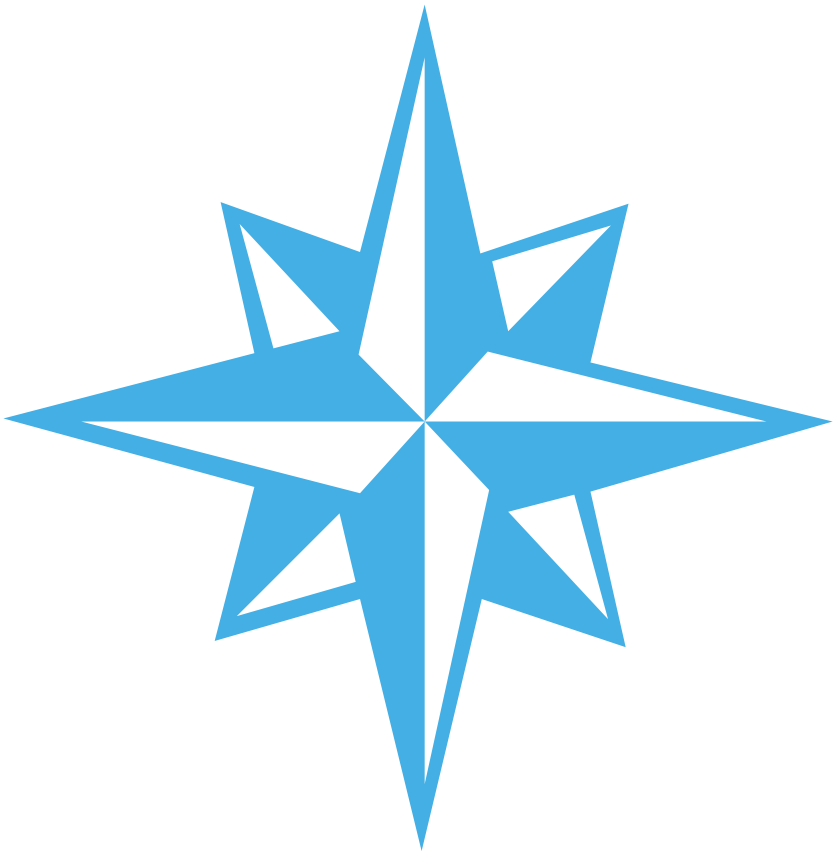
MASTER 28.04.06

Greater Manchester & Cheshire Cancer Network

NHS



PALLIATIVE CARE
PAIN & SYMPTOM CONTROL
GUIDELINES

Publication Date March 2006
Review Date March 2008

NOTES

This is the first edition of the Greater Manchester and Cheshire Cancer Network *Pain and Symptom Control Guidelines* in palliative care for multi-professional health care teams involved in prescribing, advising, and administering therapies across all care settings including primary care, hospital, hospice and nursing homes. The guidelines cover pain and symptom control in specific situations and end of life care.

Many drugs are used in palliative care outside their licensed indication at the doctor's discretion. Details of these, together with "typical" doses and maximum doses are included, however, the inclusion of a drug or treatment in these guidelines does not absolve the doctors of their personal responsibility in providing treatment that they are confident with and can justify, and that is tailored to the individual patient's circumstances. For further information or advice please contact your local Specialist Palliative Care Team, Hospital and Primary Care Trust Pharmacy Service Advisers.

Contributors:

Chair: Dr S Gomm, Consultant, Palliative Medicine, Salford Royal Hospital and Trafford Healthcare NHS Trusts, Salford PCT, Trafford North and South PCTs and St Ann's Hospice

Liz Burns, Hospital Macmillan Nurse, Tameside & Glossop Acute Services NHS Trust
Lesley Madden, Community Macmillan Nurse, North Manchester PCT
Kath Mitchell, Pharmacist, St Ann's Hospice, Little Hulton/Salford Royal Hospital NHS Trust
Jennie Pickard, Pharmacist, St Ann's Hospice, Heald Green/ South Manchester University Hospitals NHS Trust
Dr Trevor Rimmer, Consultant Palliative Medicine, East Cheshire NHS Trust
Geoff Saunders, Lead Pharmacist, Greater Manchester & Cheshire Cancer Network
Dr Ellie Smith, Consultant Palliative Medicine. St Ann's Hospice/Central Manchester & Manchester Children's Hospital NHS Trust
Dr David Waterman, Consultant Palliative Medicine, Stockport Foundation Trust/St Ann's Hospice
Nigel Warwick, Specialist Palliative Care Nurse, Bury PCT
Julie Whitehead, Pharmacist, East Cheshire NHS Trust
Barbara Wragg, Community Macmillan Nurse, Rochdale PCT

Acknowledgements:

Mrs V Hampson: Secretarial support

Approved by:

Greater Manchester & Cheshire Cancer Network Drugs and Therapeutics Committee

Additional copies can be obtained from:

Dr S Gomm – Consultant Palliative Medicine
Salford Royal NHS Foundation Trust, Hope Hospital, Stott Lane, Salford M6 8HD
Tel: 0161 206 2517 Fax: 0161 787 1451 E-mail stephanie.gomm@srht.nhs.uk
Trafford Healthcare NHS Trust, Trafford General Hospital, Moorside Road, Davyhulme , Manchester. M41 5SL
Tel: 0161 746 2223: Fax 0161 746 2082 E-mail stephanie.gomm@trafford.nhs.uk

Also available on your local hospital, PCT and Greater Manchester and Cheshire Cancer Network websites

Publication Date: March 2006
Review Date: March 2008

Abbreviations

b.d		twice a day (bis die)
BNF		British National Formulary
caps		capsules
CD		controlled drug - preparation subject to prescription requirements of the Misuse of Drugs Act (UK). See BNF - "Controlled Drugs and Drug Dependence" section
COX, COX2I		cyclo-oxygenase, cyclo-oxygenase type 2 inhibitor
CSCI		continuous subcutaneous infusion
EAPC		European Association for Palliative Care
g		gramme(s)
h		hour(s)
hrly		hourly
i/m		intramuscular
i/v		intravenous
L		Litre(s)
microgram		not abbreviated
mg		milligram
ml		millilitre
min		minute(s)
m/r		modified release (used interchangeably with controlled release)
nocte		at night
NSAID		non steroidal anti-inflammatory drug
o.d		once a day (omni die)
p.o		by mouth (per oris)
PPI		proton pump inhibitor
p.r		by rectum (per rectum)
p.r.n		when required (pro re nata)
q4h		Every 4 hours (preferred to q.q.h - quarta quaque hora)
q.d.s		four times a day (quarter die sumendus)
SC		Subcutaneous
SL		Sublingual
SSRI		selective serotonin re-uptake inhibitor
stat		Immediately
t.d.s		three times a day (ter die sumendus)
TENS		Transcutaneous electric nerve stimulator
UK		United Kingdom
UTI		urinary tract infection
WFI		water for injection
WHO		World Health Organization
◊		Unlicensed use
≈		Is approximately equivalent to

CONTENTS

PAIN MANAGEMENT

1. Pain assessment

- Therapy must be tailored to each patient. Use a logical stepwise approach.
- Consider: - physical aspects
  functional aspects – effects on activities of daily living
  psychosocial – mood / relationship effects / sleep etc
  spiritual – fears / hopelessness / regrets / guilt

Assess physical aspects of the pain:

- cause of *each* pain - there may be more than one; may have non-cancer pain
- character, location, frequency, relieving and aggravating factors (see Table1)
- response to previous medication and treatment.
- severity by asking the patient (if able to respond); e.g.
  - use of numerical score where 0 = no pain and 10 = severe, overwhelming
  - simple verbal rating “none”, “mild”, “moderate” or “severe”

2. Table 1 - Common Pain Types

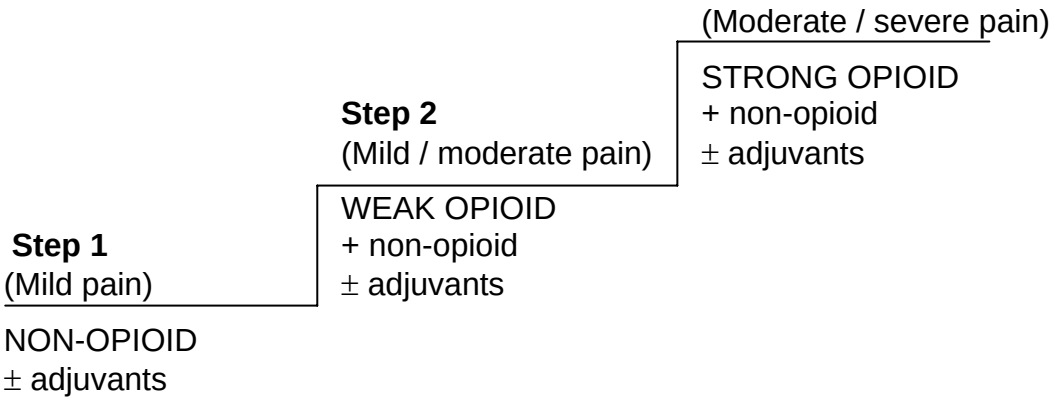
Pain	Examples	Character	Initial management	Adjuvants	Consider
Deep Somatic	Bone metastases	Gnawing, aching. Worse on moving or weight bearing.	WHO Ladder	NSAIDs	Radiotherapy Surgery Bisphosphonate
Visceral	Liver, lung, bowel	Sharp ache *or* deep, throbbing. Worse on bending or breathing.	WHO Ladder	Corticosteroid NSAIDs	Nerve Block Surgery
Neuro-pathic	Nerve compression Nerve damage	Burning, shooting; sensory disturbance in affected area	WHO Ladder	Tricyclic antidepressant Anticonvulsant Corticosteroid *See Table 3*	Radiotherapy TENS Nerve block
Smooth muscle spasm	Bowel obstruction Bladder spasm	Deep, twisting, colicky (waves)	May be sensitive to opioid - variable	Anticholinergic - e.g hyoscine butylbromide for bowel colic	Surgical relief of obstruction

3. Pain Relief

- Set realistic goals, stage by stage: e.g. pain-free overnight; at rest; on movement.
- Prescribe analgesics regularly.
- Prescribe analgesic for breakthrough and/or incident pain.
- Consider most appropriate route of administration – use oral route where possible.
- Prescribe by the WHO analgesic ladder (see section 4).
- Give patients and carers information and instruction about their pain and pain management. Encourage them to take an active role in their pain management.
- Review pain control regularly.

Figure 1

4. The WHO Analgesic Ladder



Adjuvant drugs contribute to pain relief and can be used alone or in conjunction with analgesics (see Table 3). They can be introduced at any step in the analgesic ladder.

