Palliative Care

GUIDELINES FOR MANAGING COMMON SYMPTOMS

South London Palliative and Supportive Care Network and Surrey West Sussex Hampshire (SWSH) Cancer Network in conjunction with the South East and South West London Cancer Networks
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HOSPITAL PALLIATIVE CARE TEAM MEMBERS:

____________________________________
____________________________________
____________________________________

Telephone number:

Bleep:

Fax:

Email:

Availability:

____________________________________
____________________________________
____________________________________

OUT OF HOURS PALLIATIVE CARE CONTACT DETAILS:

____________________________________
____________________________________
____________________________________

ADDITIONAL INFORMATION:

____________________________________
____________________________________
____________________________________
Introduction

These hospital palliative care guidelines aim to give clear advice on the management of common symptoms for healthcare professionals caring for patients with palliative care needs in the generalist setting.

Throughout the document, indication is given concerning when to refer for specialist palliative care advice. However specialist advice may be sought at any stage and local contact details are given at the front of the guidelines.

These network wide hospital palliative care guidelines are designed to complement the Drug Formulary agreed by the South West London, South East London and Surrey, West Sussex and Hampshire (SWSH) Cancer Network Palliative Care working groups.

These guidelines will be audited and reviewed by the cancer networks to represent changes in clinical practice and research findings.

Comments regarding the hospital guidelines can be made by completing the form at the back of the document and returning to the address stated.

*Last updated 23rd April 2003 to include all comments from network formulary/guideline committees.*
Prescribing guidelines in palliative care

The aim of treatment for patients with terminal disease is to keep them as comfortable, alert and free from symptoms as possible.

The number of drugs should be as few as possible as taking medicine(s) may be an effort.

Oral medications are usually satisfactory unless there is severe nausea and vomiting, dysphagia, weakness, or coma, in which case parenteral medications may be necessary.

If the parenteral route is necessary, repeated administration of injections can be difficult in a cachectic patient. This has lead to the use of portable subcutaneous syringe drivers, which give a continuous infusion over 24 hours. This can provide good control of many symptoms with little discomfort or inconvenience to the patient.

The following guidelines are aimed at giving suggestions for appropriate prescribing for adult patients in the palliative care setting, based on an accurate assessment of the clinical situation.

Several recommendations in these prescribing guidelines involve off-label indications or routes. Where this is the case there is clinical evidence to support the indication for use.

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1 British National Formulary, September 2002
3.1 GUIDELINES FOR PRESCRIBING CONTROLLED DRUGS

Preparations which are subject to the prescription requirements of the Misuse of Drugs Regulations 1985, outlined below, are distinguished throughout the BNF by the symbol CD (controlled drug).

3.1.2 In Patient Administration

The following details are required:
- Hospital approved drug chart
- Patient name, hospital number and ward
- Approved drug name written in CAPITALS
- The dose to be given specified in milligrams/micrograms
- The route, frequency and intended times of administration of the drug. Try to coincide with routine drug rounds where possible.
- For ‘as required’ drugs it is essential to specify how often the dose may be repeated or the maximum dose to be given in 24 hours and the reason to be given.
- The prescription must be signed and dated
- If dose changes are required the existing prescription must be cancelled with a line through it, signed and dated and a new prescription written.

3.1.2 Out Patient Prescriptions

FP 10 PRESCRIPTIONS

Prescriptions ordering controlled drugs must be:
- Signed and dated by the prescriber
- Specify the prescriber's address
- Prescription must ALWAYS be in the prescriber’s own handwriting in indelible ink and include:
  - The name and address of the patient
  - The TOTAL quantity of the preparation, or the number of dose units, in both words and figures
  - The dosage form (e.g. tablets) must be included on a controlled drugs prescription, IRRESPECTIVE of whether it is implicit in the proprietary name (i.e. MST Continus) or whether only one form is available
  - The total quantity needs to be in words and figures.
4.1 PRINCIPLES OF PAIN MANAGEMENT

- Promptly assess each pain and diagnose cause.
- Acknowledge psychological and spiritual components of pain.
- Prescribe analgesics according to WHO ladder.
- The preferred method of administration is the oral route.
- Assess frequently and regularly
- Anticipate and treat likely drug side-effects
- Pain not responding to the above regimen may need the use of co-analgesics or specialist advice.

WHO ANALGESIC LADDER\(^2\)

<table>
<thead>
<tr>
<th>STEP 1</th>
<th>STEP 2</th>
<th>STEP 3 STRONG OPIOID</th>
</tr>
</thead>
<tbody>
<tr>
<td>MILD PAIN</td>
<td>MODERATE PAIN</td>
<td>SEVERE PAIN</td>
</tr>
<tr>
<td>+ NON OPIOID</td>
<td></td>
<td></td>
</tr>
<tr>
<td>WEAK OPIOID</td>
<td></td>
<td></td>
</tr>
<tr>
<td>NON OPIOID</td>
<td>+ NON OPIOID</td>
<td>+/- COANALGESICS</td>
</tr>
<tr>
<td>+/- COANALGESICS</td>
<td>+/- COANALGESICS</td>
<td>*</td>
</tr>
</tbody>
</table>

* Do not exceed total daily dose of paracetamol (4g), if e.g. compound weak opioid is combined with paracetamol.

4.2 ANALGESICS FOR USE WITH WHO LADDER

4.2.1 Non Opioid Analgesia

<table>
<thead>
<tr>
<th>Drug group</th>
<th>Drug name</th>
<th>Dose</th>
<th>Frequency</th>
<th>Route</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-opioid Analgesia</td>
<td>Paracetamol</td>
<td>500mg-1000mg</td>
<td>q.d.s</td>
<td>PO</td>
</tr>
</tbody>
</table>

4.2.2 Weak Opioid Analgesia

<table>
<thead>
<tr>
<th>Drug group</th>
<th>Drug name</th>
<th>Dose</th>
<th>Frequency</th>
<th>Route</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Co-proxamol</td>
<td>2 tablets</td>
<td>q.d.s</td>
<td>PO</td>
</tr>
<tr>
<td></td>
<td>Co-codamol</td>
<td>2 tablets</td>
<td>q.d.s</td>
<td>PO</td>
</tr>
<tr>
<td>Dihydrocodeine</td>
<td>Immediate release 30mg</td>
<td>Immediate release 30-60mg</td>
<td>4-6 hourly</td>
<td>PO</td>
</tr>
<tr>
<td>Modified release 60mg</td>
<td>Modified release 120mg</td>
<td>12 hourly</td>
<td>PO</td>
<td></td>
</tr>
<tr>
<td>Tramadol</td>
<td>Immediate release 50mg</td>
<td>Immediate release 50 – 100mg</td>
<td>4-6 hourly</td>
<td>PO</td>
</tr>
<tr>
<td></td>
<td>Modified release 100mg</td>
<td>Modified release 100 – 200mg</td>
<td>b.d</td>
<td>Max dose 400mg daily</td>
</tr>
</tbody>
</table>

4.2.3 Strong Opioid Analgesia

<table>
<thead>
<tr>
<th>Drug group</th>
<th>Drug name</th>
<th>Frequency</th>
<th>Route</th>
<th>Preparations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Immediate release morphine preparation</td>
<td>Sevredol tablets</td>
<td>PRN or regularly 4 hourly</td>
<td>PO</td>
<td>10mg, 20mg, 50mg</td>
</tr>
<tr>
<td></td>
<td>Oramorph / Sevredol oral solution</td>
<td>PRN or regularly 4 hourly</td>
<td>PO</td>
<td>10mg/5mL, 100mg/5mL</td>
</tr>
</tbody>
</table>
Sustained release morphine preparations

