Spinal metastases and metastatic spinal cord compression

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Association for Palliative Medicine of Great Britain	Guideline	009	005	We agree with the list however feel that Palliative Care Specialists should be included. We are experts in developing personalised care plans and may already be involved in the person's care prior to development of MSCC.	Thank you for your comment. This recommendation now refers to getting advice from the MDT which includes palliative care specialists
Association for Palliative Medicine of Great Britain	Guideline	024	002	Perhaps specific reference to the impact on driving if starting opioids or on an unsteady dose of opioids should be referenced with links to the latest DVLA guidelines.	Thank you for your comment. The NICE guideline on palliative care for adults: strong opioids for pain relief has been cross referenced, which addresses this issue.
British Association of Spine Surgeons	Guideline	General	General	Generally, the NG on MSCC was felt to be well written and clear in what it sets out to achieve. The consideration of non-neurologically compromised MSCC and non-compressive spinal metastases was welcome; as was the consideration of vertebral body augmentation, RFA and denosumab.	Thank you for your comment in support of this guidance.
British Association of Spine Surgeons	Guideline	General	General	It was felt, however, that the guidelines did result in the risk of increasing the load of urgent (<24 hour) referrals to a spine surgical service / MSCC coordinator by the inclusion of all potential symptoms as a responsibility for these services. Similarly, having a requirement for MSCC with neurology, MSCC without neurology and non-compressive metastases to be dealt with within the same time frames and pathways seems to be an unnecessary burden. Additionally the treatment algorithms are different for each subgroup. Could separate pathways be delineated in this NG rather than managing them all the same?	Thank you for your comment. The committee revised the wording of one of the recommendations related to a 24 hour timeframe to clarify that this was the window of time when advice should be sought from the MSCC coordinator. The committee felt that this was particularly important so that people needing urgent treatment are not missed. They also thought that such advice may also indicate that a one week timeframe for further action may then be appropriate. As such they did not think that this would significantly over-burden the system. With regards to different pathways for people with spinal metastases and people with MSCC, the committee agreed that a visual summary representing the recommendations made in the guideline would be helpful and have added this as a resource to the guideline.

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British Association of Spine Surgeons	Guideline	General	General	We attempt radical oncological surgery in order to improve life span not just to maintain ambulation and continence. This is the new fundamental difference in oncological spinal surgery that this document does not begin to address and in not leaving the door open for research could significantly impede progress. We must be careful that when a patient comes to us with symptomatic MSCC that they do not simply get a knee-jerk Patchell-esque palliative decompressive surgery as that in itself might be their death sentence when with a little bit of planning they could have oncological treatment and be disease free. We may inadvertently condemn them to palliative end of life care by not recognising the oligometastatic disease state. The danger is thinking that symptomatic surgery is the only indication for spinal intervention and that all we are doing is maintaining ambulation and continence for the last days of life as we are now able to offer much more.	Thank you for your comment. The committee agreed that spinal surgery should not be restricted to people with confirmed MSCC. They made a recommendation to 'consider invasive interventions' which was inclusive of people with 'spinal metastases who have pain not controlled by analgesia'. The committee also said that 'Before an invasive intervention is offered, make a treatment plan in discussion with the appropriate specialists (such as an oncologist and spinal surgeon) within the MSCC service multidisciplinary team...'. They noted that this would make it possible for oncological surgery to be performed in order to improve lifespan and not just to maintain ambulation whilst also safeguarding again knee-jerk palliative surgery. However, the committee decided that the condition should be symptomatic (at least related to pain) to justify the various invasive options. They therefore decided that their recommendations provided an opportunity for clinical judgement whilst also focusing on the safety of the person for whom this is considered. The committee also made a research recommendation on the effectiveness of surgery in the prevention of MSCC for people with spinal metastases without pain or instability with the aim to encourage further research in this area.
British Association of Spine Surgeons	Guideline	General	General	Some headings or categories that require consideration are these: Synchronous vs Metachronous Symptomatic vs Asymptomatic Metastatic vs Oligometastatic Low volume disease vs high volume disease Oligometastatic vs Oligoprogressive Abnormal neurology vs Normal Neurology	Thank you for your comment. The committee decided that the treatment field or fields would be the deciding factor rather than whether they are synchronous or metachronous tumours. The committee describes their reasoning around low or high volume disease in relation to oligometastases in the related rationale section in the radiotherapy section. Current commissioning is only related to oligometastatic rather than oligoprogressive disease and there was no evidence that is currently

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				Metastatic Spinal Cord Compression Metastatic Cauda Equina Compression	addressing this. So the committee decided that they were unable to comment on this. Abnormal versus normal neurology is described in the symptoms and signs in the recognition section of the guideline and is referred to frequently in recommendations. Metastatic spinal cord compression versus Cauda Equina compression is not mentioned because there was no specific evidence for Cauda Equina compression that matched the protocols. The committee were therefore unable to make this distinction. However, they recommended a person-centred approach with a personal treatment plan based on the input from all relevant experts. This would contain experts on Cauda Equina compression where necessary.
British Association of Spine Surgeons	Guideline	General	General	The guideline aims to improve early diagnosis and treatment to prevent neurological injury. Our aim in Cancer Treatment should be the aim of complete oncological treatment when possible. Radical treatment in conjunction with the right systemic therapy can lead to a complete "Disease Free State". This is why SRS (stereotactic radiosurgery) uses the terms "curative" in the description of what radio-oncology are trying to achieve. Should we be emphasising this with the statement: "The guideline aims to improve early diagnosis and treatment to prevent neurological injury and improve prognosis"	Thank you for your comment. The wording has been amended as suggested.
British Association of Spine Surgeons	Guideline	006	019	Radiation Oncology is a fundamental addition; someone well versed in SBRT, Proton and Carbon ion.	Thank you for your comment. The list is not intended to be exhaustive. The committee also believe that Radiation Oncology is covered by other bullet points in the list. For brevity this suggestion has not been included.
British Association	Guideline	008	015	Is this practical for the MSCC coordinator to be solely responsible for all of these actions? An education programme may be required.	Thank you for your comment. The committee believe that this is practical and that the MSCC coordinator will mostly be giving holistic advice on all these things rather

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of Spine Surgeons					than being responsible for the clinical details. This is why it was worded as 'initial' advice to indicate that further advice would be provided if needed. The economic model [Evidence review B, Appendix I] discusses training needs and acknowledges the need to upskill people to take on the MSCC co-ordinator role will have a cost. The committee were unsure if this was a new cost or a transferred one as clinicians already have time and budgets for professional development and training. Although the costs of upskilling the staff was not explicitly included in the model the committee did not believe it would alter conclusions. An extra paragraph has been added to the conclusions section of Evidence review B to make this more explicit. The section on 'How the recommendations might affect services' in the guideline has also been amended. NICE guidelines do not make recommendations about the content of education or training programmes as that is the remit of the various professional organisations.
British Association of Spine Surgeons	Guideline	009	022	MRI – responsibility for scanning should lie with referrer where possible including breaking into elective MRI lists. Tertiary centre scanning should be for emergent scans out of hours where the referrer has no out of hours scan access (as per CES guidance).	Thank you for your comment. Recommendations already say that imaging and initial assessment should be done at the local hospital where imaging is available (recommendation 1.5.2).
British Association of Spine Surgeons	Guideline	012	003	Supporting decision making when surgery is required is easy for the providers since the patients will be coming to the hospital. Assistance will be required to provide support particularly for those who are being denied surgery. Especially for those who may have had abnormal neurology for several days making decompressive surgery unlikely to be of help. Currently Hubs will not be providing support but will provide	Thank you for your comment. Recommendations 1.2.1 and 1.2.12 specify what information and support should be provided. They are not specific about where this information and support should be provided to enable flexibility in implementation to account for variation in local practice.

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				information in the form of a decision after an MDT or On Call decision.	
British Association of Spine Surgeons	Guideline	013	002	Supporting decision making when surgery is required is easy for the providers since the patients will be coming to the hospital. Assistance will be required to provide support particularly for those who are being denied surgery. Especially for those who may have had abnormal neurology for several days making decompressive surgery unlikely to be of help. Currently Hubs will not be providing support but will provide information in the form of a decision after an MDT or On Call decision. Further resources and guidance may be needed to support this (akin to outreach nurses for traumatic spinal cord injury).	Thank you for your comment. Recommendations 1.2.1 and 1.2.12 specify what information and support should be provided. They are not specific about where this information and support should be provided to enable flexibility in implementation to account for variation in local practice.
British Association of Spine Surgeons	Guideline	015	009	Consider adjusting to "new onset mechanical pain". "Claudication" is too vague as a sole factor for emergent assessment. It is rarely seen and never on its own if not due to chemo / other causes.	Thank you for your comment. The evidence was reviewed for symptoms or signs, individually or in combination, or validated clinical tools, that suggest the presence of spinal metastatic malignant disease or direct malignant infiltration of the spine (see evidence review D). Claudication did not have a very high prevalence but it had very high specificity (97.6%) and a good positive likelihood ratio (3.7). The committee therefore decided to include this (for a full discussion see 'the committee's discussion and interpretation of the evidence' section of evidence review D which is more detailed than the rationale section in the guideline). The committee listed mechanical pain in the box, but decided not to add 'new onset' because they thought that any mechanical pain could be a cause for concern.
British Association of Spine Surgeons	Guideline	015	009	Box 1 Should the symptoms suggesting cord compression be a separately referenced box mandating "same day assessment" and "oncological emergency" to make it obvious which symptom group is being	Thank you for your comment. During development of the guideline your suggestion was attempted but doing so made other parts of the guideline complicated to understand and the committee decided that it was

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				referenced as urgent. Also may be these should be the first group of symptoms to consider rather than the second group (ie swap box 1 and '2' around)	preferable to have all signs and symptoms in one place. However, the committee have discussed this again and agreed that there are two different pathways. They have now included 4 visual summaries (2 for spinal metastases and 2 for MSCC) which display the recommendations in the guideline visually, including the relevant signs and symptoms.
British Association of Spine Surgeons	Guideline	016	005	This statement will lead to a huge increase in urgent workload for the MSCC coordinator. Surely these symptoms need assessment and investigation to confirm metastases first rather than a direct referral to MSCC coordinator? Is this not a role for an urgent triage service? Or a pathway for 24 hr scanning organised by the concerned clinical team to then refer only positive scan patients onwards?	Thank you for your comment. The committee revised the wording of one of the recommendations related to a 24 hour timeframe to clarify that this is the window of time when advice should be sought from the MSCC coordinator. The committee felt that this was particularly important so that people needing urgent treatment are not missed. They also thought that such advice may also indicate that a one week timeframe for further action may then be appropriate. They therefore thought that this would not significantly over-burden the system.
British Association of Spine Surgeons	Guideline	016	005	Box 1 symptoms are too vague to reliably pick up non cord compressing metastases unless the panel has evidence that these symptoms are reliable as triage tools. 1.5.3 recommends scanning within 1 week for suspicious metastases without cord compression. The requirement for 24 hr referral for a suspicion that requires a scan within 1 week seems illogical.	Thank you for your comment. The symptoms listed in Box 1 are evidence based (see evidence review D). Recommendation 1.3.2 has been reworded to clarify that this refers to 'seeking advice' within 24 hours rather than 'referral'. The committee felt that this was important because this advice could also be related to other relevant topics such as optimal pain relief and other issues. There may also be uncertainty about the suspicion and missing signs or symptoms could have serious consequences, the committee noted it was important that contact with the MSCC coordinator should be made urgently even if this may be advice to have an MRI scan within one week.
British Association	Guideline	016	005	Additionally the implication from this section is that non-compressive metastases should be referred to the MSCC coordinator acutely (within 24 hrs) – why is that	Thank you for your comment. Recommendation 1.3.2 has been reworded to clarify that this refers to 'seeking advice' within 24 hours rather than 'referral'. The

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of Spine Surgeons				necessary? Again it will lead to a burden of work and time targets that are potentially not required. Non compressive metastases should not be referred out of hours (within 24 hours will encourage out of hours referrals). They should be assessed and decisions for treatment made but the 24 hr window for proven non compressive metastases is unreasonable.	committee felt that this was important because this advice could also be related to other relevant topics such as optimal pain relief and other issues. There may also be uncertainty about the suspicion and missing signs or symptoms could have serious consequences, the committee noted it was important that contact with the MSCC coordinator should be made urgently even if this may be advice to have an MRI scan within one week.
British Association of Spine Surgeons	Guideline	016	005	Is there a role for a completely separate pathway for non-cord compressing metastases and to limit the main focus of this NG to MSCC only?	Thank you for your comment. The committee decided that both spinal metastases and MSCC should be covered in this guideline because it brings all spinal expertise together in one MSCC service which would benefit people with these conditions and lead to better outcomes. The economic analysis related to service configuration was based on an audit of a service using the model. However the committee reflected on this and some other related stakeholder comments visual summaries of the guideline have been created which give an overview of key recommendations on assessment and management of spinal metastases and MCCC..
British Association of Spine Surgeons	Guideline	017	012	With respect to nursing supine with whole bed tilt up to 30 deg "as required" – do we actually need flat bed rest anymore? Early decision making is vital for patients and should be emphasised along with decision for commode / toilet privileges.	Thank you for your comment. The committee noted that flat bed rest was not needed for all and lying flat for prolonged periods should be discouraged. There was a lack of evidence on immobilisation to enable detailed recommendations on angles of elevation but the committee thought that the specific angle of partial elevation would depend on the person's comfort and preferences.
British Association	Guideline	019	013	CT TAP as a minimum for staging should be listed. Also consider adding that this should an urgent staging scan	Thank you for your comment. Imaging for the staging of cancer was outside the scope of this guideline. The committee noted this will depend for example on the

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of Spine Surgeons				to allow decision making within 24 hours. Should PET-CT be mentioned as a staging modality?	primary tumour type and is best covered in the tumour specific guidelines such as prostate, breast and lung cancer.
British Association of Spine Surgeons	Guideline	019	019	Isotope bone scan is still being used and should be explicitly discouraged as a primary investigation to identify spine metastases.	Thank you for your comment. Our literature searches did not identify evidence on isotope bone scans and the committee thought it was not appropriate to go into this level detail in the absence of evidence.
British Association of Spine Surgeons	Guideline	021	002	Orthotic advice can be valuable especially for custom made orthoses spanning more than one spine region. Brace treatment should be considered primarily in myeloma. Custom made CTLSO braces are often helpful in myeloma with sternal fractures.	Thank you for your comment and for providing this information. The committee agreed that in their experience custom braces can be helpful. They thought that specialists (such as radiotherapists) would best be able to advise on the local availability of orthoses (including custom ones) and so they recommended seeking advice from such specialists.
British Association of Spine Surgeons	Guideline	022	007	Other treatment options if suitable include: Cryotherapy Cryotherapy and cement Radiofrequency Ablation alone RFA and Cement augmentation RFA and surgery Radiotherapy: EBRT, IMRT, SRS, SBRT, Vertebroplasty, Kyphoplasty, Mechanical Kyphoplasty (ie Vertebral Stents)	Thank you for your comment. There was no evidence that was identified for cryotherapy. Vertebroplasty and Kyphoplasty are included in the invasive intervention section, but there was no evidence for mechanical Kyphoplasty. Without evidence they could not be incorporated in the economic model and it is therefore unclear whether this would be cost-effective. The committee could therefore not comment on this. Radiofrequency ablation on its own or as an adjunct has now been included because of the related two NICE interventional procedures guidelines that have been published during consultation of this guideline. The committee recognises that radiotherapy techniques are evolving but there was no evidence for some of the techniques mentioned (EBRT, IMRT and SRS) so the committee could not comment on these. However, SBRT was recommended in the guideline for certain groups of people for whom this would be suitable. The committee

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					therefore could not comment on all of these different techniques.
British Association of Spine Surgeons	Guideline	025	002	1.8.1; 1.8.2; 1.8.3 Could be slightly confusing – essentially the guidance is to give steroids in all cases of MSCC with neurology and all cases of diagnosed haematological malignancy; but NOT to suspected lymphoma or myeloma without neurology. Can the latter not just be written as an exclusion to the primary rule of give steroids?	Thank you for your comment. These recommendations have been reorganised as suggested.
British Association of Spine Surgeons	Guideline	026	015	NOMS framework and Bilsky scoring is used so often in clinical practice now that they merit mention. SORG is probably the best AI algorithm available.	Thank you for your comment. There were 2 evidence reviews related to tools. One related to tools to assess stability of the spine and the other was related to tools for prognosis. Neither the NOMS framework nor the Bilsky scoring system met the inclusion criteria. The NOMS framework is a decision framework related to treatment and the Bilsky scoring system is related to severity of the condition (as in staging) rather than to assess instability or prognosis. Therefore the evidence on these tools was not reviewed and the committee could not make recommendations on these. There was evidence for SORG but it was limited to one study and the committee decided that this was insufficient to explicitly recommend this. However, the committee acknowledged that there is research in this area and intentionally worded the recommendation 'use a validated prognostic scoring system with good evidence of accuracy' and provided an example of this. There is flexibility in the wording so that other validated accurate scoring systems can be used.
British Association of Spine Surgeons	Guideline	027	001	Should oncological (non-surgical) treatment options be considered in prognostication? Oncologists' input at this point is vital. Should this be stated?	Thank you for your comment. This section is specifically related to tools. However, the committee recognised tools should only be used as part of a full clinical assessment (including general health, pain and information from imaging) to support clinical decision

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				Other possible prognostic markers include albumin levels, platelet-lymphocyte ratio; neutrophil-lymphocyte ratio.	making. This could include consideration of other factors such as the input from an oncologist.
British Association of Spine Surgeons	Guideline	027	005	It should be emphasised that radiotherapy (RTX) can increase the risk of wound breakdown and consequent infection if surgery is to be considered at any point. RTX should be avoided until a clear decision not for surgery has been made for both MSCC and non-compressive metastases.	Thank you for your comment. The committee discussed this and recommended postoperative radiotherapy after the person has recovered from surgery for spinal metastases or MSCC. It is now clarified in the related rationale section that this should happen after the person has recovered from surgery for spinal metastases or MSCC, which is important to prevent adverse effects from radiotherapy such as wound breakdown and consequent infection.
British Association of Spine Surgeons	Guideline	029	008	The definition of oligometastases used is out dated. Up to 5 lesions is acceptable as OMD as long as there is curative intent for each lesion. Some papers cite no limit to number of metastases as long as metastatic disease control can be achieved. This includes an untreated primary lesion in some publications. (Guckenberger M et al Characterisation and classification of oligometastatic disease: a European Society for Radiotherapy and Oncology and European Organisation for Research and Treatment of Cancer consensus recommendation. Lancet Oncol. 2020 Jan;21(1):e18-e28). (Lievens Y et al Defining oligometastatic disease from a radiation oncology perspective: An ESTRO-ASTRO consensus document. Radiother Oncol. 2020 Jul;148:157-166). (Nugent et al. The oligometastatic paradigm and the role of radiotherapy. Clin Med (Lond). 2023 Jan;23(1):61-64). Consideration also needs to be given to Synchronous Metastatic disease vs Metachronous Metastatic disease.	Thank you for your comment. The committee decided to use the definition that is currently used in commissioning of stereotactic ablative body radiotherapy in the NHS. The committee considered the size of the field or fields to be more important than whether it is synchronous or metachronous and therefore specifically mention oligometastases in their recommendation. However, they did not explicitly recommend in favour or against either synchronous or metachronous metastatic disease to allow some clinical judgement. There was relatively little evidence on SABR for this population so it could not be recommended for everyone and so the committee also made a research recommendation. There was no evidence related to oligoprogressive disease and the committee therefore did not comment on this. There was also no evidence on cryotherapy or Proton or Carbon ion therapies , so they could not be added to the economic analysis and it was therefore unclear whether they would be cost-effective. The committee therefore could not recommend these. With regards to the references that were highlighted in relation to the definition of

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				Currently only Metachronous oligometastatic disease is commissioned for SBRT. However, Synchronous disease is frequently permitted when passed through an MDT or if the patient has insurance. The intention to treat paradigm of eg SARON studies shows that frequently in Canadian and UK trials, patients cross over because they fund their own SBRT. We should therefore ensure that our patients have the freedom to choose their treatments if it could be better whether it is surgery or Radiotherapy or a combination. It is NOT about symptom control anymore, it is about improving prognosis and survivorship. Furthermore, there is no mention of Oligoprogressive disease which is eligible for oncological treatment be it radiotherapy, RFA, cryotherapy or surgery. There may in fact be stable metastatic disease but only a single "oligoprogressive" metastatic spinal lesion that is deserving of treatment. Surgical treatment of asymptomatic metastases is established by Tomita and Boriani. We must not ignore this very important tool in our armamentarium. For example oligometastatic sarcoma should avoid having palliative decompressive surgery. Once the capsule of the sarcoma met is violated it causes the three A's: Agitation, acceleration and aggravation locally and afar by seeding. The treatment of choice is still probably en bloc if possible. SBRT, Proton or Carbon ion therapies will have roles and the latter two modalities haven't been mentioned.	oligometastases, the committee were aware of these and noted that this is an evolving clinical area. However, they felt that it was more important to consider what the practical definition currently is in the NHS (according to commissioning). The committee decided that it is important to discuss a treatment plan 'Before an invasive intervention is offered, make a treatment plan in discussion with the appropriate specialists (such as an oncologist and spinal surgeon) within the MSCC service multidisciplinary team' which would help tailor the treatment to the person including whether people with oligometastatic sarcoma should have it. They noted that they could not be otherwise prescriptive about every circumstance. The SARON trial was not included because the population was people with lung cancer rather than spinal metastases or MSCC. Tomita and Boriani were included (see evidence review M).
British Association of Spine Surgeons	Guideline	029	008	RTX is not the only treatment for OMD involving spine. If it is included here, should we not mention in the surgical section as well? Separation surgery with radiotherapy techniques is again fairly common place in clinical	Thank you for your comment. The committee have not said that radiotherapy is the only treatment for oligometastatic disease. However, it would depend on whether or not there is spinal instability or pain that is not

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				practice to treat a metastasis and lead to a disease free state.	controlled by analgesia, in which case an invasive intervention can also be considered. There was only evidence on post operative radiotherapy so the committee recommended that this should be done once the person has recovered from surgery.
British Association of Spine Surgeons	Guideline	029	013	Does the committee have guidance on the timing between surgery and radiotherapy; for example to prevent wound complications?	Thank you for your comment. The committee intentionally worded this as 'after the person has recovered from surgery for spinal metastases or MSCC' to not be prescriptive about the timing. The length of recovery time varies from person to person. However, to highlight this issue the committee added to the rationale section: 'This should happen after the person has recovered from surgery for spinal metastases or MSCC, which is important to prevent adverse effects from radiotherapy such as wound breakdown and consequent infection.'
British Association of Spine Surgeons	Guideline	031	007	Consider "…as the only factor to decide whether to offer surgical intervention". Although there is no published evidence that neurology does not improve for complete paralysis; it is shared clinical experience especially for sudden (presumably ischaemic) paralysis. Similarly there is no published evidence that operating regardless of duration / onset of paralysis *does* make a difference. The NG will drive more surgical referrals and potentially invasive procedures based on the committee's view which is not clearly based on evidence.	Thank you for your comment. The recommendation has been amended to include 'as the only factor' as suggested. The committee recommended several factors to take into account before invasive interventions are considered: 'Before an invasive intervention is offered, make a treatment plan in discussion with the appropriate specialists (such as an oncologist and spinal surgeon) within the MSCC service multidisciplinary team.' Another related recommendation is: 'Take into account the speed of onset and rate of progression of neurological symptoms and signs when determining the urgency of surgical intervention.' The committee thought rather than arbitrary time limits that are not evidence based, there should be treatment plans (which would consider prognosis) as well as other considerations about timing of treatment to make decisions about whether or not

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					invasive treatment is the best option even if there is complete paralysis.
British Association of Spine Surgeons	Guideline	031	007	Does the committee have a view on what group of patients are "suitable" for surgery?	Thank you for your comment. The committee recommended several factors to take into account before invasive interventions are considered: 'Before an invasive intervention is offered, make a treatment plan in discussion with the appropriate specialists (such as an oncologist and spinal surgeon) within the MSCC service multidisciplinary team.' Another related recommendation is: 'Take into account the speed of onset and rate of progression of neurological symptoms and signs when determining the urgency of surgical intervention.' The committee reflected on the wording and added 'as the only factor' to this recommendation as suggested by other stakeholders. The committee thought rather than arbitrary time limits that are not evidence based, there should be treatment plans (which would consider prognosis) as well as other considerations about timing of treatment to make decisions about whether or not invasive treatment is the best option even if there is complete paralysis. They decided that this would safeguard against all paralysed people being offered surgery but it also means that it is not withheld purely by reason of timing.
British Association of Spine Surgeons	Guideline	031	012	Although both RFA and SBRT are mentioned briefly – should SBRT not be mentioned at least as a consideration for research for local control and not just for pain? Also not just limited to post-operative use. Although more a research question; SBRT has been shown to have superiority in oligometastatic disease (OMD) and its use for spine is progressing rapidly.	Thank you for your comment. The committee were aware that SBRT is an evolving area of practice. The NICE interventional procedures guidelines for RFA have now been published and have since been incorporated as an option that can be used. The committee knew of ongoing general research related to SABR but thought that there was a particular gap for post-operative SABR so they wanted to specifically encourage research on this topic. NICE has a surveillance programme and this has been

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					raised with them so that new research can be incorporated quickly if new evidence would support a change in what is recommended now.
British Association of Spine Surgeons	Guideline	031	018	If VBA techniques are to be used in isolation; stability or relative stability should be confirmed. Do mechanical kyphoplasties (eg spine jack) and vertebral body stents need mention specifically?	Thank you for your comment. The recommendation was revised to state that VBA could be used alone or in combination with surgical stabilisation if needed. There was no evidence for mechanical kyphoplasty and vertebral body stents so they could not be added to the economic analysis and it is therefore unclear whether they would be cost effective options. The committee therefore could not comment on this.
British Association of Spine Surgeons	Guideline	032	007	Consider adding vertebroplasty / kyphoplasty in conjunction with surgical decompression / stabilisation of the spine.	Thank you for your comment. The committee decided to add 'alone or in combination' to this recommendation to address that these can be combined with surgical stabilisation.
British Association of Spine Surgeons	Guideline	032	007	Does use of radiotherapy friendly implants need to be mentioned in this section (e.g. carbon fibre constructs)?	Thank you for your comment. There was no evidence for radiotherapy friendly implants. The committee discussed that these are a fairly new and costly option. Without evidence it was not possible to add them to the economic model and assess their cost-effectiveness. The committee therefore could not comment on this in the guideline.
British Association of Spine Surgeons	Guideline	032	016	Not sure halo-vest is appropriate in these patients; is it for life?	Thank you for your comment. In the rationale the committee stated 'If surgery cannot be performed because of the prognosis or other factors, the only other possibility of stabilisation is external spinal support to attempt to prevent collapse of the spine. No evidence was identified for this but the committee decided that this would be the only option available and should be offered.' They were not prescriptive about this having to be a 'halo vest' but gave it as an example of an external spinal support that could be used.

