Cancer Council Australia

Cancer pain management in adults

Guideline developer:

Australian Adult Cancer Pain Management Guideline Working Party

1 Introduction

Contents

1.1 Introduction

1.1.1 Scope of this guideline

This guideline provides brief, point-of-care recommendations for screening, assessment and management of cancer-related pain in adults. It focuses on chronic pain rather than acute pain caused by cancer treatments or pain in cancer survivors (which is best addressed by referral to a specialist pain medicine physician). Future work is planned to develop guidelines for the management of acute pain in people with cancer.

The guideline makes recommendations about both pharmacological and non-pharmacological management as well as patient awareness and self-management. These recommendations are specific to adults and should not be used as a guide to pain management in children with cancer.

Back to top

1.1.2 Who this guideline is intended for

This guideline is intended for Australian health professionals of all disciplines caring for people with cancer. These recommendations are not intended to replace expert clinical judgment, but to enable those without specialist knowledge to provide the essentials of care.

Back to top

1.1.3 Background

An estimated 30–75% of people with cancer experience pain, and pain is under-treated in up to half of cases.[1][2][3][4][5] Failure to manage pain is due to barriers at all levels - patient, caregiver, health professional and healthcare system. [6][7][8][9][10][11][12][13][14] The first guideline to focus on management of cancer pain was released by the World Health Organisation in 1986.[15] Since then, a large number of guidelines have become available internationally. Research has demonstrated that implementation of evidence-based clinical practice guidelines for cancer pain can improve the processes of care and patient outcomes.[10]

1.1.4 The need for an Australian guideline

The management of cancer pain in Australia has been identified as an important area for improvement by both the National Institute of Clinical Studies (National Health and Medical Research Council) and the Cancer Institute New South Wales.[16][17] Timely access to best-practice, evidence-based assessment and care for patients in pain is one of six major goals identified by the Australian National Pain Strategy, [18] which was developed by clinicians and consumers at the 2010 National Pain Summit.[19] Painaustralia was formed in early 2011 to to facilitate implementation of the NPS, with consumers included among its founding members and steering committee. Consumer input was invited with the Consumer Health Forum of Australia with representatives from Arthritis NSW and Palliative Care Queensland. Further consumer input was provided by individuals with cancer and caregivers.

The National Pain Summit's Cancer Pain and Palliative Care Working Group recommended that primary objectives should be the promotion of pain management guidelines and systems to ensure adequate assessment and management of cancer pain. As a starting point, the Cancer Pain and Palliative Care Working Group determined that existing international and overseas guidelines should be adapted for Australian clinical practice.

Back to top

1.1.5 Development of this guideline

An Organising Committee (Table 1) was formed in October 2010 to plan and oversee development of this guideline. To better understand clinician needs, a national survey of current practice was administered online from August 2011 to April 2012. Five hundred and twenty seven health professionals responded from a wide range of disciplines. Respondents were strongly supportive of Australian guidelines and implementation strategies but advocated for these to make use of existing international guidelines rather than allow local guidelines to proliferate unnecessarily.[20] The Organising Committee decided to use the ADAPTE approach [21] to adapt international guidelines to the Australian setting. ADAPTE specifies that guideline adaptation follow a three phase process of Set-up, Adaptation and Finalization.

During Set-up, the Organising Committee agreed that synthesis and adaptation of a number of guidelines would be required rather than selecting a single candidate guideline for adaptation. A Working Group was convened to provide expert guidance (Table 2) and held its inaugural meeting in January 2012. Meetings were held bi-monthly. A declaration of competing interests was signed by each member. Two panels of expert clinicians (Table 3) individually provided expert consultation to the Working Group on pharmacological management and management of adverse effects.

During the Adaptation phase, discussions were initially aimed at more clearly defining the focal Population, Intervention, Professionals, Outcomes and Health setting (PIPOH) for the adapted guideline. Existing guidelines were identified via the reference lists of previous reviews [22][23][24] and searches of online databases and clearing houses and were screened according to the following eight criteria:

- a primary focus on adults with chronic cancer pain
- relevance across tumour types and stages
- inclusion of recommendations for assessment and/or management of pain by means of either pharmacological or non-pharmacological intervention
- capacity to inform pain assessment and management across disciplines and settings
- published in the previous 3 years (i.e. 2008 or later)
- national or international (i.e., not centre-specific)
- available in English
- independently rated as 'recommended' or 'strongly recommended' by two members of the Working Group based on criteria of the Appraisal of Guidelines Research & Evaluation (AGREE) Instrument.[21]

The following guidelines met all criteria and were considered for adaptation:

- Scottish Intercollegiate Guidelines Network. Control of pain in adults with cancer. A national clinical guideline [Version amended 18 July 2011] Edinburgh: SIGN; 2008. Available from: http://www.sign.ac.uk/pdf/SIGN106.pdf
- NHS Quality Improvement Scotland. Best practice statement. The management of pain in patients with cancer. Edinburgh: NHS Quality Improvement Scotland; 2009. Available from: http://www.palliativecareguidelines.scot.nhs.uk/documents/PAINCANCERREV_BPS_NOV09.pdf
- National Comprehensive Cancer Network. NCCN clinical practice guidelines in oncology. Adult cancer pain. Version 1.2012: NCCN; 2012. Available from: http://www.nccn.org
- Ripamonti CI, Bandieri E, Roila F, ESMO Guidelines Working Group. Management of cancer pain: ESMO clinical practice guidelines. Ann Oncol 2011; 22(Suppl 6): vi69-vi67. Available from: http://annonc.oxfordjournals.org/content/22/suppl_6/vi69.long
- Caraceni A, Hanks G, Kaasa S, European Palliative Care Research Collaborative. Use of opioid analgesics in the treatment of cancer pain: evidence-based recommendations for the EAPC. Lancet Oncol 2012; 13: e58-e68. Web version available from: http://www.eapcnet.eu/LinkClick.aspx?fileticket=i-bB4cvZyzg%3d&tabid=1794 and associated reviews.[25][26][27][28][29][30][31][32][33][34][35][36][37][38][39]
- National Institute of Clinical Excellence Guideline Development Group. Opioids in palliative care: safe and effective prescribing of strong opioids for pain in palliative care of adults. NICE clinical guideline 140. Manchester: NICE; 2012. Available from: http://www.nice.org.uk/nicemedia/live/13745/59285/59285.pdf *

The Working Group compared recommendations between the source guidelines and assessed each according to currency, the quality of evidence on which they were based, and applicability to the Australian setting. Recommendations identified as the most suitable were either directly adopted or modified as necessary.

In clinical situations where no recommendation applicable to the Australian setting was available, the Working Group developed recommendations based on members' clinical expertise and experience. Recommendations of this kind are distinguished from those adapted from existing guidelines by the term 'Consensus'.

Recommendations for pharmacological pain management and recommendations for management of adverse effects were referred to two panels of expert clinicians (Table 3).

The Working Group was guided throughout by principles of holistic person-centred care and a concern for potential inappropriate prescribing, especially in elderly patients.

For each of the recommendations in this Australia guideline, we cite as sources:

- one or more adapted guideline(s). To see the grade of each recommendation within its source guideline or the level of evidence on which recommendations are based, users should refer to the original guidelines (links provided).
- other Australian authorities.
- considerations taken into account by our Working Group and panels of Australian expert clinicians when developing consensus recommendations.

Where available, we refer readers to other Australian clinical practice guidelines for the management of specific clinical problems (e.g. psychosocial concerns).

Table 1. The Australian Adult Cancer Pain Management Organising Committee

Patricia Davidson (Co-chair)	Nurse Director, Centre for Cardiovascular and Chronic Care, University of Technology Sydney (UTS) Professor of Cardiovascular Research, St Vincent's Hospital, Sydney	Sydney, NSW
Melanie Lovell (Co-chair)	Palliative care physician Staff Specialist, Palliative Medicine, Greenwich Hospital Visiting Medical Office, Mater Hospital Clinical Senior Lecturer, Northern Clinical School, The University of Sydney	Sydney, NSW
Meera Agar	Palliative care physician Director of Palliative Care, Braeside Hospital Conjoint Associate Professor, South Western Sydney Clinical School, University of New South Wales (UNSW) Conjoint Associate Professor, School of Medicine, The University of Notre Dame, Australia Director of Clinical Trials, Ingham Institute of Applied Medical Research	Sydney, NSW
Anna Green (Administrative support)	Research Administrative Coordinator, Centre for Cardiovascular and Chronic Care, UTS	Sydney, NSW
Tim Luckett (Project Manager)	Program Coordinator, Improving Palliative Care through Clinical Trials (ImPaCCT) Research Fellow, Faculty of Health, UTS and South Western Sydney Clinical School, UNSW	Sydney, NSW

Back to top

Table 2. The Australian Adult Cancer Pain Management Working Group

Melanie Lovell (Chair)	Palliative care physician Staff Specialist, Palliative Medicine, Greenwich Hospital Visiting Medical Office, Mater Hospital Clinical Senior Lecturer, Northern Clinical School	Sydney, NSW	No conflict of interest (COI)

Meera Agar	Palliative care physician Director of Palliative Care, Braeside Hospital Conjoint Associate Professor, South Western Sydney Clinical School, University of New South Wales (UNSW) Conjoint Associate Professor, School of Medicine, The University of Notre Dame, Australia Clinical trials Director, Ingham Institute of Applied Medical Research	Sydney, NSW	No COI
Frances Boyle	Medical oncologist Director, The Patricia Ritchie Centre for Cancer Care and Research, The Mater Hospital North Sydney. Professor of Medical Oncology, Northern Clinical School, The University of Sydney Honorary Medical Officer, Royal North Shore and Greenwich Hospitals, Sydney Visiting Medical Oncologist, North Shore Private Hospital, Sydney Medical Oncologist, Melanoma Institute of Australia Medical Director, Pam McLean Centre, The University of Sydney	Sydney, NSW	Member of Advisory Board for Takeda Pharmaceuticals Australia Pty Ltd
Tim Luckett (Coordination and administrative support)	Program Coordinator, Improving Palliative Care through Clinical Trials (ImPaCCT) Research Fellow, Faculty of Health, UTS Research Associate, South Western Sydney Clinical School, UNSW	Sydney, NSW	No COI
Jane Phillips	Nurse Professor Palliative Nursing, School of Nursing, The Cunningham Centre for Palliative Care and The University of Notre Dame, Australia	Sydney, NSW	No COI
John Stubbs	Consumer Cancer Voices Australia (until June 2012) canSpeak (July 2012 onwards)	Sydney, NSW	No COI

Back to top

Table 3. Expert panels of clinicians who provided consultation to the Working Group

Pharmacological management panel		
David Currow	Palliative care physician Professor and Chair of Palliative and Supportive Services, Flinders University Chief Cancer Officer and Chief Executive Officer, the Cancer Institute NSW	Adelaide, South Australia
Jan Maree Davis	Director of Palliative Care, St George Hospital President, NSW Society of Palliative Medicine Senior Research Fellow, Faculty of Medicine, UNSW	Sydney, NSW
Janet Hardy	Palliative care physician Director of Palliative and Supportive Care, Mater Health Services Brisbane	Brisbane, Queensland
Christine Sanderson	Palliative care physician Staff Specialist, Palliative Medicine, Calvary Health Care Sydney Research Fellow, Palliative and Supportive Services, Flinders University	Sydney, NSW
Odette Spruyt	Palliative care physician Director of Pain and Palliative Care, Peter MacCallum Cancer Centre	Melbourne, Victoria
Management of adverse effects panel		
Melanie Benson	Palliative care physician Staff Specialist, Palliative Medicine, The Alfred	Melbourne, Victoria
Katherine Clark	Palliative care physician Director and Area Director of Palliative Care, Calvary Mater Newcastle Conjoint Professor, School of Medicine and Public Health, The University of Newcastle	Newcastle, NSW
	Medical oncologist Clinical pharmacologist	

Winston Liauw	Staff Specialist, Medical Oncology, St George Cancer Care Centre Sydney Conjoint Associate Professor, Faculty of Medicine, UNSW Chair, Chair Cancer Institute NSW Clinical Research Ethics Committee Member of the Board, National Prescribing Service Visiting Medical Officer, Southern Oncology Specialists and St George Private Hospital	Sydney, NSW

Back to top

Back to top

1.1.6 Funding

Development of this guideline was funded by Improving Palliative Care through Clinical Trials (ImPaCCT) and HammondCare.

Back to top

1.1.7 Updating the guideline

This guideline will be updated each year from 2013 to include recommendations added to new editions of the source guidelines or any new guidelines that meet criteria for quality and applicability.

The developers of this guideline acknowledge that the recommendations in the first edition may not fully meet the information needs of Australian clinicians. Users are invited to use the blue buttons to submit clinical questions for consideration in the next edition. Selected clinical questions will be answered by systematic reviews or new Australian research.

Back to top

1.1.8 Acknowledgements

Jutta von Dincklage, Product Manager (Wiki Development), Cancer Council Australia

Jenni Harman, Medical writer, Meducation Australia

painaustralia (http://www.painaustralia.org.au)

The Working Group thanks Cancer Council Australia for hosting the online consultation draft of this guideline on their website.

