



Lothian Palliative Care Guidelines

POCKET EDITION 2004

These guidelines have been developed by a multidisciplinary group of specialist and non-specialist health professionals from hospital, community and hospice settings. They reflect a consensus of opinion about good practice. Every effort has been made to ensure the accuracy of the text and that the best information available has been included. This does not diminish the requirement to exercise clinical judgement, and the authors cannot accept any responsibility for use of these guidelines in practice.

This edition contains a summary of frequently used guidelines. The full documents are available in the printed Lothian Palliative Care Guidelines folders and on www.scan.scot.nhs.uk

The Lothian Palliative Care Guidelines have been approved by the Lothian Formulary Committee. The Lothian Formulary contains a palliative care section. (www.ljf.scot.nhs.uk)

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Other drugs, drug doses and combinations of drugs are used occasionally by palliative care specialists, whose recommendations should be documented clearly in the patient's notes. If there are any issues with regard to the regimen, advice should be sought from a specialist palliative care pharmacist or other palliative care specialist.

Specialist Palliative Care Telephone Advisory Services in Lothian & Borders:

Marie Curie Hospice Edinburgh	0131 470 2201 (24 hours)
St. Columba's Hospice	0131 551 1381 (24 hours)
Western General Hospital PCT	0131 537 2243 (Mon-Fri, 9am – 5pm)
Royal Infirmary of Edinburgh PCT	0131 242 1993 (Mon-Fri, 9am – 5pm)
St. John's Hospital PCT	01506 419666 (Mon-Fri, 9am – 5pm)
Borders Palliative Care Service	01896 826888 (Mon-Fri, 9am – 5pm)

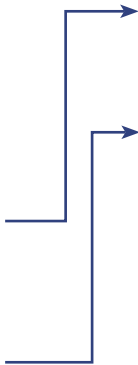
Pain Assessment – Five Key Questions

Aims

- Assess each pain and identify the likely cause(s). Most patients have more than one.
- Consider the impact of the pain on the patient and family.
- Make a diagnosis and explain this to the patient and family.
- Agree a pain management plan.

1. Is the pain severe and overwhelming?

2. What is the pain like?



Immediate treatment with parenteral opioids may be required. Seek advice

Ask about

- Site/radiation
- Character
- Intensity/severity
- Timing
- Exacerbating factors
- Relieving factors (including medication)
- Effect on function/sleep

Use of a structured pain assessment tool can help.

3. What is causing the pain?



Disease?
Treatment?
Debility?
Other unrelated pathology?

4. Is it a specific type of pain?



5. Are other factors adding to the distress?



Bone Pain
Worse on pressure or weight bearing.

Nerve Pain
Burning/shooting/altered sensation.

Liver Pain
Hepatomegaly, tenderness.

Raised Intracranial Pressure

Colic

Action

- Record your assessment.
- Different pains may require different interventions.
(See *Pain Guideline*)
- Consider Adjuvant Therapies
- Discuss management with patient/carers.
- Agree goals for pain relief and a management plan.

Reassess regularly



- Anxiety/Depression
- Other psychological factors
- Other physical symptoms
- Family/carer distress

Pain Management in Palliative Care

STEP 1: Mild Pain

PARACETAMOL &/or NSAID

1g, qds

+/- **ADJUVANT**

Pain should be fully assessed before treatment with analgesics is started (see *Pain Assessment Guide*). Continue to ask the patient about their pain regularly.

STEP 2 : Mild to Moderate Pain

OPIOID

e.g. codeine 30-60mg,
or dihydrocodeine 30-60mg, qds

+ **PARACETAMOL &/or NSAID** +/- **ADJUVANT**
1g, qds (if not contraindicated)

Best given as a combined preparation
e.g. **co-codamol 30/500, 2 tablets, qds**

Prescribe a **regular laxative** when opioids are being taken regularly (see step 3).

Discuss and resolve any concerns about taking opioids e.g. addiction, tolerance, opioids only for advanced disease etc.

STEP 3 : Moderate to Severe Pain

OPIOID

+ **PARACETAMOL &/or NSAID** (if not contraindicated) +/- **ADJUVANT**

Stop step 2 opioid.

(A full 24 hour dose of Step 2 opioid \approx 30mg oral morphine/24 hours)
Whenever possible titration should be with **normal release oral morphine**.

If starting with **normal release oral morphine**, (e.g. oramorph)
5-10mg, 4 hourly **and** as required for **breakthrough pain**.

(A 2-2.5mg dose may be enough in the elderly or those with renal impairment)

If starting with **controlled release oral morphine**, (e.g. MST Continus)
10-15mg, 12 hourly and normal release morphine 5mg as required for **breakthrough pain**.

Regular laxative

Codanthramer (if prognosis is limited) or docusate + bisacodyl

Prophylactic antiemetic

Prescribed as required, for 7-10 days metoclopramide 10mg tds or haloperidol 1.5mg nocte

Seek advice:

- Severe pain
- Movement related pain
- Dose of opioid increasing rapidly
- Pain not responding to treatment.

