



Complete Summary

GUIDELINE TITLE

Control of pain in patients with cancer. A national clinical guideline.

BIBLIOGRAPHIC SOURCE(S)

Control of pain in patients with cancer. A national clinical guideline. Edinburgh (Scotland): Scottish Intercollegiate Guidelines Network (SIGN); 2000. 61 p. (SIGN publication; no. 44). [216 references]

COMPLETE SUMMARY CONTENT

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SCOPE

DISEASE/CONDITION(S)

Pain in patients with cancer

GUIDELINE CATEGORY

Management
Treatment

CLINICAL SPECIALTY

Anesthesiology
Family Practice
Internal Medicine
Oncology

INTENDED USERS

Advanced Practice Nurses
Nurses

Occupational Therapists
Pharmacists
Physician Assistants
Physicians
Psychologists/Non-physician Behavioral Health Clinicians

GUIDELINE OBJECTIVE(S)

To present evidence-based recommendations for the assessment and control of pain in patients with cancer.

TARGET POPULATION

Patients aged 12 and over with pain due to cancer

INTERVENTIONS AND PRACTICES CONSIDERED

Educational Interventions

1. Education of health care professionals about cancer pain via educational programmes and in-depth training
2. Education of patients by both verbal and written materials
3. Education of family members of patients

Assessment

1. Assessment of pain through patient report; physical and functional effects of pain, psychological, social and spiritual aspects; history; physical examination; investigations; and standardised assessment tools
2. Training of health care professionals in use of pain assessment tools
3. Recognition of sudden severe pain as a medical emergency

Psychosocial Interventions

1. Interventions including relaxation, imagery, information provision, and music therapy (Note: Hypnosis and training in cognitive behavioural skills were considered but not recommended)

World Health Organisation Cancer Pain Relief Programme -- Analgesic Ladder

1. Non-opioid analgesics for mild pain - paracetamol, aspirin, and non-steroidal anti-inflammatory drugs, such as ibuprofen or diclofenac (including use of omeprazole or misoprostol for patients at risk of gastrointestinal side effects)
2. Oral opioids for mild to moderate pain – codeine , dihydrocodeine, dextropropoxyphene + step 1 non-opioids
3. Opioids for moderate to severe pain – morphine, diamorphine + step 1 non-opioid analgesics as first-line; fentanyl, hydromorphone, methadone, oxycodone, phenazocine + step 1 non-opioids (alternative)

Administration of Opioids

1. Optimization of dosage
2. Use of normal-release and controlled release oral preparations and parenteral preparations
3. Access to and administration of breakthrough analgesia
4. Dose titration
5. Management of opioid side effects and toxicity

Use of Adjuvant Analgesics

1. Tricyclic antidepressants, such as amitriptyline, and anticonvulsants including carbamazepine, phenytoin, sodium valproate, clonazepam, and gabapentin
2. Steroids, such as dexamethasone
3. Mexiletine (considered but not recommended)
4. Ketamine

Systemic Anti-cancer Therapy

1. Palliative chemotherapy
2. Endocrine therapy, such as tamoxifen, anastrozole, and letrozole for metastatic breast cancer and luteinizing hormone-releasing hormone (LHRH) analogues for prostate cancer

Other Treatment

1. Radiotherapy, such as radioactive strontium
2. Bisphosphonates (clodronate, pamidronate)
3. Interventional techniques, such as epidural and intrathecal drug delivery systems, coeliac plexus block, or cordotomy
4. Neurosurgical techniques, such as intra-ventricular drug delivery systems, regional anaesthetic techniques, central nerve blocks, plexus blocks (peripheral nerve blocks are considered but not recommended)
5. Other modes including transcutaneous electrical nerve stimulation (TENS), acupuncture, and Entonox (considered but no recommendations given)

MAJOR OUTCOMES CONSIDERED

- Pain control
- Development of further pain
- Quality of life
- Adverse effects of treatment

METHODOLOGY

METHODS USED TO COLLECT/SELECT EVIDENCE

Searches of Electronic Databases

DESCRIPTION OF METHODS USED TO COLLECT/SELECT THE EVIDENCE

All searches covered systematic reviews, meta analyses, and randomised controlled trials. In areas where there is a paucity of sound randomised controlled trials, observational studies were also included. Initial searches covered the period from 1980 to 1997 and were updated during the course of the guideline development process to take into account newly published evidence.

