1.2

Contact the MSCC coordinator to determine the most appropriate method of imaging for patients with suspected MSCC in whom MRI is contraindicated and where this should be carried out.

Timing of imaging assessment

NICE CG75 - Recommendation 1.1.1.3

Cancer networks should ensure that there is local access to urgent magnetic resonance imaging (MRI) within 24 hours for all patients with suspected MSCC. This service should be available outside normal working hours and with 24-hour capability in centres treating patients with MSCC.

NICE CG75 – Recommendation 1.4.3.1

Imaging departments should configure MRI lists to permit time for examination of patients with suspected MSCC at short notice during existing or extended sessions (by moving routine cases into ad hoc overtime or to alternative sessions, if overtime is not possible).

NICE CG75 - Recommendation 1.4.3.3 (key priority for implementation)

Perform MRI of the whole spine in patients with suspected MSCC, unless there is a specific contraindication. This should be done in time to allow definitive treatment to be planned within 1 week of the suspected diagnosis in the case of spinal pain suggestive of spinal metastases, and within 24 hours in the case of spinal pain suggestive of spinal metastases and neurological symptoms or signs suggestive of MSCC, and occasionally sooner if there is a pressing clinical need for emergency surgery.

6.3 Current UK practice

Research by Vaqas et al[12] (2011) found that, out of a sample of 87 patients with metastatic spinal cord compression, over 95% of patients had an MRI of the whole spine within 24 hours of presentation.

However, Bhamber et al[13] (2013) found significantly different results when they undertook a retrospective audit that aimed to find if a tertiary spinal surgery unit was compliant with guidelines recommending whole spine MRI within one week of

[12] Vaqas B, Wykes V, David KM et al. (2011) Metastatic spinal cord compression: single unit experience. British Journal of Neurosurgery 25 (2): 186

[13] Bhamber, N, Hassanm K & Quraishi NA (2012) An audit of a tertiary spinal surgery unit's adherence to nice imaging guidelines in patients with suspicion of spinal metastases. European Spine Journal 21 (2): S248

suspected metastases. Forty-eight patients with suspected spinal metastases and a subsequent request for urgent MRI scan were identified from November 2010 to April 2011. Although all 48 patients met the criteria for obtaining an MRI scan within 1 week, time to obtain MRI on average was 22 days.

Woolf et al[14] (2012) undertook research involving an audit of 85 patients treated with radiotherapy for metastatic spinal cord compression at a tertiary referral centre between January 2008 and September 2009. Results showed that the mean time from date of admission to imaging was 2.2 days (0 to 19 days). The data illustrates that significant potential delays remain in the treatment of metastatic spinal cord compression, especially in the diagnosis and in access to confirmatory imaging. The greatest delay occurs in the referring hospital and this is mainly composed of access to MRI scanning for which NICE guidance is not currently being met.

The Mount Vernon Cancer Network's (2012) Acute Oncology Group (NAOG) commissioned an audit[15] of patients diagnosed with metastatic spinal cord compression via MRI across their network to measure current practice against NICE guidance (2008). The audit includes patients who were diagnosed with metastatic spinal cord compression between June 2010 and November 2011. As part of the audit the time between requesting a scan for patients with suspected metastatic spinal cord compression and the scan being undertaken was calculated. Of the 37 patients included 29 were given an MRI on the same day as it was requested, 5 were given it on the next day, 1 patient waited longer than 48 hours (but had no neurological symptoms) and there was no data for 2 of the patients.

[14] Woolf D, Aggarwal A, Chauhan B et al (2012) Audit of radiotherapy practice for metastatic spinal cord compression at a UK tertiary referral centre. Mount Vernon Cancer Centre, Northwood, United Kingdom.
[15] Mount Vernon Cancer Centre (2012) Metastatic spinal cord compression audit.

7 Suggested improvement area: Treatment

7.1 Summary of suggestions

Stakeholders emphasised that interventional radiology (biopsy, percutaneous cement reinforcement, embolisation) must be available in spinal centres. The importance of minimal access vertebral augmentation for spine surgical management was also specifically highlighted.

Stakeholders emphasised the importance of timely treatment to facilitate optimal outcomes.

Stakeholders suggested that low dose radiation therapy for metastatic spinal cord compression in myeloma and breast cancer is an area for quality improvement.

Stakeholders highlighted the need for access to spinal surgery for patients with good prognosis.

The following specific areas for quality improvement and potential development by the QSAC were highlighted, shown in the table below alongside recommendations that have been provisionally selected from the development source to support potential statement development.

Suggested quality improvement area	**NICE CG75 recommendation**
Interventional radiology	Recommendations 1.5.1.8, 1.5.1.9 & 1.5.4.9
Timely intervention	Recommendations 1.5.1.10, 1.5.3.1, 1.5.5.1
Low dose radiation therapy	Recommendation 1.5.5.8
Access to surgery	Recommendations 1.5.1.10 & 1.5.4.3

7.2 Selected recommendations from development source

Recommendations from the development source relating to the suggested improvement areas have been provisionally selected and are presented below in inform QSAC discussion.

Interventional radiology

NICE CG75 Recommendation number 1.5.1.8

> Consider vertebroplasty or kyphoplasty for patients who have vertebral metastases and no evidence of MSCC or spinal instability if they have:

- mechanical pain resistant to conventional analgesia, or
- vertebral body collapse.

NICE CG75 Recommendation number 1.5.1.9

Vertebroplasty or kyphoplasty for spinal metastases should only be performed after agreement between appropriate specialists (including an oncologist, interventional radiologist, and spinal surgeon), with full involvement of the patient and in facilities where there is good access to spinal surgery.

NICE CG75 Recommendation number 1.5.4.9

Consider vertebral body reinforcement with cement for patients with MSCC and vertebral body involvement who are suitable for instrumented decompression but are expected to survive for less than 1 year.

Timely intervention

NICE CG75 - Recommendation 1.5.1.10

Urgently consider patients with spinal metastases and imaging evidence of structural spinal failure with spinal instability for surgery to stabilise the spine and prevent MSCC.

NICE CG75 - Recommendation 1.5.3.1 (key priority for implementation)

Start definitive treatment, if appropriate, before any further neurological deterioration and ideally within 24 hours of the confirmed diagnosis of MSCC.

NICE CG75 - Recommendation 1.5.5.1 (key priority for implementation)

Ensure urgent (within 24 hours) access to and availability of radiotherapy and simulator facilities in daytime sessions, 7 days a week for patients with MSCC requiring definitive treatment or who are unsuitable for surgery.

Low dose radiation therapy

NICE CG75 - Recommendation 1.5.5.8

If patients have further radiotherapy, the total dose should be below a biologically equivalent dose of 100 Gy_2 where possible. Discuss the possible benefits and risks with the patient before agreeing a treatment plan.

Access to surgery

NICE CG75 - Recommendation 1.5.1.10

Urgently consider patients with spinal metastases and imaging evidence of structural spinal failure with spinal instability for surgery to stabilise the spine and prevent MSCC.

NICE CG75 - Recommendation 1.5.4.3

> Patients with MSCC who have residual distal sensory or motor function and a good prognosis should be offered surgery in an attempt to recover useful function, regardless of their ability to walk.

7.3 Current UK practice

Woolf et al[16] (2012) undertook research involving an audit of 85 patients treated with radiotherapy for metastatic spinal cord compression at a tertiary referral centre between January 2008 and September 2009. The mean time from MRI scan to transfer was 1.4 days (0 to 41 days). Mean time from arrival at the centre until the first fraction of radiotherapy was 0.9 days (0 to 6 days). The mean overall time taken from admission to hospital to first fraction of radiotherapy was 4.3 days (0 to 41 days). The data illustrates that significant potential delays remain in the treatment of metastatic spinal cord compression. The greatest delay occurs in the referring hospital and this is mainly composed of access to MRI scanning for which NICE guidance is not currently being met.

