



Medicines Evidence Commentary

commentary on important new evidence from Medicines Awareness Weekly

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Pain management in cancer: evaluation of an in-patient pain assessment and management tool

Effective pain control is an important aspect in the management of people with cancer, as highlighted in the NICE cancer service guidance on [improving supportive and palliative care for adults with cancer](#) and the 2008 Department of Health [end of life care strategy](#). This study assessing the use of an in-patient pain assessment and management tool showed a clinically significant improvement in worst pain with the use of the tool. However there was no difference for other pain management and distress outcomes between use of the tool and usual care. This highlights the importance of integrating pain management into the care that people with cancer receive.

Overview and current advice

Up to two-thirds of people with cancer experience pain that needs a strong opioid. Published evidence suggests that pain which results from advanced cancer remains under-treated, despite the increased availability of strong opioids (NICE guideline [Palliative care for adults: strong opioids for pain relief](#)).

National guidance and policies including the NICE cancer service guidance on [improving supportive and palliative care for adults with cancer](#) and the 2008 Department of Health [end of life care strategy](#) highlight the importance of effective pain control.

The World Health Organisation's (WHO) [cancer pain ladder for adults](#) includes 3 steps: step 1 non-opioids (for example, paracetamol), step 2 mild opioids (for example, codeine) for mild to moderate pain and step 3 strong opioids (for example, morphine) for moderate to severe pain. Additional adjuvant medication (for example, for anxiety) should also be given as required at each step.

The NICE guideline on [palliative care for adults: strong opioids for pain relief](#) includes recommendations on treatment with strong opioids for people who have been assessed as requiring pain relief at step 3 of the WHO pain ladder. It also includes recommendations on managing common adverse effects of opioid treatment such as constipation, nausea and drowsiness.

The [NICE pathway on opioids for pain relief in palliative care](#) brings together all related NICE guidance and associated products on this topic in a set of interactive flow charts.

New evidence

The Edinburgh pain assessment and management tool ([EPAT](#)) consists of a colour-coded bedside chart which is included with the vital signs chart with the aim of integrating pain assessment into routine care. The EPAT package consists of the EPAT bedside pain assessment tool and the EPAT education programme. Healthcare professionals are prompted to assess pain using a two-step procedure every time the patient's vital signs are recorded. In step 1, the patient is asked to rate the worst pain they have had since they were last assessed on a scale from 0 (no pain) to 10 (worst pain imaginable), and this score is recorded. The chart categorises pain using a colour system (0 to 2 as grey, 3 to 4 as yellow and 5 to 10 as blue). A colour score of yellow or blue prompts the healthcare professional to proceed to step 2 which assesses the location and nature of the pain, exacerbating and relieving factors and symptoms that may be adverse effects of opioids. Links to appropriate prescribing algorithms are included in the tool and there is also a prompt to reassess pain and adverse effects 1 hour after giving opioid medication.

This two-arm parallel group cluster [randomised controlled trial](#) conducted in 19 regional cancer centre inpatient units in the UK aimed to assess whether EPAT improved pain management compared with usual care and whether it improved prescribing practice or increased opioid-related adverse effects. The [study](#) was conducted in 2 phases. In the first pre-random assignment phase 985 patients with cancer-related pain were enrolled across all 19 centres and their pain outcomes were measured following usual care. The regional cancer centres were then randomised to implement EPAT (10 centres, n=487) or continue usual care (9 centres, n=449). The mean age of participants in the study was 60 years (range 20 to 90 years) and 49% were female. Participants had a variety of cancers, the most common of which were genitourinary cancers (14.2%), gastrointestinal cancer (13.5%), breast cancer (12.2%) and lung cancer (11.5%).

The primary outcome of the study was the change in the percentage of participants in each centre with a [clinically significant](#) improvement in pain. A clinically significant improvement in pain was defined as a reduction of at least 2 points in the severity of the worst pain reported over the previous 24 hours measured between admission and reassessment (3 to 5 days after admission). Secondary outcomes included the percentage of participants with controlled pain (defined as a worst pain score of less than 4), the mean change in global distress score, the mean change in an opioid adverse effect score and the percentage of patients readmitted to the cancer centre with uncontrolled pain within 14 days of discharge.