Back to top

1.2 References

1. ↑ van den Beuken-van Everdingen MH, de Rijke JM, Kessels AG, Schouten HC, van Kleef M, Patijn J. *Prevalence of pain in patients with cancer: a systematic review of the past 40 years.* Ann Oncol 2007 Sep;18(9):1437-49 Available from: http://www.ncbi.nlm.nih.gov/pubmed/17355955.
2. ↑ Deandrea S, Montanari M, Moja L, Apolone G. *Prevalence of undertreatment in cancer pain. A review of published literature.* Ann Oncol 2008 Dec;19(12):1985-91 Available from: http://www.ncbi.nlm.nih.gov/pubmed/18632721.
3. ↑ Foley KM. *How well is cancer pain treated?* Palliat Med 2011 Jul;25(5):398-401 Available from: http://www.ncbi.nlm.nih.gov/pubmed/21708847.
4. ↑ Fisch MJ, Lee JW, Weiss M, Wagner LI, Chang VT, Cella D, et al. *Prospective, observational study of pain and analgesic prescribing in medical oncology outpatients with breast, colorectal, lung, or prostate cancer.* J Clin Oncol 2012 Jun 1;30(16):1980-8 Available from: http://www.ncbi.nlm.nih.gov/pubmed/22508819.
5. ↑ Stockler MR, Wilcken NR. *Why is management of cancer pain still a problem?* J Clin Oncol 2012 Jun 1;30(16):1907-8 Available from: http://www.ncbi.nlm.nih.gov/pubmed/22508809.
6. ↑ Pargeon KL, Hailey BJ. *Barriers to effective cancer pain management: a review of the literature.* J Pain Symptom Manage 1999 Nov;18(5):358-68 Available from: http://www.ncbi.nlm.nih.gov/pubmed/10584460.
7. ↑ Jacobsen R, Sjøgren P, Møldrup C, Christrup L. *Physician-related barriers to cancer pain management with opioid analgesics: a systematic review.* J Opioid Manag 2007 Jul;3(4):207-14 Available from: http://www.ncbi.nlm.nih.gov/pubmed/17957980.
8. ↑ Jacobsen R, Møldrup C, Christrup L, Sjøgren P. *Patient-related barriers to cancer pain management: a systematic exploratory review.* Scand J Caring Sci 2009 Mar;23(1):190-208 Available from: http://www.ncbi.nlm.nih.gov/pubmed/18785917.
9. ↑ Sun VC, Borneman T, Ferrell B, Piper B, Koczywas M, Choi K. *Overcoming barriers to cancer pain management: an institutional change model.* J Pain Symptom Manage 2007 Oct;34(4):359-69 Available from: http://www.ncbi.nlm.nih.gov/pubmed/17616336.
10. ↑ [10.0] [10.1] Brink-Huis A, van Achterberg T, Schoonhoven L. *Pain management: a review of organisation models with integrated processes for the management of pain in adult cancer patients.* J Clin Nurs 2008 Aug;17(15):1986-2000 Available from: http://www.ncbi.nlm.nih.gov/pubmed/18705779.
11. ↑ Oldenmenger WH, Sillevis Smitt PA, van Dooren S, Stoter G, van der Rijt CC. *A systematic review on barriers hindering adequate cancer pain management and interventions to reduce them: a critical appraisal.* Eur J Cancer 2009 May;45(8):1370-80 Available from: http://www.ncbi.nlm.nih.gov/pubmed/19201599.
12. ↑ Flemming K. *The use of morphine to treat cancer-related pain: a synthesis of quantitative and qualitative research.* J Pain Symptom Manage 2010 Jan;39(1):139-54 Available from: http://www.ncbi.nlm.nih.gov/pubmed/19783398.
13. ↑ Herr K, Titler M, Fine P, Sanders S, Cavanaugh J, Swegle J, et al. *Assessing and treating pain in hospices: current state of evidence-based practices.* J Pain Symptom Manage 2010 May;39(5):803-19 Available from: http://www.ncbi.nlm.nih.gov/pubmed/20471542.
14. ↑ Breuer B, Fleishman SB, Cruciani RA, Portenoy RK. *Medical oncologists' attitudes and practice in cancer pain management: a national survey.* J Clin Oncol 2011 Dec 20;29(36):4769-75 Available from: http://www.ncbi.nlm.nih.gov/pubmed/22084372.
15. ↑ World Health Organisation. *Cancer pain relief and palliative care.* Geneva: WHO; 1990.

16. ↑ Heading G, Mallock N, Sinclair S, Bishop J. *New South Wales Cancer Patient Satisfaction Survey 2007, Interim Report.* Sydney: Cancer Institute NSW; 2008 [cited 32202 Jan 1] Available from: http://www0.health.nsw.gov.au/pubs/2008/pdf/cancer_patient_survey_1-5.pdf.
17. ↑ National Institute of Clinical Studies. *Evidence-Practice Gaps Report Volume 1: A review of developments: 2004–2007.* Canberra: National Health and Medical Research Council; 2008 [cited 32202 Jan 1] Available from: http://www.nhmrc.gov.au/nics/materials-and-resources/evidence-practice-gaps-report-volume-one-review-developments-2004-2007.
18. ↑ Painaustralia. *National Pain Strategy: Pain management for all Australians.* Sydney: Painaustralia; 2010 Available from: http://www.painaustralia.org.au/images/pain_australia/NPS/National%20Pain%20Strategy%202011.pdf.
19. ↑ National Pain Summit Initiative. *National Pain Strategy.* Melbourne: Faculty of Pain Medicine; 2010.
20. ↑ Luckett T, Davidson PM, Boyle F, Liauw W, Agar M, Green A, et al. *Australian survey of current practice and guideline use in adult cancer pain assessment and management: Perspectives of oncologists.* accepted 2012 Oct 2.
21. ↑ [21.0] [21.1] ADAPTE Collaboration, Fervers B, Burgers JS, Voellinger R, Brouwers M, Browman GP, et al. *Guideline adaptation: an approach to enhance efficiency in guideline development and improve utilisation.* BMJ Qual Saf 2011 Mar;20(3):228-36 Available from: http://www.ncbi.nlm.nih.gov/pubmed/21209134.
22. ↑ Green E, Zwaal C, Beals C, Fitzgerald B, Harle I, Jones J, et al. *Cancer-related pain management: a report of evidence-based recommendations to guide practice.* Clin J Pain 2010 Jul;26(6):449-62 Available from: http://www.ncbi.nlm.nih.gov/pubmed/20551720.
23. ↑ Portenoy RK. *Treatment of cancer pain.* Lancet 2011 Jun 25;377(9784):2236-47 Available from: http://www.ncbi.nlm.nih.gov/pubmed/21704873.
24. ↑ Pigni A, Brunelli C, Gibbins J, Hanks G, Deconno F, Kaasa S, et al. *Content development for EUROPEAN GUIDELINES on the use of opioids for cancer pain: a systematic review and Expert Consensus Study.* Minerva Anestesiol 2010 Oct;76(10):833-43 Available from: http://www.ncbi.nlm.nih.gov/pubmed/20935619.
25. ↑ Bennett MI. *Effectiveness of antiepileptic or antidepressant drugs when added to opioids for cancer pain: systematic review.* Palliat Med 2011 Jul;25(5):553-9 Available from: http://www.ncbi.nlm.nih.gov/pubmed/20671006.
26. ↑ Caraceni A, Pigni A, Brunelli C. *Is oral morphine still the first choice opioid for moderate to severe cancer pain? A systematic review within the European Palliative Care Research Collaborative guidelines project.* Palliat Med 2011 Jul;25(5):402-9 Available from: http://www.ncbi.nlm.nih.gov/pubmed/21708848.
27. ↑ Fallon MT, Laird BJ. *A systematic review of combination step III opioid therapy in cancer pain: an EPCRC opioid guideline project.* Palliat Med 2011 Jul;25(5):597-603 Available from: http://www.ncbi.nlm.nih.gov/pubmed/21708862.
28. ↑ King S, Forbes K, Hanks GW, Ferro CJ, Chambers EJ. *A systematic review of the use of opioid medication for those with moderate to severe cancer pain and renal impairment: a European Palliative Care Research Collaborative opioid guidelines project.* Palliat Med 2011 Jul;25(5):525-52 Available from: http://www.ncbi.nlm.nih.gov/pubmed/21708859.
29. ↑ King SJ, Reid C, Forbes K, Hanks G. *A systematic review of oxycodone in the management of cancer pain.* Palliat Med 2011 Jul;25(5):454-70 Available from: http://www.ncbi.nlm.nih.gov/pubmed/21708852.
30. ↑ Klepstad P, Kaasa S, Borchgrevink PC. *Starting step III opioids for moderate to severe pain in cancer patients: dose titration: a systematic review.* Palliat Med 2011 Jul;25(5):424-30 Available from: http://www.ncbi.nlm.nih.gov/pubmed/21708850.

31. ↑ Kurita GP, Kaasa S, Sjøgren P, European Palliative Care Research Collaborative (EPCRC). *Spinal opioids in adult patients with cancer pain: a systematic review: a European Palliative Care Research Collaborative (EPCRC) opioid guidelines project.* Palliat Med 2011 Jul;25(5):560-77 Available from: http://www.ncbi.nlm.nih.gov/pubmed/21708860.
32. ↑ Mercadante S, Caraceni A. *Conversion ratios for opioid switching in the treatment of cancer pain: a systematic review.* Palliat Med 2011 Jul;25(5):504-15 Available from: http://www.ncbi.nlm.nih.gov/pubmed/21708857.
33. ↑ Pigni A, Brunelli C, Caraceni A. *The role of hydromorphone in cancer pain treatment: a systematic review.* Palliat Med 2011 Jul;25(5):471-7 Available from: http://www.ncbi.nlm.nih.gov/pubmed/21708853.
34. ↑ Radbruch L, Trottenberg P, Elsner F, Kaasa S, Caraceni A. *Systematic review of the role of alternative application routes for opioid treatment for moderate to severe cancer pain: an EPCRC opioid guidelines project.* Palliat Med 2011 Jul;25(5):578-96 Available from: http://www.ncbi.nlm.nih.gov/pubmed/21708861.
35. ↑ Stone P, Minton O. *European Palliative Care Research collaborative pain guidelines. Central side-effects management: what is the evidence to support best practice in the management of sedation, cognitive impairment and myoclonus?* Palliat Med 2011 Jul;25(5):431-41 Available from: http://www.ncbi.nlm.nih.gov/pubmed/20870687.
36. ↑ Tassinari D, Drudi F, Rosati M, Maltoni M. *Transdermal opioids as front line treatment of moderate to severe cancer pain: a systemic review.* Palliat Med 2011 Jul;25(5):478-87 Available from: http://www.ncbi.nlm.nih.gov/pubmed/21708854.
37. ↑ Tassinari D, Drudi F, Rosati M, Tombesi P, Sartori S, Maltoni M. *The second step of the analgesic ladder and oral tramadol in the treatment of mild to moderate cancer pain: a systematic review.* Palliat Med 2011 Jul;25(5):410-23 Available from: http://www.ncbi.nlm.nih.gov/pubmed/21708849.
38. ↑ Zeppetella G. *Opioids for the management of breakthrough cancer pain in adults: a systematic review undertaken as part of an EPCRC opioid guidelines project.* Palliat Med 2011 Jul;25(5):516-24 Available from: http://www.ncbi.nlm.nih.gov/pubmed/21708858.
39. ↑ Nabal M, Librada S, Redondo MJ, Pigni A, Brunelli C, Caraceni A. *The role of paracetamol and nonsteroidal anti-inflammatory drugs in addition to WHO Step III opioids in the control of pain in advanced cancer. A systematic review of the literature.* Palliat Med 2012 Jun;26(4):305-12 Available from: http://www.ncbi.nlm.nih.gov/pubmed/22126843.

Back to top

1.3 Notes

* ↑ NICE 2012 became available just as a draft of recommendations based on the other five guidelines was being finalised. Draft adapted recommendations for opioid use were checked against those of the NICE guideline for consistency.

Back to top

2 Summary of recommendations

2.1 Summary of recommendations

2.2 Cancer pain management in adults: Evidence-based clinical practice guidelines adapted for use in Australia

2.2.1 Patient-centred care

Recommendation
PCC1. Routinely establish a multidisciplinary team approach to pain management that involves allied care health professionals and primary care health professionals according to the person's pain management needs and preferences. (SIGN)
PCC2. Adopt a person-centred approach to pain management (NICE), which involves: ■ taking into account the patient's needs and preferences ■ enabling the person to make informed decisions about their care and treatment ■ providing culturally appropriate care and information ■ involving the person's partner, carer or family in treatment decisions, if the person wishes.

Back to top

2.2.2 Screening

Recommendation
S1. For all patients who are able to communicate their level of pain: At each clinical encounter, assess worst and average pain intensity during the previous 24 hours using a self-reported numerical rating scale from zero to 10, where zero represents 'no pain' and 10 represents 'worst pain you can imagine'. (NCCN)
S2. For people who cannot self-report due to cognitive impairment: At each clinical encounter, use the Abbey Pain Scale. (Consensus) Recommended by the Australian Pain Society: Australian Pain Society. Residential Aged Care Facilities - Management Strategies. Sydney: Australian Pain Society; 2005. Available from: http://www.apsoc.org.au/owner/files/9e2c2n.pdf APS 2005.

