

THE PALLIATIVE CARE HANDBOOK

Advice on clinical management

SIXTH EDITION

WESSEX PALLIATIVE PHYSICIANS

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INTRODUCTION

Palliative care:

- is the active total care of patients and their families, usually when their disease is no longer responsive to potentially curative treatment, although it may be applicable earlier in the illness;
- provides relief from pain and other symptoms;
- aims to achieve the best possible quality of life for patients and families;
- responds to physical, psychological, social and spiritual needs;
- extends as necessary to support in bereavement.

This handbook contains guidance to help GPs, community nurses and hospital staff as well as specialist palliative care teams. It aims to provide a checklist for the management of common problems in palliative care, with some information on drug treatment. It is **not** a comprehensive textbook. Further advice can be sought from the specialist staff identified on the back cover or from any hospice or specialist palliative care unit. More detailed drug information may be found in the British National Formulary (BNF), or from the Palliative Care Formulary (PCF), see below.

National Service Frameworks for heart failure, renal failure and other conditions are increasingly emphasising the importance of providing good palliative care to these patient groups as well as to those with cancer. The material in this Handbook is intended to apply across a range of diagnoses.

Cautionary note: some of the drug usage recommended is outside product licence, whether by way of indication, dose, or route of administration. However, the approaches described are recognised as reasonable practice within palliative medicine in the UK. The rINN names for drugs are used throughout.

Abbreviations

Routes:	csci	= continuous subcutaneous infusion (by a syringe driver).
	sl	= sublingual.
	sc	= subcutaneous injection.
	po	= by mouth.
Timings:	om, nocte	= each morning, each night.
	od, bd	= once, twice daily.
	tds, qds	= three, four times times daily.
	q4h, q6h	= every four, six hours.

Further reading

- The Oxford Textbook of Palliative Medicine (3rd edition, eds Doyle D, Hanks GW, Cherny N, Calman K) considers all aspects of palliative care in greater detail, and gives an entry into the literature.
- The Palliative Care Formulary (eds Twycross R, Wilcock A, Charlesworth S, Dickman A), available online at www.palliativedrugs.com, gives more detailed advice on the drugs used in palliative care.

GENERAL PRINCIPLES OF SYMPTOM MANAGEMENT

- Accurate and full assessment is essential for both diagnosis and treatment.
- Be aware of the importance of non-physical factors in symptomatology - emotional, psychological, social and spiritual problems are often mixed together with physical symptoms.
- When symptoms are difficult to control there may be more than one cause, or there may be hidden emotional, psychological, social and spiritual factors.
- Use appropriate therapies to maintain the best possible quality of life and independence, and to allow patient and carers to focus on other important issues.
- Be careful that drug side effects do not become worse than the original problem.
- Sensitive explanation and inclusion of patient and carers in decision making are essential parts of symptom management.
- A multiprofessional approach is essential, and may be facilitated by the use of a drug card and/or a shared information card.
- Consider referral for a specialist palliative care opinion:
 - if there is a problem which does not respond as expected;
 - in complex situations which may benefit from specialist expertise;
 - for support for the hospital or primary health care team.
- **Continually reassess.**

GUIDANCE FROM NICE ON SPECIALIST PALLIATIVE CARE

The National Institute for Clinical Excellence (NICE) has made the following statements in its Supportive and Palliative Care Guidance. The full Guidance can be seen at www.nice.org.uk.

A significant proportion of people with advanced disease experience a range of complex problems that cannot always be dealt with effectively by generalist services. Hospices and specialist palliative care services have been established across the country over the past four decades to help minimise these problems.

Areas of expertise within specialist palliative care to which patients and carers may need access include:

- unresolved symptoms and complex psychosocial issues for patients with advanced disease;
- complex end of life issues;
- complex bereavement issues.

Specialist palliative care should be available to those with any diagnosis, not only those with cancer. Services should as a minimum include specialist palliative care inpatient facilities and hospital and community teams. Advice should be available on a twenty-four hour, seven days a week basis.

PAIN

Diagnosis

Accurate diagnosis of the cause(s) of pain is necessary for a rational approach to therapy. There are many components to pain and all relevant physical, psycho-social and spiritual factors need to be taken into account. It must not be assumed that pain has been caused by the primary diagnosis: debility, previous treatment and unrelated causes must also be considered.

The analgesic ladder approach (see over) is the basis for prescribing in all types of pain, but careful choice of appropriate adjuvant drugs will increase the chance of effective palliation.

Causes / Risk Factors

- | | |
|----------------|--|
| 1 Physical | Nociceptive pain caused by somatic, visceral or bone injury.
Neuropathic pain caused by nerve injury. |
| 2 Non-physical | Anger, anxieties, fears, sadness, helplessness.
Spiritual, social and family distress. |

Assessment

Obtain the patient's own description and assessment of their pain(s):

- | | |
|----------------------------------|---|
| 1 What is the pain like? | <ul style="list-style-type: none">• site and radiation - a body diagram is helpful;• character - list the patient's descriptors;• intensity - use a severity or rating scale;• exacerbating and relieving factors;• effect on function and sleep. |
| 2 What is causing the pain? | <ul style="list-style-type: none">• the disease, by direct invasion, pressure, etc;• the treatment, eg constipation, mucositis;• debility, eg pressure sores, muscle stiffness;• unrelated pathologies, eg vascular disease. |
| 3 Is it a specific type of pain? | <ul style="list-style-type: none">• bone - worse on movement, weight bearing;• nerve - burning or shooting, radiates;• liver - hepatomegaly, RUQ tenderness;• raised ICP - headache worse lying down;• colic - intermittent, cramping. |
| 4 Other factors | <ul style="list-style-type: none">• psychological, social and spiritual distress. |

All pains have a significant psychological component, and fear, anxiety and depression will all lower the pain threshold. Remember also the likely effects of life changes associated with terminal disease including loss of financial security, loss of body image and compromised sexual function. Together with more existential and religious uncertainties, these factors can have a major impact on the way a person perceives and copes with pain.

Management

The World Health Organisation (WHO) 'analgesic ladder' emphasises that:

- analgesics should be given regularly;
- it is essential to use an analgesic appropriate to the severity of the pain;
- a patient whose pain does not respond to weak opioids needs management with strong opioids;
- all patients taking opioids should also be prescribed laxatives;
- the oral route is preferred for all steps of the ladder;
- additional methods of pain control **must** be considered in all patients.

Step 1	Step 2	Step 3
Mild pain Non-opioid	Moderate pain Weak opioid +/- non opioid	Severe pain Strong opioid +/- non opioid
Co-analgesia Adjuvant drugs - see pp 14-15 Nerve blocks, TENS, relaxation, acupuncture		
Specific therapies Radiotherapy, chemotherapy, surgery		
Address psychological problems		

Step 1 Non opioids

Paracetamol: oral or rectal (500mg-1g qds, maximum 4g per day).

NSAIDs: useful for any pain aggravated by movement;
risk/benefit balance must always be considered;
renal impairment is common with NSAIDs;
relatively contra-indicated in heart failure;
gastric protection with misoprostol or PPIs is advisable;
choice of NSAID is largely dictated by local preference:

- ibuprofen (200-400mg tds or qds, maximum 2.4g per day);
- diclofenac (tabs SR 75mg bd, supps 100-150mg daily);
- naproxen (tabs 500mg bd).

Step 2 Weak opioids

Codeine 30mg with paracetamol 500mg (co-codamol 30/500), 1-2 qds.

Tramadol 50-100mg qds or tramadol MR 100-200mg bd.

Other weak opioids include dihydrocodeine, but this offers no advantages.

Step 3 Strong opioids (see following pages).

USE OF STRONG OPIOIDS

Morphine remains the first-line opioid of choice.

- 1 To gain control of the pain:
 - A If using normal release morphine (elixir or tablets), give it every 4 hours, usually 2.5-10mg, with prn doses equal to the 4-hourly dose. The eventual effective dose may range from 2.5mg to more than 200mg but only a minority will need more than 30mg 4-hourly.
 - B If using modified release morphine, give 10-30mg q12h, with prn doses of immediate release morphine one third as large as the 12-hourly dose. Note that pain control may take longer to achieve.
- 2 Titrate the dose to achieve pain relief, increasing the dose by 30-50% every 2-3 days, or sooner if needed. A typical dose sequence is: 5 - 10 - 15 - 20 - 30 - 40 - 60 - 90 - 120 - 150 - 200mg.
- 3 Reassess pain control daily:
 - a treatment log kept of analgesic doses and degree of pain is helpful;
 - there is no 'maximum' dose if the pain is morphine responsive.
- 4 Once pain is controlled, consider changing a 4-hourly regime to modified release morphine: the 12-hourly dose will be three times the 4-hourly dose. As an example, normal release morphine in a dose of 10mg q4h is equivalent to modified release morphine 30mg q12h. In either case, the prn dose for breakthrough pain will be the same as the 4-hourly dose, in this example 10mg (see p10).
- 5 With either method of initial titration:
 - elderly patients and those with renal or hepatic impairment (see p12) are likely to need lower or less frequent doses;
 - review doses regularly: if using two or more breakthrough doses, increase the regular dose as suggested below;
 - increase dose by 30-50% increments each day until pain controlled or side effects prevent further increase. Doses can be rounded up or down according to individual need and to reduce number of tablets;
 - avoid unwieldy doses such as 22.75mg which lead to confusion and error.
- 6 Wait for 30 minutes after breakthrough medication to assess response; if pain continues, the patient requires a full reassessment.
- 7 Use continuing pain as an indication to increase the dose but remember that not all pains are fully opioid responsive. Patients with persisting side-effects, eg drowsiness, vomiting, confusion, should be reviewed. If both pain and side-effects are present, consider other approaches.
- 8 To avoid confusion between preparations with names that seem similar to patients, and to ensure consistent bioavailability, we recommend that both immediate release and slow release preparations, as well as transdermal analgesics, are prescribed by their **trade name**.

Instructions to the patient and carer

- 1 Emphasise the need for regular administration.
- 2 Explain about breakthrough medication.
- 3 Warn about possible side effects.
- 4 Reassure that when used for pain relief, morphine is not addictive and that its use does not prejudice future pain relief.

Unwanted effects of strong opioids

- 1 **Constipation** is virtually inevitable - use prophylactic laxatives (see p25).
- 2 **Nausea** is fairly common in opioid naïve patients, particularly at higher doses. Sometimes clears after one week but may then recur if dose increased. May need antiemetic, eg haloperidol 1.5mg nocte, cyclizine 50mg tds.
- 3 **Drowsiness** normally clears within 7 days; if persistent reduce dose, and/or consider other options. Respiratory depression is not seen unless very drowsy.
- 4 **Hallucinations** may occur, particularly if the dose is too high.
- 5 **Other troublesome symptoms include** dry mouth, itching, sweating.
- 6 **Signs of excess opioid (seek advice):**
 - increasing drowsiness;
 - vivid dreams/hallucinations;
 - muscle twitching/myoclonus/jerking;*
 - hyperalgesia on light touch.*

These problems may occur with any opioid but are seen especially with morphine when there is moderate to severe renal impairment, dehydration or infection. The myoclonus and hyperalgesia are not reversed by naloxone.

Changing from one opioid to another

When oral administration is not possible because of dysphagia, vomiting or weakness, consider changing to a transdermal formulation (see p11) or to a subcutaneous infusion using a syringe driver (see pp10, 28). The dose conversion from oral morphine to subcutaneous morphine (total daily dose) is normally taken as 2:1, while that from oral morphine to subcutaneous diamorphine varies between 3:1 and 2:1 allowing some flexibility depending on the requirement for increased or decreased opioid effect.

If there is difficulty achieving good pain control without unacceptable side effects, changing the strong opioid may be helpful. However, most problems can be solved by improving the titration, or using adjuvant drugs. Seek specialist advice:

- when converting from higher doses of one opioid to another as conversion ratios may be different at higher doses;*
- when pain persists but there is opioid toxicity;*
- when converting to or from methadone.*

Morphine preparations

Immediate release oral morphine:

- Oramorph liquid 10mg/5ml, 100mg/5ml.
- Sevredol tablets 10mg, 20mg, 50mg.
- Oramorph unit dose vials 10mg/5ml, 30mg/5ml, 100mg/5ml.

Modified release oral morphine:

- Zomorph capsules† 10mg, 30mg, 60mg, 100mg, 200mg (q12h).
- MST Continus tablets 5mg, 10mg, 15mg, 30mg, 60mg, 100mg, 200mg (q12h).
- MST Continus suspension 20mg, 30mg, 60mg, 100mg, 200mg (q12h).

Contents of sachets to be mixed with water. Expensive.

- Morphesic SR tablets 10mg, 30mg, 60mg, 100mg (q12h).
- MXL capsules† 30mg, 60mg, 90mg, 120mg, 150mg, 200mg (q24h).
- Morcap SR capsules† 20mg, 50mg, 100mg (q12h probably better than q24h).

† indicates that capsule can be opened and contents sprinkled on food or drink

Morphine sulphate injection 10mg, 15mg, 20mg, 30mg per 1ml ampoule.

Morphine suppositories 10mg, 15mg, 20mg, 30mg.

Other oral and injectable strong opioids

See overleaf for a Table of equivalent potencies.

Diamorphine has been the strong opioid of choice for parenteral use because of its greater solubility than morphine. However, there have recently been supply problems. Maximum recommended concentration is 250mg/ml. Subcutaneous diamorphine is 2 to 3 times more potent than oral morphine (see p10). In addition there is some anecdotal evidence that diamorphine may be more effective than morphine in neuropathic pains, even when given by mouth.

a) Tablets 10mg (immediate release, q4h).

b) Ampoules 5mg, 10mg, 30mg, 100mg, 500mg. Dissolve in water for injection.

Oxycodone is available for oral and injectable use, and may be useful in those who cannot tolerate morphine, although the side effect profile is similar.

a) OxyNorm liquid, 5mg/5ml, 50mg/5ml (immediate release, q4h).

b) OxyNorm capsules, 5mg, 10mg, 20mg (immediate release, q4h).

c) OxyContin tablets, 5mg, 10mg, 20mg, 40mg, 80mg (modified release, q12h).

d) OxyNorm injection, 10mg/ml.

Methadone* may be useful in patients with pain poorly responsive to morphine or who have intolerable side effects. However, it has a variable metabolism and **dangerous accumulation** can occur. Steady state potency of oral methadone to morphine ranges from 3:1 to 10:1. Classically, dose titration is achieved using a prn regime over a period of 5-7 days before switching to a 12-hourly regime. It can be useful in both nociceptive and neuropathic pain where there is unacceptable opioid toxicity or too rapid dose escalation, and in difficult pain syndromes. **Its use is best restricted to those with extensive experience.**

Hydromorphone* is structurally similar to morphine: its place is uncertain.

- a) Palladone capsules† 1.3mg, 2.6mg (4-hourly);
- b) Palladone SR capsules† 2mg, 4mg, 8mg, 16mg, 24mg (12-hourly).
Hydromorphone injection is available on special order. It is highly soluble and is useful when diamorphine cannot be given.
- c) Hydromorphone injection 10mg/ml, 20mg/ml, 50mg/ml.

† indicates that capsule can be opened and contents sprinkled on food or drink

Alfentanil* has a rapid onset but short duration of action. It may be useful for treatment of procedure pain such as dressing changes either by subcutaneous injection or as a buccal spray. It can be given by syringe driver particularly in patients with renal failure who exhibit neuro-excitability reactions with other opioids. It is approximately 10 times more potent than injected diamorphine. Use diamorphine prn for breakthrough pain, in a dose that is twice the 24-hourly dose of alfentanil.

- a) Rapifen injection 500mcg/ml, 2ml amp; Rapifen 5mg/ml, 1ml amp.