For example use of analgesic ladder

Patient on no analgesics – mild pain:

Step 1 Start **regular** paracetamol 1g q.d.s

Step 2 Complaining of more pain - add codeine 30-60mg q.d.s. **regularly.**

Step 3 On maximum paracetamol and codeine, still in pain - stop weak opioid.
Commence short-acting morphine 5-10mg 4 hourly **regularly**;
or morphine m/r 10-30mg b.d.;
or morphine m/r 20-60mg o.d.;
or alternative strong opioids.

NOTE: MORPHINE IS STILL THE FIRST LINE STRONG OPIOID AT STEP 3 OF WHO LADDER (1996) AND EAPC GUIDELINES (2001)

5. Morphine

- Explanation and reassurance about morphine is essential to patients and carers.
- Reassure patients that they will not become psychologically dependent
- Be aware of dose conversions from weak opioids to oral morphine (see Appendix)
- When starting morphine, use short-acting unless contraindicated (see Figure 2)
  - consider lower doses and/or increase dose intervals in elderly and renal impairment
- Titrate opioid dose to achieve maximum analgesia and minimum side effects
  - typical steps (in mg per 4h); 5-10-15-20-30-40-60-90mg.

  Also prescribe short-acting morphine for breakthrough pain.

  To calculate breakthrough dose = total daily dose of morphine ÷ 6.

  e.g. Morphine m/r 30mg b.d. = Total oral morphine dose over 24hrs of 60mg.

  - Breakthrough oral dose = 60 ÷ 6 = 10mg p.r.n
- Once pain control is achieved, consider conversion to controlled release morphine (e.g. – Zomorph, MST Continus, MXL*) at same 24h total dose

.

- If patient is unable to take morphine orally, then give diamorphine or morphine by CSCI via syringe driver and prescribe appropriate p.r.n. doses

  Dose equivalents

  Oral Morphine 3mg ≈ SC morphine 1.5mg ≈ SC diamorphine 1mg

For other strong opioid conversions (see Appendix Table 31, p47, and Syringe Driver Guidelines, p44)
*Note – it is recommended that strong modified release oral opioids are prescribed by brand (e.g. OxyContin, Zomorph) rather than generically.

Following the NPSA alert 2006/012 for safer practice in the use of parenteral Diamorphine and Morphine it is recommended that product strengths be stocked and used as follows: Diamorphine or Morphine, 5 and 10mg ampoules - use for both stat and prn breakthrough dose administration and that 30mg ampoules of Morphine and Diamorphine are reserved for use in patients on continuous subcutaneous infusion (syringe driver) who require higher daily doses.

In opioid naive patients, following administration of first dose of Morphine or Diamorphine injection patient should be observed for the first hour. Further information, see National Patient Safety Agency, Safer Practice Notice 2006/012

Management of :-
(i) *Breakthrough pain* - pain occurring before the next regular dose of analgesic
- Is the regular opioid dose adequate?
- If on m/r strong opioid, prescribe short-acting p.r.n. opioid and administer when required.
- Review regularly.

(ii) *Incident pain* - patient is pain free at rest but pain occurs on movement, weight-bearing, procedures (e.g dressing changes)
- Exclude a surgically correctable lesion, e.g, bone fractures
- Give equivalent of 4 hrly dose of short-acting opioid 30 min before procedures
- If ineffective seek specialist advice.

Dose conversion for weak opioids and buprenorphine to oral morphine see Appendix Table 32, p48.

6. Management of Opioid Side Effects

If side effects are intractable and reducing the patient's quality of life or limiting pain relief, consider changing to an alternative opioid. **Seek specialist advice**.
Consider *renal impairment* as a cause if toxicity occurs on previously tolerated dose.

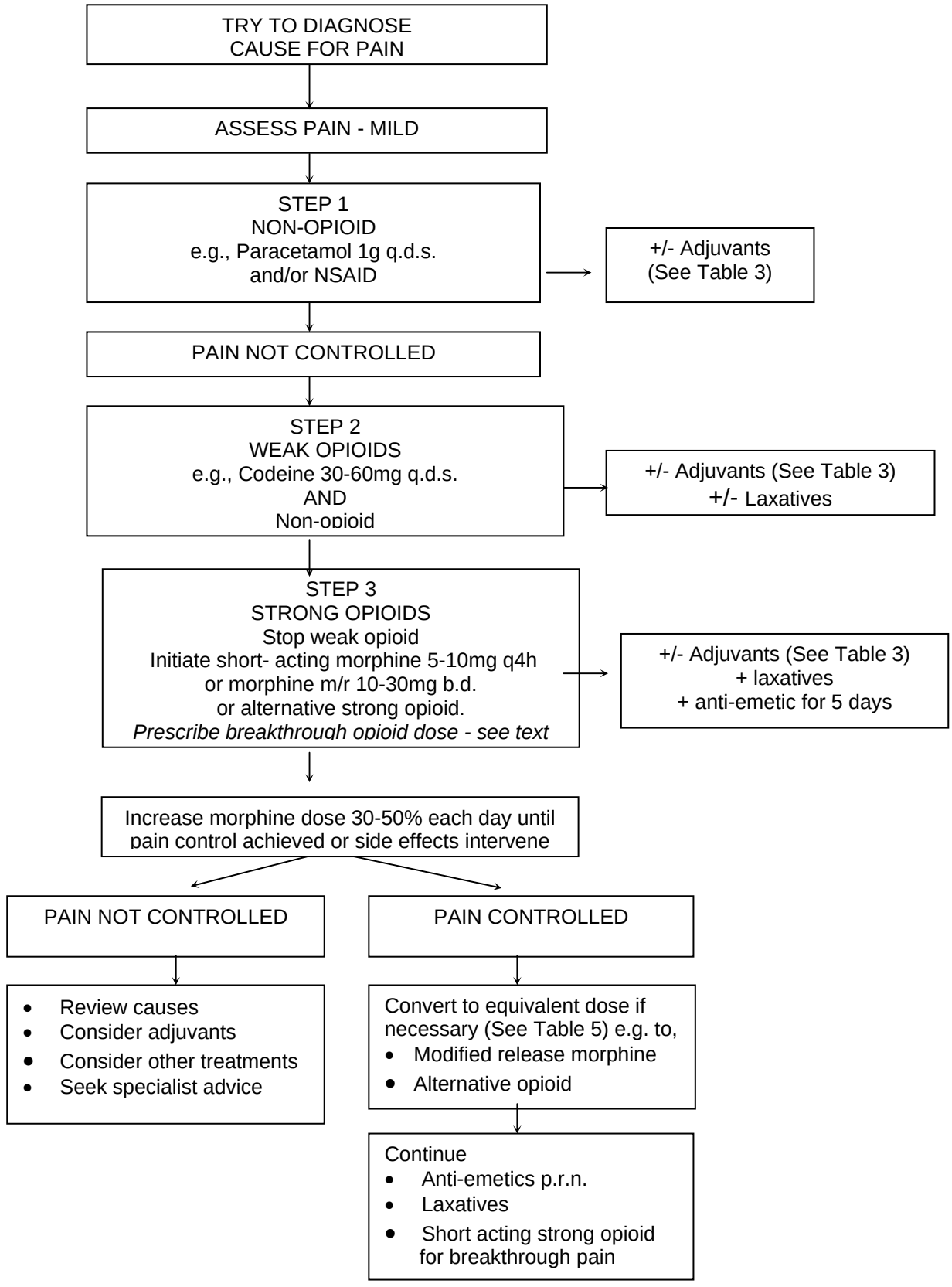
i. *Constipation (very common)* - prevent by prescribing concurrent stimulant laxative ± softener and titrate
ii. *Nausea and vomiting (c30%)* - prescribe haloperidol 1.5mg at night or metoclopramide 10mg t.d.s. for 5 days and then stop if asymptomatic;
iii *Drowsiness* - warn patients that drowsiness and poor concentration may occur at start of therapy, and when dose is increased, but will lessen after a few more days
iv *Delirium* - decrease dose if possible; consider adjuvant drug or alternative opioid; consider haloperidol 1.5 -3mg orally or subcutaneously – repeat if necessary
v *Myoclonus* - decrease dose if possible; if this dose of opioid is essential, add oral clonazepam 0.5mg nocte or use SC midazolam
vi *Hallucinations* - decrease dose if possible; consider adjuvant drug or alternative opioid
vii *Dry mouth (nearly all patients)* - inform patient and advise good oral hygiene (see p25)
viii *Respiratory depression* - very unlikely if opioids used correctly. Note - naloxone can provoke a severe withdrawal syndrome if used too rapidly and/or in too high a dose

- If respiration slow (<12/min), but patient easily rousable
  - Stop opioid and monitor carefully until improves
  - Resume opioids at lower dose - **seek specialist advice**
- If respiration slow (<12/min), difficult to rouse and cyanosed or hypoxic (SaO_2 <90%) ***or*** respiration <8/min - use **naloxone** (to use diluted 1:10 with saline for injections) – (*see BNF section 15.1.7)*

- intravenous naloxone 100-200 microgram
- then 100 microgram i/v every 2 minutes until respiration is satisfactory
- monitor carefully - further doses (i/m or i/v) may be needed - naloxone acts for 30-60 mins

Figure 2

7. Treatment Guidelines for Cancer Pain



Note: Adjuvants can be added on any step of the ladder.

8. Alternative Strong Opioids

Seek specialist advice on the most appropriate alternative strong opioid

Fentanyl

- Similar analgesic properties to morphine.
- Lower incidence of sedation, delirium and hallucinations; constipation is less severe
- It is available as a transdermal preparation ("patch") or oromucosal ("lozenge")

Fentanyl transdermal patches * are not suitable for rapidly changing pain due to the long half-life of the drug. They should be used for chronic stable pain only.

- The patient should have been taking an equivalent dose of strong opioid previously
- Note that there are two forms of fentanyl patch - matrix patches (Durogesic DTrans) and forms with liquid reservoir (generic products and parallel imports of Durogesic TTS).

Place in therapy - Pain responds to strong opioids *and with* at least one of the following:

- Unacceptable level of side effects with morphine/diamorphine or alternative opioids
- Oral route is inappropriate, e.g. dysphagia, vomiting
- Patients with renal impairment
- Patients with resistant morphine-induced constipation
- Where use may improve compliance (e.g. unwilling to take morphine)

* Note – it is recommended that fentanyl patches are prescribed by brand name due to small, significant differences in release rates between opioid patches for individuals (Royal Pharmaceutical Society of Great Britain – February 2006)

Dosing of Transdermal Fentanyl Patch

- Available as 12, 25, 50, 75, 100 micrograms/h.
- Changed every 72h (rarely every 48h, seek advice).
- Takes 12-24h to achieve therapeutic blood levels and on removal levels decrease by about 50% in 17h.
- Dose range is 25 -300 microgram/h; may be higher under specialist care
- In strong opioid –naïve patients the lowest 25 microgram/h Fentanyl dose should be used as the initial dose.
- Note Fentanyl 12 microgram patch is licensed for dose titration between steps 25 to 50.50 to 75 micrograms/h; thereafter dose adjustments should be increments of 25 micrograms/h.