Sections of this guideline related to drug therapies were based on a systematic review carried out for the National Health Service National Cancer Research and Development Programme supplemented by searches conducted by development group members.

Searches on other issues were carried out on the Cochrane Library, Cancerlit, CINAHL, Embase, Healthstar, Medline, and Psychlit. Topics related to alternative therapies were additionally searched on the Allied and Alternative Medicine and Mantis databases. Psychosocial issues were also researched in the social science literature by a member of the guideline development group.

NUMBER OF SOURCE DOCUMENTS

Not stated

METHODS USED TO ASSESS THE QUALITY AND STRENGTH OF THE EVIDENCE

Weighting According to a Rating Scheme (Scheme Given)

RATING SCHEME FOR THE STRENGTH OF THE EVIDENCE

Statements of Evidence:

I a: Evidence obtained from meta-analysis of randomized controlled trials.

I b: Evidence obtained from at least one randomized controlled trial.

II a: Evidence obtained from at least one well-designed controlled study without randomization.

II b: Evidence obtained from at least one other type of well-designed quasi-experimental study.

III: Evidence obtained from well-designed non-experimental descriptive studies, such as comparative studies, correlation studies and case studies.

IV: Evidence obtained from expert committee reports or opinions and/or clinical experiences of respected authorities.

METHODS USED TO ANALYZE THE EVIDENCE

Review of Published Meta-Analyses
Systematic Review

DESCRIPTION OF THE METHODS USED TO ANALYZE THE EVIDENCE

The Scottish Intercollegiate Guidelines Network (SIGN) carries out comprehensive systematic reviews of the literature using customized search strategies applied to a number of electronic databases and the Internet. This is often an iterative process whereby the guideline development group will carry out a search for existing guidelines and systematic reviews in the first instance and, after the results of this search have been evaluated, the questions driving the search may be redefined and focused before proceeding to identify lower levels of evidence.

Once papers have been selected as potential sources of evidence, the methodology used in each study is assessed to ensure its validity. SIGN has developed checklists to aid guideline developers to critically evaluate the methodology of different types of study design. The result of this assessment will affect the level of evidence allocated to the paper, which in turn will influence the grade of recommendation it supports.

Additional details can be found in the companion document titled "SIGN 50: A Guideline Developers' Handbook." (Edinburgh [UK]: Scottish Intercollegiate Guidelines Network. [SIGN publication; no. 50]). Available from the [SIGN Web site](#).

METHODS USED TO FORMULATE THE RECOMMENDATIONS

Expert Consensus

DESCRIPTION OF METHODS USED TO FORMULATE THE RECOMMENDATIONS

The process for synthesizing the evidence base to form graded guideline recommendations is illustrated in the companion document titled "SIGN 50: A Guideline Developer's Handbook." (Edinburgh [UK]: Scottish Intercollegiate Guidelines Network. [SIGN publication; no. 50], available from the SIGN website.

Evidence tables should be compiled, summarizing all the validated studies identified from the systematic literature review relating to each key question. These evidence tables form an important part of the guideline development record and ensure that the basis of the guideline development group's recommendations is transparent.

In order to address how the guideline developer was able to arrive at their recommendations given the evidence they had to base them on, SIGN has introduced the concept of considered judgement.

Under the heading of considered judgement, guideline development groups are expected to summarise their view of the total body of evidence covered by each evidence table. This summary view is expected to cover the following aspects:

- Quantity, quality, and consistency of evidence
- Generalisability of study findings
- Applicability to the target population of the guideline

- Clinical impact (i.e., the extent of the impact on the target patient population, and the resources need to treat them.)