<table>
<thead>
<tr>
<th>MST Continus (tablets) / Zomorph capsules</th>
<th>12 hourly</th>
<th>PO</th>
<th>5mg, 10mg, 15mg, 30mg, 60mg, 100mg, 200mg</th>
</tr>
</thead>
<tbody>
<tr>
<td>MST Continus (suspension)</td>
<td>12 hourly</td>
<td>PO</td>
<td>20mg, 30mg, 60mg, 100mg, 200mg</td>
</tr>
<tr>
<td>MXL / Morcap SR</td>
<td>Daily</td>
<td>PO</td>
<td>Capsules 30mg, 60mg, 90mg, 120mg, 150mg, 200mg</td>
</tr>
</tbody>
</table>

Parenteral Preparations

<table>
<thead>
<tr>
<th>Diamorphine Hydrochloride</th>
<th>PRN or Continuous infusion</th>
<th>SC</th>
<th>Injection 5mg, 10mg, 30mg, 100mg, 500mg</th>
</tr>
</thead>
</table>

4.2.4 Alternative Strong Opioids

<table>
<thead>
<tr>
<th>Drug name</th>
<th>Preparation</th>
<th>Trade name</th>
<th>Regular prescribing interval</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oxycodone</td>
<td>Immediate release capsules 5mg, 10mg, 20mg</td>
<td>Oxynorm</td>
<td>4 hourly</td>
</tr>
<tr>
<td>Oxycodone</td>
<td>Immediate release solution 5mg/5mL, 10mg/mL</td>
<td>Oxynorm</td>
<td>4 hourly</td>
</tr>
<tr>
<td>Oxycodone</td>
<td>Slow release capsules 5mg, 10mg, 20mg, 40mg, 80mg</td>
<td>Oxycontin</td>
<td>12 hourly</td>
</tr>
<tr>
<td>Oxycodone</td>
<td>Parenteral solution 10mg/mL</td>
<td>Oxynorm</td>
<td>PRN injection or continuous infusion SC</td>
</tr>
<tr>
<td>Fentanyl</td>
<td>Transdermal patches 25micrograms/hr, 50micrograms/hr, 75micrograms/hr, 100micrograms/hr</td>
<td>Durogesic</td>
<td>72 hourly</td>
</tr>
</tbody>
</table>
**Oral transmucosal fentanyl citrate**

- 200mcg, 400mcg, 600mcg, 800mcg, 1200mcg, 1600mcg

**Actiq**

**Max 6 hourly**

**Methadone**

- 5mg tablets
  - 1mg/1mL, 2mg/5mL

**Physeptone**

**8 – 24 hourly**

**Hydromorphone**

- Immediate release capsules
  - 1.3mg, 2.6mg

**Palladone**

**4 hourly**

**Hydromorphone**

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

**Palladone**

**12 hourly**

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**4.3 PRESCRIBING STRONG OPIOIDS FOR CANCER PAIN**

**4.3.1 Dose titration with immediate release morphine**

- Oral immediate release morphine is the drug of choice
- Dose titration of immediate release morphine is usually required to determine the optimal dose for the patient.
- Morphine has NO ceiling dose pharmacologically
- Prescribe immediate release morphine 4 hourly
  - e.g. at 6am, 10am, 2pm, 6pm, 10pm and 2am
- The starting dose is usually 5 -10mg every 4 hours, but depends on the severity of pain, previous analgesic requirements and age - reduced dose (e.g. half) in frail and/or elderly patients.
- Breakthrough doses of immediate release morphine should be equivalent to the current 4 hourly dose and clearly prescribed, “as needed” not 4 hourly. Caution no more than 2 doses in any 4 hours
- Reassess pain control regularly. If still in pain, increase dose by 30-50%,
  - e.g. 5mg→7.5mg→10mg→15mg→20mg→30mg etc. 4 hourly.

**NB: Be cautious of the incremental change in the higher dose ranges of morphine. SEEK SPECIALIST ADVICE.**

**4.3.2 Converting to modified, sustained or slow release morphine**

- To convert 4 hourly immediate release morphine to sustained release morphine, the equivalent dose should be given:

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Example
Immediate release morphine: 10mg/4 hourly = 60mg/24 hours
To convert slow release morphine: MST 30mg/12 hours or MXL/Morcap 60mg daily

- Appropriate breakthrough doses of immediate release morphine must be prescribed and should be equivalent to the 4 hourly dose.

4.3.3 Parenteral route
- Diamorphine is the drug of choice due to its greater solubility.
- The preferred route of administration is subcutaneously either PRN or by continuous infusion via a syringe driver.
- Parenteral diamorphine is 3 times more potent than oral morphine. In order to convert a 24 hour dose of oral morphine to an equivalent dose of SC diamorphine, use calculation as shown:

  Total dose oral morphine in 24 hours = 24 hour SC dose diamorphine

  3

Example
MXL 90mg o.d = 30mg SC diamorphine in 24 hours
MST or Zomorph 60mg b.d = 40mg SC diamorphine in 24 hours

- Appropriate breakthrough doses should be treated with a subcutaneous injection of the equivalent 4 hourly dose of diamorphine.

4.3.4 Transdermal route
Fentanyl is a synthetic opioid that is available as a transdermal preparation. The patch delivers fentanyl over a 72-hour delivery period. Active drug is absorbed through the skin and forms a subcutaneous depot, from which it is absorbed into the systemic circulation. It takes approximately 12 hours for the depot to build up after application of the first patch and up to 24 hours for the depot to disperse after the patch is removed. For this reason, transdermal fentanyl is not as flexible as morphine for patients with rapidly changing opioid requirements.

- Transdermal fentanyl may be less constipating than oral morphine.
- The transdermal preparation may be considered for patients with stable opioid requirements but where there are problems with:
  - Constipation
  - Mood disturbance
- Nausea & vomiting
- Number of tablets
- Unable to swallow

- Transdermal fentanyl is unsuitable for patients with:
  - Rapidly changing opioid requirements
  - New renal or hepatic Impairment
  - Chronic skin disorders
  - Patients with limited dexterity

- Fentanyl patches should not be put on very oedematous areas or on patients with poor circulation

**Starting transdermal fentanyl.**
The conversions from oral morphine to transdermal fentanyl is as follows:

<table>
<thead>
<tr>
<th>Total oral morphine (mg/day)</th>
<th>Approx 4 hourly IR morphine dose (mg)</th>
<th>Transdermal fentanyl (mcg/hr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>50-134</td>
<td>20</td>
<td>25</td>
</tr>
<tr>
<td>135-224</td>
<td>25-35</td>
<td>50</td>
</tr>
<tr>
<td>225-314</td>
<td>40-50</td>
<td>75</td>
</tr>
<tr>
<td>315-404</td>
<td>55-65</td>
<td>100</td>
</tr>
<tr>
<td>405-494</td>
<td>70-80</td>
<td>125</td>
</tr>
<tr>
<td>495-584</td>
<td>85-95</td>
<td>150</td>
</tr>
<tr>
<td>585-674</td>
<td>100-110</td>
<td>175</td>
</tr>
<tr>
<td>675-764</td>
<td>115-125</td>
<td>200</td>
</tr>
<tr>
<td>765-854</td>
<td>130-140</td>
<td>225</td>
</tr>
<tr>
<td>855-944</td>
<td>145-155</td>
<td>250</td>
</tr>
</tbody>
</table>

- The first fentanyl patch needs to be applied at the same time as the last dose of MST. When converting to patches from immediate release morphine patients will usually require three 4 hourly doses until the subcutaneous depot has built up.