Table 2. To convert from strong opioid regimens to fentanyl patches

1.	Short acting strong opioid (e.g. Oramorph, OxyNorm)	Apply patch – continue q4h strong opioid for first 12h until fentanyl reaches therapeutic level. Use q4h dose of short acting opioid p.r.n. for 'breakthrough' pain
2.	Twice daily strong opioid	Apply patch with last dose of twice daily strong opioid and give q4h short acting strong opioid p.r.n. for 'breakthrough' pain
3.	Once daily strong opioid	Apply patch 12h after last dose of once daily strong opioid and prescribe q4h strong opioid prn for 'breakthrough' pain
4.	Syringe driver	Apply patch; discontinue syringe driver after about 12h. Give q4h strong opioid SC p.r.n. for 'breakthrough' pain.

Ensure correct breakthrough dose of short-acting strong opioid is prescribed (see Appendix Table 31 and 33, p47/49)

10% of patients may experience morphine withdrawal after changing to fentanyl, giving symptoms of shivering, restlessness and bowel cramps. Pain control is not affected and the symptoms can be managed initially with breakthrough doses of short-acting strong

opioid. **Seek specialist advice**.

When a change to fentanyl is made, halve the dose of laxatives and adjust according to need.

Management of patients with a fentanyl patch in the terminal phase

It is usual practice to leave the fentanyl patch in place - **seek specialist advice**

- to calculate the breakthrough dose of opioid for fentanyl patch use Table 33, p49.

In the terminal phase, if a patient on a fentanyl patch develops unstable pain, a strong opioid continuous subcutaneous infusion (CSCI) given by syringe driver can be used **in addition** to the patch **:-**

- The total number of breakthrough doses of SC strong opioid (e.g. morphine, diamorphine) needed in a 24h period is converted to a 24h CSCI and run **alongside** the fentanyl patch
- Calculate the new p.r.n dose according to the fentanyl *and* the CSCI dose of strong opioid - see Appendix Tables 31 & 33 Opioid Conversion Charts

For other drugs needed for symptom control, e.g., anti-emetics/sedatives, again leave the patch in place and administer the drugs by the oral or subcutaneous route. A syringe driver can be used for anti-emetic/sedative medication. (see Table 29, p42)

Fentanyl Lozenge (Actiq)

Licensed for breakthrough pain in patients already on opioid therapy. Expensive.

Place in Therapy

- For breakthrough pain in patients on fentanyl patches who are intolerant of morphine, oxycodone, hydromorphone
- Should only be used in patients already on strong opioids
- Seek specialist advice before use

Oxycodone

Oxycodone is a strong opioid with similar properties to morphine.
It is licensed for moderate to severe pain in cancer and post-operative pain.

Place in therapy

- Intolerance to morphine or unacceptable level of side effects with oral morphine
- Breakthrough medication for patients using fentanyl patches but intolerant of morphine.
- Analgesic potency ratio of oral morphine to oral oxycodone 2:1

Dosing

It is available in short-acting or m/r (over 12h) oral and parenteral formulations.

- Short-acting (OxyNorm®):- 5mg, 10mg, 20mg caps; 5mg/5ml liquid, 10mg/ml liquid
- M/r (trade name OxyContin®):- 5mg, 10mg, 20mg, 40mg, 80mg tablets
- Parenteral oxycodone (OxyNorm® injection):- 10mg/ml; 1ml and 2ml amps

If no previous strong opioid, use oral short-acting 2.5mg q4h or m/r 5mg b.d. and titrate

- If already on strong opioid; convert dose according to Conversion Table 31
- Lower doses may be required in the elderly and in renal impairment

Parenteral oxycodone should be reserved for those patients who are intolerant of morphine,

or on oral oxycodone who are no longer able to tolerate oral medication.
Dose of SC oxycodone = Dose of oral oxycodone ÷ 1.5 (Table31)
See Syringe Driver Guidelines (p44)

Hydromorphone

Hydromorphone is a strong opioid, licensed for the relief of severe pain in cancer.

Place in therapy

- Patient intolerant of morphine or experiencing unacceptable level of side effects with oral morphine, particularly sedation / hallucinations.
- Breakthrough medication for patients using fentanyl patches but intolerant of morphine.
- Analgesic potency ratio of oral morphine to hydromorphone is 5-10:1 (average of 7.5:1)

Dosing

It is available in short-acting or m/r (12 hrly) forms. Both forms may be swallowed whole or opened and sprinkled onto cold soft food (not suitable via PEG or NG tubes).

- If no previous strong opioids, prescribe short-acting 1.3mg q4h *or* m/r 2mg b.d and titrate

If already on strong opioid convert dose according to Conversion Table (See Table 31)

- Hydromorphone is renally excreted. Monitoring for toxicity is required in renal impairment; decrease frequency of dosing in moderate renal impairment (creatinine 300-700mmol/l) e.g. 8hrly and severe renal impairment (creatinine > 700mmol/l) e.g 12 hrly. **Seek specialist advice**.
- Consider dose reduction in the elderly

Methadone

Pharmacology of methadone is complex and its use as an alternative strong opioid should be under *specialist supervision*, preferably as an inpatient.

9. Other approaches to pain (consider seeking specialist advice)

- Radiotherapy/chemotherapy/hormone therapy
- TENS
- Massage
- Relaxation
- Psychological support
- Neural blockade/epidural/intrathecal analgesia

10. Use of Adjuvants

Table 3

Drug	Use	Comments
Tricyclic antidepressant, e.g. ◊ Amitriptyline - 25mg at night (10mg in elderly), 25mg increments every 5 days to 150mg as tolerated	Neuropathic pain.	Usually response in 5 days. Helps sleep. Monitor for side effects
Anticonvulsant drugs, e.g. • Gabapentin 300mg daily increased by 300mg each day to 600mg tds • Pregabalin 75mg b.d up to 150mg b.d after 3-7 days. Max 300mg b.d • ◊ Clonazepam 500 microgram -2mg nocte • ◊ Carbamazepine 200mg nocte. Max 1,600mg daily.	Neuropathic pain	Increases in dose may be limited by sedation. May need slower titration – increase by 300mg every 3 days Titration may be limited by side effects, e.g. sedation Titration may be limited by side effects, e.g. sedation Titration may be limited by side effects, e.g. sedation
◊ Ketamine Orally; continuous SC infusion	Neuropathic pain	**Seek specialist advice** High incidence of hallucinations
Corticosteroid - e.g: dexamethasone 8-16mg a day in 1-2 doses. Give in the morning to avoid sleep disturbance	To decrease peri-tumour oedema. • Nerve compression. • Raised intracranial pressure • Spinal cord compression. • Organ infiltration. • Bone pain	May increase appetite, mood. Consider gastro-protective agent Monitor blood glucose Stop if no response after 7 days Review and reduce every 5-7 days to avoid side effects. Dexamethasone is 7 times more potent than prednisone
NSAIDs • e.g. ibuprofen 400-600mg q.d.s., diclofenac 50mg t.d.s. naproxen 250-500mg b.d. Ketorolac by SC infusion • **seek specialist advice** COX-2 Inhibitors • see BNF 10.1.1 **seek specialist advice**	Bone pain / soft tissue infiltration	Should respond within 1 week - stop if no improvement Monitor for side effects Add gastric protection with a PPI if risk factor for peptic ulceration (age >60yrs old, smoker, previous gastric ulcer, on steroids or anti-coagulants)

NAUSEA AND VOMITING

About 40% of patients with advanced cancer have nausea and 30% will vomit.
Note - nausea may occur without vomiting and vice versa
Definitions:
Nausea - unpleasant feeling of the need to vomit. Distinguish from anorexia
Vomiting - forceful expulsion of gastric contents through the mouth. Distinguish from regurgitation and expectoration

Assessment

- Review history and recent investigations
- Review medication
- Examination - looking for underlying causes
- Investigations - *only if will affect management*

Table 4 - Management Of Reversible Causes

Cause	**Specific Management**
Drug Therapy	Stop or find alternative unless essential
Uncontrolled pain	Analgesia - non-oral route until vomiting settles
Cough	Cough suppressant
Urinary retention	Catheterize
Constipation	Laxatives; bowel intervention
Anxiety	Determine fears; explanation; anxiolytics
Raised intracranial pressure	Corticosteroids (e.g. dexamethasone)
Electrolyte disturbances	Correct if possible and appropriate
Hypercalcaemia	Rehydration and intravenous biphosphonate
Oral/oesophageal candidosis	Antifungal (nystatin; imidazole)
Infection (URTI, UTI)	Antibiotic
Gastritis	Stop irritant drug; add PPI

Management

- Assess cause(s) of symptom ; may be more than one
- Remove reversible causes if identified
- If cause not reversible, treat according to underlying mechanisms
- If vomiting or severe nausea, use a non-oral route until controlled
- Avoid triggers (e.g. food smells); aim for small frequent meals

Anti-emetic Therapy

- Decide most likely cause, and choose first line treatment - Table 5
- Reassess daily - increase dose as needed **until** at maximum
- If no response, reassess likely cause
    - if **cause** changes, then use most appropriate medication
    - if same cause, go to second choice; combinations may be needed
- If poor response to second choice, consider second line approach (see below) and seek Specialist Palliative Care Advice