Guideline development groups are provided with a pro forma in which to record the main points from their considered judgement. Once they have considered these issues, the group are asked to summarise their view of the evidence and assign a level of evidence to it, before going on to derive a graded recommendation.

The assignment of a level of evidence should involve all those on a particular guideline development group or subgroup involved with reviewing the evidence in relation to each specific question. The allocation of the associated grade of recommendation should involve participation of all members of the guideline development group. Where the guideline development group is unable to agree a unanimous recommendation, the difference of opinion should be formally recorded and the reason for dissent noted.

The recommendation grading system is intended to place greater weight on the quality of the evidence supporting each recommendation, and to emphasise that the body of evidence should be considered as a whole, and not rely on a single study to support each recommendation. It is also intended to allow more weight to be given to recommendations supported by good quality observational studies where randomised controlled trials (RCTs) are not available for practical or ethical reasons. Through the considered judgement process guideline developers are also able to downgrade a recommendation where they think the evidence is not generalisable, not directly applicable to the target population, or for other reasons is perceived as being weaker than a simple evaluation of the methodology would suggest.

On occasion, there is an important practical point that the guideline developer may wish to emphasise but for which there is not, nor is their likely to be, any research evidence. This will typically be where some aspect of treatment is regarded as such sound clinical practice that nobody is likely to question it. These are marked in the guideline as "good practice points." It must be emphasized that these are not an alternative to evidence-based recommendations, and should only be used where there is no alternative means of highlighting the issue.

RATING SCHEME FOR THE STRENGTH OF THE RECOMMENDATIONS

Grades of Recommendations

Grade A: Requires at least one randomized controlled trial (RCT) as part of a body of literature of overall good quality and consistency addressing the specific recommendation (Evidence levels Ia, Ib).

Grade B: Requires the availability of well conducted clinical studies but no randomised clinical trials on the topic of recommendation (Evidence levels IIa, IIb, III).

Grade C: Requires evidence obtained from expert committee reports or opinions and/or clinical experiences of respected authorities. Indicates an absence of directly applicable clinical studies of good quality (Evidence level IV).

Good Practice Points: Recommended best practice based on the clinical experience of the guideline development group.

COST ANALYSIS

A formal cost analysis was not performed and published cost analyses were not reviewed.

METHOD OF GUIDELINE VALIDATION

External Peer Review
Internal Peer Review

DESCRIPTION OF METHOD OF GUIDELINE VALIDATION

1. National open meeting discusses the draft recommendations of each guideline.
2. Independent expert referees review the guideline.
3. The Scottish Intercollegiate Guidelines Network (SIGN) Editorial Board reviews the guideline and summary of peer reviewers' comments.

RECOMMENDATIONS

MAJOR RECOMMENDATIONS

Note from the Scottish Intercollegiate Guidelines Network (SIGN) and National Guideline Clearinghouse (NGC): In addition to these evidence-based recommendations, the guideline development group also identifies points of best clinical practice in the original guideline document.

The strength of recommendation grading (A-C) and level of evidence (Ia-IV) are defined at the end of the "Major Recommendations" field.

Assessment of Pain in Patients with Cancer

B - Prior to treatment an accurate assessment should be performed to determine the type and severity of pain, and its effect on the patient.

B - The patient should be the prime assessor of his or her pain.

C - For effective pain control the physical, functional, psychosocial, and spiritual dimensions should be assessed.

B - The severity of pain and the overall distress caused to the patient should be differentiated and each treated appropriately.

B - A simple formal assessment tool should be used in the ongoing assessment of pain.

B - All health care professionals involved in cancer care should be educated and trained in assessing pain as well as in the principles of its control.

C - Sudden severe pain in patients with cancer should be recognised by all health professionals as a medical emergency and patients should be seen and assessed without delay.

Principles of Management of Pain in Patients with Cancer

A - Patients should be given information and instruction about pain and pain management and be encouraged to take an active role in their pain management.

