The Palliative Care Handbook

Guidelines for clinical management and symptom control, featuring extensive support for advanced dementia

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Pain

The assessment and management of pain and other symptoms are the cornerstones of effective palliative care. There are different types of pain and many patients have more than one.

Comprehensive assessment ....

- listen to the patient's story and the language used
- ask about the site(s) of pain
- measure intensity with a validated tool to assess changes:
    - a visual analogue scale (some patients find this hard to use)
    - a numerical rating scale - perhaps the most common method used - patients rate their pain on a scale of 0 (no pain) to 10 (the worst pain they can imagine)
    - colour charts
    - facial expression charts
- ask about timing and duration of pain e.g. constant or episodic
- ask about the nature (e.g. stabbing, aching) and duration of the pain - this will determine management
    - identifies the type and source of pain
        - > somatic nociceptive is usually constant and localised
        - > visceral is usually described as deep or aching (capsular stretch pain) or intermittent and griping (colicky pain)
        - > bone pain is usually deep or boring
        - > neuropathic pain is usually burning, shooting or stabbing
- ask about what *relieves* the pain (body position, heat, cold) and what *exacerbates* the pain (movement, position, heat)
- ask about the significance of the pain
    - ask how much of a nuisance it is
    - discuss its significance
    - explain the likely causes - often helpful in allaying fears or anxieties and can significantly contribute to the relief of pain
- examine the part(s) that are painful - look, touch and move
- consider further investigation such as X-ray, CT or MRI but only if the result is going to influence management
- document all findings to compare and communicate
- review regularly - essential after any therapeutic intervention

Other assessment factors ....

In a bio-medical model of practice it is tempting to assume that pain has a predominant physical component. Often, physical pain is only part of the symptom complex (through direct or indirect tumour effects or non-malignant processes).

Psychological, spiritual and sociological elements will also be identifiable in many people with pain. Fear, anxiety, sadness, anger, frustration and isolation are but a few of the feelings that can contribute to the total perception of pain. All of these elements help to build a realistic picture of the overall impact of pain on the individual's quality of life.

Assessment in the setting of dementia

People living with dementia who require palliative care may not, by virtue of cognitive impairment, be able to validly report either the presence of pain, or the level of pain they are experiencing. There is good evidence that those with dementia are likely to be prescribed up to 50% less analgesia in acute hospital settings than those with comparable needs who lack a dementia diagnosis.

There are a number of validated pain assessment scales that can inform pain assessment in the presence of dementia. They include the Abbey Pain Scale, the PAIN-AD and the electronic ePAT (electronic Pain Assessment Tool), which uses facial coding to determine the presence of pain. These are screening tools only, and are no substitute for a comprehensive clinical assessment.

The emergence of new behavioural symptoms (such as withdrawal, agitation, anger, aggression and resistiveness to care) in a person with previously stable dementia symptoms should always be an indicator that pain may be an issue. It should be noted that the pain assessment tools mentioned above have not been validated in the presence of significant behavioural disturbance, as they do not reliably distinguish between pain and distress. In the absence of valid pain self-reporting in the setting of severe dementia, considering the views of a family caregiver who knows the patient and their usual behaviours well may be useful as part of the assessment process.

Unrecognised or undertreated pain can lead to the inappropriate prescription of psychotropic medication instead of adequate pain management.

Management ....

It is important to encourage patients to develop self-management strategies – recognising that this may not be possible in people with dementia – and to utilise non-pharmacological strategies such as rest, positioning, pacing etc. There are also a number of enabling strategies like goal setting, pain management plans, scripts and diaries that many will find useful.

Analgeics

- some pains may not respond completely to opioids
- co-analgesics are useful when response to opioids is poor
- switching route can sometimes help e.g. from oral to subcutaneous

- in prescribing analgesics use a step-wise approach:

		morphine or oxycodone or hydromorphone* or fentanyl or methadone
	codeine or dihydrocodeine or tramadol or buprenorphine	
	regular paracetamol	
paracetamol or NSAIDs e.g. diclofenac, naproxen		
co-analgesics, specific therapies e.g. radiotherapyy		

- regular paracetamol may be useful in opioid induced hyperalgesia although use should be continued only if effective as up to 8 tablets per day adds significantly to the tablet burden
- there is some debate over the second step in this ladder
  – most palliative care practitioners go to step 3 either after step 1 or initially depending on the severity of the pain
  – pain relief from codeine may be from the active metabolite, morphine
  – the place of tramadol in palliative care remains unclear - it can be extremely emetogenic