- Breakthrough immediate release morphine should be prescribed with transdermal fentanyl (see chart above for dose). The breakthrough dose of diamorphine is equal to 1/5 of the patch strength expressed in mg.
4.3.5 Side-effects and toxicity of opioid analgesics

- **Common side effects**
  - Constipation - prescribe regular laxative e.g. codantheramer
  - Nausea and vomiting (usually wears off after a few days) - prescribe PRN antiemetic, e.g. haloperidol
  - Drowsiness and confusion
  - Dry mouth

- **Opioid Toxicity**
  Can occur with:
  - Too rapid dose escalation
  - Pain that is partially or not morphine responsive
  - Renal impairment/failure
  - Can occur with successful therapeutic intervention to relieve pain, e.g. chemotherapy, radiotherapy or nerve block

Warning signs include:
  - Drowsiness
  - Confusion
  - Pin-Point pupils
  - Myoclonic jerks
  - Hallucinations (auditory and visual)
  - Vomiting

If toxicity occurs, reduce opioid daily dose (the patient may need to miss one or several 4 hourly doses, then restart at a lower dose) or stop opioid and convert to a weak opioid.

**FOR FURTHER ADVICE CONTACT YOUR PALLIATIVE CARE TEAM**
Co-analgesics are drugs that, when used concurrently with analgesics, may contribute significantly to pain relief.

5.1 PRINCIPLES OF USE OF CO-ANALGESICS

- All principles of pain management apply for the use of co-analgesics.
- Note that many of the drugs classified as co-analgesics were developed and released for clinical indications other than pain.
- Ensure the first line co-analgesic is at its pharmacologically effective dose level and interval before changing to/adding second line drugs.
- Several co-analgesics may be used concurrently for different indications.
- For parenteral co-analgesic administration, refer to the prescribing guidelines for Syringe Drivers.

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### 5.2 Examples of Clinical Use of Co-Analgesics

<table>
<thead>
<tr>
<th>Co-analgesic</th>
<th>Main Indication</th>
<th>Drug name</th>
<th>Typical dose range</th>
<th>Frequency</th>
<th>Route</th>
</tr>
</thead>
<tbody>
<tr>
<td>NSAID</td>
<td>Bone</td>
<td>Ibuprofen</td>
<td>200-400mg</td>
<td>t.d.s-q.d.s</td>
<td>PO</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Naproxen</td>
<td>250-500mg</td>
<td>b.d-t.d.s</td>
<td>PO/pr</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Diclofenac</td>
<td>25-50mg</td>
<td>b.d-t.d.s</td>
<td>PO/SC</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Ketorolac</td>
<td>10mg</td>
<td>q.d.s</td>
<td></td>
</tr>
<tr>
<td>COX2 Inhibitor</td>
<td>Nerve compression</td>
<td>Rofecoxib</td>
<td>12.5-25mg</td>
<td>o.d</td>
<td>PO</td>
</tr>
<tr>
<td>Steroids</td>
<td>Nerve compression</td>
<td>Dexamethasone</td>
<td>2-16mg</td>
<td>o.d-b.d</td>
<td>PO/SC</td>
</tr>
<tr>
<td>Anti-depressants</td>
<td>Neuropathic</td>
<td>Amitriptyline</td>
<td>10-150mg</td>
<td>o.d</td>
<td>PO</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Dothiepin</td>
<td>25-150mg</td>
<td>o.d</td>
<td>PO</td>
</tr>
<tr>
<td>Anti-convulsants</td>
<td>Neuropathic</td>
<td>Carbamazepine</td>
<td>100-400mg</td>
<td>b.d-t.d.s</td>
<td>PO</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Sodium valproate</td>
<td>200-500mg</td>
<td>b.d-t.d.s</td>
<td>PO</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Clonazepam</td>
<td>0.5-2mg</td>
<td>o.d</td>
<td>PO/SC</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Gabapentin</td>
<td>200-600mg</td>
<td>t.d.s</td>
<td>PO</td>
</tr>
<tr>
<td>Anti-spasmodics</td>
<td>1. Muscle spasm</td>
<td>Baclofen</td>
<td>10-20mg</td>
<td>t.d.s</td>
<td>PO</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Diazepam</td>
<td>2-10mg</td>
<td>t.d.s</td>
<td>PO</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Hyoscine butylbromide</td>
<td>20mg</td>
<td>hourly</td>
<td>SC</td>
</tr>
<tr>
<td></td>
<td>2. Colic</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Psychotropic</td>
<td>Co-existing anxiety with pain</td>
<td>Diazepam</td>
<td>5-20mg</td>
<td>o.d</td>
<td>PO</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Levomepromazine</td>
<td>25-200mg</td>
<td>o.d</td>
<td>PO/SC</td>
</tr>
<tr>
<td>NMDA Receptor antagonist</td>
<td>Neuropathic</td>
<td>Ketamine</td>
<td>Seek Specialist Advice</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
5.2.1 Non-steroidal anti-inflammatory drugs

*Indication: Bone pain, local inflammation*

- Characteristics of bone pain can change with the site involved.
- The clinical benefits of long-term use must be carefully balanced against adverse effects.

*Most common side effects*

- Gastric irritation, fluid retention, renal impairment, exacerbation of asthma/bronchitis.

5.2.2 Steroids

*Indication: Nerve compression pain, pressure pain from tumour, oedema or inflammation, e.g. liver capsule pain, bone pain*

- Dexamethasone is the first line choice.
- It has high glucocorticoid action, which reduces the prevalence of water retention as opposed to prednisolone and has a long duration of action.
- A starting high dose of 8 to 16mg daily is frequently used and the dose then titrated to the lowest possible level.
- Usually given in a single daily morning dose to minimise side effects.
- The clinical benefit of high dose or long term use must be carefully balanced against adverse effects.

*Most common side effects*

- Oral thrush, facial swelling, ankle oedema, dyspepsia, diabetes, proximal myopathy, agitation, insomnia or psychiatric disturbance.

5.2.3 Antidepressants

*Indication: Neuropathic pain*

- Have a specific analgesic role in neuropathic pain, which is independent of their antidepressant action.
- Start at a low dose and titrate upwards every 3-5 days according to response and adverse effects.
- Studies have shown increased analgesic benefit with doses of amitriptyline up to 150mg.
- Partial relief may occur within 2-4 days, but the full benefit can require 3-4 weeks.

*Possible side effects*

- Dry mouth, blurred vision, dizziness due to hypotension, and difficulty with micturition.
5.2.4 Anticonvulsants

*Indication: Neuropathic pain*

- These drugs are thought to act by suppressing spontaneous activity in traumatised nerve fibres and may require 2-5 days to assess their benefit.
- Start at the low dose and titrate up every 3-5 days according to response and adverse effects.

*Possible side effects*:
- Nausea, dizziness, confusion and ataxia

5.2.5 Antispasmodics

*Indication: 1. Muscle Spasm  2. Colic*

- Titration of dose level of baclofen, diazepam and hyoscine butylbromide should be slow to minimise adverse effects.

*Possible side effects*:
- Drowsiness, light headedness, confusion, ataxia

5.2.6 Psychotropics

*Indication: Co-existing anxiety and distress*

- The dose of psychotropic drugs should be titrated against the patient’s level of anxiety, with particular attention to minimising adverse effects.

