# The Adult Sheffield Palliative Care Formulary
# 5th Edition (2019)

Revisions

December 2021: Chapter ‘Prescribing in the Last Days of Life’ revised.

August 2022: Name T34™ Ambulatory Syringe Pump replaced by BD BodyGuard™ T Syringe Pump.

## Approved by

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## Ratifying Bodies

**Sheffield Teaching Hospitals Medicines Management & Therapeutics Committee**
**Sheffield Area Prescribing Group**
**St Luke's Hospice Clinical Governance Group**

## Date

**December 2019**
(Chapter 'Prescribing in the Last Days of Life' Revised December 2021)

## Review date

**December 2022**

## Authors

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**Disclaimer: This formulary is intended to provide local advice in Sheffield to prescribers in hospital, community and primary care on medications for symptom management in adults receiving palliative/supportive care. Prescribers must check the BNF and SmPC of individual drugs for full prescribing information.**

## Contents



◊ Not included in Sheffield Formulary or not included for indication referenced

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## The Adult Sheffield Palliative Care Formulary: Introduction

This formulary is intended as a guide for primary and secondary care healthcare workers in Sheffield. It should be used in association with the Sheffield Formulary and the Sheffield Teaching Hospitals NHS Foundation Trust Medicines Formulary. This guidance is intended for adult treatment only.

The vast majority of symptoms can be effectively managed within this formulary, enhancing the quality and consistency of care for palliative care patients in Sheffield. Where the suggested treatment is not effective then specialist palliative care advice should be sought (see contact numbers).

### Using the formulary

- The formulary is arranged under symptom headings. See Contents
- An index is available here
- Drugs labelled as ◊ are **not** included in the Sheffield Formulary OR **not** included in the Sheffield Formulary for the **indication** referenced
- Drugs labelled as ***** are being used off-licence (indication, route or dosage) or are unlicensed products. Using these products in this way is accepted practice within palliative care. The prescriber must take full responsibility for prescribing these treatments. The information on off-licence/unlicensed use is correct at time of publication
- Drugs labelled as ☎ should only be used under the guidance of a palliative care specialist
- Check the Summary of Product Characteristics (SmPC) and BNF for full prescribing information for individual drugs

Further information can be obtained from a palliative care specialist working in your area. See contact numbers.

Please be aware of the Yorkshire and Humber Palliative and End of Life Care Groups 'A Guide to Symptom Management in Palliative Care', which can also be used for reference. Please note that this document may not reflect local Sheffield practice.

## Specialist Palliative Care Services

### Contact Numbers

| **Northern General Hospital**<br>**Tel: 0114 2434343 (switchboard)** | |
|---|---|
| Macmillan Palliative Care Unit | Tel: 0114 2266770 |
| Hospital Specialist Palliative Care Team | Tel: 0114 2714940<br>Bleep: 4223 |
| Medicines Information - for hospital related queries | Tel: 0114 2714371 |

| **Royal Hallamshire Hospital & Weston Park Hospital (Central Site)**<br>**Tel: 0114 2434343 (switchboard)** | |
|---|---|
| Hospital Specialist Palliative Care Team | Tel: 0114 2265260<br>Bleep: 3277 |
| Medicines Information - for hospital related queries | Tel: 0114 2712346 |

| **St Luke's Hospice** | |
|---|---|
| Inpatient unit, Active Intervention Centre, Community Palliative Care Team & Hospice related medicines information | Tel: 0114 2369911 |

| **The Cavendish Centre**<br>**Wilkinson Street, Sheffield S10** | |
|---|---|
| Offers support and complementary therapies, to patients with cancer and their carers, free of charge. Patients/carers need to self-refer | |
| | Tel: 0114 2784600 |

| **Community** | |
|---|---|
| Medicines Information - for Non-Hospital/Primary Care related queries (NHS Sheffield CCG Medicines Optimisation Team) | Tel: 0114 3051983 |

| | |
|---|---|
| Cancer Support Centre | Tel: 0114 2265666 |

## Sheffield Palliative Care Services
## How to Refer

Referral forms and referral criteria are available on the Sheffield Palliative Care website:

http://www.sheffieldccg.nhs.uk/Your-Health/end-of-life-care/palliative-referral-process.htm

### From Community

| | |
|---|---|
| **To:** Hospital Specialist Palliative Care Team | **Email:** sth.palliativecareadmin@nhs.net<br><br>**NGH**<br>Tel: 0114 2266770<br>**RHH**<br>Tel: 0114 2265602 |
| **To:** Macmillan Palliative Care Unit | **Email:** sth.palliativecareadmin@nhs.net<br>Tel: 0114 2266770 |
| **To:** St Luke's Hospice | **Email:** SLHOS.ClinicalAdministration@nhs.net |
| **To:** Intensive Home Nursing Service | **Tel**: 0114 2716010 |
| **To:** Palliative Medicine Out-Patient Clinics | **GP referral:** NHS e-referral service<br>**Other Community referrals:**<br>**Email:** sth.palliativecareadmin@nhs.net |

### From STHFT

| | |
|---|---|
| **To:** Hospital Specialist Palliative Care Team | **ICE:** http://nww.sth.nhs.uk/STHcontDocs/STHCGP/PalliativeCare/PalliativeCareInHospitalReferral.pdf |
| **To:** Macmillan Palliative Care Unit | **Email:** sth.palliativecareadmin@nhs.net<br>Tel: 0114 2266770 |
| **To:** St Luke's Hospice | **Email:** SLHOS.ClinicalAdministration@nhs.net |
| **To:** Intensive Home Nursing Service | **Tel**: 0114 2716010 |
| **To:** Palliative Medicine Out-Patient Clinics | **Email:** sth.palliativecareadmin@nhs.net |