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British Association of Spine Surgeons	Guideline Recommendations for research	035	010	Although both RFA and SBRT are mentioned briefly – should SBRT not be mentioned at least as a consideration for research for local control and not just for pain? Also not just limited to post-operative use. Although more a research question; SBRT has been shown to have superiority in oligometastatic disease (OMD) and its use for spine is progressing rapidly. RFA also is useful for local control. RFA may be more accessible than SBRT with current commissioning guidelines; as may cryotherapy, combined regimen including surgery. We would strongly urge the committee to create language that will allow a variety of treatments to be utilised for symptomatic and asymptomatic metastases of the spine both synchronous and metachronous, oligometastic and oligoprogressive. Radiotherapy Post operative SBRT or SABR is not something that we chose over EBRT or even IMRT. It works the other way around. If Oncology have a patient with low volume disease or metachronous oligometastatic disease and there is a Bilsky 1C grading or higher than that patient is entitled to SBRT to deliver radical oncological treatment and maximum local control potentially leading to a disease free state. Bilsky 1a and 1b will most likely bypass Spinal Surgeons altogether, however they must be absolutely aware that Stereotactic Radiosurgery (SRS) exists so that they can refer this to their local SBRT MDT if it comes across their own MDT.	Thank you for your comment. The committee were aware that there is ongoing research into SABR and therefore focused their research area on a specific aspect of this topic to encourage work in this area. RFA has now been included because the NICE interventional procedures guideline have been published and could be cross-referred to. There was no evidence for cryotherapy and the committee could therefore not comment on this. There was also no evidence on EBRT and IMRT and the committee could therefore not comment on this. The evidence was restricted to post-operative radiotherapy and therefore the committee recommended this for this purpose. The committee were aware that the use of SABR is progressing rapidly but that the evidence has not quite kept up with this. They could therefore not recommend this to be done routinely for all. Where possible the committee have already used wording that is flexible and now have added 'alone or in combination' to one of the recommendations in the invasive intervention section (in relation to vertebroplasty and kyphoplasty, RFA and other options) to make this more flexible. There was no evidence on different treatments divided by synchronous or metachronous metastases or oligoprogressive disease. The committee therefore did not comment on this but left it open to clinical MDT decision making to make a treatment plan. They also noted that some of these categories are not mutually exclusive which would make divisions into those more difficult. The committee did not recommend Bilsky categories because they did not look for evidence for this. The looked for evidence on tools to assess instability and tools for prognosis and Bilsky is a tool designed for severity and treatment. The committee

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				If SRS for whatever reason is not available – ie it may be synchronous disease, then the surgeons should be considering Tomita en bloc spondylectomy and work their way down the surgical sieve. it is not spinal surgeons who will decide on whether SBRT vs EBRT is more effective and therefore the notion of this as a research question is misplaced. 2. Immobilization Much of the work on Custom TLSO will come from Sean Molloy in RNOH and in particular their work on Myeloma and other haematological disease. Incorporating their British journal of haematology 2015 algorithms at least for haematological disease might be helpful. 3. Surgery to prevent MSCC – The question is relevant if we are talking about oligometastatic disease because these are the fit healthy people with limited disease that you want to operate on, - not because you are trying to prevent MSCC not because you are trying to preserve ambulation or continence BUT because you are trying to eradicate disease and improve prognosis. "Intervention" to prevent MSCC could be a better question. A Bilsky 1a or 1b that could have SBRT, IMRT, RFA or Cryotherapy regardless of whether they are oligometastatic or not is a useful question. We must not forget that metastases everywhere else in the body are usually asymptomatic but aggressively resected or ablated particularly in oligometastic disease states and the Spine should be no different.	decided that treatment should be tailored to the person, their condition and circumstances as well as their preferences and that the treatment can be planned with the input from all relevant MDT members. These discussions could include features that are part of the Bilsky scoring system but may also take into account other factors based on discussions with the person and other experts. There are a multitude of factors that could affect treatment options and the committee did not want to commit themselves to use a score to determine something that is complex and depends on clinical judgment. With regards to immobilisation we could not incorporate the algorithm by Sean Molloy because the evidence it was based on did not fit our guideline's inclusion criteria. When it comes to external spinal support such as TLSO the committee made a recommendation that this could be offered when surgery is not suitable and pain is not controlled by analgesia. This was seen as the only option even if evidence was lacking. It was unclear whether surgery could be used in the prevention of MSCC and the committee thought that this was a very important question so they prioritised this for further research. NICE has a surveillance programme and if there is further evidence emerging on any of the mentioned techniques such as cryotherapy would be picked up and considered for future updates.

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British Association of Spine Surgeons	Guideline Rationale and impact	068	026	Collapsing spine does not seem an accurate term in this group of patients. What specifically was the committee considering? Is this about instability in patients that are paralysed? Does the prognosis for this group of patients generally merit aggressive invasive surgical options?	Thank you for your comment. This has been reworded to indicate that this is to prevent the spine becoming more unstable.
Cheshire and Merseyside Cancer Alliance	Guideline	General	General	Will there no longer be a graded lie to sit with MSCC at set angles over set timescales to achieve mobility now? It reads to sit them up 'gradually' checking BP and neuro but no specification over what kind of timescale therefore this could be done more quickly than previously recommended?	Thank you for your comment. There was a lack of evidence on immobilisation to enable detailed recommendations on the timing or angular steps of graded sit to lie. The committee discussed that what was important was gradual increase in mobility while continually monitoring the persons neurological symptoms and pain, as well as blood pressure if needed. They thought that the timescale would be guided by the person's symptoms and pain during gradual mobilisation.
Cheshire and Merseyside Cancer Alliance	Guideline	General	General	From an assessment point of view, is anal tone still a recommended objective assessment? DRE has been removed from the GIRFT CES guidance and wondered if the CG-75 guidance would be similar?	Thank you for your comment. Bladder or bowel dysfunction is one of the symptoms that the committee highlighted but the details of how this is assessed is outside the remit of this guideline.
Cheshire and Merseyside Cancer Alliance	Guideline	General	General	Could there be consideration to the recent publication: Randomized Phase II Trial Shows Benefits of Prophylactic Radiation Therapy for Asymptomatic Bone Metastases- The use of prophylactic radiation therapy for patients with metastatic cancer who had asymptomatic, high-risk bone metastases reduced the incidence of skeletal-related events, reduced pain and the number of hospitalizations, and was associated with significantly longer overall survival compared with patients who did not receive radiotherapy. These findings are from a multicenter, randomized phase II study, which was presented at the 2022 American Society for Radiation Oncology (ASTRO) Annual Meeting. REFERENCE	Thank you for your comment. The Gillespie (2022) study was not considered for inclusion because so far it has only been published as a conference abstract, and so would not have met our inclusion criteria. We will pass your comment to the NICE surveillance team which monitors guidelines to ensure that they are up to date.

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				1. Gillespie EF, Mathis NJ, Marine C, et al: Prophylactic radiation therapy vs. standard-of-care for patients with high-risk, asymptomatic bone metastases: A multicenter, randomized phase II trial. 2022 ASTRO Annual Meeting. Abstract LBA 04. Presented October 23, 2022.	
Cheshire and Merseyside Cancer Alliance	Guideline	General	General	Can there be clearer inclusion/recognition of the pivotal role of Acute Oncology Services with a coordinated MSCC Service. The role of Acute Oncology Services in MSCC Message: AOS are key stakeholders in the MSCC pathway and are responsible for MSCC Quality Surveillance Specifically, *Feedback from Specialist MSCC services highlight that the quality of care is enhanced by initial AOS assessment and reduces inappropriate inter hospital – transfer.* o AOS Provide expert assessment of MSCC patients and support decision making for fitness to transfer and eligibility for specific therapy. As part of this assessment, AO act as initial key worker and complete an HNA at the point of diagnosis. *Feedback from Specialist MSCC services highlight that the quality of care following treatment and repatriation is enhanced by follow up AOS assessment and supports supported early discharge.*	Thank you for your comment. The committee agree with the points made around acute oncology and their importance in the care of people with MSCC. Acute oncology has been added as a bullet point on the list of specialities for the MDT to reinforce the integral part they play in the MSCC pathway.

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				○ AOS frequently provide a key worker role for those patients repatriated to Acute beds, following definitive treatment at the specialist centres. AOS support patient care and decision making with therapies /SPCT and are typically the lead team for coordinating further investigation for MUO *AOS are responsible for quality of care as determined by QS, typically acting as local MSCC lead and accountable via annual QS* • MSCC governance should sit within Alliance AOS *AOS is key service to support and coordinate admission avoidance and supported early discharge for MSCC patients.* ○ Increasingly patient cohorts with suspected MSCC/spinal metastases will be eligible for SDEC as part of national urgent care strategy. AOS are key to leading on service improvement that maximising the time MSCC patients spend at home. **Conclusion:** NICE Guidance and associated recommendations should recognise the unique role of AOS in MSCC services and reinforce the requirement that all suspected MSCC should be reviewed by AOS to support decision making from the outset. Recognition is required that the 7 day	

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				AOS is an integral component of a high quality MSCC service.	
Christie NHS Foundation Trust	Guideline	General	General	I want to comment on the removal of the recommendation of clinicians providing information to patients who are at possible risk of MSCC. As an organisation this is an aspect that we have audited against and found practice in some areas to be poor. The existence of the recommendation has provided justification for the need to improve information giving practices regarding this aspect. With its removal from the guidelines, I suspect practice will again decline.	Thank you for your comment. The population in the scope of this guideline is people with suspected or confirmed spinal metastases, direct malignant infiltration of the spine or MSCC. The committee therefore focused on people with a past or current diagnosis of cancer presenting with low back pain for information on what symptoms to look out for. There are a group of people with other primary cancers (covered in other NICE guidelines) that may be at risk of developing MSCC and providing information about MSCC would be in the remit of those guidelines rather than this one as that is where treating clinicians would be looking for advice.
Christie NHS Foundation Trust	Guideline	General	General	There is no clear definition of MSCC or impending MSCC in the guidelines. We would recommend reference to the epidural spinal cord compression (ESCC) classification by Bilsky et all 2010.	Thank you for your comment. The Bilsky scale, is used to assess the degree to which vertebral body metastasis compromises the spinal canal, and whether cord compression is present. The tools that were investigated within the scope of the guideline were for the purpose of the assessment of spinal instability or prognosis. The Bilsky scale did not meet inclusion criteria because it did not fall into either of these categories. The committee felt that it was important to define the symptoms and how to assess the spine as well as timescales associated with this rather than give a definition of MSCC.
Christie NHS Foundation Trust	Guideline	004	003 - 005	This implies spinal mets and MSCC follow the same pathway and opens the referrals process for the referral for any spinal met to the MSCC service. This will result in the current service breaking down and may have adverse effect on the existing MSCC pathway. What is expected of a non-MSCC referral? In most instances it is a non-critical non time dependent condition and we would	Thank you for your comment. Whilst the committee believed both groups should be referred to an MSCC service there will be differences with regards to urgency. Based on this referral could follow different pathways. Recommendation 1.1.5 now signposts to recommendations around urgency and explicitly sets out this distinction.

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				strongly urge that another pathway is developed to deal with this non-critical condition rather than lumping it together with MSCC referrals. The title of the guideline also implies there is one pathway for both.	
Christie NHS Foundation Trust	Guideline	004	019 - 020	It isn't clear if the lead for MSCC mentioned here is the MSCC coordinator or someone else?	Thank you for your comment. The committee did not want to be prescriptive about who should take this role. Whilst it could be the MSCC coordinator some centres may want to appoint another professional to the role.
Christie NHS Foundation Trust	Guideline	005	026 - 027	Given the short prognosis of MSCC, it is likely to be very difficult to find a patient representative. Could this section be reworded to "Includes, where possible,...."	Thank you for your comment. People with lived experience is inclusive of people with experience of having MSCC as well as their carers. The committee believes such groups are an integral part of any steering group and were keen to emphasise all efforts should be made to recruit to this position. Adding 'where possible' was thought to weaken this point.
Christie NHS Foundation Trust	Guideline	006	002 - 004	Does the evidence indicate that is it essential for all suspected MSCC patients to be referred to the MSCC coordinator? Our service has clear local pathways and polices, and regular education which ensures in most cases, the clinician in secondary care can initiate the MSCC pathway and achieve a prompt diagnosis, before referral to the MSCC coordinator is required for more expert advice on management/treatment for MSCC. The MSCC coordinator is always available to give advice at the point of suspicion of MSCC if this is required by the reviewing clinician, but in most cases it is not. Local acute oncology teams also play a key role in initial management before referral to the MSCC coordinator with confirmed MSCC. Referring every patient at the point of suspicion of MSCC will increase the coordinator's workload as they will have to follow up on	Thank you for your comment. The committee decided that such a configuration would bring all the relevant expertise together to have spinal oversight. This would benefit people with the condition and improve outcomes. Changes have been made to the document, particularly in the 'How the recommendations might affect services' of the 'rationale and impact' sections. In these changes it is explicitly described that this is a change in practice and will increase activities within such services (see for example the 'how the recommendations affect services' section related to 'Providing a coordinated MSCC and spinal metastases service'). Another section has been amended to clarify that advice from the MSCC coordinator should be sought within 24 hours - this is not a referral but contact to obtain information which could mean that action within a different timeframe, such as one week, could be acceptable. Changes have been

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				those patients who did not have MSCC before discharging them from the MSCC service.	made to 'How the recommendations affect services' in the 'rationale and impact' section to clarify that this is a change to current practice and outlined why this is justified: 'This means that the new recommendations will increase activities of the role of the MSCC coordinator significantly. This would include dealing with and coordinating more referrals and giving more initial advice. However, the committee noted that having this early input would also mean that the level of urgency can be more clearly assessed and the service is better coordinated which would lead to better outcomes. This might mean that existing staff will need to be upskilled to cover this role, but the committee thought it was likely that downstream savings from implementing a coordinated MSCC service, would likely offset any additional training costs
Christie NHS Foundation Trust	Guideline	007	007 - 011	In our experience, once the treatment decision has been made and treatment completed, the MSCC service step back to coordinate new referrals. We are however confident that we have a system in place and links to ensure safe discharge and liaison with appropriate services; ensuring we are compliant with this guidance.	Thank you for your comment. It is good to hear that this recommendation seems to be achievable.
Christie NHS Foundation Trust	Guideline	014	012 - 019	Unfortunately, very patchy services, probably not only in the GM Cancer Network but nationally too.	Thank you for your comment. The evidence showed that some people felt not all their needs were met upon discharge from hospital which implies that services are variable. The committee made the recommendations with the aim to standardise care and improve the situation.
Christie NHS Foundation Trust	Guideline	015	009	We would advise adding 'new' pain, 'different' in character to any previous back pain: A qualitative investigation of Red Flags for serious spinal pathology - Physiotherapy (physiotherapyjournal.com)	Thank you for your comment. The committee discussed your suggestions and revisited the evidence review to check whether they were reported (see evidence review D). There was no evidence identified for these.

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				Developing an early alert system for metastatic spinal cord compression (MSCC): Red Flag credit cards - PubMed (nih.gov)	
Christie NHS Foundation Trust	Guideline	016	008 - 014	Is this practical to expect the all these skills of the MSCC co-ordinator or clinical oncology reg? Could it maybe include advice on who to contact regarding…	Thank you for your comment. The committee believe that this is practical and that the MSCC coordinator will mostly be giving holistic advice on all these things rather than being responsible for the clinical details. That is why they have worded this as discuss 'initial' care to indicate that further discussions would take place.
Christie NHS Foundation Trust	Guideline	016	005 - 007	As per comment 2, referral of all spinal mets through the MSCC service would be detrimental to the management of MSCC.	Thank you for your comment. The committee decided that such a configuration would bring all the relevant expertise together to have spinal oversight and that in practice many of the current MSCC services already provide advice relevant to spinal metastases. Changes have been made to the document, particularly in the 'How the recommendations might affect services' of the 'rationale and impact' sections. In these changes it is explicitly described that this is a change in practice and will increase activities within such services (see for example the 'how the recommendations affect services' section related to 'Providing a coordinated MSCC and spinal metastases service'). Whilst this would lead to reconfiguration of already existing services to accommodate these pathways for spinal metastases as well as MSCC with associated implementation costs the economic model was based on a service that has already implemented this in their service and found that it improved outcomes. The economic analysis showed that costs decreased per person since the creation of the service and noted that implementation costs should be regained over the first few years of a newly set up service. NICE is in the process of drafting an

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					implementation plan that aims to provide support to clinicians through the use of shared tools and resources.
Christie NHS Foundation Trust	Guideline	018	011 - 012	MRI scan should be done at the local hospital even if it means interrupting their existing elective scanning lists (i.e. at weekends). Tertiary transfers for scans should only be undertaken if scan is deemed urgent and the local referring hospital has no facility for out of hours scanning.	Thank you for your comment. The committee discussed that in people with suspected MSCC if local MRI was not possible (within 24 hours) then transfer to a tertiary centre for MRI was appropriate. The committee thought that local scheduling of elective and emergency MRI was not an issue specific to spinal cord compression and was outside the scope of our recommendations
Christie NHS Foundation Trust	Guideline	018	014 - 015	Could it be added here that patients with MR compatible pacemakers may need to be transferred to a centre with cardiology support for MR and this requires a local pathway to be in place if cardiology is not available on site?	Thank you for your comment. The issue of MRI compatible pacemakers, although important, is not specific to spinal cord metastasis/compression. The committee thought that such detail would be covered by safety guidelines for clinical use of MRI which should be in place locally.
Christie NHS Foundation Trust	Guideline	018	020 - 021	If this is referring to weekends, it seems an irrelevant statement, as it is always urgent if we are suspecting MSCC. We wouldn't wait until Monday. I understand the statement if it is just referring to overnight. Would it be possible to clarify that in the guidance?	Thank you for your comment. The recommendation has been changed as suggested to make it clear this refers to overnight MRI.
Christie NHS Foundation Trust	Guideline	018	006	Should include the Bilsky ESCC score. Could adding the spinal instability neoplastic score (SINS) to the report also be considered?	Thank you for your comment. The committee did not review evidence for scores to grade the degree of MSCC on radiological imaging (such as the Bilsky score) so were unable to make recommendations on its use. The SINS score was reviewed as part of the review on tools to predict spinal stability and so it was included in recommendation 1.9.1
Christie NHS Foundation Trust	Guideline	021	002	Should also include seeking advice form an orthotist as many hospitals rely on orthotists to assess/provide orthoses not physiotherapists.	Thank you for your comment. The physiotherapist is listed as an example and the list is not exhaustive. The committee agreed that various healthcare professionals could provide this advice, including orthotists.

