NICE National Institute for Health and Care Excellence

2019 surveillance of metastatic spinal cord compression in adults: risk assessment, diagnosis and management (NICE guideline CG75)

Surveillance report

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Surveillance decision

We will update the guideline on metastatic spinal cord compression in adults.

The following table gives an overview of how evidence identified in surveillance might affect each area of the guideline, including any proposed new areas.

Section of the guideline	New evidence identified	Impact
1.1 Service configuration		
Cancer networks	Yes	Yes
1.3 Early detection		
Early symptoms and signs	Yes	Yes
1.4 Imaging		
Choice of imaging modality	Yes	Yes
Routine MRI and early detection	Yes	Yes
1.5 Treatment		
Analgesia	Yes	Yes
Radiotherapy	Yes	Yes
Vertebroplasty and kyphoplasty	Yes	Yes
Surgery	Yes	Yes
Mobilisation	Yes	Yes
Corticosteroids	Yes	Yes
Case selection – Age	Yes	Yes
Technical factors of surgery	Yes	Yes
1.6.5 Access to specialist rehabilitation and transition to care at home		
Pathways	Yes	Yes
New area		

Case selection – The role of scoring systems	Yes	Yes

Reasons for the decision

This section provides a summary of the areas that will be updated and the reasons for the decision to update.

NICE's guideline on metastatic spinal cord compression in adults has not been updated since its publication in 2008. Feedback from topic experts and stakeholders highlighted that, since its publication, there have been advances in the diagnosis and management of metastatic spinal cord compression (MSCC) that are not reflected in the current recommendations. New evidence demonstrates that changes to multiple areas of the guideline are needed. The surveillance review considered published evidence from Cochrane reviews and NIHR Signals. Additionally, stakeholders and topic experts provided additional studies, information and clinical insight. Therefore, the guideline requires updating.

Overview of 2019 surveillance methods

NICE's surveillance team checked whether recommendations in metastatic spinal cord compression in adults (NICE guideline CG75) remain up to date. The 2019 surveillance followed the static list review process, consisting of:

- Feedback from topic experts via a questionnaire.
- A search for new or updated Cochrane reviews.
- Examining related NICE guidance and quality standards and NIHR Signals.
- A search for ongoing research.
- Examining the NICE event tracker for relevant ongoing and published events.
- Consulting on the proposal with stakeholders.
- Considering comments received during consultation and making any necessary changes to the proposal.

For further details about the process and the possible update decisions that are available, see ensuring that published guidelines are current and accurate in developing NICE guidelines: the manual.

Evidence considered in surveillance

Cochrane reviews

We searched for new Cochrane reviews related to the whole guideline. We found 3 relevant Cochrane reviews published between March 2012 and August 2018.

One review (Haywood et al. 2015) suggests that the evidence for the use of corticosteroids for pain management is weak. This result would suggest that the current recommendations on the use of corticosteroids should be reviewed. A second review (George et al. 2015) indicates beneficial effects of a short course of radiation therapy and mixed results for surgery and corticosteroids. However, the quality of the evidence was deemed low by the Cochrane authors who subsequently noted a lack of confidence in

most of the results. The third review (Lee et al. 2015) found no relevant studies for inclusion and the Cochrane authors concluded that there is a lack of evidence on patient positioning and bracing for pain relief and spinal stability in this population.

Although the evidence from the Cochrane reviews is limited, it indicates that recommendations in the above areas require further review.

No relevant NIHR Signals were found relating to the assessment, diagnosis or management of metastatic spinal cord compression (MSCC) in adults.

Previous surveillance

The 2012 surveillance review did not find sufficient new evidence to warrant an update of the guideline at that time. However, it did identify NICE technology appraisal guidance on denosumab, which was subsequently cross-referred to in the guideline.

Related NICE guidance

Although there are a number of pieces of related NICE guidance, none have been deemed likely to have an immediate impact upon the recommendations in the NICE guideline.

NICE published a quality standard on metastatic spinal cord compression in adults in February 2014. No impact on the NICE guideline is likely as the quality statements are in line with recommendations in the guideline on the assessment, diagnosis and management of MSCC.

Ongoing research

We checked for relevant ongoing research; of the ongoing studies identified, 2 were assessed as having the potential to change recommendations; therefore these studies may be considered during the update of the guideline. They are:

- Back pain prevention in multiple myeloma using an external spinal brace
- Single fraction versus multifraction radiotherapy for patients with metastatic spinal cord compression

An ongoing report was also identified that may impact the current guideline

recommendations on treatment and provide information on national variation in the provision of cancer services. The Getting It Right First Time (GIRFT) report on spinal surgery is due to publish in 2019 and may be considered during the update of the guideline.

Intelligence gathered during surveillance

Views of topic experts

We considered the views of topic experts, including those who helped to develop the guideline. For this surveillance review, topic experts completed a questionnaire about developments in evidence, policy and services related to the NICE guideline. We sent questionnaires to 10 topic experts and received 7 responses.

Service configuration

Topic experts highlighted changes to the structure and naming of cancer services. The term 'cancer networks' is out of date and does not accurately reflect the current service set up and recommendations in this section should be updated.

Topic experts commented that the care pathways for managing MSCC patients remain unclear. Specifically, the management of patients transferred from 1 hospital to another and the lack of communication to determine treatment outcomes. There is potential to amend recommendations in the service configuration and MSCC coordinator sections of the guideline to clarify the need for communication between services.