## The Adult Sheffield Palliative Care Formulary: Abbreviations

| | |
|---|---|
| BNF | British National Formulary |
| CG | Clinical Guideline |
| COPD | Chronic Obstructive Pulmonary Disease |
| CSCI | Continuous Subcutaneous Infusion |
| DOAC | Direct Oral Anticoagulant |
| eGFR | Estimated Glomerular Filtration Rate |
| IAPT | Improving Access to Psychological Therapies |
| IM | Intramuscular |
| IV | Intravenous |
| LMWH | Low Molecular Weight Heparin |
| MHRA | Medicines & Healthcare Products Regulatory Agency |
| MSCC | Metastatic Spinal Cord Compression |
| NICE | The National Institute for Health and Care Excellence |
| NSAID | Non-steroidal Anti-inflammatory Drug |
| PO | Orally |
| PPI | Proton Pump Inhibitor |
| PR | Rectally |
| SC | Subcutaneous |
| SmPC | Summary of Product Characteristics |
| SSRI | Selective Serotonin Reuptake Inhibitor |
| STAT | Immediately |
| TA | Technology Appraisal |
| VTE | Venous Thromboembolic Disease |

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## The Adult Sheffield Palliative Care Formulary: Agitation/Confusion (Delirium)

Agitation may be present in the acutely confused (delirious) patient. This confusion (delirium) can present as a hyperactive delirium, hypoactive delirium or a mixed delirium. Agitation may also be present in those with a previous psychiatric disorder.

Patients who have chronic anxiety/agitation as part of a mood disorder should be treated appropriately. See the Depression and Anxiety chapters.

Even when prognosis is days rather than weeks, review for underlying causes and treat appropriately e.g.

- Reverse biochemical causes
- Relieve urinary retention (Note if patient has a catheter in situ, ensure this draining freely) and/or disimpact rectum
- If nicotine withdrawal suspected, allow smoking if appropriate (community only) or use nicotine replacement therapy
- If opiate withdrawal suspected, review medications and alter or prescribe an opioid as appropriate
- If alcohol withdrawal suspected offer alcoholic beverage (community only) or prescribe benzodiazepines according to local policy
- Review medication, and reduce/stop if thought to be contributing to the agitation/confusion e.g. steroids
- If thirst or dehydration is contributing to symptoms consider oral or subcutaneous hydration.

**See local last days of life (Palliative Pre-emptives) algorithms and nursing care guidelines.** See Prescribing in the Last Days of Life chapter

Staff should:

- Keep calm and avoid confrontation
- Respond to patients' comments
- Clarify perceptions and validate those that are accurate
- Explain what is happening and why
- State what can be done to help
- Repeat important and helpful information
- Never use restraints
- Allow patients to walk about accompanied if safe to do so
- Allay fear and suspicion and reduce misinterpretations by maintaining continuity of staff and avoid moving room/bed space
- Nurse patient in a calm quiet environment (ideally in a single room) with appropriate lighting and clock/calendar to help orientate the patient
- Allow people important to the patient to be present, and encourage them to place familiar items close by e.g. family pictures
- Ensure the patient has all hearing, vision and mobility aids they normal use
- Attempt to help patients by discussing their distress:
  - Ask about hallucinations
  - Ask about fears and anxieties. Explore their feelings
  - Provide clear explanation and reassurance to the patient and those important to them
- Provide specialist psychiatric, psychological or spiritual support as appropriate

- Prescribe medication to help settle the patient if they are distressed. This may not be indicated if the delirium does not distress them. Note: Dopaminergic drugs are contraindicated when a patient has a history of Parkinson's disease or dementia with Lewy bodies. For these patients low dose benzodiazepines are first line management of distressing delirium.

| Indication | Management | Comments |
|---|---|---|
| Acute Confusional States with Distress | • **Haloperidol*** 0.5-1.5mg PO/SC at night +/- every four to six hours when required. Max 5mg/24 hours<br>• **Olanzapine*◊** 2.5mg PO STAT and at bedtime. Titrate dose to max 10mg/24 hours<br>• **Risperidone*◊** 500micrograms PO twice daily. Titrate to max 2mg/24 hours<br>• **Quetiapine*◊** 12.5mg PO twice daily. Titrate in 12.5-25mg increments to max 300mg/24 hours (mean effective dose 75mg/24 hours) | Titrate doses accordingly<br><br>Consider dispersible/ liquid preparations for swallowing difficulties |
| Terminal Agitation<br><br>End of Life Care - see Last Days of Life chapter | • **Haloperidol*◊** 0.5-1.5mg PO/SC every four hours when required. Max 5mg/24 hours<br>Titrate according to response<br><br>**+/- Midazolam*◊** 1.25-2.5mg SC every hour when required. Max 15mg/24 hours (if eGFR<30 ml/min/1.73m$^2$ max 10mg/24 hours).<br>Titrate according to response<br>• **Levomepromazine** 6.25mg-25mg PO/SC every hour when required.<br>Titrate according to response<br><br>*Note: alternative treatments, e.g.* ***phenobarbital sodium****◊ are available if the above are not effective - seek Specialist Palliative Care advice* ☎ | Consider CSCI if effective and 2 or more 'when required' doses are required in 24 hours for haloperidol, midazolam & levomepromazine<br><br>10mg/2ml injection<br><br>Alternative to haloperidol but more sedating. Max 200mg/24 hours in CSCI |

Note: On rare occasions when an agitated patient is a danger to themselves or others it may be necessary to give an injection against their wishes. Forcing a patient to have an injection is an assault which must be justifiable on the grounds of necessity and clearly in the patient's best interests. It is a treatment of last resort, a step taken only after discussion within the multidisciplinary team.

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## The Adult Sheffield Palliative Care Formulary: Anorexia/Cachexia

Please also refer to the Fatigue and the Oral Care chapters.

