This is the second edition of the palliative care pain and symptom control guidelines. They have been produced by the Greater Manchester and Cheshire Cancer Network and have been adapted for use in Tameside and Glossop. They are aimed at the multi-professional health care team involved in prescribing, advising, and administering therapies across all care settings including primary care, hospital, hospice and nursing homes. They are primarily intended for use in the palliative care of adults although many of the principles also apply to children.

Many drugs are used in palliative care outside their licensed indication at the prescriber’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 prescriber 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 or the 24hour advice line at Willow Wood Hospice.

Specialist Palliative Care Team

Tameside and Glossop PCT
Macmillan Nurses 0161 342 7770

Tameside and Glossop Foundation Trust
Macmillan Nurses 0161 331 6098/6686

Willow Wood Hospice
24 Hour Advice Line 0161 330 5080

The full network guidelines can be accessed at www.gmccn.nhs.uk/hp/Resources/DocumentsStore under network documents.
Approved by:

NHS Tameside and Glossop Medicines Management Committee

Tameside & Glossop Health Services

Tameside Hospital NHS Foundation Trust Drugs and Therapeutics Committee

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Abbreviations used:

- b.d. - twice daily
- CSCI - continuous subcutaneous infusion
- EAPC - European Association of Palliative Care
- g - grams
- G/I - gastrointestinal
- (GPP) - Good Practice Point
- hrs - hours
- i.m - intramuscular
- i.v - intravenous
- LA - local anaesthetic
- m/r - modified release
- mcg - microgrammes
- mg - milligrammes
- NSAIDs - non-steroidal anti-inflammatory drugs
- o.d. - once daily
- p.r.n. - when required
- p/o - oral
- p.r - rectal
- q.d.s. - four times a day
- s/c - subcutaneous
- S/E - side effects
- SIADH - syndrome of inappropriate anti diuretic hormone
- SSRIs - selective serotonin re-uptake inhibitors
- Stat - immediately
- SVCO - superior vena cava obstruction
- t.d.s. - three times a day
- TENS - transcutaneous electrical nerve stimulation
- TCAs - tricyclic anti-depressants
- WFI - water for injection
- WHO - World Health Organisation
- XRT - radiotherapy
- ◊ - unlicensed use
- ≡ - is equivalent to
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Pain management

1. Pain assessment

Therapy must be tailored to each patient using a logical stepwise approach.

Assess the pain:
• Accurately diagnose the cause of pain(s).
• Character, location, frequency, relieving and aggravating factors.
• Response to previous medication and treatment.
• Use numerical pain score 0 – 10 where 0 = no pain and 10 = severe, overwhelming pain.
• Use regular analgesia at appropriate dose intervals with provision for p.r.n.

Review therapy options:
• Prescribe analgesics regularly. (GPP)
• Prescribe analgesics for breakthrough and/or incident pain.
• Consider the most appropriate route of administration.
• Prescribe by the WHO analgesic ladder.

2. The WHO Analgesic Ladder

Severe Pain

Moderate Pain

Step 3

STRONG OPIOID
+ non-opioid
± adjuvants

Mild Pain

Step 2

WEAK OPIOID
+ non-opioid
± adjuvants

Step 1

NON-OPIOID
± adjuvants

Adjuvants are drugs that contribute to pain relief and can be used alone or in conjunction with analgesics. They can be introduced at any step in the analgesic ladder.

For example:

Patient in pain, on no analgesics:

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

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

**Step 3** On maximum paracetamol and codeine, still in pain, **stop weak opioid** (GPP)
   *Continue paracetamol and adjuvant and add a strong opioid.*

   Commence immediate release morphine 5-10mg 4 hourly **regularly**(GPP)

   Or morphine m/r 10-30mg b.d.;

   Or morphine m/r 20-60mg o.d.;

   Or alternative strong opioids. (See page 11)

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..

It may be necessary to reduce the dose of morphine or increase the dosage interval of morphine in the elderly or in renal impairment. If in doubt, seek specialist advice.

<table>
<thead>
<tr>
<th>Generic morphine</th>
<th>Morphine brand names *</th>
<th>Dose intervals</th>
</tr>
</thead>
<tbody>
<tr>
<td>Short-acting morphine</td>
<td>Oramorph®, Sevredol®</td>
<td>4 hourly</td>
</tr>
<tr>
<td>Modified release morphine</td>
<td>Zomorph®, MST®, Morphgesic SR®</td>
<td>12 hourly (b.d.)</td>
</tr>
</tbody>
</table>

### 3. Pain Relief

- Set realistic goals e.g. pain-free on movement.
- Review pain control regularly.
- Increase the dose of strong opioid by 30-50% if pain relief inadequate.

**Management:**

(i) Breakthrough pain i.e. pain occurring before the next regular dose of analgesia

- Is the regular dose adequate?
- Is the p.r.n. dose correct? (See example page 6)
- Review regularly.
- If on m/r strong opioid, short-acting opioid should be prescribed and administered when required.

(ii) Incident pain i.e. pain occurring when the patient is pain free at rest but with pain on movement, weight-bearing, dressing changes, etc.

- Exclude a surgically correctable lesion, e.g. bone fractures.
- Give the equivalent 4 hourly dose of short-acting opioid 30 minutes before dressing change.
- If ineffective seek specialist advice.

(iii) Dose equivalents

- Oral morphine s/c diamorphine s/c morphine
  - 3mg 1mg 1.5mg

- Other strong opioid conversions available. *(See – Table 27)*

- Intrathecal/epidural conversions - refer to local pain specialists
4. Management of Opioid Side Effects

(i) Constipation
- Patients should be prescribed concurrent stimulant laxative + softener routinely when started on strong opioids (GPP)

(ii) Nausea and vomiting
- Prescribe Anti-emetic (Haloperidol or Cyclizine) if required, prescribe regularly for 5 days (e.g. Haloperidol 1.5mg at night or Cyclizine t.d.s.) and review need. (GPP)

(iii) Drowsiness
- Warn patients that drowsiness and poor concentration may occur at start of therapy and when dose increased, but will lessen after a few days.

(iv) Confusion
- Decrease dose if possible.

(v) Myoclonus
- Decrease dose if possible.

(vi) Hallucinations
- If elderly and/or in renal failure, may need to decrease dose and frequency of administration.

(vii) Respiratory depression
- Very unlikely if opioids used correctly. If it does occur reduce or stop the opioid as necessary – seek specialist advice.
  - If respiration slow (<12/min), difficult to rouse and cyanosed or hypoxic (SaO2 <90%) or respiration <8/min - use naloxone
    - intravenous naloxone 100-200 microgram stat
    - 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 30-60mins
    - If venous access is not possible, or there would be an appreciable delay, naloxone may be given i/m or SC (see BNF)

5. Treatment Guidelines for Cancer Pain

Table 1

<table>
<thead>
<tr>
<th>DIAGNOSIS</th>
<th>Pain due to cancer</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASSESS PAIN - MILD</td>
<td></td>
</tr>
<tr>
<td>STEP 1</td>
<td>NON-OPIOID</td>
</tr>
<tr>
<td>e.g., Paracetamol up to 1g/q.d.s. and/or NSAID</td>
<td></td>
</tr>
<tr>
<td>PAIN NOT CONTROLLED</td>
<td></td>
</tr>
<tr>
<td>STEP 2</td>
<td>WEAK OPIOIDS</td>
</tr>
<tr>
<td>e.g., Codeine 30-60mg q.d.s. AND Non-opioid</td>
<td></td>
</tr>
<tr>
<td>PAIN NOT CONTROLLED</td>
<td></td>
</tr>
<tr>
<td>STEP 3</td>
<td>STRONG OPIOIDS</td>
</tr>
<tr>
<td>Stop weak opioid</td>
<td></td>
</tr>
<tr>
<td>Initiate immediate release morphine 5-10mg/4hr</td>
<td></td>
</tr>
<tr>
<td>Or morphine m/r 10-30mg b.d.</td>
<td></td>
</tr>
<tr>
<td>Increase morphine dose 30-50% each day until pain control achieved or side effects intervene</td>
<td></td>
</tr>
<tr>
<td>Continue non opioid (GPP)</td>
<td></td>
</tr>
</tbody>
</table>