Breakthrough pain

- Prescribe normal release morphine at 1/6th of 24 hour oral morphine dose, as required
- Assess 30-60 minutes after a breakthrough dose
- If pain persists → give a second prn dose
- If pain is still not controlled → **seek advice**
- Movement related or episodic breakthrough pain can be difficult to manage; a dose of short acting opioid before moving or when pain occurs may help → **seek advice**



Dose Titration in STEP 3

- Increase regular oral morphine dose each day in steps of about 30% (or according to breakthrough doses used) until pain is controlled or side effects develop.
 - Increase laxative dose as needed
- Convert to controlled release morphine**
- Calculate 24 hour dose of normal release morphine and divide by 2
 - Prescribe this dose as controlled release oral morphine (e.g. MST Continus), 12 hourly
 - Prescribe breakthrough analgesia at correct dose (1/6).

Adjuvant Therapies

NSAID – e.g. diclofenac – bone pain, liver pain, soft tissue infiltration, inflammatory pain + omeprazole or lansoprazole if risk of GI side effects or if combined with steroids.

AMITRIPTYLINE – nerve pain – 10-25mg nocte and titrate (watch for sedation, confusion, dry mouth).

ANTICONVULSANT – nerve pain – e.g. sodium valproate 100-200mg bd or carbamazepine 100-200mg bd or gabapentin (specialist recommendation only) 100-300mg nocte. Start at these doses and titrate.

STEROIDS – e.g. dexamethasone – raised intracranial pressure (8-16 mg/day), nerve pain (8-16 mg/day), liver pain (4-6 mg/day). Give before mid afternoon, reduce to lowest effective dose.

TENS, NERVE BLOCK, RADIOTHERAPY, BISPHOSPHONATES

Parenteral Analgesia

- Convert to SC diamorphine
- Calculate the 24 hour dose of oral morphine and divide by 3
- This is the 24 hour SC diamorphine dose which is usually given in a syringe driver
- Prescribe 1/6th of the 24 hour diamorphine dose, SC, as required, for breakthrough pain

Opioid Toxicity (Seek advice)

- Increasing drowsiness
 - Vivid dreams/hallucinations
 - Muscle twitching/myoclonus/jerking
 - Abnormal skin sensitivity to touch
- Reduce opioid dose by 1/3 and ensure patient is well hydrated, using SC/ IV fluids, if necessary.**
- Consider adjuvant therapies and/or alternative opioids

Equivalent analgesic doses/Changing opioid

When pain increases in intensity patients are changed or stepped up from an *opioid for mild to moderate pain* (e.g. codeine or dihydrocodeine) to an *opioid for moderate to severe pain* (e.g. morphine).

A small proportion of patients need to be switched from morphine to a second line opioid.

Reasons include:

- oral route is not available
- neurotoxicity (confusion/delirium, hallucinations, myoclonus, hyperalgesia)
- poor compliance
- The conversion ratios shown are approximate and should be used as a guide. Patients vary in their response to individual opioids.
- Dose conversions should be **conservative and doses rounded down**. It is safer to give the patient a lower regular dose initially and use breakthrough medication as needed until the dose requirements are clear.
- Remember to review/change breakthrough medication.
- Seek specialist advice in the following clinical situations:
 - Converting at higher opioid dose levels (> 600mg morphine/24 hours)
 - Converting to or from methadone
 - Opioid toxicity when the patient is still in pain
 - Converting from oral oxycodone to diamorphine

Table 1: Approximate analgesic equivalence to oral morphine¹ for the commonly used opioids in palliative medicine

Analgesic	Potency ratio with oral morphine	Duration of action (hours) ²	Opioid used for	Example
Codeine (oral)	1/10	3-6	mild to moderate pain	Codeine 60mg (oral) ≈ morphine 6mg (oral)
Dihydrocodeine (oral)	1/10	3-6	mild to moderate pain	Dihydrocodeine 60mg (oral) ≈ morphine 6mg (oral)
Diamorphine (subcutaneously)	3	3-4	moderate to severe pain	Morphine 3mg (oral) ≈ diamorphine 1mg (subcutaneous)
Fentanyl (transdermal) (second line)	See <i>Fentanyl guideline</i>	72	moderate to severe pain (second line)	Refer to fentanyl guideline for dose conversion chart
Oxycodone (oral) (second line)	2	3-4	moderate to severe pain (second line)	Morphine 20mg (oral) ≈ oxycodone 10mg (oral)

¹ Multiply dose of opioid by its potency ratio to determine the equivalent dose of oral morphine.

² Depends partly on severity of pain and on dose; may increase in the elderly and in those with renal or hepatic impairment.

³ Manufacturer's conversion ratio. Other sources suggest a ratio of 5:1.

Table 2: How to convert from opioids not recommended in palliative care; approximate analgesic equivalence to oral morphine¹

Analgesic	Potency ratio with oral morphine	Duration of action (hours) ²	Opioid used for	Example
Buprenorphine (transdermal)	See manufacturers recommendations	72	moderate to severe pain	Buprenorphine patch 52.5 micrograms/hour \approx fentanyl patch 25 micrograms/hour \approx morphine 5-10mg, 4 hourly (oral)
Dextropropoxyphene (oral)	1/10	3-6	mild to moderate pain	Dextropropoxyphene 65mg (oral) \approx morphine 6mg (oral) (Two co-proxamol tablets contain dextropropoxyphene 65mg + paracetamol 650mg)
Hydromorphone (oral)	7.5 ³	4-5	moderate to severe pain	Hydromorphone 1.3mg (oral) \approx morphine 10mg (oral)
Morphine (IM)	2	3-4	moderate to severe pain	Morphine 5mg IM \approx morphine 10mg(oral) \approx diamorphine 3mg SC
Tramadol (oral)	1/5	4-6	mild to moderate pain	Tramadol 50mg (oral) \approx morphine 10mg (oral)

Breathlessness in Palliative Care

Is treatment of the underlying illness appropriate?