In the centres randomised to EPAT, the mean percentage of participants with a clinically significant improvement in pain was 47.7% in the pre-randomised phase with usual care and 54.1% after randomisation and implementation of EPAT; an absolute increase of 6.4%. In the centres randomised to usual care, the mean percentage of participants with a clinically significant improvement in pain was 50.6% in the pre-randomised phase and 46.4% after randomisation; an absolute decrease of 4.2%. The absolute difference between EPAT and usual care for the change in the percentage of participants in each centre with a clinically significant improvement in pain was 10.7% (95% [confidence interval](#) [CI] 0.2% to 21.1%; $p=0.046$, just achieving a level conventionally considered to be [statistically significant](#)). There was no difference between EPAT and usual care for the change in the percentage of participants with controlled pain (20.9% before randomisation and 20.0% after with EPAT and 25.6% and 18.3% respectively with usual care; absolute difference 6.3% [95% CI -0.7% to 13.3%]; $p=0.074$). There was also no difference between the 2 groups for the mean change in global distress score or mean change in opioid adverse effect score. The study was not able to analyse readmissions to hospital due to inadequate data.

Two of the centres randomised to EPAT were unable to implement it due to organisational changes. The study authors noted that the 95% CIs for the 10.7% difference between EPAT and usual care for the change in percentage of participants with a clinically significant improvement in pain were wide

(0.2% to 21.1%). They also noted that limitations of the study included the lack of long-term outcome data and that oncology teams and those collecting outcome data from patients were not masked to treatment allocation. The authors discussed why there was a deterioration in pain management in the centres that continued usual care after randomisation and postulated that it may have been because there was an initial short-term effect on clinician behaviour due to awareness that their centre was participating in a study, which may have then declined over the course of the study.

Commentary

Commentary provided by Gwen Klepping, Consultant Pharmacist in Palliative and End of Life Care. Oxford University Hospitals NHS Foundation Trust

Diagnosis of the cause of pain requires a full assessment including history, examination, investigations and validated assessment tools. The use of strong opioids in people with cancer is standard practice as 95% of people with moderate to severe pain should have their pain controlled within 2 weeks with adequate dose titration and tolerance of opioids. Most people will initially experience side effects, particularly nausea and constipation, which unless adequately managed, may limit sufficient dose titration and possibly require discontinuation of therapy. Psychological therapies can be beneficial in reducing pain and are generally very acceptable to people. Regular assessment and monitoring of a person's pain along with an appropriate assessment tool which visualises high pain scores can prompt a more cohesive review and prompt administration of analgesia. There is a paucity of good quality evidence as studies are often underpowered with small sample sizes and high risk of bias.

This large multicentre study randomised cancer centre inpatient units in the assessment and management of pain to either usual care or use of the Edinburgh Pain Assessment and Management Tool (EPAT) which was clinician delivered at the patient's bedside. Worst pain improvement in the intervention arm increased from 47.7% to 54.1% whilst in the usual care arm it decreased from 50.6% to 46.4% indicating a 10.7% absolute difference. However other pain and distress outcomes were the same for both arms. There was no difference between EPAT and usual care for the change in opioid adverse effect score, so the use of EPAT may improve pain control without increasing opioid adverse effects.

This study contributes to our overall knowledge base for pain management in people with cancer. The inclusion of a validated assessment tool which visualises pain scores delivered by the clinician has the potential for better pain management with improved prescribing practice and pain outcomes.

Declaration of interests:

Gwen Klepping works in the same NHS Trust as 2 of the study authors.

Study sponsorship

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References

Fallon M, Walker J, Colvin L et al. (2018) [Pain management in cancer centre inpatients: a cluster randomised trial to evaluate a systematic integrated approach- the Edinburgh pain assessment and management tool](https://doi.org/10.1200/JCO.2017.76.1825). Journal of Clinical Oncology DOI: <https://doi.org/10.1200/JCO.2017.76.1825>

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