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Christie NHS Foundation Trust	Guideline	026	004	If a patient has MSCC with no neurological deficit and they are for radiotherapy, is starting steroids then recommended? This isn't clear.	Thank you for your comment. The recommendation has been changed to indicate that on starting of radiotherapy, the dose should be reduced gradually until stopped.
Christie NHS Foundation Trust	Guideline	027	006 - 012	Should this section also promote honest discussions about prognosis with the patient, as this is likely to play a key role when deciding whether to pursue fertility treatment?	Thank you for your comment. The committee reflected on this and thought that discussions should be tailored to the individual. The details of fertility considerations (including all factors that should be discussed) for people with spinal metastases or MSCC are outside the scope of this guideline.
Christie NHS Foundation Trust	Guideline	028	018 - 019	Have other indications for multiple fractions of radiotherapy for MSCC been considered and ruled out? This isn't clear.	Thank you for your comment. The focus of this recommendation is in the stem of the wording related to 'people at high risk of side effects from radiation' and examples are given for this. The committee have not ruled out that there are other reasons why someone may be at high risk of side effects from radiation so there is room for clinical judgment.
Christie NHS Foundation Trust	Guideline	028	010	We feel the invasive interventions sections should come before this radiotherapy section so it is clear to the reader that surgery should be considered first for MSCC in those patients with good PS and prognosis, and that surgery after radiotherapy poses additional risks such as wound breakdown.	Thank you for your comment. The committee decided that the treatment plan would not always consider surgery first and radiotherapy could be a first line treatment option, too. They therefore decided to leave the order as is.
Christie NHS Foundation Trust	Guideline	029	010 - 011	Does this mean if a patient has impending compression from an intradural tumour but no symptoms, there is no indication for radiotherapy? Or is that outside the scope of this document?	Thank you for your comment. 'Intradural tumour' has been added to the recommendation to clarify this.
Christie NHS Foundation Trust	Guideline	031	007 - 008	What is the evidence to support performing spinal surgery in patients who are not ambulatory due to paralysis? This statement will result in paralysed patients being offered surgery resulting in prolonged hospital stay	Thank you for your comment. The committee recommended several factors to take into account before invasive interventions are considered: 'Before an invasive intervention is offered, make a treatment plan in

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				and delay in their oncological treatment. Risk of wound break down is approximately 20% in MSCC patients who have undergone spinal surgery. In addition to all the other complications of prolonged surgery.	discussion with the appropriate specialists (such as an oncologist and spinal surgeon) within the MSCC service multidisciplinary team.' Another related recommendation is: 'Take into account the speed of onset and rate of progression of neurological symptoms and signs when determining the urgency of surgical intervention.' The committee reflected on the wording and added 'as the only factor' to this recommendation as suggested by other stakeholders. The committee thought rather than arbitrary time limits that are not evidence based, there should be treatment plans (which would consider prognosis) as well as other considerations about timing of treatment to make decisions about whether or not invasive treatment is the best option even if there is complete paralysis. They decided that this would safeguard against all paralysed people being offered surgery but it also means that it is not withheld purely by reason of timing.
Christie NHS Foundation Trust	Guideline	032	001 - 003	This seems to suggest use of Vertebroplasty or Kyphoplasty as a standalone treatment in the presence of spinal instability. That in our opinion will cause further problems and potentially result in neurological deficit because standalone cement augmentation does NOT restore spinal stability.	Thank you for your comment. The committee decided to add 'alone or in combination' to this recommendation to address this.
Christie NHS Foundation Trust	Guideline	032	015	We agree that spinal surgery could be offered in selected patient with irreversible neurological deficit with intractable pain due to instability however the following statement is ambiguous: 'is able to have surgery and it is suitable for them'. What does the guideline panel feel are criteria that would be 'suitable'?	Thank you for your comment. The committee decided that they could not be more specific than this because it would be suitable when it would improve prognosis and improve quality of life (which they have now clarified in the related rationale and impact section). They also recommended elsewhere: 'Before an invasive intervention is offered, make a treatment plan in discussion with the appropriate specialists (such as an

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					oncologist and spinal surgeon) within the MSCC service multidisciplinary team.' The reasons for this are described in the rationale section and relate directly to discussions about suitability: 'The committee noted that there are many different factors to consider that may impact on the success of surgical interventions. These include overall fitness for surgery, but also prognosis and issues related to primary cancer type and stage. To ensure that all relevant information is taken into account and to make decisions more efficient, the committee recommended that discussions should take place before surgery is offered, between people from the appropriate specialties within the multidisciplinary team in the MSCC service. This would usually include the oncologist and spinal surgeon but could also draw on other people's expertise where necessary.'
Christie NHS Foundation Trust	Guideline	038	012 - 015	The GM MSCC Coordinator Service data also supports this. There was a significant improvement in the median survival of our surgical patients following the establishment of the MSCC service and working partnership with the spinal unit at Salford Royal NHS Foundation Trust. Currently unpublished data but we can share if helpful.	Thank you for your comment and your offer to share data. It is good to hear that the recommended configuration of service has led to improvements in other similar services, too.
Christie NHS Foundation Trust	Guideline	041	003 - 009	This is not accurate. There will be a significant change to the MSCC service with the addition of referrals for non-compressive metastasis. Referrals will increase drastically, and resources would have to be increased to match this.	Thank you for your comment. This section has been extensively revised to clarify that this will be a significant change to current practice.
Christie NHS	Guideline	047	024 - 026	As per comment 5, in our MSCC service we have helped local hospitals to develop their guidelines to ensure prompt diagnosis, without the direct involvement of the	Thank you for your comment. The committee decided that such a configuration would bring all the relevant expertise together to have spinal oversight and that in

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Foundation Trust				MSCC team. We can be contacted for advice if required. This would add further workload to our service.	practice many of the current MSCC services already provide advice relevant to spinal metastases. Changes have been made to the document, particularly in the 'How the recommendations might affect services' of the 'rationale and impact' sections. In these changes it is explicitly described that this is a change in practice and will increase activities within such services (see for example the 'how the recommendations affect services' section related to 'Providing a coordinated MSCC and spinal metastases service'). Whilst this would lead to reconfiguration of already existing services to accommodate these pathways for spinal metastases as well as MSCC with associated implementation costs the economic model was based on a service that has already implemented this in their service and found that it improved outcomes. The economic analysis showed that costs decreased per person since the creation of the service and noted that implementation costs should be regained over the first few years of a newly set up service.
Christie NHS Foundation Trust	Guideline	048	012 - 016	We agree that patients at risk of MSCC should be given information, but this statement here is not reflected in the main guidance above.	Thank you for your comment. This paragraph refers to 'people with a past or current diagnosis of cancer with low back pain but no clinical evidence of spinal metastases or MSCC' which is what is reflected in the associated recommendation.
Christie NHS Foundation Trust	Guideline	068	024 - 026	The term 'collapse of the spine' is not a recognised spinal surgical term. If spinal surgery is to prevent 'collapse' of the spine in patients who have established irreversible paralysis, then what stops surgeons from instrumenting the spine from the occiput to the pelvis in cases of multilevel large spinal metastasis? I really think operating on patients with established neurological deficit is against the principles of do no harm. In our opinion this	Thank you for your comment. This has been reworded to indicate that this is to prevent the spine becoming more unstable. The committee decided that surgical stabilisation can be of benefit and ought to be an option that should be considered after 'a treatment plan is made in discussion with the appropriate specialists (such as an oncologist and spinal surgeon) within the MSCC service multidisciplinary team'. It is therefore not something that

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				statement will result in several patients being subject to unnecessary surgery. We agree if there is an established pathological fracture and mechanical pain is not being controlled then selected patients may benefit with limited spinal stabilisation	will be routinely provided to all but is tailored to the needs of the person.
Connect Health	Guideline	004	012	The clear and detailed guidance on a need for a referral pathway that is developed, implemented, and kept up to date is welcomed and appropriate.	Thank you for your comment in support of this guidance.
Connect Health	Guideline	005	001	The involvement and acknowledgement of providers that interact with the pathway is clearly specified.	Thank you for your comment in support of this guidance.
Connect Health	Guideline	005	014	The gap between primary care and secondary care is not acknowledged throughout the guideline. This gap is known as the "community" and where a vast number of services are provided where MSCC patients may first repent e.g. .MSK services. Given changes to primary care (self-referral, FCP, diagnostic access) these patients may not be seen In primary care. Therefore, community services should be involved and considered at all stages.	Thank you for your comment. Community care has been added to recommendation 1.1.3 to ensure this group of people are represented.
Connect Health	Guideline	006	006	Welcomed detail on who and where the MSCC co-ordinator is to be placed within the service set up.	Thank you for your comment in support of this guidance.
Connect Health	Guideline	012	001	The personalised care and shared decision making is clear, and welcomed throughout the guideline.	Thank you for your comment in support of this guidance.
Connect Health	Guideline	015	009	The evidence supporting the validity and utility of 'red flags' is lacking for those factors we historically would look out for with an array of issues e.g. false positives. This needs to be considered alongside anxiety that can occur for patients for patients considered within these pathways. A statement of consideration of evidence to inform which red flags have been chosen/not chosen and why; as well	Thank you for your comment. The evidence was reviewed for symptoms or signs, individually or in combination, or validated clinical tools, that suggest the presence of spinal metastatic malignant disease or direct malignant infiltration of the spine (see evidence review D). For a full discussion see 'the committee's discussion and interpretation of the evidence' section of evidence review D. This has been revised to mention anxiety and distress that could be caused by false positive

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				as acknowledging the consideration of false positives/undue anxiety would be welcomed.	classification but that the committee agreed that it is better to have further investigations so that false positives can be corrected (with the reassurance this would bring) rather than missing people.
Connect Health	Guideline	016	019	Good detail throughout this section for what action to take in a time contingent manner including those without a past/current Ca diagnosis. An image here would be welcomed in algorithm/flow format to enable implementation.	Thank you for your comment in support of this guideline. Four visual summaries have now been included (2 for spinal metastases and 2 for MSCC).
East of England Cancer Alliances	Guideline	General	General	Although this is a guidance around MSCC risk assessment etc, there is very little around warning patients at risk of spinal metastases in higher risk cancers – our Alliance has been writing updated patient information that accompanies a credit card sized Alert card to be given to all patient groups where we know there is a higher risk of developing MSCC such as lung, myeloma, renal, breast .. we feel this could be supported within this document.	Thank you for your comment. The population in the scope of this guideline is people with suspected or confirmed spinal metastases, direct malignant infiltration of the spine or MSCC. The committee therefore focused on people with a past or current diagnosis of cancer presenting with low back pain for information on what symptoms to look out for. There are a group of people with other primary cancers (covered in other NICE guidelines) that may be at risk of developing MSCC and providing information about MSCC would be in the remit of those guidelines rather than this one as that is where treating clinicians would be looking for advice.
East of England Cancer Alliances	Guideline	General	General	It was also felt that this would be an opportunity to include recommendations on bowel care as this is frequently not addressed for patients.	Thank you for your comment. There are a number of detailed recommendations related to bowel care in other existing NICE guidelines and an evidence review related to this was therefore outside the scope of this update. Cross references to the relevant sections of related NICE guidelines have been made in recommendation 1.12.5.
East of England Cancer Alliances	Guideline	006	005 - 007	This is more clearly defined than in the previous document; the MSCCC rota should be made available to A&E and other primary providers, and perhaps to radiology services as well?	Thank you for your comment. The committee did not think it would be feasible or efficient to distribute a rota to all primary providers and other relevant parties on a weekly basis. The guideline already recommends a designated point of contact for the MSCC service which should be known by relevant centres. Hospital

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					switchboards should also be able to signpost people to the relevant contact.
East of England Cancer Alliances	Guideline	007	003 - 006	This will probably require additional senior nursing staff – will any funding be earmarked towards this?	Thank you for your comment. This point of contact could be a single phone number rather than a particular person. The committee do not believe there will be an increase in resource need from these recommendations.
East of England Cancer Alliances	Guideline	008	002 - 014	This suggests the need for a central database – will that be for each network to arrange, or are there plans for a national one?	Thank you for your comment. The committee do not necessarily agree that this recommendation suggests a central national database. The bespoke economic evaluation for this topic identified cost savings from more efficient coordinated services. Having easily accessible information is an important part of this to avoid duplication and delays in gathering information. It will be for individual centres to decide how best to achieve this.
East of England Cancer Alliances	Guideline	009	001 - 015	Do timeframes need to be defined?	The committee were keen that care was personalised and that people were not shoehorned into emergency pathways where this was not appropriate. For non-emergency cases it is important that appropriate time is taken to consider all possible treatment options including systemic treatment and SABR. Time frames are already in a number of recommendations where need is most urgent. For other people timeframes should be patient led by severity and preferred treatment options. Text has been added to evidence review A around where and why timeframes have been discussed or not.
East of England Cancer Alliances	Guideline	012	001 - 003	This should ideally be a multidisciplinary clinic? But this will be difficult to arrange at all centres without some infrastructure such as teleconference rooms or funding for additional activity	Thank you for your comment. This section outlines the information that should be provided to support decision making. The committee have not recommended who should do this or where this should take place. They noted that having discussions about investigations and treatments, and giving opportunities to raise concerns, is not a change in clinical practice so this activity would be

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					taking place anyway. There may need to be some local reorganisation but this should not have an overall impact.
East of England Cancer Alliances	Guideline	016	015 - 021	Most patients with low back pain will have one of the pain features listed in box 1. Should systemic symptoms such as unexplained weight loss, easy fatigability, etc be an additional set of criteria?	Thank you for your comment. The evidence was reviewed for symptoms or signs, individually or in combination, or validated clinical tools, that suggest the presence of spinal metastatic malignant disease or direct malignant infiltration of the spine (see evidence review D). Back pain was one of those identified but that would be in combination with a past or current diagnosis of cancer and in that case urgent advice should be sought. Weight loss did come up as a symptom but the evidence was too uncertain (prevalence was too low) for the committee to base a recommendation on it. Easy fatigability was not reported in the evidence.
East of England Cancer Alliances	Guideline	018	005 – 006, 014 - 015	'Appropriate and *complete*', and 'urgently' may need to be defined. Transfer should only be arranged in consultation with the MSCCC (this follows naturally from Page 6 but might need to be re-iterated). Perhaps consider CT as a screening tool? Patients in whom cancer is suspected should have a CT CAP as a prognostic tool, and it should be relatively straightforward to reformat the spinal component.	Thank you for your comment. The committee set out appropriate imaging in recommendations 1.5.2 to 1.5.6 – for suspected MSCC and suspected spinal metastases they agreed MRI was appropriate and listed the typical sequences that would be expected. The urgency of imaging will depend on whether MSCC is suspected or not: if so then within 24 hours, otherwise within 1 week. The committee agreed that the MSCC coordinator should be urgently contacted for advice when MSCC is suspected, this is covered in recommendation 1.3.2 and rather than repeating it here there is a cross-reference from recommendation 1.5.2. The committee considered evidence on CT for diagnosis of suspected metastases but decided based on the evidence and their experience that MRI is most appropriate, although there is an important role for CT if MRI is contraindicated, and also in treatment planning and assessment of spinal stability. They also considered evidence for regular surveillance imaging tests in people

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					at high risk of spinal metastases, but recommended against this based on the evidence.
East of England Cancer Alliances	Guideline	025	General	Should 1.8.2 not be above 1.8.1?	Thank you for your comment. These recommendations have been reorganised to a more logical order
East of England Cancer Alliances	Guideline	028	014	Do we need to define 'prolonged'?	Thank you for your comment. The committee reflected on this and agreed that a clearer timeframe would be helpful. They decided that prolonged would usually be interpreted as at least 2 weeks and have added this to the recommendation.
East of England Cancer Alliances	Guideline	032	015	Suitability decided on the basis of oncological prognosis and co-morbidities? Decided by MDT discussion?	Thank you for your comment. The committee decided that they could not be more specific than this because it would be suitable when it would improve prognosis and improve quality of life (which they have now clarified in the related rationale and impact section). They also recommended elsewhere: 'Before an invasive intervention is offered, make a treatment plan in discussion with the appropriate specialists (such as an oncologist and spinal surgeon) within the MSCC service multidisciplinary team.' The reasons for this are described in the rationale section and relate directly to discussions about suitability: 'The committee noted that there are many different factors to consider that may impact on the success of surgical interventions. These include overall fitness for surgery, but also prognosis and issues related to primary cancer type and stage. To ensure that all relevant information is taken into account and to make decisions more efficient, the committee recommended that discussions should take place before surgery is offered, between people from the appropriate specialties within the multidisciplinary team in the MSCC service. This would usually include the oncologist and

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					spinal surgeon but could also draw on other people's expertise where necessary.'
East of England Cancer Alliances	Guideline	047	022 - 026	Should primary care not be allowed to arrange imaging in this instance?	Thank you for your comment. This specific paragraph is not related to who is arranging imaging. It is emphasising the need to contact the MSCC coordinator immediately. They can then start to coordinate the care which according to the guideline would involve an MRI at the local hospital or appropriate centre with direct access imaging facilities. This could be arranged by primary care but the committee did not want to be prescriptive about this.
East of England Cancer Alliances	Guideline	051	009 - 010	What are the exceptional circumstances?	Thank you for your comment. The committee did not want to completely rule out overnight MRI because MSCC is an oncological emergency and there can be changes in the speed of onset and rate of progression of neurological symptoms and signs. A very fast progression could be an exceptional circumstance, but the committee decided that they could not be specific about this and therefore left this to clinical judgement.
Faculty of Pain Medicine of the Royal College of Anaesthetists	Guideline	General	General	We note within section 1.7 Pain management there is no mention of procedures such as single shot injections, which are often an option in those patients unfit for surgery, and no mention of neuroblative procedures.	Thank you for your comment. Little evidence was identified for specific procedures to reduce pain in this population. The committee therefore recommended an individualised approach with a detailed pain assessment so that the pain management can be tailored to each person. The committee decided to give some examples of what this could involve but the list is not exhaustive and other treatments can be used where appropriate.
Faculty of Pain Medicine of the Royal College of	Guideline	General	General	We note that there was little pain management input from Pain Medicine experts having expertise in cancer pain management working closely with palliative medicine.	Thank you for your comment. During the beginning of guideline development the committee had input from a pain specialist and throughout development they had the expertise of a palliative care specialist who is experienced and knowledgeable about the treatment of pain.

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Anaesthetists					
Faculty of Pain Medicine of the Royal College of Anaesthetists	Guideline	021	005	Within section 1.7 Pain management, we would suggest reference to the multidisciplinary endorsed Framework for Provision of Pain Services for Adults Across the UK with Cancer or Life-limiting Disease https://fpm.ac.uk/media/531	Thank you for your comment. The related evidence review was investigating the effectiveness of analgesic interventions rather than a service delivery review of how best to organise care. The committee could therefore not cross reference this framework.
Faculty of Pain Medicine of the Royal College of Anaesthetists	Guideline	022	025	This line would be improved by stating "If pain is difficult to manage at any stage then refer to a joint specialist pain/palliative care service for further input".	Thank you for your comment. The wording has been amended as suggested.
Medtronic	Evidence review N	007	006	There are some additional published studies comparing the effectiveness of vertebroplasty, kyphoplasty, or both in cancer patients with painful vertebral compression fractures, that may be of interest. Fourney et al.[1] evaluated pain relief following 97 procedures (65 VP and 32 BKP) in 56 patients during 58 treatment sessions. Patients had painful vertebral compression fractures caused by multiple myeloma or metastases. Thirty-four patients underwent VP (61%), 15 (27%) BKP, and 7 (13%) VP and BKP at separate levels. Patients noted marked or complete pain relief after 49 procedures (84%), and no change after five procedures (9%); early postoperative Visual Analog Scale (VAS) pain scores were unavailable in four patients (7%). No patient was worse after treatment. Reductions in VAS pain scores remained significant up to 1 year (p = 0.02, Wilcoxon	Thank you for your comment. The Erdem (2013), Fourney (2003), Köse (2006) and Li (2014) studies were not included as evidence because they were non-randomised studies which did not adjust for baseline differences between patients in different intervention groups.

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				signed-rank test). Asymptomatic cement leakage occurred during vertebroplasty at six (9.2%) of 65 levels; no cement extravasation was seen during kyphoplasty. There were no deaths or complications related to the procedures. The authors concluded that VP and BKP had similar benefit, but note a higher rate of cement extravasation for VP versus BKP. Li et al.[2] conducted a retrospective study of BKP versus VP for VCFs caused by metastases. Eighty patients were treated with BKP (n=42) or VP (n=38). Post-operative VAS scores were statistically significantly reduced from pre-operative baseline scores for both BKP and VP. The improvement was maintained out to 1-year. The difference in VAS score between the two groups was insignificant at baseline and every follow-up assessment post-operatively. Cement leakage was lower in the BKP group than the VP group (16.9% (14/83) vs 30.3% (23/76), $P < 0.05$) but asymptomatic in all patients. A large study of 792 patients with myeloma-related compression fractures treated by BKP or VP was reported by Erdman et al.[3] These patients underwent a total of 1072 sessions with a median of 2 repairs per session and 23% of sessions involving four to nine augmentations. The majority (83%) of the 2693 levels treated were repaired with VP. Assessments of pain, analgesic medication, and activity were provided from 351, 355, and 354 subjects, respectively. There was an average reduction of 4.2 points on a 0-10 VAS scale at 1-month post-procedure that was significant. The odds ratio of narcotics usage was 65% lower (OR=0.35; 95%	

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				CI, 0.21-0.58) at 1-month (p<0.001), and the odds of good activity was 4.2 (95% CI, 3.1-5.8) times higher post-procedure as compared to pre-procedure (p<0.001). There were no significant differences in improvements between the type of procedure performed (BKP vs VP or KP+VP) for pain relief, decreased narcotics usage, or improvement in activity (all p>0.05) after adjusting for age, gender, session, number of augmentations and baseline scores or medication. Köse et al.[4] report results from a retrospective comparison of BKP and VP treatment in 34 myelomatous patients with symptomatic vertebral fractures. BKP was applied to 22 levels in 18 patients and VP to 28 levels in 16 patients. Pain-related disability was evaluated with a VAS scale over 10 points for activities of daily living: pain at rest, walking, sitting-standing, taking a shower, and wearing clothes). Overall VAS scores were evaluated over 50 points preoperatively, at six weeks, six months and one year post-operatively. The mean overall pain score in the kyphoplasty group decreased from a preoperative value of 36 to 12.13 at the sixth postoperative week, to 8.63 at the sixth month and to 9.72 at one year. (p<0.001). The mean overall pain score in the vertebroplasty group decreased from a preoperative value of 37.83 to 15.33 at the sixth postoperative week, to 12.17 at sixth months and to 13.47 at one year. (p<0.001). Student's t test was used to analyze the percentage of differences in overall pain score. Difference between groups was not statistically significant at the sixth week (p=0.106) but was	

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				statistically significant both at the sixth month (p=0.024) and at one year (p=0.027) in favor of kyphoplasty group. No secondary collapse was observed in adjacent levels in both groups. There were no intrapostoperative neurologic/pulmonary complications in both groups. Analgesics usage significantly decreased in both groups. The authors conclude that both BKP and VP are effective in increasing quality of life and decreasing pain and that both procedures can be applied in a nearly complication-free manner by use of proper technique. References: 1. Fourney DR, Schomer DF, Nader R, Chlan-Fourney J, Suki D, Ahrar K, Rhines LD, Gokaslan ZL. Percutaneous vertebroplasty and kyphoplasty for painful vertebral body fractures in cancer patients. J Neurosurg. 2003 Jan;98(1 Suppl):21-30. 2. Li Z, Ni C, Chen L, Sun Z, Yang C, Zhao X, Wang Y. Kyphoplasty versus vertebroplasty for the treatment of malignant vertebral compression fractures caused by metastases: a retrospective study. Chin Med J (Engl). 2014;127(8):1493-6 3. Erdem E, Samant R, Malak SF, Culp WC, Brown A, Peterson L, Lensing S, Barlogie B. Vertebral augmentation in the treatment of pathologic compression fractures in 792 patients with multiple myeloma. Leukemia. 2013 Dec;27(12):2391-3 4. Köse KC, Cebesoy O, Akan B, Altinel L, Dinçer D, Yazar T. Functional results of vertebral	

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				augmentation techniques in pathological vertebral fractures of myelomatous patients. J Natl Med Assoc. 2006 Oct;98(10):1654-8	
Medtronic	Evidence review N	007	006	The results from the recently published OPuS One prospective study of percutaneous ablation treatment for osseous metastases add to evidence that percutaneous ablation is safe and effective This multi-national, single-arm study investigate safety and effectiveness of radiofrequency ablation (RFA) for palliation of painful lytic bone metastases with 12 months of follow-up. Results 206 subjects were treated with RFA at 15 institutions. Worst pain, average pain, pain interference and quality of life significantly improved at all visits starting 3 days post-RFA and sustained to 12 months (P\0.0001). Post hoc analysis found neither systemic chemotherapy nor local radiation therapy at the index site of RFA influenced worst pain, average pain, or pain interference. Six subjects had device/procedure-related adverse events. Ref: Levy J, et al. Radiofrequency Ablation Provides Rapid and Durable Pain Relief for the Palliative Treatment of Lytic Bone Metastases Independent of Radiation Therapy: Final Results from the OsteoCool Tumor Ablation Post-Market Study. Cardiovasc Intervent Radiol. Published online April 2023 https://doi.org/10.1007/s00270-023-03417-x	Thank you for your comment. The Levy (2023) study was not considered for inclusion because it would not have met our inclusion criteria - it is a single arm study and does not compare different treatments.
Medtronic	Evidence review N	007	021	We would like to highlight that the Orgera paper has some serious limitations in that the patient population is off-label (multiple myeloma) and there is no justification for the sample size chosen.	Thank you for your comment. The risk of bias assessment has been checked and we note that the evidence from the Orgera (2014) study should be classed as at serious risk of bias. The evidence from this

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					study has been downgraded one level accordingly. This did not have an impact on the recommendations made as the committee thought that Orgera 2014 was insufficient evidence to recommend RFA should not be used.
Medtronic	Guideline	031	010 - 014	**IPG758 "Radiofrequency ablation for palliation of painful spinal metastases"** and **IPG759 "Radiofrequency ablation as an adjunct to balloon kyphoplasty or percutaneous vertebroplasty for palliation of painful spinal metastases"** are now published. We ask the Committee to add these recommendations to the final guidance and to note that balloon kyphoplasty or vertebroplasty are frequently performed at the same time as RFA because tumour ablation creates a cavity in the vertebral body and there is a need to provide structural or mechanical stabilisation after ablation. This is the procedure described in IPG759. IPG179 recommends that *"Evidence on the safety and efficacy of radiofrequency ablation as an adjunct to balloon kyphoplasty or percutaneous vertebroplasty for palliation of painful spinal metastases is adequate to support using this procedure provided that standard arrangements are in place for clinical governance, consent and audit".*	Thank you for your comment. The committee discussed these 2 interventional procedures guideline and added a reference to these to the guideline document.
Medtronic	Guideline	031	013	We ask the committee to provide some additional context regarding the intended place in therapy for RFA in this patient cohort.	Thank you for your comment. The committee thought that there was insufficient evidence to make a more specific recommendation about the role of radiofrequency ablation. The listed studies were not included as evidence in the

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				While radiofrequency ablation (RFA) is not meant to oppose or replace standard treatments such as radiotherapy, it may complement radiation therapy. RFA can provide **rapid and significant pain improvement at 3 days** and **sustained significant long-term relief for up to 12 months** ($p<0.0001$)[1-6] in patients with metastatic bone disease and therefore can address pain associated with metastatic bone tumours when conventional therapies aren't effective, are too slow acting, or cause unacceptable side effects.[7] Patients continued to have substantial pain improvement, with approximately 74% experiencing clinically relevant improvement at 1 month and more than 83% at 12 months.[6] Physicians can treat patients with RFA right away, while other treatments, like radiation therapy, are being planned. Additionally, RFA does not disrupt systemic therapies and it can be used before, during or after radiation therapy. References 1. Levy J, Hopkins T, Morris J, et al. Radiofrequency Ablation for the Palliative Treatment of Bone Metastases: Outcomes from the Multicenter OsteoCool Tumor Ablation Post-Market Study (OPuS One Study) in 100 Patients. J Vasc Intervent Radiol. 2020;31(11):1745-1752. doi:10.1016/j.jvir.2020.07.014. 2. Mayer T, Cazzato RL, De Marini P, et al. Spinal metastases treated with bipolar radiofrequency ablation with increased (> 70° C) target	guideline for the following reasons. Levy (2020) and Mayer (2020) are single arm studies not comparing alternative treatments. Lee (2020) was not included because it involved lesions of the pelvis or weight bearing bones of the legs, whereas our review concerned spinal lesions. Jain (2020) and Prezzano (2019) were comparative studies but were not included because they did not adjust for baseline differences between patients in different intervention groups. Levy (2009) was published as a conference abstract only. Some of these listed studies are included in NICE IPG 759 (2023) on radiofrequency ablation as an adjunct to balloon kyphoplasty or percutaneous vertebroplasty. This is because IPGs evaluate the safety and efficacy of the procedure, rather than its relative effectiveness compared to alternatives. The guideline cross references to IPG759.