Oral transmucosal fentanyl citrate (OTFC) lozenges (Actiq) are difficult to titrate and are expensive. Other approaches are usually available.

We do not recommend pethidine for regular use in chronic cancer pain. For conversion from pethidine to morphine seek specialist advice.*

Relative potencies of various opioid analgesics by different routes

This table provides only an approximate guide to opioid equivalents, because comprehensive data are lacking. Doses always need to be re-titrated after a change of opioid. Breakthrough dose is normally 1/6th the total dose over 24 hrs.

Drug and route of administration	Dose ratio	Total dose, mg/24 hrs		
Oral codeine	12	360	-	-
Oral tramadol	5	150	400	-
Oral morphine	1	30	90	240
Subcutaneous morphine	1/2	15	45	120
Subcutaneous diamorphine	1/3	10	30	80
Oral oxycodone	1/2	15	45	120
Subcutaneous oxycodone	1/3	10	30	80
Oral hydromorphone	1/8	4	12	32
Subcutaneous hydromorphone	1/16	2	6	16
Subcutaneous alfentanil	1/30	1	3	8

Strong opioids available for transdermal use

These can be useful especially when there is vomiting, difficulty swallowing, or intractable constipation despite laxatives. However, they are expensive and will only be of benefit in opioid responsive pain. Note that:

- dose titration is difficult unless dose requirements are known;
- there is a possibility of withdrawal symptoms when converting from morphine, which respond to small doses of immediate release oral morphine;
- they are unsuitable for initial titration or acute pain, because it takes 18-36 hours for plasma levels to reach steady state after applying a patch and 18 hours for them to fall by 50% after removal;
- breakthrough analgesia must be provided;
- constipation, nausea and sedation are less than with morphine.

Practicalities:

- patients converting from 4-hourly normal release morphine must continue regular morphine for the first 12-24hr;
- patients converting from 12-hourly modified release morphine should apply the first patch at the same time as taking the final 12-hourly dose;
- normal release opioid should always be prescribed for breakthrough pain;
- the dose of the patch should not be changed within the first 2 days of application or of any change in dose;
- laxatives should be reduced by up to 50% and then titrated to need;
- patients should be warned that they may experience more breakthrough pain in the first 1-3 days;
- see p52 for advice on the use of transdermal fentanyl at the end of life.

Fentanyl

- a) Durogesic DTrans 12mcg/hr, 25mcg/hr, 50mcg/hr, 75mcg/hr, 100mcg/hr (every 72 hours). Fentanyl may be given by csci via a syringe driver, and is equipotent with the transdermal route (eg 50mcg/hr patch equivalent to 1.2mg/24hr by csci).

Buprenorphine is now available in transdermal patch formulations. Experience is limited and the manufacturer's product guide should be used to inform prescribing. The partial agonist effect of this drug is not seen at conventional doses, and morphine may be used for breakthrough analgesia.

- a) Transtec patch 35mcg/hr, 52.5mcg/hr, 70mcg/hr (every 72 hours);
b) BuTrans patch 5mcg/hr, 10mcg/hr, 20mcg/hr (every 7 days).

Buprenorphine is also available as a sub lingual tablet and injection.

Oral morphine (total mg/24 hrs)	30	60	90	180	240
Oral morphine for breakthrough (mg)	5	10	15	30	40
Transdermal fentanyl (microgram/hr)	-	25	37	50	75
Transdermal buprenorphine (microgram/hr)	35	35	52.5	105	140

OPIOIDS AND RENAL OR HEPATIC IMPAIRMENT

A number of metabolites of morphine accumulate in renal impairment, leading to sedation and neuromuscular excitation, manifested as:

- increasing drowsiness;
- vivid dreams/hallucinations;
- muscle twitching/myoclonus/jerking;*
- hyperalgesia on light touch or on being turned.*

This is an important cause of ‘terminal agitation’. It is not reversed by naloxone. In patients with loss of muscle bulk, serum creatinine measurement may significantly underestimate the degree of renal impairment. Any degree of myoclonus in the presence of a plasma urea > 15mmol/l should raise suspicion of morphine metabolite toxicity. It may respond to a reduction in the dose and/or frequency of administration, but it is often better to switch to an opioid which does not accumulate in renal impairment such as fentanyl, buprenorphine or alfentanil (not dialysed).

Opioid toxicity may also occur in hepatic impairment, but clinical difficulties do not usually arise unless the impairment is severe: prothrombin time (or INR) is a more sensitive indicator of severe impairment than standard liver function tests. All opioids can precipitate confusion and encephalopathy, but oral opioids will be particularly affected because of the loss of first pass metabolism. Careful re-titration is necessary using both a reduction in the dose and a lengthening of dose interval, while considering an alternative opioid. In the dying patient, maintenance of good analgesia remains the highest priority.

Opioid	Renal impairment		Hepatic impairment	
	Moderate	Severe#	Moderate	Severe#
morphine	Reduce dose	Avoid	Normal dose	Reduce dose
diamorphine	Reduce dose	Avoid	Normal dose	Reduce dose
fentanyl	Normal dose	Normal dose	Normal dose	Reduce dose
hydromorphone	Reduce dose	Reduce dose	Normal dose	Reduce dose
oxycodone	Reduce dose	Avoid	Normal dose	Reduce dose
methadone	Normal dose	Normal dose	Normal dose	Reduce dose
alfentanil	Normal dose	Normal dose	Normal dose	Reduce dose
buprenorphine	Normal dose	Normal dose	Normal dose	Reduce dose

Always seek specialist advice in cases of severe renal or hepatic impairment.

OPIOIDS AND DRIVING

Doctors have a legal responsibility to advise patients if a disability is likely to make them a danger when driving. Taking morphine for medicinal reasons does not automatically disqualify from driving, but the following advice should be given.

- Do not drive for at least two days, and preferably five, after starting morphine or after an increase in dose.
- Inform the insurance company. If this is not done and there is an accident, the patient may find they are not covered, irrespective of fault.
- Remember that it is not only the reaction time that is important. Weakness will significantly increase the time taken to move from accelerator to brake.
- Check fitness to drive by taking a trusted companion as a passenger and driving for 10-15 minutes on quiet roads. If both parties are happy, it is reasonable to drive for short distances.
- Driving while under the influence of a drug is an offence under Section 4 of the Road Traffic Act 1988, and conviction carries an automatic penalty of disqualification from driving.

NON-PHARMACOLOGICAL APPROACHES TO PAIN

A Emotional and spiritual support

- 1 Always make a careful assessment of the pain:
 - assess each pain and identify the likely cause;
 - 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;
 - ensure that both patient and carer understand the use of their medication.
- 2 Consider what this pain means for this person, within their previous experience of illness in themselves and others.

B Help to develop coping strategies

There is an extensive literature on developing coping strategies in chronic pain which may be useful within the palliative care setting when pain is intractable. They are based on acceptance of the pain and the maintenance of normal activity. Many chronic pain clinics have clinical psychologists who specialise in this field.

C Relaxation techniques and creative therapies

These may be available through a number of staff working in the professions allied to medicine, for example physiotherapists and occupational therapists, and also through complementary therapists.

D Acupuncture or transcutaneous electrical nerve stimulator (TENS).

ADJUVANT TREATMENTS FOR SPECIFIC PAINS

A Bone pain

- 1 Consider early referral for palliative radiotherapy - usually a single fraction is effective. Patients with multiple sclerotic metastases may benefit from radioactive isotope treatment.
- 2 NSAIDs may be effective but beware side effects: discontinue if not helping. Gastro-protective agents (proton pump inhibitor or misoprostol) should be prescribed to patients also taking corticosteroids and those with a history of GI side-effects or who are at extra risk of peptic ulceration for another reason.
- 3 IV infusions of bisphosphonates* may reduce pain in patients with bone metastases, especially from breast and prostate cancer and myeloma: pamidronate 60-90mg or zoledronic acid 4mg every 3-4 weeks, depending on identified response.
- 4 Consider referral for orthopaedic surgery and internal fixation for lytic metastases at risk of fracture.
- 5 When pain in a long bone is severe and of sudden onset, consider the possibility of a pathological fracture: obtain Xray and consider orthopaedic opinion.

B Abdominal pain

- 1 Constipation is a common cause; avoid assuming pain must be due to cancer.
- 2 For colic use an anticholinergic such as oral propantheline or subcutaneous hyoscine butylbromide 20-120mg/24hrs usually by syringe driver. Note that hyoscine butylbromide is poorly absorbed when taken orally.
- 3 For liver capsule pain consider dexamethasone 4-8mg/day in combination with opioids, with or without NSAID.
- 4 For pain arising from an upper abdominal tumour consider coeliac plexus block (see p16).
- 5 Remember that NSAIDs are a common cause of iatrogenic abdominal pain.

C Rectal pain

- 1 Exclude constipation by abdominal and rectal examination.
- 2 Tenesmus and deep seated pelvic pains may respond to amitriptyline or dosulepin.
- 3 Local or systemic steroids.
- 4 Drugs for relief of muscle spasm:
 - nifedipine immediate release capsules 10-20mg orally or sl after opening.
 - glyceryl trinitrate ointment 0.1-0.2% bd.
 - benzodiazepines, eg diazepam 2-10mg nocte.
- 5 Local radiotherapy may be beneficial especially if steroid treatment is successful.
- 6 Consider nerve blocks (see p16).

D Neuropathic pain

Often aching in nature, sometimes burning or shooting, and may be worse after movement or at night. May not respond in a predictable way to pain-relieving medication. May presage cord compression, especially at the level of the thoracic spine. Specialist palliative care team or chronic pain team will be happy to advise and referral is suggested at an early stage. Note that drowsiness may be a dose limiting side effect for all tricyclic antidepressants and for antiepileptics.

- 1 Titrate to maximum tolerated dose of opioid.
- 2 Amitriptyline 10-25mg or dosulepin 25mg nocte initially; increase dose to maximum tolerated (normally 75mg) and stop if no benefit after 7 days at that dose. SSRIs do not appear to be of benefit.
- 3 According to response either add or substitute antiepileptic; discontinue if no benefit after 5 days on highest dose tolerated:
 - gabapentin starting at 300mg/day (100mg/day in elderly) and increasing by that amount every 1-3 days to a maximum 3600mg/day; give in divided doses; reduce dose in renal impairment;
 - carbamazepine 200-1200mg/day (benefit often limited by side effects);
 - clonazepam starting at 500mcg nocte;
 - sodium valproate 400-800mg/day;
 - pregabalin may have a role but experience is limited; no confirmed benefit over gabapentin.
- 4 Dexamethasone 4-8mg daily - stop if no improvement after 5 days.
- 5 Other approaches that may be considered include: TENS, acupuncture, neural blockade and other pharmacological approaches including clonidine*, ketamine*, methadone*, midazolam*. Specialist advice recommended.

E Muscle pain

- 1 Muscle relaxants: diazepam, baclofen, clonazepam, dantrolene, tizanidine.
- 2 Physiotherapy, aromatherapy, relaxation, heat pad.

F Bladder spasm

- 1 Oxybutynin 2.5-5mg bd-qds, tolterodine 2mg bd.
- 2 Amitriptyline 10-75mg nocte.
- 3 NSAIDs.
- 4 If catheterized, intravesical bupivacaine 0.25%, 20mls for 15 mins tds.

G Acute pain of short duration

For example pain on moving a fractured limb or changing a painful dressing.

- 1 Immediate release oral morphine: give 1/6th total daily oral morphine dose.
- 2 Nitrous oxide (as Entonox).
- 3 Oral transmucosal fentanyl citrate* (expensive; dose difficult to predict).
- 4 Alfentanil* by sc injection or buccal spray (special order from Torbay Hospital Pharmacy), 0.25-0.5mg if opioid naïve.

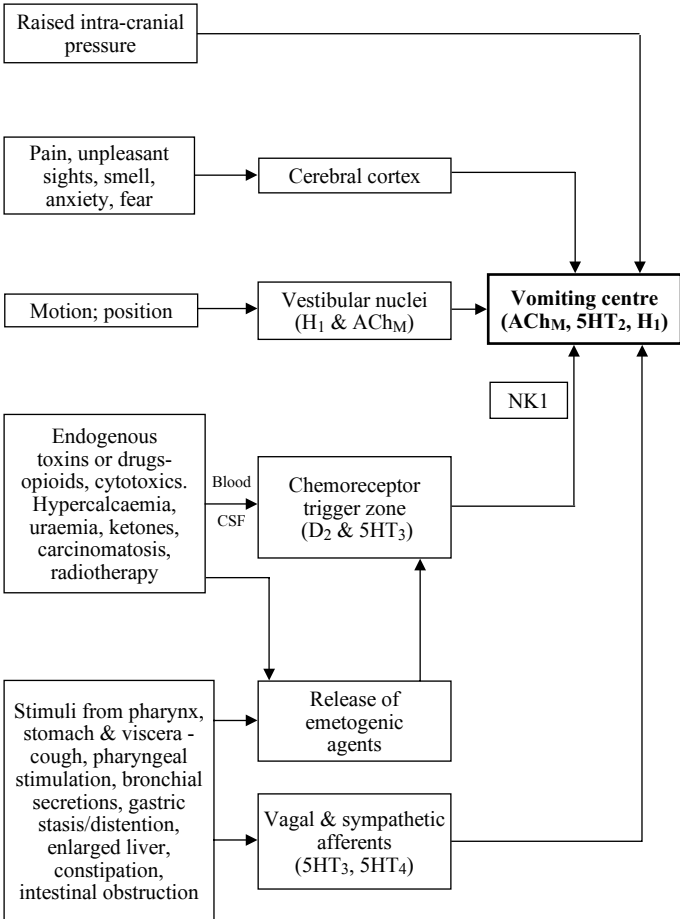
PAINS AMENABLE TO NERVE BLOCKS

Many pains are amenable to intervention by a pain management specialist anaesthetist. Neural blockade can be temporary with local anaesthetic or semi-permanent with neurolytic agents such as phenol. By reducing local inflammation, injected steroids are particularly useful when pain is due to compression of the nerve.

- 1 Intrathecal or epidural opioid and local anaesthetic infusions may help in difficult pains.
- 2 Back pain due to metastases often responds to epidural injection of high dose steroid and local anaesthetic. Caudal injections are easily performed and are useful for sacral pain. Thoracic and cervical epidurals are much more difficult.
- 3 Chest wall pain can be very difficult to control, especially when it occurs as a result of mesothelioma. Intercostal and paravertebral blocks are easy to perform, and success is claimed for cervical cordotomy or thoracic epidurals in very specialized hands.
- 4 Upper abdominal pain, especially due to pancreatic tumour, responds to coeliac plexus block in around 80%. This can be performed easily and under direct vision at laparotomy, or at any time under CT control.
- 5 Lower abdominal and pelvic pain - lumbar plexus block can give worthwhile benefit but with a lower success rate.
- 6 Hip pain may be helped by a variety of different procedures, including direct injection of local anaesthetic and steroid into the joint, psoas compartment block, and block of the obturator nerve together with the nerve to quadratus femoris.
- 7 Perineal pain - saddle anaesthesia using intrathecal phenol. Like all neurolytic techniques this is the province of the specialist.
- 8 Rib pain may be temporarily abolished by intercostal injection of local anaesthetic proximal to the lesion. Longer term benefit may result from infiltration with depot steroid. Care is needed but the technique is well within the capability of a trained non-specialist. If helpful, permanent block may be obtained with cryoprobe.
- 9 Pancoast tumour or other brachial plexopathy - brachial plexus block.

NAUSEA AND VOMITING

Mechanisms



Causes / Risk factors

There are many causes of nausea and vomiting and more than one cause may be identified in any particular patient. Mechanisms are outlined on the previous page. See next page for profiles of antiemetics.