- ***TABLE 5***

Drug	***Main Action of Drug***	***Suggested Dose & Route***	***Recommended Use***
		FIRST LINE	
Cyclizine	Inhibits vomiting centre Vestibular sedative Cause unknown	Oral – 25-50mg t.d.s. SC - 75-150mg/24h by CSCI	Cerebral irritation; vertigo Visceral distortion/obstruction Oropharyngeal irritation *May be effectively added to haloperidol*
◊ Haloperidol	Inhibits chemoreceptor trigger zone	Oral - 1.5mg to 5mg at night SC - 2.5 to 10mg o.d. or by CSCI	Biochemical disturbance (drug, metabolic, toxic) *May be effectively added to cyclizine*
Metoclopramide *	Pro-kinetic	Oral - 10-20mg t.d.s.-q.d.s. SC - 30-90 mg/24h by CSCI	Gastric stasis, reflux "Squashed stomach" - mass, ascites *Avoid in mechanical bowel obstruction*
		SECOND LINE	
Levomepromazine	Good broad spectrum anti-emetic (not pro-kinetic) Also sedative - dose related	Oral - 6-25mg nocte or in divided doses SC - 5-25mg o.d. or by CSCI	Second choice - may be used earlier if sedation is not a problem or is desirable (usually in doses >25mg/24h) *Replaces previous anti-emetic*
Ondansetron (or alternative equivalent)	5HT3 antagonists	Oral - 8mg b.d. Rectal - 16mg od SC - 16mg/24h by CSCI	Mainly in chemotherapy, post-operatively Adjuvant in cerebral irritation, gastric irritation or biochemical stimulus *Added to previous anti-emetic*
Dexamethasone	Reduces inflammatory response May have central effect	Oral/SC - 4-16mg o.d. or in 2 divided doses	Adjuvant anti-emetic Cerebral oedema; liver metastases *Added to previous anti-emetic*

** - In Parkinson's syndromes, domperidone may be used in place of metoclopramide. See BNF 4.6*
Note - avoid adding cyclizine or anti-muscarinic drugs to metoclopramide, as they inhibit its prokinetic action

GASTRO-INTESTINAL OBSTRUCTION

Definition

It occurs in 3% of all cancer patients; more frequent complication if advanced intra-abdominal cancer (e.g. colon -10%; ovary -25%)
Site of obstruction is small bowel in 50%; large bowel in 30%; both in 20%

Table 6. Common causes of intestinal obstruction

Mechanical	Functional
Cancer Constipation Bowel wall infiltration Stricture formation Extrinsic compression	Autonomic nerve damage Drugs – opioids, anti-cholinergics Postoperative Metabolic - hypokalaemia; hypercalcaemia Radiation fibrosis

- Intestinal obstruction has a mechanical or functional cause, or both.
- Degree of obstruction may be partial or complete.
- Onset may be over hours or days; initial intermittent symptoms may worsen and become continuous, or may resolve spontaneously (usually temporarily).

Signs and symptoms of bowel obstruction

- Nausea and vomiting (earlier and more profuse in higher obstruction)
- Pain due to abdominal colic or tumour itself
- Abdominal distension (especially distal obstruction)
- Altered bowel habit (from constipation to diarrhoea due to overflow)
- Bowel sounds (from absent to hyperactive and audible)

Assessment

- Clinical - see above
- Radiology - if needed to distinguish faecal impaction, constipation and ascites.
- Rarely an emergency - take time to discuss situation with patient and family to allow them to make an informed choice about management.

Surgery - consider for every patient at initial assessment.

Consider if:	*Prognosis is poor if:*	*Contra-indicated if:*
• patient willing • discrete and easily reversible mechanical cause of obstruction • 'reasonable' prognosis (>12 weeks) if treated	• previous abdominal radiotherapy • obstruction in small intestine or at multiple sites • extensive disease, poor condition, cachexia, poor mobility	• ascites +/- carcinomatosis peritonei present • past findings suggest intervention is futile • poor physical condition • short prognosis (<12 weeks)

Table (7) Medical management of gastro- intestinal obstruction

Nausea +/- vomiting	
Complete obstruction	1) Cyclizine 75-150mg/24h by CSCI 2) Add haloperidol 2.5-5 mg/24h by CSCI 3) Substitute both with levomepromazine 5-25mg/24h Refer to Palliative Care team for advice
Functional or partial obstruction	Metoclopramide: 30 - 90mg/24h by CSCI • Contraindicated in complete bowel obstruction • Stop if precipitates colic; use anti-emetics above
Persistent/high volume vomiting	◊ Octreotide 300-1200 micrograms/24h by CSCI, or hyoscine butylbromide (as for colic below). Give together if symptom resistant. Seek specialist advice
Other Symptoms	
Constipation precipitating obstruction	Sodium docusate 100-200mg b.d – t.d.s. orally (Avoid stimulant, bulk or fermenting laxatives)
Abdominal pain	Follow pain control guidelines, using non-oral route
Abdominal colic	• Anti-cholinergic agent, e.g. hyoscine butylbromide 60-300mg/24h by CSCI • Stop: pro-kinetic drugs; bulk-forming, osmotic and stimulant laxatives.
Hydration	Assess need for i/v or SC fluids on *individual* patient basis. Many are *not* dehydrated • May still absorb oral fluid above level of obstruction. • SC fluid can be given up to 1-2 Litres24h
Dietary intake	• Allow food, drink if and as wished • Total Parenteral Nutrition (TPN) may be appropriate in selected cases - multidisciplinary team decision.

Naso- gastric intubation

Do **not** use naso-gastric (NG) tube *routinely* for obstruction in the terminally ill.
Prolonged NG aspiration with i/v fluids is not recommended as it rarely gives sustained relief. Use medical measures described above.
May be considered for:

- decompression of upper GI tract if surgery is being considered
- some with faeculent vomiting which is responding poorly to drug treatment

Venting per- cutaneous gastrostomy is occasionally useful for symptom relief.

Ongoing Management

Review treatment at least daily
Discharge to or management at home requires early planning.

ANOREXIA

Definition - reduced desire to eat. Distinguish from nausea

Causes include

- Paraneoplastic effect of cancer
- Impaired gastric emptying
- Medication - e.g. opioids, SSRIs
- Any of the causes of nausea
- Altered taste or smell
- Anxiety, depression, delirium

Management of cancer-related anorexia

- Explanation - an effect of the cancer itself
- Listen to fears and anxieties of patient and family/carers - failure to eat can cause fear and conflict
- Food or supplements may be more easily taking by snacking through the day
- Avoid offering excessive food; portion looks less daunting on a larger plate

Medication

Corticosteroid e.g.

- ◊ Dexamethasone - 4-6 mg once daily assess after one week
  - if beneficial, continue - reduce weekly to lowest effective dose
  - if no benefit after 1 week, stop

◊ Megestrol acetate

- 160mg once daily; may be increased - refer for specialist palliative care advice
- Less side effects than dexamethasone *except* increased risk of leg dependent oedema and thromboembolic phenomena (5% excess risk)

Metoclopramide - if impaired gastric emptying suspected

- 10-20mg t.d.s. - q.d.s.

CONSTIPATION

Causes to consider

- Drug induced – review medication; consider prophylactic laxative
- Dehydration - encourage fluids; review diuretics
- Reduced mobility - ensure ready access to toilet; attention to privacy
- Altered dietary intake - review and advise as appropriate
- Hypercalcaemia – i/v fluids and biphosphonates (see Table 27)
- Neurological (e.g. spinal cord compression; autonomic neuropathy)
- Intestinal obstruction - see Table 7

Assessment

- History - normal bowel habit; medication list; causative factors
- Abdominal palpation and auscultation; digital rectal examination
- Investigations - if needed for treatment; e.g abdominal x-ray; calcium levels

Table 8 Medical Management - Laxative Therapy

Clinical Situation	Agent Type and examples	Comments
Soft bulky stools - low colonic activity	*Stimulant* Senna 2-4 tablets at night; bisacodyl 10mg suppositories 1-2 o.d.	Start with low dose; increase if needed. May cause abdominal cramp
Colon full, no colic	*Stimulant* ± *softening agent* (see below)	
Colon full and colic present.	*Macrogols* Movicol® 2-3 sachets per day	Encourage fluids
Hard dry faeces	*Softening agents* - docusate sodium up to 500mgs/day. Arachis oil enema	Can be useful in sub-acute obstruction. Higher doses may stimulate peristalsis.
Hard faeces in rectum	Glycerin suppository 4g	
Hard faeces - full rectum, colon	Stimulant plus softener Co-danthramer strong 2.5-15ml or caps 1-3 at night and titrate	May cause red urine; peri-anal rash/irritation; colic
	Movicol® (see above)	Encourage fluids
Faecal impaction	Arachis oil retention enema **(avoid if known nut allergy)** ± Phosphate enema	Warm before use Arachis oil to be given at night, followed by phosphate enema in the morning
	Movicol® - 8 sachets dissolved in 1Litre of water over 6h p.o.	Keep dissolved solution in a refrigerator. Limit to 2 sachets/h in heart failure

DIARRHOEA

Increase in the frequency of defecation and/or fluidity of the faeces.
Prevalence: 4% of Patients with advanced cancer

Assessment and Management
Establish cause - usually evident from history
Review diet
Review medication (including laxatives) – uncommon side effect of some drugs (e.g PPIs)
Clinical assessment includes a rectal examination and inspection of the stool
Exclude constipation with overflow - a plain abdominal x-ray if overflow may help if suspected. Treat as for constipation (Table8).
Other investigations appropriate if will significantly affect treatment
If the patient is in the last days of life, treat symptomatically and do not investigate

Table 9 - Management

Cause	Management
Drugs - e.g laxatives, magnesium antacids, PPIs	Review medication
Antibiotics - altered bowel flora	Stop antibiotic if possible Exclude Clostridium difficile (use local guidelines)
Acute radiation enteritis	Absorbent (see below); seek specialist advice
Steatorrhoea	Pancreatin supplements
Chologenic	Colestyramine (see BNF)
Carcinoid syndrome	Cyproheptadine (see BNF) – seek specialist advice
Ulcerative colitis	Sulphasalazine; mesalazine; corticosteroids
Infection	Fluid and electrolyte support; antibiotic uncommonly needed (seek microbiology advice)
Secretory diarrhoea (e.g. AIDS, tumour, fistula)	Titration may be limited by side effects, e.g. sedation by CSCI – seek specialist advice

Table 10 Pharmacological Management

Medication type	Example and dose
Opioid drugs	Loperamide 4-32mg/day in 2-4 divided doses Codeine 30-60mg 4-6 hrly
Absorbents - hydrophilic bulking agents	Ispaghula husk 1 sachet b.d. - avoid fluids for 1h after taking
Intestinal secretion inhibition	Octreotide 300-1200 microgram/24h by CSCI

For severe resistant diarrhoea – seek specialist advice

RESPIRATORY SYMPTOMS and HICCUPS

DYSPNOEA

Respiratory symptoms are frequent in terminal disease, and tend to become more common and severe in the last few weeks of life.

Dyspnoea is an unpleasant subjective sensation that does not always correlate with the clinical pathology. The patient's distress indicates the severity.

- Physical, psychological, social and spiritual factors can all contribute to this subjective sensation.
- There may be more than one cause, including those that are reversible.