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				temperature: Pain management and localtumor control. 2020. https://www.sciencedirect.com/science/article/pii/S2211568420301236. 3. Prezzano KM, Prasad D, Hermann GM, Belal AN, Alberico RA. Radiofrequency Ablation and Radiation Therapy Improve Local Control in Spinal Metastases Compared to Radiofrequency Ablation Alone. Am J Hosp Palliat Care. 2019;36(5):417-422. doi:10.1177/1049909118819460. 4. Lee FY, Latich I, Toombs C, et al. Minimally Invasive Image-Guided Ablation, Osteoplasty, Reinforcement, and Internal Fixation (AORIF) for Osteolytic Lesions in the Pelvis andPeriarticular Regions of Weight-Bearing Bones. J Vasc Interv Radiol. 2020;31(4):649-658.e1. doi:10.1016/j.jvir.2019.11.029. 5. Jain S, Kinch L, Rana M, Anitescu M. Comparison of post-operative pain scores and opioid use between kyphoplasty and radiofrequency ablation (RFA) systems combined with cement augmentation. Skeletal Radiol. 2020;49(11):1789-1794. doi:10.1007/s00256-020-03473-1. 6. Levy J, David E, Hopkins T, et al. Radiofrequency Ablation for the Palliative Treatment of Osseous Metastases: Final Results from a Multicenter Study (OPuS One). Abstract at Society for Interventional Radiology Annual Scientific Meeting 2021.	

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				7. Sabharwal et al. Image-Guided Ablation Therapy of Bone Tumors. Semin Ultrasound CT MRI. 2009;(2):78-90.	
Myeloma UK	Guideline	013	001	Did the committee consider the inclusion of sexual dysfunction in the providing support and rehabilitation and supportive care sections? We are aware that this is included in the NG 211 Guideline Rehabilitation after traumatic injury but would like to see this included within this guideline to ensure patients are adequately assessed and supported.	Thank you for your comment. The recommendations related to rehabilitation and supportive care were based on the service delivery review rather than a review of clinical evidence. The committee therefore decided to cross refer to other guidelines for the clinical content related to rehabilitation. This is why they could not specifically comment on 'sexual dysfunction' in this context.
Myeloma UK	Guideline	021	002	We agree that advice from a specialist, such as a physiotherapist is needed to advise use of orthoses. Specialist input from a physiotherapist is important in myeloma generally, as bone disease is a common complication that can result in ongoing pain, fragility and mobility problems. For those patients with spinal collapse requiring immobilisation, specialist physiotherapy is vital and there needs to be capacity in the physiotherapy workforce to meet this current and potential need.	Thank you for your comment and for providing this information. The committee thought that the recommendation to seek advice on orthoses from a specialist (such as a physiotherapist) would reinforce and standardise current practice.
Myeloma UK	Evidence review H	032	Appendix K	We welcome techniques for immobilisation as a research recommendation and the recognition that spinal bracing is something that people report to be helpful as part of the rehabilitation process and usually are readily available. Access to a specialist for fitting and ongoing support for people wearing a spinal brace is important.	Thank you for your comment in support of this research recommendation.
Myeloma UK	Guideline	032	001	As comment 2. Did the committee consider the inclusion of sexual dysfunction in the providing support and rehabilitation and supportive care sections? We are aware that this is included in the NG 211 Guideline Rehabilitation after traumatic injury but would like to see	Thank you for your comment. The recommendations related to rehabilitation and supportive care were based on the service delivery review rather than a review of clinical evidence. The committee therefore decided to cross refer to other guidelines for the clinical content related to rehabilitation. This is why they could not

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				this included within this guideline to ensure patients are adequately assessed and supported.	specifically comment on 'sexual dysfunction' in this context.
NHS England	Guideline	General	General	The Cancer team have no comments on the specifics of the guideline, however has liaised directly with NICE regarding the use of Cancer Alliance in the recommendations and have also asked for the following wording to be used when mention Alliances in the guidance – 'ICBs working with their Cancer Alliance should…'	Thank you for your comment. The stem of the recommendation for cancer alliances has been amended to "Service commissioners, working with their cancer alliance,:….". NICE recommendations generally refer to the commissioning function rather than a specific commissioning body. The introduction to the guideline makes clear that commissioners referred to include integrated care boards.
NHS England	Guideline	001	General	Need to include health case professionals in community services – Important given the role of Community MSK services in triage and occasional recognition	Thank you for your comment. Healthcare professionals in community services have been added to this list as suggested.
NHS England	Guideline	001	007	Who is it for - Recommend including the healthcare professionals working across relevant community settings/services as well as social services	Thank you for your comment. Healthcare professionals in community services have been added to this list as suggested. Making recommendations related to social services was outside the remit of this guideline. The guideline may still be of interest to people from social services but this is why they were not explicitly mentioned.
NHS England	Guideline	005	011	Should also include community care reflecting involvement of community MSK services in pathway – triage for patients with back pain and associated symptoms, as well as rehabilitation	Thank you for your comment. Community care has now been added to the first bullet point of this recommendation.
NHS England	Guideline	005	026	Representatives from community care also	Thank you for your comment. Community care has now been added to the recommendation to ensure this is represented.
NHS England	Guideline	005	026	Recommend changing from 'people' to 'people and/or carers'	Thank you for your comment. The terminology 'people with lived experience' is inclusive of carers.

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NHS England	Guideline	005	027	1.1.4 We have launched the strategy NHS England » The Allied Health Professions (AHPs) strategy for England – AHPs Deliver for AHP colleagues in England recently. Together with the recommendations from a few published enquiry reports, we are committed to work collaboratively, tackling inequalities and addressing access options, to deliver more personalised care to our patients and carers. Recommend including 'people and communities', especially those with protected characteristics and minority groups (such as gender minorities or marginalised communities) as stakeholders in the steering group.	Thank you for your comment. The committee agreed that the most important group of people to include are people with lived experience who may well be from a specific community but equally may not be. They could also be people with personal experience of the condition or family members or carers. As such they decided not to add 'communities' to the recommendation. Issues around addressing inequalities are raised elsewhere such as in a recommendation about raising awareness about health inequalities and ensuring that reasonable adjustments are being made and also by adopting an individualised approach taking into account holistic needs and asking the person about their experience of the service and exploring whether changes can be made to better meet their needs. The committee decided that this would improve services and would mean that an awareness of health inequalities is raised with the aim to create more equal services for all.
NHS England	Guideline	007	007	Primary and community care	Thank you for your comment. Community care has been added to the recommendation.
NHS England	Guideline	007	015	It is strongly suggested that examples for the phrase "health inequalities" is expanded to specifically mention learning disability, autism and BAME, in addition to the already cited "deprivation".	Thank you for your comment. Deprivation was explicitly considered in the bespoke analysis and economic evaluation as Lower Super Output Area (LSOA) deprivation indices were available in the audit data. As there was evidence of difference in outcomes from the MSCC coordinated services for lower deprivation groups this was given as an example. Given the large number of potential factors of health inequalities that could not be considered by the analysis, but may impact on outcomes for this population, it was decided not to include more examples so as not to inadvertently imply it was an exhaustive list.

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NHS England	Guideline	007	021	It is strongly suggested that this bullet is amended to read "reasonable adjustments are made by local services to address any health inequalities, in line with the Equality Act 2010". These adjustments are a legal requirement and need to be identified as such.	Thank you for your comment. This has been added as suggested.
NHS England	Guideline	008	001 - 014	1.1.15 In line with the Accessible Information Standard 5-step principles, it is recommended patients and carers' language and communication needs should be recorded.	Thank you for your comment. The bullet point 'individual situation and circumstances (for example language and communication needs)' has been added.
NHS England	Guideline	008	003	It is strongly suggested the "key information recorded about a person" section is expanded to include the person's "communication preferences". This would then be inclusive of people with a learning disability or autistic people, people whose first language is not English, people who are sight impaired etc. This would then allow for reasonable adjustments to be made when co-ordinating care or undertaking care planning etc.	Thank you for your comment. A bullet point to capture this has been added to the recommendation.
NHS England	Guideline	009	001 - 015	1.1.17 We have noted that there are some Allied Health Professions (AHP) professional bodies who are in the stakeholders list as well as the Committee members list. However, given the scope of practice and work within, it is important to include AHPs in particular Occupational Therapists, Dietitians and Radiographers in relation to the assessment and management of MCSS to devise a more personalised care plan.	Thank you for your comment. Allied Health Professionals have now been added to the recommendation.
NHS England	Guideline	010	011	Recommend including triage services as well.	Thank you for your comment. The committee reflected on this. They noted that the aim of this recommendation was on having access to these services to address someone's needs and refer to community nursing and rehabilitation services and equipment. Adding triage

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					services to this would shift the focus of this recommendation to make it more uncertain whether or not these services are actually needed for the person. Whilst this could be the case the committee decided that meeting the needs of the person would imply that access to these services would not necessarily be required for everyone.
NHS England	Guideline	012	General	A general comment relating to the "1.2 Information and support" section: It is strongly suggested a sentence is added within this section that acknowledges the support, information or advice given is in accordance with both the needs and preferences of the person, as reflected in comment #4. Examples of where this needs to be strengthened throughout this section include P13, Line 06 and Line 09.	Thank you for your comment. The recommendations in section 1.2 have been amended to clarify that information and support should be tailored to individual needs and preferences.
NHS England	Guideline	012	003	It is strongly suggested the phrase "...families and carers are given information and support" should read "families and carers are given information in a format appropriate to their communication style and needs". This would then be inclusive of people with a learning disability or autistic people, people whose first language is not English, people who are sight impaired etc.	Thank you for your comment. The recommendation has been amended to clarify that information and support should be tailored to individual needs and preferences.
NHS England	Guideline	013	014 - 021	1.2.8 As stated in comment number 4, it is recommended to add concerns regarding language and/or communication needs. Additionally, with the 'People First' and personalised care being our commitment as per NHS England » The Allied Health Professions (AHPs) strategy for England – AHPs Deliver , the office also recommends colleagues to consider:	Thank you for your comment. Recommendation 1.2.1 has been amended to clarify that information and support should be tailored to individual needs and preferences.

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				- Cultural issues - Gender issues - Digital accessibility (for appointments, intervention instructions and text messages etc) - Health literacy	
NHS England	Guideline	014	005 - 011	1.2.12 As per comment numbers 4 and 7.	Thank you for your comment. The committee agree that community care and the NHS England AHP strategy may facilitate this
NHS England	Guideline	015	Box 1	The content of this box requires work. **Re pain characteristics** – would suggest stating in patients presenting with a past, current or suspected diagnosis of cancer one or more of the following symptoms could suggest spinal mets I would question the following as these are very common symptoms not associated with aggressive pathology in isolation, and unlikely with history of cancer - Mechanical pain (aggravated by standing, sitting or moving) - Back pain aggravated by straining (for example, coughing, sneezing or bowel movements) - Localised tenderness *Bear in mind 1 in 2 people will have cancer, and all will have mechanical back pain at some point in their lives. Thus common to have hx cancer and LBP not aggressive in cause*	Thank you for your comment. The evidence was reviewed for symptoms or signs, individually or in combination, or validated clinical tools, that suggest the presence of spinal metastatic malignant disease or direct malignant infiltration of the spine (see evidence review D). For a full discussion see 'the committee's discussion and interpretation of the evidence' section of evidence review D. Whilst they may be common symptoms the committee described underneath what to do when there is a combination of symptoms. Immediately contact the MSCC coordinator if a person with a past or current diagnosis of cancer presents with the symptoms or signs of cord compression listed and seek urgent advice from the MSCC coordinator

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				Key characteristics suggestive of aggressive pathology in those with back pain based on my understanding ▪ Age >60 with new onset severe pain ▪ Persistent non-mechanical pain ▪ Mechanical symptoms non-responsive to appropriate management over a reasonable time scale ▪ Recent unexplained weight loss ▪ Unwell/fever/night sweats Failure to get this right risk a massive increase in demand for assessment in MSCC services for those with a very low risk.	
NHS England	Guideline	016	Box 1	Re Symptoms and signs suggesting cord compression - Should link with symptomology in the GIRFT Best MSK Cause equina pathway https://gettingitrightfirsttime.co.uk/pathway-supports-clinicians-to-diagnose-and-treat-cauda-equina-syndrome-without-delay/	Thank you for your comment. The current list of symptoms is derived from the evidence (see evidence review D) which included search terms for 'cauda equina' so would have picked up studies relevant to this. Whilst the GIRFT report based their list of symptoms on work by the Musculoskeletal Association of Chartered Physiotherapist it is not clear what exactly this was based on and the publication that this was based on is a survey which would not have met the inclusion criteria of the protocol for this questions. It was therefore not possible to directly cross-refer to this.
NHS England	Guideline	016	019	Great warning care produced by team in Bolton linked with the Christie available in differing languages https://www.christie.nhs.uk/media/1125/legacymedia-1201-mscc-service_education_mscc-resources_red-flag-card.pdf	Thank you for your comment. The current list of symptoms is derived from the evidence (see evidence review D). The committee agrees that it is important that people are made aware of these symptoms and a card is a way of doing this. However, it is unclear what the red

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					flags on the card are based on and they are not entirely consistent with the consensus of the committee based on the evidence they considered. It was therefore not possible to directly cross-refer to this.
NHS England	Guideline	019	002	? Minor typo on sagittal T1 and/or short T1 inversion recovery (STIR) sequences of the whole spine, to identify spinal metastases Should it read *short TI inversion recovery* (As in the letter I)?	Thank you for your comment. The recommendation has been corrected to read "short TI inversion recovery" replacing the number 1 with the letter I.
NHS England	Guideline	021	010	It is strongly suggested this section be expanded to include "be aware that some people may describe pain differently and this may lead to under-recognition and under-treating". Reference: Mcguire BE et al (2010) Chronic pain in people with an intellectual disability: under-recognised and under-treated? Journal of Intellectual Disability Research; 54: 3, 240-245.	Thank you for your comment. The committee recommended an 'individualised pain assessment' and described examples of what this could include. They also revised a recommendation in the 'organisation of services' section to include 'individual needs, preferences and circumstances (for example, language and communication needs)' in the set of key information that should be recorded. The committee decided that in clinical practice there is variation in how people describe their symptoms and sometimes this could lead to 'over-recognition and over-treating' as much as 'under-recognition' and 'under-treating'. They therefore decided that this was not specific enough to include it. The reference was not included because this is a study on general chronic pain in people with intellectual disabilities rather than spinal pain or pain resulting from spinal metastases or MSCC.
NHS England	Guideline	035	002 - 003	Suggest increasing emphasis and strengthen by expanding this to 'person's wellbeing, their spiritual, *cultural* and health and social care needs'	Thank you for your comment. The suggested change has been made.

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NHS Grampian	Guideline	018	016	Page 18 and general. Section 1.3.1 Box 1 helpfully describes clinical features which distinguish spinal metastases from cord compression. 1.5.6 should be moved to the beginning of section 1.5. 1.5.3 should be limited to those who do not already have an imaging confirmation of spinal metastases as the addition of MRI does not clearly alter treatment within the guideline. A suggested re-write of line 16 may be "Patients with clinically suspected spinal metastases, but without symptoms of MSCC, should be offered an MRI scan if no other imaging (such as a CT) has revealed lesions." This will address an anecdotally large number of urgent MRIs requested when asymptomatic spinal metastases are incidentally detected on CT.	Thank you for your comment. The committee placed recommendation 1.5.6 at the end of the section because it is the least urgent of the clinical scenarios covered here – with suspected MSCC or suspected metastases being more time critical. The committee have reworded recommendation1.5.3 to make it clear that it is clinical suspicion of spinal metastases that would lead to the MRI scan, and that it would be done to guide treatment options. They thought this help to limit imaging to those would benefit from it.
NHS Grampian	Guideline	019	021	The vast majority of patients with metastatic cancer will already have recent CT imaging and nowadays we can readily reconstruct images using multiplanar viewing software. Paragraph 1.5.10 could be rewritten as: "Consider multiplanar viewing or 3 plane reconstruction from of CT images for people with spinal metastases or MSCC to..."	Thank you for your comment. The recommendation has been amended and now refers to multiplanar viewing or 3-plane reconstruction of recent CT images.
NHS Grampian	Guideline	028	001	Clarify if this can be targetted based on symptom location and CT or whether MRI is essential.	Thank you for your comment. It is recommended elsewhere that suspected spinal metastases or MSCC should have an MRI. Therefore it would be targeted based on the imaging findings rather than symptom location. The committee also agreed that CT would not be specific enough.
NHS Grampian	Guideline	029	008	Change 'discreet to discrete' if meaning separate rather than occult metastases.	Thank you for your comment. This has been corrected.
NHS Grampian	Guideline	041	018	Reference required.	Thank you for your comment. The rationale sections of the guideline do not contain lists of reference but refer to

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					the related evidence review which contains all the evidence, a detailed discussion section and full reference list. Please refer to evidence review A (the related reference is McGivern, 2014).
NHS Grampian	Guideline	050	013	Correct 'imagining' to 'imaging'.	Thank you for your comment. This has been corrected.
NHS Grampian	Guideline	053	007	In some neoplasms it has not previously been routine to perform both CT and MRI when a lesion is demonstrated, e.g. on bone scintigraphy for prostate cancer. CT is often the first imaging modality which detects spinal metastases and not all such patients are referred for MRI. Our imaging referral form asks how patient treatment will be altered as a result of the investigation, to provide a basic justification for resource usage. Page 65 of the guideline confirms that in asymptomatic metastases the risks of radiotherapy outweigh the benefits of treatment. MRI is an expensive resource and its use should be justified especially in light of current financial issues.	Thank you for your comment. The committee considered the evidence for MRI and found that this is the most accurate method to diagnose MSCC or spinal metastases (see evidence review F). The committee were also aware that the previous guideline contained an economic model that confirmed that this was a cost effective strategy. The committee discussed that there could already be a CT scan available and revised the guideline to say: 'Consider multiplanar viewing or 3-plane reconstruction of recent CT images for people with spinal metastases or MSCC to: (1) assess spinal stability and (2) plan vertebroplasty, kyphoplasty or spinal surgery'. This allows recent CT scans to be used rather than a new one to be scheduled which should save resources. However, on consideration of benefits and harms the committee thought that an MRI would still be necessary so that the appropriate treatment strategy can be planned (see the subsection of 'benefits and harms' in evidence review F for a discussion of the evidence that has led to the MRI recommendations).
NICE QS&I	Guideline	General	General	It is noted that the guideline no longer includes recommendations relating to adults at high risk of developing metastatic spinal cord compression. Is there a specific reason for the removal of this population? Quality statement 1 in QS56 Metastatic spinal cord compression in adults relates to this population and will	Thank you for your comment. The population in the scope of this guideline is people with suspected or confirmed spinal metastases, direct malignant infiltration of the spine or MSCC. The committee decided that information about changes in symptoms to look out for and who to contact should be given to 'people with a past or current diagnosis of cancer with low back pain but no

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				have to be removed from the quality standard if there are no longer recommendations to support it.	clinical evidence of spinal metastases or MSCC'. They thought that other 'high risk' populations would be people with primary tumours and would fall into the remit of the related tumour specific guidelines as this is where treating clinicians would be looking for advice.
NICE QS&I	Guideline	004 - 011	General	Section 1.1 There no longer seems to be a recommendation stipulating the requirement for the MSCC coordinator to coordinate the care pathway at all times. Is the intention that recommendation 1.3.4 would address this for adults with suspected metastatic spinal cord compression (MSCC) who present with neurological symptoms or signs? This impacts quality statement 4 in QS56 Metastatic spinal cord compression in adults which will need to be removed if the requirement for the MSCC coordinator to coordinate diagnostic investigations is no longer stipulated.	Thank you for your comment. The committee decided that the name of this role is somewhat self explanatory. There are several recommendations that indicate that this is the case, their role is acting as a first contact and providing initial advice and also to 'ensure that key information about each person is recorded'. It lists 'investigations, including imaging reports' as key information. They are also responsible that 'initial triage is performed' and 'discharge planning is coordinated'. This covers the whole pathway and requires coordination so whilst this is not explicitly stated it is stated in the name as well as in the responsibilities of the role.
NICE QS&I	Guideline	009 - 010	020 – 022, 001 -002	Is the intention of recommendation 1.1.19 that 'immediate treatment' would include a treatment plan being agreed within 24 hours, or is the intention of this recommendation only that MRI would be completed within 24 hours? There no longer seems to be a specific recommendation on any necessary treatment plan being agreed within 24 hours in the case of spinal pain suggestive of spinal metastases and neurological symptoms. Why has this been removed? In addition, there is no longer a recommendation to have a treatment plan agreed within 1 week of suspected diagnosis for adults with spinal pain suggestive of spinal	Thank you for your comment. The committee decided not to be prescriptive about the timing of a full treatment plan within 24 hours because that would depend on many different factors. However, the committee emphasised that timing of some actions is essential, such as an MRI scan as soon as possible (and always within 24 hours) if there is suspected MSCC. Also they recommended that the MSCC coordinator should be contacted immediately if MSCC is suspected. The recommendations in the section that was referred to in the comment are about service configuration to enable use of MRI and radiotherapy within 24 hours. To make it clearer that the objective of this is to treat within 24 hours it was decided