Use appropriate non-drug measures such as ginger, psychotherapeutic techniques, acupuncture and Seabands, and treat the cause if possible. If drug-induced, consider stopping the drug, reducing the dose, or changing the route or formulation.

As with analgesia for pain control, antiemetics need to be given regularly for effective control of nausea and vomiting. Use the oral route for prophylaxis of nausea, but in established emesis use other routes (principally sc) for initial control.

Cause	Therapy
Raised intracranial pressure	Dexamethasone (see p35) Cyclizine
Anxiety	See section on anxiety, p39
Motion, positional	Cyclizine
Drugs, endogenous toxins	Hyoscine hydrobromide patch Haloperidol Prochlorperazine Levomepromazine Metoclopramide
Chemotherapy	Consult oncology colleagues Early: 5HT ₃ antagonists or prokinetics Delayed: dexamethasone, levomepromazine
Gastric stasis	Domperidone Metoclopramide Erythromycin
Gastric irritation	Review medication Antacids Proton pump inhibitors Misoprostol 400mcg bd if caused by NSAIDs
Indeterminate	Cyclizine Haloperidol Levomepromazine Dexamethasone 4-8mg om
Intestinal stasis	Metoclopramide 40-60mg daily
Constipation	See separate section p25
Intestinal obstruction	See separate section p20

Drug profiles

Cyclizine	<ul style="list-style-type: none">• H₁ antihistamine with anticholinergic action• 50mg tds orally or by im or sc injection (painful)• 100-150mg daily by csci (skin irritation)
Domperidone	<ul style="list-style-type: none">• dopamine D₂ antagonist and prokinetic• unlikely to cause sedation / extrapyramidal effects• 10-20mg tds orally• 30-60mg suppositories tds rectally
Haloperidol	<ul style="list-style-type: none">• pure dopamine D₂ antagonist• drug of choice for opioid induced vomiting• 1.5-5mg nocte, oral or sc• 2.5-5mg over daily by csci• may cause extrapyramidal effects
Hyoscine hydrobromide	<ul style="list-style-type: none">• antimuscarinic anticholinergic (AChM)• 0.3-0.6mg up to qds sl (Kwells) or sc• 0.8-2.4mg daily by csci (sedating)• 1mg every 72hr by transdermal patch
Levomopromazine	<ul style="list-style-type: none">• activity at multiple sites (5HT₂, AChM, D₂, H₁)• antiemetic at modest doses (5-25mg daily)• use lowest effective dose unless sedation required• usually given as single oral dose at night or by csci• can cause hypotension in susceptible patients
Metoclopramide	<ul style="list-style-type: none">• dopamine D₂ antagonist and prokinetic• 5HT₄ agonist (intestinal prokinetic)• 5HT₃ antagonist at high doses (> 100mg daily)• 10-20mg tds orally or im; may be given as csci
Prochlorperazine	<ul style="list-style-type: none">• predominantly D₂ antagonist, weak anti- AChM/H₁• 5-10mg tds orally or 3-6mg bd as buccal tablets• 12.5mg tds by deep im injection - do not give sc
5HT ₃ antagonists	<ul style="list-style-type: none">• ondansetron and others (see BNF Section 4.6)• used to control early emesis after chemotherapy• some are also licensed for postoperative emesis• cause constipation• avoid prolonged use
Corticosteroids	<ul style="list-style-type: none">• unknown mode of action• may help emesis of indeterminate cause• use dexamethasone 4-8mg od for 5 day trial
Neurokinin 1 antagonists	<ul style="list-style-type: none">• used as an adjunct in emetogenic chemotherapy

INTESTINAL OBSTRUCTION

Intestinal obstruction in association with advanced cancer is often complex and difficult to control. Early discussion with specialist palliative care team is recommended. Has both mechanical (intestinal narrowing) and functional (poor motility) elements.

Diagnosis

- 1 Range of symptoms depends on level of blockage, but these include:
 - vomiting often with little preceding nausea;
 - constipation, although some flatus and/or stool may still be passed;
 - abdominal distension and generalised discomfort;
 - colic may or may not be a feature;
 - bowel sounds may be hyperactive or scanty.
- 2 Examine previous operation notes; abdominal x-ray may be helpful.
- 3 Exclude simple constipation by rectal and abdominal examination.

Causes / Risk factors

- Most common with primary tumours of ovary and colon.
- May occur with almost any primary site, including breast and lung.
- Tumour mass within lumen.
- Tumour on peritoneal surface causing compression or adhesions.
- Infiltration within muscle coats preventing normal peristalsis.
- Damage to autonomic nerve plexuses by tumour infiltration of mesentery.
- Pancreatic carcinoma may cause gastric stasis by unknown mechanism.
- Adhesions, radiation fibrosis, metabolic disturbance, constipation, sepsis.

Management

This will depend on the site of obstruction; whether complete or incomplete; bowel motility; and the patient's wishes and general condition.

- 1 Consider surgery or stenting if there are clinical features to suggest a single site of obstruction, especially where colic is a prominent symptom, or where distension is such as to require venting.
- 2 If inoperable, aim to control symptoms without the need for continuous 'drip and suck' but:
 - a) nasogastric intubation or percutaneous venting gastrostomy may be preferred by patients with gastroduodenal obstruction where drug treatment has been unsuccessful;
 - b) hydration with 1 litre per day iv or sc may aid patient comfort.
- 3 Treat dry mouth (see p23).
- 4 Treat symptomatic gastro-oesophageal reflux.

5 Drug therapy

Constant abdominal pain

- Strong opioids, eg diamorphine by csci.

Colic

- Avoid/stop stimulant and bulking laxatives.
- Avoid prokinetic antiemetics (metoclopramide, domperidone).
- Hyoscine hydrobromide 300mcg qds sl (Kwells).
- Hyoscine butylbromide 40-120mg daily by csci.
- Loperamide may help, if able to take medication orally.

Nausea and vomiting

Aim to abolish nausea and to reduce vomiting to a minimum.

- Cyclizine 50mg tds po or by injection, or 150mg daily by csci.
 - Levomepromazine - see p19.
 - Haloperidol - see p19.
 - Metoclopramide may help where there is gastric stasis or ileus but is contraindicated in the presence of colic; the response is unpredictable if there has been a gastro-jejunostomy.
 - Anti-secretory agents.
- a) If high (gastroduodenal) obstruction:
- hyoscine butylbromide 40-120mg daily by csci reduces secretions;
 - H₂ blockers (ranitidine, nizatidine) reduce volume of gastric secretions.
- b) If small bowel obstruction consider:
- hyoscine butylbromide (see above);
 - octreotide* initially 300mcg daily by csci: reduces volume of intestinal secretions and inhibits motility. Effect may take several days to appear. The final effective dose is likely to be 200-800mcg per day.

Laxatives

- Check that lower rectum is empty.
- Do not use if there is complete obstruction.
- If there is partial intermittent obstruction, use pure faecal softeners to coax stool through narrowed loops of bowel: docusate sodium up to 200mg tds; magnesium hydroxide mixture 20-30 ml od or bd; macrogols (Movicol) 1 sachet up to tds.

Shrinkage of tumour masses

- Dexamethasone 4-8mg daily may help to relieve peri-tumour oedema and so relieve obstruction, particularly at the gastric outlet.
- Hormone/cytotoxic therapy is occasionally indicated if the patient's overall condition is good, especially in primary tumours of ovary, colon or breast.
- Radiotherapy is occasionally appropriate for low large bowel tumours.

MOUTH PROBLEMS

Good mouth care is essential to the well being of debilitated patients. Although mouth problems are very common (up to 90% of patients in some surveys), it is often a neglected area of care.

Diagnosis

- 1 Assess oral cavity daily using a pen torch and spatula. Note the state of the lips, teeth/dentures (remove the dentures for examination), mucous membranes and tongue, and also the type/volume of saliva.
- 2 Assess nutritional status - quality of diet and adequacy of fluid intake.
- 3 Assess mental state - will determine the patient's ability and willingness to participate in his or her care.

Causes / Risk factors

- 1 Dry mouth (xerostomia) especially from drugs (opioids, tricyclic antidepressants, antimuscarinics), dehydration (reduced intake or diuretics) and local radiotherapy.
- 2 Poor oral and dental hygiene.
- 3 Poor oral intake leading to decreased mastication.
- 4 Poor nutritional state, especially if leading to vitamin deficiencies.
- 5 Infections: viral, bacterial and fungal.
- 6 Some cytotoxics can cause mucositis and acute ulceration; radiotherapy can cause mucositis.
- 7 Corticosteroids and diabetes predispose to oral candidosis.
- 8 Oral tumours.

Management

- 1 Review medications causing dry mouth or other oral problems.
- 2 Treat oral infections.
- 3 Maintain frequent attention to good oral hygiene.
- 4 Provided mouth is clean, alcohol free chlorhexidine mouthwash may be used in debilitated patients - inhibits plaque formation and is antiseptic. Other mouth rinses are not recommended.
- 5 Maintain good denture care by cleaning and rinsing thoroughly. Dentures can be named by writing on them with a pencil and applying a coat of nail varnish.

Specific problems

Lack of good quality saliva

- 1 Salivary stimulants
 - Sugar free chewing gum;
 - Pilocarpine tablets 5-10mg tds (or eye drops 4%, 1-2 drops, flavoured to taste);
- 2 Saliva substitutes
 - Saliva Orthana (spray thoroughly);
 - Other gels and lozenges: see BNF 12.3.5.
- 3 Sips of iced water or cold milk may give short term relief.

Oral thrush

- 1 Increase the flow of saliva as described above.
- 2 Nystatin oral suspension: use an adequate dose to cover the mucous membranes-use 2-5ml at least qds for a 7-10 day course. Instruct patients to work well round the mouth and not to take food or drink immediately afterwards.
- 3 Fluconazole 50mg daily by mouth for 7 days. Less effective in xerostomia. Note that there is increasing resistance to triazole antifungals.
- 4 Ensure that dentures are cleaned and disinfected by using short soaks with sodium hypochlorite (Milton).
- 5 Swab confirmation of the organism and its sensitivities may be required if the infection is persistent.

Painful mouth

- 1 Treat infections - herpes orolingivitis is common and extremely painful.
- 2 Use soluble aspirin or other NSAID mouthwashes for symptomatic relief.
- 3 Aphthous ulcers may respond to local steroid, eg hydrocortisone pellets or Adcortyl in Orabase - apply topically (without rubbing in).
- 4 Gelclair gel or Sucralfate suspension for chemotherapy induced ulcers.
- 5 Local anaesthetic (lidocaine) spray.
- 6 Morphine solution (preferably not Oramorph as it is in an alcohol base and stings) either locally or systemically for severe mucositis.

Excessive salivation with drooling

- 1 May be helped by amitriptyline, hyoscine or glycopyrronium, but these may make the saliva unacceptably sticky, in which case propranolol should be considered.
- 2 Some units offer botulinum toxin injection to the salivary glands to reduce salivation.
- 3 In severe cases, radiotherapy to the salivary glands may be considered.

ANOREXIA

Diagnosis

- 1 A reduced interest in food which at its most severe may manifest as nausea.
- 2 Often associated with taste changes.
- 3 May increase (appetite diminishes) as the day goes on.
- 4 Distinguish from mouth problems, difficulties with swallowing, and early satiety due to gastric stasis.

Causes / Risk factors

- 1 Extensive malignancy (but occasionally occurs as a presenting symptom).
- 2 Uncontrolled symptoms.
- 3 Psychological, emotional and spiritual distress, especially depression.
- 4 Drugs, especially cytotoxics, digoxin.

Management

- 1 Treat nausea, pain and other symptoms.
- 2 Reduce psychological distress with support and counselling.
- 3 Treat depression using mirtazapine - SSRIs can increase anorexia.
- 4 Review drugs.
- 5 Aim to provide frequent, small, attractive portions within pleasant and social surroundings.
- 6 Drug therapy - if drugs are needed and there are no contra-indications:
 - alcohol before meals;
 - megestrol acetate 160-320mg daily: may take 2-3 weeks to respond;
 - dexamethasone 2-4mg or prednisolone 10-30mg each morning. Steroids should always be used with caution; see separate section, p56.

ANOREXIA/CACHEXIA SYNDROME

Diagnosis

- 1 A syndrome of loss of appetite, fatigue, and profound weight and muscle loss.
- 2 There is usually an associated rise in acute-phase proteins, eg CRP.

Causes / Risk factors

- 1 Usually associated with cancer but may occur with heart failure and chronic infection or inflammation.
- 2 Cytokine release leading to proteolysis, lipolysis, increased resting energy expenditure, and hypothalamic disturbances including anorexia.

Management

- 1 Correct associated problems (see above).
- 2 Gentle but regular exercise programme to reduce muscle loss.
- 3 Dexamethasone 2-4mg om or NSAIDs to reduce inflammatory process.
- 4 Megestrol acetate 160-320mg od to improve appetite.
- 5 Evidence is unclear on the place of fish oils (eg Maxepa) and nutritional supplements (eg Prosure), or anabolic steroids.

CONSTIPATION

Constipation is common in patients with advanced disease. It can cause abdominal pain and can lead to intestinal obstruction and urinary retention. Anorexic patients can become constipated due to accumulation of faecal matter formed from gut secretions, cells and bacteria. It is better to anticipate and prevent constipation than to wait until treatment is urgent.

Diagnosis

- 1 Passing harder and/or less frequent stools than normal.
- 2 Faecal impaction may present with overflow ('spurious diarrhoea').
- 3 Rectal examination: empty or impacted, collapsed or cavernous?
- 4 Exclude intestinal obstruction.

Causes/Risk factors

- 1 Drugs, especially opioids, tricyclic antidepressants, antispasmodics, ondansetron.
- 2 Inactivity, immobility, weakness, lack of privacy.
- 3 Dehydration due to poor fluid intake, vomiting, polyuria, fever.
- 4 Hypercalcaemia.
- 5 Concurrent disease including painful anal conditions, depression, diabetes.

Management

- 1 Reduce or eradicate underlying cause(s) as far as possible.
- 2 If general condition allows, mobilise and encourage fluids.
- 3 Drug treatments:
 - a) Use softeners if stool is hard, and stimulants if stool is not expelled.
 - b) Patients taking regular opioids will usually and routinely need both.
 - c) Macrogols are often sufficient on their own for those on opioids.

<i>Stimulants</i>	Senna 2-4 tablets nocte or bd. Bisacodyl tablets 5-20mg nocte or bd. Sodium picosulphate solution 5-10ml od/bd.
<i>Softeners</i>	Macrogols (Movicol) 1 sachet od or bd. Docusate sodium capsules 200mg nocte or bd.
<i>Combined preparations</i>	Codanthramer liquid or capsules (two strengths). Codanthrusate liquid or capsules.
<i>Osmotics</i>	Lactulose 10-15ml bd. Magnesium hydroxide 20-30ml od or bd.
- 4 One third of patients need suppositories or enemas for established constipation. If the rectum is loaded with hard stool use arachis oil retention enema overnight (enquire about peanut allergy) followed by Fletcher's phosphate enema.
- 5 Manual evacuation should be a last resort and should be discussed amongst the multiprofessional team. Consent must be obtained after full explanation, and sedation may be required. Local anaesthetic gel should be used. Use with caution in the presence of inflammatory bowel disease, spinal cord compression or anticoagulant therapy. May induce bradycardia.

DIARRHOEA

Diagnosis

The patient who speaks of ‘diarrhoea’ may either be referring to the frequency of bowel motions, or to the fact that motions are loose. An accurate history and examination are crucial: assess for watery/liquid stools usually with an increased stool frequency.