Assessment

- History and clinical examination
- Investigations e.g. chest x –ray
- Management will be dependent on clinical diagnosis

Management

Treat Reversible Causes

Table 11 - Causes Not Related to Malignancy

Reversible Causes	Consider
Cardiac Failure and Pulmonary Oedema	Diuretics/ACE inhibitors/nitrates/opioids
Pneumonia	Antibiotics where appropriate
Bronchospasm	Bronchodilators ± steroids
Anaemia	Transfusion
Pulmonary Embolism	Anti-coagulation

Table 12 Malignancy Related Causes

Cause	Palliative Procedures
Superior Vena Cava Obstruction	Consider high dose steroid see palliative care emergencies - Table 27 (p36) Refer to Oncologist for XRT/ Chemotherapy Stents
Tracheal/ Bronchial Obstruction	Refer to Oncologist for radiotherapy Laser Therapy Stents
Lung Metastases	Refer to Oncologist for XRT/ Chemotherapy
Pleural Effusion Pericardial Effusion Ascites	Drainage procedures
Anaemia	Blood transfusion - treat symptoms rather then haemoglobin level

Non-Pharmacological Measures

- Explanation
- Distraction and relaxation techniques
- Calm, reassuring manner
- Positioning of patient
- Increase air movement – fan/ open window
- Physiotherapy – decrease respiratory secretions and breathing exercises
- Occupational Therapy
- Modify activities of daily living to work with the symptom
- Establish the meaning of the breathlessness for the patient and explore fears
- Psychological support – to reduce distress of anxiety and depression

Oxygen therapy may help dyspnoeic patients who are hypoxic (Sa02 < 90%) at rest or who become so on exertion. It may help other dyspnoeic patients due to facial or nasal cooling effect. A trial of oxygen for a fixed time period should be offered for hypoxic patients (Sao2 <90%) and those where saturation measurements not available may be offered oxygen therapy if desired. If of no benefit then dependency should not be perpetuated resulting in limited mobility, barrier to communication, inconvenience and cost implications; alternative therapies should be offered .

Patients with COPD who are chronically hypoxic - do not use >28% and seek guidance from respiratory physicians.
Domiciliary oxygen for continuous use should be prescribed according to local guidelines

Table 13. Pharmacological Measures

Corticosteroids e.g.	
Dexamethasone (reduces inflammatory oedema)	Superior vena cava obstruction 16mg Stridor 8-16mg Lymphangitis Carcinomatosis 8mg Post - Radiotherapy 8mg Bronchospasm 8mg
Review at 5 days • if improved symptom control then reduce stepwise to lowest effective dose • If Ineffective, stop steroid (unless taken > 14 days) – or reduce to previous maintenance dose if appropriate Gastric protection with a PPI may be required	
Opioids	Decrease perception of dyspnoea Decrease anxiety Decrease pain

• **If patient is opioid naïve:**
  • **Oral short acting morphine 2.5 – 5mg p.r.n. for dyspnoea**
• **If patient already taking regular strong opioid for pain:**
  • **p.r.n. dose of 25-100% of 4 hrly dose**
  • **Consider increasing regular dose by 25-50%**
  • **Titrate according to response**
e.g.
If patient on morphine m/r 30mg b.d.
• Oral short-acting morphine dose for dyspnoea = 2.5 – 10mg p.r.n.	

Benzodiazepines e.g.	
Diazepam 2-5mg up to t.d.s. • Review after 1 week, may accumulate Lorazepam 500 micrograms -1mg sublingual p.r.n. Midazolam 2.5-5mg SC 4 hourly	Decrease anxiety Muscle Relaxant Panic Attacks
Review after one week and reduce if drug accumulating and causing drowsiness	
Nebulised Medications	
Sodium chloride 0.9% 5mls of p.r.n. or 4 hourly	Mucolytic for viscous secretions
Salbutamol 2.5-5mg p.r.n. or 4 hourly	Bronchodilator
NB. Monitor 1st dose for Adverse Effects. Stop after 3 days if no response	

*Note: **use the standard lorazepam tablets for sublingual dosage**

If symptoms persist contact specialist palliative care team

COUGH

May be cancer related/treatment related or due to other diseases.

Cough may serve a physiological purpose and therefore where possible expectoration should be encouraged

Management
Treat specific causes

Table 14

Cause	**Potential Treatments**
Malignancy related	Refer to Oncologist for radiotherapy Consider corticosteroids
Treatment related	Medication review e.g ACE induced cough
Cardiac Failure and Pulmonary Oedema	Diuretics/ACE inhibitors
Pneumonia	Antibiotics if appropriate
Asthma/ COPD	Bronchodilators +/- steroids

Table 15

Palliative Procedures	
Tumour Related Therapy	Refer to Oncologist for radiotherapy/ chemotherapy Laser Therapy
Infection	Physiotherapy/ nebulised saline/ antibiotics
Recurrent Laryngeal Nerve Palsy	Refer urgently to ENT
Pleural Effusion	Drainage procedures

Pharmacological Measures – Symptomatic Treatment

- Simple linctus 5mls 3 – 4 times a day
- Cough suppressants
- Codeine linctus (15mg in 5mls) 5-10mls 3-4 times a day or at bedtime
- Pholcodine linctus (5mg in 5mls) 5 – 10mls up to 4 times a day

If symptoms persist seek specialist advice

HAEMOPTYSIS

Management

- Reassurance/ explanation
- Infection – Antibiotics
- Review anticoagulants
- Palliative radiotherapy

Pharmacological Measures

◊ Etamsylate 500mg orally q.d.s.
Tranexamic acid 1g orally t.d.s.

Major life- threatening haemorrhage (see palliative care emergencies p 41)

- Ensure patient is not left alone
- Keep patient warm
- Have dark towels (e.g. green, blue – *not* red) available
- Midazolam 5-10mg deep i/m or i/v (for sedation and amnesia)
- Diamorphine 5-10mg deep i/m or i/v (or an appropriate dose if already on opioids)

ORAL PROBLEMS

Preventative management

- Teeth and tongue should be cleaned at least twice daily with small medium head toothbrush and fluoride toothpaste. The mouth should be rinsed thoroughly with water after cleaning.
- Dentures should be removed twice daily, cleaned with a brush and rinsed with water.
  They should be soaked overnight in water or the patient's usual solution and cleaned with a brush.
- Adequate oral fluid intake should be encouraged.
- Lips should be moisturised sparingly with lip balm.

Table 16

Problem	Management
Aphthous ulcers	Local steroid – e.g. Adcortyl in Orabase, Corlan Antiseptic mouthwash – e.g. chlorhexidine gluconate Topical gels – anti-inflammatory (e.g. Bonjela) or local anaesthetic (e.g. lidocaine) – see BNF 12.3.1
Viral ulcers	Aciclovir 200mg 5 times a day for 5 days Topical gels (see above)
Malignant ulcers	Consider antibiotic
Radiation stomatitis	Benzydamine (Difflam) mouthwash or spray Paracetamol mucilage (Christie formula) 1g 4-6 hrly Opioid analgesics if above inadequate
Gingivitis	Metronidazole 200mg t.d.s. orally for 3 days Consider metronidazole suspension topically or rectal administration if not tolerated orally Antiseptic mouthwash – e.g. povidone-iodine or chlorhexidine gluconate mouthwash
Dry mouth	Review medications (opioids, anti-muscarinics) Increase oral fluid intake Saliva substitutes - e.g. Saliva Orthana, Glandosane for dry mouth (see BNF 12.3.5) ◊ Pilocarpine tablets/eye drops- seek specialist advice
Coated tongue	Chewing pineapple chunks Brushing tongue with soft toothbrush
Fungal infection	Nystatin suspension 1ml q.d.s. or Fluconazole 150mg stat or 50-100mg daily for 5 days Dentures should be soaked overnight in a weak chlorine solution (e.g. Milton)

References

Christie Hospital NHS Trust (2000), Oral Hygiene protocolRawlins, C, and Trueman (2001) Effective mouth care in seriously ill patients, Professional Nurse 16 (4)

Regnard C and Hockley J (2004) A Guide to Symptom Relief in Advanced Disease, 5th Edition, Radcliffe Medical Press, Oxford

Twycross R G (2002) Symptom Management in Advanced Cancer 3rd edn, Radcliffe Medical Press Ltd., Oxford

Woodruff, R (1999), Palliative Medicine, 3rd Edition, Oxford University Press, Oxford

DELIRIUM AND CONFUSION

Definition

Delirium is an acute or subacute onset of disturbance of the conscious state, with disordered attention, cognition, perception and psychomotor behaviour. Severity tends to fluctuate.
It can be a great source of distress to patients and carers.

Acute delirium (confusion) should be distinguished from dementia.

The cause of delirium is often multifactorial; identify and treat reversible causes where possible:

Table 17 Management of Confusion

Causes	Treatment
Drug related: • Opioids • Corticosteroids • Sedatives • Anti-muscarinics that cross the blood/brain barrier	Stop suspected medication if possible or change to suitable alternative
Withdrawal: e.g. alcohol, nicotine , benzodiazepines, opioids	Review drug regimen. It may be appropriate to allow the patient to continue to use responsible agent. Nicotine patches may be useful.
Metabolic: • Respiratory failure • Liver failure • Renal failure • Hypoglycaemia • Hyperglycaemia • Hypercalcaemia • Adrenal, thyroid or pituitary dysfunction • Infection	Treat any reversible causes if possible • Consider oxygen (see Dyspnoea guideline p20) • See Hypercalcaemia guideline (Tables 26 & 27, p36)
Raised Intracranial Pressure:	Dexamethasone 16mg daily – review after 5 to 7 days; stop if ineffective; reduce in stages if helps
Circulatory: • Dehydration • Shock • Anaemia	Treat any reversible causes if possible
Other: • Pain • Constipation • Urinary retention	• See Pain guideline p 5-12 • See Constipation guideline p18 • Catheterise

Pharmacological management

Only use if symptoms are marked, persistent, and cause distress to patient.
Review frequently as sedative drugs may exacerbate the problem.

Table18

Delirium where sedation undesirable	Haloperidol 0.5-3mg at night or b.d. orally or 2.5mg-5mg by CSCI over 24 hours
Agitated delirium where sedation would be beneficial (e.g. Care of the Dying- see p42)	Levomepromazine 12.5-50mg 6-8 hourly orally or by CSCI over 24 hours (sedation may occur at these doses)
Acutely disturbed, violent or aggressive; at risk to themselves or others	Haloperidol 5mg SC or i/m repeated after 20-30 minutes - seek specialist advice

Non- Pharmacological management

- Keep patient in familiar surroundings.
- Quiet well lit room.
- Repeated calm reassurance and explanation, minimising the number of different staff having contact with the patient.
- Presence of a family member or trusted friend.
- Avoid all disruptive disturbances – e.g. moving patient to different bed or ward
- Hallucinations, nightmares and misperceptions may reflect unresolved fears and anxieties, so allow discussion of these.
- Reassure family that the patient's confusion is secondary to a physical problem.