B - The principles of treatment outlined in the World Health Organisation (WHO) Cancer Pain Relief programme should be followed when treating pain in patients with cancer.

B - This treatment strategy should be the standard against which all other treatments for pain in patients with cancer are tested.

B - For appropriate use of the World Health Organisation analgesic ladder, analgesics should be selected depending upon initial assessment and the dose titrated as a result of ongoing regular reassessment of response.

B - A patient's treatment should start at the step of the World Health Organisation analgesic ladder appropriate for the severity of the pain.

B - Prescribing of primary analgesia should always be adjusted as the pain severity alters.

B - If the pain severity increases and is not controlled on a given step, move upwards to the next step of the analgesic ladder. Do not prescribe another analgesic of the same potency.

B - All patients with moderate to severe cancer pain, regardless of aetiology, should receive a trial of opioid analgesia.

B - Analgesia for continuous pain should be prescribed on a regular basis not 'as required'.

Choice of Analgesia for Cancer Pain

World Health Organisation Analgesic Ladder Step 1: Mild Pain

A - Patients with mild pain should receive either a non-steroidal anti-inflammatory drug (NSAID) or paracetamol at licensed doses. The choice should be based on a risk/benefit analysis for each individual patient.

A - Patients receiving a non-steroidal anti-inflammatory drug who are at risk of gastrointestinal side effects should be prescribed misoprostol 200 micrograms two or three times a day or omeprazole 20 mg once a day.

A - Patients receiving a non-steroidal anti-inflammatory drug who develop gastrointestinal side effects but require to continue this therapy, should receive omeprazole 20 mg daily.

World Health Organisation Analgesic Ladder Step 2: Mild to Moderate Pain

B - Patients with mild to moderate pain should receive either codeine, dihydrocodeine or dextropropoxyphene plus paracetamol or a non-steroidal anti-inflammatory drug.

C - If the effect of an opioid for mild to moderate pain at optimum dose is not adequate, do not change to another opioid for mild to moderate pain. Move to step 3 of the analgesic ladder.

C - Compound analgesics containing subtherapeutic doses of opioids for mild to moderate pain should not be used for pain control in patients with cancer.

World Health Organisation Analgesic Ladder Step 3: Moderate to Severe Pain

B - Morphine or diamorphine should be used to treat moderate to severe pain in patients with cancer.

C - The oral route is the recommended route of administration and should be used where possible.

B - A trial of alternative opioids should be considered for moderate to severe pain where dose titration is limited by side effects of morphine/diamorphine.

Use of Opioids in Treatment of Moderate to Severe Cancer Pain

Initiating and Titrating Oral Morphine

B - The opioid dose for each patient should be titrated to achieve maximum analgesia and minimum side effects for that patient.

C - Where possible, titration should be carried out with a normal release morphine preparation.

C - Normal release morphine preparations must be given every four hours to maintain constant analgesic levels.

C - When initiating normal release morphine, start with 5-10 mg orally at four hourly intervals, unless there are contraindications.

Breakthrough Analgesia

C - Every patient on opioids for moderate to severe pain should have access to breakthrough analgesia, usually in the form of a normal release morphine.

C - Breakthrough analgesia should be one sixth of the total regular daily dose of oral morphine.

C - Breakthrough analgesia should be administered at any time out with regular analgesia if the patient is in pain.

Converting to Controlled Release Preparations

A - Once suitable pain control is achieved by the use of normal release morphine conversion to the same total daily dose of controlled release morphine should be considered.

B - When transferring a patient from four hourly normal release morphine to a controlled release preparation start the controlled release preparation at the time the next normal release morphine formulation dose is due and discontinue the regular normal release morphine.

Side Effects, Toxicity, Tolerance and Dependence

B - Patients receiving an opioid must have access to regular prophylactic laxatives. A combination of stimulant and softening laxative will be required.

C - Opioid toxicity should be managed by reducing the dose of opioid, ensuring adequate hydration and treating the agitation/confusion with haloperidol 1.5 to 3 mg orally or subcutaneously. This dose can be repeated hourly in the acute situation.