Check with specialist if in doubt

Are there any reversible causes of breathlessness?



Treat if appropriate

STRIDOR?

Superior vena cava obstruction?

(In the community, if able to swallow, give 60mg of oral prednisolone, before admission)

a) Seek advice – urgent referral to: oncologist/ENT surgeon

b) Give high dose dexamethasone 16mg daily, IV/IM/oral

What is the impact of breathlessness on the patient?

Breathlessness can cause significant distress, fear and disability. Supportive care is integral to breathlessness management. Multidisciplinary assessment of the patient/family is essential. Consider drugs (benzodiazepines), non-drug treatments, and lifestyle adaptations.

Is there evidence of reversible airways obstruction?

Consider trial of nebulised bronchodilators

Is a trial of steroids appropriate?

Dexamethasone 4-8mg b.d. oral (last dose no later than 2pm). Stop after a week if no benefit.

Management of breathlessness at rest

- Well ventilated room (fan and/or open window). Advice on posture and positioning.
- Trial of opioid: monitor patient response and side effects

Opioid naïve:

- Oral normal release morphine, 4-6 hourly or as needed. Start with 2-2.5mg and increase dose slowly in steps of approx 30%, as needed and tolerated.
- If unable to take oral medication, use SC route; diamorphine 1.25-2.5mg SC prn +/- diamorphine 5-10mg/24hrs SC via syringe driver

Frail/elderly, impaired renal function or patient with non-malignant disease:

- 2-2.5mg oral normal release morphine nocte, and 6-8 hourly, as needed and tolerated.

If already taking an opioid regularly for pain:

- 25% of the 4hrly analgesic dose of oral morphine/SC diamorphine, as needed, may be adequate. Titrate according to response. If the breathlessness is continuous consider increasing the controlled release preparation.
- If the patient is taking second line opioids: seek advice.
- If hypoxic, consider a trial of oxygen.

Management of severe breathlessness in the last days or hours

Plan and discuss the management

- If the patient is having difficulty with oral medication
 - convert oral opioid to the SC route: $24\text{hr oral morphine dose} \div 3 = 24\text{hr SC diamorphine dose}$
- Give midazolam 2.5-5mg SC, as needed for anxiety/distress
- Add midazolam 5-10mg/24hrs to SC infusion via syringe driver or according to prn use
 - Titrate dose according to the amount of prn doses required or level of distress. Some patients may need 30-80mg of SC midazolam/24hrs

Management of noisy breathing or respiratory secretions

- Changing position may help (e.g. head down, semi-prone). Explanation/reassurance for the family.
- Suction only if the patient has copious oro-pharyngeal secretions and is unconscious.
- Drug management; one or two stat doses may be adequate in some patients.
- Some patients do not respond well to antisecretory drugs e.g. chest infection, fluid overload.

Drug	Dose	Comment
Hyoscine butylbromide (Buscopan)	20mg SC, 1-2hrly 40-120mg/24hrs via driver	First line. Short acting. Give 20mg SC – review after 30mins. If effective give 1-2hrly prn, or use a continuous infusion in a driver. Not sedating. Less CNS side effects.
Glycopyrronium bromide	400 micrograms SC, 6-8hrly 1200 micrograms/24hrs via driver	Longer acting. Can be given by intermittent SC injection. Not sedating. Less CNS side effects.
Hyoscine hydrobromide	400 micrograms SC, 2-4hrly 400-1200 micrograms/24hrs via driver	Crosses the blood brain barrier – can cause acute agitation and confusion. Sedative.

Confusion/Agitation in Palliative Care

Recognition of acute confusion

- 1 Acute onset and fluctuating course
- 2 Inattention – easily distracted
- 3 Disorientated to time/place/person
- 4 Disorganised thinking – rambling or irrelevant conversation, switching topics
- 5 Altered level of consciousness – patient hyperactive or hypoactive

Causes – often multiple

- Can the cause(s) be identified?
- Is the cause(s) reversible? What is the patient's prognosis?
- Is investigation or treatment of the cause(s) appropriate?

General Care

- **Maintain hydration** – use SC fluids if appropriate (see *Subcutaneous fluids*)
- Try to nurse in a quiet, well lit environment and limit staff changes, if possible
- Involve key family members and offer support and information
- Use lucid intervals to establish rapport and address fears/concerns
- Gentle, repeated reorientation where possible – use clock, calendar, schedule of daily routines
- Don't confront deficits and communicate in a simple, clear, concise manner
- Try to maintain a normal sleep-wake cycle
- Correct hypoxia, if possible
- If discharge is being planned, refer early to occupational therapist/social worker

Medication for treatment of confusion

- Review all medication and discontinue any non-essential drugs
- Use the minimum sedative medication necessary and regularly review the prescription
- Use the oral route if possible
- Withdraw sedative medication as the episode of confusion settles
- Use prophylactic treatment with a benzodiazepine in acute alcohol withdrawal

NB If the patient is very disturbed or fails to settle → seek advice

Do not assume the patient's agitation is due to pain. Consider other causes.