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				metastases, but with no neurological symptoms or signs. Why has this been removed? These issues impact quality statements 2 & 3 in QS56 Metastatic spinal cord compression in adults which will need to be amended / removed if there are no supporting recommendations.	to add 'so that radiotherapy can be given within 24 hours of a decision to treat'.
NICE QS&I	Guideline	007	003 - 012	Sections 1.10 & 1.11 Is recommendation 1.11.3 intended to address the removal of 'definitive treatment' (treatment that can include surgery and radiotherapy) for MSCC? If it is not, there are no longer any recommendations for surgery within 24 hours for adults with MSCC, who present with neurological symptoms or signs. Please confirm why this is. In addition, could a definition of 'as soon as possible' in recommendation 1.11.3 please be provided? A timescale for measurement would be helpful. Quality statement 6 focusses on this population receiving definitive treatment within 24 hours of diagnosis. If there are no recommendations for surgery within this time period, significant changes will need to be made to the quality statement, or the quality statement will need to be removed.	Thank you for your comment. The committee discussed whether to specify timeframes for treatments but they decided that they could not be too prescriptive about this. Instead they recommended to 'take into account the speed of onset and rate of progression of neurological symptoms and signs when determining the urgency of surgical intervention.' The statement of 'as soon as possible' should then be taken to be in this context. There is more emphasis in the current guideline in the surgery section on having discussions with appropriate specialists to make a treatment plan and consider other factors rather than to rush into giving people surgery because it is specified by a guideline that this has to happen within 24 hours. It is stated in the rationale 'There was no evidence about different timing of treatments, but the committee recognised that timing is important to prevent neurological decline. They noted that surgery should be carried out as soon as possible. They decided not to be too prescriptive about exact timeframes because there is variation in how much information is needed and available to come up with a clear surgical treatment approach. However, they noted that speed of onset and rate of progression of neurological symptoms and signs would be an indicator of urgency.'
NICE QS&I	Guideline	018	016 - 019	Is the population in recommendation 1.5.3 'people with suspected spinal metastases but without suspicion of	Thank you for your comment. Recommendation 1.5.3 refers to rec. 1.3.3 (& box 1) which outlines the

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				MSCC' the same population as, but with a change in terminology from, 'adults with spinal pain suggestive of spinal metastases, but with no neurological symptoms or signs'? This impacts quality statement 2 in QS56 Metastatic spinal cord compression in adults which will need to be amended / removed if the population has changed.	population with clinical suspicion of spinal metastases but not MSCC. The factors suggesting spinal metastases are all characteristics of back/spine related pain. For this reason the committee believe the population of the quality statement has not changed.
Prostate Cancer UK	Guideline	007	007 - 011	We support these recommendations as many of the calls our Specialist Nurses at Prostate Cancer UK receive regarding MSCC are about the fear or frustration surrounding safe discharge home (from patients, family, and carers). These experiences highlight that there is sometimes a lack of coordinated support and services before and after discharge.	Thank you for your comment in support of this guidance.
Prostate Cancer UK	Guideline	007	027	As above - We support these recommendations as many of the calls our Specialist Nurses at Prostate Cancer UK receive regarding MSCC are about the fear or frustration surrounding safe discharge home (from patients, family, and carers). These experiences highlight that there is sometimes a lack of coordinated support and services before and after discharge.	Thank you for your comment in support of this guidance.
Prostate Cancer UK	Guideline	011	006 - 009	As above - We support these recommendations as many of the calls our Specialist Nurses at Prostate Cancer UK receive regarding MSCC are about the fear or frustration surrounding safe discharge home (from patients, family, and carers). These experiences highlight that there is sometimes a lack of coordinated support and services before and after discharge.	Thank you for your comment in support of this guidance.
Prostate Cancer UK	Guideline	011	015	We appreciate there is an overlap with NICE guidance NG27 and welcome its inclusion here.	Thank you for your comment in support of this cross-reference.
Prostate Cancer UK	Guideline	012	001	This section is important. Our callers tell us that making sense of diagnosis, treatment, and outlook after MSCC is frightening and often overwhelming. We welcome the	Thank you for your comment in support of this guidance.

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				clear inclusion of discussions surrounding decision making, prognosis, and outlook with both the patient, family and carers.	
Prostate Cancer UK	Guideline	013	022	We welcome the inclusion of advanced care planning. Our experience has been that a diagnosis of MSCC often brings up thoughts and fears about end-of-life care and these conversations can be difficult to initiate by the patient.	Thank you for your comment in support of this guidance.
Prostate Cancer UK	Guideline	016	021	We agree that patients need to know symptoms to be aware of and who to contact (with names and numbers).	Thank you for your comment in support of this guidance.
Prostate Cancer UK	Guideline	017	001	We would suggest adding the above in written documentation for the patient. For example, for men with prostate cancer using the MSCC factsheet from Prostate Cancer UK to document contact details.	Thank you for your comment. The committee agrees that it is important that people are made aware of these symptoms and a card is a way of doing this. NICE is in the process of drafting an implementation plan that aims to provide support to clinicians through the use of shared tools and resources.
Prostate Cancer UK	Guideline	031	007 - 008	Could this wording be improved? Needed to read the rationale to sense check.	Thank you for your comment. The committee recommended several factors to take into account before invasive interventions are considered: 'Before an invasive intervention is offered, make a treatment plan in discussion with the appropriate specialists (such as an oncologist and spinal surgeon) within the MSCC service multidisciplinary team.' Another related recommendation is: 'Take into account the speed of onset and rate of progression of neurological symptoms and signs when determining the urgency of surgical intervention.' The committee reflected on the wording and added 'as the only factor' to this recommendation as suggested by other stakeholders. The committee thought rather than arbitrary time limits that are not evidence based, there should be treatment plans (which would consider prognosis) as well as other considerations about timing of treatment to make decisions about whether or not

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					invasive treatment is the best option even if there is complete paralysis. They decided that this would safeguard against all paralysed people being offered surgery but it also means that it is not withheld purely by reason of timing.
Royal College of Emergency Medicine	Guideline	009	016	We are concerned that the symptoms and signs suggesting cord compression (box) are different to the recently published National Suspected Cauda Equina Syndrome (CES) Pathway (National-Suspected-Cauda-Equina-Pathway-February-2023-FINAL-V2.pdf (gettingitrightfirsttime.co.uk). There is a potential for this to lead to confusion	Thank you for your comment. The committee disagree that there is potential for confusion. Whilst there are similarities in presentation with Cauda Equina Syndrome and MSCC/Mets, the committee believe that there is sufficient differences of signs and symptoms that they would be dealt with outside of the recommendations of the guideline. Where Cauda Equina is suspected, or any other condition outside the scope of the guideline, pathways for those conditions should be followed.
Royal College of Emergency Medicine	Guideline	009	021	We are concerned that the recommendation for MRI scanning within 24hrs via MSCC service is at odds with the recently published National Suspected Cauda Equina Syndrome (CES) Pathway (National-Suspected-Cauda-Equina-Pathway-February-2023-FINAL-V2.pdf (gettingitrightfirsttime.co.uk) which recommends local scanning within 4hr of presentation in emergency cases. There is a potential for confusion and disparity of treatment.	Thank you for your comment. The committee disagree that there is potential for confusion. Whilst there are similarities in presentation with Cauda Equina Syndrome and MSCC/Mets, the committee believe that there is sufficient differences of signs and symptoms that they would be dealt with outside of the recommendations of the guideline. Where Cauda Equina is suspected, or any other condition outside the scope of the guideline, pathways for those conditions should be followed.
Royal College of Nursing	Guideline	General	General	Overall should be welcomed. I hope that it is referred to and used in practice.	Thank you for your comment in support of this guidance.
Royal College of Nursing	Guideline	023	014	1.7.8 Can we include some additional guidance on how often to assess the person's pain. This should include reassessment of pain 30mins after administration of analgesia.	Thank you for your comment. The guideline recommends an individualised pain assessment and the wording has been amended to clarify that this is an 'ongoing' assessment. The committee decided that giving timings associated with these assessments would be too prescriptive and decisions should be based on clinical judgment and good practice.

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Royal College of Radiologists	Guideline	General	General	There is an increased emphasis on MRI in the local hospital environment where possible, as opposed to transfer to regional centres - this is appropriate and mirrors the guidance for caudal equina syndrome from GIRFT recently.	Thank you for your comment in support of this guidance.
Royal College of Radiologists	Guideline	035 - 036	General	There is little additional information on image guided ablation of spinal metastases in addition to vertebroplasty/kyphoplasty. These techniques are being used increasingly, despite the relative lack of high quality evidence in comparison to more invasive techniques such as surgical decompression or stabilisation. We would encourage the specific addition of ablative techniques (radio frequency, cryotherapy, microwave ablation, laser) to the research recommendations for vertebroplasty and kyphoplasty in this group.	Thank you for your comment. NICE published interventional procedures guidance on radiofrequency ablation as an adjunct to balloon kyphoplasty or percutaneous vertebroplasty for palliation of painful spinal metastases. This was published whilst the guideline was in consultation. The committee decided that this should now be referred to in the recommendation making it one of the treatment options. There was no evidence that was identified for cryotherapy. Without evidence it cannot be incorporated in the economic model and it is therefore unclear whether this would be cost-effective. The committee could therefore not comment on this. The committee recognises that radiotherapy techniques are evolving but there was no evidence for some of the techniques mentioned (IMRT and SRS) so the committee could not comment on these. The committee left the research recommendation intentionally broad 'surgery' so that research can potentially be conducted using any surgical procedures.
Royal College of Radiologists	Guideline	015 - 016	009	Box 1. 1.3.3 'Pain characteristics suggesting spinal metastases'. We think that any back pain in a patient with known cancer should provoke concern about the possibility of spinal metastases. But only more serious pain (severe, unremitting etc) as listed here should prompt referral to the MSCC service as these might indicate impending	Thank you for your comment. The pain characteristics in box 1 are evidence based and include 'severe unremitting pain'. The committee agreed that the current wording of 1.3.3 suggested that 'urgently contact' may be interpreted as urgent referral or treatment. They reworded this recommendation to clarify that this is referring to seeking advice in a timely manner rather than necessarily referral. This advice should still be urgent to

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				MSCC. Please can this be clarified in the box and in statement 1.3.3.	ensure the safety of the person but it may then lead to less urgent actions such as a scan within 1 week rather than 24 hours (as recommended for different groups of people in the MRI section of the guideline).
Royal College of Radiologists	Guideline	006	003	1.1.5 – 'all people with suspected or confirmed spinal metastases or MSCC are referred to an MSCC service'. We disagree with this statement. It is not appropriate to refer all patients with suspected or confirmed spinal metastases to an MSCC service. It is appropriate to refer all patients with suspected or confirmed MSCC to an MSCC service. Please clarify this.	Thank you for your comment. The committee decided that such a configuration would bring all the relevant expertise together to have spinal oversight. This would benefit people with the condition and improve outcomes. Changes have been made to the document, particularly in the 'How the recommendations might affect services' of the 'rationale and impact' sections. In these changes it is explicitly described that this is a change in practice and will increase activities within such services (see for example the 'how the recommendations affect services' section related to 'Providing a coordinated MSCC and spinal metastases service'). Whilst this would lead to reconfiguration of already existing services to accommodate these pathways for spinal metastases as well as MSCC with associated implementation costs the economic model was based on a service that has already implemented this in their service and found that it improved outcomes. The economic analysis showed that costs decreased per person since the creation of the service and therefore the committee's view is that implementation costs should be regained over the first few years of a newly set up service.
Royal College of Radiologists	Guideline	006	008	1.1.6 – We agree that the MSCC role is important and should be covered 24/7. The second sentence is confusing and seems to contradict the first. If the role is covered at all times then the idea that a single person has the role, as implied by the second statement, is redundant. Also, many centres do not have an oncology registrar on call at night. A better example, if one is	Thank you for your comment. The wording for these two recommendations has been amended to make them clearer. Oncology registrar was intended as an example and centres should decide the best way and people to achieve 24/7 cover.

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				needed, might be the acute oncology service (which should have 24/7 cover).	
Royal College of Radiologists	Guideline	007	004	1.1.10 – what does 'oncology treatments' mean? Please specify if possible.	Thank you for your comment. The committee agree this term does not have intrinsic meaning and has been removed as an example.
Royal College of Radiologists	Guideline	010	006	1.1.21 – 'radiotherapy and simulator facilities are available for urgent (within 24 hours) daytime sessions'. We suggest that it would be clearer to say 'radiotherapy can be given within 24 hours of a decision to treat'.	Thank you for your comment. This recommendation is primarily related to what services have to do, but the committee agreed that treatment is the objective of this. So 'in order that radiotherapy can be given within 24 hours of a decision to treat' has been added to the end of the sentence.
Royal College of Radiologists	Guideline	010	019	1.1.24 – we think this is referring to inpatients with MSCC. Some patients will be managed as outpatients or via an acute oncology service, especially if they have excellent function. Can this please be made clear throughout this section so that patients who are not inpatients have the same access to rehabilitation and community support.	Thank you for your comment. Recommendation 1.1.24 is about discharge planning and the committee therefore think it is clear that this is not referring only to inpatients with MSCC. If your comment relates to recommendation 1.1.24, the committee also do not think this would be interpreted as only being relevant to inpatients with MSCC as the wording used is 'people with MSCC'
Royal College of Radiologists	Guideline	016	019	1.3.6. We this think statement is misleading. Low back pain in a patient with cancer is itself clinical evidence of possible spinal metastases. Please clarify.	Thank you for your comment. Whilst low back pain is a symptom of spinal metastases the committee decided that the wording 'clinical evidence' suggests something more than this. An example of what this 'clinical evidence' could be (for example previous imaging investigations) has been added to the recommendation to clarify this.
Royal College of Radiologists	Guideline	018	016	1.5.3 See comments above. We do not agree that all people with suspected spinal metastases need an MRI within 1 week. For example, this would include anyone with cancer and any back pain, or someone with cancer and an asymptomatic spinal metastasis detected by another imaging technique. We do agree that all people with the symptoms listed in box 1 should have an MRI within 1 week. Please clarify this.	Thank you for your comment. This recommendation has been updated to make it clear that the 1 week timeframe refers to MRI done to consider treatment options in those with clinical suspicion of spinal metastases.

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Royal College of Radiologists	Guideline	024	012	1.7.14 The bisphosphonate recommendations are 15 years old. We believe there is, for example, evidence to support the use of bisphosphonates to help pain in lung and renal cancers. See ESMO 2020 guidelines - https://www.esmo.org/guidelines/guidelines-by-topic/supportive-and-palliative-care/bone-health-in-cancer-patients. These are widely used by oncologists. It would be helpful to have clarity on why NICE guidance contradicts them.	Thank you for your comment. The recommendations on bisphosphonate treatment in the 2008 guideline have been retained and the evidence for this will be reviewed in a later update to take into account upcoming patent changes. The committee noted that the recommendations are consistent with current practice and that retaining them would benefit patients and would not be a safety concern.
Royal College of Radiologists	Guideline	027	014	1.10.2 'For people with spinal metastases without MSCC who have non-mechanical spinal pain, offer 8Gy single fraction radiotherapy, even if they are paralysed'. This implies that all patients with spinal metastases who have pain should have radiotherapy and should receive 8Gy single fraction. This is not true – there may be patients who can have their pain controlled in other ways. We agree that, if radiotherapy is indicated for spinal pain, 8Gy is usually the dose that should be prescribed. Please clarify this.	Thank you for your comment. This recommendation is in a section specifically about using radiotherapy to treat pain in people with spinal metastases. As such we do not think it implies this is the only treatment for those with spinal metastases. Broader recommendations about pain management are made in section 1.7.
Royal College of Radiologists	Guideline	028	004	1.10.2 'oligometastases (up to 3 discrete metastases anywhere in the body with spinal involvement). This implies that the definition of oligometastases includes spinal involvement, which is not true. Please amend this. (See also 1.10.7 where the same statement is used).	Thank you for your comment. The wording has been revised by removing 'with spinal involvement' from the brackets to clarify that this is not part of the definition but part of this particular population.
Royal College of Radiologists	Guideline	028	022	1.10.6 'multilevel disease; disease requiring a large treatment field'. These imply the same thing – that a large volume of the patient is receiving radiation so the risk of side effects like nausea and vomiting is increased. They could be combined for clarity into one point 'disease requiring a large treatment field or fields'.	Thank you for your comment. The recommendation has been reworded as suggested.

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Royal College of Surgeons of Edinburgh	Guideline	019	009 - 011	1.5.6 Here there appears to be an internal inconsistency within the draft recommendations. It is likely that many patients with active cancer will have back pain even more so those with active cancer and spinal metastasis. Where the patient is known to have an active cancer and therefore at higher risk of developing MSCC, the draft recommendation appears to be for MRI imaging be reserved for those with progressive neurology (symptoms of MSCC). This is compared to those with only a past history of cancer for whom the recommendation is for referral to the MSCC coordinator and scan within a week. Consideration should be given for active cancer group with back pain to be referred to the MSCC coordinator including all those with spinal metastasis.	Thank you for your comment. The committee considered that people with known spinal metastases but with new or worsening pain would be covered by recommendations 1.5.3 and 1.5.6. They updated recommendation 1.5.3 to indicate MRI would be offered to consider treatment options based on clinical suspicion of spinal metastases. 1.5.6 does not rule out MRI for those with known metastases but advises against it purely for the early radiological detection of (asymptomatic) cord compression.
Royal College of Surgeons of Edinburgh	Guideline	031	001 - 007	The draft guideline includes recommendations in section 1.11.3 -5. *Offer surgical intervention intended to halt or reverse neurological decline as soon as possible after the onset of neurological symptoms or signs indicating MSCC.* *Take into account the speed of onset and rate of progression of neurological symptoms and signs when determining the urgency of surgical intervention.* *Do not use a time limit after complete paralysis to decide whether to offer surgical intervention to restore neurological function.* The existing guideline had the following recommendations 1.5.4.2-4:	Thank you for your comment. The committee had different inclusion criteria for the surgical question, for example studies had to be comparative (whether they were randomised or non-randomised). The committee decided not to make surgical decisions solely based on ambulation or arbitrary time frames but based on a personalised treatment plan with advice from all the relevant specialties. The committee did consider the Patchell evidence but supplemented this with their expertise and experience to make recommendations and their reasoning is described in the related rationale in the guideline as well as in the discussion section of evidence review N). The committee decided that the MSCC coordinator should be based in oncology because spinal metastases and MSCC are an oncological condition and therefore this expertise would be readily available to the MSCC

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				Patients with MSCC who are suitable for surgery should have surgery before they lose the ability to walk. *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.* *Patients with MSCC who have been completely paraplegic or tetraplegic for more than 24 hours should only be offered surgery if spinal stabilisation is required for pain relief.* The existing guideline presented the following evidence: *The probabilities associated with post-treatment outcomes were taken from randomised and non-randomised sources; the RCT by Patchell et al.[7] did not provide sufficient information to be used as the sole source of information. The RCT only included non- ambulant patients if they had been paraplegic for less than 48 hours.* The new guideline draft guideline might benefit from further clarification of why this change was made or what further evidence was considered. The original opinion seems to be made on the lack of evidence for treatment for treatment, but the subsequent opinion based on lack of evidence against treatment.	coordinator as a starting point for coordinated care. The economic model was based on such a service configuration. However, it is recommended that all relevant specialties have a designated point of contact to liaise with other services so that the relevant expertise can be accessed to discuss treatment options. The committee decided that this is within the remit of the MSCC coordinator and that 'the role should be carried out by a designated clinician with appropriate expertise when the MSCC coordinator is not working (for example, an on-call oncology registrar)'. The 'on-call oncology registrar' was given as an example because it is recommended that the MSCC coordinator is based in oncology. However, it could be a surgical registrar if they were the person best placed for this role at the time when the MSCC coordinator is not working. With regards to the timing and MSCC coordinators and services becoming overwhelmed the committee rephrased the recommendation to read 'seek advice through the MSCC coordinator (within 24 hours)' to clarify that this is not necessarily a referral to the MSCC service but could result in advice to have a scan within 1 week at the local referring hospital. Referral can then be made once the suspicion has been confirmed. The symptoms and signs listed in the box came from an evidence review that was conducted for this purpose (see evidence review D).

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				Considering areas outside surgical treatment the following observations are made. 1. The MSCC coordinator based in oncology, or spinal surgery? By its very nature the MSCC coordinator must be multidisciplinary in outlook and forge working relationships cross speciality boundaries. Indeed, that is a key benefit of the role. In section 1.1.6 the recommendation is for the MSCC coordinator to be based in Oncology and out of hours suggests the oncology registrar. Has the committee considered this being the on-call spinal surgical registrar? They may be in a better position to advise referring units regarding spinal stability, the need for immobilisation and the need for urgent transfer for surgery. 2. Who and when to scan? The draft guidelines list the following reasons for increased suspicion of MSCC: *Box 1 – Past or Current diagnosis of cancer* 1. ***Pain characteristics suggesting spinal metastases:*** • *Severe unremitting back pain* • *Progressive back pain* • *Mechanical pain (aggravated by standing, sitting or moving)*	

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				• *Back pain aggravated by straining (for example, coughing, sneezing or bowel movements)* • *Night-time back pain disturbing sleep* • *Localised tenderness* • *Claudication (muscle pain or cramping in the legs when walking or exercising)* ***Symptoms and signs suggesting cord compression:*** • *Bladder or bowel dysfunction* • *Gait disturbance or difficulty walking* • *Limb weakness* • *Neurological signs of spinal cord or cauda equina compression* • *Numbness, paraesthesia or sensory loss* • *Radicular pain* *The draft guidelines recommend the following:* 1.3.3 Urgently contact the MSCC coordinator (within 24 hours) if a person with a past or current diagnosis of cancer presents with pain with the characteristics suggesting spinal metastases listed in box 1. 1.3.5 If a person without a past or current diagnosis of cancer has any of	

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				the pain characteristics listed in box 1 and cancer is suspected, refer them for urgent oncology assessment (see also the NICE guideline on suspected cancer). 1.5.3 Offer an MRI scan to people with suspected spinal metastases but without suspicion of MSCC (see recommendation 1.3.3) to be performed: within 1 week at the local hospital Offer out-of-hours MRI only in clinical circumstances in which urgent diagnosis is needed to enable treatment to start immediately. 1.4.2 Consider immobilisation for people with: suspected or confirmed spinal metastases or MSCC **and** moderate to severe pain associated with movement. Offer an MRI scan to people with suspected MSCC (see recommendation 1.3.2) to be performed: as soon as possible (and always within 24 hours) at the local hospital or appropriate	

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				centre with direct access imaging facilities. Transfer to a tertiary centre for MRI should only be undertaken if local MRI is not possible. The new guideline follows existing guidelines (NG59) and traditional 'red-flags' to highlight patients suspected of having MSCC and recommends they are all referred to the MSCC coordinator. The symptoms listed however are non-specific and common. Given the prevalence of back pain and the number of people with a past history of cancer referring all these patients to the MSCC coordinator may unnecessarily overwhelm the MSCC pathway. (Compare the resources required to scan all of these patients within a week vs the number of MSCC coordinators.) In the absence of neurological signs or symptoms referal to the MSCC coordinator might be considered in this group after spinal metastasis is confirmed on imaging.	
Royal College of Surgeons of Edinburgh	Guideline	032	006	1.11.7 - Consider decompression. The primary problem is that of a compressed spinal cord and threatened neurological function. Most MSCC affects the vertebral body potentially mechanically destabilising the front of the spine. The addition of laminectomy might lead to further instability, however instrumentation (stabilisation) of the spine requires additional expertise and resource. The existing guideline presented the following evidence: 6.6 Surgery for MSCC	Thank you for your comment. The committee decided to adopt a tailored approach by developing a personalised treatment plan for each person based on key information with input from other relevant specialists. They noted that decompression or stabilisation surgery ought to be considered in people who have cord compression. The committee did not want to be too prescriptive about the details of the techniques used and within NICE guidelines it is assumed that such techniques would be carried out by people with the relevant expertise to do so. The evidence review had different inclusion criteria, for example studies had to be comparative, and case series studies were also excluded. So with regards to the

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				What surgical technique is the most effective in treating patients with known MSCC in terms of the following outcomes: long term deformities; overall survival; symptom control (pain control, continence, ambulation, sphincter function, neurological function - ASIA /Frankel grades); rate of revision surgery – further interventions (depending on prior surgery); QoL; Economics (cost of surgery and rehab); complication/safety Short Summary The evidence included for this question ranges from moderate to low quality. Very few reports exist on comparative interventions. Most report on retrospective analysis of a case series (Chen et al. 2007; Harris et al. 1996; Jansson et al. 2006; Klimo et al. 2003, 2004; Kwok et al., 2006; Lewandrowsky et al. 2004; Loblaw et al. 2005; Prasad & Schiff 2005; Senel et al. 2007; Shehadi et al. 2007 Witham et al. 2006) but there is one prospective non comparative study (Mannion et al. 2007) and one RCT (Patchell et al. 2005). Klimo et al. (2005) conducted an indirect comparative, meta-analysis (which included uncontrolled studies with diverse study populations) of surgery versus conventional radiotherapy for the treatment of metastatic spinal epidural disease. There is consistent evidence that laminectomy alone in case of ventral	studies mentioned: The case series and the Mannion study would have been excluded as they are non-comparative, and the Klimo paper looks like it just analysed those non-comparative studies. The Patchell 2005 RCT was included. • Retrospective analysis of a case series (Chen et al. 2007; Harris et al. 1996; Jansson et al. 2006; Klimo et al. 2003, 2004; Kwok et al., 2006; Lewandrowsky et al. 2004; Loblaw et al. 2005; Prasad & Schiff 2005; Senel et al. 2007; Shehadi et al. 2007 Witham et al. 2006) • prospective non comparative study (Mannion et al. 2007) • Klimo et al. (2005) indirect comparative, meta-analysis (which included uncontrolled studies) • RCT (Patchell et al. 2005) The included evidence can be found in evidence review N which also has a detailed discussion section which describes how the evidence was used to draft recommendations. Without the relevant evidence for example for laminectomy the committee decided that they could not comment on this. The only evidence was for radiotherapy post surgery rather than radiotherapy prior to surgery and so the committee recommended this once the person has recovered from surgery so that wound complications can be avoided. Due to the fact that some previously included studies were non-comparative those would have not made it into closer consideration of the evidence and therefore do not feature on the excluded studies list.