Berry et al[17] (2011) conducted research for which the aim was to assess whether oncologists in a spinal centre were adhering to the NICE guidelines on metastatic spinal cord compression. All patients who received radiotherapy for metastatic spinal cord compression at the spinal centre from 1st June 2009 to 1st June 2010 were identified. The results of the study showed that, of the 34 patients who received radiotherapy for metastatic spinal cord compression, 15 patients were not referred to the spinal team prior to radiotherapy. When each individual case was reviewed it was found that 2 patients may have potentially benefited from surgical intervention. The conclusions made were that many patients are still not referred for spinal opinion. The vast majority of these patients would not have been suitable for surgery, however, a small number may have potentially benefited.

The full clinical guideline for Metastatic spinal cord compression[18] presents a number of statistics relevant to this area for quality improvement. The statistics are presented by type of centre and those considered most relevant are as follows:

Cancer centres

In total, 19 centres (70%) report it is ‘easy’ or ‘very easy’ to contact the surgical team. On site surgical review is available in 10 centres (37%) and the average

[16] Woolf D, Aggarwal A, Chauhan B et al (2012) Audit of radiotherapy practice for metastatic spinal cord compression at a UK tertiary referral centre. Mount Vernon Cancer Centre, Northwood, United Kingdom.

[17] Berry C L, Cumming D & Hutton M (2011) A single site audit: compliance of the metastatic spinal cord compression nice guidelines. British Editorial Society of Bone & Joint Surgery.

[18] National Collaborating Centre for Cancer (2008) Clinical Guideline 75 Metastatic spinal cord compression: diagnosis and management of adults at risk of and with metastatic spinal cord compression.

distance to a spinal unit is 10 miles (range 0 to 60 miles). Only a minority of patients are referred for review; in 18 centres (67%) less than 25% are assessed by the surgical team. Of those patients reviewed, 14 of the centres (52%) report that over 50% proceed to surgery.

Spinal surgery units

Sixteen units (76%) do not have a defined policy for selecting patients for surgery and 5 units (24%) use the Tokuhashi score. In 11 units (52%) over 75% of the patients referred for surgical review are not operated on. Only 4 units (19%) operated on more than half of the patients seen which is much lower than the surgical rates reported by cancer centres. Surgery is carried out within 72 hours of the decision to operate in all but one centre.

Palliative care departments

Surgery is an uncommon treatment for this group of patients, with 104 units (90%) reporting that 25% or less are operated on (9 or 8% of respondents were unsure). Sixty two centres (53%) report it is ‘easy’ or ‘very easy’ to contact the surgical team. The average distance to a Spinal Surgery Unit is 14.5 miles (range 0 to 100 miles).

8 Suggested improvement area: Supportive care and rehabilitation

8.1 Summary of suggestions

Stakeholders highlighted the importance of the co-ordination of rehabilitation and discharge planning. Specific comments highlighted rehabilitation of neurological deficits for this group of people. Pressure sores, bladder and bowel management were highlighted as the most problematic areas for this group. Stakeholders also highlighted the importance of timely and adequate access to community rehabilitation and equipment.

Stakeholders suggested that physiotherapy and occupational therapy treatment for people with metastatic spinal cord compression is an integral part of rehabilitation to promote independence and quality of life.

Stakeholders raised the issue that a proportion of patients presenting with metastatic spinal cord compression have an unknown primary. It is important that this group are given appropriate support and management.

The following specific areas for quality improvement and potential development by the QSAC were highlighted, shown in the table below alongside recommendations that have been provisionally selected from the development source to support potential statement development.

Suggested quality improvement area	**NICE CG75 recommendation**
Co-ordination of rehabilitation & discharge planning	Recommendations 1.1.1.7, 1.6.5.1, 1.6.5.4, 1.6.5.5, 1.6.5.6 & 1.6.5.8
Physiotherapy and occupational therapy	Not directly covered in NICE clinical guideline 75 and no recommendations are presented.
Support and management of people with an unknown primary	Recommendation 1.5.3.2

8.2 Selected recommendations from development source

Recommendations from the development source relating to the suggested improvement areas have been provisionally selected and are presented below in inform QSAC discussion.

Co-ordination of rehabilitation & discharge planning

NICE CG75 Recommendation number 1.1.1.7

Commissioners should establish a joint approach with councils responsible for local social services to ensure efficient provision of equipment and support, including nursing and rehabilitation services, to meet the individual needs of patients with MSCC and their families and carers.

NICE CG75 Recommendation number 1.6.5.1

Ensure that all patients admitted to hospital with MSCC have access to a full range of healthcare professional support services for assessment, advice and rehabilitation.

NICE CG75 Recommendation number 1.6.5.4 (key priority for implementation)

Discharge planning and ongoing care, including rehabilitation for patients with MSCC, should start on admission and be led by a named individual from within the responsible clinical team. It should involve the patient and their families and carers, their primary oncology site team, rehabilitation team and community support, including primary care and specialist palliative care, as required.

NICE CG75 Recommendation number 1.6.5.5

Ensure that community-based rehabilitation and supportive care services are available to people with MSCC following their return home, in order to maximise their quality of life and continued involvement in activities that they value.

NICE CG75 Recommendation number 1.6.5.6

Ensure that people with MSCC are provided with the equipment and care they require in a timely fashion to maximise their quality of life at home.

NICE CG75 Recommendation number 1.6.5.8

Clear pathways should be established between hospitals and community-based healthcare and social services teams to ensure that equipment and support for people with MSCC returning home and their carers and families are arranged in an efficient and coordinated manner.

Physiotherapy and occupational therapy

Physiotherapy and occupational therapy are not directly covered in NICE clinical guideline 75 and no recommendations are presented relating to the suggested quality improvement area.

Support and management of people with an unknown primary

NICE CG75 - Recommendation 1.5.3.2

> Attempt to establish the primary histology of spinal metastases (including by tumour biopsy, if necessary) when planning definitive treatment.

8.3 Current UK practice

The full clinical guideline for Metastatic spinal cord compression[19] presents a number of statistics relevant to this area for quality improvement. The statistics are presented by type of centre and those considered most relevant are as follows:

Cancer centres

Access to specialist physiotherapy is variable with only 13 centres (48%) providing this service (6 or 22% of respondents were unsure). Daily physiotherapy is available in 17 centres (63%) and 8 centres (30%) have a written policy on mobilisation. Occupational therapy is available in 25 centres (93%) (2 respondents were unsure). Referral to specialist rehabilitation services is available to patients in 17 centres (63%) (5 or 19% of respondents were unsure). An average of 5 patients per year (range 1 to 10) were referred for specialist rehabilitation in the 9 centres (30%) that provided this information.

Spinal surgery units

Access to specialist physiotherapy is available in 10 units (48%) (2 or 10% of respondents were unsure). Daily physiotherapy is available in 17 units (81%) and 5 units (24%) have a written policy on mobilisation (2 or 40% of respondents were unsure). Occupational therapy is available in 19 units (90%) (1 or 5% of respondents were unsure). Referral to specialist rehabilitation services is available to patients in 16 units (76%) (1 or 5% of respondents were unsure). An average of 5 patients per year (range 2 to 10) were referred for specialist rehabilitation in the 10 centres (48%) that provided this information.

Palliative care departments

Access to specialist physiotherapy is available in 65 departments (56%) (15 or 13% of respondents were unsure). Sixty nine departments (59%) reported that patients are assessed by a physiotherapist within 48 hours of referral. Fourteen departments reported waiting more than 72 hours for physiotherapy review (22 or 19% of respondents were unsure). One department has no inpatient physiotherapy service.