Back to top

2.2.3 Assessment

Recommendation
A1. Complete a comprehensive assessment if either of the following apply: • a new patient reports a pain score of 2 or more on self-reported numerical rating scale of zero to 10 or pain score is 3 or more on the Abbey Pain Scale (see Screening) • an existing patient reports a new pain or a sudden, unexpected change in intensity of pain. (Consensus) Assess all the following to determine the individual's pain management needs: • Disease status and treatment (Consensus) The Working Group considered this information to provide necessary context for other assessments • Pain severity (using a validated tool) (NCCN, SIGN) • Pain experience (location, interference, timing, description, aggravating and relieving factors) (ESMO, NCCN, NHS, SIGN) • Current and previous management of pain (ESMO, NCCN, NHS, SIGN) and other symptoms (Consensus) • Pain meaning for the person and their beliefs and knowledge (NCCN, NHS, SIGN), including concern about pain and its treatment (e.g. perceived addictiveness of opioids) (NICE) • Psychosocial status (ESMO, NCCN, NHS, SIGN), including risk factors for opioid misuse (NCCN) • Cognitive functioning (Consensus) The Working Group considered this information to provide necessary context for other assessments • Physical examination and, where needed, further investigations (NCCN, NHS, SIGN) • Functional status (ESMO) • Risk factors for poorly controlled pain (NCCN) • Patient and family preferences (goals and expectations for comfort, advance directives) (NCCN) • Factors suggesting an oncological emergency. (NCCN) Reassess whenever there is a change in pain or a new pain is reported.

Back to top

2.2.4 Self-management

Recommendation
SM1. For all patients with pain, provide education about cancer-related pain and its management. (NCCN, SIGN)
SM2. Patients with pain should be provided with verbal and written information on pain and its management, including the following: • pain causes • common experiences of cancer pain (e.g. onset, timing) • effective treatments (including medicines and non-pharmacological management strategies) • effect of medicines including breakthrough analgesia (e.g. onset and duration of effect; when to take them) • side-effects of medicines such as opioid-related constipation and how to prevent or manage them • any safety concerns (e.g. mixing with alcohol, driving) • ways to ensure patients have adequate access and supply to prescribed opioids • how to work with health professionals to achieve the best pain control possible (e.g. the importance of reporting rather than concealing pain, side-effects and other concerns about medication) • common attitudes and beliefs that may prevent people with cancer receiving effective pain control (e.g. fears that opioids are addictive and used only at the end of life, and that patients will develop tolerance over time requiring dose escalation) • when to seek help (e.g. if vomiting and unable to keep down fluids for one day, bowels not open 3 days, new pain, change in pain or pain not relieved by medication, difficulty arousing the patient from sleep easily during the daytime, confusion, difficulty accessing the medications). (Consensus) Systematic review by Koller et al (2012): Koller A, Miaskowski C, De Geest S, Opitz O, Spichiger E. A systematic evaluation of content, structure, and efficacy of interventions to improve patients' self-management of cancer pain. J Pain Symptom Manage. 2012 Aug;44(2):264-84.
SM3. Include the person’s family, carers and significant others in education about pain and its management, if appropriate. (Consensus) Carers are frequently involved in decision-making (e.g. to start and adhere to opioids) and management

Back to top

2.2.5 Pharmacological management

Recommendation
P1. For patients with continuing pain, begin regular analgesia with paracetamol and/or a nonsteroidal anti-inflammatory drug (NSAID) if the patient has no contraindications. (ESMO, NCCN, SIGN)
P2. If pain is moderate or severe or continues despite treatment with paracetamol or NSAIDs, consider regular oral opioids. (ESMO, NCCN, SIGN)
P3.If pain continues or recurs despite regular oral opioid analgesia and the patient feels that analgesia is inadequate, consider either of the following options: • Add a NSAID (if the person is not already taking and NSAID and has no contraindications). (EAPC) • Increase the regular dose to incorporate the rescue doses taken in previous 24 hours (SIGN), then reassess pain severity and adverse effects within 48 hours. (Consensus)
P4. Methadone should be initiated and titrated only by specialists familiar with its use. (EAPC, ESMO, NCCN)
P5. The transdermal route of administration can be considered as an alternative to oral administration if required, for reduced risk of constipation or patient convenience. (EAPC) Use one of the following options, referring to eviQ for conversion: • Switch to transdermal fentanyl. (NICE) Note: The lowest dose available (12 mcg/hr) for fentanyl transdermal patch is equivalent to 45 mg morphine daily orally. • Switch to transdermal buprenorphine (suitable for patients with stable mild pain only). (NICE) Note: A 20 mcg/hr buprenorphine transdermal patch is equivalent to 30 mg morphine daily orally. Due to long duration of action, the transdermal route should be considered only when pain is stable. (ESMO, NCCN, SIGN)
P6. In addition to regular opioids, routinely prescribe short-acting analgesia at a dose equivalent to one-sixth of total 24-hour dose, to be administered if breakthrough pain occurs. (NHS, SIGN) Rescue doses should be prescribed at 1-hourly intervals when required (NCCN) with advice given for the patient to seek health care professional advice if 3 consecutive doses have not relieved pain. (Consensus)
P7. If breakthrough pain occurs, monitor the number of breakthrough doses. If rescue analgesic doses have been effective with no adverse effects, re-titrate the regular opioid 24-hour dose by calculating the previous 24 hour opioid requirement including breakthrough doses. (SIGN) Note - if breakthrough analgesia is taken preemptively for incident pain, then the regular dose may not need to be increased.
P8. If the person experiences incident pain on a background of stable pain control while taking regular opioids, give additional oral short-acting opioids at a dose equivalent to one-sixth of total 24-hour dose.

Recommendation
(NHS, SIGN, EAPC)
P9. . If the person experiences movement-related pain, advise him/her to take pre-emptive analgesia 30 minutes before activity that is likely to cause pain. (EAPC, NCCN, NHS, SIGN)
P10. For patients with neuropathic pain that persists despite non-opioid and opioid analgesia consider the following options (EAPC, ESMO, NCCN, SIGN): • Anticonvulsant agents (gabapentin or pregabalin) • Antidepressants (amitriptyline, nortriptyline or venlafaxine).
P11. For patients with bone pain due to cancer, consider bisphosphonates. (ESMO, NCCN, NHS, SIGN)
P12. For patients with painful bone metastases, consider single-fraction radiotherapy or radioisotopes. (ESMO, NCCN, NHS, SIGN)
P13. Consider denosumab for preventing skeletal events and bone pain from metastatic breast or prostate cancer. (Consensus based on PBS listing from July 2011) Evidence from a randomised clinical trial: Cleeland, C.S., et al., Pain outcomes in patients with advanced breast cancer and bone metastases: Results from a randomized, double-blind study of denosumab and zoledronic acid. Cancer, 2012. Available from: http://www.ncbi.nlm.nih.gov/pubmed/22951813
P14. For patients with refractory pain despite carefully titrated doses of conventional medical therapies, consider whether a nerve block or spinal route of administration may be indicated. (NCCN, NHS, SIGN)
P15. Consider nerve blocks for well-localised pain syndromes (e.g. coeliac plexus block for pain in pancreas or upper abdomen). (NCCN)
P16. Consider intrathecal infusion of analgesic for patients with any of the following: • difficult-to-control pain (EAPC) • diffuse pain (NCCN) • unacceptable opioid-related toxicity despite optimal use of adjuvants and a trial of switching opioids (SIGN) Refer to a specialist pain medicine physician or palliative medicine physician.
P17. For patients with renal impairment, carefully monitor for treatment-related adverse effects. If opioid-related adverse effects occur, consider the following options: • Reduce the total dose of regular opioid (either by reducing dose and maintaining dose interval, or increasing dose interval and maintaining dose). (ESMO, SIGN)

Recommendation
• Switch from sustained release to immediate release opioid at an appropriate regular dosing interval. (SIGN) • Switch to a different opioid (e.g. consider buprenorphine or fentanyl instead of morphine, codeine or hydromorphone) or methadone under specialist supervision. (EAPC, ESMO, NCCN, SIGN)
P18. Morphine should be used with caution in patients with severe kidney disease (calculated creatinine clearance of less than 30 mg) in whom it may require reductions in dose and frequency. (EAPC, SIGN)
P19. Reduce the risk of constipation in non-terminal patients using all of the following strategies: • Maintain adequate hydration. (NCCN) • Encourage physical activity (ambulant patients). (NCCN) • Provide education on bowel hygiene routine (e.g. dietary fibre). (Consensus) • Use a combination of stimulant and softening laxatives (EAPC, NCCN, NICE, SIGN) • Avoid other medicines that can aggravate constipation (e.g. 5HT3 antagonists) if possible. (Consensus)
P20. For an ambulant non-terminal patient with critical constipation caused by opioids that is not responding to oral stimulant and softening laxatives or polyethylene glycol (NCCN), consider one of the following options: • Switch to less constipating opioid (e.g. fentanyl). (NICE) • Switch to a combination oxycodone hydrochloride with naloxone hydrochloride if the person's regular 24-hour opioid dose conversion is below maximum dose. (Consensus) The combination of oxycodone hydrochloride and naloxone hydrochloride has not been compared with laxatives in this patient population. (NPS Radar. Oxycodone-with-naloxone controlled-release tablets (Targin®). 2011(December) [cited 2012 20th October]; Available from: http://www.nps.org.au/__data/assets/pdf_file/0005/135869/oxycodone_with_naloxone.pdf) • Manage symptoms with methylnaltrexone. (NCCN, EAPC)
P21. When commencing an opioid and at each opioid dose increment, routinely prescribe a prophylactic antiemetic (e.g. prochlorperazine maleate, metoclopramide or haloperidol). (EAPC, NCCN, NICE)
P22. If nausea persists after symptom review, consider prescribing an antiemetic to be taken regularly. (ESMO, NCCN, NHS, NICE)
P23. If nausea is persistent or severe, investigate further to determine causes (e.g. constipation, central nervous system pathology, chemotherapy, radiation therapy). (NCCN)
P24. If opioid toxicity is suspected (Consensus

Recommendation
• Review all medicines and consider whether medicines may be contributing to the signs and symptoms. • Take a detailed history and consider whether the person's underlying disease (e.g. brain metastases, hepatic impairment) or other factors may be contributing to the signs and symptoms. • Complete a thorough physical examination. • Consider further investigations.
P25. When opioid-related toxicity of the central nervous system is suspected, consider the differential diagnosis of causes. Consider undertaking the following investigations as indicated by the clinical situation (Consensus): • Ask about relevant history. • Check electrolytes (sodium, potassium, chloride, serum calcium), urea, creatinine, calcium, glucose, oxygen saturations. • Perform urine dipstick test. • Order chest X-ray, CT of brain if indicated.
P26. If opioid-related toxicity of the central nervous system is a probable cause of confusion or other central nervous system symptoms (NHS): • Consider supplemental hydration if the patient is dehydrated. • Consider switching to a different opioid or reducing dose.
P27. For opioid-related confusion or delirium, treat the underlying aetiology and manage according to life expectancy (Consensus): • If NOT last days of life, trial non-pharmacological management first to manage delirium symptoms (e.g. well lit, quiet environment). If the symptoms are not adequately improved consider reducing dose of opioid or switching to a different opioid. If symptoms are still not adequately managed and/or the person is at risk of self-harm or harm to others, consider an antipsychotic agent. • If last days of life and the person and is experiencing significant distress from the symptoms, an antipsychotic agent may be indicated as first line therapy.
P28. Manage opioid-related myoclonus according to life expectancy (Consensus): • Manage reversible causes such as renal impairment, dehydration, very high doses of opioids. • If NOT last days of life, consider reducing dose of opioid or switching to a different opioid. • If last days of life, consider reducing dose of opioid if appropriate and/or a benzodiazepine.