Assess carefully – if evidence of opioid toxicity (see *Pain Management*)

→ reduce opioid dose by 1/3 + consider adjuvant therapies, if patient is in pain. **Seek advice.**

A Emergency sedation of an acutely agitated/disturbed patient

- sedate with haloperidol 2.5-5mg IM/SC
+/- benzodiazepine e.g. midazolam 2.5mg IM/SC or diazepam (rectal solution) 5-10mg, PR
- repeat after 30-60 minutes, if needed
- maintenance treatment may be needed based on stat. doses used
(Patients who are larger and physically fit may need higher doses)

B Delirium – may be hyperactive, hypoactive or mixed state

(Benzodiazepines alone do not improve cognition in delirium, and may worsen it)

- use haloperidol: stat + prn; 1.25-5mg, SC or 0.5-5mg, oral maintenance; 2.5-10mg/24hrs, SC via a syringe driver or 0.5-3mg b.d, oral
(NB extrapyramidal side effects with long term use; apathy, withdrawal)

C Acute on chronic confusion e.g. in dementia, cerebrovascular disease

- delirium – haloperidol, as above
- chronic confusion – risperidone 0.25-1mg nocte (avoid long term use; caution if history of TIA or stroke)
- insomnia – trazodone 50-100mg nocte (withdraw gradually)

D Distressing restless/agitation in the last days of life

Sedation may be the most appropriate management

Opioid analgesics should not be used to sedate patients in the last days of life

Patient is confused/agitated/hallucinating

→ haloperidol 2.5mg SC stat
+ haloperidol 5-10mg/24hrs, SC in a driver
+ haloperidol 2.5mg 4hrly, SC, prn

Patient is still confused/agitated

↑ haloperidol to 10mg/24hrs,
SC in the driver
+ give a stat dose of haloperidol 2.5mg, SC
If patient is still agitated and distressed,
consider adding midazolam to the driver

Patient is still agitated/distressed

→ Give a stat. dose of levomepromazine 12.5-25mg SC, and repeat 1-2hrly, prn
Consider changing haloperidol + midazolam to levomepromazine 25-100mg/24hrs, SC in driver
Levomepromazine lowers the seizure threshold; combine with a regular benzodiazepine
e.g. midazolam or rectal diazepam. **Seek advice from a Palliative Care specialist.**

Patient is anxious/frightened but lucid

→ try to explore fears
+ lorazepam 0.5mg oral or SL, 2-4hrly prn
or midazolam 2.5-5mg 1-2hrly, SC, prn

Patient has continuous or worsening anxiety

→ oral diazepam 2mg tds **OR**
→ midazolam 10mg/24hrs, SC in a driver
increase midazolam dose in 30-50% steps up to 80mg
+ use midazolam 2.5-10mg, 1-2hrly, SC, prn
OR use diazepam (rectal solution) 10mg PR,
6-8hrly, regularly or prn

Constipation Management in Palliative Care

Assessment

Normal frequency?

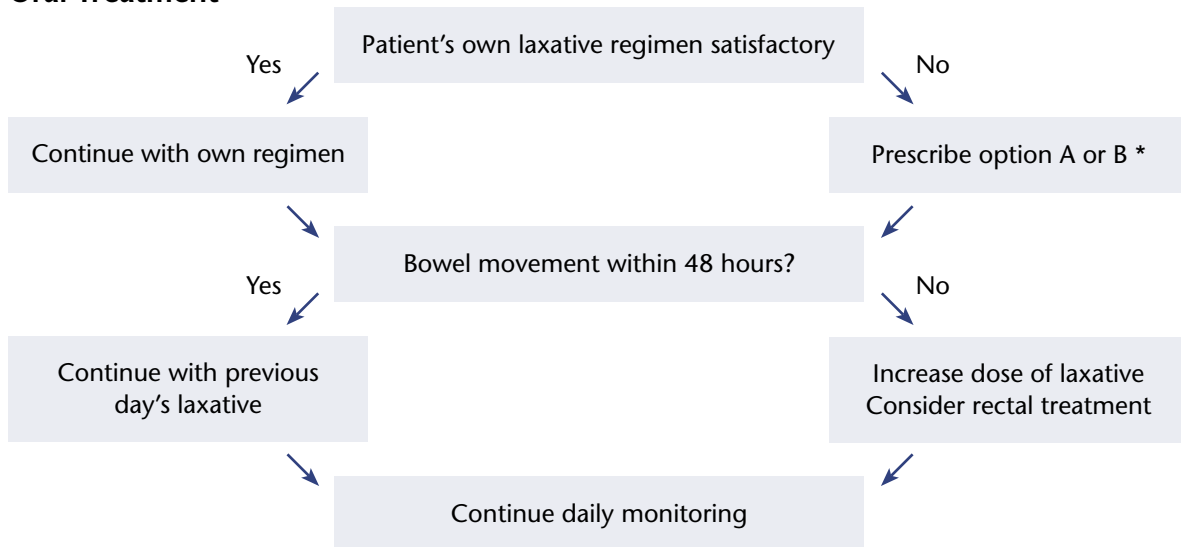
Stool consistency?

Is there blood or mucus in the stool?

Current frequency?

Ease of passage?

Oral Treatment



* Option A

Codanthramer 1-2 capsules once daily

OR

Codanthramer 5-10ml once daily

* Option B

Bisacodyl 5mg tablet once daily

AND

Docusate sodium 100mg capsule bd

Codanthramer is a combination laxative (stimulant/softener) licensed for use in terminally ill patients.