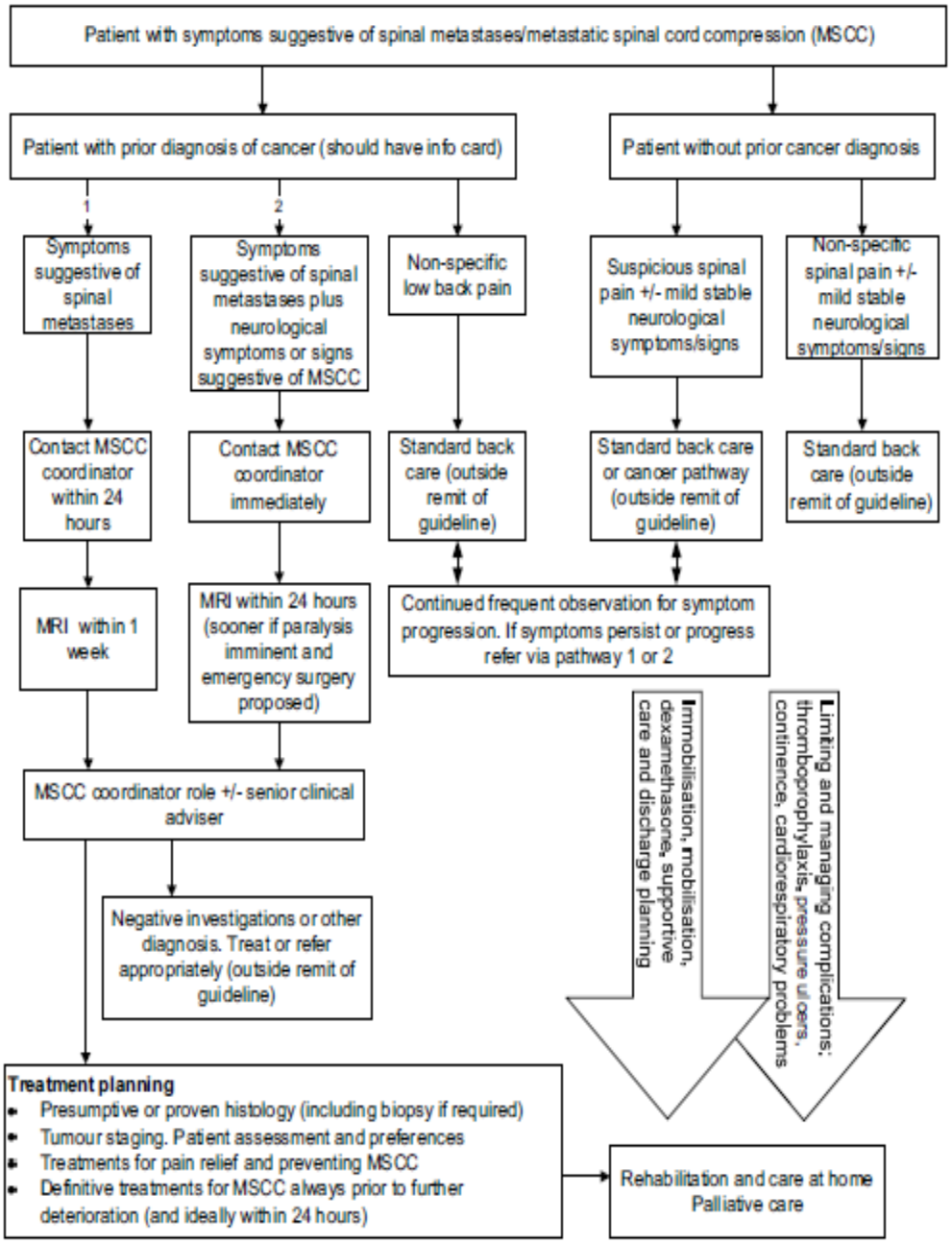
[19] National Collaborating Centre for Cancer (2008) Clinical Guideline 75 Metastatic spinal cord compression: diagnosis and management of adults at risk of and with metastatic spinal cord compression.

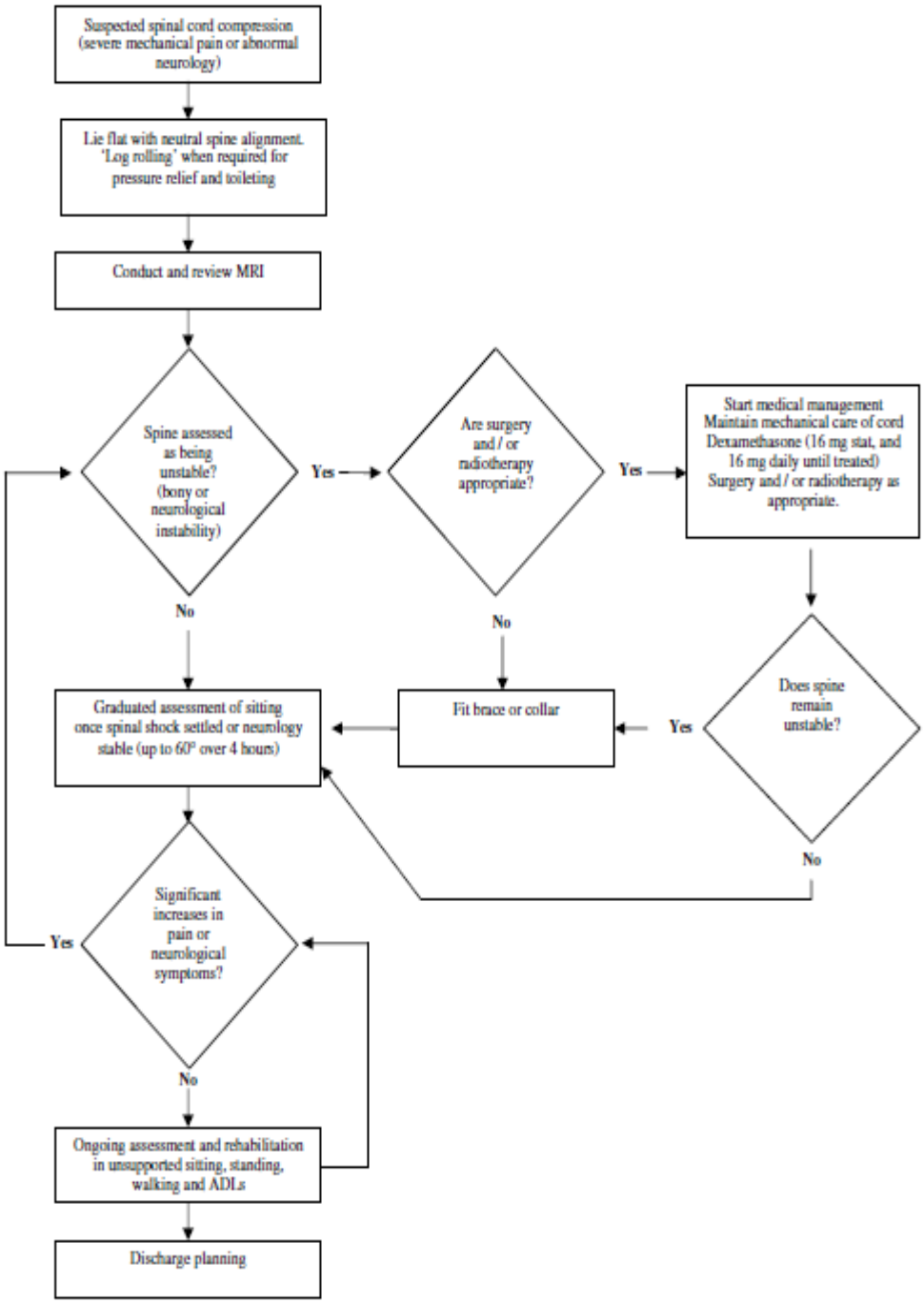
The Mount Vernon Cancer Network's (2012) Acute Oncology Group (NAOG) commissioned an audit[20] of patients diagnosed with metastatic spinal cord compression via MRI across their network to measure current practice against NICE guidance (2008). The audit includes patients who were diagnosed with metastatic spinal cord compression between June 2010 and November 2011. Results showed that there was not always evidence that a patient had been seen by either a physiotherapist or occupational therapist following diagnosis although this may be because patients were transferred to a different location for treatment. There was also a limited amount of information around patient discharge which made it very difficult to include much detail in this area in the report.

[20] Mount Vernon Cancer Centre (2012) Metastatic spinal cord compression audit.