*Possible side effects*:
- Diazepam: drowsiness, confusion
Guidelines for prescribing antiemetics in palliative care

6.1 POTENTIALLY REVERSIBLE CAUSES.
Prior to instituting drug treatment, exclude or actively treat any potentially reversible causes such as:
- Drugs
- Chemotherapy
- Radiotherapy
- Constipation
- Raised intracranial pressure
- Hypercalcaemia
- Renal or hepatic failure
- Gastric outflow obstruction, e.g. Hepatomegaly / upper GI tumour
- Small/large bowel obstruction
- Gastritis
- Cough
- Pain
- Anxiety

6.2 MANAGEMENT
Treat the underlying cause wherever possible, otherwise manage symptomatically. Antiemetics should be used in accordance with the likely aetiology of the nausea and/or vomiting.

# Recommended Antiemetics by Aetiology

<table>
<thead>
<tr>
<th>Suspected aetiology</th>
<th>Drug of choice</th>
<th>Dose PO</th>
<th>Dose SC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drug Induced</td>
<td><strong>Haloperidol</strong></td>
<td>1.5-3mg b.d</td>
<td>1.5mg PRN 3.5mg/24 hrs</td>
</tr>
<tr>
<td></td>
<td><strong>Cyclizine</strong></td>
<td>50mg t.d.s</td>
<td>50mg PRN 150mg/24hrs</td>
</tr>
<tr>
<td>Metabolic e.g. renal failure</td>
<td><strong>Haloperidol</strong></td>
<td>1.5-3mg b.d</td>
<td>1.5mg PRN 3.5mg/24 hrs</td>
</tr>
<tr>
<td>Partial gastric outflow obstruction/ gastric stasis</td>
<td><strong>Metoclopramide</strong></td>
<td>10-20mg t.d.s-q.d.s</td>
<td>10-20mg PRN 30-120mg/24 hrs</td>
</tr>
<tr>
<td></td>
<td><strong>N.B. Do not use in small/large bowel obstruction with colic</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gastric irritation</td>
<td><strong>Stop NSAID</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Lansoprazole</strong></td>
<td>30mg o.d</td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Omeprazole</strong></td>
<td>20mg o.d</td>
<td></td>
</tr>
<tr>
<td>Raised intracranial pressure</td>
<td><strong>Dexamethasone +/- Cyclizine</strong></td>
<td>16mg o.d 50mg t.d.s</td>
<td>8-16mg o.d 150mg / 24hrs</td>
</tr>
<tr>
<td>Vestibular disorders</td>
<td><strong>Cyclizine</strong></td>
<td>150mg t.d.s</td>
<td>150mg/24hrs</td>
</tr>
<tr>
<td></td>
<td><strong>Prochlorperazine</strong></td>
<td>5-10mg t.d.s</td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Betahistine</strong></td>
<td>8-16mg t.d.s</td>
<td></td>
</tr>
<tr>
<td>Bowel obstruction</td>
<td><strong>Cyclizine</strong></td>
<td>50mg t.d.s</td>
<td>150mg / 24hrs</td>
</tr>
<tr>
<td></td>
<td><strong>Haloperidol</strong></td>
<td>1.5-3mg b.d</td>
<td>3-5mg / 24hrs</td>
</tr>
<tr>
<td></td>
<td><strong>Buscopan</strong></td>
<td>20mg t.d.s</td>
<td>60 – 120mg / 24hr</td>
</tr>
<tr>
<td></td>
<td><strong>Octreotide</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(For specialist use only)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intractable, unknown or mixed aetiology</td>
<td><strong>Levomepromazine</strong></td>
<td>6.25-12.5mg o.d</td>
<td>5-12.5mg/24hrs</td>
</tr>
<tr>
<td></td>
<td><strong>Dexamethasone</strong></td>
<td>8-12mg o.d</td>
<td>8-12mg as stat dose</td>
</tr>
</tbody>
</table>

N.B. do not use cyclizine and metoclopramide concurrently, as anticholinergic effects of cyclizine will negate cholinergic activity of metoclopramide.
Guidelines for prescribing laxatives in palliative care

7.1 CONTRIBUTING FACTORS
In most patients there are multiple contributing factors:
• Immobility
• Poor intake and debility
• Weakness
• Drugs (opioids and anticholinergics)
• Hypercalcaemia
• Dehydration
• Bowel obstruction / pseudo-obstruction
• Cord Compression / cauda equina syndrome

7.2 MANAGEMENT
• Treat underlying cause where appropriate / possible
• Encourage good oral intake and increased mobility

### 7.2.1 Recommended oral laxatives for constipation

<table>
<thead>
<tr>
<th>Clinical effect</th>
<th>Preparation</th>
<th>Dose</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Combined Stimulant</td>
<td>Codanthramer</td>
<td>5mL-30mL b.d.</td>
<td>May cause danthron burns – avoid in patients with bypassing catheters or who are incontinent.</td>
</tr>
<tr>
<td>and Softeners</td>
<td>1 capsule = 5mL suspension</td>
<td>1-6 capsules b.d.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Codanthramer Forte</td>
<td>5mL-20mL b.d.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2 capsules = 5 mL suspension</td>
<td>2-4 capsules b.d.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Codanthrusate</td>
<td>5mL-30mL b.d.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>1-6 capsules b.d.</td>
<td></td>
</tr>
<tr>
<td>Softener</td>
<td>Docusate Sodium</td>
<td>100-200mg b.d. – t.d.s.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>up to 600mg/day</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Liquid Paraffin &amp; Magnesium Hydroxide</td>
<td>10mL-30mL b.d.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Mixture (Milpar)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stimulant</td>
<td>Senna</td>
<td>10mL-20mL nocte/b.d.</td>
<td>May cause colic. Avoid in patients with malignant intestinal obstruction</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2-4tablets nocte/b.d.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Bisacodyl</td>
<td>5-10mg nocte/b.d.</td>
<td></td>
</tr>
<tr>
<td>Osmotic</td>
<td>Lactulose</td>
<td>10mL-20mL b.d. / t.d.s.</td>
<td>Patients require good oral fluid intake for efficacy</td>
</tr>
</tbody>
</table>

Laxatives that could be considered for resistant cases include:
- Macrogols (Movicol)
- Magnesium Sulphate

Anticipate that a quicker escalation of the laxative dose is required when:
- Activity/mobility is reduced
- Oral intake is reduced
7.2.2 Treatment of faecal impaction

The treatment of faecal impaction is usually managed in stages. Generally, only one stage should be implemented in each 24 hours period.

These are suggested stages but assessment of patients’ individual needs and their normal bowel habit should be taken into consideration first.

Soft faeces palpable in rectum
- Bisacodyl suppositories
- Microlette enema
- Microlette enema and increase oral laxatives

Hard faeces palpable in rectum
- Bisacodyl and glycerine suppositories
- Microlette and increase oral laxatives
- Microlette enema and consider manual evacuation

Rectum empty but ballooned.
- Stage 1 Microlette enema
- Stage 2 Microlette enema and increase oral laxatives
- Stage 3 Arachis oil enema
- Stage 4 Phosphate enema

Movicol is also licensed for use in faecal impaction
Guidelines for management of anorexia and cachexia in palliative care

8.1. CONTRIBUTING FACTORS:
Whilst many patients will have the anorexia-cachexia syndrome, potentially reversible factors should be sought and actively treated, including:
- Dry mouth
- Oral infection, e.g. candidiasis
- Oral ulceration
- Ill-fitting dentures
- Nausea and vomiting
- Gastric stasis
- Constipation

8.2 MANAGEMENT STRATEGIES:
8.2.1 Nutritional supplements
Refer to the dietician for exposure to the full range of supplements available. However Pro–Sure (EPA enriched Ensure) has a demonstrated benefit on cachectic patients with pancreatic cancer.