Causes / Risk Factors

- 1 Excess laxative use.
- 2 Impacted faeces with overflow (spurious diarrhoea).
- 3 Side effects of some drugs, eg chemotherapy, antibiotics.
- 4 Infections, including *Clostridium difficile*, *Candida* spp.
- 5 Partial intestinal obstruction.
- 6 Previous treatment: pelvic radiotherapy, extensive bowel resection.
- 7 On initiation of enteral feeding, especially by gastrostomy.
- 8 Pancreatic insufficiency, characterized by bulky, offensive stools which float.
- 9 Tumour effects, eg carcinoid, mucus secretion in rectal cancer.
- 10 Other conditions, eg inflammatory bowel disease, IBS, blind loop syndrome.

Management

- 1 Review all drugs, including laxatives and non-prescription drugs.
- 2 Screen for infections and prescribe antibiotics as appropriate.
- 3 Address dehydration if appropriate.
- 4 *Specific treatments*
Antibiotics for any infective cause.
Steroids given locally or systemically for radiation induced diarrhoea.
Pancreatic enzymes (Creon capsules; 3 strengths) for steatorrhoea.
Octreotide* (see p21) for faecal fistulae, carcinoid syndrome.
Metronidazole for bacterial overgrowth/blind loop syndrome.
- 5 *Symptomatic treatments*
Loperamide 2-4mg every 6 hours; binds to opioid receptors in gut.
Co-phenotrope (Lomotil) 2 tablets up to qds.
Codeine phosphate 30-60mg tds-qds.

FISTULAE

Management

- 1 Assess fistula size, site and type, and patient’s overall condition.
- 2 Prevent excoriation with a barrier product.
- 3 Collect effluent in a closed stoma bag. A good seal is needed to minimise leakage and odour. If necessary seek advice from stoma care nurses.
- 4 Metronidazole may be helpful if there is blind loop or overgrowth of anaerobes.
- 5 Surgical intervention may be appropriate.
- 6 Octreotide* by csci may be helpful in reducing effluent, see p21.

ASCITES

Diagnosis

- 1 Clinical assessment: progressive distension, shifting dullness, fluid thrill.
- 2 Abdominal ultrasound (with marking for paracentesis if appropriate).
- 3 Exclude tumour masses, organomegaly, distended bladder, intestinal obstruction.

Causes / Risk factors

- 1 Peritoneal metastases - may be associated with extra-abdominal primary sites.
- 2 Hypoalbuminaemia, usually associated with extensive liver metastases.
- 3 Secondary sodium retention.
- 4 Venous compression or thrombosis of inferior vena cava or hepatic vein.
- 5 Tumour blocking diaphragmatic lymph ducts.
- 6 Other concurrent disease, eg heart failure, cirrhosis.

Management

- 1 If symptoms are minor, explanation and reassurance may be sufficient.
- 2 Drug therapy
 - Analgesia* (from paracetamol up to strong opioids) for abdominal pain or discomfort of distension.
 - Antiemetics*: domperidone or metoclopramide for gastric stasis.
 - Cytotoxic chemotherapy* (local or systemic) may be appropriate, especially for primary carcinomas of ovary, breast or colon-see oncological advice.
 - Diuretics*: furosemide (especially if dependent oedema) 40-80mg od; spironolactone (especially if low albumin) 100-200mg od. Diuretics are less likely to be effective if due to peritoneal metastases. Monitor electrolytes and renal function.
 - Corticosteroids*: dexamethasone 2-4mg om may reduce fluid production.
 - Laxatives* as appropriate to treat constipation.
- 3 Paracentesis may be appropriate for patients with a tense, uncomfortable, distended abdomen, especially if associated with breathlessness. Can be repeated. Unsuccessful if fluid is loculated (suspect if little fluid thrill; consider ultrasound scan). Drain up to 5 litres of fluid per day: sudden release of abdominal tension may lead to venous decompression, hypotension and collapse. Remove drain after 1-3 days: there is no advantage in draining to dryness. If leakage continues after drain is removed, place stoma bag over puncture site.
- 4 Peritoneo-venous shunt (eg Denver or LeVeen shunt) may be considered for selected patients who require frequent paracentesis as electrolytes and albumin are conserved.

SYRINGE DRIVERS

A syringe driver is a small portable battery-powered pump which administers drugs subcutaneously by continuous infusion. It offers an alternative mode and route of drug administration with little impact on patient mobility or independence. By maintaining steady plasma levels a syringe driver may improve symptom control.

Indications

For administering medication when the oral route is difficult or inappropriate. If/when problems resolve, consider a return to oral medication.

- 1 Severe vomiting and/or nausea.
- 2 Dysphagia.
- 3 Severe oral tumours, sores, or infection.
- 4 Profoundly weak, unconscious, or sedated patient.
- 5 Poor absorption of orally administered medication.

Practical points

- 1 The syringe driver should be set according to the rate of infusion required and type of syringe driver used.
- 2 The rate is set to **millimetres of travel** per unit time, not volume. There are two types of syringe driver in common use: the Graseby MS26, which is set in mm/day (eg 48mm/24hrs) and the Graseby MS16 which is set in mm/hr (eg 2mm/hr). The line should be primed **before** measuring length.
- 3 Use a Luerlock syringe in syringe drivers. A 20ml syringe allows greater dilution and less risk of precipitation. For the MS16 driver, the syringe should be filled to a length of 48mm.
- 4 Label the syringe with the patient's name, drug(s) and dose(s), nature of diluent and the date and time commenced.
- 5 The syringe driver and insertion site must be checked **at least** once a day, and preferably every 4 hours in the hospital setting.
- 6 The boost button should not be used to administer breakthrough medication.
- 7 Use as few drugs in the syringe driver as possible (usually maximum of 3).
- 8 Site inflammation may occur as a result of irritant solutions or hypersensitivity to the cannula, especially if made of metal. Management strategies include changing the drug, changing the diluent, changing the site or changing the giving set from a metal butterfly to a plastic cannula. If problems persist, seek specialist advice.
- 9 Certain drug combinations may cause precipitation within the syringe. This may sometimes be overcome by the following strategies, but do not assume that lack of precipitation necessarily implies compatibility:
 - using a larger syringe to allow greater dilution;
 - using water rather than saline for dilution, or vice versa;
 - separating drugs into two syringe drivers;
 - drawing up dexamethasone last when used in combination;
 - substituting drugs with an equivalent alternative;
 - avoiding exposure to sunlight as non-observable reactions may occur.

Drugs used in the syringe driver

- Water or normal saline may be used as diluents; some drugs specifically require one or the other: check local policy or Palliative Care Formulary (see p3).
- Not all drug combinations are compatible: check with pharmacy or the Palliative Care Formulary.
- Do not use diazepam, prochlorperazine or chlorpromazine, which are irritant.
- All doses given are **per 24 hours**.

Cyclizine 100-150mg
Antihistamine and antimuscarinic antiemetic which acts at the vomiting centre. Often causes site irritation. Limited compatibility.

Dexamethasone Up to 16mg
Used to relieve raised intracranial pressure, liver capsule and neuropathic pain, and as antiemetic. May precipitate when mixed in syringe with other drugs.

Diamorphine 5-300mg
Preferred to morphine for sc use as it has greater solubility, see p9.

Glycopyrronium 200mcg-1.2mg
Used to reduce respiratory secretions if sedation is undesirable.

Haloperidol 2.5-10mg
Antidopaminergic antiemetic, see p19. Higher doses occasionally used in confusion, see p43. Extrapryramidal side-effects may occur with high doses.

Hyoscine butylbromide 20-120mg
Anti-spasmodic used to relieve intestinal colic. Useful for drying secretions and in intestinal obstruction through its antisecretory effect.

Hyoscine hydrobromide 400mcg-2.4mg
Useful for reducing secretions; some smooth muscle antispasmodic activity. An excellent sedative but may cause agitation or confusion (eg in elderly).

Ketorolac 30-90mg
Anti-inflammatory with powerful analgesic action.

Levomepromazine 5-25mg (antiemetic, see p19)
25-100mg (sedative, see p43)
Related to chlorpromazine but more potent.

Metoclopramide 30-60mg
Anti-emetic, see p19. Extrapryramidal effects may occur at higher doses.

Midazolam 5-60mg
Benzodiazepine sedative; antiepileptic; may be useful in neuropathic pain. Higher doses are only appropriate for terminal sedation.

Morphine 5-300mg
Specialist palliative care referral recommended at the top end of dose range.

Octreotide* 300-800mcg
Used in intestinal obstruction, see p21, and for fistulae, see p26.

Oxycodone 5-200mg
Alternative to diamorphine and morphine, but requires greater volumes.

BREATHLESSNESS

Breathlessness is usually multifactorial. Investigations such as chest x-rays, scans and blood tests may be of limited value. A therapeutic trial of medications, either singly or in combination, is often necessary to find out what works in an individual patient. There is inevitably a psychological component - being breathless is always frightening and patients often have unspoken fears about how they will die.

Causes / Risk factors

A Impaired gas exchange.

1 *Airflow obstruction*

a) Large airways:

tumour
extrinsic compression
laryngeal palsy
radiation stricture
lymphangitis carcinomatosa
COPD, asthma

b) Small airways:

2 *Decreased effective lung volume*

effusions
pneumothorax
extensive tumour
collapse
infection

3 *Increased lung stiffness*

gross abdominal distension
pulmonary oedema
lymphangitis carcinomatosa
fibrosis

4 *Decreased alveolar gas exchange*

pulmonary embolism
pericardial effusion
thrombotic tumour
fibrosis

5 *Pain*

pleurisy
chest wall infiltration
rib/vertebral fractures
liver capsule pain

6 *Neuromuscular failure*

paraplegia
chronic neuromuscular diseases
phrenic nerve palsy
cachexia
paraneoplastic syndromes

B Increased demand

1 *Anxiety*

2 *Anaemia*

3 *Metabolic acidosis*

Management

General treatments

Can be employed whilst investigating for an identifiable and correctable cause. General and specific managements should be used in parallel. Consider consulting the respiratory team.

A Non drug treatments

General and specific reassurance (that the patient will not suffocate).
Explanation of the mechanisms of breathlessness.
Fan or cool air across the face is often helpful.
Proper positioning for easier breathing.
Explore the significance of breathlessness for the patient.
Breathing exercises, relaxation training, } ‘pulmonary rehabilitation’ by
counselling and readaptation } physiotherapist/specialist nurse.
Acupuncture, aromatherapy, reflexology.

B Drug treatments

Nebulised saline often helps where there are tenacious secretions.

Opioids often help reduce the subjective sensation of breathlessness; there is no evidence that they shorten life. If opioid naïve, start on 2.5mg of oral morphine 4-hourly and titrate upwards. If the patient already takes morphine for pain, the dose may need to be increased by up to 50% for co-existing breathlessness. The use of nebulised opioids is not supported by scientific evidence; they may induce bronchospasm.

Benzodiazepines are often used in combination with opioids for their anxiolytic effect. Use diazepam 2-15mg daily for background control with addition of quick-acting lorazepam 0.5-2mg sublingually for acute crises and panic. Midazolam 2.5-10mg sc stat or 5-50mg daily by csci if patient is not able to take oral medication.

Oxygen has variable effects; it is difficult to predict who will benefit other than by therapeutic trial but patients with oxygen saturations < 90% usually benefit from oxygen. Best used in 10 minute bursts before or after exercise unless hypoxic at rest when continuous use may be appropriate. Nasal prongs may be preferred as masks can increase anxiety by inducing feelings of claustrophobia.

C Refractory dyspnoea

Refractory dyspnoea is distressing for patients and their families. It may result in an exhausted patient who is too frightened to sleep. For patients in the last days of life with no hope of improvement, the multiprofessional team should consider the use of terminal sedation. This should be discussed with the patient and in many cases will be a welcome option.

D Decisions about ventilation

Where a patient is considered to be at risk of respiratory failure, the risks and benefits of mechanical ventilation should be considered and, where appropriate, discussed with the patient, in order to avoid emergency decisions about ventilation. In the majority of cases ventilation will not be required. Careful documentation of the decision is necessary.

E Sudden major airway obstruction

This is a palliative care emergency requiring urgent sedation, eg midazolam 10mg iv or sc. The cause should then be treated if possible.

Specific treatments

- 1 Steroids such as dexamethasone 4-8mg daily may be useful in airway compression by intrinsic or extrinsic tumour, post radiation stricture or fibrosis, bronchoconstriction, and lymphangitis carcinomatosa.
- 2 Radiotherapy/brachytherapy, endoscopic laser/diathermy, endobronchial stents may reduce intrinsic or extrinsic compression of large airways.
- 3 Antibiotics for infection, if appropriate - symptomatic medication can be given whether antibiotics are prescribed or not.
- 4 Drainage of pleural effusion with or without pleurodesis.
- 5 Paracentesis of ascites, and/or diuretics with steroids (see p27).
- 6 Chest drain for pneumothorax.
- 7 Diuretics for pulmonary oedema.
- 8 Inhaled bronchodilators can be helpful for patients with carcinoma of bronchus who may have previously undiagnosed COPD.
- 9 Hyoscine or glycopyrronium for drying excess upper airway secretions.
- 10 Anticoagulation for pulmonary emboli. Warfarin is potentially hazardous in malignant disease, has many drug interactions, and needs meticulous monitoring. Low molecular weight heparin given by sc injection is safer and is more effective in those with advanced cancer. Inappropriate in those with a high risk of bleeding and those with very advanced disease.
- 11 Aspiration of pericardial effusion with or without formation of a pericardial window.
- 12 Analgesics - pain on respiration can lead to inadequate ventilation. Opioids, NSAIDs, nerve blocks, radiotherapy and rarely cordotomy may be appropriate for chest wall pain.
- 13 Vocal cord injection for laryngeal nerve palsy - seek ENT opinion.
- 14 Blood transfusion should be considered if haemoglobin < 9.5 g/dl.
- 15 Physiotherapy for bronchiectatic secretions.
- 16 Tracheostomy and non-invasive ventilation can contribute to improved quality of life in carefully selected patients.
- 17 Helium/oxygen mixture can improve stridor as it is less dense than air.

COUGH

Diagnosis

- 1 Ask about sputum (and if possible observe) - quantity, consistency, colour.
- 2 Is cough affected by position?
- 3 Examine chest. Chest x-ray may be helpful.
- 4 PEFV to check for reversibility: bronchospasm may present with cough.

Causes / Risk factors

- 1 Nasopharyngeal - post-nasal drip, candidosis, tumour.
- 2 Laryngeal - tumour, inflammation, infection.
- 3 Bronchial - inflammation, tumour, infection, ACE inhibitors, tracheo-oesophageal fistula.
- 4 Pulmonary - pneumonia, alveolitis, abscess, bronchiectasis, oedema, post-radiation fibrosis.
- 5 Pleural - pleural effusion.
- 6 Mediastinal - tumour, lymphadenopathy.
- 7 Gastric reflux - with or without frank aspiration.

Management

Treat the cause where possible.

- 1 More upright body position.
- 2 Steam inhalations, nebulised saline qds for thick secretions.
- 3 Chest physiotherapy where appropriate.
- 4 Treat infections unless the chest infection is a terminal event.
- 5 Radiotherapy may help if cough is caused by tumour.
- 6 Drug therapy

General:

- a Inhalations: tinct benz co, menthol & eucalyptus.
- b Simple linctus.
- c Low dose oral opioids: codeine, methadone (as linctus), morphine.

Specific:

- a Nasopharyngeal - post-nasal drip: antibiotics, nasal steroid spray.
- steroids via inhaler.
- b Laryngeal - local anaesthetics* via nebuliser - bupivacaine 0.5%, 5ml tds, at least 30 minutes before any food or drink; risk of idiosyncratic bronchospasm, may be severe.
- c Bronchial - bronchodilators in standard doses.
- steroids orally, inhaled or nebulised.
- local anaesthetics* (see above).
- d Gastric reflux - antacids containing simeticone.
- prokinetic agents (see p19).