B - Initiation of opioid analgesia should not be delayed by anxiety over pharmacological tolerance as in clinical practice this does not occur.

C - Initiation of opioids should not be delayed due to unfounded fears concerning psychological dependence.

B - Patients should be reassured that they will not become psychologically dependent on their opioid analgesia.

Parenteral Administration

B - Patients requiring parenteral opioids should receive the appropriate dose of diamorphine via the subcutaneous route.

C - To calculate the 24 hour dose of subcutaneous diamorphine divide the total 24 hour oral dose of morphine by three. Administer this dose of diamorphine subcutaneously over 24 hours.

C - When converting from oral morphine to subcutaneous diamorphine, remember to prescribe a subcutaneous breakthrough dose which should be one sixth of the total daily dose of regular subcutaneous diamorphine.

C - To calculate the 24 hour dose of oral morphine required, multiply the total daily dose of subcutaneous diamorphine being administered by two (if pain is stable) or three (if pain control is not satisfactory). If pain is stable, administer this as a controlled release preparation.

C - Analgesia for breakthrough pain should be prescribed as a normal release oral morphine preparation at one sixth of the total daily dose of oral morphine.

C - Advice on stability of commonly used drug combinations for continuous subcutaneous infusion should be available to staff who prepare these infusions.

C - Advice on the use of other combinations should be taken from palliative care specialists.

C - All staff using syringe drivers, including community based health care professionals, must be fully trained in their correct use.

C - At the point of use, staff should have access to manufacturer's instructions for any infusion device used to deliver continuous subcutaneous infusions of opioids for moderate to severe pain.

C - Safe systems for use and management of syringe drivers must be in place as detailed in guidance issued by the Scottish Executive Department of Health.

Alternative Opioids

B - Alternative opioids can be tried in patients with opioid sensitive pain who are unable to tolerate morphine side effects

B - Transdermal fentanyl is an effective analgesic for severe pain and can be used in patients with stable pain states as an alternative to morphine.

B - Hydromorphone should be considered as a useful alternative in patients if morphine is causing cognitive impairment or where morphine is poorly tolerated.

B - Oxycodone should be considered as an alternative in patients unable to tolerate morphine.

Adjuvant Analgesics

A - Patients with neuropathic pain should have a trial of a tricyclic antidepressant and/or an anticonvulsant.

C - A therapeutic trial of oral high dose dexamethasone should be considered for raised intracranial pressure, severe bone pain, nerve infiltration or compression, pressure due to soft tissue swelling or infiltration, spinal cord compression, or hepatic capsular pain (unless there are contraindications). In some clinical

situations (e.g. if the patient is vomiting) it may be necessary to use the intravenous route.

A - Mexiletine should not be used routinely as an adjuvant analgesic.

Systemic Anti-Cancer Therapy

A - In patients with metastatic breast cancer who have progressive disease despite prior tamoxifen, the use of specific aromatase inhibitors such as anastrozole and letrozole should be considered.

C - Primary endocrine therapy should be considered for all patients presenting with prostatic carcinoma and painful bone metastases.

C - Maximum androgen blockade should be considered for patients with prostate cancer with worsening bone pain or progression on current single agent endocrine therapy.

Radiotherapy

C - Radiotherapy should be considered for painful bone metastases.

C - The management of mechanical bone pain is more complex and if the patient is fit enough should involve consultation with an orthopaedic surgeon.

B - Radioactive strontium should be considered for the management of pain due to widespread bone metastases from prostatic carcinoma.

C - High dose steroids and radiotherapy should be considered for headache due to cerebral metastases. (The oral route is preferred, but intravenous administration may be necessary, e.g. if the patient is vomiting.)

Bisphosphonates

A - Bisphosphonate treatment should be considered for all patients with multiple myeloma.

A - Bisphosphonates should be considered in the management of breast cancer patients who have pain due to metastatic bone disease.

Interventional Techniques for the Treatment of Pain from Cancer

A - In patients with upper abdominal pain, especially secondary to pancreatic cancer, coeliac plexus block should be considered.