Appendix 1 Additional information

The Algorithms




Suspected spinal cord compression (severe mechanical pain or abnormal neurology)
Lie flat with neutral spine alignment. 'Log rolling' when required for pressure relief and toileting
Conduct and review MRI
Spine assessed as being unstable? (bony or neurological instability)
Yes
Are surgery and / or radiotherapy appropriate?
Yes
Start medical management Maintain mechanical care of cord Dexamethasone (16 mg stat, and 16 mg daily until treated) Surgery and / or radiotherapy as appropriate.
No
No
Does spine remain unstable?
Yes
Fit brace or collar
Graduated assessment of sitting once spinal shock settled or neurology stable (up to 60° over 4 hours)
No
Significant increases in pain or neurological symptoms?
Yes
No
Ongoing assessment and rehabilitation in unsupported sitting, standing, walking and ADLs
Discharge planning

Appendix 2 Key priorities for implementation recommendations (CG75)

Key priorities for implementation recommendations which have been referred to in the main body of this report are highlighted in grey.

Service configuration and urgency of treatment

- Every cancer network should ensure that appropriate services are commissioned and in place for the efficient and effective diagnosis, treatment, rehabilitation and ongoing care of patients with MSCC. These services should be monitored regularly through prospective audit of the care pathway. [1.1.1.2]

Early detection

- Inform patients at high risk of developing bone metastases, patients with diagnosed bone metastases, or patients with cancer who present with spinal pain about the symptoms of MSCC. Offer information (for example, in the form of a leaflet) to patients and their families and carers which explains the symptoms of MSCC, and advises them (and their healthcare professionals) what to do if they develop these symptoms. [1.3.1.1]

- Contact the MSCC coordinator urgently (within 24 hours) to discuss the care of patients with cancer and any of the following symptoms suggestive of spinal metastases:

    - pain in the middle (thoracic) or upper (cervical) spine
    - progressive lower (lumbar) spinal pain
    - severe unremitting lower spinal pain
    - spinal pain aggravated by straining (for example, at stool, or when coughing or sneezing)
    - localised spinal tenderness
    - nocturnal spinal pain preventing sleep. [1.3.2.1]

- Contact the MSCC coordinator immediately to discuss the care of patients with cancer and symptoms suggestive of spinal metastases who have any of the following neurological symptoms or signs suggestive of MSCC, and view them as an oncological emergency:

    - neurological symptoms including radicular pain, any limb weakness, difficulty in walking, sensory loss or bladder or bowel dysfunction
    - neurological signs of spinal cord or cauda equina compression. [1.3.2.2]

Imaging

- Perform MRI of the whole spine in patients with suspected MSCC, unless there is a specific contraindication. This should be done in time to allow definitive treatment to be planned within 1 week of the suspected diagnosis in the case of spinal pain suggestive of spinal metastases, and within 24 hours in the case of spinal pain suggestive of spinal metastases and neurological symptoms or signs suggestive of MSCC, and occasionally sooner if there is a pressing clinical need for emergency surgery. [1.4.3.3]

Treatment of spinal metastases and MSCC

- Patients with severe mechanical pain suggestive of spinal instability, or any neurological symptoms or signs suggestive of MSCC, should be nursed flat with neutral spine alignment (including 'log rolling' or turning beds, with use of a slipper pan for toilet) until bony and neurological stability are ensured and cautious remobilisation may begin. [1.5.2.1]

- Start definitive treatment, if appropriate, before any further neurological deterioration and ideally within 24 hours of the confirmed diagnosis of MSCC. [1.5.3.1]

- Carefully plan surgery to maximise the probability of preserving spinal cord function without undue risk to the patient, taking into account their overall fitness, prognosis and preferences. [1.5.4.6]

- Ensure urgent (within 24 hours) access to and availability of radiotherapy and simulator facilities in daytime sessions, 7 days a week for patients with MSCC requiring definitive treatment or who are unsuitable for surgery. [1.5.5.1]

Supportive care and rehabilitation

- Discharge planning and ongoing care, including rehabilitation for patients with MSCC, should start on admission and be led by a named individual from within the responsible clinical team. It should involve the patient and their families and carers, their primary oncology site team, rehabilitation team and community support, including primary care and specialist palliative care, as required. [1.6.5.4]

Appendix 3 Suggestions from stakeholder engagement exercise

ID	Stakeholder	Suggested key area for quality improvement	Why is this important?	Why is this a key area for quality improvement?	Supporting information
001	NHS England Patient Safety Division	Key area for quality improvement 1	We have published evidence from the National Reporting and Learning System that even following the NICE 2008 guideline, there was substantial harm to patients through failure or delay in recognising the significance and urgency of symptoms of spinal cord compression. We appreciate this cannot inform actual content of the standard, but hope NICE may be able to use this information in the preamble to emphasise why this QS is so important.	The levels of harm were reported in an NPSA 'Signal' *"334 relevant incident reports were identified in the National Reporting and Learning System (NRLS). There were two reports of patient death, 33 severe harm and 60 moderate harm. Delayed diagnosis or treatment was identified in 193 cases and poor handling was identified in 30 cases. In 25 cases there was difficulty in the identification of the team responsible for the management of the patient."*	Full information can be found at http://www.nrls.npsa.nhs.uk/resources/?EntryId45=83770
002	NHS England	Compatibility with the National Spinal Task Force document commissioned by Sir Bruce Keo and Published in January 2013	The National Spinal Task Force was established by Sir Bruce Keogh for enquiry into and to make recommendations concerning Spinal Services in England. The multi-disciplinary group was led by John Carvel and the report was accepted by Bruce Keogh's department and published in January 2013. This document has	This document examines Spinal Metastatic Cord Compression and made a number of specific recommendations for improvement of the implementation of NICE Clinical Guidance 75.	The Task Force document "Commissioning Spinal Services" may be found at http://www.nationalspinaltaskforce.co.uk/

ID	Stakeholder	Suggested key area for quality improvement	Why is this important?	Why is this a key area for quality improvement?	Supporting information
			been widely circulated to commissioners.		
003	NHS England	Appropriate availability of imaging.	Appropriate and timely imaging is an essential part of the process in the diagnosis and management of Metastatic Spinal Disease. Spinal Centres undertaking surgical management of metastatic spinal cord disease must have 24 hour 7 days a week access to MRI scanning. Any hospital which may receive a patient with MSCC must have MRI scanning available on a 7 day a week basis.	MRI scans are one of the key considerations in decision making for surgical or conservative management of MSCC. In rapidly progressing cord deficit emergency surgery may be indicated and the scans are required for surgical planning. In non-spinal Centres NICE guidance 75 recommends scanning should be available on a 7 day a week basis. Some receiving hospitals still have no availability, for example at weekends, and this necessitates inappropriate transfer, sometimes for long distances, simply to obtain a scan. This is particularly inappropriate if the general condition of the patient indicates palliative care rather than active intervention once the scan has been assessed.	"Commissioning Spinal Services".
004	NHS England	Appropriate mechanisms for transfer of imaging.	Scans obtained in the receiving hospitals must be available to the multi-disciplinary decision team in the spinal centre.	It remains the case that transfer of imaging remains extremely variable across England and occasionally the patients have actually been rescanned on arrival in the Spinal Centre simply for this reason. All hospitals should support an image exchange portal.	Equality of access to services. Document "Commissioning Spinal Services", evidence to Task Force.

ID	Stakeholder	Suggested key area for quality improvement	Why is this important?	Why is this a key area for quality improvement?	Supporting information
				More importantly all hospitals should have written explicit policy to identify the staff responsible for image transfers 24/7 or 7/7 depending on the status of the receiving hospital. Spinal Centres should have written explicit policy identified with staff responsible for uploading images to local PACs.	
005	NHS England	Coordinated and multi-disciplinary team within the spinal centre available 24/7.	Decision making in Metastatic Spinal Cord Compression requires close collaboration between oncology and spinal surgery. Any hospital providing surgical services For Metastatic Spinal Cord Compression must have a defined multi-disciplinary decision making process with 24 hour availability. This must be supported by the appropriate imaging.	Timely and effective management depends on high quality and expeditious decision making by appropriate team in position of all relevant information.	NICE guidance 75. Document “Commissioning In Spinal Services”.
006	NHS England	Provision of MSCC coordinator.	This is identified as one of the key requisites for successful management in NICE guidance 75. The coordinators’ role is to provide advice on investigation and imaging	NICE guidance 75 identified lack of coordination in the management of Metastatic Spinal Cord Compression as a key failing in the management of these patients.	NICE guidance 75. Document “Commissioning Spinal Services”.