- Primary anorexia is the loss or absence of appetite for food
- Cachexia is a condition of profound weight loss and catabolic loss of skeletal muscle with/without loss of fat mass that cannot be fully reversed by conventional nutritional support
- Symptom relief and psychosocial support is more important in the advanced patient, as the response to medication may be limited

| Indication | Management | Comments |
|---|---|---|
| Drug Induced | Reassess the need for the drug<br>Reassess whether an alternative route or formulation would be beneficial | Drugs may contribute to anorexia by:<br>• inducing nausea e.g. antibiotics, opioids<br>• irritating the gastric mucosa e.g. NSAIDs, antibiotics<br>• delaying gastric emptying e.g. opioids, cyclizine, tricyclic antidepressants<br>• causing a dry mouth e.g. antimuscarinics |
| Non-drug Related | Look for any reversible problems that may be contributing e.g. ill-fitting dentures, dry mouth, pain | |
| | Poor presentation or large quantities of food can be off-putting. Offer:<br>• Small portions<br>• Attractively presented<br>• Frequently throughout day | |
| | Tailor the environment to meet the patient's need | Eating is a social activity and for some people company is valuable. At the other extreme, it is important to provide privacy for people who feel embarrassed about their eating habits |
| | Dietary guidance - offer general nutritional guidance where appropriate e.g. full fat milk, nutritional supplements | |

| Indication | Management | Comments |
|---|---|---|
| Gastric Stasis, Early Satiety | Prokinetics:<br>• **Metoclopramide*◊** 10mg PO three times daily 15-30 minutes before meals<br>OR<br>• **Domperidone*◊** 10mg PO three times daily 15-30 minutes before meals | |
| Persistent Anorexia | Appetite stimulants:<br>• **Dexamethasone*◊** 4mg PO once daily in the morning (will normally be effective within 1 week)<br>• **Megestrol acetate*◊** 80-160mg PO each morning. If poor effect after 2 weeks, dose can be doubled<br>• **Medroxyprogesterone*◊** 400mg PO each morning increasing to twice daily if necessary | Effectiveness is not sustained and it should not be continued long term due to the risk of side effects **(Short term use only).** Consider prescribing PPI/ $H_2$-receptor antagonist cover<br>Takes several weeks to achieve full effect, but results can last for several months. May be preferable to steroids in patients with prognosis of months, as opposed to weeks<br>Takes several weeks to achieve full effect, but results can last for several months. May be preferable to steroids in patients with prognosis of months, as opposed to weeks |
| Depression | See the Depression chapter | |
| Taste Alteration Due to Vitamin Deficiency | Correct zinc and vitamin B deficiencies | Some instances of anorexia can be attributed to taste alteration and studies have shown that zinc or vitamin B deficiency may be the cause |

Links and Alerts

MHRA Drug Safety Update - Domperidone Dec 2014

MHRA Drug Safety Update - Metoclopramide Dec 2014

## The Adult Sheffield Palliative Care Formulary: Anxiety

When treating severely ill patients, it may be difficult to distinguish between the diagnoses of anxiety, depression and the emotional reactions of fear and sadness. The decision to prescribe need not depend only on the diagnosis of a psychiatric disorder, but may be made on the basis of symptom/distress relief.

Chronic anxiety as part of a mood disorder should be considered and treated, if appropriate, with anti-depressants (see Depression chapter).

Drug treatment of anxiety utilises anxiolytic benzodiazepine or sedative antipsychotic medication. Typical or atypical antipsychotics can be considered when anxiety or agitation is a consequence of delirium or psychotic mental disorder. Drug treatment does not preclude other types of therapy. The effects of drugs and psychotherapy, such as Cognitive Behavioural Therapy, may be complementary.

It is important to remember correctable factors that may exacerbate anxiety e.g.

- Medication - psychostimulants, corticosteroids, SSRIs
- Drug withdrawal - alcohol, antidepressants, nicotine
- Pain, insomnia and other uncontrolled symptoms.

| Indication | Management |
|---|---|
| Mild to Moderate Anxiety or Situational Anxiety<br>(Length of treatment to be considered on an individual patient basis) | • **Lorazepam**◊ 0.5-1mg PO or sublingually* (Genus® brand) every four hours when required up to a max 4mg/24 hours<br>• **Diazepam** 2-5mg PO at night when required or in two to three divided doses up to a max 20mg/24 hours |
| Panic Attacks or Overwhelming Fear and Agitation<br><br>For Terminal Agitation see Agitation/Confusion (Delirium) chapter | • **Lorazepam**◊ 0.5-1mg PO or sublingually* (Genus® brand) every four hours when required up to a max of 4mg/24 hours<br>• **Midazolam*** ◊1.25-2.5mg SC every hour when required and/or CSCI 2.5-10mg/24 hours. Max 15mg/24 hours (if eGFR<30 ml/min/1.73m$^2$ max 10mg/24 hours). Titrate dose according to response<br>• **Diazepam** 5-10mg PO or PR every six to eight hours when required |
| Generalised Anxiety Disorder (or if recurrent or resistant anxiety) | If prognosis is at least months, consider antidepressants:<br>• **Sertraline*, Citalopram*** Alternatively consider: **Duloxetine**◊, **Trazodone**◊, **Mirtazapine*** Consider PPI/ $H_2$-receptor antagonist cover<br>If prognosis is shorter than months:<br>• Consider **Pregabalin**◊ +/- benzodiazepines (especially if patients are too unwell to consider other treatments e.g.CBT) |

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| Indication | Management |
|---|---|
| Anxiety or Agitation with Delirium or Psychotic Features | • **Haloperidol*** 1-3mg PO/SC every four to six hours when required. Max 10mg/24 hours<br>• **Levomepromazine** 6.25-25mg PO/SC every four to six hours when required or CSCI 6.25-50mg/24 hours. Max 50mg/24 hours<br>• **Olanzapine*** 2.5mg PO at night increasing to max 10mg/24 hours |

Links and Alerts

MHRA Drug Safety Update - Citalopram Dec 2014

MHRA Drug Safety Update - Lorazepam Dec 2014

NICE CG 113 - Generalised anxiety disorder and panic disorder in adults: management Jan 2011

Drugs and driving: the law

## The Adult Sheffield Palliative Care Formulary: Bleeding

Bleeding occurs in approximately 20% of advanced cancer cases.

Assess where appropriate for thrombocytopenia, vitamin K deficiency and heparin-induced thrombocytopenia (HIT). Be aware haemoptysis may occur with chest infections, lung tumour progression and/or pulmonary embolism.