Recommendation
P29. Respiratory depression is an uncommon adverse effect of opioid therapy for cancer pain. If opioid-related respiratory depression is suspected (Consensus): • Eliminate other causes such as effect of sedatives, hypercapnia and/or excessive oxygen flow. • Check hydration status and renal function. • For patients receiving methadone, consult a clinical pharmacist, clinical pharmacologist, pain specialist pain medicine physician or palliative medicine physician.
P30. Manage opioid-related respiratory depression with all of the following (Consensus): • Withhold opioid dose and recommence either at lower dosing frequency or reduced dose. • Ensure the person is positioned properly. • Rehydrate if dehydrated.
P31. Manage opioid-related respiratory depression according to severity of symptom: • Withhold next opioid dose and recommence either at a reduced dose or less frequent dosing interval. • Ensure the person is positioned to maintain airway and provide oxygen if appropriate. • If respiratory rate ≤ 8/minute and patient unrousable, use appropriate dose of naloxone in frequent small doses that aim to improve consciousness without worsening pain (diluting ampule to 10ml). (ESMO, NCCN) • If patient rousable (despite low respiratory rate), monitor patient closely for decrease in rousability until respiratory rate improves. Encourage deep breathing. • For patients receiving fentanyl transdermal patches or methadone, consult a specialist pain medicine physician, palliative medicine physician or clinical pharmacologist.
P32. If a patient is experiencing opioid-related mouth dryness: • Ensure adequate mouth care. (NHS) • Consider switching to another opioid. (Consensus)
P33. If opioid-related pruritis is suspected, exclude renal impairment and hepatic impairment as cause. (Consensus)
P34. Manage opioid-related pruritis with either or both the following:

Recommendation
• Consider switching to a different opioid. (NCCN, NHS) If pruritis persists despite opioid switching after trialling more than one opioid, refer to a relevant specialist team (e.g. palliative care and/or pain medicine). (Consensus) • Consider symptomatic management with an H1 antihistamine (choose one of the newer, less sedating agents). (Consensus)
P35. Consider urinary retention in patients with urinary symptoms. (Consensus)
P36. If opioid-induced hyperalgesia is suspected (e.g. pain is escalating despite pain management according to these guidelines), refer to palliative care team or palliative medicine specialist for urgent advice. (Consensus)
P37. Consider switching to a different opioid in either of the following situations: • Optimal pain relief cannot be achieved despite appropriate dose. (ESMO, NCCN, NHS, NICE) • The patient is experiencing unacceptable opioid-related adverse effects. (EAPC) • The route of administration is no longer possible. (NHS)
P38. If switching to a different formulation or route of administration with the same agent, look up conversion for total 24-hour opioid dose via the eviQ website. (EAPC, ESMO, NCCN, NHS, NICE)
P39. If switching to a different agent because the previous route of administration is no longer possible, a starting dose lower than the equivalent total 24-hour opioid dose of the previous agent should be used. (EAPC)
P40. If switching to a different opioid agent due to unacceptable treatment-related adverse effects, despite optimal pain relief, start with a lower dose, then adjust dose carefully while monitoring for pain control and adverse effects. (EAPC, ESMO)
P41. If there is reason to suspect that a patient’s prescribed opioids are being misused or diverted: • Explain the person that goal is pain relief without misuse. (Consensus) • Assess for opioid dependency disorder. (Consensus) • Establish a treatment agreement with the person, including an agreement to limit the supply of opioids to a single prescriber and pharmacy. (NCCN)
P42. Advise all patients and carers to ensure medicines are kept out of children’s reach, out of sight and in a secure cupboard. (Consensus) Advice for patients on safe storage and disposal of medication is available online and in printed fact-sheets from the American Society of Clinical Oncology

Recommendation
P43. For patients taking opioids, assess capacity to drive using current national guidelines and warn of impairment at higher doses. (Consensus) Austroads Limited. Assessing fitness to drive. Medical standards for licensing and clinical management guidelines. Sydney: Austroads Ltd; 2012. Available from: http://www.austroads.com.au

Back to top

2.2.6 Non-pharmacological management

Recommendation
N1. Consider referral to a physiotherapist for assessment of functional ability and potential suitability of non-pharmacological pain management strategies. (NCCN, NHS, SIGN)
N2. Provide support for any psychosocial and spiritual concerns identified during comprehensive assessment. (NCCN)
N3. Consider referral to an occupational therapist for assessment and management. (NCCN, NHS)
N4. Consider referral to a clinical psychologist for psychological therapies and support: • Cognitive–behavioural therapy (NCCN, SIGN) • Relaxation techniques (NCCN) • Distraction techniques (NCCN) • Guided imagery therapy. (NCCN)
N5. Consider music either prerecorded or with a music therapist (Consensus) Systematic review by Bradt et al (2011): Bradt J, Dileo C, Grocke D, Magill L. Music interventions for improving psychological and physical outcomes in cancer patients.Cochrane Database Syst Rev. 2011 Aug 10;(8):CD006911. doi: 10.1002/14651858.CD006911.pub2.
N6. Offer to discuss any complementary therapies the person may wish to consider, and provide reliable information about the evidence for their effectiveness. (Consensus) Principles of holistic management; Potential for drug–drug interactions

Back to top

3 Flowchart overview

Overview

4 Patient-centred care

4.1 Patient-centred care

Evidence-based recommendation
PCC1. Routinely establish a multidisciplinary team approach to pain management that involves allied care health professionals and primary care health professionals according to the person's pain management needs and preferences. (SIGN)

Evidence-based recommendation
PCC2. Adopt a person-centred approach to pain management (NICE), which involves: ■ taking into account the patient's needs and preferences ■ enabling the person to make informed decisions about their care and treatment ■ providing culturally appropriate care and information ■ involving the person's partner, carer or family in treatment decisions, if the person wishes.

4.2 References

National Institute of Clinical Excellence Guideline Development Group. Opioids in palliative care: safe and effective prescribing of strong opioids for pain in palliative care of adults. NICE clinical guideline 140. Manchester: NICE; 2012. Available from: http://www.nice.org.uk/nicemedia/live/13745/59285/59285.pdf

Scottish Intercollegiate Guidelines Network. Control of pain in adults with cancer. A national clinical guideline [Version amended 18 July 2011] Edinburgh: SIGN; 2008. Available from: http://www.sign.ac.uk/pdf/SIGN106.pdf

5 Screening

5.1 Screening

Evidence-based recommendation

S1. For all patients who are able to communicate their level of pain: At each clinical encounter, assess worst, least and usual pain intensity during the previous 24 hours using a self-reported numerical rating scale from zero to 10, where zero represents ‘no pain’ and 10 represents ‘worst pain you can imagine’. (NCCN)

Numerical rating scale for pain intensity

Verbal: What number describes your worst/least/average pain, where zero is no pain and ten is worst pain you can imagine.

Written: Please circle the number that best describes your worst/least/average pain over the past 24 hours:

Evidence-based recommendation

S2. For people who cannot self-report due to cognitive impairment: At each clinical encounter, use the Abbey Pain Scale. (Consensus)

Recommended by the Australian Pain Society: Australian Pain Society. Residential Aged Care Facilities - Management Strategies. Sydney: Australian Pain Society; 2005. Available from: http://www.apsoc.org.au/owner/files/9e2c2n.pdf APS 2005.

Complete a comprehensive assessment if either of the following applies:

- a new patient reports a pain score of 2 or more on self-reported numerical rating scale of zero to 10, or 3 or more on the Abbey Pain Scale
- an existing patient reports a new pain or a sudden, unexpected change in intensity of pain.

Some people find it easier to rate their pain using pictures rather than numbers. See the Wong-Baker FACES® Pain Rating Scale (a pictorial scale available for download).

5.2 References

National Comprehensive Cancer Network. NCCN clinical practice guidelines in oncology. Adult cancer pain. Version 1.2012: NCCN; 2012. Available from: http://www.nccn.org

6 Assessment

6.1 Assessment

Evidence-based recommendation
A1. Complete a comprehensive assessment if either of the following apply: • a new patient reports a pain score of 2 or more on self-reported numerical rating scale of zero to 10 or pain score is 3 or more on the Abbey Pain Scale (see Screening) • an existing patient reports a new pain or a sudden, unexpected change in intensity of pain.(Consensus) Assess all the following to determine the individual's pain management needs: • Disease status and treatment (Consensus) The Working Group considered this information to provide necessary context for other assessments • Pain severity (using a validated tool) (NCCN, SIGN) • Pain experience (location, interference, timing, description, aggravating and relieving factors) (ESMO, NCCN, NHS, SIGN) • Current and previous management of pain (ESMO, NCCN, NHS, SIGN) and other symptoms (Consensus) • Pain meaning for the person and their beliefs and knowledge (NCCN, NHS, SIGN), including concern about pain and its treatment (e.g. perceived addictiveness of opioids) (NICE) • Psychosocial status (ESMO, NCCN, NHS, SIGN), including risk factors for opioid misuse (NCCN) • Cognitive functioning (Consensus) The Working Group considered this information to provide necessary context for other assessments

Evidence-based recommendation
• Physical examination and, where needed, further investigations (NCCN, NHS, SIGN)
• Functional status (ESMO)
• Risk factors for poorly controlled pain (NCCN)
• Patient and family preferences (goals and expectations for comfort, advance directives) (NCCN)
• Factors suggesting an oncological emergency. (NCCN)

Contents

Back to top

6.2 Assessment checklist

6.2.1 [ ] Disease status and treatment

[ ] Record the person's disease status:

- Cancer type
- Site/s

[ ] Record current cancer treatments, including:

- Chemotherapy (agents, doses)
- Radiotherapy (site, dose)
- Other treatments (including complementary and alternative)

[ ] Record previous and previous cancer treatments, including:

- Chemotherapy (agents, doses)
- Radiotherapy (site, dose)
- Other treatments (including complementary and alternative)

[ ] Record treatments for any health problems other than cancer.

Anticancer treatments that may cause peripheral neuropathy

Taxanes

Platinum agents

Eribulin

Vincristine

Navelbine

Lenolinamide

Bortezomib

Thalidomide

Back to top

6.2.2 [ ] Pain severity

[ ] Record pain severity in detail, using a self-reported validated pain assessment instrument (e.g. the Brief Pain Inventory short form (BPI-SF) recommended by NCCN and SIGN)

Back to top

6.2.3 [ ] Pain experience

If the person has more than one pain, number each and complete all assessments for each pain (including any pain not caused by cancer).

6.2.3.1 [ ] Location

[ ] Assess and record:

- Location (see the Change Pain website for an interactive and printable body diagram)
- Presence of radiating pain

Back to top

6.2.3.2 [ ] Interference with activities

[ ] Assess and record whether and how pain is interfering with the person's daily activities (e.g. walking , sleeping), using a validated assessment tool (e.g. the Brief Pain Inventory short-form (BPI-SF) recommended by NCCN and SIGN)

If pain is impairing the person's ability to perform activities of daily living, consider referral to a physiotherapist or occupational therapist for further assessment.

Back to top

6.2.3.3 [ ] Timing

[ ] Assess and record the timing of pain, including:

- Onset
- Duration

- Change in pain over time
- Pain during particular movements or activities
- Whether pain is persistent or intermittent
- Whether pain is generally controlled by medication but recurs at certain times or at end of dosing interval.

Aim to establish whether timing of pain is predictable or random and whether breakthrough analgesia might be needed preemptively.

Back to top

6.2.4 [ ] Description

[ ] Assess and record the quality of pain. Allow the patient to describe his/her pain, prompting with the descriptors listed below if needed.

Characteristic of nociceptive pain	**Characteristic of neuropathic pain**
Aching	Burning
Cramping	Electrical
Gnawing	Shock-like
Pressure	Shooting
Sharp	Tingling
Stabbing	
Throbbing	

Back to top

6.2.4.1 [ ] Aggravating and relieving factors

[ ] Assess and record factors that either make pain worse or relieve pain.

Back to top

6.2.5 [ ] Current and previous management of pain and other symptoms

[ ] Ask the patient which pain medications he or she:

- is currently taking
- has taken in the past.

[ ] Ask the patient which medications for other symptoms he or she:

- is currently taking
- has taken in the past.

[ ] For each medication, ask about:

- when it was taken (currently/ past month/before past month)
- duration of use
- dose
- efficacy
- adverse effects
- who prescribed it
- self-reported adherence
- reason for stopping (if applicable).

[ ] Ask the patient if he or she has used any non-pharmacological methods for managing pain (e.g. relaxation, massage, herbal medicine).

[ ] For each non-pharmacological pain management method, ask about:

- reason for use
- duration of use
- efficacy
- adverse effects
- reason for stopping (if applicable).

Back to top

6.2.5.1 [ ] Other symptoms

[ ] Assess and record the presence of other symptoms and attempt to diagnose the cause and mechanism of each.

Back to top

6.2.6 [ ] Pain meaning, beliefs and knowledge

[ ] Assess and record the meanings the person’s pain has for them and their family or carers.

[ ] Assess and record any concerns the person has about the pain and its treatment such as fear of addiction, tolerance, side effects and fear that prescription of opioid means the final phase of illness.

Provide education tailored to patients' and families' knowledge, beliefs and attitudes about pain and pain treatment.

Suggested questions to ask person:

What do you think is causing the pain?

Has someone else in the family had cancer pain?

Is there anything you are afraid of related to the pain or its management?

Is there anything that worries you about the treatment of pain?

Source: Kissane D, Bultz B, Butow P, Finlay I, editors. Handbook of communication in oncology and palliative care. Oxford: Oxford University Press; 2010.

Back to top

6.2.7 [ ] Psychosocial assessment

[ ] Assess and record psychosocial status, including anxiety and depression.

[ ] Record psychiatric history, including previous or current substance abuse.

[ ] Assess risk of opioid misuse.

[ ] Assess and record relevant spiritual, religious or existential beliefs affecting pain and its management.

Suggested questions to assess risk of opioid misuse:

At any time in your life, have you ever used alcohol, cannabis, other drugs, or any substance that can lead to dependence, including a medicine normally prescribed by a doctor?

[For each substance named]

Do you think your use of [substance] was out of control?

- Never or almost never
- Sometimes
- Often
- Always or nearly always

Did the prospect of missing a drink/fix/dose of [substance] make you anxious or worried?

- Never or almost never
- Sometimes
- Often
- Always or nearly always

Did you worry about your use of [substance]?

- Never or almost never
- Sometimes
- Often
- Always or nearly always

Did you wish you could stop?

- Never or almost never
- Sometimes
- Often
- Always or nearly always

How difficult did you find it to stop or to go without [substance]?

- Not difficult
- Quite difficult
- Very difficult
- Impossible

Has anyone in your immediate family (e.g. a parent, brother or sister) ever been addicted to or dependent on any substance, including alcohol, other substances (such as cannabis or other drugs), or a medicine normally prescribed by a doctor?