HICCUP

Causes / Risk factors

- 1 *Peripheral (diaphragmatic or phrenic nerve irritation)*
 - Gastric distension or irritation.
 - Liver enlargement/involvement.
 - Intrathoracic nodes/tumour.
- 2 *Central (medullary stimulation)*
 - Raised intracranial pressure.
 - Brain stem CVA/tumour.
 - Uraemia.

Management

- 1 Rebreathing with a paper bag (raises pCO₂ levels).
- 2 Drinking cold water or taking a teaspoon of granulated sugar (pharyngeal stimulation).
- 3 Phrenic nerve block for intractable hiccup.
- 4 Drug therapy
 - Peripheral causes: metoclopramide 10mg tds-qds;
domperidone 10-20mg 4-8 hourly;
antacids containing simeticone;
dexamethasone 4-8mg od;
ranitidine 150mg bd;
proton pump inhibitors;
 - Central causes: haloperidol 0.5mg od-tds;
diazepam 2mg tds or midazolam by csci;
dexamethasone 4-8mg od;
chlorpromazine 10-25mg tds.

None of these treatments is consistently reliable.

RAISED INTRACRANIAL PRESSURE

Diagnosis

- 1 Severe headache worse when lying down or straining.
- 2 Vomiting, convulsions, mental symptoms, diplopia, restlessness.
- 3 Papilloedema may be present.
- 4 CT/MRI scan may be appropriate.

Causes / Risk factors

- 1 Cerebral metastases (common with some primaries, eg lung, breast, melanoma, and rare with others, eg prostate).
- 2 Primary cerebral tumour.
- 3 Other causes - abscess, cerebro-vascular accident, sagittal sinus thrombosis, secondary hydrocephalus following surgery.

Management

- 1 Raise head of the bed.
- 2 Drug therapy:
Dexamethasone up to 16mg per day; benefit appears at a threshold of effect rather than being dose-related. Avoid doses after 2pm as may contribute to insomnia. Gradually reduce dose to minimum effective (see p56), monitoring carefully to check that symptoms remain controlled. Withdraw dexamethasone if no improvement after 7 days on 16mg daily. Carbamazepine and phenytoin may reduce therapeutic effect by 50% as a result of enzyme induction.

Antiepileptics should be considered in the presence of cerebral malignancy, but normally reserved for those who have had fits. See p36.

Analgesics for headache.

- 3 Consider cranial irradiation for malignancy if there is a good response to dexamethasone, and overall prognosis warrants it.

FITS

Diagnosis

- 1 Identify whether grand mal, focal fit/absence or status epilepticus.
- 2 Exclude syncopal attacks, cardiac arrhythmias, TIAs etc.

Causes / Risk factors

- 1 Previous epilepsy, brain trauma/surgery, brain tumours or metastases.
- 2 Drugs lowering epileptic threshold: eg phenothiazines, tricyclics, tramadol.
- 3 Drug interactions: antiepileptics have many variable and unpredictable interactions; they also reduce the effect of steroids. Plasma levels of phenytoin and carbamazepine can be checked; allow one week after any dose change for plasma levels to reach steady state.
- 4 Drug withdrawal, eg steroids, alcohol.
- 5 Metabolic disturbance, eg hypoxia, hyponatraemia, hypoglycaemia.

Management

Prevention of fits

- 1 Phenytoin 200-400mg nocte adjusted according to plasma level;
Carbamazepine initially 100-200mg od/bd increasing by 100-200mg every 2 weeks to 800-1200mg per day;
Sodium valproate initially 100-200mg bd/tds increasing every 3 days to 1-2 grams per day.
Avoid combination therapy if possible.
- 2 If unable to take oral medication:
midazolam 10-60mg daily by csci;
carbamazepine suppositories bd (note 125mg pr is equivalent to 100mg po).
- 3 Dexamethasone 8-16mg per day if brain tumour or metastases.

Grand mal convulsions

- 1 First aid precautions, explanation and reassurance.
- 2 Diazepam rectally 10-20mg or midazolam intranasally or buccally 5-10mg.

Status epilepticus

- 1 Outside hospital: diazepam rectally 10-20mg;
midazolam 5-10mg intranasally, buccally or slowly iv
and repeat as necessary after 15-20 minutes.
- 2 In hospital: lorazepam 4mg iv;
consider iv infusion of phenytoin or phenobarbital.

SPINAL CORD COMPRESSION

Diagnosis

Occurs in 5-10% of patients with advanced cancer. It is therefore essential to be alert for early signs, which can be subtle (eg heaviness of the legs). Do not wait for signs to become unequivocal: **early diagnosis** and **urgent treatment** within hours are vital to improved outcome, mobility and continence. Once paralysed, only 5% walk again, but some survive more than one year.

- 1 Often back pain with or without radiation in the territory of a nerve root, followed by leg weakness, sensory changes and bladder or bowel disturbance, but can be any combination of these.
- 2 If at thoracic level, there is likely to be a sensory level with brisk reflexes; if cauda equina compression, reflexes may be diminished.

Causes / Risk factors

- 1 Epidural invasion from vertebral body metastases or paravertebral nodes.
- 2 Bony deformity from vertebral body collapse.
- 3 Blood borne epidural or intradural metastases.
- 4 Primary spinal cord tumour.

Management

Depending on patient's general condition:

- 1 Immediate:
 - dexamethasone 16mg per day;
 - emergency MRI scan, or CT scan if MRI unavailable;
 - urgent referral to clinical oncologist and discuss with neuro/spinal surgical team.
- 2 a) If gradual onset, or if rapid onset but paraplegia present less than 24 hours, surgical decompression may be possible; otherwise radiotherapy.
b) If rapid onset and established paraplegia, radiotherapy may not help except for pain relief.
- 3 Established paraplegia:
 - pressure area care;
 - urinary catheter;
 - bowel regulation - allow some constipation and use regular enemas or suppositories;
 - physio and OT assessment - wheelchair, home modifications;
 - consider prophylaxis against venous thrombosis;
 - psychological readjustment.
- 4 Specialist palliative care assessment for management and/or rehabilitation is recommended.

DEPRESSION

It is important to distinguish between clinical depression, profound sadness and dementia. Be aware that many of the usual somatic symptoms of depression such as anorexia, weight loss and sleep disturbance may already be present in patients with malignant disease. Depression may be hidden behind a brave but hollow smile or even overt joking. A therapeutic trial of antidepressants may be acceptable.

Diagnosis

Biological symptoms

- Diurnal variation in mood; may be agitation.
- Sleep disturbance, especially with frequent or early morning waking.
- Anorexia that does not improve with steroids.

Psychological symptoms

- Persistent, pervasive low mood with loss of pleasure and enjoyment.
- Morbid guilt, feelings of helplessness and worthlessness/low self esteem.
- Suicidal ideas and intentions.

Causes / Risk factors

- 1 Past history of depression.
- 2 Need to adjust to many life changes over a short period of time.
- 3 Poor symptom control.
- 4 Immobility and isolation with poor quality of life and lack of support.
- 5 Inadequate or inaccurate information about illness or prognosis.
- 6 Drugs-corticosteroids (predominantly on withdrawal), some cytotoxics, some anti-hypertensives, some neuroleptics, benzodiazepines.

Management

- 1 Minimise the causes, especially 3-5 above.
- 2 Provide psychological support.
- 3 Drug therapy is recommended in moderate to severe depression. NICE guidance is that first line treatment should be with an SSRI. Alternatives within palliative care would include mirtazapine, amitriptyline and dosulepin. If there is a lack of response or unacceptable side effects, consider a switch to another SSRI or to mirtazapine.

ANXIETY

Diagnosis

- 1 Feeling of being on edge, restless or agitated, apprehension.
- 2 Inability to concentrate.
- 3 Physical effects such as sweating, tachycardia, staring eyes with dilated pupils.
- 4 Anxiety may be a presenting feature of an underlying depression.

Risk factors

- 1 Past history of anxiety.
- 2 Poor symptom control.
- 3 Inadequate/inaccurate information.
- 4 Unfamiliar surroundings.
- 5 Steroid treatment/salbutamol therapy.
- 6 Withdrawal of drugs eg opioids/benzodiazepines.
- 7 Uncertainty about the future.
- 8 Concern for family/finances etc.

Management

- 1 Support for patient and family.
- 2 Appropriate information and discussion with patient and family.
- 3 Relaxation techniques and complementary therapies.
- 4 Drug therapy
Diazepam 2mg bd and 5mg at night - for short term use.
Propranolol 40mg bd to tds for somatic symptoms.
Lorazepam 1-2mg given sublingually may be helpful in panic attacks.
If the patient is unable to swallow or has a syringe driver for other reasons, consider midazolam 10-20mg daily by csci.

INSOMNIA

Diagnosis

Insomnia is a subjective complaint of poor sleep. This can mean insufficient, interrupted or non-restorative sleep or sleep at the wrong time. It is important to distinguish between an inability to get to sleep (part of anxiety spectrum; responds to anxiolytics) and a tendency to wake early or repeatedly (part of depression spectrum; responds to some antidepressants).

Causes / Risk factors

- 1 Anxiety or depression.
- 2 Poor symptom control.
- 3 Nocturia.
- 4 Environmental changes - inpatient admission, interruptions by staff.
- 5 Fear - eg of going to sleep or of nightmares. Beware of well-intentioned reassurance that 'you will die in your sleep'.
- 6 Drugs - stimulants (caffeine etc), steroids (worse if given after 2pm), diuretics, opioids (nightmares & hallucinations), fluoxetine, propranolol (nightmares).
- 7 Drug withdrawal - alcohol, benzodiazepines, barbiturates.

Management

- 1 Minimise the causes - control symptoms as far as possible, keep interruptions to a minimum, reduce drug therapy or give stimulants early in the day, counsel about fears and anxieties.
- 2 Establish a good sleep pattern - allow a siesta to prevent going to bed too early.
- 3 Encourage a consistent bedtime ritual.
- 4 A warm milky drink at bedtime may help.
- 5 Encourage relaxation techniques.
- 6 Drug therapy (all given as a single dose at night).
Lormetazepam (0.5-1.5mg) or temazepam (10-20mg) - for short-term use.
Zopiclone (3.75-7.5mg) or zolpidem (5-10 mg) may have fewer residual effects than benzodiazepines.
Clomethiazole (1-2 capsules) has a short duration of action.
Amitriptyline (10-100mg) or dosulepin (25-75mg) if repeated or early morning waking.

DROWSINESS

Causes / Risk factors

Organic

- 1 Disease progression and likely impending death.
- 2 Infection, especially within respiratory and urinary tracts.
- 3 Raised intracranial pressure.

Biochemical

- 1 Metabolic abnormalities:
 - uraemia, especially if on opioids;
 - hyper/hypoglycaemia;
 - hypercalcaemia;
 - hyponatraemia;
 - hepatic failure;
 - respiratory failure (blood gas analysis likely to be inappropriate).
- 2 Drugs:
 - opioids, tricyclic antidepressants, benzodiazepines, antimuscarinics, antihistamines.

Other

- 1 Fatigue.
- 2 Insomnia.
- 3 Psychological withdrawal.
- 4 Post-ictal.

Management

- 1 Assess accurately; if the patient is near to death due to advanced disease, further interventions are unlikely to be appropriate.
- 2 Correct physical causes listed above if indicated.
- 3 Review doses of opioids and other sedative drugs.
- 4 Drug therapy
 - Dexamethasone up to 16mg daily for raised ICP.
 - Antidepressants for retarded depression (see p38).
 - Dexamethasone 2-4mg daily may act as stimulant.

CONFUSION

Delirium is typified by confusion, often with visual illusions or hallucinations, together with increased or decreased psychomotor activity and fluctuating level of consciousness. It must be distinguished from **dementia**, which is associated with poor short-term memory and no impairment of consciousness, which will not be considered here.

Diagnosis

- 1 Disturbance of consciousness with reduced ability to focus attention.
- 2 Generalised impairment of cognition affecting memory, orientation, attention and planning and organisational skills.
- 3 Short history (usually hours to days) often with fluctuation during the day.
- 4 Evidence from the history, examination, or investigations that there may be a physical cause.

Causes / Risk factors

- 1 Age and pre-existing cognitive deficit.
- 2 Drugs-eg opioids, tricyclic antidepressants, antimuscarinics, any sedative drug, baclofen; corticosteroids may cause a syndrome resembling hypomania.
- 3 Infection, especially within respiratory and urinary tracts.
- 4 Biochemical abnormalities - see list under Drowsiness, p41.
- 5 Environment changes - excessive unfamiliar stimuli, inpatient admission, social isolation.
- 6 Poor symptom control - pain, constipation, urinary retention, anxiety, depression.
- 7 Alcohol or drug withdrawal.
- 8 Intracerebral causes: space-occupying lesions, infections, strokes.

Opioid toxicity exacerbated by uraemia* dehydration or infection is an important cause of confusion and hallucinations. Look for constricted pupils, myoclonic jerks, skin hyperaesthesia. See p12.

Management

- 1 Treat or minimise the possible causes, especially drugs and infections.
- 2 Minimise stimuli: nurse in a room with diffused lighting, little extraneous noise, and few staff changes.
- 3 Attempt to keep patient in touch with reality and environment - eye contact and touch are often helpful.
- 4 Allay fear and suspicion - explain all procedures, don't change position of patient's bed, if possible have a friend or relative of patient present.
- 5 Stress that patient is not going mad and that there may well be lucid intervals.
- 6 Drug therapy
Oxygen if cyanosed/hypoxic-consider if pulse oximetry shows oxygen saturations are < 90%.
Dexamethasone up to 16mg per day if cerebral tumour or raised ICP.

If paranoid, deluded, agitated or hallucinating

- 1 Haloperidol 1.5-5mg up to tds; may be given orally, im or by csci.
- 2 Levomepromazine 12.5-50mg up to tds, may be given orally, im or by csci.
- 3 Atypical antipsychotics (eg risperidone 1-2mg nocte - use with caution in dementia as increased risk of CVA). Review early as symptoms may be exacerbated by sedative effects. Watch for extrapyramidal side-effects especially in the elderly.
- 4 Midazolam 10-60mg daily by csci if still very agitated despite above measures.

RESTLESSNESS

This may be akin to delirium in someone very close to death, or may occasionally reflect unresolved psychological or spiritual distress, especially if this has previously been a problem.

Causes / Risk factors

- 1 Physical discomfort: unrelieved pain, distended bladder or rectum, inability to move, insomnia, uncomfortable bed, breathlessness.
- 2 Drugs: opioid toxicity (especially in conjunction with renal impairment), hyoscine hydrobromide, phenothiazines.
- 3 Infection.
- 4 Raised intracranial pressure.
- 5 Biochemical abnormalities: hypercalcaemia, uraemia, hypoxia.
- 6 Psychological/spiritual distress - anger, fear, guilt. Beware especially if patient has been unwilling to discuss illness.

Management

- 1 Must be a multi-professional approach involving family or main carers.
- 2 Accurately assess the patient.
- 3 Ameliorate all physical elements if possible, eg analgesia, catheterisation.
- 4 Listen to the patient and discuss anger, fear and guilt if possible.
- 5 May be very distressing for the family who will need much support. Their presence may help or may worsen the patient's agitation.
- 6 If there are hallucinations or frank delirium, see p43.
- 7 Drug therapy
 - Midazolam - 10-60mg per 24 hours by csci or in divided doses sc (but only lasts ~ 2 hours).
 - Levomepromazine - 25-150mg per 24 hours orally or by csci.
 - Diazepam - 10-60mg per 24 hours orally or pr.
 - Phenobarbital - 200-1200mg per 24 hours by csci or im in divided doses (long half-life, so dose interval may lengthen).