8.2.2 Drug treatment
Corticosteroids
- The optimal dose, type of steroid and length of treatment has yet to be evaluated
- Known to improve appetite and well-being, but does not result in weight gain. The effect is short lived (weeks).
- A trial of corticosteroids is indicated for 1 week, against a clear endpoint e.g. improved appetite. If there has been no benefit after this, they should be stopped.

\[
\textit{dexamethasone} \quad 4mg \text{ o.d} \\
\textit{prednisolone} \quad 30mg \text{ o.d}
\]

• In responding patients, the steroid dose should be reduced gradually to avoid toxicity. e.g. by 2 mg/week for dexamethasone and 5 mg/week for prednisolone

*Progestogens*
• Increased appetite and weight gain have been shown with megestrol acetate and medroxyprogesterone acetate, but only in high dose (i.e. 800-1600 mg/day)
• More durable effect than with corticosteroids - effect seen over months rather than weeks, but it may take a few weeks for therapeutic effect

  *megestrol acetate*  
  80-160mg b.d

  *medroxyprogesterone*  
  400mg o.d
Guidelines for the management of symptoms in a dying patient

9.1 SIGNS THAT ARE COMMONLY SEEN IN THE LAST 2-5 DAYS OF LIFE
- More rapid deterioration, often day-by-day
- Increasing weakness, bed-bound and requiring help with personal care
- Barely able to take even liquids and unable to take medicines by mouth
- Impaired concentration, possible muddled thinking, and difficulty sustaining even the briefest conversation
- Increasing drowsiness

9.2 COMMON SYMPTOMS IN DYING PATIENTS
- Pain
- Nausea and vomiting
- Breathlessness
- Restlessness / agitation
- Retained chest secretions

9.3 ETHICAL CONSIDERATIONS IN DYING PATIENTS

Guidelines for Withholding and Withdrawing Life-Prolonging Medical Treatment
- Examples of life-prolonging medical treatments include IV fluids, enteral or parenteral feeding, antibiotics, CPR, ventilation.
- The primary goal of any medical treatment is to benefit the patient by restoring or maintaining health, maximising benefit and minimising harm.
- Treatment that does not provide net benefit to the patient may, ethically and legally, be withdrawn and the goal should shift to the palliation of symptoms.
- A voluntary refusal of life-prolonging treatment by a competent adult must be respected; advance directives must be respected if the patient has lost the capacity to make a decision.
- Decisions to withhold or withdraw treatment should be made by the clinician in overall charge of a patient's care following discussion with the health care team and where appropriate, patient and/or those close to the patient.

9.4 DRUG MANAGEMENT OF SYMPTOMS IN THE DYING PATIENT

9.4.1 Reduce medication to the minimum necessary:

Only medications, which are essential to control symptoms, should be used at this time, and many drugs can be stopped including:

- Antihypertensives
- Lipid-lowering drugs
- Diuretics
- Iron Preparations
- Vitamins

Consider whether it is still appropriate to use intravenous fluids, artificial nutrition or antibiotics - each decision should be individualised.

9.4.2 Review route of administration of drugs:

- As patients become unable to take medication by mouth, give essential medications subcutaneously.
- If symptoms are continuous e.g. pain or nausea, then drug administration should be continuous. In practice, the most effective way of doing this is by continuous subcutaneous infusion via the syringe driver.

*Please refer to section 10 on use of a syringe driver*
### 9.4.3 PRN Medication

All dying patients should be prescribed ‘as required’ medication for common symptoms:

<table>
<thead>
<tr>
<th>Symptom</th>
<th>Drug and suggested dose</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pain</td>
<td>Diamorphine 2.5mg SC</td>
</tr>
<tr>
<td></td>
<td>In patients previously taking morphine or other strong opioid, calculate the PRN dose by dividing the total dose required in 24 hours by 6</td>
</tr>
<tr>
<td>Agitation/ Breathlessness</td>
<td>Midazolam 2.5 to 10mg SC</td>
</tr>
<tr>
<td>Chest Secretions</td>
<td>Glycopyrronium 0.2mg SC</td>
</tr>
<tr>
<td></td>
<td>Hyoscine butylbromide 20mg SC</td>
</tr>
<tr>
<td></td>
<td>Hyoscine hydrobromide 0.4mg SC</td>
</tr>
<tr>
<td>Nausea/Vomiting</td>
<td>Haloperidol 1.5mg SC</td>
</tr>
</tbody>
</table>
### 9.4.4 Drugs commonly used in a syringe driver for dying patients

<table>
<thead>
<tr>
<th>Indication</th>
<th>Drug</th>
<th>Dose</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pain</td>
<td>Diamorphine</td>
<td>- 5-20mg if no previous opioid.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>- For patients on morphine divide total dose of oral morphine by 3 for 24-hour SC diamorphine dose. e.g. MXL 90mg = 30mg diamorphine</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Diamorphine is better absorbed SC than morphine.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>No maximum dose</td>
<td></td>
</tr>
<tr>
<td>Sedation</td>
<td>Midazolam</td>
<td>10-30mg/24 hours</td>
<td>Max dose 200mg /24 hours</td>
</tr>
<tr>
<td></td>
<td>Levomepromazine</td>
<td>25-200mg/24 hours</td>
<td>Not in patients with cerebral metastases or a history of fits</td>
</tr>
<tr>
<td>Antiemetic</td>
<td>Haloperidol</td>
<td>3-5mg/24hours</td>
<td>Can be sedating</td>
</tr>
<tr>
<td></td>
<td>Cyclizine</td>
<td>150mg/24hours</td>
<td>Can precipitate in syringe drivers</td>
</tr>
<tr>
<td></td>
<td>Levomepromazine</td>
<td>6.25-25mg/24 hours</td>
<td>Sedating in increased doses</td>
</tr>
<tr>
<td>Retained oropharyngeal/</td>
<td>Glycopyrronium</td>
<td>0.6–2.0mg/24 hours</td>
<td>More potent than hyoscine hydrobromide, does not cross the blood brain barrier (BBB)</td>
</tr>
<tr>
<td>chest secretions(^{13})</td>
<td>Hyoscine butylbromide</td>
<td>60-180mg/24 hours</td>
<td>Does not cross (BBB)</td>
</tr>
<tr>
<td></td>
<td>Hyoscine hydrobromide</td>
<td>1.2-2.4mg/24 hours</td>
<td>More expensive, and may cross BBB - theoretical risk of agitation or confusion</td>
</tr>
</tbody>
</table>

9.5 GENERAL MANAGEMENT STRATEGIES

9.5.1 Management of breathlessness
The following measures allow the frightened breathless patient to feel less distressed:
• A calm member of staff can improve patient confidence
• An electric fan at the bedside
• Simple breathing exercises encourages the patient to use their diaphragm
• Positioning - avoid lying the patient flat. A semi-recumbent position allows greater movement of
  the diaphragm than sitting bolt upright

9.5.2 Management of restlessness and agitation
Exclude potentially reversible causes for example:
• A full bladder
• Musculoskeletal pain/stiffness
• Fear, feelings of isolation
• Pain through inadequate analgesia

If it is necessary for the patient’s comfort to administer sedating medication, explain why this is
necessary both to the patient if possible, and to family members.