Where appropriate, correct the correctable and review current medication. Discontinue medication that could exacerbate bleeding e.g. antiplatelet drugs (aspirin, clopidogrel), anticoagulants (LMWH, warfarin, DOACs) and other drugs which impair platelet function (NSAIDs, dexamethasone, SSRIs).

| Indication | Management | Comments |
|---|---|---|
| Surface Bleed | • Gauze soaked in **Adrenaline*** ◊ 1mg/ml (1 in 1000) injection or gauze soaked in **Tranexamic acid*** ◊ 500mg/5ml injection<br>• **Silver Nitrate** sticks◊ applied to bleeding points<br>• Haemostatic dressings e.g. alginate dressings | Apply with pressure for 10 minutes<br>Caution: risk of ischaemic necrosis with **Adrenaline** on digits/penis |
| Haemoptysis | For cough suppression:<br>• **Codeine linctus**◊ 10ml three to four times daily when required<br>• If not responding, low dose immediate release **Morphine Sulphate*** 1.25-2.5mg every four hours when required<br>For mainly nocturnal cough:<br>• **Methadone** liquid 1mg/ml* ◊ ☎ 1-2mg PO at night<br>**For bleeding control see table below** | |
| Haematemesis and Melaena | • Gastro protective drug i.e. PPI, $H_2$-receptor antagonist<br>**For bleeding control see table below** | |
| Haematuria, Rectal and Vaginal Bleeding | **For bleeding control see table below** | |

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## Bleeding Control

| Severity of Bleed | Management | Comments |
|---|---|---|
| Bleeding Minor/Small | • **Tranexamic acid*◊** 1g PO three to four times daily. Max 2g four times daily. Reduce dose in renal impairment | Useful for blood streaking; not effective for major bleeding<br><br>Avoid if bleeding renal or urothelial in origin & risk of ureteric obstruction or clot retention<br><br>Stop if no effect after one week or one week after bleeding stopped<br><br>Consider long term use at lower end of dose range if bleeding recurs |
| Major/Large (terminal) | • Consider giving **Midazolam*** 5-10mg STAT IV/IM/SC to reduce awareness and fear | If patient at high risk of catastrophic bleed, consider availability of midazolam in the patient's house/on ward<br><br>Provide explanation, support and reassurance to the family and other observers<br><br>A major bleed usually leads to death within a matter of minutes. There is unlikely to be time to administer medication; it is more important to stay with the patient and provide reassurance<br><br>If the bleed is visible, dark coloured towels can make the appearance of blood less frightening |

## The Adult Sheffield Palliative Care Formulary:
## Bowel Obstruction

Management requires specialist input (e.g. surgical, oncology and/or palliative care teams) to assess for symptom management and/or eligibility for surgery.

Patients at risk include those suffering from intra-abdominal pathology e.g. carcinoma of the ovary, colon, stomach, rectum, peritoneum or cervix.

Symptoms and signs include:

- Nausea
- Vomiting (often intermittent, large volume and results in relief of nausea)
- Pain (often colicky)
- Abdominal distension
- Constipation
- Borborygmi (loud bowel sounds)
- Tenderness

Investigations:

- Abdominal x-ray/CT scan if intervention likely

Management:

- Surgery, Radiotherapy, Chemotherapy } if appropriate to stage of illness and patient's performance status
- Generally a multiple level bowel obstruction is more likely to be managed conservatively
- Consider an NG tube for decompression based on patient preference and tolerability (unlikely to be initiated in community). Consideration of a venting gastrostomy depending on anatomy
- Drug therapy (p17):
  - Drugs which do not improve symptoms when given at maximum dose, or which cause unacceptable side effects should be withdrawn
  - The oral absorption of medications may be unreliable - review routes of administration
- Mouth care - frequent mouth care is essential
- Hydration status: ensure fluid intake is adequate to avoid dehydration. Consider IV/SC Fluid (1-1.5 litres/24 hours). For community patients see Subcutaneous Fluid Procedure for Rehydration(Sodium Chloride) in the Adult Patient in Community**.**

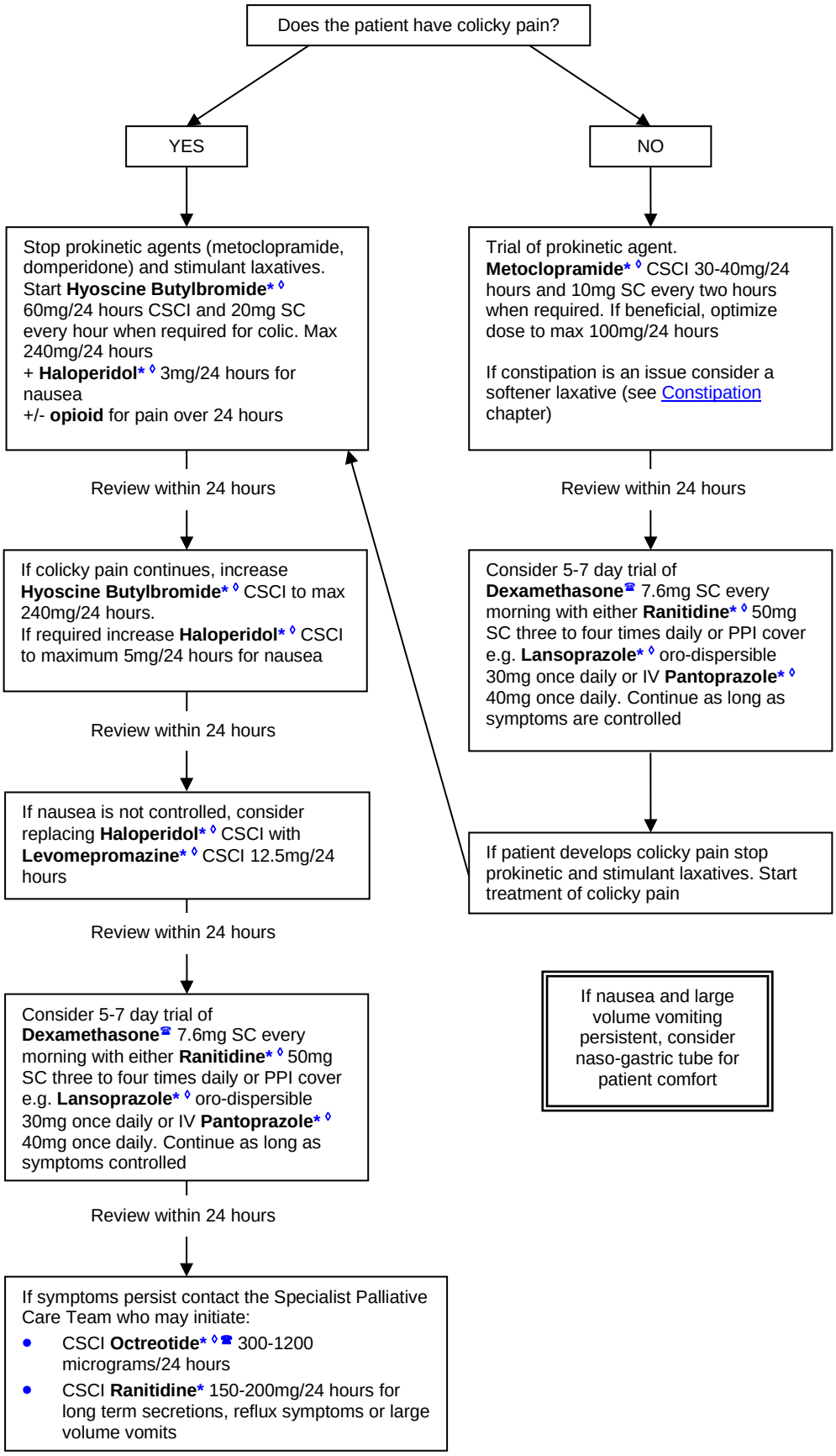
***Not all drug combinations are suitable for mixing in one syringe pump. Please contact Medicines Information for advice on compatibility data (see Contacts).***