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				compression is associated with poor outcomes. Anterior, posterior or combined decompression with immediate stabilisation have been shown to provide improved patient outcomes, when compared with historical reports of RT, decompressive laminectomy without stabilisation or combined RT and laminectomy. The evidence indicates that in appropriately selected patients surgery should be the initial treatment of choice, as it is usually able to maintain ambulation, provides pain relief, provides a significant chance of recovery of neurologic function, acceptable peri-operative morbidity and mortality and prevention of late neurologic deterioration. Overall complications are higher for vertebral body resection compared to laminectomy. The rate of complications is significantly increased in patients who have received RT before surgery than in patients who received surgery first. Surgical complications included wound infection and failure of fixation that required additional surgery. The new guideline draft guideline might benefit from further clarification of why this evidence was rejected or what further evidence was considered.	
Society of British Neurological Surgeons	General	General	General	We feel that this document is generally well written and incorporates very welcome changes and we thank the committee for their hard work.	Thank you for your comment in support of this guidance.
Society of British	General	General	General	We think there is an important and welcome change in the document.	Thank you for your comment. The committee agreed with your comment that 'this is the way forward' and decided

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Neurological Surgeons				The previous 2008 document was pretty much geared towards the management of only MSCC whereas this document explicitly states that it is dealing with all spinal metastases and not just MSCC. It suggests that all spinal metastases should be referred to the MSCC coordinator rather than just MSCC (page 6 line 4) Logistically this will be a major challenge. Cancer UK estimates that 1 in 2 people in the UK will die of cancer. Of those who die of cancer approximately 50% will have spinal metastases (based on autopsy studies). But approximately only 10% of spinal metastases will go on to develop MSCC. Based on work done in one of our large spinal units, to have all referrals with spinal metastases coming to the MSCC coordinator would mean a **five fold increase** in the number of referrals and we strongly recommend the document highlights this and prepares networks for the increase in workload.(page 41 line 6). It is likely that the number of operations for spinal metastases will also increase significantly, though probably not in the same proportion as the increase in referrals. This is however absolutely the way to go for sure. In neurosurgery, we are all used to the situation whereby all brain metastases within our catchment area will be referred to and discussed at the regional neuro-oncology MDT. But at present this is not the case with spinal metastases. Only a small proportion of spinal metastases have a true MDT discussion. With the advances in immunotherapy, radiotherapy modalities and surgery, there is more which can be done and to achieve a true personalised approach, a MDT discussion is	that such a configuration would bring all the relevant expertise together to have spinal oversight. Changes have been made to the document, particularly in the 'How the recommendations might affect services' of the 'rationale and impact' sections. In these changes it is explicitly described that this is a change in practice and will increase activities within such services (see for example the 'how the recommendations affect services' section related to 'Providing a coordinated MSCC and spinal metastases service'). Whilst this would lead to reconfiguration of already existing services to accommodate these pathways for spinal metastases as well as MSCC with associated implementation costs the economic model was based on a service that has already implemented this in their service and found that it improved outcomes. The economic analysis showed that costs decreased per person since the creation of the service and therefore the committee's view is that implementation costs should be regained over the first few years of a newly set up service. NICE is in the process of drafting an implementation plan that aims to provide support to clinicians through the use of shared tools and resources.

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				needed and for this to happen patients need to be referred in early via a single point access via the coordinator.	
Society of British Neurological Surgeons	General	General	General	A lot of the management of patients will be in the post-radiotherapy, post-surgery phase of their care. Rehabilitation in rehab hospitals or in the community and the social care needs should be driven forwards by this revised guidance.	Thank you for your comment. This was the committee's intention with the content in the three sections: 'Providing support and rehabilitation services', 'Support from healthcare services including discharge from hospital' and 'Rehabilitation and supportive care'.
Society of British Neurological Surgeons	General	General	General	It is good that the role of the MSCC Coordinator should be principally an oncology based role. We think though that there will have to be system wide **cross specialty training** so a range of healthcare professionals understand the requirements of the role even if they are not specifically wearing that "MSCC hat". It is understandable that out of hours or when the MSCC Coordinator is not around (typically130.5 hours out of 168 hours per week) other people need to be trained in order to bridge the gap. We hope the health economic analysis takes into account training that is required and that has to be regularly repeated to ensure a consistent service is delivered.	Thank you for your comment. The economic model [Evidence review B, Appendix I] discusses training needs and acknowledges the need to upskill people to take on the MSCC co-ordinator role will have a cost. The committee were unsure if this was a new cost or a transferred one as clinicians already have time and budgets for professional development and training. Although the costs of upskilling the staff was not explicitly included in the model the committee did not believe it would alter conclusions. An extra paragraph has been added to the conclusions section of Evidence review B to make this more explicit. The section on 'How the recommendations might affect services' in the guideline has also been amended.
Society of British Neurological Surgeons	Guideline	017	012	Instead of flat bed rest, 30 degrees head up should be acceptable	Thank you for your comment. The committee noted that flat bed rest was not needed for all and lying flat for prolonged periods should be discouraged. There was a lack of evidence on immobilisation to enable detailed recommendations on angles of elevation but the committee thought that the specific angle of partial

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					elevation would depend on the person's comfort and preferences.
Society of British Neurological Surgeons	Guideline	018	006	We welcome the new recommendation of getting imaging done within one week for suspected spinal metastases.	Thank you for your comment in support of this guidance.
Society of British Neurological Surgeons	Guideline	024	005	The changing approach to use of steroids, Bisphosphonates & Denosumab may be helpfully illustrated with a flow diagram or algorithm.	Thank you for your comment. The recommendations on bisphosphonate treatment in the 2008 guideline have been retained and the evidence for this will be reviewed in a later update to take into account upcoming patent changes. The committee could therefore not comment this.
Society of British Neurological Surgeons	Guideline	026	016	It is useful to note the limitation of the scoring systems like SINS for stability and modified Tokuhashi for prognosis - especially the latter for limitations in prediction of short to medium term prognosis.	Thank you for your comment. Longer descriptions including limitations of the findings are discussed in evidence review K.
Society of British Neurological Surgeons	Guideline	029	008	We welcome the offer of radiotherapy for asymptomatic spinal metastases in oligometastatic disease. Previously we had found it difficult to explain to a patient why an incidental spinal metastasis would not be offered any treatment and one would have to wait for it to cause a problem before treating it.	Thank you for your comment in support of this guidance.
Society of British Neurological Surgeons	Guideline	030	004	Great to see the offer of a second line of radiotherapy in those who had a good response before.	Thank you for your comment in support of this guidance.
Society of British Neurological Surgeons	Guideline	031	011	re offering surgery to those who have been paralysed (but not in pain). We agree there is no evidence against this but there is also no strong evidence for it and it is a significant change from current practice. We would suggest that this should be an area of research ie is there any evidence that offering surgery to those who	Thank you for your comment. The committee recommended several factors to take into account before invasive interventions are considered: 'Before an invasive intervention is offered, make a treatment plan in discussion with the appropriate specialists (such as an oncologist and spinal surgeon) within the MSCC service

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				have been paralysed for more than 24 hours leads to recovery of neurology	multidisciplinary team.' Another related recommendation is: 'Take into account the speed of onset and rate of progression of neurological symptoms and signs when determining the urgency of surgical intervention.' The committee reflected on the wording and added 'as the only factor' to this recommendation as suggested by other stakeholders. The committee thought rather than arbitrary time limits that are not evidence based, there should be treatment plans (which would consider prognosis) as well as other considerations about timing of treatment to make decisions about whether or not invasive treatment is the best option even if there is complete paralysis. They decided that this would safeguard against all paralysed people being offered surgery but it also means that it is not withheld purely by reason of timing. The committee decided not to make a research recommendation to address this because it would not be ethical to withhold treatment according to different length of time since paralysis.
Society of British Neurological Surgeons	Guideline	049	003	The wording "immediate immobilisation" may not be particularly helpful especially when presented in the context of preventing "spinal column collapse". I suppose it treats the anxiety of clinicians while it compounds the fear and anxiety of patients. Something along the lines of: *Consider spinal load reducing interventions such as reclined support, either flat or elevated guided by comfort and assistance with mobilising, either physical or with aids*. Spinal column collapse is not a widely accepted term. Its unlikely that the spinal column will simply collapse" - stability is a function of structural integrity, load / forces, and time).	Thank you for your comment. This part of the rationale section has been reworded using some of your suggestions to replace 'immediate immobilisation' and explain the current recommendation. The wording of 'spinal column collapse was also amended to 'risk of damage to an unstable spine'.
Society of British	Guideline	070	002	The document states that only 3-5% of patients with cancer will have spinal metastases. This is the same as	Thank you for your comment. This was amended to 'Metastases to the spinal column are diagnosed in

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Neurological Surgeons				the 2008 NICE document. But a lot of papers suggest it can be 30-70% and there is a more recent systematic review for just solid tumours which suggests it is more than 15%, Epidemiology of spinal metastases, metastatic epidural spinal cord compression and pathologic vertebral compression fractures in patients with solid tumours: A systematic review - ScienceDirect . An updated statistic would be helpful	around 16% of all people with cancer and may cause pain, vertebral collapse and spinal cord or root compression' which is consistent with the suggested reference.
Spinal Injuries Association	General	General	General	Clinician should have responsibility to ensure referral to Spinal Injuries Association for all those with significant neurological loss resulting in tetraplegia. or paraplegia	Thank you for your comment. A reference to the 'Spinal Injuries Association' will be added to the Information for the Public section which is an associated resource that will be published alongside the guideline.
Spinal Injuries Association	Guideline	007	008 - 009	… and other relevant services (for example palliative care, Spinal Injuries Association and social services)	Thank you for your comment. The committee believe that signposting to these services is better covered in the 'Information and Support' section.
Spinal Injuries Association	Guideline	014	016 - 019	For those that develop significant neurological deficit including loss of bladder & bowel control as a result of spinal cord compression, it is essential the patient and their family are referred to Spinal Injuries Association	Thank you for your comment. A reference to the 'Spinal Injuries Association' will be added to the Information for the Public section which is an associated resource that will be published alongside the guideline.
St George's University Hospitals NHS Foundation Trust	Evidence review H	General	General	Much of the work on Custom TLSO will come from Sean Molloy in RNOH and in particular their work on Myeloma and other haematological disease. I would suggest incorporating their British journal of haematology 2015 algorithms at least for haematological disease. Indeed the whole guideline either needs to make a note that often exlcludes haematological disease from the guidelines just as Tokuhashi, Tomita and SINS etc all exclude myeloma from their scoring systems or frameworks.	Thank you for your comment. Evidence review H covers effectiveness of techniques or methods of immobilisation. The publication by Sean Molloy, which included algorithms for the management of people with spinal myeloma disease, were looked at. This did not match the inclusion criteria for the protocol because it was a narrative review. There was specific haematology expertise on the committee and a number of recommendations were specifically drafted to address this population (see for instance the corticosteroid section). For other sections the committee thought that the content was generalisable to this population. The committee has also drafted visual summaries of the guideline, giving an overview of key recommendations on

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					spinal metastases and MCCC – these would also benefit the needs of people with haematological disease. The committee were aware that the scoring systems exclude this group and therefore had made a recommendation that scoring systems should only be used as part of a full clinical assessment. Throughout the development of the guideline specific evidence addressing the review questions in relation to myeloma was sparse which was also why the committee did not design a separate pathway.
St George's University Hospitals NHS Foundation Trust	Evidence review M	General	General	Recommendations for Research In my opinion the committee are asking the wrong question and indeed the way this is phrased shows a significant misunderstanding of when we currently use SBRT vs IMRT vs EBRT. Post operative SBRT or SABR is not something that we chose over EBRT or even IMRT. It works the other way around. If Oncology have a patient with low volume disease or metachronous oligometastatic disease and there is a Bilsky 1C grading or higher than that patient is entitled to SBRT to deliver radical oncological treatment and maximum local control potentially leading to a disease free state. Bilsky 1a and 1b will most likely bypass Spinal Surgeons altogether, however they must be absolutely aware that Stereotactic Radiosurgery (SRS) exists so that they can refer this to their local SBRT MDT if it comes across their own MDT.	Thank you for your comment. The committee agreed that SABR has an established role in treating spinal metastases (without MSCC) in people with good overall prognosis or oligometastases with spinal involvement. There was, however, a lack of evidence about its role when there is MSCC. The committee thought that due to the time pressure of treating MSCC as an oncologic emergency and SABR being a technically demanding and time-consuming process it would be a logistical challenge to implement SABR research in the pre-operative setting (because this would usually be an emergency situation). They therefore agreed to recommend SABR research in the post operative setting.

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				If SRS for whatever reason is not available – ie it may be synchronous disease, then the surgeons should be considering Tomita en Bloc spondylectomy and work their way down the surgical sieve. it is not spinal surgeons who will decide on whether SBRT vs EBRT is more effective and therefore the notion of this as a research question is misplaced	
St George's University Hospitals NHS Foundation Trust	General	General	General	The scope of this NG has expanded considerably from the original NG of MSCC in adults: risk assessment, diagnosis and management. The scope is now all and any spinal metastases AND MSCC. Whilst there is some overlap there are also large differences in treatment algorithms and paradigms. We congratulate the committee on bringing together this expanded guideline. It can be somewhat confusing that cord compression and cauda equina compression must be separated within the term MSCC which only relates to the spinal cord but indeed when it comes to SBRT merely delineating that there is metastases in contact with the thecal sac is enough to change management. The changing paradigm of all metastatic disease is all disciplines of medicine is that aggressive eradication of metastases either systemically or by intervention can lead to disease free or low volume disease states which improve longevity. Originally in 2008 this document would have been a requirement to bolster the research done by Patchell et al in 2001. It must be remembered that MSCC surgery in its simplest form was palliative surgery to maintatin ambulation and continence. The paradigm of spinal cancer surgery is that we now often perform surgery for	Thank you for your comment. During scoping it was raised that it was unclear in the 2008 guideline whether or not it covered spinal metastases and prevention of MSCC. This was due to the title of the guideline referring to risk assessment, diagnosis and management. Yet there was an entire section entitled 'treatment of spinal metastases and MSCC' which means that spinal metastases were also considered and that relevant evidence was searched for and included. The current guideline is making this inclusion explicit so that it is clear that both populations are covered. The committee decided that the MSCC services would bring all the relevant expertise together to have spinal oversight both for spinal metastases and MSCC. They reflected on this and recognised that this is a change in practice and made changes to the document, particularly in the 'How the recommendations might affect services' of the 'rationale and impact' sections to clarify this. The evidence was not granular enough to allow the committee to make specific separate recommendations related to cauda equina compression. They focused on the evidence and divided the recommendations into spinal metastases and MSCC as was done in the evidence. This was also the case for symptomatic spinal metastases and MSCC. The evidence was related to

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				oncological reasons – ie to prolong life and this means it may be performed in relatively asymptomatic patients. The reason that this document becomes difficult to opine on every pathway is that NICE have chosen to expand its remit beyond spinal cord compression. In particular as with other disciplines of surgery, aggressive resection or treatment of metastases has been proven to improve survivorship whether they are lung, liver, adrenal, kidney, peritoneal, lymph nodes or even brain. Resection of lung or liver metastases are not done because they are symptomatic, indeed, it would be mainly done if asymptomatic. We attempt radical oncological surgery states in order to improve life span not eg lung or liver function and for spine, it should not simply be to maintain ambulation and continence. This is the new fundamental difference that this document does not begin to address and in not leaving the door open for research could significantly impede progress. Our Spinal Oncology MDT's have evolved to naturally discuss all spinal metastases but I am sure many asymptomatic metastases do not make it to our MDTs as their treatment can be adequately dealt with by other specialties and rightly so. Some headings or categories that require consideration are these: Synchronous vs Metachronous Symptomatic vs Asymptomatic Metastatic vs Oligometastatic Low volume disease vs high volume disease	painful spinal metastases and MSCC so the committee did not feel that the evidence could be extrapolated to asymptomatic spinal metastases. However, there was a recognition that more research is needed in relation to asymptomatic spinal metastases so they recommended that radiotherapy could be considered for this group as part of a randomised controlled trial. There is also a research recommendation on surgery to prevent MSCC for those with spinal metastases without pain or instability. The committee decided that a multidisciplinary approach using all relevant expertise to devise a treatment plan would mean that there would be plans for people with suspected spinal metastases. The committee noted it is difficult to suspect spinal metastases if there are not any of the symptoms or signs listed in the 'recognising spinal metastases and MSCC' section. However, if they are incidentally identified people with asymptomatic spinal metastases would fall into the remit of this guideline and the treatment would be planned in the MSCC service (bringing all spinal expertise together). This could include radiotherapy as well as invasive interventions after discussions with the relevant experts. Visual summaries of the guideline have been created which give an overview of key recommendations on assessment and management of spinal metastases and MCCC (2 for spinal metastases and 2 for MSCC). The reason why the committee did not go into the details of all categories that are mentioned in your comment is that the evidence was not as granular as this and giving broad categories allows clinical judgement to be used to plan treatment. NICE is in the process of drafting an implementation plan that aims to provide support to clinicians through the use of shared tools and resources.

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				Oligometastatic vs Oligoprogressive Abnromal neurology vs Normal Neurology Metastatic Spinal Cord Compression Metastatic Cauda Equina Compression	
St George's University Hospitals NHS Foundation Trust	General	General	General	Final Comments The Committee have put together a huge piece of work and should be congratulated. I believe that expanding from MSCC to a document on ALL Spinal Metastases has greatly changed the remit of what the original 2008 paper set out to do and the MSCC co-ordinator and all the hard work to get that system running to protect those with MSCC or CES getting neurology is diluted by a new paradigm of spinal metastatic treatment. We must be careful that when a patient comes to us with symptomatic MSCC that they do not simply get a knee-jerk Patchell-esque palliative decompressive surgery as that in itself might be their death sentence when with a little bit of planning they could have oncological treatment and be disease free. We may inadvertently condemn them to palliative end of life care by not recognising the oligometastatic disease state. The danger is thinking that symptomatic surgery is the only indication for spinal intervention and that all we are doing is maintaining ambulation and continence for the last days of life as we are now able to offer much more. Of course this is still a small percentage of patients but this is why we think of these patients in this manner first and foremost. For many, symptomatic relief of pain as well as preservation of ambulation and continence is profoundly	Thank you for your comment. During scoping it was raised that it was unclear in the 2008 guideline whether or not it covered spinal metastases and prevention of MSCC. This was due to the title of the guideline referring to risk assessment, diagnosis and management. Yet there was an entire section entitled 'treatment of spinal metastases and MSCC' which means that spinal metastases were also considered and that relevant evidence was searched for and included. The current guideline is making this inclusion explicit so that it is clear that both populations are covered. The committee decided that the MSCC services would bring all the relevant expertise together to have spinal oversight both for spinal metastases and MSCC. They reflected on this and recognised that this is a change in practice and made changes to the document, particularly in the 'How the recommendations might affect services' of the 'rationale and impact' sections to clarify this. Throughout the guideline they recommended an individualised approach focusing on developing a 'personalised treatment plan' and making 'a treatment plan in discussion with the appropriate specialists (such as an oncologist and spinal surgeon) within the MSCC service multidisciplinary team'. This is to prevent any knee-jerk decisions being made with regards to any particular intervention so that the decisions are made holistically

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				important as part of their palliative treatment which may still last 6 months to a year. For those with less time to live and have symptoms we ought to do everything we can to alleviate those symptoms of pain through the myriad of interventions we have available.	given the circumstances and preferences of the person (which would include matters such as improving prognosis, preserving function and improving quality of life).
St George's University Hospitals NHS Foundation Trust	Guideline	General	General	1.10 Ie Quote Patchell et al that surgical decompression and stabilization and post adjuant RT gives best results	Thank you for your comment. The study is included as evidence and is referenced in the related evidence review. The findings of this study have also been referred to in the rationale for this recommendation. NICE guidelines do not directly quote or reference studies in the recommendations or rationale sections.
St George's University Hospitals NHS Foundation Trust	Guideline	021 - 022	017 – 021, 001 - 022	1.7.3 Treatment of Painful Metastases – other treatment options if suitable for example: Cryotherapy Cryotherapy and cement Radiofrequency Ablation alone RFA and Cement augmentation RFA and surgery Radiotherapy: EBRT, IMRT, SRS, SBRT, Vertebroplasty, Kyphoplasty, Mechanical Kyphoplasty (ie Vertebral Stents) Immoblization – Bracing Especially when it comes to Haematological we need an entire section on Custom Made TLSO and guidance on CTLSO. Whilst very rare to require TLSO in non haematological maglignancy of spine it is probably the treatment of choice within the first 3 months of Myeloma symptomatic or asymptomatic.	Thank you for your comment. There was no evidence that was identified for cryotherapy. Without evidence it cannot be incorporated in the economic model and it is therefore unclear whether this would be cost-effective. The committee could therefore not comment on this. Radiofrequency ablation on its own or as an adjunct has now been included because of the related two NICE interventional procedures guidelines that have been published during consultation of this guideline. Vertebroplasty and Kyphoplasty are included in the invasive intervention section, but there was no evidence for mechanical Kyphoplasty. The committee recognises that radiotherapy techniques are evolving but there was no evidence for some of the techniques mentioned (EBRT, IMRT and SRS) so the committee could not comment on these. However, SBRT was recommended in the guideline for certain groups of people for whom this would be suitable. There was no evidence for bracing and therefore the committee recommended external spinal support if surgery is not a suitable option for a person with MSCC, a halo vest or cervico-thoraco-lumbar