Adapted from: Gossop M, Darke S, Griffiths P, et al. The Severity of Dependence Scale (SDS): psychometric properties of the SDS in English and Australian samples of heroin, cocaine and amphetamine users. Addiction 1995; 90: 607–14. Available from: www.ncbi.nlm.nih.gov/pubmed/7795497

Suggested questions to assess contribution of spiritual beliefs to pain and its management

Do you have spiritual beliefs that help you cope?

What importance does your faith or belief have in your life?

How does your faith or belief affect the way you think about your pain?

Where psychosocial concerns are identified, refer to the following guideline for advice on further assessment, referral and management - National Breast Cancer Centre and National Cancer Control Initiative. Clinical practice guidelines for the psychosocial care of adults with cancer. Camperdown, NSW: National Breast Cancer Centre; 2003. Available from: http://canceraustralia.gov.au/publications-resources/cancer-australia-publications/clinical-practice-guidelines-psychosocial-care

Back to top

6.2.8 [ ] Cognitive functioning

[ ] Record whether cognitive impairment is present.

If self-reporting of pain intensity is difficult due to cognitive impairment, use a tool validated for this population such as the Abbey Pain Scale

Back to top

6.2.9 Physical examination and further investigations

[ ] Perform a thorough physical examination

[ ] Consider whether there are indications for imaging or laboratory studies.

A sudden change in the type or intensity of pain warrants further investigations.

Back to top

6.2.9.1 [ ] Functional status

[ ] Assess and record functional status, using a systematic approach.

Consider using one of the following:

- The Eastern Cooperative Oncology Group (ECOG) Performance Status Scale
- The Australia-modified Karnofsky Performance Status (AKPS) scale

If pain is contributing to functional impairment, consider referral to physiotherapist, occupational therapist, social worker or palliative care team.

Back to top

6.2.10 [ ] Risk factors for poorly controlled pain

[ ] Assess and record whether the person has any risk factors for poor pain control:

- high pain score
- cognitive impairment
- elderly
- history of substance use
- first language other than English
- membership of a cultural minority group
- neuropathic pain.

If self-reporting of pain intensity is difficult due to cognitive impairment, use the Abbey Pain Scale

For patients whose ability to communicate with the treating team may be affected by a language barrier, use a healthcare interpreter.

The Brief Pain Inventory is available in many community languages (listed on the MD Anderson Cancer Center website).

Back to top

6.2.11 [ ] Preferences for care based on individual's goals and expectations for comfort

[ ] Assess and record person's goals for comfort.

Suggested questions to ask person

What are you hoping to do with improved pain relief which you can't do now? (e.g. sleep better, be more active)

What aspects of daily life are you most hoping pain management can help with?

Back to top

6.2.12 [ ] Oncological emergencies

[ ] Consider whether pain is related to an oncological emergency, e.g:

- bone fracture (or high risk of imminent fracture)
- brain metastasis
- epidural metastasis
- leptomeningeal metastasis
- infection
- obstructed or perforated abdominal organ.

Back to top

6.3 References

Gossop M, Darke S, Griffiths P, et al. The Severity of Dependence Scale (SDS): psychometric properties of the SDS in English and Australian samples of heroin, cocaine and amphetamine users. Addiction 1995; 90: 607–14.

Kissane D, Bultz B, Butow P, Finlay I, editors. Handbook of communication in oncology and palliative care. Oxford: Oxford University Press; 2010.

National Breast Cancer Centre and National Cancer Control Initiative. Clinical practice guidelines for the psychosocial care of adults with cancer. Camperdown, NSW: National Breast Cancer Centre; 2003. Available from: http://www.nhmrc.gov.au/_files_nhmrc/publications/attachments/cp90.pdf

National Comprehensive Cancer Network. NCCN clinical practice guidelines in oncology. Adult cancer pain. Version 1.2012: NCCN; 2012. Available from: http://www.nccn.org

National Health Service Quality Improvement Scotland. Best practice statement. The management of pain in patients with cancer. Edinburgh: NHS Quality Improvement Scotland; 2009. Available from: http://www.palliativecareguidelines.scot.nhs.uk/documents/PAINCANCERREV_BPS_NOV09.pdf

National Institute of Clinical Excellence Guideline Development Group. Opioids in palliative care: safe and effective prescribing of strong opioids for pain in palliative care of adults. NICE clinical guideline 140. Manchester: NICE; 2012. Available from: http://www.nice.org.uk/nicemedia/live/13745/59285/59285.pdf

Ripamonti CI, Bandieri E, Roila F, ESMO Guidelines Working Group. Management of cancer pain: ESMO clinical practice guidelines. Ann Oncol 2011; 22(Suppl 6): vi69-vi67. Available from: http://annonc.oxfordjournals.org/content/22/suppl_6/vi69.long

Scottish Intercollegiate Guidelines Network. Control of pain in adults with cancer. A national clinical guideline [Version amended 18 July 2011] Edinburgh: SIGN; 2008. Available from: http://www.sign.ac.uk/pdf/SIGN106.pdf

Back to top

6.4 Appendices

6.4.1 Appendix: The Eastern Cooperative Oncology Group (ECOG) Performance Status scale

Grade	Person's function
0	Fully active, able to carry on all pre-disease performance without restriction
1	Restricted in physically strenuous activity but ambulatory and able to carry out work of a light or sedentary nature, e.g., light house work, office work
2	Ambulatory and capable of all self-care but unable to carry out any work activities. Up and about more than 50% of waking hours
3	Capable of only limited self-care, confined to bed or chair more than 50% of waking hours
4	Completely disabled. Cannot carry on any self-care. Totally confined to bed or chair
5	Dead

Source: Eastern Cooperative Oncology Group (Chair: Robert Comis) Oken MM, Creech RH, Tormey DC, et al. Toxicity and response criteria of the Eastern Cooperative Oncology Group. Am J Clin Oncol 1982; 5:649-655. Available from: http://www.ecog.org/general/perf_stat.html.

Back to top

6.4.2 Appendix: The Australia-modified Karnofsky Performance Status (AKPS) scale

Score (Category)	Person's function
100 (A)	Normal; no complaints; no evidence of disease
90 (A)	Able to carry on normal activity; minor signs or symptoms
80 (A)	Normal activity with effort; some signs or symptoms of disease
70 (B)	Cares for self; unable to carry on normal activity or to do active work
60 (B)	Requires occasional assistance but is able to care for most of his needs
50 (B)	Requires considerable assistance and frequent medical care
40 (C)	In bed more than 50% of the time
30 (C)	Almost completely bedfast
20 (C)	Totally bedfast and requiring extensive nursing care by professionals and/or family
10 (C)	Comatose or barely arousable
0	Dead

Source: Abernethy AP, Shelby-James T, Fazekas BS, et al. The Australia-modified Karnofsky Performance Status (AKPS) scale: a revised scale for contemporary palliative care clinical practice SRCTN81117481]. BMC Palliat Care 2005; 4: 7. Available from: http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1308820/?tool=pubmed.

Back to top

7 Self-management

7.1 Patient awareness and self-management

Evidence-based recommendation
SM1. For all patients, provide education about cancer-related pain and its management. (NCCN, SIGN)

Evidence-based recommendation
SM2. Consider including information about all of the following: • pain causes

Evidence-based recommendation

• common experiences of cancer pain (e.g. onset, timing)

• effective treatments (including medicines and non-pharmacological management strategies)

• common attitudes and beliefs that may prevent people with cancer receiving effective pain control (e.g. fears that opioids are addictive and used only at the end of life, and that patients will develop tolerance over time requiring dose escalation)

• side-effects of medicines

• any safety concerns (e.g. mixing with alcohol, driving)

• how to work with health professionals to achieve the best pain control possible (e.g. the importance of reporting rather than concealing pain, side-effects and other concerns about medication)

• ways to ensure patients have adequate access and supply to prescribed opioids. (Consensus)

Systematic review by Koller et al (2012): Koller A, Miaskowski C, De Geest S, Opitz O, Spichiger E. A systematic evaluation of content, structure, and efficacy of interventions to improve patients' self-management of cancer pain. J Pain Symptom Manage. 2012 Aug;44(2):264-84.

Evidence-based recommendation

SM3. Include the person's family, carers and significant others in education about pain and its management, if appropriate. (Consensus)

Carers are frequently involved in decision-making (e.g. to start and adhere to opioids) and management

Educational resources for patients and families

Overcoming cancer pain – booklet and DVD (Cancer Council NSW)

Includes information, resources (e.g. helplines), a pain measurement scale and a prompt list of questions to ask medical staff.

Use of this resource has been shown to reduce pain by a randomised controlled trial (Lovell MR, Forder P, Stockler M, Butow PN, Briganti E, Chye R, et al. A randomised controlled trial of a standardised educational intervention for patients with cancer pain. Journal of Pain and Symptom Management. 2010; 40:49-59. [Available at: www.ncbi.nlm.nih.gov/pubmed/20619212])

Copies are available via Cancer Council NSW website.

Managing pain with strong opioids in people with advanced, progressive disease (NICE)

A booklet for people using opioid treatment is available from the UK National Institute of Clinical Excellence (NICE) as part of their guideline on opioids via http://guidance.nice.org.uk/CG140/PublicInfo/doc/English

NICE also provide a training resource for health professionals on opioid prescribing in palliative care via

http://guidance.nice.org.uk/CG140/EducationResource/doc/English

Safe storage and disposal of pain medication

Advice for patients on safe storage and disposal of medication is available online and in printed fact-sheets from the American Society of Clinical Oncology (ASCO)

Notice: Resources for patients and their families designed to accompany the current Australian guidelines will become available on this page in 2013.

Back to top

7.1.1 References

National Comprehensive Cancer Network. NCCN clinical practice guidelines in oncology. Adult cancer pain. Version 1.2012: NCCN; 2012. Available from: http://www.nccn.org

Scottish Intercollegiate Guidelines Network. Control of pain in adults with cancer. A national clinical guideline [Version amended 18 July 2011] Edinburgh: SIGN; 2008. Available from: http://www.sign.ac.uk/pdf/SIGN106.pdf

Back to top

8 Pharmacological Management

Contents

8.1 Pharmacological management

Please refer to Approved Product information before prescribing any agent discussed in this guideline

Perform comprehensive assessment and reassess efficacy and adverse effects

Exclude causes other than cancer before commencing opioid therapy for pain - see comprehensive assessment

Dose reduction and regular re-assessment may be needed for elderly or frail patients

Use the eviQ tool for calculating dose equivalents for opioid preparations available in Australia

8.1.1 Regular analgesia

Evidence-based recommendation
P1. For patients with continuing pain, begin regular analgesia with paracetamol and/or a nonsteroidal anti-inflammatory drug (NSAID) if the patient has no contraindications. (ESMO, NCCN, SIGN)

Evidence-based recommendation

P2. If pain is moderate or severe or continues despite treatment with paracetamol or NSAIDs, consider regular oral opioids. (EAPC,ESMO,NCCN)

• For patients with normal renal and hepatic function, start with a low dose (e.g. morphine 20–30 mg per day (10–15 mg bd or 5 mg q4h) with 5 mg rescue doses as needed for breakthrough pain. • In elderly or frail patients starting doses should be half the above doses (e.g. 5–7.5 mg bd or 2.5 mg q4h).

Evidence-based recommendation

P3. If pain continues or recurs despite regular oral opioid analgesia and the patient feels that analgesia is inadequate, consider either of the following options:

• Add a NSAID (if the person is not already taking and NSAID and has no contraindications). (EAPC)

• Increase the regular dose to incorporate the rescue doses taken in previous 24 hours (SIGN), then reassess pain severity and adverse effects within 48 hours. (Consensus)

Sample calculation

A patient taking 5 mg morphine q4h requires three extra 5 mg rescue doses for breakthrough pain. The resulting total 24-hour dose is 45 mg morphine. The new regular analgesic regimen is morphine 7.5 mg q4h, with a new rescue dose of 7.5 mg.

Cyclooxygenase-2 selective inhibitors (eg celecoxib, etoricoxib, lumiracoxib and parecoxib) produce fewer gastrointestinal symptoms and clinically important ulcer complications than traditional NSAIDs although these can still cause serious and sometimes fatal GI reactions. (SIGN)

Evidence-based recommendation

P4. Methadone should be initiated and titrated only by specialists familiar with its use. (EAPC, ESMO, NCCN)

Evidence-based recommendation

P5. The transdermal route of administration can be considered as an alternative to oral administration if required, for reduced risk of constipation or patient convenience. (EAPC) Use one of the following options, referring to eviQ for conversion:

• Switch to transdermal fentanyl. (NICE) Note: The lowest dose available (12 mcg/hr) for fentanyl transdermal patch is equivalent to 45 mg morphine daily orally.

Evidence-based recommendation
• Switch to transdermal buprenorphine (suitable for patients with stable mild pain only). (NICE) Note: A 20 mcg/hr buprenorphine transdermal patch is equivalent to 30 mg morphine daily orally. Due to long duration of action, the transdermal route should be considered only when pain is stable. (ESMO, NCCN, SIGN)

In hot climates, the rate of transdermal absorption can be affected by fever, sweating and poor patch adherence to the skin

Before prescribing opioids, check renal function and titrate dose accordingly. See renal impairment for information about pain management where renal function is compromised.