- Fluid intake increased, if possible. A high fibre diet is inappropriate if the patient is anorexic or frail.
- Titrate doses of laxatives according to response and before changing to an alternative laxative.
- Consider using codanthramer strong when dose of codanthramer exceeds 2 capsules bd or 10ml bd.
- Movicol may be used for severe constipation unresponsive to option A/B. Volume needed may be inappropriate for patients with a poor fluid intake.

Rectal Treatment

Choice depends PR examination. If the rectum is ballooned and empty, use oral laxatives initially.

Soft loading	First line: bisacodyl 10mg suppository Second line: sodium citrate microenema (5ml)
Hard Loading	Glycerol 1g suppository Followed later, if necessary, by: Sodium citrate microenema (5ml) or a bisacodyl 10mg suppository
Very Hard Loading	Arachis oil enema overnight (avoid if patient has nut allergy) Followed later, if necessary, by: Phosphate enema

Nausea/Vomiting in Palliative Care

- Treat reversible causes if possible and appropriate e.g.
*drugs *hypercalcaemia *anxiety *constipation *cough *gastric irritation
- Remember unrelated causes, e.g. gastroenteritis
- Prescribe the same antiemetic *regularly* and *prn* – REVIEW every 24 hours
- If patient is vomiting or if oral absorption is in doubt – use the subcutaneous route (s/driver) or rectal route

Possible Causes	Clinical picture	Treatment (see table for doses)
<ul style="list-style-type: none"> ● Drugs (incl opioids) ● Carcinomatosis ● Uraemia/hypercalcaemia 	<p>→ Chemical/metabolic Persistent, often severe nausea. Little relief from vomiting/retching.</p>	<p>→ 1. Haloperidol 2. Levomepromazine</p>
<ul style="list-style-type: none"> ● Opioids, anticholinergics ● Local tumour ● Autonomic failure ● Hepatomegaly ● Peptic ulceration 	<p>→ Gastric stasis/outlet obstruction Intermittent nausea, often relieved by vomiting.</p>	<p>→ Prokinetic Metoclopramide SC, IM or oral. Domperidone (fewer side effects) If colic or no response: seek advice Consider dexamethasone 4-6mg mane, oral (if liver metastases or extrinsic compression)</p>
<ul style="list-style-type: none"> ● Oesophageal or mediastinal disease 	<p>→ Regurgitation Dysphagia. Little nausea or relieved after food regurgitated.</p>	<p>→</p> <ul style="list-style-type: none"> ● Stents/laser ● Radio/chemotherapy ● Dexamethasone (6-8mg/day) ● Refer to a dietician <p>Antiemetics often ineffective</p>

<ul style="list-style-type: none"> ● Abdominal carcinomas ● Autonomic neuropathy <p>Exclude constipation</p> <p>(see <i>Bowel Obstruction</i>)</p>	<p>→ Bowel obstruction</p> <p>May be partial/intermittent initially. Nausea often improved after vomiting. nausea, +/- colic, +/- faeculent vomiting in advanced/complete obstruction.</p>	<p>→ Medical management if surgery inappropriate. Seek specialist advice early.</p> <p>2 main types:</p> <p>a) Peristaltic failure Metoclopramide (prokinetic)</p> <p>b) Mechanical obstruction</p> <ol style="list-style-type: none"> 1. Hyoscine butylbromide (if colic) 2. Levomepromazine 3. Cyclizine +/- Haloperidol 4. NG tube if persistent vomiting
<ul style="list-style-type: none"> ● → Intracranial pressure ● Radiotherapy ● Brainstem/meningeal disease 	<p>→ Cranial disease/treatment</p> <p>Headache +/- cranial nerve signs</p>	<p>→</p> <ol style="list-style-type: none"> 1. Cyclizine + Dexamethasone 8-16mg/day (if raised intracranial pressure)
<ul style="list-style-type: none"> ● Vestibular disease ● Base of skull tumour ● Motion sickness 	<p>→ Movement related</p>	<p>→</p> <ol style="list-style-type: none"> 1. Cyclizine 2. Levomepromazine 3. Prochlorperazine; motion sickness
	<p>→ Cause unclear/multiple causes</p>	<p>→</p> <ol style="list-style-type: none"> 1. Levomepromazine 2. Metoclopramide (if no colic) 3. Cyclizine + haloperidol 4. Trial of dexamethasone

If chemotherapy/radiotherapy induced – seek specialist advice

NB 5HT₃ antagonists (e.g. ondansetron) are of proven value in chemotherapy/radiotherapy induced nausea and vomiting but otherwise are not recommended. Constipating.

Prescribing notes

1. Review long term antiemetic use regularly. Stop if the underlying cause has resolved.
2. Haloperidol may cause extrapyramidal side effects (e.g. apathy, withdrawal) at higher doses or if use is prolonged.
3. Levomepromazine is a potent, broad-spectrum antiemetic. Use low doses to avoid sedation and hypotension. A 6mg, scored tablet is available on a named patient basis. SC dose is half the oral dose.
4. Metoclopramide may cause extrapyramidal side effects (e.g. tremor) with prolonged use. Caution in patients aged under 20 years.
5. Prokinetic drugs' action is **blocked** by anticholinergics e.g. cyclizine, buscopan, amitriptyline.
6. Corticosteroids are best given before 2pm. Review and reduce to lowest effective dose. Withdraw once ineffective. Oral dexamethasone 1mg is approximately equivalent to oral prednisolone 7.5mg. Parenteral dose of dexamethasone is the same as the oral; prescribed as dexamethasone sodium phosphate SC or IM.