- +/- Adjuvants (See Table 3)
- +/- Laxatives
- +/- Anti-emetic for 5 days

PAIN CONTROLLED
- Review causes |
- Convert to equivalent dose if necessary e.g. to, |
- Modified release morphine |
- Alternative opioid

PAIN NOT CONTROLLED
- Anti-emetics p.r.n. |
- Laxatives |
- Short acting strong opioid for breakthrough pain

Continue |
- Seek specialist advice

| 4. Management of Opioid Side Effects |
| 5. Treatment Guidelines for Cancer Pain |

Tameside & Glossop Health Services

Symptom Control Guidelines
6. Common Pain Problems in Cancer Patients

<table>
<thead>
<tr>
<th>Pain</th>
<th>Character</th>
<th>Initial management</th>
<th>Preferred Adjuvants</th>
<th>Consideration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Deep Somatic</td>
<td>Dull, aching, worse on movement</td>
<td>Optimise WHO Ladder</td>
<td>Paracetamol, ibuprofen</td>
<td>Patients tolerant of morphine or experiencing unacceptable level of side effects</td>
</tr>
<tr>
<td>Visceral</td>
<td>Sharp/sudden ache, throbbing, worse on bending</td>
<td>Optimise WHO Ladder</td>
<td>Amoxicillin</td>
<td>of oral morphine.</td>
</tr>
<tr>
<td>Neuropathic</td>
<td>Burning, shooting, stabbing, sometimes an ache</td>
<td>Optimise WHO Ladder</td>
<td>Dexamethasone</td>
<td>Oral route is inappropiate, e.g. dysphagia, vomiting.</td>
</tr>
</tbody>
</table>

7. Alternative Strong Opioids

If side effects are intractable and reducing the patient's quality of life or limiting pain relief, consider changing to an alternative opioid.

**Fentanyl**
- Fentanyl is an agonist at the mu opioid receptors. It has similar properties to morphine.
- It is licensed for chronic intractable pain.
- Fentanyl 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. (GPP)

**Place in therapy** (Pain must respond to opioids.)
- Patients intolerant of morphine or experiencing unacceptable level of side effects with oral morphine.
- Oral route is inappropriate, e.g. dysphagia, vomiting.
- Where use may improve compliance.
- Patients with renal impairment.
- Patients with resistant morphine-induced constipation.
- Patients who are unwilling to take morphine.

**Dosing**
Transdermal fentanyl patches:
- Available as 12, 25, 50, 75, 100 micrograms/hour.*
  - Changed every 72 hours
- Approximately 12-24 hours to achieve maximum therapeutic blood levels and on removal levels decrease by about 50% in 17 hours.

* The 12mcg Fentanyl patch can be used for finer dose titration between the 25, 50, and 75mcg patch.
To convert from oral strong opioid to fentanyl patches:

**From four hourly short-acting strong opioid**

Apply patch and continue to give regular 4 hourly doses for 12 hours to 16 hours to cover initial build-up of fentanyl in the blood. Give 4 hourly dose equivalent of short-acting opioid for breakthrough pain when required.

**From twice daily modified release strong opioid**

Give the last dose of m/r strong opioid at the same time as applying the patch. Give 4 hourly dose of short-acting strong opioid p.r.n.

**From once daily modified release strong opioid**

Give the last dose of m/r strong opioid, wait 12 hours then apply the first patch. Give 4 hourly dose of short-acting strong opioid p.r.n.

In all cases ensure the correct breakthrough dose of short-acting strong opioid is prescribed

(See – Table 27)

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 with breakthrough doses of short-acting strong opioid.

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

**Fentanyl Lozenge (Actiq)**

Licensed for breakthrough pain in patients already on opioid therapy. Expensive. Doses of 200, 400, 600, 800, 1200 and 1600 micrograms are available. There is no direct dose equivalence with other opioids, including transdermal fentanyl, so it needs separate titration. Only use on specialist advice

**Management of patients with a fentanyl patch in the terminal phase**

It is usual practice to leave the fentanyl patch in place.

**To calculate the breakthrough dose of diamorphine for fentanyl patch**

Diamorphine (where tolerated) can be given to treat breakthrough pain. The ‘rule of 5s’ can be used to calculate the dose of p.r.n. diamorphine required i.e. divide the patch strength in micrograms/hour by 5 to obtain the dose of s/c diamorphine in milligrams 4 hourly *

E.g. to calculate the breakthrough dose of diamorphine for a 25 micrograms/hour patch:-

\[
\text{Fentanyl patch rate in micrograms/hour} \div 5 = \text{Dose of s/c diamorphine in milligrams}
\]

\[
25 \text{ micrograms/hour} \div 5 = 5 \text{mg s/c diamorphine 4-hourly}. *
\]

In the terminal phase when the patient on a fentanyl patch has unstable pain a 24hour syringe driver can be used in addition to the fentanyl. The total number of breakthrough doses of diamorphine needed in a 24 hour period is converted to a 24 hour s/c infusion and run alongside the fentanyl patch. If patient is requiring occasional doses for incident pain 2 - 3 breakthrough doses can be added to CSCI. This is equivalent to a 30 - 50% increase in opioid dose

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.

* In inpatient units in may be necessary to administer diamorphine more frequently than 4 hourly.
**Oxycodone**

Oxycodone is an agonist at the mu and kappa opioid receptors. It has similar properties to morphine. It is licensed for moderate to severe pain in cancer and postoperative pain.

**Place in therapy**

- Patient is intolerant of morphine or experiencing 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 is approximately 2:1 (e.g., 20mg of oral morphine = 10mg of Oxycodone).

**Dosing**

**Immediate Release**

- Oxynorm 5mg/5ml liquid, 10mg/ml liquid

**M/r**

- Oxycodone 5mg, 10mg, 20mg, 40mg, 80mg tablets

**Parenteral (s/c)**

- Oxycontin 10mg/ml, 1ml and 2ml ampoules

If no previous strong opioids prescribe short-acting 2.5mg orally every 4 hours or m/r 5mg b.d. and titrate to achieve pain control.

If already on strong opioid convert dose according to Conversion Table (See - Table 27).

- Lower doses may be required in the elderly
- Hydromorphone is renally excreted hence monitoring for toxicity is required in renal impairment; decrease frequency of dosing in moderate renal impairment (creatinine 300-700mmol/l) e.g. 1.3mg 6-8hrly and severe renal impairment (creatinine > 700mmol/l) 1.6mg 8 hrly. Seek specialist advice.
- The side effects are similar to morphine but sedation / hallucinations seem less of a problem.

---

**Hydromorphone**

Hydromorphone is a morphine-like strong opioid. Hydromorphone is an agonist at mu opioid receptors. It is 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.
- Hydromorphone is approximately 7.5 times more potent than oral morphine.

**Dosing**

It is available in short-acting or m/r formulations (over 12 hours). Both forms of the drug may be swallowed whole or opened and sprinkled onto cold soft food (not suitable to be emptied down PEG or NG tubes).

**Immediate release**

- 1.3mg, 2.6mg capsules

**M/r**

- 2mg, 4mg, 8mg, 16mg, 24mg capsules

If no previous strong opioids prescribe short-acting 1.3mg every 4 hours or m/r 2mg b.d. and titrate to achieve pain control.

If already on strong opioid convert dose according to Conversion Table (See - Table 27).

- Lower doses may be required in the elderly
- Hydromorphone is renally excreted hence monitoring for toxicity is required in renal impairment; decrease frequency of dosing in moderate renal impairment (creatinine 300-700mmol/l) e.g. 1.3mg 6-8hrly and severe renal impairment (creatinine > 700mmol/l) 1.6mg 8 hrly. Seek specialist advice.
- The side effects are similar to morphine but sedation / hallucinations seem less of a problem.
Dose of s/c Oxycodone = \[
\text{Dose of Oral Oxycodone} / 2
\]

Trade name for immediate release oxycodone is Oxynorm

Trade name for m/r oxycodone is Oxycontin

Methadone

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

Renal Failure and Opioid Prescription

If using weak or strong opioids in patients with acute or chronic renal disease and a reduced glomerular filtration rate (GFR)<60 ml/min/1.73m2), please seek specialist advice from the palliative care team or pharmacist.