NSAIDs are associated with gastrointestinal, cardiovascular and renal adverse effects and should be used with caution, particular in patients aged over 65 years. Gastrointestinal risk is increased in patients with a past history of upper gastrointestinal tract bleeding , NSAID-related ulcer or Helicobacter pylori infection. Cardiovascular risk is increased in patients with other cardiovascular risk factors. Risk of renal impairment is increased in patients with pre-existing renal impairment, chronic heart failure or cirrhosis and in those taking diuretics, angiotensin-converting-enzyme inhibitors, angiotensin II receptor blockers, aspirin or other nephrotoxic drugs, and in patients on a salt-reduced diet.

Provide information and education for patients and carers about cancer pain management, including the benefits and risks of opioid medicines. (Patients and health professionals commonly have concerns about addiction, tolerance and dependence that are disproportionate to the risks.) See also Self-management section.

If the prescribing clinician or other staff are unfamiliar with an analgesic agent under consideration, consult a specialist pain medicine physician, palliative medicine physician, pain specialist clinical pharmacist or a clinical pharmacologist who are familiar with the use of the agent.

For all opioids listed on the PBS, one month's supply can be obtained via a telephone extended prescription authorisation from the PBS. Prescribing one month at a time is recommended once pain is stable.

For patients with a specific pain syndrome, consider an adjuvant.

Preventing, monitoring and managing adverse effects of opioids

Back to top

8.1.2 Additional prescribed analgesic for breakthrough pain

Breakthrough pain is pain of moderate or severe intensity arising on a background of controlled chronic pain. Breakthrough pain may be described as spontaneous (unexpected) or incident (expected or predictable). (SIGN)

Evidence-based recommendation
P6. In addition to regular opioids, routinely prescribe short-acting analgesia at a dose equivalent to one-sixth of total 24-hour dose, to be administered if breakthrough pain occurs. (NHS, SIGN) Rescue doses should be prescribed at 1-hourly intervals when required (NCCN) with advice given for the patient to seek health care professional advice if 3 consecutive doses have not relieved pain. (Consensus)

Evidence-based recommendation
P7. If breakthrough pain occurs, monitor the number of breakthrough doses. If rescue analgesic doses have been effective with no adverse effects, re-titrate the regular opioid 24-hour dose by calculating the previous 24 hour opioid requirement including breakthrough doses. (SIGN) Note - if breakthrough analgesia is taken preemptively for incident pain, then the regular dose may not need to be increased.

Evidence-based recommendation

P8. If the person experiences incident pain on a background of stable pain control while taking regular opioids, give additional oral short-acting opioids at a dose equivalent to one-sixth of total 24-hour dose. (NHS, SIGN, EAPC)

Evidence-based recommendation

P9. If the person experiences movement-related pain, advise him/her to take pre-emptive analgesia 30 minutes before activity that is likely to cause pain. (EAPC, NCCN, NHS, SIGN)

Sample calculation

A patient taking 5 mg morphine q4h requires three extra 5 mg rescue doses for breakthrough pain. The resulting total 24-hour dose is 45 mg morphine. The new regular analgesic regimen is morphine 7.5 mg q4h, with a new rescue dose of 7.5 mg.

Nerve blocks can be considered for refractory incident pain.

Transmucosal fentanyl (i.e. lozenges) is not recommended as first-line treatment for breakthrough pain.

More information about re-titrating the opioid dose for breakthrough pain under #Regular analgesia.

Back to top

8.1.3 Adjuvants

Evidence-based recommendation

P10. For patients with neuropathic pain that persists despite non-opioid and opioid analgesia consider the following options (EAPC, ESMO, NCCN, SIGN):

- Anticonvulsant agents (gabapentin or pregabalin)
- Antidepressants (amitriptyline, nortriptyline or venlafaxine).

For anticonvulsants, start at a low dose and titrate according to benefit and adverse effects.

Gabapentin and pregabalin are not reimbursed by PBS for use in pain management. Self-funding may be expensive.

Carbamazepine is not registered for the management of neuropathic pain due to cancer, has haematological adverse effects and may interfere with chemotherapy.

If the prescribing clinician or other staff are unfamiliar with an adjuvant agent under consideration, consult a specialist pain medicine physician, palliative medicine physician, pain specialist clinical pharmacist or a clinical pharmacologist who are familiar with the use of the agent.

If pain persists despite an adjuvant, refer for specialist advice as interventional techniques. may be of value.

Evidence-based recommendation
P11. For patients with bone pain due to cancer, consider bisphosphonates. (ESMO, NCCN, NHS, SIGN)

Bisphosphonates should be prescribed with caution in patients with renal impairment.

Bisphosphonates have been associated with osteonecrosis of the jaw. The risk is increased after dental extractions and by periodontal disease. The Therapeutic Goods Administration (Australian Government Department of Health and Ageing) encourages health professionals prescribing bisphosphonates to:

• consider dental referral of the patient before starting treatment, especially for people at increased risk, such as the elderly

• reinforce the importance of good oral hygiene

• inform patients of the symptoms of osteonecrosis of the jaw that may occur while taking or after being given a bisphosphonates, such as "toothache" or pain, swelling or numbness of an area of the jaw or a discharge around a dental implant

• advise their patients that they should notify their dentist that they are taking or have been given a bisphosphonates. [See http://www.tga.gov.au/safety/alerts-medicine-bisphosphonate-071211.htm]

Bisphosphonate	TGA-approved Australian indications include:
Disodium pamidronate	Treatment of tumour-induced hypercalcaemia Treatment of predominantly lytic bone metastases from breast cancer, advanced mu myeloma
Ibandronate sodium	Treatment of metastatic bone disease in patients with breast cancer (tablets, injectio Treatment of tumour-induced hypercalcaemia, with or without metastases (injection)
Sodium clodronate	Treatment of hypercalcaemia of malignancy Treatment of osteolytic lesions (breast cancer metastases, multiple myeloma)
Zoledronic acid	Treatment of tumour-induced hypercalcaemia Prevention of skeletal related events in advanced malignancy involving bone

TGA: Therapeutic Goods Administration

Back to top

8.1.4 Anti-cancer treatment

Evidence-based recommendation

P12. For patients with painful bone metastases, consider single-fraction radiotherapy or radioisotopes. (ESMO, NCCN, NHS, SIGN)

Evidence-based recommendation

P13. Consider denosumab for preventing skeletal events and bone pain from metastatic breast or prostate cancer. (Consensus based on PBS listing from July 2011)

Evidence-based recommendation

Evidence from a randomised clinical trial: Cleeland, C.S., et al., Pain outcomes in patients with advanced breast cancer and bone metastases: Results from a randomized, double-blind study of denosumab and zoledronic acid. Cancer, 2012. Available from: http://www.ncbi.nlm.nih.gov/pubmed/22951813

Denosumab is associated with increased risk of hypocalcaemia. The starting dose should be low and reassessed after 1 week.

Denosumab is associated with osteonecrosis of the jaw. Dental review is recommended before and after starting denosumab treatment. Supplement with vitamin D for patients for patients who are not hypocalcaemic.

Denosumab (RANK ligand monoclonal antibody) is registered in Australia for the treatment of skeletal-related events in patients with bone metastases from solid tumours. It is listed on the PBS for the treatment of bone metastases in patients with breast cancer or hormone resistant prostate cancer.

Back to top

8.1.5 Interventional therapy

Evidence-based recommendation

P14. For patients with refractory pain despite carefully titrated doses of conventional medical therapies, consider whether a nerve block or spinal route of administration may be indicated. (NCCN, NHS, SIGN)

Evidence-based recommendation

P15. Consider nerve blocks for well-localised pain syndromes (e.g. coeliac plexus block for pain in pancreas or upper abdomen). (NCCN)

Evidence-based recommendation
P16. Consider intrathecal infusion of analgesic for patients with any of the following: • difficult-to-control pain. (EAPC) • diffuse pain. (NCCN) • unacceptable opioid-related toxicity despite optimal use of adjuvants and a trial of switching opioids. (SIGN) Refer to a specialist pain medicine physician or palliative medicine physician.

More information about opioid switching.

Back to top

8.1.6 Preventing, monitoring and managing adverse effects of opioids

8.1.6.1 Routine prevention of adverse effects and education

Explain to patients starting opioids that constipation is a very common side effect, and provide education about preventative bowel care.

Provide patients with information about the prevalence of opioid-related emesis and education about non-pharmacological management (e.g. avoiding strong smells).

Ensure adequate mouth care for all patients receiving opioids.

Explain to patients starting opioid treatment that they may experience nightmares.

More information about Self-management

Back to top

8.1.6.2 Renal impairment

Evidence-based recommendation
P17. For patients with renal impairment, carefully monitor for treatment-related adverse effects. If opioid-related adverse effects occur, consider the following options: • Reduce the total dose of regular opioid (either by reducing dose and maintaining dose interval, or increasing dose interval and maintaining dose). (ESMO, SIGN) • Switch from sustained release to immediate release opioid at an appropriate regular dosing interval. (SIGN) • Switch to a different opioid (e.g. consider buprenorphine or fentanyl instead of morphine, codeine or hydromorphone) or methadone under specialist supervision. (EAPC, ESMO, NCCN, SIGN)

Evidence-based recommendation
P18. Morphine should be used with caution in patients with severe kidney disease (calculated creatinine clearance of less than 30 mg) in whom it may require reductions in dose and frequency. (EAPC, SIGN)

Fentanyl can be used in patients with severe renal impairment, including patients on dialysis.

Switch to a different opioid under specialist advice (e.g. sufentanil, methadone).

Back to top

8.1.6.3 Assessment and management of opioid toxicity and adverse effects

Evidence-based recommendation
P19. Reduce the risk of constipation in non-terminal patients using all of the following strategies:

Evidence-based recommendation

- Maintain adequate hydration. (NCCN)
- Encourage physical activity (ambulant patients). (NCCN)
- Provide education on bowel hygiene routine (e.g. dietary fibre). (Consensus)
- Use a combination of stimulant and softening laxatives (EAPC, NCCN, NICE, SIGN)
- Avoid other medicines that can aggravate constipation (e.g. 5HT3 antagonists) if possible. (Consensus)

Evidence-based recommendation

P20. For an ambulant non-terminal patient with critical constipation caused by opioids that is not responding to oral stimulant and softening laxatives or polyethylene glycol (NCCN), consider one of the following options:

- Switch to less constipating opioid (e.g. fentanyl). (NICE)
- Switch to a combination oxycodone hydrochloride with naloxone hydrochloride if the person's regular 24-hour opioid dose conversion is below maximum dose. (Consensus)

The combination of oxycodone hydrochloride and naloxone hydrochloride has not been compared with laxatives in this patient population. (NPS Radar. Oxycodone-with-naloxone controlled-release tablets (Targin®). 2011(December) [cited 2012 20th October]; Available from: http://www.nps.org.au/__data/assets/pdf_file/0005/135869/oxycodone_with_naloxone.pdf)

- Manage symptoms with methylnaltrexone. (NCCN, EAPC)

Rule out other causes of constipation such as obstruction or hypercalcaemia

For more information on management of constipation and bowel obstruction, refer to recommendations and guidance of the Palliative Care Clinical Studies Collaborative.

Evidence-based recommendation

P21. When commencing an opioid and at each opioid dose increment, routinely prescribe a prophylactic antiemetic (e.g. prochlorperazine maleate, metoclopramide or haloperidol). (EAPC, NCCN, NICE)

Evidence-based recommendation

P22. If nausea persists after symptom review, consider prescribing an antiemetic to be taken regularly. (ESMO, NCCN, NHS, NICE)

Evidence-based recommendation

P23. If nausea is persistent or severe, investigate further to determine causes (e.g. constipation, central nervous system pathology, chemotherapy, radiation therapy). (NCCN)

Recommended first-line anti-emetic agents	
Haloperidol	0.5–1.5 mg orally twice per day
Metoclopramide hydrochloride	10–20 mg orally four times per day
Prochlorperazine	5-10 mg orally every 6 hours as needed

Source: NCCN

For more information on management of emesis, refer to recommendations and guidance of the Palliative C Studies Collaborative

Evidence-based recommendation

P24. If opioid toxicity is suspected (Consensus):

• Review all medicines and consider whether medicines may be contributing to the signs and symptoms.

• Take a detailed history and consider whether the person’s underlying disease (e.g. brain metastases, hepatic impairment) or other factors may be contributing to the signs and symptoms.

• Complete a thorough physical examination.

• Consider further investigations.

Signs and symptoms of severe opioid toxicity

Sedation

Respiratory depression

Myoclonus

Pinpoint pupils

Seizures

Opioid-related toxicity of the central nervous system

Cognitive impairment

Confusion

Delirium

Hallucinations

Myoclonus

Sedation

Evidence-based recommendation

P25. When opioid-related toxicity of the central nervous system is suspected, consider the differential diagnosis of causes. Consider undertaking the following investigations as indicated by the clinical situation (Consensus):

• Ask about relevant history.

• Check electrolytes (sodium, potassium, chloride, serum calcium), urea, creatinine, calcium, glucose, oxygen saturations.

• Perform urine dipstick test.

• Order chest X-ray, CT of brain if indicated.