Links and Alerts

MHRA Drug Safety Update - Hyoscine butylbromide (Buscopan) Feb 2017

MHRA Drug Safety Update - Metoclopramide Dec 2014

Treatment of Bowel Obstruction:

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## The Adult Sheffield Palliative Care Formulary: Constipation

Constipation is very common in palliative care patients due to a combination of factors including immobility, weakness, reduced food and fluid intake, medication, bowel pathology and sometimes hypercalcaemia.

Diagnosis is usually made on the basis of a history of altered bowel habit for that individual e.g. decreased frequency of bowel movements, the passage of small hard faeces and the need to strain. Constipation can also present with overflow diarrhoea.

### Assessment

- Assess the cause and treat where possible. Endeavour to reverse the reversible:
  - Reduced mobility - encourage exercise and activity if appropriate
  - Inability to access private toilet facilities or a suitable position may affect ability to open bowels. Consider improving the environment
  - Poor nutrition/fluid intake - advise to increase fluid intake and make appropriate dietary changes where possible
  - Hypercalcaemia - see Palliative Care Emergencies chapter
  - Many medications can cause constipation e.g. anticholinergics, $5HT_3$-antagonists, and opioid therapy. It is good practice to prescribe prophylactic treatment. Some opioids are potentially less constipating than morphine and an opioid switch may be appropriate - seek Specialist Palliative Care advice ☎
  - Renal failure
  - Spinal cord compression - see Palliative Care Emergencies chapter and also laxative treatment for spinal injuries below
- For a patient with incomplete bowel obstruction, do not prescribe laxatives without seeking specialist advice from surgical, oncology and/or palliative care teams. Where there is uncertainty consider use of imaging to determine if bowel obstruction is present.

### Management

- There is limited research for the management of constipation in palliative care patients and a lack of evidence to support a particular laxative regimen
- Patient preference regarding laxative formulation (tablet, liquid, volume required), palatability and drug tolerability (flatulence, colic) can impact greatly on adherence and therefore patient views should be sought
- The aims of treatment are:
  - to restore the amount of water in the faeces
  - to improve rectal evacuation by improving faecal consistency and promoting peristalsis
- Individualise treatment to the patient:
  - Hard stools - try a softener laxative first
  - Straining and incomplete evacuation - try a stimulant laxative first
  - A softener and stimulant laxative can be prescribed together to achieve regular bowel motions; this is especially effective when constipation is opioid-induced
  - Titrate treatment to optimal effect.

## Orally Administered Laxatives

| Mode of Action | Management | Comments |
|---|---|---|
| **Softener Laxatives**<br>Osmotic agents: retain water in gut lumen with subsequent increase in faecal volume. Onset of action 1-2 days | • **Lactulose** 10-30ml PO once or twice daily | Patient needs to be well hydrated. Can cause bloating, flatulence and abdominal cramping |
| | • **Laxido®◊ /CosmoCol®** (polyethylene glycol) 1-3 sachets PO daily in divided doses. Max 8 sachets/24 hours for faecal impaction | Sachets need to be dissolved in 125ml water or juice (N.B. large volume for some patients) |
| Surfactant agents: increase water penetration of stool. Onset of action 1-3 days | • **Docusate sodium**◊ 100-600mg/24 hours PO in two to three divided doses (>500mg/24 hours*) | At doses >400mg/24 hours, also possesses stimulant activity. Liquid is bitter tasting |
| **Stimulant Laxatives**<br>Direct stimulation of myenteric nerves to induce peristalsis | • **Senna** 7.5-15mg PO once to twice daily<br>• **Bisacodyl** 5-20*mg PO at night | May cause colic. Do not use if colic/obstruction present |
| **Combination Stimulant and Softening Agents** | • **Co-danthramer** 25/200 liquid 5-10ml PO once daily at night<br>• **Co-danthramer Strong** 75/1000 liquid 5ml PO once daily at night<br>• **Co-danthrusate**◊ 50/60 liquid 5-15ml PO once daily at night | Danthron containing products are restricted to treating constipation in terminal illness<br>Urine may be stained red<br>Do not use in urinary or faecal incontinence as may 'burn' skin |