Comments from topic experts also suggested that there is national variation in the provision of services. The GIRFT report on spinal surgery is due to publish in 2019 and topic experts highlighted that it will contain data on national variations which may impact current recommendations. It was highlighted that the GIRFT report will likely impact sections in the guideline on service configuration, diagnosis, and treatment. Topic experts also commented that the report may indicate the difficulties of implementing the guideline. Liaison with the GIRFT team will support the proposed update of the guideline.

Imaging

Topic experts highlighted evidence (Fisher et al. 2014) that CT scanning could be used to

calculate the Spinal Instability Score (SINS) to assess patients' suitability for surgery. The guideline does not currently contain recommendations on the use of SINS. Topic experts and stakeholders also suggested that evidence comparing MRI with CT should be reviewed. Although the guideline primarily advises to use MRI for diagnosis, it does also consider CT scans to assess spinal stability when planning surgery. Topic experts suggest that the use of MRI should be reconsidered due to the increased costs.

Radiotherapy

Current recommendations advise fractionated therapy but topic experts highlighted an ongoing study that contradicts the current recommendations and supports the use of single dose radiotherapy. The publication of this study is being monitored and may be considered as part of the guideline update.

Surgery

Surgical interventions for this population have progressed since publication of the guideline (Choi et al. 2015, Verlaan et al. 2016 and Choi et al. 2016). Topic experts suggest that there is new evidence for the management of vertebral collapse following vertebroplasty and kyphoplasty as well as other minimal intervention surgical stabilisation techniques that are not currently covered by the recommendations. Although studies were not provided by topic experts, NICE has produced interventional procedures guidance on percutaneous vertebroplasty and balloon kyphoplasty for vertebral compression fractures. Two studies (Quraishi et al. 2013 and Fan et al. 2016) were provided by topic experts that support the recommendations to offer surgical treatment without delay.

Comments from topic experts also suggested the need to review recommendations in section 1.5.4 regarding the technical factors of surgery. This includes reviewing the role of embolisation and the use of salvaged blood transfusion.

Corticosteroids

Topic experts highlighted concerns that the recommendations advise incorrect use of corticosteroids. Patients awaiting surgery with asymptomatic radiological MSCC or without neurological deficit should not be prescribed corticosteroids as this may increase the risk of preoperative complications. In addition, topic experts also suggested that the use of corticosteroids in patients with suspected MSCC could reduce the chance of a positive biopsy.

Mobilisation

Topic experts highlighted the need for further detailed guidance on the correct mobilisation techniques for MSCC patients. Specifically, which patients should be nursed flat, advice for gradual sitting and the symptoms to look out for on reassessment.

Scoring systems

Topic experts commented that new scoring systems have been validated and used in services other than the Tokuhashi score as advised in the recommendations. They suggested that evidence should be reviewed to determine the comparative prognostic values of the newly available scoring systems.

Resource and costs

A topic expert commented that longer survival times following treatments for the primary cancer may potentially lead to increased costs of further treatment. However, cost-effectiveness studies addressing this issue were not identified and so we could not determine whether there would be an impact on recommendations.

Views of stakeholders

Stakeholders are consulted on all surveillance reviews except if the whole guideline will be updated and replaced. Because the original surveillance proposal was to not update the guideline, we consulted with stakeholders. However, following consultation the surveillance proposal was changed to a full update of the guideline.

Of the overall 8 stakeholders who commented, 4 did not agree with the decision to not update, 3 agreed and 1 did not answer.

Imaging

Stakeholders commented that the use of MRI scanners for acute conditions needs to be justified with an evaluation of cost effectiveness. The surveillance review proposal for a full update will cover evidence in this area.

Treatment

Stakeholders suggested that the World Health Organisation (WHO) 3-step pain ladder referenced in the recommendations is now obsolete and its use may be dangerous. It is suggested that the use of the WHO ladder is inappropriate in patients with MSCC as it was not designed for this population. Stakeholders also commented that recommendations on the use of non-steroidal anti-inflammatory drugs (NSAIDs) should contain notes of caution due to the risk of provoking acute kidney injury in multiple myeloma patients. There is also a potential caution in the use of NSAIDs without gastric protection especially in older patients.

Stakeholders were concerned that the current recommendations do not adequately address the need for patients to be reviewed and intervention provided by pain medicine specialists or anaesthetists. A further concern identified is that recommendations to use escalating doses may lead to potentially toxic doses of opioids when prescribed by inexperienced clinicians.

Stakeholders also highlighted the ongoing study on the use of single compared to multifraction radiotherapy as a treatment option. This has the potential to change recommendations in this area and should be reviewed as part of the full update.

Stakeholder comments suggested the need to review evidence on case selection for treatments. The suggestion was that age and other patient factors may be indicators of the effectiveness of surgery and radiotherapy (Amelot et al. 2017). The current recommendations on case selection may need to be updated to take into account the patient factors identified within the new evidence.

See appendix A for full details of stakeholders' comments and our responses.

See ensuring that published guidelines are current and accurate in developing NICE guidelines: the manual for more details on our consultation processes.

Equalities

No equalities issues were identified during the surveillance process.

Editorial amendments

During surveillance of the guideline we identified the following point in the guideline that should be amended:

- Update cross-references to the NICE guidelines in recommendation 1.6.2.4. They have both since been updated and replaced by NICE's guideline on pressure ulcers: prevention and management.

Overall decision

After considering all evidence and other intelligence and the impact on current recommendations, we decided that an update is necessary.

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