Other approaches to pain

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

8. Use of Adjuvants

Table 3

<table>
<thead>
<tr>
<th>Drug</th>
<th>Use</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Amitriptyline</strong> - 25mg at night (10mg in elderly), 25mg increments every 5 days to 150mg as tolerated (150mg not often necessary in palliative care)</td>
<td>Neuropathic pain.</td>
<td>Usually response in 3-7 days helps sleep. May require continuation for 2-6 weeks to achieve maximal effect as an adjuvant analgesic. Increase in dose may be limited by side effects</td>
</tr>
<tr>
<td><strong>Gabapentin</strong> 300mg daily increased by 300mg each day to a maximum of 600mg t.d.s. according to response</td>
<td>Neuropathic pain.</td>
<td>Increases in dosing may be limited by sedation. May need slower titration – increase by 300mg every 3 days Increases in dosing may be limited by sedation</td>
</tr>
<tr>
<td><strong>Pregabalin</strong> 75mg b.d. can be increased by 75mg b.d. every 7 days. To a maximum of 300mg b.d..</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Clonazepam 0.5-2mg nocte</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Dexamethasone</strong> 8-24mg in 1-2 doses. Give in the morning to avoid sleep disturbance</td>
<td>To decrease peritumour oedema. Nerve compression. Raised intracranial pressure Spinal cord compression. Organ infiltration.</td>
<td>May increase appetite and mood. Consider gastrointestinal agent Review and reduce to avoid side effects. Monitor blood glucose Stop if no response after 7-10 days Dexamethasone is 7 times more potent than prednisolone</td>
</tr>
<tr>
<td><strong>Non-steroidal anti inflammatory drugs (NSAIDs)</strong></td>
<td>Bone pain/ soft tissue infiltration</td>
<td>Should respond within 1 week Stop if no improvement Monitor for side effects See BNF section 10.11 for guidance on selection of drug.</td>
</tr>
<tr>
<td><strong>Non-selective NSAIDs</strong> e.g. ibuprofen, diclofenac, naproxen</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Selective inhibitors of cyclo-oxygenase-2</strong> e.g. Meloxicam or Etodolac</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Nausea and vomiting

In advanced cancer 40% of patients will suffer nausea and 30% will vomit. To choose the most appropriate treatment (as in pain control) a careful assessment should be made and any reversible causes treated.

**TABLE 4 – Specific management**

<table>
<thead>
<tr>
<th>Causes</th>
<th>Specific</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drugs</td>
<td>Stop if not essential</td>
</tr>
<tr>
<td>Constipation</td>
<td>Laxatives</td>
</tr>
<tr>
<td>Anxiety</td>
<td>Explanation/ anxiolytics</td>
</tr>
<tr>
<td>Raised intracranial pressure</td>
<td>Corticosteroids</td>
</tr>
<tr>
<td>Oral/oesophageal candida</td>
<td>Antifungals</td>
</tr>
<tr>
<td>Metabolic causes e.g. Hypercalcaemia</td>
<td>Rehydration and Bisphosphonates</td>
</tr>
<tr>
<td>Infection</td>
<td>Antibiotics</td>
</tr>
</tbody>
</table>

Avoid triggers-food smells  
Aim for small frequent meals

**Pharmacological management**

Where there is persistent nausea or vomiting initiate treatment using the subcutaneous or rectal routes since absorption from the G/I tract of drugs will be poor. If treatment is prophylactic or when nausea is under control, the oral route can be used.

**TABLE 5 - Anti-emetic Therapy**

<table>
<thead>
<tr>
<th>Drug</th>
<th>Suggested dose/route</th>
<th>Recommended use</th>
</tr>
</thead>
<tbody>
<tr>
<td>*Cyclizine</td>
<td>50mg t.d.s. p/o s/c 150mg/24 hrs. CSCI</td>
<td>Raised intracranial pressure G/I obstruction pharyngeal stimulation</td>
</tr>
<tr>
<td>Metoclopramide</td>
<td>10-20mg t.d.s. p/o 30-90mg/24 hrs. CSCI</td>
<td>Prokinetic Gastric stasis, reflux Contra-indicated in mechanical intestinal obstruction. (Do not use in conjunction with Cyclizine)</td>
</tr>
<tr>
<td>Haloperidol</td>
<td>1.5-5mg no.te. p/o 2.5-10mg/24 hrs. CSCI</td>
<td>Opioid induced, metabolic disturbance</td>
</tr>
<tr>
<td>Levomepromazine</td>
<td>6-12.5mg no.te. p/o 6.25-25mg/24 hrs. CSCI</td>
<td>Good broad spectrum Anti-emetic - low dose (Usually sedative at doses above 25mg/24hrs).</td>
</tr>
<tr>
<td>Dexamethasone</td>
<td>8mg daily p/o 4-8mg sc or via CSCI</td>
<td>Raised intracranial pressure liver metastases. Complete steroid dosing before 6pm as can disturb sleep</td>
</tr>
</tbody>
</table>

*Cyclizine, like other antimuscarinic drugs may aggravate heart failure and should be avoided in those at risk

**Others:**

* Hyoscine butylbromide (anti-cholinergic) 60-120mg/24hrs CSCI

Octreotide--reducesG/I tractsecretions and motility 300-600micrograms/24hrs CSCI

5HT3-antagonists - post chemotherapy/radiotherapy  
e.g. ondansetron, granisetron - see BNF section 4.6 for dosing.  
* For use in bowel obstruction seek specialist advice.

It may be necessary to combine two Anti-emetics. See - Table 26 for syringe driver guidance.

For intractable vomiting consider other underlying cause (GPP)
Constipation

- An understanding of a patient’s normal, accepted bowel habit is essential when planning treatment.
- All patients on opioids require a laxative prescribed regularly (not p.r.n.).
- A combination of stimulant and softener is usually required.
- Laxative doses often need to be increased along with increased doses of Opioids.

**TABLE 6 – Specific management**

<table>
<thead>
<tr>
<th>Cause</th>
<th>Specific management</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constipating drugs</td>
<td>Medication review and prophylactic laxatives</td>
</tr>
<tr>
<td>Hypercalcaemia</td>
<td>Hydration and Bisphosphonates</td>
</tr>
<tr>
<td>Dehydration</td>
<td>Encourage fluids &amp; diet if appropriate</td>
</tr>
<tr>
<td>Intestinal obstruction</td>
<td>May be a surgical emergency or a terminal event</td>
</tr>
</tbody>
</table>

**TABLE 7 - Laxative Therapy**

<table>
<thead>
<tr>
<th>Type</th>
<th>Drug</th>
<th>Dose</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stimulant</td>
<td>Senna 7.5mg Sodium picosulfate</td>
<td>2-4 tablets nocte 5-15mls nocte</td>
<td>Stimulant laxatives are the choice for opioid-induced constipation - with or without a softener. (avoid in sub-acute bowel obstruction)</td>
</tr>
<tr>
<td>Softening</td>
<td>Docusate sodium Caps 100mg. Adult oral soln. 50mg/5mls</td>
<td>100mg bd Up to 500mg in divided doses</td>
<td>Combined softening/stimulant action Can be used in sub-acute obstruction</td>
</tr>
<tr>
<td>Combinations (Stimulant + Softener)</td>
<td>Co-danthramer (Strong) Co-danthrusate</td>
<td>Caps 1-3 2.5-15ml nocte Caps 1-3 nocte 5-15ml</td>
<td>Contain dantron May colour urine Avoid in incontinent patients</td>
</tr>
<tr>
<td>Osmotic laxatives</td>
<td>Lactulose</td>
<td>15ml b.d.</td>
<td>Associated with abdominal cramping and flatulence. Needs high fluid intake to work. Can be used in faecal impaction 8 sachets/day for up to 3 days</td>
</tr>
<tr>
<td></td>
<td>Macrogols e.g. Movicol or Idrolax</td>
<td>1-2 sachets daily</td>
<td></td>
</tr>
</tbody>
</table>

High doses of laxatives may be needed with opioid-induced constipation.