9.5.3 Management of retained secretions
Many dying patients develop noisy moist breathing, sometimes known as the ‘death rattle’. It is
often due to aspirated oropharyngeal secretions and retained bronchial secretions although in some
patients there will be underlying hypostatic pneumonia.

Explanation
• Explain to patient’s family what is causing the secretions/noise, and if the patient is unconscious,
  reassure them that it should not distress the patient.

Repositioning
• Simply turning the patient on his side may stop the oral secretions pooling in the pharynx, and
  reduce the rattling sound.
10.1 AVAILABILITY OF SYRINGE DRIVER PUMPS
Syringe driver pumps are available:

During working hours

Out of hours

10.2 INDICATIONS FOR USE OF A SYRINGE DRIVER
• Persistent nausea & vomiting
• Severe dysphagia
• Intestinal obstruction / malabsorption
• Semi / unconscious patient

10.3 ANALGESIA VIA THE SUBCUTANEOUS ROUTE
• For patients who have previously been prescribed oral morphine the conversion factor to parenteral diamorphine is 3:1 (see Analgesia section 4)
• The equivalent 4 hourly dose of drugs used should also be prescribed PRN for breakthrough symptoms.

10.4 GENERAL PRINCIPLES
• Care should be taken when mixing more than two drugs in a syringe and in ensuring that the diluent used is compatible with the drugs. The diluent of choice is water for injection except in the following where sodium chloride for injection should be used: Diclofenac, Granisetron, Ketamine, Ketorolac, Octreotide and Ondansetron.
• If requiring more than three drugs in one syringe driver, re-assessment of treatment aims is required.
• With combinations of two or three drugs in one syringe, a larger volume of diluent may be needed, e.g. in a 20mL or 30mL syringe.
10.5 EXAMPLE OF A WRITTEN PRESCRIPTION
Using a MS26 “GREEN “ Syringe Driver

Name of Drug(s) Dose in milligrams or micrograms /24 hours subcutaneous infusion via syringe driver.

Mixed with diluent (Water for Injection) to a length of 48mm in syringe, set at 48mm/24hours.

NB: It is the distance travelled (mm) that is important to prescribe not the volume (mLs), as the pump measures mm/24hours.

Using a MS16A “BLUE” Syringe Driver
Name of Drug(s) Dose in milligrams or micrograms /24 hours subcutaneous infusion via syringe driver

Mixed with diluent (Water for Injection) to a length of 48mm, set at 2mm/hr

NB: It is the distance travelled (mm) that is important to prescribe not the volume (mLs), as the pump measures mm/hr.

All Prescriptions
• Alterations to the dose should not be made. If doses need to be changed the prescription should be cancelled as stated and a new prescription written
• A label should be attached to the giving set with the information
• Name of patient
• Length of starting volume in mm
• Names and dosages of drugs
• Date and time started.
10.6 SETTING UP THE SYRINGE DRIVER
Nurses setting up the syringe driver are required to be competent in the use of the pump in line with local ‘Use of Medical Devices Policies’.

Any uncertainty in how the syringe driver is set up then contact the Palliative Care Team.

A monitoring form should be used for every patient with a syringe driver in use (contact local Palliative Care Team for details).

10.7 GUIDELINES FOR COMMON DRUGS, DOSES AND RANGES FOR PALLIATIVE CARE USE WITH A 24-HOUR SYRINGE DRIVER\textsuperscript{14, 15, 16}
The following is a guide to drugs that may be used in a 24-hour subcutaneous driver. They may be used alone or in combinations.
Advise should be sought when combining drugs or in exceptional circumstances

All drugs should be mixed with WATER unless otherwise indicated.

## Guidelines for Common Drugs, Doses and Ranges for Palliative Care use with a 24-hour Syringe Driver

<table>
<thead>
<tr>
<th>Drug / Class of drug / (ampoule size)</th>
<th>Indications</th>
<th>Compatibility</th>
<th>Contra indications</th>
<th>Possible Side effects</th>
<th>PRN dose Onset of action</th>
<th>24 hr infusion dose ranges</th>
</tr>
</thead>
</table>
| *Diamorphine*  
Opioid analgesic  
(5mg, 10mg, 30mg, 100mg, 500mg) | - Pain,  
- Dyspnoea,  
- Cough,  
- Diarrhoea  
- Nausea and vomiting caused by gastric irritation,  
- Delayed gastric emptying,  
- Stimulation of the CTZ,  
- Obstructive bowel symptoms without colic.  
- Non sedating | With most drugs | None if titrated carefully against patients’ symptoms.  
Modify dose in renal failure  
Can precipitate with dexamethasone, diamorphine (in higher doses), metoclopramide, midazolam and saline | Nausea, drowsiness, dry mouth, constipation, confusion, twitching  
Dizziness, diarrhoea, depression, extra pyramidal effects  
Drowsiness, dry mouth, blurred vision, sedation and hypotension.  
Injection can be painful. If syringe driver site is irritating, try to dilute further. | One sixth of total 24 hour infusion dose  
50mg IM / SC every 8 hours  
Within 2 hours | Variable depending on total oral intake of morphine.  
Conversion of oral morphine to subcutaneous diamorphine is 1:3  
50mg-150mg usual dose |
| *Metoclopramide*  
Prokinetic antiemetic  
(10mg/2mL) | - Nausea and vomiting caused by gastric irritation,  
- Delayed gastric emptying,  
- Stimulation of the CTZ,  
- Obstructive bowel symptoms without colic.  
- Non sedating  
- Nausea and vomiting associated with motion sickness,  
- Anticipatory nausea  
- Pharyngeal stimulation,  
- Mechanical bowel obstruction,  
- Raised intracranial pressure | With most drugs  
Can precipitate with dexamethasone, diamorphine (in higher doses), metoclopramide, midazolam and saline  
Can precipitate with dexamethasone, metoclopramide, midazolam and saline  
Cannot give with metoclopramide  
Cannot give with Levomethapramine  
Cannot give with Buscopan | Concurrent administration with antimuscarinic drugs.  
Concurrent iv administration of 5HT3 receptor antagonists  
Do not give in bowel obstruction if colic present | Dizziness, diarrhoea, depression, extra pyramidal effects  
Nausea, drowsiness, dry mouth, constipation, confusion, twitching  
Drowsiness, dry mouth, blurred vision, sedation and hypotension.  
Injection can be painful. If syringe driver site is irritating, try to dilute further. | 10mg-30mg IM/SC every 8 hours  
Within 10-15 mins | 60mg-120mg |
| *Cyclizine*  
Antihistaminic, antimuscarinic antiemetic (50mg/1mL) | - Nausea and vomiting associated with motion sickness,  
- Anticipatory nausea  
- Pharyngeal stimulation,  
- Mechanical bowel obstruction,  
- Raised intracranial pressure  
- Pain,  
- Dyspnoea,  
- Cough,  
- Diarrhoea  
- Nausea and vomiting associated with motion sickness,  
- Anticipatory nausea  
- Pharyngeal stimulation,  
- Mechanical bowel obstruction,  
- Raised intracranial pressure | With most drugs  
Can precipitate with dexamethasone, diamorphine (in higher doses), metoclopramide, midazolam and saline | No absolute ones in patients with advanced cancer  
Do not give with metoclopramide  
Do not give with Levomepromazine  
Do not give with Buscopan | Nausea, drowsiness, dry mouth, constipation, confusion, twitching  
Drowsiness, dry mouth, blurred vision, sedation and hypotension.  
Injection can be painful. If syringe driver site is irritating, try to dilute further. | One sixth of total 24 hour infusion dose  
Within 10-30 mins | Variable depending on total oral intake of morphine.  
Conversion of oral morphine to subcutaneous diamorphine is 1:3  
50mg-150mg usual dose |
| **Haloperidol**  
Butyrophenone Antipsychotic (5mg/mL) | - Nausea & vomiting  
- Psychotic symptoms  
- Agitated delirium  
- Intractable hiccup | With most drugs | Parkinson’s disease, Possible CNS depression with anxiolytics & alcohol | Extra pyramidal symptoms, dry mouth, sedation, drowsiness, difficulty in micturition, hypotension, blurred vision | 1.5mg–3mg SC daily to every 8 hours  
*Within 10-15mins* | 2.5mg – 5mg usual dose for nausea & vomiting |
| --- | --- | --- | --- | --- | --- | --- |
| **Levomepromazine**  
Antiemetic, phenothiazine antipsychotic (25mg/1 mL) | - Nausea & vomiting  
- Insomnia  
- Terminal agitation  
- Intractable pain  
- Useful as an antiemetic and sedation  
- Can be very sedating | Precipitates with dexamethasone  
Do not use with cyclizine | Parkinson's disease, postural hypotension, antihypertensive therapy, epilepsy, hypothyroidism, myasthenia gravis | Sedation, dose dependent postural hypotension | 6.25mg – 12.5mg IM/SC every 4 - 6 hours usual dose  
*Within 30 minutes* | 6.25mg – 25mg usual dose for nausea & vomiting  
25mg–150mg usual dose terminal agitation |
| **Midazolam**  
Benzodiazepine (10mg/2mL) Anxiolytic | - Sedation for terminal agitation,  
- Multifocal myoclonus  
- Epilepsy  
- Intractable hiccup  
- Muscle spasm | With most drugs | Drowsiness, hypotension | Dizziness, drowsiness | 2.5mg - 10mg IM/SC every 4 hours  
*Within 5-10 mins* | 10mg – 60 mg usual dose |
## Guidelines for Common Drugs, Doses and Ranges for Palliative Care use with a 24-hour Syringe Driver (continued)