ITCH

Causes/Risk factors

Histamine mediated

1 Allergies, acute urticaria, insect bites, parasites eg scabies, fleas.

Histamine unrelated (unlikely to respond to antihistamines)

- 1 Hepatic disease: eg biliary obstruction.
- 2 Chronic renal failure.
- 3 Lymphoma.
- 4 Paraneoplastic phenomenon.
- 5 Skin diseases, eg eczema, psoriasis.
- 6 Graft versus host disease after allogeneic bone marrow transplant.
- 7 Iron deficiency.
- 8 Systemic opioid therapy.

Management

- 1 Alleviate causes if possible.
- 2 Avoid provocative influences eg rough clothing, vasodilators, overheating.
- 3 Try to break the itch/scratch cycle - clip nails, cotton gloves, paste bandages.
- 4 Add a handful of sodium bicarbonate to a cool bath. Pat rather than rub dry.
- 5 Avoid washing with soap and bubble bath; use a pH balanced soap substitute or emollient bath additives (see BNF section 13.2.1.1).
- 6 Apply emollients topically (see BNF section 13.2.1) to combat dryness.
- 7 Apply topical anti-pruritic lotions (see BNF section 13.3 or use menthol 1% in aqueous cream).
- 8 Drug therapy
 - Antihistamines chlorphenamine 4mg qds;
loratadine 10mg od (non-sedating).
 - In obstructive jaundice stenting for common bile duct obstruction;
aluminium hydroxide mixture 15ml tds;
colestyramine 4-8g daily (in intrahepatic stasis);
rifampicin* 150-300mg od (enzyme inducer);
danazol* 200mg od;
naltrexone* 25mg od (reverses opioids).
 - In uraemia UVB phototherapy;
naltrexone* 25mg od (reverses opioids).
 - In lymphoma chemotherapy/radiotherapy; corticosteroids;
cimetidine 400mg bd.
 - In polycythaemia r v aspirin 75-150mg od.
 - Paraneoplastic pruritus paroxetine 5-20mg daily (frequent nausea);
mirtazapine 7.5-15mg nocte.
 - Other drugs ondansetron 8mg od (for opioid induced itch);
gabapentin* 100-300mg tds (for neuropathic itch).
- 9 Consider early advice from dermatologist or palliative care physician.

SWEATING

Causes/risk factors

- 1 Fever.
- 2 Environmental changes.
- 3 Emotional - fear and anxiety (confined to axillae, palms, and soles).
- 4 Extensive malignancy, lymphomas and carcinoid.
- 5 Autonomic disturbance.
- 6 Intense pain.
- 7 Drugs - opioids, antidepressants (older and newer), steroids, alcohol.
- 8 Hormonal disturbance - menopause, tamoxifen, goserelin.

Management

- 1 Treat the underlying disease, including infections where appropriate.
- 2 Stop causative drugs - try alternatives.
- 3 Alter environment - fans, reduce room temperature, avoid heavy bedclothes, wear cotton clothes rather than synthetic or mixed fibres, use moisture absorbing mattress covers, frequent baths or sponging.
- 4 Psychological support for anxiety
- 5 Drug therapy

Various drugs have been used with varying success.

Paracetamol 1g qds (for night pyrexias).

NSAIDs: diclofenac SR 75mg nocte-bd, naproxen 250-500 mg bd;
note it may be useful to switch to a different NSAID where one drug has failed.

Cimetidine 400-800 mg nocte (be aware of interactions).

Corticosteroids: dexamethasone 2-4 mg daily.

Beta-blockers: propranolol 40 mg od to qds.

Anticholinergics: propantheline 15 mg nocte-tds, oxybutynin 2.5-5mg bd,
glycopyrronium by csci.

Antidepressants: eg amitriptyline 10-75 mg nocte.

Thalidomide* 100-200mg nocte (in malignancy).

Clonidine 25mcg od-bd for hormonal disturbance if HRT not appropriate.

PRESSURE AREA CARE

Causes/risk factors

- 1 Extrinsic factors - pressure, shear, friction, maceration, incontinence.
- 2 Immobility, malnutrition, dehydration, sensory impairment, old age.
- 3 Contributing medical condition and treatment (eg diabetes, steroids).
- 4 Cachexia and asthenia in cancer.

General Management

- 1 Assess patients using appropriate “risk factor scale” initially within six hours of first contact and at regular intervals: daily for high risk, weekly for low risk.
- 2 Assess patient for pressure relieving aids according to risk: static or air mattress, bed cradle.
- 3 Assess for aids to movement as appropriate: monkey pole, cot sides, slings.
- 4 Use low friction material for bed sheets to reduce shearing.
- 5 Turn bed bound patients every 4 hours as appropriate, if chair-bound encourage to stand every 2 hours.
- 6 Improve nutritional state if possible: offer dietary advice, dietary supplements and drugs; refer to dietitian if appropriate.
- 7 Avoid rubbing pressure areas; use barrier creams sparingly if patient is incontinent; consider catheterisation.
- 8 Assess pain especially during any dressing changes.
- 9 Drug therapy
 - Prevention of sores:
ascorbic acid and zinc may help prevent sores if there are deficiencies.
 - General wound cleansing:
slow release hydrogen peroxide may be helpful in wound cleansing and clearing infection.
 - If infected, consider antibiotics:
metronidazole (topical or systemic) for offensive odour;
silver sulphadiazine (eg Flamazine) for painful excoriated skin.
 - Wound pain:
paracetamol or NSAIDs may alleviate wound pain;
morphine injection 10mg with Intrasite gel used topically may help in difficult wound pain where the skin surface is broken and inflamed;
short acting opioid preparations, see Acute pain of short duration (p15);
lidocaine gel to wound or dressings.

Management of pressure sores

Set appropriate and achievable goals for management of pressure sores as many will not heal in the terminally ill. Is treatment intended to **heal** the sore, to **relieve pain**, to **reduce infection** and/or **engender granulation** before discharge home, or is **prevention of progression** the best that can be achieved?

Examples of different brands of dressings are provided: further information is available in Appendix 8 of the BNF. We recommend that in the first instance the advice of the local tissue viability nurse is sought, as there are likely to be specific local guidelines for the management of wounds.

Grade 1 - skin discoloration, non-blanching redness

Management - relieve pressure; consider use of film spray (eg Cavilon) and foam cleanser (eg Clinisan) to protect vulnerable skin.

Grade 2 - partial thickness skin loss or damage

Management - if blistered, leave blisters intact and apply vapour permeable film dressing (eg Opsite) or a thin hydrocolloid dressing (eg DuoDERM).
- if sloughy use a hydrogel dressing (eg GranuGel).
- if granulating or epithelialising use a vapour permeable film (eg Opsite) or low adherence dressing (eg Mepitel).

Grade 3 - extends to subcutaneous fat

Management - dress with alginate (eg Sorbsan) or hydrocolloid dressing (eg Granuflex).
- if sloughy use hydrogel dressing (eg GranuGel, Intrasite) perhaps covered with hydrocolloid (eg Granuflex) or foam dressing (eg Allevyn Adhesive).

Grade 4 - deep fascia or bony involvement

Management - if necrotic, use hydrogel dressing (eg GranuGel) and cover with hydrocolloid dressing (eg Granuflex).
- if green, use alginate dressing (eg Sorbsan) and take a wound swab.
- if malodorous, use hydrogel dressing mixed with metronidazole gel, with a charcoal dressing.
- if red (granulating), use hydrogel dressing (eg GranuGel, Intrasite) covered with hydrocolloid (eg Granuflex) or alginate plus foam dressings.

FUNGATING WOUNDS

Causes/Risk factors

Tumour infiltration of epithelium and its surrounding blood and lymphatic vessels.

General Management

- 1 Assess wound and patient's overall condition. Consider management goal.
- 2 Radiotherapy may reduce bleeding and discharge; surgery and skin grafting may aid healing.
- 3 Oral antibiotics may reduce infection and odour (see p47).
- 4 Clean wound with 0.9% sodium chloride.
- 5 Ensure adequate analgesia if painful.

Specific management

Examples of different brands of dressings are provided: further information is available in Appendix 8 of the BNF. We recommend that in the first instance the advice of the local tissue viability nurse is sought, as there are likely to be specific local guidelines for the management of wounds.

1 *Of wound itself:*

light exudate	hydrogel (eg Granuflex).
heavy exudate	alginate dressing (eg Kaltostat, Sorbsan) or fibrous hydrocolloid (eg Aquacel) with absorbent pads.
cavity	alginate rope (eg Sorbsan) with foam dressing (eg Allevyn, Cavicare).
bleeding	alginate (eg Kaltostat or Sorbsan); may need to soak dressings with saline before removing; adrenaline 1:1000 either directly to wound or in dressing.
infected	Intrasite or GranuGel mixed with metronidazole gel and charcoal dressing (eg Clinisorb, Actisorb plus).
pain	morphine 10mg mixed with Intrasite gel.

2 *Systemic drug therapy*

analgesics	NSAIDs, opioids (see p47 and section on pain).
antibiotics	metronidazole orally to reduce pain and odour.
anti-pruritic	sedative antihistamine eg chlorphenamine.

LYMPHOEDEMA

Diagnosis

By history and examination. Differentiate from heart failure, immobility, venous insufficiency and obstruction, chronic renal failure, hypoalbuminaemia, limb dependency.

Causes/ Risk factors

- 1 Primary congenital or familial lymphoedema.
- 2 Secondary obstruction from tumour spread, surgery, or radiotherapy.
- 3 Recurrent streptococcal infections.

Management

Management is based on skin care, lymph drainage, compression and exercise.

- 1 Treatment should be undertaken by a trained practitioner.
- 2 Early referral to the local lymphoedema service will give the best chance of maximum improvement and control of the condition as cure is not possible.
- 3 Clear explanation of the lymphatic system, reasons for condition and means of treatment will encourage compliance.
- 4 Treat infections before beginning treatment, according to local protocols. Constant vigilance for and prompt treatment of further infections is essential.
- 5 Instructions on daily skin care of affected limb(s): use aqueous or similar cream; general advice to avoid cuts, sunburn, insect bites and injections in affected limb.
- 6 Monitor progress by regular measurement and assessing condition of tissues.
- 7 Regular simple light superficial and proximal massage may help; should be taught with suitable exercise by trained practitioner.
- 8 Manual lymphatic drainage may help, taught by a trained practitioner.
- 9 Properly measured graduated compression hosiery worn daily except during acute inflammatory episode; remove at night.
- 10 Multi-layered compression bandaging may be appropriate for a limited period initially.
- 11 Occasionally a multi-chambered sequential pneumatic compression unit may help reduce limb volume unless there is quadrant/midline oedema. Use at low pressures and in conjunction with other measures. May help reduce fibrosis.
- 12 With advanced disease and severe obstruction pain may be exacerbated by compression; balance the intervention with the patient's overall condition. Simple lymphatic drainage or supportive bandaging often reduce the pain.
- 13 Drug therapy
Diuretics may have a limited use if there is also an element of heart failure. Steroids may shrink lymphadenopathy but can increase fluid retention. Antibiotics may be needed long term if there is recurrent infection. Choice of antibiotic will be governed by local protocols.

WEAKNESS / FATIGUE

Diagnosis

- 1 Fatigue is characterised by variable physical and mental lethargy, sleep disturbance and perceived weakness; it is often worse at the beginning and end of the day.
- 2 True weakness suggests the anorexia/cachexia syndrome (see p24) or neuromuscular disorder.

Causes / Risk factors

- 1 Advancing cancer.
- 2 Anorexia/cachexia syndrome (see p24 for further information).
- 3 Anaemia.
- 4 Infection.
- 5 Emotional distress.
- 6 Metabolic: hyponatraemia, hypokalaemia, uraemia, hypercalcaemia, liver impairment, adrenal insufficiency, hyperthyroidism, hypothyroidism.
- 7 Neuromuscular damage: by tumour to brain, spinal cord or peripheral nerves, MND, myopathy, peripheral neuropathy, myasthenia gravis, Lambert-Eaton myasthenic syndrome.
- 8 Corticosteroids after prolonged use may cause profound proximal myopathy.
- 9 Other drugs: sedatives, diuretics, antihypertensives.
- 10 Chemotherapy and radiotherapy.
- 11 Prolonged bed rest.

Management

- 1 Take a good history to assess functional interference, emotional state, mental capacity and sleep pattern.
- 2 Examine to assess muscle wasting, specific weakness and neurological abnormality.
- 3 Review drug regimen paying particular attention to cardiac medication.
- 4 Check blood count, electrolytes, liver function and calcium levels and correct metabolic disturbances where possible and appropriate.
- 5 Treat depression if appropriate.
- 6 Provide dietary support as appropriate.
- 7 Help with coping and acceptance using exercise programmes, energy conservation techniques and advice on rest, sleep and stress reduction.
- 8 If part of cachexia/fatigue/anorexia syndrome, see also p24.

ANAEMIA

Diagnosis

- 1 Symptoms - tiredness, weakness, breathless on exertion.
- 2 Blood counts - haemoglobin, RBC indices, platelets and WBC.

Causes / Risk factors

- 1 Increased rate of RBC loss:
 - Bleeding - acute (anaemia may not be revealed immediately);
- chronic (microcytic, reticulocytes, thrombocytosis).
 - Haemolysis - primary or secondary (autoimmune process, drugs, infection);
leads to macrocytosis, reticulocytes, raised bilirubin.
- 2 Reduced RBC production:
 - Chronic disease and renal disease (normochromic, normocytic or microcytic).
 - Bone marrow infiltration - leukaemia, lymphoma, carcinoma (especially carcinomas of prostate or breast).
 - Aplastic - especially drugs (including NSAIDs, antibiotics, anticonvulsants, antipsychotics, hypoglycaemics, but many drugs have been implicated).
 - Sideroblastic secondary to malignancy.
 - Infection, debility.
 - Deficiency of iron (microcytic), B₁₂ or folate (macrocytic).

Management

- 1 Treat cause if appropriate - see Bleeding/Haemorrhage (next page), review medication, eg aspirin, NSAIDs.
- 2 Consider transfusion if specific symptomatic benefit is anticipated with Hb < 9.5 g/dl and not macrocytic. Transfusion can cause heart failure in debilitated or elderly patients; use 2-4 units maximum per day with furosemide cover. If the anaemia is chronic, patients may adapt even if Hb 8.0 g/dl. Do not transfuse unless a specific benefit is required.
- 3 Reassess one week after transfusion for any symptomatic relief. If little relief then transfusion need not be repeated if the haemoglobin falls again: consider other causes and treatments for symptoms.

BLEEDING / HAEMORRHAGE

Causes / Risk Factors

- 1 Tumour invasion.
- 2 Platelet or coagulation disorders, including disseminated intravascular coagulation, heparin-induced thrombocytopenia.
- 3 Infections may cause or aggravate bleeding, for example haemoptysis, haematuria, vaginal bleeding, or from fungating wounds.
- 4 Drugs-heparin, warfarin, aspirin, NSAID.
- 5 Peptic ulceration.

Management

General

- 1 Stop anticoagulants and review medication; consider reversing warfarin with fresh frozen plasma (rapid) or vitamin K 5mg iv (acts in a few hours).
- 2 Consider replacement of blood, platelets, clotting factors, fluids.
- 3 Treat any infection which may be exacerbating bleeding.
- 4 Consider radiotherapy when bleeding due to malignancy, especially haemoptysis, haematuria or cutaneous.
- 5 Consider chemotherapy and palliative surgical techniques including endoscopic laser or cautery for tumour where feasible and appropriate.
- 6 Embolisation is occasionally used for liver and renal malignancy.
- 7 Severe terminal haemorrhage - stay with the patient; verbal reassurance and physical touch help. If slow, use suction as appropriate and consider iv as below. If rapid, consider im or iv midazolam +/- diamorphine (for relief of distress). If a terminal haemorrhage is anticipated carers can be given a supply of rectal diazepam 10 mg. Dark towels or sheets may help to mask the blood. Relatives who witness the event will need support.
- 8 Drug therapy
Tranexamic acid 500mg-1.5g bd-qds orally (stabilises clots); caution in haematuria as may lead to clot retention.
Etmamsylate 500mg qds orally (enhances platelet adhesion within capillaries).