C - All professionals looking after patients with pain from cancer should be aware of the range of neurosurgical and anaesthetic techniques available for the relief of pain.

C - All professionals looking after patients with pain from cancer should have access to a specialist pain relief service, able to offer the techniques described above.

C - If a patient's pain is not controlled by other measures, then the advice of a specialist in pain relief should be sought, with a view to performing one of the above procedures.

Education on Pain Management in Cancer Patients

B - Pre-registration curricula for health care professionals should place greater emphasis on pain management education.

B - Continuing pain management education programmes should be available to all health care professionals caring for patients with cancer.

A - All patients with cancer should have access to a health care professional appropriately qualified to offer advice and information, both verbal and written, regarding pain and effective pain management.

B - Family members should be offered information and education regarding the principles of pain and its management in order to address their lack of knowledge and concerns regarding analgesic administration, tolerance and addiction.

Psychosocial Issues

B - A thorough assessment of the patient's psychological and social state should be carried out. This should include assessment of anxiety and, in particular, depression, as well as the patient's beliefs about pain.

B - Attention should also be given to cultural, linguistic and ethnic factors which may have a bearing on the patient's responses to pain and pain control.

C - Assessment should also be made of the patient's and family's beliefs about and responses to pain.

C - Patients with cancer pain should be given an opportunity to be trained in some form of relaxation as an adjunct to pharmacological pain control.

Definitions:

Grades of Recommendations:

- A. Requires at least one randomised controlled trial as part of a body of literature of overall good quality and consistency addressing the specific recommendation. (Evidence levels Ia, Ib)
- B. Requires the availability of well conducted clinical studies but no randomised clinical trials on the topic of recommendation. (Evidence levels IIa, IIb, III)
- C. Requires evidence obtained from expert committee reports or opinions and/or clinical experiences of respected authorities. Indicates an absence of directly applicable clinical studies of good quality. (Evidence level IV)

Statements of Evidence

I a

Evidence obtained from meta-analysis of randomized controlled trials.

I b

Evidence obtained from at least one randomized controlled trial.

II a

Evidence obtained from at least one well-designed controlled study without randomization.

II b

Evidence obtained from at least one other type of well-designed quasi-experimental study.

III

Evidence obtained from well-designed non-experimental descriptive studies, such as comparative studies, correlation studies and case studies.

IV

Evidence obtained from expert committee reports or opinions and/or clinical experiences of respected authorities.

CLINICAL ALGORITHM(S)

None provided

EVIDENCE SUPPORTING THE RECOMMENDATIONS

TYPE OF EVIDENCE SUPPORTING THE RECOMMENDATIONS

The specific type of supporting evidence is explicitly identified in each section of the guideline.

BENEFITS/HARMS OF IMPLEMENTING THE GUIDELINE RECOMMENDATIONS

POTENTIAL BENEFITS

Improved Pain Control

- Education of health care professionals and patients has been shown to lead to improved control of pain in patients with cancer
- Accurate assessment can provide more effective control of pain
- Non-steroidal anti-inflammatory drugs are more effective at treating pain than opioids alone or in combination with paracetamol or aspirin. Codeine and morphine have both been shown to be effective analgesics
- The alternative opioids have all been shown to be effective analgesics
- Adjuvant analgesics are used in combination with opioids and may result in synergistic effects producing better pain relief at lower dose of opioids.