References

Back, Ian: (2001) Palliative Medicine Handbook, 3rd edition, http://www.pallmed.net
*Twycross R G (*2002) Symptom Management in Advanced Cancer 3rd edn
Radcliffe Medical Press Ltd
Woodruff, Roger: Palliative Medicine, 3rd edition, OUP, 1999

HICCUPS

A pathological respiratory reflex characterised by spasm of the diaphragm resulting in sudden inspiration and abrupt closure of the epiglottis.

Management of Hiccup

Treat if causing patient discomfort

Table 19.

Cause	Specific Management
Gastric Distension	Peppermint Water ◊ Metoclopramide 10mg q.d.s. (not concurrently with peppermint water) Anti-flatulent e.g. Asilone 10mls q.d.s.
Diaphragmatic Irritation Phrenic Nerve Irritation	◊ Baclofen 5mg orally t.d.s. ◊ Anticonvulsant – e.g. gabapentin – in usual doses (see BNF) ◊ Nifedipine m/r 20mg b.d. ◊ Midazolam – seek specialist advice
Toxicity: • Uraemia • Hyponatraemia • Hypokalaemia • Hypocalcaemia • Hyperglycaemia • Infection	Haloperidol 1-3mg orally nocte Chlorpromazine 10-25mg orally t.d.s. ◊ Midazolam – Seek specialist advice
CNS tumour/lesion	◊ Anticonvulsant – e.g. gabapentin ◊ Baclofen 5mg orally t.d.s.

Sweating (hyperhidrosis)

Table 20.

Cause	Treatment
Room temperature Excessive bedding	Lower ambient temperature Adjust bedding
Infection Thyrotoxicosis Hypoglycaemia Hypoxia. Pain. Anxiety	Treat underlying cause where possible
Drugs (alcohol, antidepressants, opioids, etc)	Review medication
Hormonal treatment for cancer, e.g: • Tamoxifen • LHRH analogues (e.g. goserelin) • Menopause due to XRT, chemotherapy.	Seek specialist advice
Paraneoplastic (± pyrexia), e.g: • lymphoma • solid tumour (e.g. renal carcinoma) liver metastasis (often with no measurable pyrexia).	See pharmacological management

General management

- Oral fluids
- Fan
- Tepid sponging
- Fewer bedclothes
- Cotton clothing
- Layered clothing

Pharmacological management

- Paracetamol 1g q.d.s
- NSAID (standard doses)
- Anti - muscarinic (e.g. amitriptyline 10-25mg nocte)
- ◊ Propranolol 10-40mg t.d.s.

If symptom persists seek specialist advice

References

Back, Ian: Palliative Medicine Handbook, 3rd edition, http://www.pallmed.net
***Twycross R G (*2002) Symptom Management in Advanced Cancer 3rd edn Radcliffe Medical Press Ltd.**
Woodruff, Roger: Palliative Medicine, 3rd edition,OUP,1999

PRURITUS

Pruritus is an unpleasant sensation that provokes the urge to scratch

Non-Pharmacological Measures

Good skin care
Keep finger nails cut short
Keep skin cool and hydrated
Keep creams and lotions in fridge
Rub with ice cubes and leave wet to evaporate
Avoid hot baths
Distraction techniques
Avoid rough clothing

Pharmacological Measures

The evidence of the treatment of pruritus is limited. Many causes of pruritus are not histamine related so although antihistamines may have a role, other measures need to be tried including treating the underlying cause if possible. In addition stop potentially causative drugs if possible

Table 21.

Cause	**Specific Management**
Dry Skin	Emollients e.g. Aqueous cream (+/- 1% menthol) Balneum Plus bath oil
Primary Skin Diseases e.g. Scabies Dermatitis Psoriasis	Appropriate treatment of underlying condition
Skin inflamed	Topical corticosteroids e.g. hydrocortisone 1% cream
Lymphoma	Prednisolone 10 –20 mg t.d.s. ◊ Cimetidine 400mg b.d.
Opioid Induced Itch	Anti-histamines e.g. chlorphenamine 4mg t.d.s. ◊ Paroxetine 5 - 20 mg o.d. ◊ Ondansetron 4 – 8mg b.d.
Cholestasis	Naltrexone 50-250mg o.d. * ◊ Rifampicin 75mg o.d. - 150mg b.d. or ◊ Paroxetine 5-20mg o.d. ◊ Ondansetron 4mg b.d. (increasing to 8mg b.d. if required)
Uraemia	UVB phototherapy Naltrexone 50-250mg o.d. * ◊ Ondansetron 4mg b.d. (increasing to 8mg b.d. if required)
Paraneoplastic Itch	◊ Paroxetine 5 - 20mg o.d. ◊ Mirtazepine 15-30mg nocte
Unknown Cause	Antihistamines e.g. chlorphenamine 4mg t.d.s. ◊ Paroxetine 5 - 20mg o.d.

*** Naltrexone - do not use in patients using opioids for analgesia**

ANXIETY IN ADVANCED ILLNESS

Anxiety is a state of apprehension or fear, which may be appropriate to a particular situation. Morbid anxiety occurs when individuals are unable to banish their worries.

- Anxiety tends to aggravate severity of other symptoms.
- People with life-limiting illnesses may suffer general anxiety or panic for a number of reasons including uncertainty about the future, separation from loved ones, job and social worries as well as unrelieved pain or other symptoms.
- Anxiety may be new to the individual, but is commoner in patients with pre-existing anxiety disorders:

Pre-existing anxiety disorders may include:

Table 22

General anxiety disorder	Anxiety symptoms *most of the day*
Panic disorder	Episodic panic or severe anxiety; avoidance; anticipatory anxiety between attacks
Agoraphobia, social phobia, simple phobia	Episodes of panic or anxiety triggered by external stimuli or specific situations

- Symptoms and signs of anxiety may also be due to organic disorders:
  - Hypoxia
  - Sepsis
  - Medications (e.g. Neuroleptics/ SSRIs/ steroids)
  - Drug/ substance withdrawal (e.g. benzodiazepines/ opioids/ nicotine/ alcohol)
  - Metabolic causes (e.g. hypoglycaemia/ thyrotoxicosis)
  - Poorly controlled pain/ other symptoms
  - Dementia

Assessment

- Full medical history and examination
- Recognition of organic causes
- Elicit patient's specific fears and understanding
- Note language, cultural or other characteristics that may be important
- Information from those close to the patient may help (e.g. family, GP)

Symptoms and Signs
Symptoms may be due to anxiety or to physical causes or both.
Table 23

	Symptoms and Signs
Cardiovascular	Palpitations/ chest Pain/ tachycardia/ hypertension
Respiratory	Breathlessness/ hyperventilation
Neurological	Dizziness/ paraesthesia/ weakness/ headache/ tremor
Gastro-Intestinal	Anorexia/ nausea/ diarrhoea/ dysphagia/ dry mouth
General	Sweating/ fatigue
Cognitive/ hypervigilance	Insomnia/ fearfulness/ poor concentration/ irritability
Avoidance Behaviour	Avoid situations/ discussions that provoke anxiety

Management
- The severity of the underlying disease and the overall prognosis guides treatment decisions
- Share decision making with the patient in developing management plan
- Treat reversible causes for anxiety if possible
- Offer appropriate reassurance

Non-Pharmacological Measures
- Acknowledge and discuss anxiety and specific fears as well as patient's own views and understanding - important first step
- Distraction
- Relaxation Techniques
- Counselling
- Cognitive behavioural therapy (CBT)
- Consider involvement of local psychological or psychiatric services
- Self-help (e.g. "bibliotherapy" - use of written material)
- Support groups
- Hospice Day Care if appropriate
- Assess how family is coping and if any communication problems are amplifying the anxiety or provoking feelings of isolation

Pharmacological Management
Indications:
- Non-pharmacological measures are not effective
- Situation is acute and severe or disabling
- Unacceptable Distress
- Short Prognosis (<c 4-6 weeks)
- Patient has cognitive impairment
- Advise patients about the side effects of medication prescribed
- Warn of side effects due to discontinuation (e.g. antidepressants)

Table 24

Medications	Comment
Benzodiazepines e.g. Lorazepam 500 micrograms-2mg p.o or sublingually b.d. to t.d.s. Diazepam 2-20mg nocte or divided doses Midazolam 2.5-10mg SC prn 4 hourly 10-60mg CSCI	Reduce anxiety Can cause physical and psychological dependence Short term use only Immediate acting/ rapid onset Long-acting If oral route not available Rapid onset/ short acting
Beta-Blockers E.g. propranolol 10mg – 40mg t.d.s. (See BNF 2.4)	For tachycardia/ tremor/ sweating Monitor BP/ heart rate. Avoid in asthma/ COPD
SSRIs **E.g. Citalopram** (See BNF 4.3.3)	Panic disorders 12 week course initially: Review within 2 weeks, then monthly from 4 weeks

References:

1. NICE Quick reference guide. Anxiety: management of anxiety in adults in primary, secondary and community care. December 2004. *Available at* http://www.nice.org.uk/pdf/CG022NICEguideline.pdf *(accessed 5th Dec 2005)*
2. Maguire P. Communication Skills for Doctors. Ch 7. Handling difficult situations. Arnold, London. 2000

DEPRESSION

Depression is persistent low mood or loss of interest, usually accompanied by one or more of:

- Low energy
- Changes in appetite, weight or sleep pattern
- Poor concentration
- Feelings of guilt/worthlessness
- Suicidal ideas

- Palliative care patients are at increased risk for depression
- Physical consequences of life limiting illnesses can mimic symptoms of depression.
- Untreated depression increases suffering by increasing the impact of existing symptoms and reducing the effectiveness of interventions.