Initiating morphine in opioid naive patients

- start with small regular oral (if possible) immediate release doses
- titration with slow release morphine is less common than with immediate release
- if using immediate release prescribe morphine elixir (immediate release) (2.5 to 5 mg) every four hours regularly and titrate
- prescribe 'when required' doses of ⅕th to ⅙th of the regular 24 hour dose for 'breakthrough', 'episodic' or 'incident' pain
- document the amount of morphine taken
- once a stable dosing regimen is achieved (2 to 3 days) convert to a long-acting preparation
  – calculate the total 24 hour dose of immediate release morphine required from 'breakthrough' and regular dosing, divide by 2 and give twice daily
  – 'when required' doses of ⅕th to ⅙th of the regular 24 hour dose should be prescribed as immediate release once again for pain between doses
- if the patient can no longer swallow
  – give ½ the total 24 hour oral dose by continuous subcutaneous infusion
  – 'when required' doses of ⅕th to ⅙th of the regular 24 hour dose should be prescribed once again for pain between doses

* Drugs that are either not available or not funded in New Zealand

- consider reducing dose if another mode of pain relief is used (e.g. radiotherapy, ketamine)

Initiating oxycodone in opioid naive patients

- start with small regular oral (if possible) doses
- prescribe oxycodone immediate release capsules or liquid every 4 to 6 hours and titrate
- prescribe 'when required' doses of ¹⁄₁₀th to ¹⁄₁₂th initially (although many practitioners use ¹⁄₅th to ¹⁄₆th) of the regular 24 hour dose for 'breakthrough', 'episodic' or 'incident' pain
- document the amount of oxycodone taken
- once a stable dosing regimen is achieved (2 to 3 days) convert to a long-acting preparation
  - calculate the total daily dose of oxycodone required from 'breakthrough' and regular dosing, divide by 2 and give twice daily
  - 'when required' doses of ¹⁄₁₀th to ¹⁄₁₂th initially (although many practitioners use ¹⁄₅th to ¹⁄₆th) of the regular 24 hour dose should be prescribed as immediate release for pain between doses
- consider reducing dose if another mode of pain relief is used (e.g. radiotherapy, ketamine)
- the long acting preparation has a layer of immediate acting drug round it
- if the patient can no longer swallow
  - give ½ the total 24 hour oral dose by continuous subcutaneous infusion
  - 'when required' doses of ¹⁄₁₀th to ¹⁄₁₂th initially (although many practitioners use ¹⁄₅th to ¹⁄₆th) of the regular 24 hour dose should be prescribed once again for pain between doses
- consider reducing dose if another mode of pain relief is used (e.g. radiotherapy, ketamine)

Initiating hydromorphone in opioid naive patients*

- as with oxycodone start with small regular oral (if possible) doses
- titrate upwards in small increments as with morphine and oxycodone
- otherwise the same principles apply

Initiating fentanyl patches in opioid naive patients

- don't - fentanyl patches should only be used in patients who have already been exposed to opioids

Initiating methadone in opioid naive patients

- as methadone has a long and variable half life it should be commenced at low dosage e.g. 1 mg to 2.5 mg bd and consideration should be given to dose reduction once at steady state (minimum 5 days)
- should be used under advice of a specialist palliative care physician only

Adverse effects of opioids

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- all opioids are associated with the following adverse effects but the incidence (incidences below are for morphine) and severity vary from opioid to opioid (e.g. fentanyl is less constipating than morphine)
- tolerance to some of these adverse effects can develop e.g. nausea/vomiting but not to others e.g. constipation
    - constipation - 95% of patients (less with fentanyl [50%] and the naloxone/oxycodone combination product) - prescribe a laxative prophylactically
    - nausea/vomiting - 30-50% of patients - usually in the first 10 days until tolerance develops
    - drowsiness - 20% of patients - usually in the first 3 to 5 days until tolerance develops
    - confusion - 2% of patients - either reduce the dose, change to a different opioid or consider adding haloperidol. Rates of worsening confusion are greatly elevated in those with a pre-existing cognitive impairment, due to diminished cognitive reserve. Frank delirium can be precipitated.
    - hallucinations/nightmares - 1% of patients - give haloperidol or change to a different opioid
    - hyperalgesia - usually to touch as a result of too high a dose of opioid which may improve on dose reduction
    - hyperkatafeia - emotional lability induced by long-term opioid use

Opioid rotation
- opioid rotation (or changing from one opioid to another) is often used when tolerance to the analgesic effects of opioids (stimulation of NMDA receptors) or severe adverse effects occur
- works because of the difference in the mix of opioid receptors stimulated by each individual opioid in each patient
- most often from morphine to oxycodone, fentanyl or methadone
- rotation should only occur under supervision and by a specialist as conversion doses are difficult to predict and are often much smaller doses than those listed below - see oxycodone, hydromorphone*, fentanyl and methadone in the second section

Opioid equivalents
- the following are 'single dose' equivalences i.e. ONLY equivalents in healthy volunteers given a single dose
- equivalence in sick patients who are chronically dosed is difficult to quantify - use care when converting from one opioid to another

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- pethidine is NOT recommended in palliative care

codeine	60 mg oral	=	6 mg oral morphine
tramadol	100 mg oral	=	10 mg oral morphine
oxycodone	5 mg oral	=	10 mg oral morphine
	5 mg subcut	=	5 mg subcut morphine
hydromorphone*	6 mg oral	=	30 mg oral morphine
	2 mg subcut	=	10 mg subcut morphine
methadonesee	methadone page in the 'Drug information' section		
fentanyl	see fentanyl page in the 'Drug information' section		
buprenorphine	see buprenorphine page in the 'Drug information' section		