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				Custom made are essential because off the shelf has a sternal support which fractures the sternum which is often involved by disease. Sternal fractures mandate consideration of a CTLSO – see all Molloy et al papers on this (N Hayden should have access to all of these at RNOH) Cervical and High Thoracic myeloma pathological painful fractures – CTLSO Of note remember to quite CAFÉ trials that show Kyphoplasty of mets with VAS score more than 5/10 are superior to Radiotherapy alone.	orthosis were given as examples but this would not rule out other options. Using orthoses in mobilisation was also covered by seeking advice from a specialist (for example, a physiotherapist) on the use of orthoses to promote mobility and to prevent loss of range of limb movement. Since there was no evidence for orthoses the committee could not be specific about any particular method and decided to leave this to the clinical judgement of a specialist.
St George's University Hospitals NHS Foundation Trust	Guideline	031 - 032	018	1.11.6 Vertebral body stents and cement ie Mechanical Kyphoplasty should be included (eg Spinejack) The literature supports VAS >5/10 with concordant Closed fist percussion or palpation tenderness of the spine and that BKP will be superior to Radiotherapy alone, see CAFÉ trial and Myeloma studies.	Thank you for your comment. No evidence was identified related to mechanical kyphoplasty that matched our inclusion criteria and the committee are aware that the evidence related to 'spinejack' is evolving. This meant that it could not be included in the economic analysis so it is unclear whether this would be cost-effective. The CAFE trial was included and that is one of the studies used in the economic model which allowed balloon kyphoplasty to be an option (which is also consistent with the related NICE interventional procedures guideline).
St George's University Hospitals NHS Foundation Trust	Guideline	019 - 020	021	1.5.10 Symptomatic abnormal neurology needs MRI spine and CT spine. We know that Bilsky 3 MSCC from myeloma usually does not need surgery. This would only change (see Molloy et al 2015 BJH) if a CT showed retropulsion of the posterior wall causing bony compression. The 4th column of the spine is the sternum – very important in haematological disease. So this anatomical region of the spine is what should be "considered". Otherwise I suggest that CT and MRI are utilised.	Thank you for your comment. The wording 'consider' is used to indicate the strength of the evidence. If evidence of efficacy or effectiveness for an intervention is either lacking or too low quality, or too uncertain for firm conclusions to be reached, the word 'consider' can be used to indicate this. The evidence was stronger for MRI than for CT. In this instance the committee recommended to consider 'multiplanar viewing or 3-plane reconstruction of recent CT images for people with spinal metastases or MSCC' to assess spinal stability or to plan

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					surgery rather than to consider it for particular circumstances or conditions.
St George's University Hospitals NHS Foundation Trust	Guideline	031 - 032	017 – 020. 001 - 010	1.11.6 and 1.11.7 Does use of radiotherapy friendly implants need to be mentioned (e.g. carbon fibre constructs)? Absolutely agree. It is not industry driven or driven by spinal surgeons. The use of Carbon Fibre implants is driven by our literature from Radio-oncology. Our SBRT technicians can plan and deliver SBRT more effectively and efficiently and less dangerously to other surrounding organs and the spinal cord. NICE rely too heavily on RCT and of course this wont exist. But special consideration by NICE should be made not to EXCLUDE Carbon fibre instrumentation in tumour surgery if it cannot and probably wont be able to make an absolute recommendation on behalf of Carbon implants. Committee – please note that Intervention for MSCC or metastatic disease with impending CES, that is oligometastatic must not ONLY be considered for surgery for symptomatic reasons. Surgery must be considered eg Separation surgery followed by SBRT if there is a chance to radically treat the metastasis and lead to a disease free state.	Thank you for your comment. There was no evidence that was identified for carbon fibre implants. Without evidence it cannot be incorporated in the economic model and it is therefore unclear whether this would be cost-effective. The committee could therefore not comment on this. This guideline was not restricted to RCT evidence but also incorporated observational studies as long as they were comparative. All evidence was related to symptomatic spinal metastases or MSCC and the committee noted that symptoms such as pain are often the first time that people present to healthcare professionals with the condition. However, they made a recommendation for asymptomatic spinal metastases that weighed up the benefits and the harms of radiotherapy and they decided to only recommend it in 3 situations (as part of a trial, as part of a treatment strategy for oligometastases and if there are radiological signs of impending cord compression by an epidural or intradural tumour) in other situations they noted that the toxicity of the treatment would be more harmful than the potential benefit.
St George's University Hospitals NHS Foundation Trust	Guideline	001	007	This guideline covers: The guideline aims to improve early diagnosis and treatment to prevent neurological injury. *please note that our aim in Cancer Treatment should be the aim of complete oncological treatment when possible. Radical treatment in conjunction with the right systemic therapy can lead to a complete "Disease Free State". This is why SRS (stereotactic radiosurgery) uses the	Thank you for your comment. The wording has been amended as suggested.

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				terms "curative" in the description of what radio-oncology are trying to achieve. I suggest: "The guideline aims to improve early diagnosis and treatment to prevent neurological injury ***and improve prognosis"*** **1.1.9** Radiation Oncology is a fundamental addition You need someone well versed in SBRT, Proton and Carbon ion.	
St George's University Hospitals NHS Foundation Trust	Comment's Form – Question 1	002	General	Surgery to prevent MSCC 1. The question is relevant if we are talking about oligometastatic disease because these are the fit healthy people with limited disease that you want to operate on, - not because you are trying to prevent MSCC not because you are trying to preserve ambulation or continence BUT because you are trying to eradicate disease and improve prognosis. "Intervention" to prevent MSCC could be a better question. A Bilsky 1a or 1b that could have SBRT, IMRT, RFA or Cryotherapy regardless of whether they are oligometastatic or not is a useful question. We must not forget that metastases everywhere else in the body are usually asymptomatic but aggressively resected or ablated particularly in oligometastic disease states and the Spine should be no different.	Thank you for your comment. The research recommendation relates to surgery to prevent MSCC (for details see appendix K of evidence review N) and has been amended to clarify that the population for this research topic is people with oligometastatic disease. There is also another research recommendation on radiotherapy which relates to SABR (see appendix K of evidence review N). There was no evidence that was identified for cryotherapy nor IMRT. Without evidence it cannot be incorporated in the economic model and it is therefore unclear whether this would be cost-effective. Radiofrequency ablation on its own or as an adjunct has now been included because of the related two NICE interventional procedures guidelines that have been published during consultation of this guideline.
St George's University Hospitals NHS Foundation Trust	Guideline	008	015 - 022	1.1.16 Is this practical for the MSCC coordinator to be solely responsible for all of these actions? An education programme will be required. Our MSCC co-ordinator is a CNS. The previous iteration advised at least two Clinical Nurse Specialists. They have an 9am to 5pm role covered by On Call	Thank you for your comment. The committee believe that this is practical and that the MSCC coordinator will mostly be giving holistic advice on all these things rather than being responsible for the clinical details. This is why it was worded as 'initial' advice to indicate that further advice would be provided if needed. The committee did

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				Neurosurgery registrar and On call Oncology registrars out of hours. Education progamme for CNS is not in itself required they must simply convey this information listed after speaking with Senior Clinician as part of the returning pro-forma. We can share the SGH proforma and mandatory information we give back to referrers.	not want to be too prescriptive on the best way to cover the MSCC coordinator role and that can be decided at a local level. **The economic model [Evidence review B, Appendix I] discusses training needs and acknowledges the need to upskill people to take on the MSCC co-ordinator role will have a cost. The committee were unsure if this was a new cost or a transferred one as clinicians already have time and budgets for professional development and training. Although the costs of upskilling the staff was not explicitly included in the model the committee did not believe it would alter conclusions. An extra paragraph has been added to the conclusions section of Evidence review B to make this more explicit. The section on 'How the recommendations might affect services' in the guideline has also been amended. NICE guidelines do not make recommendations about the content of education or training programmes as that is the remit of the various professional organisations.**
St George's University Hospitals NHS Foundation Trust	Guideline	009	016 - 018	1.1.18 Agree with the statement. There continues to be debate, despite 2008 MSCC guidelines and Patchell 2001 paper. Some units continue to avoid complex spinal surgery in the form of instrumentation. Guidelines should again stress that instrumentation be strongly considered. We work in a split department where both specialties of Neurosurgery and Orthopaedic Surgery work so we see the differences in practice. Fixing post operative kyphosis in a post irradiated bed will always be more difficult. It will may be of benefit to	Thank you for your comment. The committee assume this was intended to refer to recommendation 1.1.18. Whilst the committee agree with the comment they did not think it would be helpful for the guideline to give very specific advice to specialist surgeons. The recommendation was therefore left deliberately less prescriptive.

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				the patient to have the instrumentation up front as part of index procedure with wide decompression and pedicle subtractions to avoid 2nd surgeries or symptomatic recurrence.	
St George's University Hospitals NHS Foundation Trust	Guideline	009	020	1.1.19 MRI – responsibility for scanning should lie with referrer where possible including breaking into elective MRI lists. Tertiary centre scanning should be for emergent scans out of hours where the referrer has no out of hours scan access (as per CES guidance). As per former guideline – abnormal neurology requires scans and decisions within 24 hours and those in pain within a week.	Thank you for your comment. Recommendations already say that imaging and initial assessment should be done at the local hospital where imaging is available (recommendation 1.5.2).
St George's University Hospitals NHS Foundation Trust	Guideline	012	002 - 007	1.2.1 Supporting decision making when surgery is required is easy for the providers since the patients will becoming to the hospital. Assistance will be required to provide support particularly for those who are being denied surgery. Specially those who may have had abnormal neurology for several days making decompressive surgery unlikely to be of help. Currently Hubs will not be providing support but will provide information in the form of a decision after an MDT or On Call decision.	Thank you for your comment. Recommendations 1.2.1 and 1.2.12 specify what information and support should be provided. They are not specific about where this information and support should be provided to enable flexibility in implementation to account for variation in local practice.
St George's University Hospitals NHS Foundation Trust	Guideline	013	001 - 005	1.2.5 as above with Holistic Needs Assessment. Further guidance and support to provide this is required	Thank you for your comment. The committee considered that this would be common practice and there are standard formats for undertaking a holistic needs assessment..
St George's University	Guideline	017	012 - 015	1.4.3 With respect to nursing supine with whole bed tilt up to 30 deg "as required" – do we	Thank you for your comment. The committee noted that flat bed rest was not needed for all and lying flat for

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Hospitals NHS Foundation Trust				actually need flat bed rest anymore? Indeed, as long as patient is supported in bed flexion at hips and sitting up to 30 degrees (as a minimum) to aid respiratory function. Prolonged bed rest can be dangerous. Early supportive information from the MSCC co-ordinator should always discuss mobility allowances including toilet/commode privileges Rarely will braces and bed rest be both required	prolonged periods should be discouraged. There was a lack of evidence on immobilisation to enable detailed recommendations on angles of elevation but the committee thought that the specific angle of partial elevation would depend on the person's comfort and preferences.
St George's University Hospitals NHS Foundation Trust	Guideline	017	016 - 019	1.4.4 I think 1.4.4 is adequate. "assessment of spinal stability" can be made from "a specialist physiotherapist, oncologist or spinal surgeon" In general Non surgeons uses SINS since most spinal surgeons will innately understand biomechanical stability. Conversely, surgeons rely more on Pathology or Prognostic scores that medics intrinsically understand)	Thank you for your comment. The committee agreed that scoring systems such as SINS can be helpful additions to clinical assessment, especially for less experienced clinicians, ensuring that the main features for determining spinal instability are assessed. See recommendation 1.9.1.
St George's University Hospitals NHS Foundation Trust	Guideline	019	012 - 016	1.5.7 I would leave it to oncology to decide on PET CT or indeed the future of PET MRI. Whole body MRI and CT TAP and PET all have different sensitivities to differen tumor types – eg useless for haematological and sarcoma. We should refrain mandating certain tests. Agree CT TAP as a minimum.	Thank you for your comment. The committee thought there was not sufficient evidence to make recommendations for or against the use of PET-CT. The recommendations for "other imaging techniques" were focused on imaging to assess the spine and plan treatment and the committee thought CT was usually sufficient if people could not have MRI. Imaging for the staging of cancer was outside the scope of this guideline. The committee noted this will depend for example on the primary tumour type and is best covered in the tumour specific guidelines such as prostate, breast and lung cancer.
St George's University Hospitals NHS	Guideline	019	019 - 020	1.5.9 Isotope bone scan is still being used and should be explicitly discouraged for spine Lesions – from BASS Agree with statement for limited XR use to diagnose Spinal Metastases.	Thank you for your comment. Our literature searches did not identify evidence on isotope bone scans and the committee thought it was not appropriate to go into this level detail given the absence of evidence. The Molloy (2015) paper was not included as evidence because it

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Foundation Trust				Isotope CT Spect does have role in determining symptomatic vertebrae when pan spinal disease exists eg. Myeloma (see British Journal of Haematology 2015 Molloy et al and the guidelines they published) Imaging for symptomatic MSCC is very different than imaging work up for oligometastatic disease so NG should try to distinguish what exactly they are using imaging for in what situation.	was not a primary study. The guideline was focused on imaging for MSCC or suspected spinal metastases. Imaging for people with myeloma is covered in NICE guideline NG34 and staging investigations for various primary tumour types are covered in other NICE tumour specific guidelines.
St George's University Hospitals NHS Foundation Trust	Guideline	025	001 - 019	1.8.1; 1.8.2; 1.8.3 Could be slightly confusing – essentially the guidance is to give steroids in all cases of MSCC with neurology and all cases of diagnosed haematological malignancy; but NOT to suspected lymphoma or myeloma without neurology. Can the latter not just be written as an exclusion to the primary rule of give steroids? Do all haematological or other malignancies need steroids even if no neurology? Again there may be implications for wound healing. Standard triple therapy eg VTD for myeloma – D stands for Dexamethasone. Its part of their treatment. Spinal surgeons should work around systemic therapy. For example at SGH and RNOH- we wait until a chemotherapy break to do BKP for Myeloma pathological fractures.	Thank you for your comment. These recommendations have been reorganised as suggested.
St George's University	Guideline	026	015 - 019	1.9.1 SORG is probably the latest and best AI algorithm available compared to Tokuhashi Revised	Thank you for your comment. There were 2 evidence reviews related to tools. One related to tools to assess

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Hospitals NHS Foundation Trust				We cannot have a modern NG guideline without mentioning NOMS framework and Bilsky Classification I think it is particularly remiss of NICE to not mention NOMS and Bilsky Classification. We formulate primary and metastatic treatment management based off this framework which is a timeless parameter not bound by limitations of current systemic treatment or understanding of disease. It transcends this by simply acknowledging that improving treatments will continue to exist and improve and therefore a "score" is never necessary.	stability of the spine and the other was related to tools for prognosis. Neither the NOMS framework nor the Bilsky scoring system met the inclusion criteria. The NOMS framework is a decision framework related to treatment and the Bilsky scoring system is related to severity of the condition as in staging rather than to assess instability or prognosis. Therefore the evidence on these tools was not reviewed and the committee could not make recommendations on these. There was evidence for SORG but it was limited to one study and the committee decided that this was insufficient to explicitly recommend this. However, the committee acknowledged that there is research in this area and intentionally worded the recommendation 'use a validated prognostic scoring system with good evidence of accuracy' and provided an example of this. There is flexibility in the wording so that other validated accurate scoring systems can be used.
St George's University Hospitals NHS Foundation Trust	Guideline	027	001 - 004	1.9.3 Should oncological (non-surgical) treatment options be considered in prognostication? Oncologists input at this point is vital. Should this be stated? Prognosis should absolutely be stated by oncology. We enforce statements <3 months, >3 months, > 6 months, > 1year We must remember that in principle Non Surgeons are encouraged to use SINS so that they refer earlier. We used to use Harrington/Punjabi and White. In general, surgeons need Tokuhashi/SORG/Tomita/Bauer to predict prognosis and therefore the type of surgery ranging from radical en bloc resection to palliative surgery to palliatve medical treatment	Thank you for your comment. This section is specifically related to tools. However, the committee recognised tools should only be used as part of a full clinical assessment (including general health, pain and information from imaging) to support clinical decision making. This could include consideration of other factors such as the input from an oncologist. It is also recommended 'Before an invasive intervention is offered, make a treatment plan in discussion with the appropriate specialists (such as an oncologist and spinal surgeon) within the MSCC service multidisciplinary team'. This means that decisions are not made in isolations and oncology input is sought which according to the committee would always include discussions about prognosis. SINS is mentioned in one of the recommendations and it is described. It is stated in the

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					rationale that the committee discussed that scoring systems can be helpful additions to clinical assessment, especially for less experienced clinicians, ensuring that the main features for determining spinal instability are assessed and they noted that this could result in earlier referral. The committee acknowledged that there is research in the area of prognostic tools and intentionally worded their recommendation 'use a validated prognostic scoring system with good evidence of accuracy' and provided an example of this. Other validated scoring systems can also be used.
St George's University Hospitals NHS Foundation Trust	Guideline	028	011 - 017	1.10.4 it comes down to the fact that the new guidance blurs the line between MSCC which often implies symptomatic vs spinal metastases which may be asymptomatic. The guidelines need to address this fundamental difference and therefore the different strategies given the different clinical scenarios.	Thank you for your comment. This recommendation is included in a section called 'radiotherapy to treat MSCC' and states in the recommendation that this is referring to MSCC rather than spinal metastases. So the committee decided that this was clear in this specific recommendation. However, they agree that the two groups have different pathways. Visual summaries of the recommendations made in the guideline (2 for spinal metastases and 2 for MSCC) have been added.
St George's University Hospitals NHS Foundation Trust	Guideline	029	004 - 011	1.10.7 We need SBRT specialists on the panel. NHS commissioned guidance is actually for only 3 metastases. I sit on to SBRT MDTs per week and of course the discourse allows for clinical decision making to take place for more than 3. It is true that several papers speak of 3-5. In fact the numerical figure is not what counts but what the Oncologists believe is low volume disease. Furthermore, because there is no SBRT specialist I can see that no one has differentiated between Syncrhonous Metastatic disease vs Metachronous Metastatic disease. Currently only Metachronous oligometastatic disease is commissioned for SBRT.	Thank you for your comment. The committee had input from an SABR specialist who was a co-opted committee member specifically for this expertise The committee decided to use the definition that is currently used in commissioning of stereotactic ablative body radiotherapy in the NHS. The committee considered the size of the field or fields to be more important and therefore specifically mention oligometastases in their recommendation. However, they did not explicitly recommend in favour or against either synchronous or metachronous metastatic disease to allow some clinical judgement. There was relatively little evidence on SABR for this population so it could not be recommended for

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				However, please this committee must understand that Synchronous disease is frequently permitted when passed through an MDT or if the patient has insurance. The intention to treat paradigm of eg SARON studies shows that frequently in Canadian and UK trials, patients cross over because they fund their own SBRT. We should therefore ensure that our patients have the freedom to choose their treatments if it could be better whether it is surgery or Radiotherapy or a combination. It is NOT about symptom control anymore, it is about Improving prognosis and survivorship. Furthermore, there is no mention of Oligoprogressive disease which is eligible for oncological treatment be it radiotherapy, RFA, cryotherapy or surgery. There may in fact be stable metastatic disease but only a single "oligoprogressive" metastatic spinal lesion that is deserving of treatment. Surgical treatment of asymptomatic metastases is established by Tomita and Boriani. We must not ignore this very important tool in our armamentarium. For example oligometastatic sarcoma should avoid having palliative decompressive surgery. Once the capsule of the sarcoma met is violated it caueses the three A's: Agitation, acceleration and aggravation locally and afar by seeding. The treatment of choice is still probably en bloc if possible. SBRT, Proton or Carbon ion therapies will have roles and the latter two modalities haven't been mentioned. Think Chordomas and sarcomas. Agree that this section needs expanding.	everyone and so the committee also made a research recommendation. There was no evidence related to oligoprogressive disease. There was also no evidence on cryotherapy or Proton or Carbon ion therapies, so they could not be added to the economic analysis and it was therefore unclear whether they would be cost-effective. The committee therefore could not recommend these. There was no evidence related to oligoprogressive disease and the committee therefore did not comment on this. There was also no evidence on cryotherapy or Proton or Carbon ion therapies , so they could not be added to the economic analysis and it was therefore unclear whether they would be cost-effective. The committee therefore could not recommend these. With regards to the references that were highlighted in relation to the definition of oligometastases, the committee were aware of these and noted that this is an evolving clinical area. However, they felt that it was more important to consider what the practical definition currently is in the NHS (according to commissioning). The committee decided to focus on a person centred approach by developing a 'personalised treatment plan' (which would take into account the views of oncologists) and that 'before an invasive intervention is offered, make a treatment plan in discussion with the appropriate specialists (such as an oncologist and spinal surgeon) within the MSCC service multidisciplinary team' which would help tailor the treatment to the person including whether people with oligometastatic sarcoma should have it. They noted that they could not be otherwise prescriptive about every circumstance. The committee decided that it is important to discuss a treatment plan 'Before an invasive intervention is offered, make a

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				We need to be able to advise on Asymptomatic Spinal OligoMetastases and in particular with relation to the Bilsky Classification. Bilsky 1a, 1b are suitable for SRS – stereotactic Radosurgery Biskly 1c, 2 and 3 require separation surgery followed by post adjuvant SBRT Please note that in some Tumour centres Neo adjuvant SBRT is utilised prior to surgery and we should not box ourselves in to disallow this.	treatment plan in discussion with the appropriate specialists (such as an oncologist and spinal surgeon) within the MSCC service multidisciplinary team' which would help tailor the treatment to the person. This would include considerations around chordomas or sarcomas. They noted that they could not be otherwise prescriptive about every circumstance. The SARON trial was not included because the population was people with lung cancer rather than spinal metastases or MSCC. Tomita and Boriani were included (see evidence review M). The Bilsky classification is not something that was reviewed as part of this update because tools to assess stability or tools for prognosis were prioritised as topics. The committee favoured the holistic approach taking into account all relevant expertise as well as the person's circumstances and preferences rather than basing treatment plans on a particular tool.
St George's University Hospitals NHS Foundation Trust	Guideline	029	012 - 015	1.10.8 Suggest to Committee not to hamstring medics into Neo adjuvant vs post adjuvant boxes. MD Anderson is running trials on Neo Adjuvant (ie pre operative SBRT) programmes. In the NHS we may not always be able to co-ordinate this but we mustn't say that it cannot happen.	Thank you for your comment. There was only evidence for post operative radiotherapy and the committee noted that this is consistent with current practice. NICE has a surveillance programme so when new evidence emerges this can be reviewed.
St George's University Hospitals NHS Foundation Trust	Guideline	031	007 - 016	1.11.5 Consider "…as the only factor to decide whether to offer surgical intervention". Although there is no published evidence that neurology does not improve for complete paralysis; it is shared clinical experience especially for sudden (presumably ischaemic) paralysis. Similarly there is no published evidence that operating regardless of duration /	Thank you for your comment. The recommendation has been amended to include 'as the only factor' as suggested. The committee recommended several factors to take into account before invasive interventions are considered: 'Before an invasive intervention is offered, make a treatment plan in discussion with the appropriate specialists (such as an oncologist and spinal surgeon) within the MSCC service multidisciplinary team.' Another related recommendation is: 'Take into account the speed