Evidence-based recommendation

P26. If opioid-related toxicity of the central nervous system is a probable cause of confusion or other central nervous system symptoms (NHS):

• Consider supplemental hydration if the patient is dehydrated.

Evidence-based recommendation

• Consider switching to a different opioid or reducing dose.

Evidence-based recommendation

P27. For opioid-related confusion or delirium, treat the underlying aetiology and manage according to life expectancy (Consensus):

• If NOT last days of life, trial non-pharmacological management first to manage delirium symptoms (e.g. well lit, quiet environment). If the symptoms are not adequately improved consider reducing dose of opioid or switching to a different opioid. If symptoms are still not adequately managed and/or the person is at risk of self-harm or harm to others, consider an antipsychotic agent.

• If last days of life and the person and is experiencing significant distress from the symptoms, an antipsychotic agent may be indicated as first line therapy.

Evidence-based recommendation

P28. Manage opioid-related myoclonus according to life expectancy (Consensus):

• Manage reversible causes such as renal impairment, dehydration, very high doses of opioids.

• If NOT last days of life, consider reducing dose of opioid or switching to a different opioid.

• If last days of life, consider reducing dose of opioid if appropriate and/or a benzodiazepine.

Evidence-based recommendation

P29. Respiratory depression is an uncommon adverse effect of opioid therapy for cancer pain.

If opioid-related respiratory depression is suspected (Consensus):

• Eliminate other causes such as effect of sedatives, hypercapnia and/or excessive oxygen flow.

• Check hydration status and renal function.

• For patients receiving methadone, consult a clinical pharmacist, clinical pharmacologist, pain specialist pain medicine physician or palliative medicine physician.

Evidence-based recommendation

P30. Manage opioid-related respiratory depression with all of the following (Consensus):

• Withhold opioid dose and recommence either at lower dosing frequency or reduced dose.

• Ensure the person is positioned properly.

• Rehydrate if dehydrated.

Evidence-based recommendation

P31. Manage opioid-related respiratory depression according to severity of symptom:

• Withhold next opioid dose and recommence either at a reduced dose or less frequent dosing interval.

• Ensure the person is positioned to maintain airway and provide oxygen if appropriate.

• If respiratory rate ≤ 8/minute and patient unrousable, use appropriate dose of naloxone in frequent small doses that aim to improve consciousness without worsening pain (diluting ampoule to 10mL). (ESMO, NCCN)

• If patient rousable (despite low respiratory rate), monitor patient closely for decrease in rousability until respiratory rate improves. Encourage deep breathing.

• For patients receiving fentanyl transdermal patches or methadone, consult a specialist pain medicine physician, palliative medicine physician or clinical pharmacologist.

In patients receiving methadone it may be difficult to investigate the cause of respiratory depression for because of the variable half-life of methadone (1–120 hours).

Evidence-based recommendation

P32. If a patient is experiencing opioid-related mouth dryness:

• Ensure adequate mouth care. (NHS)

• Consider switching to another opioid. (Consensus)

Evidence-based recommendation

P33. If opioid-related pruritis is suspected, exclude renal impairment and hepatic impairment as cause. (Consensus)

Evidence-based recommendation

P34. Manage opioid-related pruritis with either or both the following:

• Consider switching to a different opioid. (NCCN, NHS) If pruritis persists despite opioid switching after trialling more than one opioid, refer to a relevant specialist team (e.g. palliative care and/or pain medicine). (Consensus)

• Consider symptomatic management with an H1 antihistamine (choose one of the newer, less sedating agents). (Consensus)

Evidence-based recommendation

P35. Consider urinary retention in patients with urinary symptoms. (Consensus)

Evidence-based recommendation

P36. If opioid-induced hyperalgesia is suspected (e.g. pain is escalating despite pain management according to these guidelines), refer to palliative care team or palliative medicine specialist for urgent advice. (Consensus)

Back to top

8.1.6.4 Opioid rotation

Evidence-based recommendation

P37. Consider switching to a different opioid in either of the following situations:

• Optimal pain relief cannot be achieved despite appropriate dose. (ESMO, NCCN, NHS, NICE)

• The patient is experiencing unacceptable opioid-related adverse effects. (EAPC)

• The route of administration is no longer possible. (NHS)

Evidence-based recommendation

P38. If switching to a different formulation or route of administration with the same agent, look up conversion for total 24-hour opioid dose via the eviQ website. (EAPC, ESMO, NCCN, NHS, NICE)

Evidence-based recommendation

P39. If switching to a different agent because the previous route of administration is no longer possible, a starting dose lower than the equivalent total 24-hour opioid dose of the previous agent should be used. (EAPC)

Evidence-based recommendation

P40. If switching to a different opioid agent due to unacceptable treatment-related adverse effects, despite optimal pain relief, start with a lower dose, then adjust dose carefully while monitoring for pain control and adverse effects. (EAPC, ESMO)

Use the eviQ tool for calculating dose equivalence of transdermal fentanyl

Back to top

8.1.6.5 Preventing misuse of opioids

Evidence-based recommendation

P41. If there is reason to suspect that a patient's prescribed opioids are being misused or diverted:

• Explain the person that goal is pain relief without misuse. (Consensus)

• Assess for opioid dependency disorder. (Consensus)

• Establish a treatment agreement with the person, including an agreement to limit the supply of opioids to a single prescriber and pharmacy. (NCCN)

In Victoria, when opioids are suspected of being misused, it is a legal requirement that they be prescribed by a single prescriber and notification of the Department of Health, Drugs and Poisons Unit is mandatory.

Evidence-based recommendation
P42. Advise all patients and carers to ensure medicines are kept out of children's reach, out of sight and in a secure cupboard. (Consensus) Advice for patients on safe storage and disposal of medication is available online and in printed fact-sheets from the American Society of Clinical Oncology

Back to top

8.1.6.6 Assessing capacity to drive a vehicle

Evidence-based recommendation
P43. For patients taking opioids, assess capacity to drive using current national guidelines and warn of impairment at higher doses. (Consensus) Austroads Limited. Assessing fitness to drive. Medical standards for licensing and clinical management guidelines. Sydney: Austroads Ltd; 2012. Available from: http://www.austroads.com.au

Cognitive performance is reduced early in treatment with opioids (mainly due to sedation) but the brain readily adapts. Therefore, a stable dose of opioid may not affect driving performance, provided the person is not taking other medicines that impair driving. (Austroads)

Back to top

8.1.7 Review and referral

Evidence-based recommendation
P44. If pain is not adequately controlled despite recommended pain management strategies, including analgesic medication, consult a specialist pain medicine physician or palliative medicine physician. (NICE, NHS)

If the prescribing clinician or other staff are unfamiliar with any agent under consideration, consult a specialist pain medicine physician, palliative medicine physician, clinical pharmacist or a clinical pharmacologist who are familiar with the agent.

Refer for specialist review if:

- opioid-related adverse effects persist despite opioid switching after trialling more than one opioid
- opioid-induced hyperalgesia is suspected.

Back to top

8.2 References

Austroads Limited, Assessing fitness to drive. Medical standards for licensing and clinical management guidelines. 2012, Austroads Ltd: Sydney. Available from: http://www.austroads.com.au

Caraceni A, Hanks G, Kaasa S, European Palliative Care Research Collaborative. Use of opioid analgesics in the treatment of cancer pain: evidence-based recommendations for the EAPC. Lancet Oncol 2012; 13: e58-e68. Web version available from: http://www.eapcnet.eu/LinkClick.aspx?fileticket=i-bB4cvZyzg%3d&tabid=1794

National Comprehensive Cancer Network. NCCN clinical practice guidelines in oncology. Adult cancer pain. Version 1.2012: NCCN; 2012. Available from: http://www.nccn.org

National Health Service Quality Improvement Scotland. Best practice statement. The management of pain in patients with cancer. Edinburgh: NHS Quality Improvement Scotland; 2009. Available from: http://www.palliativecareguidelines.scot.nhs.uk/documents/PAINCANCERREV_BPS_NOV09.pdf

National Institute of Clinical Excellence Guideline Development Group. Opioids in palliative care: safe and effective prescribing of strong opioids for pain in palliative care of adults. NICE clinical guideline 140. Manchester: NICE; 2012. Available from: http://www.nice.org.uk/nicemedia/live/13745/59285/59285.pdf

Ripamonti CI, Bandieri E, Roila F, ESMO Guidelines Working Group. Management of cancer pain: ESMO clinical practice guidelines. Ann Oncol 2011; 22(Suppl 6): vi69-vi67. Available from: http://annonc.oxfordjournals.org/content/22/suppl_6/vi69.long

Scottish Intercollegiate Guidelines Network. Control of pain in adults with cancer. A national clinical guideline [Version amended 18 July 2011] Edinburgh: SIGN; 2008. Available from: http://www.sign.ac.uk/pdf/SIGN106.pdf

Back to top

9 Non-pharmacological Management

9.1 Non-pharmacological management

Evidence-based recommendation
N1. Consider referral to a physiotherapist for assessment of functional ability and potential suitability of non-pharmacological pain management strategies. (NCCN, NHS, SIGN)

Consider complementary therapies (see table below)

Evidence-based recommendation
N2. Provide support for any psychosocial and spiritual concerns identified during comprehensive assessment. (NCCN)

Evidence-based recommendation
N3. Consider referral to an occupational therapist for assessment and management. (NCCN, NHS)

Occupational therapists can assess activities of daily living, energy conservation, anxiety management, relaxation and lifestyle impact management, and assess potential benefits of diversional therapy, splints, role support, advice on functional ability, positional and seating assessment and advice, wheelchair, and assistive equipment.

Evidence-based recommendation

N4. Consider referral to a clinical psychologist for psychological therapies and support:

• Cognitive–behavioural therapy (NCCN, SIGN)

• Relaxation techniques (NCCN)

• Distraction techniques (NCCN)

• Guided imagery therapy. (NCCN)

Evidence-based recommendation

N5. Offer to discuss any complementary therapies the person may wish to consider, and provide reliable information about the evidence for their effectiveness. (Consensus)

Principles of holistic management; Potential for drug–drug interactions

Complementary therapies for cancer pain management

Modalities recommended in international guidelines	
Modality	**Source(s)**
Bed/bath/walking aids	NCCN
Cognitive–behavioural therapy	SIGN, NCCN
Distraction therapy	NCCN
Heat/ice therapy	NCCN
Imagery/hypnotherapy	SIGN, NCCN
Massage	NCCN, SIGN
Transcutaneous electrical nerve stimulation (TENS)	NCCN
Reflexology	SIGN
Reiki	SIGN
Relaxation	NCCN

Modalities recommended in international guidelines	
Modality	**Source(s)**
Therapeutic exercise	NHS

9.2 References

National Comprehensive Cancer Network. NCCN clinical practice guidelines in oncology. Adult cancer pain. Version 1.2012: NCCN; 2012. Available from: http://www.nccn.org

National Health Service Quality Improvement Scotland. Best practice statement. The management of pain in patients with cancer. Edinburgh: NHS Quality Improvement Scotland; 2009. Available from: http://www.palliativecareguidelines.scot.nhs.uk/documents/PAINCANCERREV_BPS_NOV09.pdf

Scottish Intercollegiate Guidelines Network. Control of pain in adults with cancer. A national clinical guideline [Version amended 18 July 2011] Edinburgh: SIGN; 2008. Available from: http://www.sign.ac.uk/pdf/SIGN106.pdf

Back to top

10 Practice improvement

Practice improvement and quality control

Notice: Recommendations and resources for audit will be added to the next draft of this guideline

Relevant Australian initiatives include:

Palliatiative Care Australia National Standards Assessment Program

Palliative Care Outcomes Collaboration

11 Resources

Contents

11.1 Resources

11.1.1 International guidelines for cancer pain management

Caraceni A, Hanks G, Kaasa S, European Palliative Care Research Collaborative. Use of opioid analgesics in the treatment of cancer pain: evidence-based recommendations for the EAPC. Lancet Oncol 2012; 13: e58-e68. Available from: http://www.eapcnet.eu/LinkClick.aspx?fileticket=i-bB4cvZyzg%3d&tabid=1794.

National Comprehensive Cancer Network. NCCN clinical practice guidelines in oncology. Adult cancer pain. Version 1.2012: NCCN; 2012. Available from: http://www.nccn.org.

NHS Quality Improvement Scotland. Best practice statement. The management of pain in patients with cancer. Edinburgh: NHS Quality Improvement Scotland; 2009. Available from: http://www.palliativecareguidelines.scot.nhs.uk/documents/PAINCANCERREV_BPS_NOV09.pdf.

National Institute of Clinical Excellence Guideline Development Group. Opioids in palliative care: safe and effective prescribing of strong opioids for pain in palliative care of adults. NICE clinical guideline 140. Manchester: NICE; 2012. Available from: http://www.nice.org.uk/nicemedia/live/13745/59285/59285.pdf.

Ripamonti CI, Bandieri E, Roila F, ESMO Guidelines Working Group. Management of cancer pain: ESMO clinical practice guidelines. Ann Oncol 2011; 22(Suppl 6): vi69-vi67. Available from: http://annonc.oxfordjournals.org/content/22/suppl_6/vi69.long.