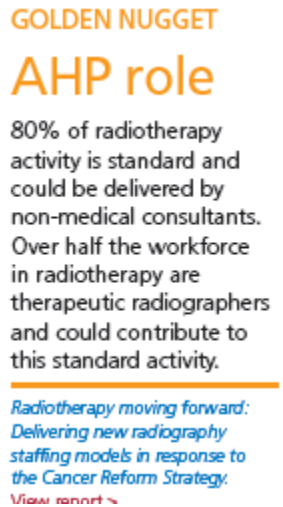
ID	Stakeholder	Suggested key area for quality improvement	Why is this important?	Why is this a key area for quality improvement?	Supporting information
			together with presentation of all necessary information to the multidisciplinary decision making team (usually an oncologist and spinal surgeon). Also, provide advice on transfer, admission, rehabilitation, discharge and management in the community following discharge.		
007	NHS England	Establishment of local network and relationships between Spinal Surgical Centre and its catchment hospitals.	Written protocols for the investigation imaging and referral of suspected Metastatic Spinal Cord Compression will stream-line patient management and provide framework for staff to use. Metastatic Spinal Cord The incidence of Spinal cord Compression is low in many receiving hospitals and in the absence of guidance and documentation, investigation and management may be delayed.	Driving improvement in process and networks requires little additional infrastructure and will provide seamless care for patients who require urgent assessment and treatment.	NICE guidance 75. Document “Commissioning Spinal Services”.
008	NHS England	Interventional radiology (biopsy, percutaneous cement reinforcement, embolisation) must	The accurate identification of pathology will inform management decision making and improve patient outcomes. In surgical intervention one option is	For effective management of Metastatic Spinal Cord Compression a Centre must be able to deploy treatments and investigations that are appropriate in decision making and in treatment.	NICE guidance 75. Document “Commissioning Spinal Services”. Evidence to Task Force.

ID	Stakeholder	Suggested key area for quality improvement	Why is this important?	Why is this a key area for quality improvement?	Supporting information
		be available in Spinal Centres.	cement augmentation in appropriate cases which is a less invasive option. Vascular tumours may be treated with significantly less risk following embolisation.		
009	NHS England	Rehabilitation of neurological deficits.	Patients with neurological deficits subsequent to Metastatic Spinal Cord Compression receive at present extremely variable levels of rehabilitation throughout England. Pressure sores, bladder management and bowel management are the three most problematic areas for these patients.	Training in the management of neuropathic bladder and bowel is extremely variable within the Oncology Centres in England. Failure of simple management of the skin increases the risk of pressure sores very substantially. Bowel and bladder incontinence are devastating for the patient, but with appropriate advice and management they can usually be avoided	NICE guidance 75. Document “Commissioning Spinal Services”
010	NHS England	Common audit and governance across the entire pathway from receiving hospital to major Centre to discharge destination.	The management of Metastatic Spinal Cord Compression starts with the receiving hospital and ends with the patient returning home or to a facility near home. The areas most likely to produce poor results are the interfaces. It is essential therefore that audit and governance runs across the	Properly constructed audit across the entire pathway will identify areas of poor results or management and improve the care that the patient receives and also the patients’ perception of care.	Document “Commissioning Spinal Services”

ID	Stakeholder	Suggested key area for quality improvement	Why is this important?	Why is this a key area for quality improvement?	Supporting information
			interfaces.		
011	NHS England	Improved education for patients.	Most Metastatic Spinal Cord Compression occurs in patients already known to have cancer. Early diagnosis and treatment may make the difference between paralysis and independent mobility. Delayed presentation remains a significant problem.	Provision of written, accessible information on symptoms and signs of cord compression to all patients with cancer may encourage early presentation. Information which may be shown to Healthcare Professionals at first contact may direct the patient most appropriately for investigations or imaging. Provision of such information is neither difficult nor expensive. Audits should be undertaken to demonstrate efficacy.	No additional information provided by stakeholder.
012	The Society and College of Radiographers	Ensure patients are all discussed with both surgical and oncology teams according to their symptoms. If for radiotherapy ensure patients are getting either single fraction or fractionated treatment according to symptoms	To ensure patients receive appropriate treatment according to their medical condition	As above and to make efficient and effective use of resources	RCR reaudit of MSCC guidance (may 2013) showed a slight increase in compliance with the standards but a significant proportion of patients were still non compliant
013	The Society and College of Radiographers	Improved communication between Hospitals when patient is	Handover of patients to all health professionals involved in the patients care, even short term care should be	MSCC patients are referred as emergencies often within 24 hours of diagnosis and often transferred to the regional radiotherapy centre for	NICE guidelines which suggests models and management of care for MSCC Symptoms and side

ID	Stakeholder	Suggested key area for quality improvement	Why is this important?	Why is this a key area for quality improvement?	Supporting information
		being transferred for radiotherapy/surgery	clearer, uniform and accessible to all people involved in patient care. Such as a uniformed handover sheet that states spine stability, surgery discussed, pain levels, patient mobility and restrictions and any other health concerns. This should stay with the patient throughout their journey to continue good patient care. Good communication between healthcare professionals and patients is essential.	radiotherapy treatment, then potentially moved back to a hospital closer to their home - they can be cared for by a number of different health professionals. As so many people involved there is a danger that some issues relating to the patient can be mis-communicated. Especially their spinal stability, pain and medications. Notes are not always available and with digital notes becoming more common, which are not always accessible between different trusts, a continuity of care needs to be kept universal to help keep the pathway efficient and maintain a good patient experience.	effects. Good communication between healthcare professionals and patients is essential. http://www.nice.org.uk/nicemedia/live/12085/42653/42653.pdf
014	The Society and College of Radiographers	Education material that is available to all health care professionals on MSCC treatment options, side effects and after care that are trust/network specific to their pathway. Health professional information booklets	MSCC treatment, radiotherapy and surgery is normally carried out at regional centres. Patients suspected of MSCC can often be referred by other hospitals/wards that are not familiar with the MSCC care pathway or treatment options and side effects and on-going care. Improved education that is accessible to a wide range of health care professionals will help improve patient care,	As MSCC patients don't always present for initial investigation at regional hospitals that are experienced in treating MSCC, information given to patients - for example about radiotherapy – is sometimes not as in-depth as the health professionals may have little knowledge of radiotherapy. As treatment options ideally need to be decided and discussed with the patient urgently it would be a good idea for all health care professionals to have some form of educational	NICE guidelines which states; 1.2.1.1 Ensure that communication with patients with known or suspected MSCC is clear and consistent, and that the patients, their families and carers are fully informed and involved in all decisions about treatment. http://www.nice.org.uk/nicemedia/live/12085/42653/42653.pdf

ID	Stakeholder	Suggested key area for quality improvement	Why is this important?	Why is this a key area for quality improvement?	Supporting information
			promote a continuous pathway and potentially reduce delays in the pathway. It can also help improve patient care as the patient will potentially receive consistent information about side effects what to expect whilst having treatment	material to hand and maybe a contact number for the health professional so patients queries and worries about treatment can be dealt with at the point of patient asking. This promotes good patient care, as diagnosis and treatment comes so quickly after presentation of symptoms, patients may have many questions and uncertainties whilst waiting to be transferred for treatment.	
015	The Society and College of Radiographers	Referral for Radiotherapy should be via the surgical and oncology teams – see point one above. A non medical AHP Consultant practitioner, as part of the multidisciplinary team could manage this pathway of care effectively and efficiently minimising delays to treatment, thus	Reduce the potential for delays- specifically as radiotherapy treatment must be given urgently and within a specified time frame (JCCO/RCR guidance) Patients are treated as an emergency treatment and frequently outside the routine opening hours of a Radiotherapy centre. A therapeutic radiographer as a Consultant AHP practitioner leads the pathway of care delivering all aspects of the treatment pathway- thus ensuring consistency and support for the patients and carers;	Ensure that treatment is able to be delivered within agreed RCR guidelines Provide increased support to patient and carers, as AHP consultant key point of contact before and after Radiotherapy and back into the community. Enables finite resources to be focused effectively and efficiently around the patients needs, reducing duplication of effort, enabling consistent service delivery for patients to agreed standards.	JCCO guidelines for radiotherapy treatment http://www.rcr.ac.uk/docs/oncology/pdf/reducingdelaysincancertreatment.pdf [3.6- “fast track to treatment”- recommended that treatment is given quicker than recommendation 1 in section 4.4] Role of AHP Consultant Practitioner in Radiotherapy SCoR https://www.sor.org/learning/document-library/implementing-career-framework-radiotherapy-policy-practice