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				onset of paralysis does make a difference. The NG will drive more surgical referrals and potentially invasive procedures based on the committee's view which is not based on evidence. Does the committee have a view on what group of patients are "suitable" for surgery? BASS raises good points. As the spoke hospitals become more deskilled Hubs may need more resources to transfer patients over for assessment. NOMS and oncologist opined prognosis are essential to help surgeons make decisions	of onset and rate of progression of neurological symptoms and signs when determining the urgency of surgical intervention.' The committee thought rather than arbitrary time limits that are not evidence based, there should be treatment plans (which would consider the opinion of the oncologist related to prognosis) as well as other considerations about timing of treatment to make decisions about whether or not invasive treatment is the best option even if there is complete paralysis. There were 2 evidence reviews related to tools. One related to tools to assess stability of the spine and the other was related to tools for prognosis. The NOMS framework is a decision framework related to treatment rather than to assess instability or prognosis. It was therefore not included.
St George's University Hospitals NHS Foundation Trust	Guideline	032	006 - 010	1.11.7 Consider adding vertebroplasty / kyphoplasty in conjunction with surgical decompression / stabilisation of the spine. Vertebral body stents or Mechanical Kyphoplasty should be included Options for invasive interventions Please also therefore consider that the concomitant use of Radiofrequency ablation with or without cement can lead to 3 things: better pain control (basivertebral nerve ablation), good haemostatic control during decompressive surgery and local control. Think of the RFA utilised in a solid bony tumour of the vertebral body. It heats the vertebral body from the inside to outside. The Radiotherapy works from the outside to the inside. It is a complimentary therapy to achieve total local control and aid in disease free states to aid systemic therapy working better at other sites.	Thank you for your comment. There was no evidence for vertebroplasty or kyphoplasty in combination with surgical decompression or surgical stabilisation. The committee decided that MSCC is characterised by cord compression or an unstable spine and therefore these two techniques are the most relevant techniques. There was no evidence on vertebral body stents or mechanical kyphoplasty and without evidence the committee could not comment this. Combinations of options have now been added for the treatment of spinal metastases without cord compression. RFA has now been added as an option for spinal metastases because of the publication of 2 NICE interventional procedures guideline. However, there was no evidence for cryotherapy and the committee therefore could not comment on this. Radiotherapy post surgery is recommended once the person has recovered from surgery (to avoid adverse outcomes such as wound

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				Bony RFA algorithms are different than soft tissue. It utlilises low heat for long periods of time to achieve a large ablation zone. RFA eg of Liver must deliver very high heat for short periods of time to avoid damage to good zones of liver. Cryotherapy of kidney is useful because you can visualise the ablation zone as the cryofield on CT. Whilst less obvious in the vertebral body it can also be achieved. Furthermore – in the current NHS commissioning- not all oligometastatic disease is eligible for SBRT. Ie synchronous disease. This is where cryotherapy and Radiofrequency ablation therapy will play an important role in current resource environment. If SBRT becomes more widespread (which it will eventually) then it will probably start being used in synchronous disease as well as higher volume disease states or maybe one day up to 10 mets instead of 3-5. Already, the number of brain metastases permitted for treatment is up to 10 with SBRT and the size of the lesions throughout the body is always rising. A large volume lesion can benefit from dual therapy – one invasive eg cryotherapy or RFA and then RT. [confidential information regarding an individual patient removed] Demanding that atypical cases must be part of Randomised Control trials could harm patients and we would strongly urge the committee to create language that will allow a variety of treatments to be utlised for symptomatic and asymptomatic metastases of the spine both synchronous and metachrnonous, oligometastic and oligoprogressive.	complications). The committee referred to the NHS commissioning document for a definition of oligometastases but did not explicitly rule out synchronous disease. However they recommended 'Before an invasive intervention is offered, make a treatment plan in discussion with the appropriate specialists (such as an oncologist and spinal surgeon) within the MSCC service multidisciplinary team' so that all the relevant expertise is gathered to make a decision. They also recommended a treatment approach that is tailored to the individual by the development of a 'personalised treatment plan'. This would take into account not only the person's condition but also other factors such as their circumstances and preferences. Thank you for the information on the two cases and it is good to hear that there was a positive outcome for both. The committee decided to add 'alone or in combination' to clarify that several options can be used for spinal metastases. The committee therefore thought that the language is now more flexible than previously. All evidence was related to symptomatic spinal metastases or MSCC and the committee noted that symptoms such as pain are often the first time that people present to healthcare professionals with the condition. However, they made a recommendation for asymptomatic spinal metastases that weight up the benefits and the harms of radiotherapy and they decided to only recommend it in 3 situations (as part of a trial, as part of a treatment strategy for oligometastases and if there are radiological signs of impending cord compression by an epidural or intradural tumour) in other situations they agreed that the toxicity of the treatment would be more harmful than the potential benefit.

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Sue Ryder	Comment's Form – Question 1	002	General	Would it be challenging to implement of any of the draft recommendations? Please say why and for whom. Please include any suggestions that could help users overcome these challenges Coordinating community teams with acute oncology/MSCC coordinator was a challenge in our area. We therefore established a working party to bring together community teams, acute oncology and other stakeholders to gain consensus on a clear management pathway for patients with suspected or confirmed MSCC. This has been well received and is now fully embedded in day to day practice.	Thank you for your comment and for sharing your experiences. The importance of involvement of these teams, as well as dissemination and training on referral pathways, is discussed in the report of the bespoke economic model [Evidence review B, Appendix I]. NICE is in the process of drafting an implementation plan that aims to provide support to clinicians through the use of shared tools and resources.
Sue Ryder	Guideline	009	015	Rec 1.1.17 - Please could palliative care/pain team be added to this list	Thank you for your comment. This recommendation now refers to getting advice from the MDT which includes palliative care specialists.
Sue Ryder	Guideline	017	General	Rec 1.4 - We welcome the clarification on when immobilisation would be recommended and feel that this will help to gain professional consensus and benefit patient care.	Thank you for your comment in support of this guidance.
Sue Ryder	Guideline	027	001	Rec 1.9.3 - We agree with this statement and welcome the flexibility that it allows in deciding whether using a scoring system will add to clinical assessment on a case by case basis.	Thank you for your comment in support of this guidance.
Sue Ryder	Guideline	032	017	Rec 1.11.6 - Please could an extra point be added to this list • external support (for example cervical collar or thoracolumbar brace) if surgery is not indicated. *In our experience we have used collars and bracing with this patient group with good effect.*	Thank you for your comment. In the rationale the committee stated 'If surgery cannot be performed because of the prognosis or other factors, the only other possibility of stabilisation is external spinal support to attempt to prevent collapse of the spine. No evidence was identified for this but the committee decided that this would be the only option available and should be offered.' The list of examples is not exhaustive and a cervical collar could be used based on clinical judgement.

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United Lincolnshire Hospitals NHS Trust	Evidence review M	016	011 - 016	And also draft guideline p28, lines 11-13 *We would like the timing of radiotherapy to be in line with the recommendations of the Royal College of Radiologists rather than the historical within 24 hours.* *The draft documents specifies* *"the committee agreed that MSCC can be an oncologic emergency and rapid access to radiotherapy would be needed in some cases to prevent neurological impairment (as soon as possible and within 24 hours"* • The emphasis is **on some case**, patients with stable neurology and pain can receive urgent rather than emergency radiotherapy. • The statement is not in keeping with the Royal College of Radiologists guidelines (Radiotherapy dose fractionation, third edition - metastatic spinal cord compression (rcr.ac.uk)) which states : ○ **For good prognosis or ambulatory patients who are not suitable for surgery, urgent radiotherapy should be given before further neurological deterioration.** • Furthermore it contradicts the surgical guidelines in this review (Evidence review N: invasive interventions): • There was no evidence about when surgical interventions should be carried out after a person presents with confirmed or suspected MSCC, but	Thank you for your comment. The RCR guideline referred to does not make recommendations on the timing of radiotherapy – it recommends dose and fractionation only. The background text in the RCR guideline states, "For good prognosis or ambulatory patients who are not suitable for surgery, urgent radiotherapy should be given before further neurological deterioration." The committee believe our guideline is consistent with this statement, in that it recommends urgent radiotherapy for people with MSCC that is not suitable for surgery. The committee have quantified urgent as "as soon as possible and within 24 hours", because they agreed that delays longer than this could result in neurological impairment and that a clear timeframe was needed to enable the recommendation to be implemented and audited. The committee agreed that the situation can be more complex for patients with MSCC who are candidates for invasive interventions. In some cases immediate intervention is needed but in others more information is needed to plan treatment properly – such as a radiologically guided biopsy, which will delay treatment.

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				the committee agreed that surgery should be carried out as soon as possible, to prevent neurological decline. Given the lack of evidence they could not specify exact timeframes and individual circumstances will differ when planning the surgical treatment approach. However, they agreed that speed of onset and rate of progression of neurological symptoms and signs would be indicators of urgency. • The new guideline should have a collaborative approach with timing of radiotherapy and surgery as it is illogical for a patient to have waited for a surgical opinion and then rush to radiotherapy. The RCR **before neurological deterioration"** should be the standard of practice.	
United Lincolnshire Hospitals NHS Trust	Guideline	018	008 - 012	The guideline doesn't allow for patients who have long standing neurological symptoms who can be considered urgent rather than emergency This is contradictory to the RCR guidelines (Standards for the communication of critical, urgent and unexpected significant radiological findings, Second edition (rcr.ac.uk))for imaging MSCC which states The principal clinical features include pain, power loss, sensory disturbance and impaired sphincter function. **While power loss is progressing, there is a chance of regaining function.** **Corticosteroids should be started, and MRI undertaken within 24 hours.** Sphincter disturbance requires more urgent imaging, because delay can lead to non-reversible functional loss.	Thank you for your comment. Box 1 lists signs and symptoms suggesting cord compression: Bladder or bowel dysfunction, Gait disturbance or difficulty walking, Limb weakness, Neurological signs of spinal cord or cauda equina compression, Numbness, paraesthesia or sensory loss, and Radicular pain. The committee believe power loss is covered by, limb weakness and/or neurological signs of spinal cord compression and think that the guideline does not contradict the RCR guidelines

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				Consequently we would seek for the guideline to reflect the RCR recommendations of assessment of urgency in line with power loss	
United Lincolnshire Hospitals NHS Trust	Guideline	028	018 - 023	**We would like to consider the NICE guidelines to reflect the RCR recommendations for radiotherapy, in that ambulant good prognosis patients can have fractionated radiotherapy** • **Metastatic spinal cord compression: non-ambulant patients or ambulant patients with a prognosis <6months**: • 8 Gy single dose (Grade A) • **Metastatic spinal cord compression: ambulant patients with a good prognosis or** 56 **post-spinal surgery:** • 20 Gy in 5 daily fractions over 1 week (Grade B) or 30 Gy in 10 daily fractions over 2 weeks (Grade B)	Thank you for your comment. The committee based its recommendation on the evidence that was summarised in evidence review M. The recommendations resulting from this evidence are based on the populations investigated in the studies and the committee decided to describe them in these groups rather than according to how long they have or have not been ambulant. For the evidence and how the committee used it to make recommendations, see the 'the committee's discussion and interpretation of the evidence' section of evidence review M.
Velindre NHS Trust	Guideline	General	General	No mention of log rolling – could we specify which this is no longer recommended ie detrimental effect on functional outcome	Thank you for your comment. The committee acknowledged that log rolling is an example of a technique used as part of immobilisation. They decided not to focus on this explicitly to avoid blanket log rolling which often means that people stay immobilised for longer. The intention of section 1.4 was to minimise length of immobilisation where possible. Reference to log rolling in relation to immobilisation has been added to the rationale to clarify this point.
Velindre NHS Trust	Guideline	001	General	Wales do not have cancer alliances, terminology needs to be inclusive for all UK and clarify the equivalents – applicable through all document e.g. Wales have moved towards a more once for Wales way of working, overseen by the Wales Cancer Network	Thank you for your comment. NICE guidelines cover health and care in England. Decisions on how they apply in other UK countries are made by ministers in the Welsh Government, Scottish Government, and Northern Ireland

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					Executive. However, it has been clarified that this could apply to 'equivalent local partnerships'.
Velindre NHS Trust	Guideline	006	005 - 009	Challenging to implement at operational level, needs to be inclusive of surgical centres also, not just oncology, should be based where appropriate for regional variation	Thank you for your comment. The committee were of the opinion that the MSCC service would be most efficient in oncology and allowed for quicker referral to a wider range of treatments (including surgical where necessary). Given the small percentage of this patient group who would ultimately receive surgery, basing MSCC services here would slow down the pathway for the majority of people. Recommendations were made about having a dedicated person for each part of the pathway which includes surgical centres. NICE is in the process of drafting an implementation plan that aims to provide support to clinicians through the use of shared tools and resources.
Velindre NHS Trust	Guideline	009	001 - 015	Suggest including wider AHP and CNS team (OT, DT, SLT)	Thank you for your comment. AHP has been added to the list for this recommendation. The recommendation now also refers to the expertise of the MDT who can include CNS.
Velindre NHS Trust	Guideline	009	001 - 015	Suggest including wider AHP and CNS team (OT, DT, SLT)	Thank you for your comment. AHP has been added to the list for this recommendation. The recommendation now also refers to the expertise of the MDT who can include CNS.
Velindre NHS Trust	Guideline	010	014 - 018	Needs to cover palliative care needs of MSCC	Thank you for your comment. This recommendation and whole section focuses on 'rehabilitation services' rather than being specifically related to palliative care. The committee have specified the need for palliative services in several other recommendations particularly in the 'providing a coordinated MSCC and spinal metastases service' section because they are core member of the MSCC service.
Velindre NHS Trust	Guideline	010	011 - 013	Needs to specific timely access to specialist services	Thank you for your comment. This recommendation is focusing on access to community nursing and

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					rehabilitation services. The next recommendation is about 'specialist rehabilitation services'. The committee discussed whether or not to add 'timely' to the recommendation, but decided against this because they felt that this is quite vague and would change the focus of the recommendation to be about when rather than what access should be provided. There was also no specific evidence related to timing.
Velindre NHS Trust	Guideline	012	012 - 020	Include person's holistic needs and goals	Thank you for your comment. The committee decided that this is included in the bullet points about diagnosis and future effects.
Velindre NHS Trust	Guideline	013	002 - 005	Holistic needs need to be revisited through pathway as appropriate, a meaningful exploration of person's holistic needs and goals with co-produced care plan	Thank you for your comment. This has been added.
Velindre NHS Trust	Guideline	014	005 - 011	Would be useful if guidance was to specify that reduced prognosis should not be used as a factor to decline community referrals	Thank you for your comment. The committee recommended all patients with MSCC should have access to support which includes patients with reduced prognosis
Velindre NHS Trust	Guideline	015	009	Suggest adding in "cotton wool feeling" "walking on air" "band like pain" as these help patients and clinicians differentiate MSCC pain from other general back pain	Thank you for your comment. The committee discussed your suggestions and revisited the evidence review to check whether they were reported (see evidence review D). There was no evidence identified for these. The committee reflected on the 3 suggested additions and decided against adding these as they were quite difficult to assess.
Velindre NHS Trust	Guideline	017	012 - 015	Needs clarity around partial elevation as in clinical setting use "bed tilt"	Thank you for your comment. There was a lack of evidence on immobilisation to enable detailed recommendations on angles of elevation but the committee thought that the specific angle of partial elevation would depend on the person's comfort and preferences.
Velindre NHS Trust	Guideline	020	003	Would they suggest an upright xray is taken after getting up or sitting up	Thank you for your comment. Our literature searches did not identify evidence on weight bearing X-ray and the

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					committee were unable to make a recommendation on this.
Velindre NHS Trust	Guideline	020	004	Monitor neurological symptoms and pain continuously **before,** during **and after** mobilisation	Thank you for your comment. The committee agreed that neurological symptoms should be continuously monitored during mobilisation, however this does not mean they are not monitored before or after mobilisation. At other times they thought people with MSCC should be regularly assessed for neurological symptoms, but this could not be done continuously for practical reasons.
Velindre NHS Trust	Guideline	021	002 - 004	Bracing to be used only if required for stability not as a routine measure as this can increase pain when not required	Thank you for your comment. Our searches did not find evidence on the use of bracing for immobilisation, so the committee were unable to make a recommendation either for or against its use. They agreed that bracing is appropriate in some (but not all) cases and they listed it as a treatment option only where suitable.
Velindre NHS Trust	Guideline	022	006	And eating	Thank you for your comment. The committee recommended an 'individualised pain assessment' and described that this should include 'the impact of pain on lifestyle, daily activities and participation in work, education, training or recreation'. The committee decided that 'ability to eat' would fall into the category of 'daily activities'.
Velindre NHS Trust	Guideline	022	006	Specialist pain management from palliative care team needs to be included	Thank you for your comment. The committee already recommended to 'consider referring the person to a specialist pain service (or if appropriate a palliative care service) if pain is difficult to manage at any stage, including at initial presentation' (see recommendation 1.7.5).
Velindre NHS Trust	Guideline	026	015	Physiotherapists are considered lead experts in assessing spinal stability and extent of neurological impairment	Thank you for your comment. The focus in section 1.9 is whether or not to use tools in this assessment rather than specifying which healthcare professional should use these tools. However, there are multiple other sections where physiotherapists are explicitly mentioned, for

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					example as part of the MDT approach and in the mobilisation section.
Velindre NHS Trust	Guideline	027	General	Inclusion of palliative care services	Thank you for your comment. The committee stated that support should be provided 'from healthcare professionals, based on ongoing review of their management plan and holistic needs'. They were intentionally non-specific about the types of healthcare professionals needed so that this can be tailored to the person's needs which may include the support from palliative care services.
Velindre NHS Trust	Guideline	033	006	May need to screen for holistic AHP needs to identify needs and signposting. Consider rewording "offer" as needs to be more directive of needs so that informed decision making can take place.	Thank you for your comment. The committee agreed that 'Allied Healthcare Professionals' play an important role in rehabilitation and have added them to the recommendation as suggested. In NICE terminology 'offer' is a strong recommendation that also takes into account the person's choice so it was decided not to reword this.
Wales Cancer Network	Guideline	General	General	No mention of log rolling – could we specify which this is no longer recommended i.e. detrimental effect on functional outcome?	Thank you for your comment. The committee acknowledged that log rolling is an example of a technique used as part of immobilisation. They decided not to focus on this explicitly to avoid blanket log rolling which often means that people stay immobilised for longer. The intention of section 1.4 was to minimise length of immobilisation where possible. A reference to log rolling in relation to immobilisation has been added to the rationale to clarify this point.
Wales Cancer Network	Guideline	004	General	1.1 Wales does not have a cancer alliance (it is most analogous to our "Network"), suggest terminology needs to be inclusive for all UK and clarify the equivalents – applicable through all document e.g. Wales have moved towards a more once for Wales way of working, overseen by the Wales Cancer Network	Thank you for your comment. NICE guidelines cover health and care in England. Decisions on how they apply in other UK countries are made by ministers in the Welsh Government, Scottish Government, and Northern Ireland Executive. However, it has been clarified that this could apply to 'equivalent local partnerships'.

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Wales Cancer Network	Guideline	006	005 - 009	1.1.6 Challenging to implement at operational level, needs to be inclusive of surgical centres also, not just oncology, should be based where appropriate for regional variation	Thank you for your comment. The committee were of the opinion that the MSCC service would be most efficient in oncology and allowed for quicker referral to a wider range of treatments (including surgical where necessary). Given the small percentage of this patient group who would ultimately receive surgery, basing MSCC services here would slow down the pathway for the majority of people. Recommendations were made about having a dedicated person for each part of the pathway which includes surgical centres. **NICE is in the process of drafting an implementation plan that aims to provide support to clinicians through the use of shared tools and resources.**
Wales Cancer Network	Guideline	009	001 - 015	1.1.17 Suggest including wider MDT inc (OT, DT, SLT) AHP and CNS team	Thank you for your comment. This recommendation now refers to the MDT team. AHP have also been added as a bullet point.
Wales Cancer Network	Guideline	010	014 - 018	1.1.23 Needs to cover palliative care needs of MSCC	Thank you for your comment. This recommendation and whole section focuses on 'rehabilitation services' rather than being specifically related to palliative care. The committee have specified the need for palliative services in several other recommendations particularly in the 'providing a coordinated MSCC and spinal metastases service' section because they are core member of the MSCC service.
Wales Cancer Network	Guideline	010	011 - 013	1.1.22 Needs to specific timely access to specialist services	Thank you for your comment. This recommendation is focusing on access to community nursing and rehabilitation services. The next recommendation is about 'specialist rehabilitation services'. The committee discussed whether or not to add 'timely' to the recommendation, but decided against this because they felt that this is quite vague and would change the focus of the recommendation to be about when rather than what

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					access should be provided. There was also no specific evidence related to timing.
Wales Cancer Network	Guideline	012	012 - 020	1.2.3 Include person's holistic needs and goals	Thank you for your comment. The committee think this is included in the bullet points about diagnosis and future effects.
Wales Cancer Network	Guideline	013	002 - 005	1.2.25 Holistic needs need to be revisited through pathway as appropriate; a meaningful exploration of person's holistic needs and goals with co-produced care plan	Thank you for your comment. This has been added.
Wales Cancer Network	Guideline	014	005 - 011	1.2.12 Would be useful if guidance was to specify that reduced prognosis should not be used as a factor to reject community referrals	Thank you for your comment. The committee recommended all patients with MSCC should have access to support which includes patients with reduced prognosis
Wales Cancer Network	Guideline	015	009	Box 1. Suggest adding in "cotton wool feeling" "walking on air" "band like pain" as these help patients and clinicians differentiate MSCC pain from other general back pain	Thank you for your comment. The committee discussed your suggestions and revisited the evidence review to check whether they were reported (see evidence review D). There was no evidence identified for these. The committee reflected on the 3 suggested additions and decided against adding these as they were quite difficult to assess.
Wales Cancer Network	Guideline	017	012 - 015	1.4.3 Needs clarity around partial elevation as in clinical setting use "bed tilt"	Thank you for your comment. There was a lack of evidence on immobilisation to enable detailed recommendations on angles of elevation but the committee thought that the specific angle of partial elevation would depend on the person's comfort and preferences.
Wales Cancer Network	Guideline	020	003	1.6 Do you suggest an upright Xray is taken after getting up or sitting up?	Thank you for your comment. Our literature searches did not identify evidence on weight bearing X-ray and the committee were unable to make a recommendation on this.
Wales Cancer Network	Guideline	020	004	1.6.1 Monitor neurological symptoms and pain continuously **before,** during **and after** mobilisation	Thank you for your comment. The committee agreed that neurological symptoms should be continuously monitored during mobilisation, however this does not mean they are

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					not monitored before or after mobilisation. At other times they thought people with MSCC should be regularly assessed for neurological symptoms, but this could not be done continuously for practical reasons.
Wales Cancer Network	Guideline	021	002 - 004	1.6.6 Bracing to be used only if required for stability not as a routine measure as this can increase pain when not required	Thank you for your comment. Our searches did not find evidence on the use of bracing for immobilisation, so the committee were unable to make a recommendation either for or against its use. They agreed that bracing is appropriate in some (but not all) cases and they listed it as a treatment option only where suitable.
Wales Cancer Network	Guideline	022	006	1.7 Consider including ability to eat in this list	Thank you for your comment. The committee recommended an 'individualised pain assessment' and described that this should include 'the impact of pain on lifestyle, daily activities and participation in work, education, training or recreation'. The committee decided that 'ability to eat' would fall into the category of 'daily activities'.
Wales Cancer Network	Guideline	022	006	1.7 Specialist pain management from palliative care team needs to be included	Thank you for your comment. The committee already recommended to 'consider referring the person to a specialist pain service (or if appropriate a palliative care service) if pain is difficult to manage at any stage, including at initial presentation' (see recommendation 1.7.5).
Wales Cancer Network	Guideline	026	015	1.9 Physiotherapists are considered lead experts in assessing spinal stability and extent of neurological impairment consider specifying this	Thank you for your comment. The focus in section 1.9 is whether or not to use tools in this assessment rather than specifying which healthcare professional should use these tools. However, there are multiple other sections where physiotherapists are explicitly mentioned, for example as part of the MDT approach and in the mobilisation section.
Wales Cancer Network	Guideline	027	General	1.12.1 Include palliative care services	Thank you for your comment. The committee stated that support should be provided 'from healthcare professionals, based on ongoing review of their

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					management plan and holistic needs'. They were intentionally non-specific about the types of healthcare professionals needed so that this can be tailored to the person's needs which may include the support from palliative care services.
Wales Cancer Network	Guideline	033	006	1.12.1 May need to screen for holistic AHP needs to identify AHP needs and refer appropriately. Consider rewording "offer" as needs to be more directive of needs so that patient informed decision making can take place.	Thank you for your comment. The committee agreed that 'Allied Healthcare Professionals' play an important role in rehabilitation and have added them to the recommendation as suggested. In NICE terminology 'offer' is a strong recommendation that also takes into account the person's choice so it was decided not to reword this.

**None of the stakeholders who comments on this clinical guideline have declared any links to the tobacco industry.*