<table>
<thead>
<tr>
<th>Drug / Class of drug/ (ampoule size)</th>
<th>Indications</th>
<th>Compatibility</th>
<th>Contra indications</th>
<th>Possible Side effects</th>
<th>PRN dose Onset of action</th>
<th>24 hr infusion dose ranges</th>
</tr>
</thead>
</table>
| Glycopyrronium Bromide
Quaternary ammonium antimuscarinic
(0.2mg/mL, 0.6 mg / 3mL) | - Death rattle,
- Colic in inoperable bowel obstruction,
- Reduction of secretion
- May be effective if no response to hyoscine's anti secretory effect
- Does not cross the blood brain barrier so does not cause drowsiness | With most drugs | 2-5 times more potent than hyoscine hydrobromide | Tachycardia, dry mouth | 0.2 mg SC every 6-8 hrs
*Within 20-40 mins* | 0.6mg - 1.2 mg usual dose |
| Hyoscine butylbromide
Antimuscarinic antispasmodic antisecretory
(20mg/mL) | - Obstructive symptoms with colic and antispasmodic effects,
- Death rattle | With most drugs, except cyclizine | Narrow angle glaucoma (unless moribund), myasthenia gravis. | Does not cross blood brain barrier so does not cause drowsiness | 10mg – 20 mg IM every 8 hours
*Within 3 - 5 mins* | Bowel obstruction with colic: 20mg - 120 mg usual dose
Death rattle: 20 - 40mg usual dose |
| Hyoscine hydrobromide | - Reduction of secretions, e.g. death rattle | With most common drugs | Narrow angle glaucoma (unless moribund), myasthenia gravis. | Crosses blood brain barrier; risk of increased drowsiness/agitation | 0.4 mg SC every 6-8 hours
*Within 3-5 mins* | Secretions: 1.2-2.4mg/24 hours usual dose |
<table>
<thead>
<tr>
<th></th>
<th>Intestinal obstruction associated with vomiting,</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Intractable diarrhoea, symptoms associated with hormone secreting tumours, bowel fistulae</td>
</tr>
<tr>
<td></td>
<td>Injection can be painful (gently hand warm the vial)</td>
</tr>
<tr>
<td>Octreotide</td>
<td>Precipitates with dexamethasone</td>
</tr>
<tr>
<td></td>
<td>Caution in diabetes mellitus as may potentiate hypoglycaemia</td>
</tr>
<tr>
<td></td>
<td>Dry mouth, nausea, vomiting anorexia, abdominal pain, flatulence</td>
</tr>
<tr>
<td></td>
<td>50mcg -100 mcg SC every 8 hours</td>
</tr>
<tr>
<td></td>
<td>Intestinal obstruction: 300ug - 600ug usual dose</td>
</tr>
</tbody>
</table>

| Diclofenac | Pain (particularly associated with tissue inflammation or bone pain/movement related pain) |
| NSAID Non opioid analgesic | Incompatible with most drugs. Give in a separate syringe driver |
| (75mg/3mL) | Use 0.9% Saline for dilution |
|       | Do not mix |
|       | Active peptic ulceration, urticaria, rhinitis, asthma, angioedema |
|       | Skin ulceration especially with prolonged use (SC) |
|       | 75mg SC every 12 hours (do not give as well as the infusion) |
|       | Within 20-30 mins |
|       | 75mg-150mg - usual dose |

| Dexamethasone | Antiemetic |
| Corticosteroid | Pain relief |
| (4mg/mL) | Raised intracranial pressure |
|       | Spinal cord compression |
|       | Intestinal obstruction |
|       | Mixes with metoclopramide, precipitates with cyclizine, midazolam, haloperidol, and vomepromazine. Advisable to put in a separate syringe but can mix with diamorphine |
|       | Diabetes - may need supervision |
|       | Gastrointestinal side effects, impaired healing, weight gain, hirsutism, and increased appetite. |
|       | Discuss with oncology / palliative care team |
|       | Not usually needed |
|       | 4mg -16 mg usual dose |
11.1 HYPERCALCAEMIA

11.1.1 Tumours that commonly cause hypercalcaemia

The most common tumours are breast, myeloma, lung, head and neck, prostate and kidney. However most tumours have been implicated and calcium levels should be checked if a patient presents with symptoms. *N.B. Patients do not have to have bone metastases to have a raised calcium.*

11.1.2 Common symptoms

- Confusion
- Nausea +/- vomiting
- Constipation
- Drowsiness
- Anorexia
- Lethargy
- Polyuria and Polydipsia
- Exacerbation of bone pain

11.1.3 Management

- Treatment is required for symptomatic patients and those with a corrected calcium of greater than 3.0mmol/L

- Normal calcium levels: 2.15 – 2.55 mmol/L (N.B some laboratory ranges vary)
  - Beware that not all calcium results have been corrected
  - Formula to calculate corrected calcium: \((40 - \text{serum albumin g/L}) \times 0.02\) added to ionised calcium

---

### Corrected Calcium mmol/L

<table>
<thead>
<tr>
<th>Corrected Calcium mmol/L</th>
<th>Treatment</th>
</tr>
</thead>
<tbody>
<tr>
<td>≤ 3 mmol/L</td>
<td>IV hydration of at least 2 litres per day if clinically safe</td>
</tr>
<tr>
<td>≥ 3 mmol/L</td>
<td>IV hydration of at least 2 litres per day is required, followed by IV disodium pamidronate 90mg in 500mLs N/Saline over 4 hours</td>
</tr>
</tbody>
</table>

- The maximum effect of disodium pamidronate is seen after 7 days and is usually effective for 2-3 weeks
- **Bloods**
  - Check U & E's daily to ensure adequate hydration
  - Check calcium levels every 3 days
- **An alternative bisphosphonate is zoledronic acid.** For corrected calcium levels of greater than 3 mmol/L treat with Zoledronic Acid 4mg by a 15-minute infusion. Adequate hydration of the patient with at least 2 litres IV fluids per day is still essential.