ID	Stakeholder	Suggested key area for quality improvement	Why is this important?	Why is this a key area for quality improvement?	Supporting information
		streamlining the patient's pathway from referral to post treatment care, and so providing continuity across the care pathway.	- providing information, support, - consent for treatment, - treatment localisation, - treatment delivery - post treatment information for patient and carers links to the community teams/referring team in another hospital setting/or hospice		https://www.sor.org/learning/document-library/radiotherapy-moving-forward-delivering-new-radiography-staffing-models-response-cancer-reform AHP Cancer Toolkit – Page 18 Consultant Therapeutic Radiographers and MSCC http://www.networks.nhs.uk/nhs-networks/ahp-networks/ahp-qipp-toolkits/AHP_Cancer_Pathway_final%20-3.pdf/view [page 18- see excerpts below] 

ID	Stakeholder	Suggested key area for quality improvement	Why is this important?	Why is this a key area for quality improvement?	Supporting information
					GOLDEN NUGGET Mitigate paralysis Emergency Spinal Cord Compression treated v 24 hours and up to 48 hours can have a signif impact on a patient's health status. Without th is a risk of deterioration into permanent paraly and potential loss of function below tumour si Non treatment of compression may lead to uri incontinence, impaired sensation/touch with s cost implications for future patient care togeth the negative psychological impact of such a tr the social welfare implications.
016	Medtronic UK	Minimal access vertebral augmentation for spine surgical management – patient outcome measures require validation to illustrate benefit of procedure	NICE CG 75 - recommends this minimal access procedure (e.g. balloon kyphoplasty) as more cost effective than alternative options; namely non- surgical or invasive open surgery for patients who require a mechanical solution due to vertebral collapse	Individual providers differ in the treatment /management pathway; despite CG 75. Encourage better compliance with CG 75 ensuring equitable access across the NHS. Standard outcomes include EQ 5D, ODI, VAS, Myelopathy DI. Suggested outcome measures for MSCC – ECOG, Tomita, Tokuhashi & SINS.	NICE CG 75 Costing Template and supportive published evidence for patients treated with balloon kyphoplasty for their cancer-related vertebral compression fractures. British Spine registry enable providers to capture consistent patient outcomes
017	Rowcroft Hospice	Key area for quality improvement 1	Education and raising awareness regarding early detection and local pathways is a key area to improve quality of care.	The MSCC pathway is hospital-based. Education and awareness raising within primary care teams is not currently resourced.	No additional information provided by stakeholder.
018	Rowcroft Hospice	Key area for quality improvement 2	Availability of on call consultant oncologist and access to urgent MRI/DXT at	Local MSCC coordinator service is only 5 days per week. Weekends are covered by a hospital out of area	No additional information provided by stakeholder.

ID	Stakeholder	Suggested key area for quality improvement	Why is this important?	Why is this a key area for quality improvement?	Supporting information
			the weekends	making it more difficult to access a prompt response.	
019	Royal College of Nursing	**Early detection/ Timely imaging**	Early detection avoids disability	Metastatic spinal cord compression affects 5[1]-7 [2]% of patients with some cancers. MSCC is a medical emergency. Access to high resolution MRI. Skeletal result in considerable health resource utilization [2]. There is a relationship between MRI-assessed grades of spinal metastatic disease and neurological status [3].	1. John S Cole, Roy A Patchell Metastatic epidural spinal cord compression *The Lancet Neurology*, Volume 7, Issue 5, Pages 459-466 2. Hechmati G, Cure S, Gouépo A, Cost of skeletal-related events in European patients with solid tumours and bone metastases: data from a prospective multinational observational study. J Med Econ. 2013;16(5):691-700. 3. Switlyk MD, Hole KH, Skjeldal S et al MRI and neurological findings in patients with spinal metastases. Acta Radiol. 2012 Dec 1;53(10):1164-72. doi: 10.1258/ar.2012.120442. Epub 2012 Oct 9. 4. Crnalic S, Hildingsson C, Bergh A et al Early diagnosis and treatment is crucial for neurological recovery after surgery for metastatic spinal cord compression in prostate cancer. Acta Oncol. 2013 May;52(4):809-15. doi:

ID	Stakeholder	Suggested key area for quality improvement	Why is this important?	Why is this a key area for quality improvement?	Supporting information
					10.3109/0284186X.2012.705437. Epub 2012 Sep 3.
020	Royal College of Nursing	**Patient awareness**	Patient awareness of suggestive symptoms should facilitate seeking urgent medical review. This could reduce disability.	Metastatic spinal cord compression affects 5% of patients with cancer. Back pain is the most common symptom. If patients were aware that back pain occurs before neurological and motor loss they may seek medical help more quickly.	1. Metastatic epidural spinal cord compression *The Lancet Neurology*, Volume 7, Issue 5, Pages 459-466 John S Cole, Roy A Patchell 2. Crnalic S, Hildingsson C, Bergh A et al Early diagnosis and treatment is crucial for neurological recovery after surgery for metastatic spinal cord compression in prostate cancer. Acta Oncol. 2013 May;52(4):809-15. doi: 10.3109/0284186X.2012.705437. Epub 2012 Sep 3.
021	Royal College of Nursing	**Outcomes of interventions**	New evidence for a predictive tool and a consensus statement supporting low dose radiation therapy for MSCC in myeloma and breast cancer.	A predictor of outcomes could guide management. Consensus document supports radiotherapy for MSCC in two cancers. Low dose radiotherapy myeloma Low dose radiotherapy breast Cancer (survival)	1. Douglas S, Schild SE, Rades D. BMC Cancer. A new score predicting the survival of patients with spinal cord compression from myeloma. 2012 Sep 25;12:425. doi: 10.1186/1471-2407-12-425. 2. J Clin Oncol. 2013 May 20. [Epub ahead of print] 3. Terpos E, Morgan G, Dimopoulos MA, et al

ID	Stakeholder	Suggested key area for quality improvement	Why is this important?	Why is this a key area for quality improvement?	Supporting information
					International Myeloma Working Group Recommendations for the Treatment of Multiple Myeloma-Related Bone Disease. J Clin Oncol. 2013 May 20. 4. Rades D, Douglas S, Schild SE. A validated survival score for breast cancer patients with metastatic spinal cord compression. Strahlenther Onkol. 2013 Jan;189(1):41-6. doi: 10.1007/s00066-012-0230-0. Epub 2012 Nov 10.
022	Society and College of Radiographers	Patient information and education	This was a key recommendation in the publication of the NICE guidelines for the management of MSCC (CG75) published in 2008. Ensuring that the patients are fully informed of potential complications is crucial in the early detection of spinal cord compression	National surveys have evidenced that patients are still presenting late with advanced symptoms of spinal cord compression (decreased ambulation, bladder/bowel incontinence etc)	National Re-audit of Radiotherapy in the Treatment of Malignant Spinal Cord Compression 2012 NICE CG75 • Delay in diagnosis and treatment of spinal cord compression • National Patient Safety Agency (2010). • • Audit of radiotherapy practice for metastatic spinal cord compression at a UK tertiary