## Rectally Administered Drugs

- Avoid in patients who are neutropenic or thrombocytopenic because of the risk respectively of infection or bleeding

| Mode of Action | Management | Comments |
|---|---|---|
| **Softener** | • **Glycerin** 4g suppositories 1-2 PR once daily | |
| | • **Arachis oil**◊ enema 1 PR once daily for faecal impaction | Warm to body temperature before administration. Contraindicated in patients with a **Nut allergy** |

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| Mode of Action | Management | Comments |
|---|---|---|
| **Stimulant** | • **Bisacodyl** 10mg suppositories 1-2 PR once daily | Must be in contact with bowel wall to be effective |
| | • **Sodium Citrate** enemas Relaxit®◊, Micralax®◊, Microlette®◊ 1 PR once daily | |
| | • **Phosphate** enema 1 PR once daily | Warm to body temperature before administration. Can cause local irritation<br><br>Not to be used for prolonged periods of time due to absorption of phosphate into the systemic circulation |

## Peripheral Opioid-receptor Antagonists

- For patients with opioid induced constipation where standard laxative therapy has failed - seek specialist advice☎ from Palliative Care, Colorectal Surgery or Acute Pain Service for initiation

| Mode of Action | Management | Comments |
|---|---|---|
| **Oral Peripheral Opioid-receptor Antagonist**<br>Blocks gastrointestinal effects of opioids without altering central analgesic effects | • **Naloxegol**◊☎ 25mg PO once daily. Reduce dose to 12.5mg PO once daily in moderate to severe renal impairment | **Only for use when a trial of two standard laxatives has failed**<br><br>Can be combined with any opioid but caution with methadone as increased risk of opioid withdrawal |
| **Subcutaneous Peripheral Opioid-receptor Antagonist** | • **Methylnaltrexone**◊☎ Dose dependant on body weight and renal function (see BNF/SmPC) SC on alternate days or less frequently depending on response | **Can be used as a rescue remedy when bowels not open despite standard laxatives for 7 days**<br><br>May act within 30-60 minutes<br><br>Treatment duration >4 months off-license* |

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## Spinal Injury

- Spinal cord injury e.g. Spinal Cord Compression, Cauda Equina Syndrome can cause constipation. Different treatments are given depending on the level of the damage/injury to the spinal cord

| Level of Injury | Management |
|---|---|
| **Upper motor neurone damage** (Thoracic Level 12 and above) causes spastic, reflexic bowel. Reflex activity is maintained; the bowel will contract and empty when stimulated. Anal sphincter tone is maintained | Treat reversible causes.<br>• **Senna** 15mg PO or **Bisacodyl** 10mg PO on alternate days<br>• **Phosphate** or **Sodium citrate** enema PR on alternate days<br>• **Bisacodyl** 10mg or **Glycerin** 4g suppositories PR on alternate days<br>• Abdominal massage |
| **Lower motor neurone damage** (Lumbar level 1 and below) causes flaccid, areflexic bowel. Anal sphincter will be flaccid, which can lead to a build-up of faecal material, which may be difficult to empty and may also cause overflow of faecal material | • Gravity assisted evacuation - perform over the toilet<br>• Bear down - using strong abdominal muscles<br>• Massage abdomen and get patient to lean forward if they can<br>• If these measures fail, perform manual evacuation once daily if tolerated |
| **Cauda equina syndrome**<br>Damage to the nerves at the base of the spine. Sensory nerves often intact. Nerves for movement often impaired. Bowel then becomes flaccid | • **Glycerin** 4g suppositories 2 PR on alternate days<br>• Daily digital rectal examination followed by manual evacuation |

Links and Alerts

NICE CG 140 - Palliative care for adults: strong opioids for pain relief Aug 2016

NICE TA 345 - Naloxegol for treating opioid induced constipation Jul 2015

## The Adult Sheffield Palliative Care Formulary: Cough

- Treat potentially reversible causes e.g. exacerbation of COPD/asthma, lymphangitis, respiratory infection, gastro-oesophageal reflux, heart failure, malignant airway obstruction, drug induced cough
- Consider non-drug approaches e.g. physiotherapy, controlled breathing techniques
- Offer symptomatic treatment when cough is persistent, distressing or affecting sleep and/or quality of life. Assess pattern and character of patient's cough to optimise treatment

**Protussives**: To encourage cough & expectoration

| Indication | Management | Comments |
|---|---|---|
| To Loosen Thick Mucus | • **Sodium Chloride 0.9%*** ◊ 5ml nebulised when required | May need physiotherapy afterwards to expectorate<br><br>Limited evidence |
| Mucolytics | • **Carbocisteine** 750mg PO three times daily | Stop after 4 weeks if no benefit<br><br>Caution in those with history of peptic ulcer |

**Antitussives**: To reduce frequency & intensity of cough

| Type | Management | Comments |
|---|---|---|
| Soothing Agents | • **Simple linctus**◊ 5ml PO three to four times daily | |
| Opioids | • **Codeine linctus**◊ 10ml PO three to four times a day when required<br>If not responding:<br>• **Morphine Sulphate immediate release*** ◊ 1.25-2.5mg PO every four hours when required. If patient already on a treatment dose of opioid contact palliative care team for advice☎<br>• For mainly **nocturnal cough Methadone** 1mg/ml liquid* ◊ ☎ 1-2mg PO once daily at night | Prescribe laxative(s). See Constipation chapter |

◊ Not included in Sheffield Formulary or not included for indication referenced
* Unlicensed/Off-licence use ☎ Seek specialist advice

## The Adult Sheffield Palliative Care Formulary: Depression

When treating patients with advanced disease, it may be difficult to distinguish between the diagnoses of anxiety or depression and the emotional reactions of fear and sadness. The decision to prescribe in palliative care need not depend only on the diagnosis of a psychiatric disorder.

Drug choice may be made with regard to targeting particularly troublesome depressive symptoms, or the need to avoid side-effects that augment the symptoms of physical disease. Drug treatment does not preclude other interventions and the effects of drugs and psychotherapy may be complementary.

All classes of antidepressants have contraindications, interactions and cautions that impact on the treatment of depressed patients with conditions such as: renal impairment, hepatic disease, heart disease, gastro-intestinal bleeding, epilepsy, nausea, glaucoma, delirium, sexual dysfunction, bladder neck obstruction and analgesic therapy. Nevertheless, evidence indicates that antidepressants are effective in depressed patients with physical illness and benefits accrue from 4-5 weeks and persist after 18 weeks.