*Bulk forming laxatives are often inappropriate and should be used with caution (GPP)*

**Rectal Treatment**

Choice of rectal treatment depends on the result of digital rectal examination. If rectum is ballooned and empty, use oral laxatives first. Movicol can be prescribed up to 8 sachets per day for faecal impaction, consideration needs to be given to the patient’s ability to take this amount.
TABLE 8

| Soft loading               | First Line; bisacodyl 10mg suppository  
|                           | Second line; sodium citrate microenema 5mg  
| Hard Loading              | Glycerol 4g mould suppository followed later, if necessary, by Microenema or a bisacodyl suppository  
| Very Hard Loading         | Arachis oil enema overnight (avoid if patient has nut allergy) Followed if necessary by phosphate enema  

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 9. Common causes of intestinal obstruction

<table>
<thead>
<tr>
<th>Mechanical</th>
<th>Functional</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cancer</td>
<td>Autonomic nerve damage</td>
</tr>
<tr>
<td>Constipation</td>
<td>Drugs – opioids, anti-cholinergics</td>
</tr>
<tr>
<td>Bowel wall infiltration</td>
<td>Postoperative</td>
</tr>
<tr>
<td>Stricture formation</td>
<td>Metabolic - hypokalaemia, hypercalcaemia</td>
</tr>
<tr>
<td>Extrinsic compression</td>
<td>Radiation fibrosis</td>
</tr>
</tbody>
</table>

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.

TABLE 10. Medical management of gastro-intestinal obstruction

<table>
<thead>
<tr>
<th>Nausea +/- vomiting</th>
</tr>
</thead>
<tbody>
<tr>
<td>Complete obstruction</td>
</tr>
<tr>
<td>1) Cyclizine 75-150mg/24h by CSCI (higher doses may be used – seek specialist advice)</td>
</tr>
<tr>
<td>2) Add haloperidol 2.5-5 mg/24h by CSCI</td>
</tr>
<tr>
<td>3) Substitute both with levomepromazine 5-25mg/24h Refer to Palliative Care team for advice</td>
</tr>
<tr>
<td>Functional or partial obstruction</td>
</tr>
<tr>
<td>Metoclopramide: 30 – 60 mg/24h by CSCI (may be increased up to 100mg/24h – seek specialist advice)</td>
</tr>
<tr>
<td>Contraindicated in complete bowel obstruction</td>
</tr>
<tr>
<td>Stop if precipitates colic; use anti-emetics above</td>
</tr>
<tr>
<td>Persistent/ high volume vomiting</td>
</tr>
<tr>
<td>Octreotide 300-1200 microgram/24h by CSCI, or hyoscine butylbromide (as for colic below). Give together if symptom resistant. Seek specialist advice</td>
</tr>
</tbody>
</table>

- 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).
Anorexia

Definition - reduced desire to eat. Distinguish from nausea

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

Management of cancer-related anorexia
- Treat reversible causes
- 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
- Consider asking for dietician advice unless prognosis is short
- Food or supplements may be more easily taken by snacking through the day, smaller portions more often
- Avoid offering excessive food;

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
  - if no benefit after two weeks, then stop
- Less side effects than dexamethasone except increased risk of dependent leg oedema and thromboembolic phenomena (5% excess risk)
Metoclopramide
- if impaired gastric emptying suspected
  - 10-20mg t.d.s. - q.d.s.

Respiratory symptoms

Respiratory symptoms may occur with many disease states and becomes more common as a terminal illness progresses.

DYSPNOEA

An unpleasant awareness of difficulty in breathing which is very subjective in nature.

TABLE 11 – Specific management

<table>
<thead>
<tr>
<th>Reversible</th>
<th>Specific management</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heart failure</td>
<td>Diuretics/ACE inhibitors/nitrates/opioids</td>
</tr>
<tr>
<td>Pneumonia</td>
<td>Antibiotics where appropriate</td>
</tr>
<tr>
<td>Bronchospasm</td>
<td>Bronchodilators ± steroids</td>
</tr>
</tbody>
</table>

General measures

Explanation

Relaxation

Increase air movement-fan/oxygen therapy may have a role
Corticosteroids
e.g. Dexamethasone (8mg) or Prednisolone depending on likely cause
If improved symptom control reduce to lowest effective dose.
If ineffective stop after one week. After longer term use reduce gradually.

Opioids
Opioid naïve: oral morphine 2.5-5mg up to 4 hourly
Already on strong opioid:
For less severe breathlessness – use 25% of 4 hourly analgesic dose p.r.n.
For more severe breathlessness – use 4 hourly analgesic dose p.r.n.

Benzodiazepines
e.g. Diazepam 2-5mg t.d.s. if required
Lorazepam* 500 micrograms sublingually stat. (GPP)

Nebulised saline
Mucolytic

TABLE 12 - Pharmacological management

| Corticosteroids | Decrease bronchospasm, decrease tumour oedema, lymphangiitis, post radiotherapy, SVCO
| e.g For Bronchospasm use prednisolone, for tumour oedema use dexamethasone |

Opioids
Opioid naïve: oral morphine 2.5-5mg up to 4 hourly
Already on strong opioid:
For less severe breathlessness – use 25% of 4 hourly analgesic dose p.r.n.
For more severe breathlessness – use 4 hourly analgesic dose p.r.n.

Benzodiazepines
e.g. Diazepam 2-5mg t.d.s. if required
Lorazepam* 500 micrograms sublingually stat. (GPP)

Nebulised saline
Mucolytic

*Note: use the standard Lorazepam tablets for sublingual dosage.

Oxygen therapy
- The evidence for efficacy is limited. Oxygen therapy may help dyspnoic patients who are hypoxic (Sa02 < 90%) at rest or who become so on exertion. It may help other dyspnoic patients due to facial or nasal cooling effect
- Consider a trial of oxygen for hypoxic patients (Sa02 <90%) and those where saturation measurements not available. If of no benefit then discontinue. Oxygen therapy may lead to limited mobility, barrier to communication, inconvenience and cost implications; alternative therapies should be offered.
- For patients with COPD who are chronically hypoxic – do not use >28% oxygen. Seek guidance from respiratory physicians and follow local guidelines
- Domiciliary oxygen for continuous or p.r.n use should be prescribed according to local guidelines using a home oxygen order form (HOOF).
- For patients meeting the requirement for LTOT in COPD follow local guidelines.

TABLE 13 – Palliative procedures for dyspnoea

| Radiotherapy | SVCO, lung mets, tracheal/bronchial obstruction |
| Laser therapy | Tracheal/bronchial obstruction |
| Stents | SVCO, tracheal/bronchial obstruction |
| Chemotherapy | SVCO, metastases |
| Drainage procedures | Pleura, pericardium, ascites |
| Blood transfusion | Treat symptoms rather than Hb level (GPP) |
| Physiotherapy | Decrease secretions + breathing exercises |
| Psychological support | Decrease distress of anxiety and depression |
COUGH

TABLE 14 – Specific management

<table>
<thead>
<tr>
<th>Cause</th>
<th>Specific management</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cancer related</td>
<td>Radiotherapy/corticosteroids</td>
</tr>
<tr>
<td>Treatment-related</td>
<td>Medication review-e.g. ACE induced cough</td>
</tr>
<tr>
<td>Heart failure</td>
<td>Diuretics/ACE/nitrates/opioids</td>
</tr>
<tr>
<td>Infection</td>
<td>Antibiotics</td>
</tr>
<tr>
<td>Asthma</td>
<td>Bronchodilators/steroids</td>
</tr>
<tr>
<td>COPD</td>
<td>Bronchodilators/steroids/carbocistene 750mgbd can reduce sputum viscosity</td>
</tr>
</tbody>
</table>

Pharmacological management

Include cough suppressants, e.g. morphine, codeine, pholcodine.