Co-analgesics

- drugs usually used for a different indication with analgesic properties (sometimes such use is outside the product license)
- can be used in combination with other analgesics or alone
- choice is determined by the types of pain
- the use of co-analgesics is probably most helpful in neuropathic pain
- bone pain - due to tumour or metastatic involvement
    - NSAIDs e.g. diclofenac - inhibit prostaglandins
    - bisphosphonates e.g. pamidronate, zoledronic acid
    - denosumab*
- skeletal muscle spasm pain - due to tumour involvement
    - muscle relaxants e.g. diazepam, clonazepam, baclofen
- smooth (intestinal) muscle spasm pain - 'colic' from intestinal spasm
    - anticholinergic/antimuscurinic e.g. hyoscine butylbromide
- tenesmus - due to tumour or metastatic involvement of the rectal muscles
    - steroids e.g. dexamethasone, prednisone - decrease inflammation around tumour
- raised intracranial pressure - due to tumour or fluid
    - steroids e.g. dexamethasone - decrease inflammation around tumour
    - NSAIDs e.g. diclofenac - inhibit prostaglandins
- liver capsule stretch pain - from an enlarged liver
    - steroids e.g. dexamethasone - decrease inflammation

Neuropathic pain ....

- often the most severe and difficult to manage of all persisting pains
- caused by damage to the nervous system
- involves NMDA receptor stimulation to some extent
- severity cannot usually be linked to the amount of damage
    - 'trivial' lesions can produce severe pain

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Causes

- peripheral nerve damage - post-surgical, post-trauma or compression
- herpetic nerve invasion
- amputation - phantom limb pain
- Chronic Regional Pain Syndrome (CRPS)
- nerve root injury - traumatic avulsion, post-spinal surgery
- epidural scarring, arachnoiditis
- spinal cord injury and disease
- stroke
- diabetes
- chemotherapy e.g. vincristine, oxaliplatin, taxanes, cisplatin

Characterisation

- characterised by description and by cause
    – BUT the pain is not always within the distribution of a dermatome or a peripheral nerve
- includes allodynia (pain in an area of altered sensitivity) and other sensory symptoms
- generally continual and of varying intensity
    – variability in intensity is spontaneous and often has a paroxysmal component not necessarily related to stimulation
- descriptive terms include burning, cutting, stabbing sharp/shooting crushing
- episodic pain, which can be present on top of the continuous pain, may itself be brief but often a long-lasting aching pain remains for several hours

Management

- a multidisciplinary approach is useful
- behavioural modification - any treatment will be of only limited value unless certain behaviours are changed so address cognitive, mood and behavioural aspects of the patient's pain individually or in a group
- drugs
    – opioid analgesics (first line for neuropathic pain) should be trialed but doses may increase rapidly - some opioids may be more useful than others e.g. methadone which has NMDA blocking activity
    – centrally acting agents reduce spinal hyperexcitability
    – some drugs have an effect on nociceptor neuromodulators, neurotransmitters and cell membrane stability
    – efficacy is highly variable between drugs so tailor the drug to the patient
        > gabapentin, pregabalin*
        > anticonvulsants e.g. valproate
        > benzodiazepines e.g. clonazepam
        > tricyclic antidepressants e.g. nortriptyline SSRIs e.g. escitalopram, sertraline - limited efficacy in palliative care
        > SNRIs e.g. duloxetine*, venlafaxine

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- > antiarrhythmics e.g. mexiletine
- > muscle relaxants e.g. baclofen
- > NMDA antagonists e.g. ketamine
- > alpha-adrenergic agents e.g. clonidine
- > calcium channel blockers e.g. nifedipine
- > steroids e.g. dexamethasone for nerve pressure pain
- > sodium channel blockers e.g. lignocaine*
- – combining an antidepressant with an anticonvulsant or similar may be more effective than either alone e.g. nortriptyline + gabapentin, pregabalin* if the above are ineffective consider intrathecal/epidural opioids, local anaesthetics and clonidine
- • other analgesic modalities
  - – nerve blocks
    - > availability is dependent on the skills of the team
    - > access to a specialist anaesthetist is not always possible
    - > for pain which breaks through analgesia, or is controlled at rest but not on movement or is nonresponsive
    - > upper abdominal pain due to pancreatic cancers may respond to coeliac plexus blocks
  - – others - often used in conjunction with analgesics
    - > mobilisation e.g. structured stretching, progressive resistance training
    - > radiotherapy/surgery
    - > cytotoxic drugs
    - > hormone therapy
    - > spinal delivery systems
    - > neuromodulation e.g. transcutaneous nerve stimulation (TENS) and, very occasionally, implanted devices such as peripheral nerve or spinal cord stimulation

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