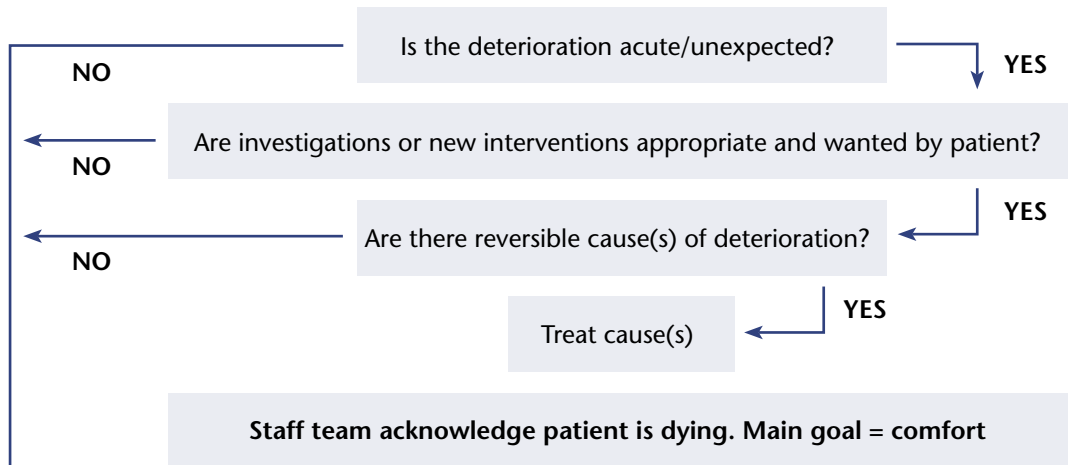
Drug doses

Drug	Oral dose (PR dose)	Stat dose/prn dose	Subcutaneous syringe driver/24hrs
Cyclizine	50mg, 8 hourly	50mg, oral/SC/IM	50-150mg
Domperidone	10-20mg, 6-8 hourly (30-60mg, 4-8 hourly, PR)		
Haloperidol	1.5mg, bd or 3mg, nocte	1.5mg, oral 1.25-2.5mg, SC	2.5-5mg
Levomepromazine	3-6mg, bd or nocte	3mg, oral 2.5-5mg, SC	5-25mg
Metoclopramide	10-20mg, 6-8 hourly	10mg, oral or IM	30-120mg
Hyoscine butylbromide (Buscopan)	20mg, 4-6 hourly	20mg, 1-2 hourly, SC	40-120mg
Hyoscine hydrobromide	Topical patch, 1mg/72 hours	400 micrograms, 2-4 hourly, SC	400-1200 micrograms

Last Days of Life

Recognition: "Diagnosis of Dying"

- Profound weakness
- Reduced intake of food/fluids
- Difficulty swallowing oral medication
- Drowsy or reduced cognition
- Essentially bedbound



Explore awareness of patient/family, including children

Encourage open communication and expression of emotions.

Consider cultural/spiritual care needs of patient/family.

Negotiate appropriate treatment

Stop medication, treatment and monitoring not needed for symptom control.

Review artificial hydration/nutrition. Overhydration increases respiratory secretions: reduce or stop.

Continue frequent mouth care. Transfer to appropriate bed/mattress.

Record resuscitation status in notes. Review if condition changes.

Agree place of terminal care (home, hospital, hospice)

If being discharged home, plan carefully to ensure adequate support.

Involve family, GP, district nurse, occupational therapist, social worker early in discharge planning.

Refer to the Palliative Care service for advice, if complex discharge.

Screen for unfinished business

Often legal (e.g. making a will), financial, interpersonal or spiritual.

Refer as appropriate.

Identify those at increased risk in bereavement

- Previous multiple losses or recent losses
- Circumstances of death
- Ambivalent or dependent relationship
- Dependent children
- Low self-esteem, living alone, feeling unsupported
- Previous mental illness, psychological problems, substance abuse

Refer to Palliative Care service, chaplain or social worker as appropriate.

Practical and Legal Aspects before and after death:

Explain to relatives if Fiscal must be informed (e.g. industrial diseases [mesothelioma], sudden or unexpected death, post-operative death, inadequate care or treatment).

Ensure prompt provision of death certificate and cremation forms.

Inform the patient's own GP of death within 24 hours.

Notify consultant(s), hospice team, other professionals.

Make arrangements for viewing the body in ward, mortuary or funeral director's.

Offer an opportunity for the family to see the doctor/nurse involved in patient's care.