TABLE 15 - Palliative procedures

<table>
<thead>
<tr>
<th>Tumour related therapy</th>
<th>Radiotherapy/Chemotherapy/laser</th>
</tr>
</thead>
<tbody>
<tr>
<td>Infection</td>
<td>Physiotherapy/nebulised saline/antibiotics</td>
</tr>
<tr>
<td>Recurrent laryngeal nerve palsy</td>
<td>Teflon injection - vocal cords</td>
</tr>
<tr>
<td>Pleural effusion</td>
<td>Aspiration</td>
</tr>
</tbody>
</table>

HAEMOPTYSIS

Reassurance/explanation
Infection - antibiotics
Review anticoagulants

Pharmacological management

- Tranexamic acid 1g t.d.s. p.o. or
- Etamsylate 500mg q.d.s. p.o.

Major life-threatening haemorrhage
Ensure patient is not left alone.
Diamorphine 5-10mg s/c (or an appropriate dose if already on opioids) ±
- Midazolam 5-10mg s/c i/m, i/v (for sedation and amnesia (GPP))
Keep patient warm, have green towels available
See Emergencies in Palliative Care (Table 24)

Other palliative procedure:

Palliative radiotherapy
RESPIRATORY SECRETIONS

The noise of bronchial secretions (sometimes known as “death rattle”) can be distressing to relatives, staff and other patients. Drugs are used to decrease bronchial secretions but will not remove any already present.

Consider patient’s position.
Reassure the family and carers.
Use suction in the unconscious patient.

Pharmacological management

- Hyoscine hydrobromide - 400 micrograms s/c p.r.n. 800 – 2400 micrograms/ 24 hrs. CSCI (used in NHS Tameside and Glossop and Tameside Hospital NHS Foundation Trust)

Hyoscine hydrobromide may accumulate and can cause agitation.

- Glycopyrronium 200 - 600 micrograms s/c 6 hourly p.r.n. Non-sedating 600 - 1200 micrograms/ 24 hrs. CSCI

TABLE 16 – Specific management

<table>
<thead>
<tr>
<th>Cause</th>
<th>Specific Management</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drug</td>
<td>Review/change/stop</td>
</tr>
<tr>
<td>Dehydration</td>
<td>Consider rehydration if appropriate</td>
</tr>
<tr>
<td>Surgery</td>
<td>Regular mouth care/saliva substitutes</td>
</tr>
<tr>
<td>Radiotherapy</td>
<td>Mouth care/saliva substitutes/ pilocarpine tablets</td>
</tr>
<tr>
<td>Anxiety/depression</td>
<td>Treat e.g. Citalopram/Fluoxetine</td>
</tr>
<tr>
<td>Infection e.g. Candida</td>
<td>Treat e.g. Nystatin pastilles/oral suspension, Fluconazole</td>
</tr>
</tbody>
</table>

Pineapple chunks, ice chips, acid drops, chewing gum may help dry mouth.

TABLE 17 - Pharmacological management

<table>
<thead>
<tr>
<th>Dry mouth</th>
<th>Artificial saliva is available as mouthwashes, sprays, pastilles &amp; gels. Pilocarpine tablets are licensed for XRT induced damage.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sore mouth</td>
<td>Benzylamine (Difflam) mouthwash, can be diluted 50/50 with water Opioids, non-oral route where pain is severe</td>
</tr>
<tr>
<td>Malignant/bleeding ulcers</td>
<td>Sucralfate/tranexamic acid</td>
</tr>
<tr>
<td>Infection:</td>
<td>Aciclovir disperesible 200mg 5 times a day for 5 days (400mg in immunosupressed patients) For resistant fungal infection: – Fluconazole 50 - 100mg o.d. for 7 days. Remember to treat dentures to avoid re-infection.</td>
</tr>
</tbody>
</table>

Oral hygiene

A healthy mouth has an intact mucosa, is clean, moist and pain free. Good mouth care is essential and when using the Care of the Dying Pathway is required regularly.

A dry mouth may be due to:
- Decreased saliva production
- Diseased buccal mucosa
- Excess evaporation of fluids

Recent chemotherapy and candida infection can cause taste disturbance.
Confusion

Confusion is disorientation, often in association with bizarre behaviour. It is a common symptom in the terminally ill. It can be a great source of distress to patients and their carers.

Differentiation of acute (delirium) from chronic confusion (dementia) is important. Causes of delirium can be multifactorial so assessment is essential.

- Identification and treatment of the underlying cause is vital

**TABLE 18 – Specific Management**

<table>
<thead>
<tr>
<th>Common Causes</th>
<th>Specific management</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drugs</td>
<td>Stop suspected medication if possible e.g. anti-muscarinics, sedatives, opioids, corticosteroids</td>
</tr>
<tr>
<td>Infection</td>
<td>Antibiotics as appropriate</td>
</tr>
<tr>
<td>Metabolic:</td>
<td></td>
</tr>
<tr>
<td>Hypercalcaemia</td>
<td>Rehydration and bisphosphonates</td>
</tr>
<tr>
<td>Hyponatraemia - SIADH</td>
<td>Review medication e.g. TCAs &amp; SSRIs.</td>
</tr>
<tr>
<td>- Adrenal insufficiency</td>
<td>Specialist advice may be required</td>
</tr>
<tr>
<td>Raised intracranial pressure</td>
<td>Dexamethasone 16mg daily po review after 5-7 days stop if ineffective; reduce in stages if helps</td>
</tr>
<tr>
<td>Withdrawal of drugs / alcohol/ nicotine</td>
<td>Review. NB opiate withdrawal should not be abrupt</td>
</tr>
<tr>
<td>Hypoxia</td>
<td>Oxygen (Caution with COPD) see page 27</td>
</tr>
<tr>
<td>Pain</td>
<td>Analgesia see page 7</td>
</tr>
<tr>
<td>Constipation</td>
<td>Laxatives see page 20</td>
</tr>
</tbody>
</table>

**General aspects of care:**

- Quiet well-lit surroundings
- Gentle reorientation
- Advice to family on how to respond / behave
- Involve family in care
- Familiar staff

**Pharmacological management**

Medication should only be part of the treatment plan, and should not be used in those who are “happily muddled” without distress. (GPP)

Sedative medication is appropriate only if the patient is distressed and/or patient is considered a danger to themselves or others. It will not reverse confusion and may sometimes worsen it.

Drugs should only be considered if specific treatment does not work:

*Haloperidol is the drug of choice – less sedating. Parenteral doses are twice as potent as oral. (GPP)*

In the confused patient benzodiazepines should not be used without the concurrent use of an antipsychotic. For the treatment of terminal restlessness see Care of the Dying (page 40)

**TABLE 19 – Pharmacological Management**

<table>
<thead>
<tr>
<th>Drug</th>
<th>Dose</th>
<th>Indication</th>
</tr>
</thead>
<tbody>
<tr>
<td>Haloperidol</td>
<td>0.5-3mg p/o s/c at night</td>
<td>Mild nocturnal confusion Hallucinations / paranoid ideas</td>
</tr>
<tr>
<td></td>
<td>2.5-5mg p/o or s/c t.d.s.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2.5-5mg /24hrs CSCI</td>
<td></td>
</tr>
<tr>
<td>Levomepromazine</td>
<td>12.5-25mg p/o or s/c 6-8hrly</td>
<td>indications agitated delerium where sedation would be beneficial</td>
</tr>
<tr>
<td></td>
<td>12.5-100mg /24hrs CSCI</td>
<td></td>
</tr>
<tr>
<td>Diazepam</td>
<td>10mg t.d.s. reduce by 5mg per day, also include vitamin supplements:- Thiamine 50mg q.d.s. Vitamin B compound strong t.d.s.</td>
<td>Alcohol withdrawal Consult Drug &amp; Alcohol Team for further advice.</td>
</tr>
</tbody>
</table>
**Convulsions**

**Causes:**
- Primary or secondary brain tumours
- Metabolic disorders e.g. hypercalcaemia, hypoglycaemia, uraemia
- Drugs – some drugs may lower seizure threshold in those prone to convulsions.

Dexamethasone may be used to reduce oedema around brain tumours. Dose 16mg p/o daily for 4-5 days then reduce stepwise 2mg per week to 4-6mg p/o daily and review symptoms. (This is variable depending on the patient's symptoms).