In palliative care patients, the onset of response tends to be delayed and in a meta-analysis, significant benefits were first apparent after 4 weeks with tricyclics and after 16 weeks with SSRIs (Rayner, 2010). Unfortunately, tricyclic antidepressants can be poorly tolerated in the frail palliative care cohort, so these are often not used as first-line. Antidepressants require titration to achieve their desired effect and in the case of patients with a poor prognosis, this should be done as quickly as the patient can tolerate, allowing for the patient's general condition (e.g. hepatic/renal impairment and comorbidities). Refer to Summary of Product Characteristics

If patients have severe symptoms and a very short prognosis (e.g. <8 weeks), consider use of amitriptyline or seek specialist advice☎ to consider other agents (e.g. psychostimulants).

Note: Antidepressants taken regularly >8 weeks can cause withdrawal symptoms if stopped abruptly, so should be gradually withdrawn over 4 weeks.

### Antidepressant Drug Choice

| Indication | Management | Comments |
|---|---|---|
| **First line** | • **Sertraline** 50-200mg PO once daily<br>• **Citalopram** 10-20mg PO once daily<br>Consider PPI/ $H_2$-receptor antagonist cover | Less propensity for new interactions<br>In recent myocardial infarctions / ACS, sertraline has best evidence |
| First line where **neuropathic pain** is also a concern | • **Duloxetine**◊ 30mg PO daily increasing to 60mg PO twice daily | |
| First line if **anorexia**, **insomnia**, **anxiety** or **agitation** present | • **Mirtazapine** 15-45mg PO once daily at night | |

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| Indication | Management | Comments |
|---|---|---|
| Optional first line if **short prognosis** (4-8 weeks)<br><br>**Refractory depression** especially **with concurrent neuropathic pain** | • **Amitriptyline** 10-150mg PO once daily at night<br>• **Nortriptyline**◊ 25-150mg PO once daily at night | Monitor for sedation, constipation and delirium, especially in elderly.<br>Nortriptyline can give fewer side-effects bur can be less efficacious and more expensive |
| Second line for patients with difficult to manage **insomnia** or a **history of seizures** | • **Trazodone**◊ 100-150mg at night to a maximum of 300mg twice a day | Less cardiotoxic than tricyclic antidepressants<br><br>Can be very sedating |

Links and Alerts

NICE CG90 - Depression in adults: recognition and management Apr 2018

NICE CG91 - Depression in adults with a chronic physical health problem: recognition and management Oct 2009

Drugs and driving: the law

Rayner L et al. (2010) Antidepressants for the treatment of depression in Palliative Care: Systematic review and meta-analysis. Palliative Medicine. 25(1): 36-51.

## The Adult Sheffield Palliative Care Formulary: Diarrhoea

### Assessment

- Presentation of diarrhoea demands a careful history and examination. This includes establishing the frequency and nature of defecation and the time course of the problem. Consider an infective cause in all cases
- Consider optimising prescription for previous underlying conditions e.g. Crohn's disease, Ulcerative Colitis
- If the history and examination do not indicate a likely cause then faecal microscopy and culture are indicated
- Review potential diarrhoea causing medications and stop where possible

Hydration status: ensure fluid intake is adequate to avoid dehydration. Consider oral rehydration therapy if appropriate.

### Treatment for non-specific cause

| Options | Management | Comments |
|---|---|---|
| Antipropulsives | • **Loperamide** 4mg PO initially followed by 2mg after each loose stool. Max 16mg/24 hours | |
| Opioids | • **Codeine Phosphate**◊ 30-60mg PO every four to six hours when required. Max 240mg/24 hours | |
| Anti-cholinergic | • **Hyoscine Butylbromide***◊ 20mg PO four times a day or 80-160mg/24 hours CSCI | Oral absorption poor |
| Somatostatin Analogues | • **Octreotide***◊☎ 300-1200micrograms/24 hours CSCI | Reduces secretions in intractable diarrhoea |

### Treatment for specific cause

| Indication | Management | Comments |
|---|---|---|
| Overflow from Severe Constipation | • Appropriate laxative treatment. See Constipation chapter | |
| Malignancy | • Refer to oncologist for possible chemotherapy or radiotherapy | |
| Acute Radiation Enteritis | • Refer to STH policy - Radiotherapy Induced Diarrhoea and Proctitis (Acute Oncology) | |
| 'Blind-loop' | • **Metronidazole** 400mg PO three times daily | |
| Cholegenic (bile acid) Diarrhoea | • **Colestyramine***◊ 4-12g PO three times a day | |

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| Indication | Management | Comments |
|---|---|---|
| Drug therapy | • Seek advice from oncologist if chemotherapy induced<br>• Review therapy and reduce dose/discontinue as appropriate<br>• See options in the table above titled 'treatment for non-specific cause' | |
| Infection | • Refer to local infection guidelines | |
| Steatorrhoea | • **Pancreatin**◊ supplements e.g. **Creon**® 10,000-50,000 units 1-2 capsules PO with each meal and fatty snacks<br>• Consider adding in PPI if Pancreatin supplements alone are ineffective | |
| Carcinoid Syndrome | • **Octreotide**◊☎ 100-1200micrograms/24 hours SC in divided doses or CSCI | |
| Ulcerative Colitis | • **Mesalazine**◊ 1.2-2.4g PO daily in divided doses<br>• **Sulfasalazine**◊ 500mg-2g PO four times daily<br>• **Rectal preparations** such as **Mesalazine** enema/suppositories, **Sulfasalazine** suppositories, **Prednisolone** enema/suppositories | If problem persistent, please contact appropriate specialist |
| Short Bowel Malabsorption due to loss of two thirds of the small bowel | • **Loperamide*** 4mg PO four times daily increasing to 16mg four times daily if required<br>• **Codeine Phosphate***◊ 30-60mg PO four times daily<br>• **Lansoprazole***◊ 30mg PO twice daily or **Omeprazole***◊ 40mg PO twice daily<br>• **Octreotide***◊☎ 50micrograms SC three times daily increasing to 100micrograms SC three times daily. For high output stoma/ileostomy 300-1200micrograms/24 hours CSCI<br>• **Hypertonic electrolyte solution** e.g. Double strength **Dioralyte**®* 2 sachets in 200ml water PO increasing from once daily to five times daily | Involve dietician and Nutritional Support Teams for control of dietary intake as appropriate |

Links and Alerts

MHRA Drug Safety Update - Hyoscine butylbromide (Buscopan) Feb 2017

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## The Adult Sheffield Palliative Care Formulary: Dyspepsia

Dyspepsia describes discomfort or pain in the upper abdomen or chest often after meals.