Symptom Control in the Last Days of Life:

Prescribe medication for symptom control by an appropriate route(s) (Oral, PR, SC, IM)

Prescribe as required drugs for:

Pain/Breathlessness	If opioid naïve: normal release oral morphine 2-2.5mg, & diamorphine 1.25-2.5mg, SC or use the equivalent of 1/6 of the 24 hour dose of the patient's regular opioid
Nausea/vomiting	cyclizine 50mg SC/IM or levomepromazine 2.5mg SC, 6-8 hourly
Restlessness/anxiety	midazolam 2.5-5mg SC, 1-2 hourly or diazepam 10mg PR, 6-8 hourly
Confusion/agitation	haloperidol 2.5-5mg SC or levomepromazine 12.5-25 mg SC
Respiratory secretions	hyoscine butylbromide 20mg SC, or glycopyrronium 400 micrograms SC
Acute terminal events	(e.g. bleeding, choking) midazolam 10-20mg IV or IM

Causes of terminal confusion/agitation include:

- Infection
- Hypoxia
- Psychological distress
- Drugs (opioid toxicity; neuroleptics; acute withdrawal of antidepressants, steroids, alcohol, nicotine)
- Metabolic (uraemia, hypercalcaemia, low sodium, glucose (low or high), liver failure)
- Physical (pain, urinary retention, bleeding, faecal impaction)

Medication in the Last Days of Life

Drug	24 Hour Dose	Comments
Analgesics		
Morphine (oral) Diamorphine (SC)	Opioid dose depends on previous requirements	<u>Opioid analgesics should not be used to sedate dying patients.</u>
Fentanyl TTS patch		To convert to SC diamorphine, use 1/3 of 24 hour oral morphine dose. Seek advice. <u>Do not discontinue</u> when patient is dying. (see <i>Fentanyl guideline</i>)
NSAIDS (oral, PR, SC)		Bone/soft tissue pain. Continue if previously important for pain control. (e.g. diclofenac 100mg PR or ketorolac SC)
Antiemetics		
Metoclopramide (oral, IM) Levomepromazine (oral, SC)	30-80mg 5-25mg	Prokinetic, useful in peristaltic failure, avoid if colic present Broad spectrum antiemetic, sedative at higher doses
Sedatives		
Midazolam (SC)	2.5-80mg	Anxiolytic, muscle relaxant (5-10mg), anticonvulsant (20-30mg), sedative (10-80mg). Short acting (1-2hrs) so use SC in a syringe driver to maintain symptom control.
Diazepam (PR) (rectal solution)	10-30mg	Anxiolytic sedative. Anticonvulsant. Useful if longer duration of action needed, or syringe driver not an option.
Levomepromazine (SC)	25-100mg	Potent, antipsychotic sedative. Reduces seizure threshold; combine with a benzodiazepine.
Haloperidol (oral, SC)	5-10mg	Antipsychotic. Less sedative than levomepromazine. Extrapyramidal side effects at higher doses.

Antisecretory drugs (SC) (for respiratory secretions)

Hyoscine butylbromide (SC)
(Buscopan)

Syringe driver dose
40-120mg/24hrs

First line. Short acting. Give 20mg SC – review at 30mins.
If effective, give 1-2 hourly prn or use a driver.

Glycopyrronium bromide
(SC)

1200
micrograms/24hrs

Not sedating. Less CNS side effects.

Hyoscine hydrobromide (SC)

400-1200
micrograms/24hrs

Longer acting. Give 400 micrograms SC, then 6-8 hourly
prn. Not sedating. Less CNS side effects.

Sedative. Risk of agitation/confusion in conscious patient.
Give 400 micrograms SC, then 2-4 hourly, or use a driver.

Drugs used as a subcutaneous infusion in a syringe driver

Guidance for use of the charts

- The recommended diluent is stated at the top of each chart.
- Other drug combinations and doses are sometimes recommended by palliative care specialists. Any prescription that includes drugs or doses other than those listed in the drug information charts should be used only in consultation with a palliative care specialist. Any recommendation given by the palliative care specialist should be clearly documented in the patient's notes.
- Evidence is lacking for chemical stability of a number of drug combinations. Physical stability data is available from a number of sources and is used by practitioners to support clinical practice. Advice on this controversial issue is available from the specialist palliative care pharmacists or the community pharmacy palliative care network.

Good Practice Points

- Protect drug mixtures from direct light.
- Always check for signs of incompatibility; precipitation, cloudiness, particles, colour change.
- A new syringe should be prepared every 24 hours; unless advised by a palliative care specialist.

Chart 1

Single drug subcutaneous infusion and drug prescribing information

Diluent: Water for injection

Consider sodium chloride 0.9% for single drug infusions if site reactions occur (note exceptions*)

Single agent	Indications and Dose	Comments
Cyclizine 50mg in 1ml	<u>Indication:</u> nausea and vomiting due to intestinal obstruction or intracranial disease Dose: 50-150mg/24hrs	<ul style="list-style-type: none">• Can cause redness and irritation around subcutaneous site• Anticholinergic side effects * Incompatible with sodium chloride 0.9%
Dexamethasone Sodium Phosphate 5mg in 1ml	<u>Indication:</u> intractable nausea and vomiting or raised intracranial pressure Dose: 2.5-20mg/24hrs	<ul style="list-style-type: none">• SC dexamethasone should be prescribed as dexamethasone sodium phosphate• When changing from oral to SC, the same dose of dexamethasone as used orally is given as dexamethasone sodium phosphate subcutaneously• Insomnia occurs at higher doses• Consider giving dexamethasone as a once or twice daily SC bolus injection
Diamorphine Hydrochloride 5mg, 10mg, 30mg, 100mg, 500mg ampoules	<u>Indication:</u> Opioid responsive pain when the oral route is not available Dose: See guideline; Equivalent analgesic doses	* Incompatible with sodium chloride 0.9% at doses > 40mg/ml
Glycopyrronium Bromide 200 micrograms in 1ml	<u>Indication:</u> second line for secretions or colic Dose: 400-1200 micrograms/24hrs	<ul style="list-style-type: none">• Non-sedative anticholinergic• Longer duration of action than hyoscine
Haloperidol 5mg in 1ml 10mg in 2ml	<u>Indication:</u> opioid or metabolic induced nausea, delirium Dose: 2.5-10mg/24hrs	<ul style="list-style-type: none">• Extrapyramidal side effects at higher doses and in chronic use• Antipsychotic • Long half life• Can be given SC bolus injection once daily * Incompatible with sodium chloride 0.9%