If giving in one dose give in the morning, for higher doses, where dose is divided, give final dose before 4pm to avoid sleep disturbance.

Patients on treatment for epilepsy will need alternative prophylaxis when oral route is not possible.

**Prophylaxis and emergency use of anticonvulsants:**

<table>
<thead>
<tr>
<th>Drug</th>
<th>Prophylaxis</th>
<th>Emergency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diazepam</td>
<td>5-10mg p/o o.d.</td>
<td>5-10mg p/r at 5-15 min intervals (max 30mg)</td>
</tr>
<tr>
<td>Midazolam</td>
<td>10-100mg /24hrs CSCI</td>
<td>2.5-15mg s/c, i/m/i/v p.r.n.</td>
</tr>
</tbody>
</table>

**Other drugs for prophylaxis:**

Oral phenytoin, sodium valproate or carbamazepine

**Second line treatment:**

- Phenobarbital* - 24hrs CSCI

* Use as second line when midazolam not effective and if intravenous access not possible. Use only on advice from a palliative care specialist.

**Muscle spasm and myoclonus**

**Muscle spasm**

Usually due to pressure on, or irritation of a nerve. Pain is usually not helped by opioids.

**TABLE 20 – Pharmacological management**

<table>
<thead>
<tr>
<th>Drug</th>
<th>Dose</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diazepam</td>
<td>5-10mg p/o o.d.</td>
</tr>
<tr>
<td>Baclofen</td>
<td>5-10mg t.d.s. p/o after food. Increase slowly to a maximum of 100mg daily. Nausea and sedation common</td>
</tr>
<tr>
<td>Dantrolene</td>
<td>25mg p/o, increasing slowly to 100mg q.d.s. Transient muscle weakness/fatigue for first 4 weeks. Monitor liver function. May take a few weeks to work.</td>
</tr>
</tbody>
</table>

**Myoclonus**

Myoclonic jerks may be drug related e.g. escalating doses of opioids or associated with metabolic disorders e.g. renal failure, hepatic failure. Common in the last days of life.

Multifocal myoclonic jerks are considered pre-epileptiform.

**TABLE 21 – Pharmacological management**

<table>
<thead>
<tr>
<th>Drug</th>
<th>Dose</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diazepam</td>
<td>5-10mg p/r p.r.n.</td>
</tr>
<tr>
<td>Clonazepam</td>
<td>500 micrograms - 3mgs p/o nocte or 500 micrograms - 4mgs/24hrs CSCI, titrated to patient need</td>
</tr>
<tr>
<td>Midazolam</td>
<td>2.5mg -10mg s/c p.r.n. if effective convert to CSCI 10-60mg/24hrs CSCI</td>
</tr>
</tbody>
</table>
Fungating tumours

A fungating tumour is a primary or secondary cancer that has ulcerated the skin. The management of fungating tumours focuses on alleviating the distressing symptoms associated with the wound and providing emotional support to the patient and family/carers.

Treatment is directed towards:

- Control of bleeding
- Odour restriction
- Absorption of exudates
- Control of pain associated with the lesion
- Comfort and cosmetic appearance

This information is a guide and a comprehensive wound assessment should be undertaken. Seek specialist advice from tissue viability team.

Hiccups

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

**TABLE 22 – Management of Hiccup**

<table>
<thead>
<tr>
<th>Cause</th>
<th>Specific management</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gastric distension</td>
<td>Peppermint water</td>
</tr>
<tr>
<td></td>
<td>Antiflatulent e.g. Asilone 10ml q.d.s.</td>
</tr>
<tr>
<td></td>
<td>Metoclopramide 10mg q.d.s. (not concurrently with peppermint water)</td>
</tr>
<tr>
<td>Diaphragmatic irritation</td>
<td>Baclofen 5-20mg t.d.s. p/o</td>
</tr>
<tr>
<td>Phrenic nerve irritation</td>
<td>Nifedipine m/r 10mg bd p/o</td>
</tr>
<tr>
<td></td>
<td>◦ Midazolam seek specialist advice</td>
</tr>
<tr>
<td>Toxicity e.g. uraemia, hyponatremia, hypokalemia, hypocalcemia, hyperglycemia, infection</td>
<td>Haloperidol 1-3mg nocte p/o</td>
</tr>
<tr>
<td></td>
<td>Chlorpromazine 10-25mg t.d.s. p/o</td>
</tr>
<tr>
<td></td>
<td>◦ Midazolam seek specialist advice</td>
</tr>
<tr>
<td>CNS tumour meningeal: infiltration by cancer</td>
<td>anti convulsant - eg. gabapentin</td>
</tr>
</tbody>
</table>
Sweating

Sweating can be a normal part of the temperature control of the body. Profuse sweating, often worse at night, can occur with various cancers. Fluid loss may be significant.

**TABLE 23 – Specific management**

<table>
<thead>
<tr>
<th>Cause</th>
<th>Specific management</th>
</tr>
</thead>
<tbody>
<tr>
<td>Infection</td>
<td>Treat as appropriate</td>
</tr>
<tr>
<td>Anxiety</td>
<td>Reassure, anxiolytic</td>
</tr>
<tr>
<td>Thyrotoxicosis</td>
<td>Treat if appropriate</td>
</tr>
<tr>
<td>Hypoglycaemia</td>
<td>Treat</td>
</tr>
<tr>
<td>Drug induced e.g. tamoxifen, megestrol, morphine, tricyclic antidepressants</td>
<td>Review drug therapy, stop or substitute, manage symptoms</td>
</tr>
</tbody>
</table>

**General measures**

Skin cooling
Clothing and environment for example cotton clothes, use of a fan
Oral fluids
Reassurance

**TABLE 24 – Pharmacological management**

<table>
<thead>
<tr>
<th>Medication</th>
<th>Management</th>
</tr>
</thead>
<tbody>
<tr>
<td>Paracetamol tablets or NSAID</td>
<td>May be effective even in apyrexial patients</td>
</tr>
<tr>
<td>Propranolol</td>
<td>20-40mg every 6 hours may reduce symptoms but usual contraindications apply</td>
</tr>
<tr>
<td>Anti-muscarinic</td>
<td>eg. amitriptyline 10 -25mg at night</td>
</tr>
</tbody>
</table>

Pruritus

Pruritus is an unpleasant sensation that provokes the urge to scratch.

**General measures**

Good skin care
Keep skin cool and hydrated with aqueous cream
Keep creams and lotions in the fridge
Rub with ice cubes and leave wet to evaporate
Avoid hot baths
Distraction techniques
Avoid rough clothing (use light cotton clothing)

**Pharmacological Measures**

The evidence for 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. For further information see GMCCN guidelines.
### Emergencies in Palliative Care

**TABLE 25 - Palliative Care Emergencies** - Some situations arise in palliative care that require urgent assessment and emergency treatment.

<table>
<thead>
<tr>
<th>Emergency</th>
<th>Cause</th>
<th>Symptoms/Signs</th>
<th>Recurrence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Haemorrhage</td>
<td>Untreatable, catastrophic haemorrhage</td>
<td>Cold hypotension, dyspnoea, headache, dizziness, hoarseness, stridor</td>
<td>Sedate - i.v. slow iv, midazolam ± 0.5 - 1 mg</td>
</tr>
<tr>
<td>Hypercalcaemia</td>
<td>Corrected serum Ca²⁺ &gt;2.7 mmol/l</td>
<td>Drowsiness, nausea, vomiting, confusion, constipation, thirst, polyuria</td>
<td>Rehydration – 3 litres 0.9% NaCl for 2 to 3 days</td>
</tr>
<tr>
<td>Superior vena cava obstruction</td>
<td>Obstruction of veins in mediastinum by tumour/lymph nodes</td>
<td>Oedema of face or arms, distended neck and arm veins, dusky colour on chest/arms &amp; face</td>
<td>Sit up. 60% oxygen</td>
</tr>
<tr>
<td>Metastatic Spinal Cord Compression</td>
<td>Tumour or invasion into blood vessels</td>
<td>Back/spinal pain - may radiate in a radicular ‘band-like’ pattern, progressive or unremitting, may be worse on coughing or straining, may be nocturnal pain preventing sleep, may not be present</td>
<td>Sedate - s/c or slow i/v midazolam ± 2.5 – 5 mg diamorphine</td>
</tr>
</tbody>
</table>