ID	Stakeholder	Suggested key area for quality improvement	Why is this important?	Why is this a key area for quality improvement?	Supporting information
					referral centre. National Cancer Research Institute Conference (2010).
023	Society and College of Radiographers	Health care professionals information and education	Unacceptable delays are still occurring in this group of patients due to healthcare professionals not recognising the symptoms and referring appropriately.	Associated with patients presenting late is the continued routine management of these emergency patients.	As above
024	Society and College of Radiographers	Timely access to imaging	Diagnostic imaging is crucial in the decision making for treatment. Access and timely diagnostic facilitates early treatment intervention	Treatment plans cannot be formulated until diagnostic imaging, including report, has been completed.	As above
025	Society and College of Radiographers	Timely intervention	The key to recovery for these patients is timely treatment. Plans must be in place to enable radiotherapy /surgical decisions to be made to facilitate best outcomes	These patients may deteriorate quickly, involvement of oncology and surgical teams must be as early as possible to ensure treatment plans can be made before further deterioration.	As above
026	Society of British Neurological Surgeons (SBNS)	Training of key persons in pathway including GP, Oncologists, MSCC Co-ordinator and hospital doctors	To achieve early referral, diagnosis and treatment	Teaching and Training of clinicians is the key to commence the treatment pathway	No additional information provided by stakeholder.
027	Northern Ireland Cancer Network	Spinal stability and mobility allowed should be documented in	Documentation of spinal stability is recommended within the NICE guidance. It is important for the patient	It has been recognised at the 4th annual MSCC meeting in Birmingham that assessing and documenting of spinal stability is	Audits carried out within Northern Ireland in 2011 and 2012 found spinal stability documentation in the minority of patient notes.

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		patient notes within 12 hours of diagnosis	and staff to know what is considered safe with regards to moving and handling.	poorly done.	Moving and handling recommendations were often vague and ambiguous.
028	Northern Ireland Cancer Network	Physiotherapy and occupational therapy treatment for patients with MSCC.	People with MSCC often experience significant functiona losses coupled with the emotional distress associated with advancing disease. Rehabilitation is integral to the promotion of independence and quality of lif	Within Northern Ireland physiotherapy and occupational therapy varies with regards to acute and community input, referral criteria and the types of treatments undertaken.	No additional information provided by stakeholder.
029	Northern Ireland Cancer Network	Timely and adequate access to community rehabilitation and equipment.	As life expectancy after diagnosis of MSCC is very limited, timely access to equipment is crucial. Delays in receiving equipment for e.g wheelchairs can significantly impact on patients' and carers' quality of life and activities of daily living.	Within Northern Ireland waiting time to access rehabilitation equipment is 6 weeks. For patients recently paralysed and with a limited life expectancy this has a significant impact on quality of life	No additional information provided by stakeholder.
030	The South West London MSCC Service	Related NICE Quality Standards for this review need to include Haematology	Myeloma is one of the most common cancers to develop MSCC, and currently management of these patients does not dovetail with existing guidelines.	To ensure that myeloma patients are managed appropriately with regard to primary treatment and steroid management. This will require a different case discussion policy to include the haemato-oncologist.	Ongoing anecdotal evidence from providing a comprehensive MSCC service indicates that this is a group of patients that are consistently more complex to manage.
031	The South West London MSCC Service	Related NICE Quality Standards for this review need to include Gastro-	These cancers are amongst the most common to develop MSCC	These quality standards need to be recognised alongside breast, lung and prostate to ensure equitable	National figures quote these among the most common cancers for MSCC

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		intestinal and Urology (kidney)		management.	
032	The South West London MSCC Service	Recognition that for a proportion of patients presenting with MSCC have an unknown primary.	These patients carry the psychological burden of both a new diagnosis of cancer and a diagnosis of metastatic cord compression.	To ensure appropriate psychological support and management of this complex group of patients.	Data from an audit by Levack et al 2001 indicates that for 23% of patients with MSCC it is their first presentation of malignancy.
033	Cancer Commissioning Team West and South, North West London CSU	**Earlier detection and timely referral in primary care of MSCC**	NICE guidance Research recommendation 4.1 “Further research should be undertaken into the reasons why patients with MSCC present late. Although it is clear from the existing evidence that many patients with MSCC present late, often with established and irreversible neurological problems or a long preceding history of symptoms, the reasons for this are not understood” From the NICE Guidance November 2008 “The Scottish audit showed that there were significant delays from the time when patients first develop symptoms to when general practitioners and hospital doctors recognise the possibility of	The research by Pam Levack showed that there can be significant delays in primary to recognition and acting upon symptoms (Levack P et al (2001) A prospective audit of the diagnosis, management and outcome of malignant cord compression (CRAG 97/08). Edinburgh: CRAG). Since that original research, primary care has become a highly computerised environment, with accredited clinical systems running READ codes for symptoms and diagnoses. The advent of the Quality Outcomes Framework in 2004 has meant that there has been incentive for practices to code all new cancer diagnoses in a consistent way However there has been no systematic approach to the earlier detection of MSCC using the	An IT tool (clinical alert) for matching significant new onset symptoms with a pre-existing diagnosis of cancer so that within a standard consultation, a GP would be aware of the risk of compression. The symptoms would be matched to the commonest presenting features of compression and use READ coding to work across different IT providers. An alert has been created for EMIS WEB to do exactly this – see attachment. EMIS WEB covers over 2000 practices. However SystmOne does not yet have an equivalent alert and this should be developed. The alerts should permit practice level audit, so that the actions taken after activation of the alert are

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			MSCC and make an appropriate referral. The median times from the onset of back pain and nerve root pain to referral were 3 months and 9 weeks, respectively. Nearly half of all patients with MSCC were unable to walk at the time of diagnosis and of these, the majority (67%) had recovered no function after 1 month. Of those who could walk unaided at the time of diagnosis, 81% were able to walk (either alone or with aid) at 1 month. The ability to walk at diagnosis was also significantly related to overall survival."	available IT solutions.	measurable.
034	SCM01	Capture of outcome data on all patients presenting with MSCC	To measure the effectiveness of interventions in terms of functional outcomes and QOL robust audit data is required. Comprehensive data on patterns of care and comparative treatment outcomes is required to identify areas for quality improvement	Patients with MSCC present via many different clinical routes – via A & E, via GP, community services, palliative care etc… Data on metastatic presentations are poorly captured and these patients have a variety of primary cancer diagnoses.	The RCR have performed a national audit of the radiotherapy treatment of patients with MSCC. Various spinal registries exist but there is no comprehensive capture of data in this group of patients
035	SCM01	Availability of	Functional outcome in MSCC	24 hour MRI capability is not	Data from RCR MSCC audit 2008

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		timely MRI in cases of suspected MSCC	is dependent on timely diagnosis and intervention. NICE guidance recommends the availability of MRI within 24 hours in the case of spinal pain suggestive of spinal metastases and neurological symptoms or signs suggestive of MSCC	uniformly available. Some centres are using CT due to lack of out of hours MRI	and re-audit 2012 NPSA 2010 report – delays in diagnosis and treatment of MSCC
036	SCM01	Access to spinal surgery for good prognosis patients	There is level 1 evidence of improved functional outcomes for good prognosis patients treated with decompressive surgery and post op RT versus RT alone	Recorded levels of surgical discussion and intervention are low even in apparently good prognosis patients	Data from RCR MSCC audit 2008 and re-audit 2012
037	SCM01	Availability of ongoing rehabilitation and community support post treatment	NICE guidance recommends that that community-based rehabilitation and supportive care services are available to people with MSCC following their return home, in order to maximise their quality of life and continued involvement in activities that they value.	Variable access to ongoing community rehabilitation on discharge	Theme identified at successive annual National Cancer Action Team MSCC workshops.
038	SCM02	Spinal surgical training and oncall service	It is recommended in NICE guidance (CG75) that spinal surgery senior clinical advisers should be appropriately trained. In many centres there is no dedicated spinal surgical	Surgical advice and options offered depend on the training and abilities of those on-call. Whilst inevitably varying intervention is often not offered if not within the compass of the individual surgeon. Curative options are sometimes not offered	See DH Spinal Taskforce document (2013) http://www.nationalspinaltaskforce.co.uk. NICE guideline CG75 MSCC (November 2008) –