**Seek advice from an oncologist or palliative care consultant**

#### 11.2 SPINAL CORD COMPRESSION

**11.2.1 Clinical signs and symptoms**

**Pain**
- Localised pain in spine, radiating around chest / abdomen
- May be aggravated by coughing, sneezing, straining and lying supine
- Pain may be reproduced by percussion of the affected vertebral body or by forced neck or straight leg flexion
- Pain may be present for some time before onset of motor or sensory symptoms

**Motor and sensory symptoms**
- **The onset of sensory symptoms** may be sudden and rapidly progressive
- Sensory abnormalities vary from numbness and tingling to complete loss of sensation below level of damage to spinal cord
- Sphincter dysfunction
- Sudden unexplained reduction of pain in spine / legs
- Change in power – may be sudden or progressive

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11.2.2 Investigation of choice
Urgent MRI of whole spine within 24 hours

11.2.3 Management
• Start high dose steroids e.g. dexamethasone 16mg/day
• Refer for radiotherapy
• Consider decompressive laminectomy if:
  Very early presentation and solitary metastasis
  Relapse after maximum radiotherapy
  No history of malignancy
  Diagnostic uncertainty
  Progression in otherwise fit patient
  Pain on movement
• Catheterise if sphincter involvement
• Consider:
  Mattress
  Pressure areas
  Bowel function
• Do not use codanthrusate or codanthrumer as laxatives as the danthron can cause superficial burns in catheterised or incontinent patients
• Patient should be encouraged to remain mobile unless there is evidence of bony instability
• If instability exists, then stabilisation must precede mobilisation
• Input from the physiotherapist and occupational therapist should occur from the start

11.3 HAEMORRHAGE
This may be directly related to the underlying tumour, caused by treatment i.e. steroids or NSAIDs, or due to a generalised clotting deficiency.

11.3.1 Non acute haemorrhage
Treatment includes:
• Radiotherapy, for example to superficial tumours and those of bronchus and genitourinary tract
• Systemic treatment with Tranexamic Acid 1g t.d.s, however beware that clots may form in the bladder if used for haematuria.

NB Consider carefully if patient has a history of CVA or Ischaemic heart disease
• Local measures include topical tranexamic acid or adrenalin (1:1000) soaks. Also Sucralfate may stop stomach mucosal bleeding although will inhibit the absorption of proton pump inhibitors
11.3.2 Acute haemorrhage

- Erosion of a major artery can cause acute haemorrhage, which may be a rapidly terminal event.
- If it is possible to anticipate such an event appropriate medication should be readily available.
- If the haemorrhage is not immediately fatal i.e. haematemesis, bleeding from rectum, vagina or superficially ulcerated wound, the aim of treatment is local control of bleeding and sedation of a shocked patient with rectal or sublingual diazepam 10mg or midazolam 5 – 10mg SC or buccally.

Relatives will need a lot of support if they witness such a haemorrhage.
12.1 CONTRIBUTING FACTORS
In most patients there are multiple contributing factors, eg:
• Poor fluid intake
• Poor nutritional state
• Medication which dries the secretions i.e. amitriptyline, morphine, hyoscine
• Radiotherapy to the facial area
• Reduced capacity for the patient to manage their own oral hygiene

12.2 MANAGEMENT
Mouth care should be given routinely to all patients with palliative care needs, paying particular attention to those who are unable to manage this themselves. Families may want to contribute to this role. This includes:
• Regular teeth brushing with toothpaste, after meals
• Regular cleaning of dentures
• Regular mouth washing with e.g. chlorhexidine mouthwash
• Keeping the mouth moist
• Regular inspection of the oral mucosa for potentially reversible causes or problems, such as infection, bleeding and pain.

12.2.1 Non-specific dry mouth
• Frequent sips of water
• Suck ice cubes
• Partly frozen drinks e.g. pineapple juice
• Sugar-free chewing gum
• Artificial saliva i.e. saliva orthona, salivix pastilles, SST tablets
• Effervescent vitamin C
• Pilocarpine 5mg t.d.s
• Petroleum jelly on lips
NB Avoid glycerin and lemon juice, which may dry the mouth further
12.2.2 Infection

• Candida:
  - Fluconazole 150mg stat or 50mg daily for 7 – 14 days
  - Nystatin 1-2mLs every 4 hours
  - Amphotericin gel or miconazole

• Herpes simplex:
  - Aciclovir cream / tablets

• Bacterial infection:
  - Appropriate antibiotic or tetracycline mouthwash
  - Metronidazole orally, rectally or topically if foul smell

• Bleeding
  This is often associated with local oral cancer or deficiencies in blood clotting.
  - Consider giving platelets or vitamin K as appropriate
  - Avoid over vigorous mouth hygiene
  - Tranexamic acid mouthwash or try a gauze soaked in tranexamic acid
  - Oral tranexamic acid

• Pain
  Where there is a specific pain treat the cause, i.e. infection or candidiasis
  Aphthous ulceration, treat with:
    - Adcortyl in orabase
    - Carbenoxolone sodium mouthwash
    - Hydrocortisone pellets

  Generalised mouth pain:
    - Soluble paracetamol / co-codamol / aspirin as a mouthwash +/- swallow
    - Opioids if the pain is severe
    - Topical anaesthetics e.g. benzydmine mouthwash, benzocaine lozenges, choline salicylate, mucaine suspension

  NB Sucralfate paste/mouthwash or Gelclair which coat the oral mucosal surfaces may provide extra comfort
SOUTH LONDON PALLIATIVE AND SUPPORTIVE CARE NETWORK
SURREY WEST SUSSEX HAMPSHIRE CANCER (SWSH) NETWORK

Comments regarding the Hospital Guidelines for Palliative Care

Date:

1. Comment relates to section

2. Drugs not included within the guidelines that should be:

   Section

   Indications for use

3. Drugs to be removed from the guidelines:

   Section

   Reason

4. Any overall comment
Within the South East London Cancer Network please return comments to:

Dr Polly Edmonds
Chair – South East London Cancer Network Palliative Care Working Group
Consultant in Palliative Medicine
Palliative Care Team
King’s College Hospital
Denmark Hill
London SE5 9RS

Within the South West London Cancer Network please return comments to:

Dr Andrew Hoy
Chair – South West London Cancer Network Palliative & Supportive Care Working Group
Consultant / Medical Director
Princess Alice Hospice
West End Lane
Esher
Surrey KT10 8NA

Within the SWSH Cancer Network please return comments to:

Dr Caroline Lucas
Chair – Surrey West Hampshire Cancer Network
Consultant/Deputy Medical Director
Princess Alice Hospice
West End Lane
Esher
Surrey KT10 8NA

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