**Symptoms:**
- Back/Spinal Pain - may radiate in a radicular ‘band-like’ pattern
  - progressive or unremitting
  - may be worse on coughing or straining
  - may be nocturnal pain preventing sleep
  - may not be present
- Nerve root pain in limbs
- Weakness of limbs (out of proportion to general condition of patient)
- Difficulty walking
- Sensory changes – tingling, numbness, “my legs don’t belong to me”
- Difficulty passing urine – usually a late presentation
- Constipation or faecal incontinence

**Signs:**
- Localised spinal tenderness
- Weakness of limbs
- Reflexes-absent / increased
  - extensor plantar
  - clonus may be present
- Altered sensation – look for a sensory level
- Distended bladder
Management / Treatment:
- High dose dexamethasone 16mg stat dose oral or iv commence immediately even if diagnosis is not confirmed
- Urgent same day referral to Clinical Oncologist for advice re radiotherapy and/or chemotherapy
- Urgent MRI of whole spine
- Refer for specialist spinal opinion for possible surgical decompression if progressive weakness despite radiotherapy, evidence of spinal instability
- Immobilisation for patients with symptoms and signs suggestive of spinal instability and spinal cord compression until stability is confirmed.

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.
Care of the dying

The Last Days of Life

The Liverpool Care Pathway for the Care of the Dying is a framework of care based on the hospice model that 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 essential.
- Patients are usually profoundly weak, bed bound and drowsy for extended periods.
- They may have a limited attention span, be disoriented in time and find it difficult to swallow medication.
- For some patients a sudden deterioration can occur.
- The multi-professional team should agree that the patient is dying.
- 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.
- Interventions, such as blood tests, artificial feeding and hydration, antibiotics, vital signs recording, and unnecessary nursing interventions should be discontinued, following discussion and agreement by the care team.
- Withdraw unnecessary drugs, e.g. vitamins, antibiotics, antihypertensives etc.

### TABLE 26 – Use of drugs in the Dying

<table>
<thead>
<tr>
<th>Oral Drug</th>
<th>Management</th>
</tr>
</thead>
<tbody>
<tr>
<td>Opioids</td>
<td>Convert to alternative route if swallowing difficult e.g. CSCI</td>
</tr>
<tr>
<td></td>
<td>For advice on Fentanyl patches see Pain chapter</td>
</tr>
<tr>
<td>Steroids</td>
<td>Stop, unless being used as adjuvant – if necessary, convert to dexamethasone s/c daily</td>
</tr>
<tr>
<td>Anti-emetics</td>
<td>Continue – convert to s/c see page 19</td>
</tr>
<tr>
<td>Anticonvulsants</td>
<td>Stop – use s/c midazolam (See page 32)</td>
</tr>
<tr>
<td>Antidepressants</td>
<td>Stop</td>
</tr>
<tr>
<td>Benzodiazepines</td>
<td>Use midazolam s/c. If available p/r diazepam can be used</td>
</tr>
<tr>
<td>Neuropathic pain agents</td>
<td>Consider clonazepam - refer to specialist palliative care team for advice</td>
</tr>
<tr>
<td>Nicotine/ e.g. cigarettes</td>
<td>Consider nicotine patches. (GPP)</td>
</tr>
</tbody>
</table>

Symptoms in the dying phase:

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

Management

- Identification and regular review of symptoms is essential.
- Pre-emptive prescribing is advocated.
- Explanation to patient and family vital.
- For guidance on symptom management for dying patients see relevant symptom section.
- 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.
Staff Role and Needs

- To identify when patients are dying and explain the use of the Integrated Care Pathway for the last days of life.
- 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.

Syringe drivers

Indications:
- Poor oral intake
- Poor absorption – e.g. nausea, vomiting, intestinal obstruction
- Dysphagia
- Oral disease
- Weakness
- Fluctuating conscious level

Contra-indications:
- Poor pain control but none of the above
- Some very restless or confused patients

Advantages
- Avoids G/I tract
- Good plasma levels avoiding peaks and troughs
- Reduces need for repeat injections
- Can be managed at home
- Does not interfere with mobility

Disadvantages
- Patients may become psychologically dependant upon them
- Site problems
- May be seen as a ‘terminal’ event by patients / carers

There is limited stability data available for combinations of drugs in a syringe driver.

Please seek specialist advice for new combinations and choice of diluent.
- Consider combinations used, e.g. diamorphine, haloperidol + cyclazine could be replaced by diamorphine + levomepromazine.
- Consider giving drugs with a long half-life as a separate once daily s/c injection, e.g. haloperidol, levomepromazine or Dexamethasone.
- Some drugs should NOT be administered by the s/c route e.g. chlorpromazine, diazepam and prochlorperazine
Two different models of syringe driver are available: the model used in Tameside and Glossop is the MS26.

- The GREEN Graseby MS26 (over 24 hours)
- The BLUE Graseby MS16A (hourly rate).

Do not confuse these devices and their rate of delivery.

**ONLY THE GREEN GRASEBY MS26 SHOULD BE USED IN PALLIATIVE CARE**

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

---

**TABLE 27 - Drugs available for use in a syringe driver to be given by s/c infusion over 24 hours** (according to stability data)

<table>
<thead>
<tr>
<th>Drug</th>
<th>Usual diluent</th>
<th>Indication</th>
<th>Usual 24 hour dose range</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cyclizine</td>
<td>WFI</td>
<td>Anti-emetic - movement related nausea, raised intracranial pressure, G/I obstruction</td>
<td>150 mg</td>
<td>No absolute contraindications. May precipitate in syringe driver with diamorphine at certain concentrations. Pharmacy will advise saline must not be used</td>
</tr>
<tr>
<td>Diamorphine</td>
<td>WFI</td>
<td>Analgesic, very effective for visceral or soft tissue pain</td>
<td>5mg – no maximum dose</td>
<td>Opioid of choice by s/c route. Highly soluble. May need stat s/c injection before starting the continuous s/c infusion but usually no significant delay in onset of action</td>
</tr>
<tr>
<td>Haloperidol</td>
<td>5 mg/ml amps</td>
<td>Anti-emetic. Useful for drug-induced, chemical, toxic causes of nausea/vomiting Anxiolytic/antipsychotic</td>
<td>2.5 – 10mg 5 – 15mg</td>
<td>Little sedation. Can cause hypotension. Contra-indicated in Parkinson’s disease. May precipitate with diamorphine above 2mg / ml. May lower seizure threshold</td>
</tr>
<tr>
<td>Hyoscine hydrobromide</td>
<td>400micrograms/ml, 600micrograms/ml</td>
<td>Anti-secretory, used for respiratory secretions Also has anti-emetic properties</td>
<td>0.6 – 2.4mg</td>
<td>Has sedative effect and can cause agitation.</td>
</tr>
<tr>
<td>Hyoscine butylbromide</td>
<td>20mg/ml amps</td>
<td>Colic/vomiting associated with G/I obstruction. Reduces production of respiratory secretions.</td>
<td>60 – 180mg</td>
<td>Does not cross Blood Brain Barrier. Less sedating than hyoscine hydrobromide.</td>
</tr>
<tr>
<td>Glycopyrronium bromide</td>
<td>200micrograms/ml, 600micrograms/ml</td>
<td>Reduce production of respiratory secretions.</td>
<td>600 – 1200 micrograms (maximum reported dose 2400 micrograms)</td>
<td>Must be started at onset of symptoms, will not dry up secretions already present. Does not cross blood brain barrier (BBB). Non-sedative</td>
</tr>
<tr>
<td>Levomepromazine</td>
<td>25mg/ml amps</td>
<td>Broad spectrum Anti-emetics Terminal agitation</td>
<td>2.5 – 21mg 25 – 200mg</td>
<td>Protect from light. If contents of syringe discoulour discard. Start dose of 25mg can be given prior to starting s/c infusion for agitation. Can be used in addition to midazolam</td>
</tr>
<tr>
<td>Metoclopramide</td>
<td>WFI</td>
<td>Anti-emetic. Delayed gastric emptying, oesophageal reflex</td>
<td>30 – 90mg</td>
<td>Contra-indicated in Parkinson’s disease. Avoid in complete G/I obstruction. Caution in young adult/elderly, can cause extrapyramidal side-effects.</td>
</tr>
<tr>
<td>Midazolam</td>
<td>10mg/ml amps</td>
<td>Anxiolytic-terminal agitation, dyspepsia Antiepileptic</td>
<td>10 – 60mg 30 – 60mg</td>
<td>At doses &gt; 60mg contact specialist palliative care team for advice. Use when no longer able to take oral antiepileptics</td>
</tr>
<tr>
<td>Octreotide</td>
<td>50 micrograms/ml, 100 micrograms/ml, 500 micrograms/ml</td>
<td>Anti-emetic – vomiting associated with G/I obstruction, decreases secretions produced in G/I tract</td>
<td>300 – 600 micrograms</td>
<td>Third line after standard Anti-emetics</td>
</tr>
</tbody>
</table>
TABLE 28 - Opioid Conversion Chart