Assessment

Screening should be undertaken in all settings using screening questions such as:

- "During the last month, have you often been bothered by feeling down, depressed or hopeless?"
- "During the last month, have you often been bothered by having little interest or pleasure in doing things?"
- Sensitively ask about the risk of suicide or self-harm and monitor feelings

Management

- Explore the patient's understanding of his/her illness
- Explain the management plan
- Address and treat current causes of physical and psychological distress
- Watchful waiting, with reassessment within 2 weeks, for patients who do not want an intervention, or who may recover without
- Refer to a mental health specialist if treatment-resistant, recurrent symptoms, atypical and psychotic depression and or at significant risk

Non-Pharmacological Management

- Distraction
- Relaxation
- Sleep and anxiety management advice
- Complementary therapies
- Day Care
- Guided self-help
- Cognitive behavioural therapy (CBT)
- Short-term psychological treatments
- Exercise

Table 25. Pharmacological Management

Selective serotonin reuptake inhibitors (SSRIs) (See BNF 4.3.3) e.g. Sertraline 50-200mg o.d Fluoxetine 20-60mg o.d	• Recommended by NICE in routine care • As effective but better tolerated than TCAs • Useful for mixed anxiety and depressive disorders • May provoke anxiety "flare" (manage with benzodiazepines as needed)
Tricyclic anti-depressants (TCAs) (See BNF 4.3.1) e.g. Amitriptyline 25mg (10mg in elderly or frail patients)-150mg nocte	• Choice if the patient also has neuropathic pain or bladder spasms • Consider risks in cardiovascular disease • Cause weight gain, dry mouth, constipation and sedation • More likely than SSRIs to cause seizures
Mirtazepine 15-45 mg nocte (See BNF 4.3.4)	• Well-tolerated • Response rate equivalent to other antidepressants (70%) • Rapid onset of action (less than a week) • Increases appetite • Does not cause nausea and vomiting • Causes sedation • Not associated with cardiac toxicity or sexual dysfunction
Venlafaxine	• Use only under specialist mental health supervision

Antidepressants take time to work and maybe inappropriate if prognosis is short
Seek advice from specialist palliative care team or mental health specialists

References

1. National Institute for Clinical Excellence Quick Reference Guide. Depression: management of depression in primary and secondary care. Clinical Guideline 23. Issued December 2004.
2. Bury & Rochdale Palliative Care Guidelines. Management of Depression in Palliative Care.
3. www.palliativedrugs.com

PALLIATIVE CARE EMERGENCIES

HYPERCALCAEMIA

Presentation:

Corrected serum calcium >2.7mmol/L
In Primary Care seek specialist advice

Assessment:

- May develop insidiously
- Frequently missed, consider in unexplained nausea/vomiting or confusion
- Severity of symptoms related to speed of rise of serum calcium

Cause:

- Common tumour types (breast, myeloma, lung, kidney, cervix, bony metastases)
- Ectopic PTH secretion
- Can occur without bony metastases

Table 26 Symptoms and Signs:

General	Gastro Intestinal	Neurological	Cardiological
Dehydration Polydipsia Polyuria Pruritus	Anorexia Weight loss Nausea Vomiting Constipation Ileus	Fatigue Lethargy Confusion Myopathy Hyporeflexia Seizures Psychosis Coma	Arrhythmias Conduction defects

Management / Treatment:

- Check urea, electrolytes, creatinine
- Correct dehydration
- I/v Fluids 0.9% Sodium Chloride, 2-3 Litres/24hrs
- Potassium supplements

Table 27

Initial Corrected Serum Calcium mmol/Litre	Recommended total Pamidronate dose (mg)	Zoledronic Acid *
Up to 3.0	15 – 30	4mg
3.0 – 3.5	30 – 60	4mg
3.5 – 4.0	60 – 90	4mg
> 4.0	90	4mg
Infusion rate	< 60mg/hr	Not less than 15 minutes
Do not exceed concentration:-	60mg/250ml normal saline	Dilute in 100mls Sodium Chloride or 5% Dextrose
Side Effects	Pyrexia, flu-like symptoms and fatigue Late effects: osteonecrosis of jaw	
Duration of effect	Onset 3-7 days Duration 3 weeks	Onset – 2-3 days Duration > 3 weeks

- seek specialist advice if impaired renal function and see (BNF Appendix 3)

Monitor for Recurrence:
Recurrence can be a poor prognostic sign, especially if resistant to treatment. Repeat i/v bisphosphonates or commence oral bisphosphonates (see BNF 6.6.2 for guidance)

SUPERIOR VENA CAVA OBSTRUCTION

- Compression /invasion or thrombosis of SVC due to tumour or nodal mass within mediastinum
- Commonest cause – Lung Cancer, consider lymphoma

Table 28

Symptoms / Sings	Management
• Swelling of face, neck, arms • Headache • Dizziness • Fits • Dyspnoea • Dilated veins – neck, trunk, arms • Hoarse voice • Stridor	• Set up 60% oxygen • Dexamethasone i/v or p.o ‘16mgs • Consider Furosemide 40mg i/v or p.o. • Seek specialist oncological advice • Radiotherapy or Chemotherapy (SCLC or Lymphoma) or stent

Recurrence:

- I/v or oral steroids – reintroduce or increase dose
- Stent
- Thrombolysis if stent blocked by thrombus

Outcome:

Treatment often gives symptomatic relief

SPINAL CORD COMPRESSION

- Affects 5-10% of patients with cancer
- Spinal metastases: most common in Prostate, Lung, Myeloma and Breast
- Catastrophic event – aim is to prevent establishment of paresis
- Symptoms may be vague, there should be a high index of suspicion

Symptoms:

- Pain
  - may radiate in a radicular pattern
  - may be nerve root pain in limbs
  - may be worse on coughing or straining
  - may not be present
- Weakness of limbs (out of proportion to general condition of patient)
- Sensory changes – tingling, numbness, "my legs don't belong to me"
- Difficulty passing urine – usually a late presentation
- Constipation or faecal incontinence

Signs:

- Weakness of limbs
- Reflexes
  - absent / increased
  - extensor plantars
  - clonus may be present
- Altered sensation – look for a sensory level
- Check for distended bladder

Management / Treatment:

- High dose dexamethasone 16mg STAT dose oral or i/v commence immediately even if diagnosis is not confirmed
- Urgent same day referral to Clinical Oncologist for advice re radiotherapy and/or chemotherapy
- Urgent MR scan
- Refer for specialist spinal opinion for possible surgical decompression if progressive weakness despite radiotherapy, evidence of spinal instability

Aim of Treatment:

The earlier treatment is commenced the greater chance of preventing permanent paralysis and disability.

- Maximisation of recovery of neurological function,
- Local tumour control,
- Pain control
- Improve spinal stability.
- Good communication with patient and family.
- Good nursing care, pressure area care, psychological support and rehabilitation.

CAUDA EQUINA COMPRESSION – Lumbar Spine below L1

Presentation:
Lumbar pain with loss of power in lower limbs and loss of sphincter control.

Symptoms / Signs:
Weakness of legs, sciatic pain, urinary hesitancy and perianal numbness.

Cause:
Spinal metastases, breast, prostate, lung cancer and myeloma most common.

Treatment:
As for spinal cord compression - using high dose dexamethasone followed by radiotherapy

Recurrence:
Consider steroids as above

HAEMORRHAGE

Significant bleeding from tumour or invasion of blood vessels, bleeding of oesophageal varices or use of non-steroidals especially if steroids are used concomitantly and may be a terminal event in both advanced cancer and non-malignant disease. It is a frightening experience for both patients and carers.

Presentation and treatment catastrophic haemorrhage:

Symptoms / Signs:

- Cold
- Hypotension
- Anxiety

Management:

- To plan ahead where possible
- Consider appropriateness of admission, urgent blood transfusion, i/v fluids
- If there are warning signs or high anticipated risk of bleeding have a proposed management plan ideally discussed with patient and/or family and staff
- Record management plan in case notes and communicate this to all team members
- Pre-prescribe sedation in case needed urgently - midazolam 5-10mg deep i/m or i/v which can be repeated as required
- Provide dark coloured towel to disguise blood loss

In the event of catastrophic bleed:

- Manage as per plan
- Use sedation appropriately if the patient is distressed
- Support the patient and family
- If at home and no doctor or nurse available, family can be instructed to give rectal Diazepam solution 10mg

Further care:

- If bleeding temporarily stops further management will depend on overall clinical status and discussion with patient and family in relationship to further acute interventions.
- It may be necessary to continue an infusion of midazolam and diamorphine in the terminal phase.

CARE OF THE DYING

The Last Days of Life

The Liverpool Care Pathway for the Care of the Dying (LCP) is a framework of care based on the hospice model which is being implemented across hospice, hospital and community care settings. Recommendations in this chapter are based on this pathway. For further information please contact your local Palliative Care Team.

- Identification of the dying phase is essential.
- All possible reversible causes for current condition have been considered
- Patients are usually profoundly weak, bed bound and drowsy for extended periods.
- They may have a limited attention span, be disorientated in time and find it difficult to swallow medication.
- For some patients a sudden deterioration can occur.
- **The LCP requires that the multi-disciplinary team agree that the dying phase has been reached** and the patient may fulfil at least 2 of the following criteria:
    1. Bed-bound
    2. Only able to take sips of fluid
    3. Semi-comatose
    4. No longer able to take tablets
- Once dying is diagnosed the aim of care is to ensure a peaceful dignified death.
- Management plan should be discussed with the patient and family.
- Discussion about resuscitation where appropriate should be undertaken. Ensure that the Do Not Resuscitate Order is completed.
- Interventions, such as blood tests, vital signs recording, and unnecessary nursing interventions should be discontinued; artificial feeding and hydration, antibiotics may continue if clinically appropriate for comfort measures following discussion and agreement by the care team.
- Withdraw unnecessary drugs, e.g., vitamins, antibiotics anti-hypertensives etc.

Table 29 – Use of drugs in the Dying

Oral Drug	Management
Opioids	Convert to alternative SC route. If on regular opioid, will require CSCI (see page 45). For advice on Fentanyl patches see Pain chapter
Steroids	Stop, unless being used as adjuvant – convert to dexamethasone SC daily
Anti-emetics	Continue – convert to SC see page 15
Anticonvulsants	Stop – use midazolam 30-60mg/24 hrs via CSCI
Antidepressants	Stop
Benzodiazepines	Use midazolam SC. If available p/r diazepam can be used
Neuropathic pain agents	Consider SC clonazepam - refer to specialist palliative care team for advice
Nicotine e.g. cigarettes	Consider nicotine patches.
Anti-muscarinics	Glycopyrronium 600-1200micrograms/24 hrs via CSCI

Symptoms that may occur in the dying phase:

- Pain
- Nausea and vomiting
- Respiratory – secretions, dyspnoea, stridor
- Psycho-neurological – anxiety, panic, convulsions, delirium and terminal restlessness/ agitation
- Urinary incontinence/ retention
- Sweating
- Haemorrhage

Management

- Identification and regular review of symptoms is essential.
- Pre-emptive prescribing via the SC route is advocated for symptoms of:
    1. Pain
    2. Nausea and vomiting
    3. Agitation
    4. Respiratory tract secretions
    5. Dyspnoea
- For guidance on symptom management for dying patients, see relevant symptom chapter, your local LCP prescribing algorithms, and/or contact your local palliative care team.
- Explanation to patient and family vital with ongoing psychological support
- Spiritual and religious needs of the patient and family should be assessed.
- Rites and rituals that are appropriate to the culture and beliefs of the patient should be discussed.
- Care after death for family/carers

Staff Role and Needs

- To identify when patients are dying and explain the use of the Liverpool Care Pathway for the Care of the Dying.
- To provide information on the patient's physical and psychological needs to the informal carers.
- To ensure good communication within the team about the aims of care.
- To give mutual support in the patient's last few days and afterwards to the relatives and staff involved.