Hyoscine Butylbromide 20mg in 1ml	<u>Indication:</u> intestinal obstruction (colic, vomiting) & first line for secretions Dose: 40-120mg/24hrs	<ul style="list-style-type: none"> • Non-sedative anticholinergic • Reduces intestinal colic and peristalsis • Some antisecretory effect in GI tract
Hyoscine Hydrobromide 400 micrograms in 1ml 600 micrograms in 1ml	<u>Indication:</u> second line for secretions Dose: 400-1200 micrograms/24hrs	<ul style="list-style-type: none"> • Sedative anticholinergic • Can cause agitation and confusion
Ketorolac 10mg in 1ml 30mg in 1ml	<u>Indication:</u> bone pain/inflammation when other routes not available Dose: 10-30mg/24hrs	<ul style="list-style-type: none"> • Initiated under supervision of palliative medicine specialist • Gastrointestinal toxicity
Levomepromazine 25mg in 1ml	<u>Indication:</u> Antiemetic dose: 5-25mg/24 hours Terminal restlessness dose: 25-100mg/24hrs	<ul style="list-style-type: none"> • Sedating at higher doses, ↓BP: use low doses • Long acting: can give SC once or twice daily • Protect syringe and line from sunlight • Reduces seizure threshold
Metoclopramide 10mg in 2ml	<u>Indication:</u> nausea and vomiting especially due to gastric stasis/outlet obstruction, opioid induced nausea Dose: 30-120mg/24hrs	<ul style="list-style-type: none"> • Prokinetic • Avoid if complete intestinal obstruction suspected or patient has colic • Extrapyramidal side effects if prolonged use and/or high dose
Midazolam 10mg in 2ml	<u>Indication:</u> terminal restlessness/anxiety and seizures/myoclonus Dose: 5-30mg/24hrs, up to 80mg/24hrs for heavy sedation	<ul style="list-style-type: none"> • Anxiolytic (5-10mg/24hrs) • Muscle relaxant (5-10mg/24hrs) • Anticonvulsant (20-30mg/24hrs)
Octreotide 200micrograms/ml (5ml multidose vial)	<u>Indication:</u> intractable vomiting due to intestinal obstruction, fistula discharge Dose: 300-900 micrograms/24hrs	<ul style="list-style-type: none"> • Potent antisecretory agent in GI tract • Does not treat nausea • Try antiemetics & hyoscine butylbromide first • Third line; high cost • Excess hydration reduces effectiveness

Chart 2

Combination of diamorphine and a second drug for use over 24 hours in a subcutaneous infusion

Diluent: Water for injection

Drug Combination	Chemical stability of two drug combinations		
	8ml in 10ml syringe	14ml in 20ml syringe	17ml in 30ml syringe
Diamorphine Cyclizine	160mg 150mg	280mg 150mg	340mg 150mg
Diamorphine Dexamethasone sodium phosphate*	400mg 4.2mg	700mg 7.4mg	850mg 8.9mg
Diamorphine Glycopyrronium bromide	200mg 600 micrograms	350mg 1050 micrograms	425mg 1200 micrograms
Diamorphine Haloperidol	800mg 10mg	–	–
Diamorphine Hyoscine butylbromide	1200mg 120mg	–	–

Diamorphine	1200mg	–	–
Hyoscine hydrobromide	1200 micrograms		
Diamorphine	47mg	82mg	90mg
Ketorolac	30mg	74mg	90mg
Diamorphine	400mg	700mg	850mg
Levomepromazine	80mg	100mg	100mg
Diamorphine	1200mg	2100mg	2550mg
Metoclopramide	40mg	70mg	85mg
Diamorphine	400mg	700mg	850mg
Midazolam	16mg	28mg	34mg
Diamorphine	200mg	350mg	425mg
Octreotide	900 micrograms	900 micrograms	900 micrograms

* Can precipitate if undiluted drugs are mixed during preparation

Chart 3

Combination of diamorphine and two other drugs for use over 24 hours in a subcutaneous infusion

Diluent: Water for injection

Drug Combination	Chemical stability of three drug combinations			Comments
	8ml in 10ml syringe	14ml in 20ml syringe	17ml in 30ml syringe	
Diamorphine Cyclizine Haloperidol	160mg 150mg 10mg	280mg 150mg 10mg	340mg 150mg 10mg	
Diamorphine Dexamethasone Haloperidol	400mg 3.2mg 8mg	700mg 5.6mg 10mg	850mg 6.8mg 10mg	Only stable if diamorphine and haloperidol are diluted well before dexamethasone is added
Diamorphine Dexamethasone Metoclopramide	400mg 3.2mg 24mg	700mg 5.6mg 42mg	850mg 6.8mg 51mg	
Diamorphine Haloperidol Midazolam	560mg 4mg 32mg	980mg 7mg 56mg	1190mg 8.5mg 68mg	
Diamorphine Levomepromazine Metoclopramide	400mg 80mg 24mg	700mg 100mg 42mg	850mg 100mg 51mg	