(note approximations are made here – rounded to convenient dose)

<table>
<thead>
<tr>
<th>Route</th>
<th>Dose</th>
<th>4 hrly</th>
<th>CSCI</th>
<th>24h</th>
<th>total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oral Morphine</td>
<td>30</td>
<td>10</td>
<td>5</td>
<td>15</td>
<td>2.5</td>
</tr>
<tr>
<td></td>
<td>90</td>
<td>30</td>
<td>10</td>
<td>40</td>
<td>5-10</td>
</tr>
<tr>
<td></td>
<td>360</td>
<td>80</td>
<td>30</td>
<td>200</td>
<td>50-100</td>
</tr>
<tr>
<td></td>
<td>1200</td>
<td>240</td>
<td>100</td>
<td>600</td>
<td>1000</td>
</tr>
<tr>
<td>SC</td>
<td>240</td>
<td>60</td>
<td>10</td>
<td>30</td>
<td>5-10</td>
</tr>
<tr>
<td></td>
<td>1200</td>
<td>240</td>
<td>100</td>
<td>600</td>
<td>1000</td>
</tr>
<tr>
<td>Opioid Conversion</td>
<td>2.5</td>
<td>10</td>
<td>5</td>
<td>15</td>
<td>2.5</td>
</tr>
<tr>
<td></td>
<td>7.5</td>
<td>30</td>
<td>10</td>
<td>40</td>
<td>5-10</td>
</tr>
<tr>
<td></td>
<td>30</td>
<td>80</td>
<td>30</td>
<td>200</td>
<td>50-100</td>
</tr>
<tr>
<td></td>
<td>120</td>
<td>240</td>
<td>100</td>
<td>600</td>
<td>1000</td>
</tr>
<tr>
<td>SC</td>
<td>2.5</td>
<td>10</td>
<td>5</td>
<td>15</td>
<td>2.5</td>
</tr>
<tr>
<td></td>
<td>5</td>
<td>30</td>
<td>10</td>
<td>40</td>
<td>5-10</td>
</tr>
<tr>
<td></td>
<td>15</td>
<td>80</td>
<td>30</td>
<td>200</td>
<td>50-100</td>
</tr>
<tr>
<td></td>
<td>60</td>
<td>240</td>
<td>100</td>
<td>600</td>
<td>1000</td>
</tr>
</tbody>
</table>

Conversion factors:
- From oral morphine to SC morphine - divide by 2.
- From oral morphine to SC diamorphine – divide by 3.
- From oral morphine to oral oxycodone – divide by 2
- From oral morphine to oral hydromorphone – divide by 7.5
- From oral oxycodone to oral hydromorphone – divide by 7.5
- From oral morphine to oral oxycodone – divide by 2.
- From oral morphine to Fentanyl skin patch – refer to table.
  A 12mcg fentanyl patch is also available and can be used for more refined dose titration between the 25, 50, and 75mcg patches.
- For 4 hourly breakthrough dose of SC Diamorphine from Fentanyl skin patch – divide patch size by 5
- Other opioids: Oral tramadol to oral morphine (total per 24h) – Tramadol dose divided by 10

Note that volumes greater than 2ml by subcutaneous injection can be uncomfortable for the patient.
### Table 29 - Dose conversion for weak opioids and buprenorphine to oral morphine

<table>
<thead>
<tr>
<th>Drug</th>
<th>To obtain equivalent oral morphine dose, multiply by:</th>
<th>For example if the patient is having:</th>
<th>Dose in 24h</th>
<th>Approximate oral morphine equivalent in 24h</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dihydrocodeine/Codeine</td>
<td>1/10</td>
<td>30mg q.d.s</td>
<td>120mg</td>
<td>12mg</td>
</tr>
<tr>
<td>Tramadol</td>
<td>1/5</td>
<td>100mg q.d.s</td>
<td>400mg</td>
<td>80mg</td>
</tr>
<tr>
<td>Buprenorphine (sublingual)</td>
<td>80</td>
<td>200microgram t.d.s</td>
<td>600microgram</td>
<td>50mg</td>
</tr>
<tr>
<td>Buprenorphine (transdermal patch e.g. Transtec®, BuTrans® )</td>
<td>100</td>
<td>35microgram/h</td>
<td>840microgram</td>
<td>84mg</td>
</tr>
</tbody>
</table>

**For example if the patient is having:**

<table>
<thead>
<tr>
<th>Drug</th>
<th>Equivalent codeine dose</th>
<th>Equivalent oral morphine dose (mg/24 h)</th>
<th>P.r.n dose of oral morphine (mg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bu Trans®</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5**</td>
<td>30mg qds</td>
<td>12</td>
<td>2</td>
</tr>
<tr>
<td>10**</td>
<td>60mg qds</td>
<td>24</td>
<td>5</td>
</tr>
<tr>
<td>20</td>
<td>-</td>
<td>48</td>
<td>10</td>
</tr>
<tr>
<td>Transtec®</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>35</td>
<td>-</td>
<td>84</td>
<td>15</td>
</tr>
<tr>
<td>52.5</td>
<td>-</td>
<td>126</td>
<td>20</td>
</tr>
<tr>
<td>70</td>
<td>-</td>
<td>168</td>
<td>30</td>
</tr>
</tbody>
</table>

* using traditional 1/6 of total daily dose as p.r.n. dose and rounded to a convenient dose
** At these doses p.r.n. codeine may suffice.

### Table 30 - Comparative doses of buprenorphine and morphine.

These recommendations are based on a PO morphine:TD buprenorphine dose ratio of 100:1 derived from published data, which is in keeping with the manufacturer’s dose ratio range of 75–115:1 (see SPC); it is an approximation, and inevitably there will be individual variation.

<table>
<thead>
<tr>
<th>Buprenorphine patch strength (microgram/h)</th>
<th>Equivalent codeine dose</th>
<th>Equivalent oral morphine dose (mg/24 h)</th>
<th>P.r.n dose of oral morphine (mg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bu Trans®</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5**</td>
<td>30mg qds</td>
<td>12</td>
<td>2</td>
</tr>
<tr>
<td>10**</td>
<td>60mg qds</td>
<td>24</td>
<td>5</td>
</tr>
<tr>
<td>20</td>
<td>-</td>
<td>48</td>
<td>10</td>
</tr>
<tr>
<td>Transtec®</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>35</td>
<td>-</td>
<td>84</td>
<td>15</td>
</tr>
<tr>
<td>52.5</td>
<td>-</td>
<td>126</td>
<td>20</td>
</tr>
<tr>
<td>70</td>
<td>-</td>
<td>168</td>
<td>30</td>
</tr>
</tbody>
</table>

* using traditional 1/6 of total daily dose as p.r.n. dose and rounded to a convenient dose
** At these doses p.r.n. codeine may suffice.

### References:

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- Prescribing in palliative care 15-19
- Department of Health. End of Life Care Strategy (2008)

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