- Palliative chemotherapy has been documented as being effective in the management of patients with pain from metastatic disease
- Radiotherapy is especially effective in relieving pain due to bone metastases.
- Bisphosphonates are of proven value in multiple myeloma and bone metastases from breast cancer
- Interventional techniques can provide pain relief for patients whose pain is not controlled by similar methods
- Neurosurgical techniques can provide useful short term pain relief

Protection Against Development of Further Pain

- For prostate cancer, radioactive strontium is effective for pain control and may protect against the development of further painful bone metastases

Improved Quality of Life

- Psychoeducational care has been shown to be beneficial to adults with cancer in relation to anxiety, depression, mood, nausea, vomiting, pain, and knowledge
- Results from a meta-analysis of psychosocial interventions have shown a positive effect on emotional and functional adjustment of cancer patients

POTENTIAL HARMS

Paracetamol

- Paracetamol has minimal toxicity at recommended doses but at higher doses can cause fatal hepatotoxicity and renal damage

Aspirin

- Aspirin may be difficult to tolerate at analgesic doses due the wide range of side effects

Non-steroidal Anti-inflammatory Drugs

- Non-steroidal anti-inflammatory drugs have a significant incidence of serious and potentially fatal problems. The incidence of death from gastric bleeding following at least two months exposure to oral non-steroidal anti-inflammatory drugs is estimated to be 1 in 1,200 whilst the incidence of renal dysfunction is not known. non-steroidal anti-inflammatory drugs frequently cause fluid retention and may cause a rise in blood pressure, which may be detrimental in some groups of patients. Gastric irritation, vertigo, and headache are other reported side effects

Steroids

- Steroids can cause gastric irritation if used together with non-steroidal anti-inflammatory drugs. Other side effects include fluid retention, confusion/agitation, cushingoid appearance, carbohydrate intolerance, and oral candidiasis

Tricyclic Antidepressants

- Side effects are sedation, dizziness, postural hypotension, dry mouth, constipation, urinary retention

Anticonvulsants

- Carbamazepine is associated with vertigo, nausea, constipation, and rash
- Gabapentin may cause drowsiness, dizziness, or gastrointestinal upset.

Opioids

- The most common side effects of opioids are constipation, nausea, vomiting, sedation, and dry mouth. Less common side effects include hypotension, respiratory depression, confusion, poor concentration, gastroparesis, urinary hesitancy or retention and itch.
- Opioid toxicity can present as subtle agitation, seeing shadows at the periphery of the visual field, vivid dreams, nightmares, visual and auditory hallucinations, confusion and myoclonic jerks. The sedated patient may then become dehydrated with resultant renal impairment. For opioids with significant active metabolites which are excreted via the kidney, metabolites will accumulate and may cause further toxicity in patients with renal impairment.
- Physical dependence on chronically administered opioids may occur in cancer pain patients. Sudden discontinuation of opioid therapy may lead to a physical withdrawal syndrome.

Portable Syringe Drivers

- Incorrect use of Graseby MS16A and Graseby MS26 syringe drivers have been associated with patient deaths

Ketamine

- Hallucinations, dysphoria and vivid dreams may occur when using ketamine

Subgroups Most Likely to be Harmed:

- Those with existing renal disease cardiac failure, hepatic impairment and the elderly appear to be at higher risk of renal damage from non-steroidal anti-inflammatory drugs
- Some patients are more at risk of serious gastrointestinal side effects from non-steroidal anti-inflammatory drugs than others. Groups shown to be at high risk are the elderly (>60 years old), smokers, those with a previous history of peptic ulcer, and those also receiving oral steroids or anticoagulants, and those with existing renal disease, cardiac failure or hepatic impairment
- In patients with renal impairment, morphine metabolites may accumulate and lead to toxicity

QUALIFYING STATEMENTS

QUALIFYING STATEMENTS

This guideline is not intended to be construed or to serve as a standard of medical care. Standards of medical care are determined on the basis of all clinical data available for an individual case and are subject to change as scientific knowledge and technology advance and patterns of care evolve.

These parameters of practice should be considered guidelines only. Adherence to them will not ensure a successful outcome in every case, nor should they be construed as including all proper methods of care or excluding other acceptable methods of care aimed at the same results. The ultimate judgement regarding a particular clinical procedure or treatment plan must be made by the doctor in light of the clinical data presented by the patient and the diagnostic and treatment options available.

Significant departures from the national guideline as expressed in the local guideline should be fully documented and the reasons for the differences explained. Significant departures from the local guideline should be fully documented in the patient's case notes at the time the relevant decision is taken.