Specific

- 1 Nasal bleeding: • packing and cautery.
- 2 Oral bleeding: • sucralfate suspension.
- 3 Haemoptysis: • radiotherapy often helpful in lung tumours.
- 4 Upper GI bleeding: • consider stopping any NSAIDs.
• proton pump inhibitors.
- 5 Lower GI bleeding: • rectal steroids.
• rectal tranexamic acid 0.5g in 50 mls water bd.
- 6 Skin • Kaltostat dressing.
• topical adrenaline 1 in 1000 to soak dressings.

VENOUS THROMBOEMBOLISM

Diagnosis

- 1 Some degree of venous thromboembolic disease (VTE) is extremely common in patients with cancer and to a lesser extent with other advanced disease.
- 2 Suspect pulmonary emboli in patients with episodic and otherwise unexplained breathlessness or confusion.
- 3 Serological tests such as D-Dimers are unhelpful.
- 4 Doppler scans will reveal DVTs in large veins.
- 5 VQ lung scan will reveal ventilation/perfusion mismatches but may be difficult to interpret in the presence of other pulmonary pathology.
- 6 CT pulmonary arteriography can detect even tiny pulmonary emboli.

Causes / Risk factors

- 1 Malignant disease.
- 2 Recent chemotherapy or surgery.
- 3 Immobility.
- 4 Pelvic disease.

Management

- 1 Assess whether patient is at risk of VTE. If so, take into account any risk of bleeding and also expected prognosis, and then discuss with the patient whether they wish to have active prophylaxis with anti-embolism stockings and low molecular weight (LMW) heparin or warfarin as appropriate, balancing risks and benefits to optimise quality of life.
- 2 If there is symptomatic evidence of VTE, consider formal anticoagulation with LMW heparin (more effective in VTE associated with malignancy, requires daily injections, less likely to cause bleeding) or warfarin (cheaper, requires blood tests, INR may be very difficult to keep stable in those with advanced disease and variable nutritional intake).
- 3 Regularly re-assess the patient to ensure that the current management strategy is appropriate to the stage of their illness and their wishes.

HYPERCALCAEMIA

Hypercalcaemia is common in cancers with bone metastases (eg breast, prostate, lung) or may be due to ectopic production of PTH-like peptides. It occurs in 10% of cancer patients and 30% of those with myeloma. Amongst solid tumours, most commonly associated with squamous carcinomas and carcinomas of breast.

Diagnosis

- 1 Corrected serum calcium > 2.7 mmol/l; symptoms usually only become troublesome above 2.9 mmol/l; levels > 4 mmol/l may be fatal.
- 2 Any combination of the following: nausea, fatigue, loss of appetite, confusion or emotional disturbances, thirst, polyuria, constipation and abdominal pain.

Causes / Risk factors

- 1 Bone metastases.
- 2 PTHrP-secreting tumours, eg carcinoma of lung.
- 3 Dehydration, renal impairment.
- 4 Tamoxifen flare.

Management

- 1 Decide if further treatment is appropriate - is this a terminal event?
- 2 Relieve associated symptoms.
- 3 Correct dehydration using 2 litres saline iv per 24 hours.
- 4 If serum calcium > 3.0mmol/l, use iv bisphosphonates:
pamidronate 90mg in 500ml saline over 2 hours, or sodium clodronate 1500mg in 500ml saline over 2-4 hours, or zoledronic acid 4mg in 50ml saline over 15 mins. Bisphosphonates take 48-72 hours to be effective, so avoid rechecking calcium before day 4. Effects last 20 to 30 days so recheck calcium three weeks after treatment. Oral bisphosphonates have no place in the acute treatment of hypercalcaemia but may be used to maintain normocalcaemia and as prophylaxis for myeloma and breast carcinoma.

USE OF STEROIDS

General points

- Dexamethasone is the preferred drug.
- Prescribe as a single or 2 morning doses to avoid sleep disturbance.
- Give a 5-7 day trial and stop if there is no benefit. Be clear about what objective benefit is sought, and keep under review.
- Discuss potential benefits and side effects with patient and give steroid card.
- If benefit achieved, reduce to lowest effective dose and then review regularly.
- Stop if ineffective or when benefit lost (see below).
- Consider monitoring plasma glucose levels.
- Add gastric protective if also on NSAID or longer-term use.
- Increase (up to double) the dose if on phenytoin or carbamazepine.

Indications	Initial dose, dexamethasone
Brain tumour, SVCO, spinal cord compression:	8-16mg
Nerve compression pain, liver capsule pain, intestinal obstruction, anti-emesis, bronchial obstruction, lymphangitis carcinomatosa, post-radiotherapy inflammation:	4-8mg
Anorexia, fatigue:	2-4 mg

Stopping steroids

- Can withdraw immediately if less than 3 weeks and < 6 mg dexamethasone.
- Otherwise tail off by 2mg every 5-7 days until 2mg od, then by 0.5mg every 5-7 days.
- After cranial irradiation start reducing 2 weeks after completion of treatment, eg 16 - 12 - 8 - 6 - 4 - 2mg at intervals of 3 days; if symptoms recur, return to previous effective dose.

Common problems (usually related to higher or longer-term doses)

- Early: oral thrush, hyperglycaemia, heartburn, sleep disturbance, mania.
- Late: proximal myopathy, skin atrophy, change in face and body shape, which may cause significant psychological morbidity.

Steroid equivalents (approximate)

Dexamethasone	Betamethasone	Prednisolone	Hydrocortisone
2mg	2mg	15mg	50mg

THE LAST FEW DAYS OF LIFE

Principles

These are laid out in the Liverpool Integrated Care Pathway for End of Life:

- primary goal is to recognise, diagnose and relieve symptoms effectively;
- review all drugs and keep only the essentials (normally stop IV infusions);
- avoid all non-essential interventions;
- ensure effective communication amongst all involved;
- ensure practical and emotional support offered to family and carers;
- check religious and cultural needs.

Respiratory secretions

Retained secretions cause noisy breathing which is unlikely to distress the dying patient but can be very upsetting for family and carers. Causes include:

- altered conscious level and suppressed cough reflex;
- inability to swallow due to sedation or neuromuscular dysfunction (antimuscarinics likely to be helpful);
- bronchopneumonia (simple postural drainage and suction if appropriate);
- fluid overload due to IV infusions or in association with heart failure.

Management

- Explain to relatives that the patient is unlikely to be distressed by this.
- Careful repositioning of the patient with suction if appropriate.
- Antimuscarinic drugs for upper respiratory secretions (see over).
- Discontinue IV infusions.
- IV diuretic for heart failure and insert urinary catheter.
- Fastidious mouth care is essential.

Pain

Many patients develop pain in the last few days of life having been previously pain free. This may be exacerbated by stiffness due to immobility.

Management

Morphine or diamorphine will suffice for most patients although in rare cases alternative opioids may be necessary. NSAIDs or midazolam may reduce stiffness and discomfort due to immobility.

Nausea and vomiting

Usually less of a problem at this stage as oral intake becomes minimal. If there is intestinal obstruction, residual intestinal contents may be regurgitated.

Management

- Antiemetics given by csci via syringe driver (see p28 and see over);
- Rarely a naso-gastric tube will be required.

Terminal restlessness

See p44.

Prescribing guidelines

Patients often develop symptoms in the last few days of life but are unable to swallow oral medication. Syringe drivers are often required, and the anticipation of problems together with out of hours access to syringe drivers and medication are essential components of good palliative care.

The following drugs should be prescribed prophylactically on a **prn basis** for all dying patients. They can all be given subcutaneously (sc).

- 1 Strong opioid injection (according to local availability):
 - a For opioid naïve patient prescribe morphine or diamorphine 2.5-5mg.
 - b For patients already taking oral morphine prescribe sc diamorphine (1/3 oral dose) or morphine (1/2 oral dose) for use if swallowing becomes difficult. See p10 for further detail on opioid equivalents; see below if syringe driver needed to give drugs by continuous sc infusion (csci).
- 2 Antiemetic injection:
 - a Levomepromazine 5mg qds (or 12.5-25mg/24hrs by csci).
 - b Cyclizine 50mg tds (or 150mg/24hrs by csci)
 - c Metoclopramide 10mg qds (or 40mg/24hrs by csci).
- 3 Sedative injection:
 - a Midazolam 2.5-5mg (or 20-100mg/24hrs by csci).
 - b Levomepromazine 5mg qds (or 25-100mg/24hrs by csci).
 - c Hyoscine hydrobromide 200-400mcg q4h (or 1.2-2.4mg/24hrs by csci).
- 4 Antimuscarinic injection to reduce secretions:
 - a Glycopyrronium 400mcg tds (or 1.2mg/24hrs by csci).
 - b Hyoscine hydrobromide 300-600mcg q4h (or 1.2-2.4mg/24hrs by csci).

Syringe driver

If more than 2 doses of any of these drugs are needed per day then consider starting a subcutaneous infusion using a syringe driver. The initial dose of diamorphine or morphine sulphate is calculated from the total number of prn injections given in the previous 24 hours, but must also take into account previous analgesia (see p10 for 24 hour oral morphine dose equivalents).

Fentanyl and buprenorphine patches

As a general rule these are not a good choice for end of life analgesia primarily because dose titration is too slow. However if the patient already has a patch in situ continue to change this as before whilst adding morphine sulphate or diamorphine injections either prn or by continuous infusion via syringe driver.

Patch strength	Additional s/c diamorphine or morphine	
	prn dose	24hr dose in syringe driver
For each 25mcg/hr fentanyl or 35mcg/hr buprenorphine	5mg	20-30mg

See also pp10-11.

PSYCHOLOGICAL, SPIRITUAL AND SOCIAL CARE

The primary task when faced with spiritual questions is to help the person towards some resolution. Palliative care extends far beyond pain relief and the alleviation of symptoms. Psychological, spiritual and social needs of both patient and their family/carers should be addressed. This does not necessarily require specialist help - all health professionals should be prepared to make initial assessments and identify these issues.

This holistic assessment is important in ensuring that the patient and family have optimal support in any care setting. It also ensures that discharge planning is effective (hospital/hospice staff should check that these plans are acceptable to the patient, family, carers and Primary Health Care Team).

The framework for needs assessment should include:

- Psychological needs;
- Spiritual issues;
- Social needs;
- Information needs;
- Carers' needs.

Many factors influence the way in which patients and families cope with their illness and the following need to be considered during an assessment.

- The history of the illness and their understanding of what is happening, including their emotional and psychological response.
- How the illness is affecting the person's ability to carry out their role, for example as parent, lover, breadwinner etc.
- Family history - who is around, where are they, how important are they, how supportive are they? Constructing a family tree (genogram) is often helpful both for establishing relationships and for use as a therapeutic tool in helping people talk about their issues.
- Life stresses - what is happening with regard to money, jobs, housing, children, sources of support etc.
- Hopes and fears - what is the worst thing that can happen, what are the plans for the future, what losses and disappointments have occurred, what unfinished business is there, and what do they still wish to accomplish?

During assessment it should become apparent whether further expert professional help is required for psychological, spiritual and social care. Those available will include specialist palliative care staff, clinical psychologists, chaplain/spiritual advisors, and adult and child social workers.

BREAKING BAD NEWS

Bad news is any information which alters a patient's view of their future for the worse - the bigger the gap between expectation and reality the worse the news is. Giving bad news means entering a therapeutic dialogue of listening and responding which will affect how patients and families will cope. The aim is to:

- maintain trust between patient, family/carer and health professionals;
- enable appropriate adjustment to the reality of the situation;
- encourage informed choice of management options;
- reduce uncertainty about the future or at least address it;
- enable patients to regain a feeling of some control over their situation.

The following framework describes one approach.

1 Preparation

- Know the facts and the potential management plan.
- Arrange for privacy, sufficient seating and avoidance of interruptions.
- Whenever possible offer the patient the chance to have a close family member or friend present.

2 Assess understanding

- "What do you understand about your illness/what is happening?"
- This may need to be repeated as you give further information.

3 Check that more information is wanted and at what level

- Again this may need to be repeated as you give further information.

4 Allow denial

- Allow the patient to control the pace of information flow, and to whom the information should be given.

5 Sharing the information

- Start from where the patient is, give warning shots and further information in small chunks. Know when to stop.
- Be clear and simple, avoiding jargon, and above all be gentle.
- Avoid assumptions about their understanding i.e. check that they have heard what you believe you have said.

6 Elicit concerns

- What is worrying the patient most?

7 Respond to the patient's feelings

- Identify the patient's feelings and acknowledge them.
- Listen for and observe the emotional content and behaviour.
- Allow them time to think through the situation and ask questions: "Is there anything else you'd like to say or ask me?"

8 Summary and plan

- Summarise what has been said, emphasising the positive.
- Outline future treatment if appropriate, using written or printed material if possible.
- Foster realistic hope, e.g. “We may not be able to cure you but there are things we can do to make you feel better and cope with your illness”.
- Recheck their understanding.

9 Make arrangements for further contact

- Ask who may be told about the diagnosis/information.

10 Ensure others are informed of what was said

- Tell the General Practitioner and other staff on duty as soon as possible.
- Record as exactly as possible what was said, so that it can be repeated later and to avoid misunderstanding.
- Giving the patient a recording of the interview is popular and effective.

Remember

- Make sure the patient feels the centre of attention.
- Much of what you communicate is by non-verbal means and behaviour.
- Move at the patient’s pace, giving information that is appropriate for that time.
- If using euphemisms, try to find out what they understand by these words.
- Express your humanity and warmth, and interest in their care.
- Breaking bad news does not have to be done at one session, it is often best done in stages.
- Do not be afraid of them expressing negative feelings or crying.
- Be prepared for an initial stunned silence or anger.
- Ensure that you are answering the question that you are being asked.
- Avoid jargon.
- Do not tell lies.
- Some direct questions are best answered initially by asking “what makes you ask that?”. This may enable them to explain the worry behind the question.
- It is a breach of confidentiality to tell relatives without the patient’s consent, where the patient has the capacity to agree to or refuse disclosure.

Further reading

Buckman R and Kason Y (1992) How to Break Bad News: A Guide for Healthcare Professionals, Papermac.

Peter Kaye (1996) Breaking Bad News a Ten Step Approach: EPL Publications.

DEALING WITH DENIAL AND COLLUSION

Denial

Denial is a basic coping mechanism that allows us to continue to function when faced with information or events with which we cannot cope. It may be practised by the patient, family or professionals. Denial is not necessarily unhealthy and can be normal, as in the first stage of accepting bad news. However, if taken to extremes or creating situations that are harmful, such as preventing appropriate treatment, adequate symptom control or future planning for dependents, it may be appropriate to explore the denial.

Assessment

- Is it healthy or unhealthy? That is, is it reducing or increasing distress?
- Is there an appropriate reason for challenging the denial?
- Is it really denial? Many people have a good understanding of the situation but do not wish to talk about it.
- Is other health professionals' denial contributing?

Management

- 1 Gently explore what the person understands of what they have been told.
- 2 Using the framework outlined in Breaking bad news (see p60), gently move the person towards a better understanding of reality, particularly with regard for the particular need identified for challenging the denial. It is often helpful to use such phrases as "What if?" or "Lets look at the worst scenario even if it may not happen".
- 3 Be prepared to modify denial in stages and as far as possible at the patient's pace; and accept that it is unrealistic to expect all patients to come to terms with their mortality.
- 4 Ensure that extra support is available following the challenging of denial.
- 5 Alert other health professionals involved of any changes in the patient's understanding.