Scottish Intercollegiate Guidelines Network. Control of pain in adults with cancer. A national clinical guideline [Version amended 18 July 2011] Edinburgh: SIGN; 2008. Available from: http://www.sign.ac.uk/pdf/SIGN106.pdf.

Back to top

11.1.2 Other relevant guidelines

National Breast Cancer Centre and National Cancer Control Initiative. Clinical practice guidelines for the psychosocial care of adults with cancer. Camperdown, NSW: National Breast Cancer Centre; 2003. Available at: http://canceraustralia.gov.au/publications-resources/cancer-australia-publications/clinical-practice-guidelines-psychosocial-care.

National Breast and Ovarian Cancer Centre. Multidisciplinary care principles for advanced disease: a guide for cancer health professionals. Surry Hills, NSW: National Breast and Ovarian Cancer Centre; 2008. Available at: http://canceraustralia.gov.au/publications-resources/cancer-australia-publications/multidisciplinary-care-principles-advanced-disease.

National Clinical Guideline Centre for Acute and Chronic Conditions. Delirium: diagnosis, prevention and management. London: National Institute for Health and Clinical Excellence; 2010. Available at: http://www.nice.org.uk/nicemedia/live/13060/49909/49909.pdf.

National Health and Medical Research Council. Guidelines for a palliative approach in residential aged care. Canberra: NHMRC; 2006. Available at: http://www.nhmrc.gov.au/_files_nhmrc/publications/attachments/pc29.pdf

Palliative Care Expert Group. Therapeutic guidelines: palliative care. Version 3. Melbourne: Therapeutic Guidelines Limited; 2010. Available at: http://www.tg.org.au/index.php?sectionid=47

Back to top

11.1.3 Health professional education

CareSearch

National Institute of Clinical Excellence

Back to top

11.1.4 Prescribing information

NPS (formerly National Prescribing Service)

eviQ (Cancer treatments online: a service of Cancer Institute NSW)

Back to top

11.1.5 Other resources

Austroads guidelines for assessing fitness to drive

Australian Pain Society recommendations on pain assessment in people with cognitive impairment

eviQ tool for calculating dose equivalence

Palliative Care Australia National Standards Assessment Program

Palliative Care Outcomes Collaboration

Back to top

12 Opioid formulations

Opioid formulations

Please refer to the PBS A-Z Medicine Listing for up to date information about opioid formulations available in Australia.

13 References

References

1. Abernethy AP, Shelby-James T, Fazekas BS, et al. The Australia-modified Karnofsky Performance Status (AKPS) scale: a revised scale for contemporary palliative care clinical practice SRCTN81117481]. BMC Palliat Care 2005; 4: 7. Available from: http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1308820/?tool=pubmed
2. Austroads Limited. Assessing fitness to drive. Medical standards for licensing and clinical management guidelines. Sydney: Austroads Ltd; 2012. Available from: http://www.austroads.com.au
3. Bennett MI. Effectiveness of antiepileptic or antidepressant drugs when added to opioids for cancer pain: systematic review Palliative Medicine 2011;25:553-9.
4. Brink-Huis A, van Achterberg T, Schoonhoven L, Brink-Huis A, van Achterberg T, Schoonhoven L. Pain management: a review of organisation models with integrated processes for the management of pain in adult cancer patients. J Clin Nurs 2008;17:1986-2000.
5. Breuer B, Fleishman SB, Cruciani RA, Potrtenoy RK. Medical Oncologists' attitudes and practice in cancer pain management: A national survey. J Clin Oncol 2011;29:4769-75.
6. Caraceni A, Hanks G, Kaasa S, European Palliative Care Research Collaborative. Use of opioid analgesics in the treatment of cancer pain: evidence-based recommendations for the EAPC. Lancet Oncol 2012; 13: e58-e68. Available from: http://www.eapcnet.eu/LinkClick.aspx?fileticket=i-bB4cvZyzg%3d&tabid=1794.
7. Caraceni A, Pigni A, Brunelli C. Is oral morphine still the first choice opioid for moderate to severe cancer pain? A systematic review within the European Palliative Care Research Collaborative guidelines project. Palliative Medicine 2011;25:402-9.
8. Cleeland CS, Body JJ, Stopeck A, et al. Pain outcomes in patients with advanced breast cancer and bone metastases: Results from a randomized, double-blind study of denosumab and zoledronic acid. Cancer 2012.
9. Cohen MZ, Easley MK, Ellis C, et al. Cancer Pain Management and the JCAHO's Pain Standards: An Institutional Challenge. Journal of Pain and Symptom Management 2003;25:519-27.
10. Deandrea S, Montanari M, Moja L, Apolone G. Prevalence of undertreatment in cancer pain. A review of published literature. Annals of Oncology 2008;19:1985-91.
11. Eastern Cooperative Oncology Group (Chair: Robert Comis) Oken MM, Creech RH, Tormey DC, et al. Toxicity and response criteria of the Eastern Cooperative Oncology Group. Am J Clin Oncol 1982; 5:649-655. Available from: http://www.ecog.org/general/perf_stat.html
12. Fallon MT, Laird BJA. A systematic review of combination step III opioid therapy in cancer pain: An EPCRC opioid guideline project. Palliative Medicine 2011;25:597-603.

13. Fervers B, Burgers JS, Voellinger R, et al. Guideline adaptation: an approach to enhance efficiency in guideline development and improve utilisation. BMJ Qual Saf 2011;20:228-36.
14. Fisch MJ, Lee J-W, Weiss M, et al. Prospective, observational study of pain and analgesic prescribing in medical oncology outpatients with breast, colorectal, lung, or prostate cancer. J Clin Oncol 2012;30:1980-8.
15. Flemming K. The use of morphine to treat cancer-related pain: a synthesis of quantitative and qualitative research. Journal of Pain and Symptom Management 2010;39:139-54.
16. Foley KM. How well is cancer pain treated? Palliative Medicine 2011;25:398-401.
17. Gossop M, Darke S, Griffiths P, et al. The Severity of Dependence Scale (SDS): psychometric properties of the SDS in English and Australian samples of heroin, cocaine and amphetamine users. Addiction 1995; 90: 607–14.
18. Heading G, Mallock N, Sinclair S, Bishop J. New South Wales cancer patient satisfaction survey 2008. Sydney: Cancer Institute NSW; 2009. Available from: http://www0.health.nsw.gov.au/pubs/2009/pdf/2009_patient_survey_report.PDF
19. Herr K, Titler M, Fine P, et al. Assessing and treating pain in hospices: current state of evidence-based practices. J Pain Symptom Manage 2010;39:803-19.
20. Jacobsen R, Moldrup C, Christrup L, Sjogren P. Patient-related barriers to cancer pain management: a systematic exploratory review. Scand J Caring Sci 2009;23:190-208.
21. Jacobsen R, Sjogren P, Moldrup C, Christrup L. Physician-related barriers to cancer pain management with opioid analgesics: a systematic review. J Opioid Manag 2007;3:207-14.
22. King S, Forbes K, Hanks GW, Ferro CJ, Chambers EJ. A systematic review of the use of opioid medication for those with moderate to severe cancer pain and renal impairment: A European Palliative Care Research Collaborative opioid guidelines project. Palliative Medicine 2011;25:525-52.
23. King SJ, Reid C, Forbes K, Hanks G. A systematic review of oxycodone in the management of cancer pain. Palliative Medicine 2011;25:454-70.
24. Kissane D, Bultz B, Butow P, Finlay I, editors. Handbook of communication in oncology and palliative care. Oxford: Oxford University Press; 2010.
25. Klepstad Pl, Kaasa S, Borchgrevink PC. Starting Step III opioids for moderate to severe pain in cancer patients: Dose titration: A systematic review. Palliative Medicine 2011;25:424-30.
26. Koller A, Miaskowski C, De Geest S, Opitz O, Spichiger E. A systematic evaluation of content, structure, and efficacy of interventions to improve patients' self-management of cancer pain. J Pain Symptom Manage 2012;44:264-84.
27. Kurita GP, Kaasa S, SjÃ¸gren P. Spinal opioids in adult patients with cancer pain: A systematic review: A European Palliative Care Research Collaborative (EPCRC) Opioid Guidelines Project. Palliative Medicine 2011;25:560-77.
28. Lovell MR, Forder P, Stockler M, et al. A randomised controlled trial of a standardised educational intervention for patients with cancer pain. Journal of Pain and Symptom Management 2010;40:49-59.
29. Luckett T, Davidson PM, Boyle F, et al. Australian survey of current practice and guideline use in adult cancer pain assessment and management: Perspectives of oncologists. Asia Pacific Journal of Clinical Oncology In press:accepted Oct 2nd 2012.
30. Mercadante S, Caraceni A. Conversion ratios for opioid switching in the treatment of cancer pain: a systematic review. Palliative Medicine 2011;25:504-15.

31. Nabal M, Librada S, Redondo MJ, Pigni A, Brunelli C, Caraceni A. The role of paracetamol and nonsteroidal anti-inflammatory drugs in addition to WHO Step III opioids in the control of pain in advanced cancer. A systematic review of the literature. Palliat Med 2012;26:305-12.
32. National Breast Cancer Centre and National Cancer Control Initiative. Clinical practice guidelines for the psychosocial care of adults with cancer. Camperdown, NSW: National Breast Cancer Centre; 2003. Available from: http://canceraustralia.gov.au/publications-resources/cancer-australia-publications/clinical-practice-guidelines-psychosocial-care
33. National Comprehensive Cancer Network. NCCN clinical practice guidelines in oncology. Adult cancer pain. Version 1.2012: NCCN; 2012. Available from: http://www.nccn.org
34. National Health Service Quality Improvement Scotland. Best practice statement. The management of pain in patients with cancer. Edinburgh: NHS Quality Improvement Scotland; 2009. Available from: http://www.palliativecareguidelines.scot.nhs.uk/documents/PAINCANCERREV_BPS_NOV09.pdf
35. National Institute of Clinical Studies. Evidence-Practice Gaps Report Volume 1: a review of developments 2004-2007. National Health and Medical Research Council; 2008.
36. National Institute of Clinical Excellence Guideline Development Group. Opioids in palliative care: safe and effective prescribing of strong opioids for pain in palliative care of adults. NICE clinical guideline 140. Manchester: NICE; 2012. Available from: http://www.nice.org.uk/nicemedia/live/13745/59285/59285.pdf
37. NPS Radar. Oxycodone-with-naloxone controlled-release tablets (Targin). 2011(December). Available from: http://www.nps.org.au/__data/assets/pdf_file/0005/135869/oxycodone_with_naloxone.pdf
38. Oldenmenger WH, Sillevis Smitt PAE, van Dooren S, Stoter G, van der Rijt CCD. A systematic review on barriers hindering adequate cancer pain management and interventions to reduce them: a critical appraisal. Eur J Cancer 2009;45:1370-80.
39. painaustralia. National pain strategy: Pain management for all Australians. Available from: http://www.painaustralia.org.au/images/pain_australia/NPS/National%20Pain%20Strategy%202011.pdf; 2010.
40. Pargeon KL, Hailey BJ. Barriers to effective cancer pain management: a review of the literature. J Pain Symptom Manage 1999;18:358-68.
41. Pigni A, Brunelli C, Caraceni A. The role of hydromorphone in cancer pain treatment: a systematic review. Palliative Medicine 2011;25:471-7.
42. Radbruch L, Trottenberg P, Elsner F, Kaasa S, Caraceni A. Systematic review of the role of alternative application routes for opioid treatment for moderate to severe cancer pain: An EPCRC opioid guidelines project. Palliative Medicine 2011;25:578-96.
43. Ripamonti CI, Bandieri E, Roila F, ESMO Guidelines Working Group. Management of cancer pain: ESMO clinical practice guidelines. Ann Oncol 2011; 22(Suppl 6): vi69-vi67. Available from: http://annonc.oxfordjournals.org/content/22/suppl_6/vi69.long
44. Scottish Intercollegiate Guidelines Network. Control of pain in adults with cancer. A national clinical guideline [Version amended 18 July 2011] Edinburgh: SIGN; 2008. Available from: http://www.sign.ac.uk/pdf/SIGN106.pdf
45. Stockler MR, Wilcken NRC. Why is management of cancer pain still a problem? J Clin Oncol 2012;30:1907-8.
46. Stone P, Minton O. European Palliative Care Research collaborative pain guidelines. Central side-effects management: what is the evidence to support best practice in the management of sedation, cognitive impairment and myoclonus? Palliat Med 2011;25:431-41.
47. Sun VC-Y, Borneman T, Ferrell B, Piper B, Koczywas M, Choi K. Overcoming barriers to cancer pain management: an institutional change model. J Pain Symptom Manage 2007;34:359-69.

48. Tassinari D, Drudi F, Rosati M, Maltoni M. Transdermal opioids as front line treatment of moderate to severe cancer pain: a systemic review. Palliative Medicine 2011;25:478-87.
49. van den Beuken-van Everdingen MHJ, de Rijke JM, Kessels AG, Schouten HC, van Kleef M, Patijn J. Prevalence of pain in patients with cancer: a systematic review of the past 40 years. Annals of Oncology 2007;18:1437-49.
50. Zeppetella G. Opioids for the management of breakthrough cancer pain in adults: A systematic review undertaken as part of an EPCRC opioid guidelines project. Palliative Medicine 2011;25:516-24.