IMPLEMENTATION OF THE GUIDELINE

DESCRIPTION OF IMPLEMENTATION STRATEGY

An implementation strategy was not provided.

INSTITUTE OF MEDICINE (IOM) NATIONAL HEALTHCARE QUALITY REPORT CATEGORIES

IOM CARE NEED

End of Life Care
Living with Illness

IOM DOMAIN

Effectiveness
Patient-centeredness
Safety

IDENTIFYING INFORMATION AND AVAILABILITY

BIBLIOGRAPHIC SOURCE(S)

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ADAPTATION

Not applicable: The guideline was not adapted from another source.

DATE RELEASED

2000 Jun

GUIDELINE DEVELOPER(S)

Scottish Intercollegiate Guidelines Network - National Government Agency [Non-U.S.]

SOURCE(S) OF FUNDING

Scottish Executive Health Department

GUIDELINE COMMITTEE

Not stated

COMPOSITION OF GROUP THAT AUTHORED THE GUIDELINE

Guideline Development Group: Professor John Welsh (Chairman); Ms Kate Copp; Mr John Dunne; Dr Barbara Dymock; Mrs Maggie Emslie; Dr Marie Fallon; Ms Shirley Fife; Dr Adrian Harnett; Ms Jo Hockley; Dr Andrew Hutcheon; Dr Bill Macrae; Mr Joe McElholm; Dr David Millar; Ms Susan Roche; Ms Frances Smith; Ms Margaret Stevenson; Ms Jane Urie; Dr Iain Wallace

FINANCIAL DISCLOSURES/CONFLICTS OF INTEREST

All members of the Scottish Intercollegiate Guidelines Network (SIGN) guideline development groups are required to complete a declaration of interests, both personal and non-personal. A personal interest involves payment to the individual concerned, e.g., consultancies or other fee-paid work commissioned by or shareholdings in the pharmaceutical industry; a non-personal interest involves payment which benefits any group, unit or department for which the individual is responsible, e.g., endowed fellowships or other pharmaceutical industry support. SIGN guideline group members should be able to act as independently of external commercial influences as possible, therefore, individuals who declare considerable personal interests may be asked to withdraw from the group. Details of the declarations of interest of any guideline development group member(s) are available from the SIGN executive.

GUIDELINE STATUS

This is the current release of the guideline.

This guideline was issued in 2000 and will be reviewed in 2002 or sooner if new evidence becomes available.

Any updates to the guideline that result from the availability of new evidence will be noted on the [Scottish Intercollegiate Guidelines Network \(SIGN\) Web site](#).

GUIDELINE AVAILABILITY

Electronic copies: Available from the Scottish Intercollegiate Guidelines Network (SIGN) Web site:

- [HTML format](#)
- [Portable Document Format \(PDF\)](#)

AVAILABILITY OF COMPANION DOCUMENTS

The following are available:

- Quick reference guide: Control of pain in patients with cancer. Edinburgh (Scotland): Scottish Intercollegiate Guidelines Network, 2000 Jun. 4 p. Available from the [Scottish Intercollegiate Guidelines Network \(SIGN\) Web site](#).
- SIGN 50: A guideline developer's handbook. Edinburgh (Scotland): Scottish Intercollegiate Guidelines Network, 2001 Feb. (SIGN publication; no. 50). Electronic copies available from the [SIGN Web site](#).
- Appraising the quality of clinical guidelines. The SIGN guide to the AGREE (Appraisal of Guidelines Research and Evaluation) guideline appraisal instrument. Edinburgh (Scotland): Scottish Intercollegiate Guidelines Network, 2001. Available from the [SIGN Web site](#).
- A background paper on the legal implications of guidelines. Edinburgh (Scotland): Scottish Intercollegiate Guidelines Network.

PATIENT RESOURCES

None available

NGC STATUS

This summary was completed by ECRI on January 3, 2002. The information was verified by the guideline developer as of February 4, 2002.

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FIRST GOV