References

Twycross, R, Wilcock, A, Charlesworth, S & Dickman, A. (2002) Palliative Care Formulary 2nd Edition. Radcliffe Medical Press: Oxon
Ellershaw J E and Wilkinson S (2003). Care of the Dying A pathway to excellence Oxford University Press
Salford and Trafford (2004).Pain and Symptom Control Guidelines 3rd edition

Syringe Drivers

Graseby MS26 is recommended currently for use in palliative care

- Dysphagia
- Intractable nausea +/- vomiting;
- Malabsorption
- Inability to administer medication via oral route i.e. head/neck cancers
- Intestinal obstruction
- Profound weakness/cachexia
- Reduce numerous injections
- Patient choice e.g. aversion to oral medication; dislike of alternative routes (e.g. rectal)
- End of life

NB pain control is no better via the subcutaneous route than the oral route if the patient is able to swallow or absorb drug.

Consider alternatives.

If SC route not available, can drug be given by another route?

Rectal (e.g. NSAID);

Sublingual (e.g. lorazepam);

Transdermal (e.g. fentanyl).
Can drug be given effectively SC once a day? E.g. dexamethasone, haloperidol, levomepromazine

It is not recommended to give several 'once' daily injections SC. However, consider this as an alternative if syringe drivers are scarce or it is the patient's choice.

Contra-indications

- Poor pain control but none of above
- Some very restless patients
- Oedematous tissue.

Advantages of using a syringe driver

- Continuous infusion avoids peaks and troughs in plasma drug level

Disadvantages

- Patient may become psychologically dependent upon the driver
- Site problems
- May be seen as a 'terminal' event by the patients/carers

Drug compatibility

For most drug combinations, water for injection is the suggested diluent, as there is less chance of precipitation

Generally, incompatible drugs cause precipitation and thus cloudiness in the syringe. Do not use if this happens

For more information on drugs used via this route access www.palliativedrugs.com or www.prodigy.nhs.uk
N.B. many are used off-licence, for further information www.palliative-medicine.org

The following drugs are NOT suitable for SC injection as they are irritant to the skin:

- **Diazepam**
- **Prochlorperazine (Stemetil)**
- **Chlorpromazine**

Good practice

- All new staff should ensure they are familiar with the MS26 syringe driver before using.
- Follow local protocol for use
- All syringe drivers in use should be serviced regularly see local guidelines
- After use all syringe drivers should be cleaned and decontaminated as per local guidelines.

Although the Graseby MS26 has a boost button it is ***not*** recommended see local guidelines

DO NOT USE BOOST BUTTON ENSURE CORRECT SC BREAKTHROUGH DOSE IS PRESCRIBED (E.G 1/6TH 24 HOUR DOSE OPIOID)

TABLE 30 Common syringe driver drugs

Drug	24 hr range	Indication	Comments
Haloperidol	2.5mg-10mgs	Anti-emetic	Antipsychotic
Cyclizine	75-150mgs	Anti-emetic	Irritant
Levomepromazine (Nozinan)	5-25mgs 25-200mgs	Anti-emetic Terminal restlessness	Sedating at higher doses
Metoclopramide	30-90mgs	Anti-emetic	Irritation at site
Midazolam	10-120mgs	Terminal restlessness Anticonvulsant Anxiolytic	
Glycopyrronium bromide	600-1200 micrograms	Anti- muscarinic for noisy secretions	Start asap for noisy secretions
Hyoscine butylbromide	60 – 180mg	Intestinal obstruction Noisy secretions	Non-sedative
Hyoscine hydrobromide	800 – 2400 micrograms	Noisy secretions	Can cause agitation

Diamorphine	No ceiling doses	Analgesic	
Morphine	510-540mgs maximum quantity in mg for a 20ml syringe. Higher doses will require 2 syringe drivers or seek specialist advice	Analgesic	
Oxycodone	170-180mgs maximum quantity in mg for a 20ml syringe. Higher doses will require 2 syringe drivers or seek specialist advice	Analgesic	Do not mix with cyclizine

Always follow your local policies and guidelines for managing the syringe driver

Dickman, A, Littlewood, C, Varga, J (2002). The Syringe Driver. Continuous subcutaneous infusions in palliative care. University Press: Oxford.

Twycross, R, Wilcock, A, Charlesworth, S & Dickman, A (2002) Palliative Care Formulary 2nd Edition. Radcliffe Medical Press: Oxon

Twycross, R (2003) Introducing Palliative Care 4th Edition Radcliffe: Oxford.

www.palliativecare.manchester.nhs.uk

Appendix

Table 31 Opioid Conversion Charts (note: – rounded to convenient doses)

	Morphine mg				Diamorphine mg		Oxycodone † mg				Hydromorphone mg	
Route	**Oral**		***SC* ***		***SC* ***		**Oral**		***SC* ***		**Oral**	
	24h total	q4h 4 hrly	*CSCI 24h*	*q4h*	*CSCI 24h*	*q4h*	24h total	q4h	*CSCI 24h*	*q4h*	24h total	q4h
Dose	30	5	*15*	*2.5*	*10*	*2.5*	15	2.5	*10*	*2.5*	4	1.3
	60	10	*30*	*5*	*20*	*5*	30	5	*20*	*5*	8	1.3
	90	15	*45*	*7.5*	*30*	*5*	45	7.5	*30*	*5*	12	2.6
	120	20	*60*	*10*	*40*	*5*	60	10	*40*	*5*	16	2.6
	150	25	*75*	*12.5*	*50*	*7.5*	75	12.5	*50*	*7.5*	20	3.9
	180	30	*90*	*15*	*60*	*10*	90	15	*60*	*10*	24	3.9
	240	40	*120*	*20*	*80*	*15*	120	20	*80*	*15*	32	4.2
	360	60	*180*	*30*	*120*	*20*	180	30	*120*	*20*	48	7.8
	480	80	*240*	*40*	*160*	*25*	240	40	*160*	*25*†	64	10.4
	600	100	*300*	*50*	*200*	*30*	300	50	*200*	*30*†	80	13
	800	130	*400*	*65*	*260*	*40*	400	65	*260*	*40*†	104	16.9
	1000	160	*500*	*80*†	*330*	*60*	500	80	*330*	*60*†	128	20.8
	1200	200	*600*	*100*†	*400*	*70*	600	100	*400*	*70*†	160	26

This table does **not** indicate incremental steps. Increases are normally in 30-50% steps - more, if indicated by need for p.r.n. doses.
† SC volumes > 2ml are uncomfortable; oxycodone maximum concentration is 10mg/ml, and morphine is 30mg/ml; consider using **2 injection sites per p.r.n. dose.**

Conversion factors:

Oral morphine to **SC morphine - divide by 2; oral morphine** to **SC diamorphine – divide by 3**
Oral morphine to **oral oxycodone – divide by 2 Oral morphine** to **oral hydromorphone – divide by 7.5**
Oral oxycodone to **SC oxycodone – divide by 1.5**

*** For parenteral use of morphine, diamorphine and equivalent doses of oxycodone see opioids page 7 and safety use guidance NPSA 2006/012**

Table 32 Dose conversion for weak opioids and buprenorphine to oral morphine

Drug	To obtain equivalent oral morphine dose, multiply by:	For example if the patient is having:	Dose in 24h	Approximate oral morphine equivalent in 24h
Dihydrocodeine	1/10	30mg q.d.s	120mg	12mg
Codeine	1/12	30mg q.d.s.	120mg	10mg
Tramadol	1/5	100mg q.d.s.	400mg	80mg
Buprenorphine (sublingual)	60	200microgram t.d.s	600microgram	36mg
Buprenorphine (Transtec patch)	60	35microgram/h	840microgram	50mg

Table 33 Converting from Oral Morphine to Fentanyl Transdermal Patches

24-hrly morphine dose (mg)	Fentanyl Transdermal (microgram/h)	Oral short -acting morphine breakthrough dose
60 - 90	25	15
90 - 134	37	20
135 - 189	50	30
190 - 224	62	35
225 - 314	75	45
315 - 404	100	60
405 - 494	125	75
495 - 584	150	90
585 - 674	175	105
675 - 764	200	120
765 - 854	225	135
855 - 944	250	150
945 - 1034	275	165
1035 - 1124	300	180

Note Fentanyl 12 microgram/h patch is licensed for dose titration between steps 25 to 50, 50 to 75 micrograms/h

For doses outside the ranges above, seek advice from the specialist palliative care team. For other opioids, calculate the equivalent morphine dose from Table 32 If in doubt, seek advice.

REFERENCES:

Salford and Trafford Pain and Symptom Control Guidelines (3rd Edition) 12/2004
Palliative Care Guidelines North East Sector GMCCN
Back I N (1997)
Palliative Medicine Handbook (2nd edn).
Holme Tower Marie Curie, Penarth

BNF, Number 44(September 2001)
Prescribing in palliative care 13-17

Regnard C F B & Hockley J (2004)
A Guide to Symptom Relief in Advanced Disease (5th edn) Radcliffe Medical Press

Medicines Policy (2001)
Salford Royal Hospitals NHS Trust

*Twycross R G (*2002)
Symptom Management in Advanced Cancer 3rd edn
Radcliffe Medical Press Ltd.

ABPI (1998-99)
Compendium of Data Sheets and Summaries of Product Characteristics.

Twycross R G (2002)
*Introducing Palliative Care (*3rd edn)
Radcliffe Medical Press, Oxford

Stewart B (1992)
Terminal Care in the Community. A guide for Pharmacists.
Radcliffe Medical Press, Oxford

Twycross R G, Wilcock A, Thorp S (1998)
PCFI Palliative Care Formulary
Radcliffe Medical Press, Oxford

Ahmedzai S. 1993
Palliation of Respiratory Symptoms in The Oxford Textbook of Palliative Medicine eds Doyle D, Hanks G MacDonald N

Regnard C, Ahmedzai S.
Dyspnoea in Advanced Cancer – a flow diagram. Palliative Medicine 1990;4:311 – 315

Woodruff R.
Palliative Medicine 3rd edition 1998 Oxford University press