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			oncall	when (rarely) these are possible *There should be an on-call spinal surgery rota in each region based on surgeons trained in spinal reconstructive surgery* (with MDT review -necessarily retrospective in many instances (this would also enhance services for Trauma and infection))	*http://guidance.nice.org.uk/CG75/QuickRefGuide/pdf/English)* Acute Oncology measures (March 2011) *http://www.dh.gov.uk/prod_consum_dh/groups/dh_digitalassets/documents/digitalasset/dh_125889.pdf* NICE sponsored BMJ learning educational module on MSCC. http://learning.bmj.com/learning/module-intro/.html?moduleId=10032165
039	SCM02	Coordination of urgent and emergency spinal assessment and care for spinal metastases and MSCC (provision of an emergency spinal coordinator)	To reduce surgical intervention for MSCC by early recognition and treatment of symptomatic spinal metastases liable to cause this .l For those developing MSCC enabling intervention before loss of mobility and/or sphincter function	Significant improvement in access and service delivery has been noted with permanent paramedical staff taking on this role during working hours rather than inconsistent delivery via rotating junior staff. There is a high human and financial cost associated with MSCC. (There should be an emergency spinal coordinator (role including MSCC) in spinal surgery centres linking to identified Acute Oncology measures trained staff in all relevant hospitals (this would also enhance services for Trauma and infection))	Despite this being a priority recommendation in the NICE guideline CG75 MSCC (November 2008) – *http://guidance.nice.org.uk/CG75/QuickRefGuide/pdf/English)* and in Acute Oncology Measures Acute Oncology measures (March 2011) *http://www.dh.gov.uk/prod_consum_dh/groups/dh_digitalassets/documents/digitalasset/dh_125889.pdf* this has still not been implemented in many hospitals (See National Cancer Peer review

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					2011-12 figures) Also: See DH Spinal Taskforce document (2013) http://www.nationalspinaltaskforce.co.uk.
040	SCM02	Interventional radiology for spinal oncology in spinal surgery centres	The requirement for surgical intervention (and associated costs) for symptomatic impending structural spinal failure is greatly reduced through preferential use of vertebroplasty (rather than surgery) when suitable(particularly applicable to myeloma and lymphoma) Haemorrhage from spinal surgery on renal metastases is greatly reduced with preoperative embolisation	Interventional radiology (for biopsy, percutaneous cement reinforcement and embolisation) should be available in all cancer networks, normally alongside spinal surgical services (to ensure appropriate management of adverse events such as cement cord compression). Provision remains patch. There should be enhanced provision of MSK trained interventional radiologists	See NICE MSCC guideline CG75 (2008)including costing analysis of surgery vs vertebroplasty *http://guidance.nice.org.uk/CG75/QuickRefGuide/pdf/English)* DH Spinal taskforce document Supported by observational rather than controlled studies http://www.nationalspinaltaskforce.co.uk. NICE sponsored BMJ learning educational module on MSCC. http://learning.bmj.com/learning/module-intro/.html?moduleId=10032165
041	SCM02	Diagnostic imaging (including early complete availability of appropriate radiological	For appropriate treatment decisions to be reached It is necessary for the defined Senior Clinical advisers(role defined in NICE MSCC GL(2008) and Acute	Aspects of assessment for spinal metastatses and MSCC remain sub-optimal. These include Geographical coordination and availability of: a) appropriate imaging (MRI and **CT – if intervention is**	See spinal taskforce document http://www.nationalspinaltaskforce.co.uk. NICE sponsored BMJ learning educational module on MSCC.

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		investigation) and clinical assessment for MSCC	Oncology Measures (2011) to be available and for them to have all relevant imaging information available. This is also necessary for definition of spinal stability and to assess suitability for vertebroplasty	**an appropriate consideration - to include visceral staging and detailed spinal images (axials of involved levels with sagittal and coronal reformats**), b) On-call Spinal Surgeons(appropriately trained) and Oncologists.	http://learning.bmj.com/learning/module-intro/.html?moduleId=10032165
042	SCM02	Rehabilitation services for patients with symptomatic spinal metastases and MSCC	a)Many patients should be able to be cared for at home given adequate rehabilitation . b)Many bed-days are currently being lost in acute spinal surgical units consequent upon delayed repatriation of patients to referring units and/or to suitable rehabilitation facilities for those for whom this is appropriate.	The outcome for many of these patients is impaired due to lack of suitable rehabilitation.(including Occupational Therapy and Physiotherapy Function of Spinal surgical units is often impaired due to bed-blocking by these patients .There is currently no funding for spinal cord injuries centres input towards care for those with good prognosis with paresis/ paralysis from spinal oncology	Documented experience in the Royal Orthopaedic Hospital and reported anecdotal experience in other spinal surgical units NICE guideline CG75 MSCC (November 2008) – *http://guidance.nice.org.uk/CG75/QuickRefGuide/pdf/English)* DH National Spinal Taskforce http://www.nationalspinaltaskforce.co.uk.
043	SCM02	Continuing external peer review of services for spinal metastases and MSCC	With the improvement in oncological control of the underlying cancer many patients with spinal metastases are living for years with their disease. Paralysis and incontinence (now often avoidable) have	Without this driver current momentum already present for continuing improvement may be lost	It is unclear whether it is intended that NCPR will continue in the aftermath of 2012 Health and Social Bill

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			high direct and indirect costs		
044	SCM03	Patient and carer awareness of the risk of MSCC	Recommended within NICE guidance to enable early detection of MSCC, and thus prompt treatment.	Empowering patients to present earlier with symptoms of MSCC- and alert receiving healthcare professional to this possibility- will result in earlier diagnosis	Delay in diagnosis and treatment of spinal cord compression National Patient Safety Agency (2010) National Cancer Peer Review Programme Manual for Cancer Services: Acute Oncology - Including Metastatic Spinal Cord Compression Measures (Measure 11-1E-105y and 11-3Y-311)
045	SCM03	Specified point of contact for suspected MSCC	MSCC co-ordinator recommended within NICE guidance on MSCC.	Referral into services from the community can be challenging without imaging Senior clinical advisors and MSCC co-ordinators recommended as key liaison for primary healthcare teams	NICE referral Guidelines for Suspected Cancer recommends discussion with a specialist in the context of concern. National Cancer Peer Review Programme Manual for Cancer Services: Acute Oncology - Including Metastatic Spinal Cord Compression Measures (Measure 11-1E109y and 11-3Y-304)
046	SCM03	Ownership of MUO presenting with	Recommended within NICE guidance	In a 10 week period of one of the MSCC treatment centres in NECN,	

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		MSCC		50% of patients diagnosed with MSCC did not have a known diagnosis of cancer. Lack of clear diagnosis can impinge on planning definitive treatment and subsequent patient support	
047	SCM03	MDT discussion	Recommended within NICE guidance	Definitive therapy ought to commence within 24 hours of diagnosis. This should not depend on which team is available, but ought to be made with specific discussion between at least a spinal surgeon and a clinical oncologist.	Improving Outcomes: a strategy for cancer DoH (2011) National Cancer Peer Review Programme Manual for Cancer Services: Acute Oncology - Including Metastatic Spinal Cord Compression Measures (Measure 11-1E-110y and 11-3Y-310)
048	SCM03	Co-ordination of rehab and discharge planning	Recommended within NICE guidelines	Ought to commence on day of admission and involve the patient and their carers. Aim to maximise function and management of symptoms of MSCC.	No additional information provided by stakeholder.

Additional Comments

SCM04 suggested the following statements:

1. Patients at risk at risk should be clearly informed of the symptoms which could occur with MSCC.

2. There should be a rapid referral pathway to ensure patients suspected of MSCC are seen by the appropriate specialist/s

3. There should be a MSCC Co-ordinator available at all times in each centre which delivers the service.

4. Patients suspected of MSCC should have a MRI scan within 24 hours of referral.

5. Patients should be informed of a contact person who will be available to link with the key facilities delivering care.

6. Patients with MSCC who are able to walk at presentation need to be prioritised for urgent treatment within 24 hours.

7. Surgical Intervention should be delivered in appropriate (Neuroscience or Spinal Surgery) centres by Specialists with experience in the interventions

8. Radiotherapy facilities should be available within 24 hours as primary treatment and/or later as an adjunct to surgical management.

9. Pain management expertise must be available to support the treatment programme.

10. Rehabilitation facilities must be available as part of the on going care.