Collusion

Collusion occurs when the family conspire among themselves or with professionals to withhold information from or lie to the patient. This is often well intentioned, acting in what is believed to be the best interests of the patient. Ethically and legally, the patient has the right to information and has to give permission for disclosure of information to the family.

Management

- 1 Explore the family's understanding and reasoning:
 - establish whether they are trying to protect themselves or the patient;
 - recognise that they may have valid concerns about the patient's capabilities and past behaviour patterns;
 - show understanding of their situation.
- 2 Reassurance and explanation:
 - reassure that you will not walk in and impose information;
 - explain that the patient has a right to information, if requested, and honesty is an important part of maintaining trust in a doctor-patient relationship;
 - explain the consequences of living out an ever increasing lie;
 - explain that if the patient asks direct questions, their understanding and wishes will be explored before answering the question appropriately and sensitively;
 - offer to facilitate a joint conversation between the family and patient if they are finding it too difficult.
- 3 Gently explore the patient's understanding, and assess their desire for further information. Pass this on to the family, with the patient's consent, to enable more open communication.

Occasionally patients collude with professionals to withhold information from their family. This is more difficult as the patient has to give permission for disclosure of information, but the principles are the same as above - exploration of reasoning; explanation about consequences; reassurance of sensitive handling; and offer of facilitation.

SPIRITUAL CARE

Introduction

Spiritual care is one of the central aspects of palliative care. It is difficult to define, but any problem, conversation or contact may contain spiritual as well as physical, psychological or social issues. Spirituality is to do with how we live and what we treasure and value. Spirituality is relational in its expression, i.e. feeling a need to connect with someone or something. All patients have spiritual needs while only some will have religious needs.

Spiritual distress

When a person experiences a life crisis they will look to their spiritual values, beliefs, attitudes or religious practices to make sense of it. If these do not enable them to cope with the crisis, then they may experience spiritual distress.

Expressions of spiritual distress include:

- **fear** about the future, about dying and what happens after death;
- **loss** of identity or roles (parenthood, work etc);
- **helplessness** and loss of control over what is happening;
- **anxiety** about relationships, body image or sexuality;
- **suffering** excessively from physical symptoms, especially pain;
- **anger**;
- **guilt** or shame;
- **hopelessness**, despair, feeling alone or unloved;
- **exploration** of meaning and purpose of their life;
- **breaking** with religious or cultural ties.

Dealing with spiritual distress

The primary task when faced with spiritual questions is to help the person towards some resolution and understanding. Accept that there is unlikely to be a specific answer - it's OK not to know.

Listen attentively and be prepared to face uncertainties - just by "being there" you can help the patient to make connections and embark on their own search for meaning.

Do not be afraid to ask simple questions about their fears, losses, feelings, "the future", sense of control, past regrets, values, beliefs and religious needs. Offer a particular group or person such as a chaplain if you feel out of your depth or there is a requirement for a religious input.

Basic principles

1. Provide a safe caring environment.
 - Good symptom control.
 - Show willingness to listen.
 - Value their role and appearance, and belief systems.
2. Attend to:
 - Signs of their wishing to explore spiritual issues.
Ask yourself “Why am I being told this? And why now?”
 - Your own verbal and non-verbal behaviour and reactions (patients can be reluctant to embarrass professionals if they sense that they are causing discomfort).
3. Listen to:
 - Questions.
 - Expressions of fear, anger, loss etc.
 - Their story.
4. Assess in terms of :
 - Past, present and future. Ask simple questions as outlined above.
 - What help is needed.
5. Reassure and help with:
 - Good physical care in illness and dying.
 - Respect for their integrity, worth and values.
 - Information as requested.
 - “Unfinished business”.
 - Personal support - “being alongside”.
 - Care for family and carers.
 - Reviewing of life.
 - Arranging provision of spiritual counselling if needed e.g to help face mortality.
 - Arranging provision of religious and sacramental care, according to faith.
 - **Above all - be there.**
6. Attend to yourself:
 - Facing intense feelings or distress can leave us feeling uncomfortable, inadequate, helpless or vulnerable. The task is to live with our own uncertainties. It is therefore important to explore difficult issues or share concerns with colleagues, e.g through individual or group supervision.

Further reading

Speck P. Being there: pastoral care in times of illness. London: SPCK, 1988.

Mount B. Existential suffering and the determinants of healing. Eur J Pall Care 2003; 10(2) supplement.

Stanworth R. Recognising the spiritual needs in people who are dying. Oxford: OUP, 2004.

CULTURE

In our society there is a wide variety of people of different faiths, ethnic backgrounds and countries of origin. Within these groups, each individual will express their cultural attitudes uniquely, as they are influenced by upbringing, background, environment, beliefs and life experience.

Cultural attitudes can particularly influence:

- language and the use of colloquialisms;
- the roles of the family;
- how symptoms or illness are described and understood;
- ethical issues, including autonomy and confidentiality;
- attitudes towards conventional Western therapies, complementary or alternative therapies, food and diet;
- attitudes towards death and dying;
- rituals surrounding death;
- preferred place of care - home, care home, hospital or hospice;
- acceptance of help and support.

Health professionals should show their awareness by:

- ensuring that appropriate language interpretation services are used;
- demonstrating willingness to listen and a wish to understand cultural differences and implications;
- meeting specific requirements (such as food, privacy, opportunity to practice religious observances etc) wherever possible;
- being prepared to negotiate boundaries and details of care;
- ensuring that there is access to an appropriate religious advisor.

Do not make assumptions-ASK

Remember that each person is unique, regardless of cultural background and professed faith.

Further reading

1. Neuberger J. Care for Dying People of Different Faiths. Oxford: Radcliffe Medical Press, 2004.
2. Henley Q, Schott J. Culture, Religion and Patient Care in a Multiethnic Society. Age Concern Books, 1999.

BEREAVEMENT

Grief is a natural process experienced by anyone who has to adjust to a significant loss. An appreciation of what is 'normal' is required in order to recognise when and what type of intervention is needed. Parkes describes bereavement in terms of **phases of grief**:

- 1 **Initial shock**, numbness and disbelief before emotional reality of the loss is felt. Seeing the body after death, attending the funeral or visiting the grave are often important in facilitating acceptance of the reality of the death.
- 2 **The pain of separation** which affects behaviour and emotions. The bereaved usually suffer overwhelming periods of sadness as they are faced with the day-to-day reality of their loss. They may try to reduce this by avoiding reminders of the deceased. They may also find themselves 'searching' for the deceased, dreaming about them or actually seeing or hearing them. Visual or auditory hallucinations at this time are normal. Agitation, restlessness and an inability to concentrate can result from the conflict between this searching and avoiding behaviour - attempts to avoid the reality of the situation.

A range of emotions other than sadness may be experienced. Anxiety may be due to loss of the familiar routine and feelings of insecurity. Anger may be directed towards the deceased for abandoning them, towards God, or (justly or unjustly) towards professionals. It may simply manifest as general irritability. Feelings of guilt may occur when anger is directed internally.

It is common for physical symptoms related to over-activity of the autonomic nervous system to be experienced, eg palpitations, insomnia, diarrhoea and fatigue. A transient hypochondriasis can occur, but it is abnormal if it persists.

- 3 **Despair or depression**. As the pangs of grief and anxiety reduce in frequency and severity the bereaved may lose interest and purpose in life. They feel hopeless and become withdrawn. This may last for months.
- 4 Eventually the loss is **accepted** and life without the deceased is adjusted to.
- 5 The final phase of **resolution and reorganisation** is entered as emotional energy is reinvested in new relationships and activities, although anniversaries often trigger renewed grief.

For some, part of the work of grieving may be undergone before the actual death of the deceased (anticipatory grieving). **Although described in sequence, bereavement reactions usually oscillate between phases.**

For most people, no formal psychotherapeutic intervention is needed as their personality, previous life experiences, social network and loving relationship with the bereaved enables them to come to terms with their loss, and often to grow personally through it. All that is often required is a watchful eye to check that their grief is continuing normally.

- 6 For those with **unresolved/abnormal grief** further intervention is required. The needs of children and adolescents are often quite complex and they may also benefit from specialist support. Recognition of those likely to develop an abnormal grief reaction can also allow early supportive intervention and prevent its development.

Risk factors include:

- an unexpected/untimely death;
- an unpleasant death;
- an ambivalent relationship;
- an excessively dependent relationship;
- a child/adolescent (may be protected/excluded);
- social isolation;
- excessive use of denial, preventing anticipatory grieving;
- unresolved anger;
- previously unresolved losses;
- previous psychiatric illness;
- a history of alcoholism/drug abuse;
- other concurrent stressful life events.

For many, a trained volunteer who listens may address the need of the bereaved to recognise and express their feelings and fears, enabling them to make sense for themselves of the events which have occurred. Reassurance that what they are experiencing is 'normal' is extremely helpful. A chaplain may also be helpful to those whose faith is shaken, destroyed or awakened.

Some find meeting with a group of individuals who have undergone a similar experience can be supportive. These groups may or may not have a trained facilitator.

Written information explaining what may be experienced and giving useful contact numbers is often appreciated.

UNRESOLVED/ABNORMAL GRIEF

There is no clear boundary between what is 'normal' and what is 'abnormal' grief, and it is often a question of unusual intensity, of reaction or timing. The following guide indicates when professional intervention may be required.

- 1 **Delayed grief** is defined by an absence of grieving within the first weeks or months after the death. It is often precipitated many years later by further loss. It is more likely to be severe and chronic when it finally occurs. Help is often needed in emotionally accepting the reality of the past loss.
- 2 **Inhibited grief** occurs when all reminders of the bereaved are avoided. This mechanism of avoidance may work for some, but can present as irritability, restlessness or depression. Guided mourning is employed to encourage the bereaved to face the reality of the loss.
- 3 **Chronic grief (mummified grief)** may be severe and occurs when a person fails to progress through all the tasks of mourning. There is no fixed time period. Assistance is needed in helping the bereaved to move on in the grieving process.
- 4 **Persistent hypochondriasis** can occur and may block grief. The bereaved may take on the symptoms of the deceased or develop symptoms related to anxiety or depression. Explaining to the patient what is happening may be all that is required. However, note that mortality and morbidity of widows and widowers is increased in the first year after the death, mainly due to cardiovascular disease.
- 5 **Psychiatric disorder.** A severe depressive illness may develop with delusional ideas of guilt and suicidal intent. It can require hospitalisation. **Mania** can be precipitated as can **phobic disorders**, and **alcoholism** and addiction to drugs, especially hypnotics.

Some of these abnormal grief reactions can be dealt with by the primary health care teams, social workers or trained counsellors. In addition, many areas have their own voluntary bereavement and counselling groups including branches of CRUSE (126 Sheen Road, Richmond, Surrey TW9 1UR). See health centres, hospitals or Citizens' Advice Bureaux for information, or contact The National Association of Bereavement Services, 10 Norton Folgate, London E1 6DB. Others require specialist help from psychotherapists or psychiatrists, and it is important for all professionals to realise their own skills and limitations.

FORMULARY

This list of drugs, dressings and other preparations recommended in this Handbook is intended as an aid to pharmacists and others. The list is neither exhaustive nor exclusive, and other products may be recommended or be more appropriate in some circumstances. Often, only one drug is listed from a whole class of compounds; this should not be taken to imply that other preparations may not be equally effective. Generic names are given for drugs with single constituents, proprietary names for most compound formulations and for dressings.

Actisorb plus: <i>see dressings</i>	49
Adcortyl	23
Adrenaline	49, 53
Alfentanil	10, 12, 15
Allevyn Adhesive: <i>see dressings</i>	48, 49
Aluminium hydroxide	45
Amitriptyline	14, 15, 23, 38, 40, 46
Aquacel: <i>see dressings</i>	49
Arachis oil enema	25
Ascorbic acid	47
Aspirin	23, 45
Baclofen	15, 34
Betamethasone	56
Bisacodyl	25
Botulinum toxin	23
Bupivacaine	15, 33
Buprenorphine	11, 12, 58
Carbamezapine	15, 35, 36
Cavicare: <i>see dressings</i>	49
Cavilon: <i>see dressings</i>	48
Chlorhexidine	22
Chlorphenamine	45, 49
Chlorpromazine	29, 34
Cimetidine	45, 46
Clinisan: <i>see dressings</i>	48
Clinisorb: <i>see dressings</i>	49
Clomethiazole	40
Clonazepam	15
Clonidine	15, 46
Co-codamol	6
Codanthramer	25
Codanthrusate	25
Codeine	10, 26, 33
Colestyramine	45

Cophenotrope	26
Cyclizine	8, 18, 19, 21, 29, 58
Danazol	45
Dantrolene	15
Dexamethasone	14, 15, 18, 19, 21, 24, 27, 29, 32 34, 35, 36, 37, 41, 43, 46, 56
Diamorphine	8, 9, 10, 12, 21, 29, 53, 57, 58
Diazepam	14, 15, 29, 31, 34, 36, 39, 44, 53
Diclofenac	6, 46
Dihydrocodeine	6
Docusate sodium	21, 25
Domperidone	18, 19, 21, 27, 34
Dosulepin	14, 15, 38, 40
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foam	48
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hydrogel	48, 49
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odour absorbent	
vapour permeable	48
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Erythromycin	18
Etamsylate	53
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Fletcher's phosphate enema	25
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Furosemide	27, 52
Gabapentin	15, 45
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Glyceryl trinitrate	14
Glycopyrronium	23, 29, 32, 46, 58
Granuflex: <i>see dressings</i>	48, 49
GranuGel: <i>see dressings</i>	48, 49
Haloperidol	8, 18, 19, 21, 29, 34, 43
Helium/oxygen	32
Heparin	32, 54
Hydrocortisone	23, 56

Hydrogen peroxide	47
Hydromorphone	10, 12
Hyoscyine butylbromide	14, 21, 23, 29, 32
Hyoscyine hydrobromide	18, 19, 21, 23, 29, 32, 58
Ibuprofen	6
Intrasite: <i>see dressings</i>	48, 49
Kaltostat: <i>see dressings</i>	49, 53
Ketamine	15
Ketorolac	29
Lactulose	25
Levomepromazine	18, 19, 21, 29, 43, 44, 58
Lidocaine	23, 47
Loperamide	21, 26
Lormetazepam	40
Loratadine	45
Lorazepam	31, 36, 39
Macrogols	21, 25
Magnesium hydroxide	21, 25
Medroxyprogesterone	
Megestrol acetate	24
Menthol	33
Menthol in aqueous cream	45
Mepitel: <i>see dressings</i>	48
Methadone	9, 12, 15, 33
Metoclopramide	18, 19, 21, 27, 29, 34, 58
Metronidazole	26, 47, 49
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Mirtazapine	24, 38, 45
Misoprostol	6, 14, 18
Morphine	7, 8, 9, 10, 11, 12, 15, 23, 29, 31, 33, 47, 49, 57, 58
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Naltrexone	45
Naproxen	6, 46
Nifedipine	14, 34
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Nizatidine	21
Nystatin	23
Octreotide	21, 26, 29
Ondansetron	19, 45
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Oxybutynin	15, 46
Oxycodone	9, 10, 12, 29
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Sodium hypochlorite	23
Sodium picosulphate	25
Sodium valproate	15, 36
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Sucralfate	23, 53
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Tinct benz co	33
Tizanidine	15
Tolterodine	15
Tramadol	6, 10
Tranexamic acid	53
Vitamin K	53

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Zinc	47
Zoledronic acid	14, 55
Zolpidem	40
Zopiclone	40

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