Management of dyspepsia depends on evaluating and treating the principal cause. If the measures detailed below are not of benefit, seek further advice from gastroenterology.

Non-drug management:

- Reduce intake of alcohol, coffee and tea
- Avoid foods that trigger indigestion
- Decrease stress; consider relaxation techniques
- Smoking cessation
- Raise bed head.

| Indication | Management | Comments |
|---|---|---|
| Small Stomach | • Frequent small meals<br>• Prokinetic agent (see dysmotility) | |
| Dysmotility | • Prokinetic agent 15-30 minutes pre-meals e.g. **Domperidone*◊** 10mg PO three times daily or **Metoclopramide*◊** 10mg PO three times daily | Licensed for short term use only |
| Excess Acid/Peptic Ulcer Disease | • Discontinue or reduce offending drugs if possible e.g. NSAIDs, steroids, aspirin<br>• For mild symptoms, **Antacids** or **Alginates** may be effective e.g. **Peptac®**, **Maalox®◊** 10ml after meals and at bedtime if required<br>• For moderate/severe symptoms or if avoidance of drug cause not possible, prescribe a PPI/ $H_2$-receptor antagonist or consider a COX-2 inhibitor<br>• Consider stool antigen test for *H.pylori*. These tests need to be done before starting PPI or antibiotics. If positive, follow local treatment guidelines | |

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| Indication | Management | Comments |
|---|---|---|
| Gastro-oesophageal Reflux Disease (GORD) | • Discontinue or reduce drugs that decrease sphincter tone if possible e.g. theophylline, nitrates, calcium-channel blockers, beta-blockers, alpha-blockers, benzodiazepines, tricyclics, anticholinergics<br>• Review for and treat oral candida infections (see Oral Care chapter)<br>• In patients with tense ascites it may be beneficial to offer an ascitic drain<br>• For mild symptoms, **Antacids** or **Alginates** may be effective e.g. **Peptac**®, **Maalox**®◊ 10ml after meals and at bedtime if required<br>• For moderate/severe symptoms, prescribe a PPI/ $H_2$-receptor antagonist<br>• Prokinetic agent 15-30 minutes pre-meals e.g. **Domperidone***◊ 10mg PO three times daily or **Metoclopramide***◊ 10mg PO three times daily | Note: Oesophagitis can take 8 weeks to improve with a PPI<br>Licensed for short term use only |

Links and Alerts

MHRA Drug Safety Update - Cox-2 selective inhibitors and non-steroidal anti-inflammatory drugs' (NSAIDs) Jan 2015

MHRA Drug Safety Update - Hyoscine butylbromide (Buscopan) Feb 2017

MHRA Drug Safety Update - Metoclopramide Dec 2014

MHRA Drug Safety Update - NSAIDs and coxibs: balancing of cardiovascular and gastrointestinal risks Dec 2014

NICE CG184 - Gastro-oesophageal reflux disease and dyspepsia in adults: investigation and management Nov 2014

STHFT - Guidelines for prescribing non-selective NSAIDs for acute pain management

## The Adult Sheffield Palliative Care Formulary: Dyspnoea

1. Treat potentially reversible causes where appropriate e.g. reversible airflow obstruction, heart failure, pneumonia, pulmonary embolism, pleural effusion, anaemia.

2. Consider non-drug approaches e.g.
   - Cool draught (open window, fan)
   - Breathing exercises/relaxation therapy
   - Modify lifestyle e.g. bed downstairs, home-help
   - Advise on oral care especially if mouth breathing (see Oral Care chapter).

3. In addition to treatment for specific/reversible causes of dyspnoea, symptomatic treatment may be helpful where dyspnoea is persistent for breathlessness at rest and in the last days of life (see table below). Breathlessness as the result of exertion should settle with rest.

4. Provide explanation, support and reassurance to the patient, and those important to them.

| Indication | Management | Comments |
|---|---|---|
| Dyspnoea/ Breathlessness | • If not already prescribed a strong opioid and eGFR >30ml/min/1.73m$^2$, start with immediate release **Morphine Sulphate*** ◊ 1.25-2.5mg PO every four hours when required<br>• If not already on a strong opioid and eGFR ≤30ml/min/1.73m$^2$ start with immediate release **Oxycodone*** ◊ 1-2mg PO every four hours when required<br>• If already on a strong opioid for pain control, consider increasing 'when required' dose by 25-50%<br>• Consider converting to a slow release preparation for patient acceptability, compliance (see Pain chapter for conversion chart)<br>• If unable to take PO medication, convert to SC/CSCI or consider starting a transdermal opioid patch (Note patches take several days to reach steady state)<br>• If frequent 'when required' doses (≥3/ 24 hours) are needed (and effective), the regular background dose should be increasing accordingly | Caution for patients with chronic respiratory disease<br><br>Prescribe prophylactic laxatives (see Constipation chapter)<br><br>Consider prescribing antiemetic for first few days (see Nausea and Vomiting chapter) |
| Anxiety and/or Panic Driven Breathlessness | • **Lorazepam** ◊ 0.5-1mg PO or sublingually* (Genus® brand) every four hours when required up to a max 4mg/24 hours | See Anxiety chapter |

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| Indication | Management | Comments |
|---|---|---|
| Reversible Airway Obstruction | • Consider trial of **Salbutamol**◊ 2.5-5mg nebulised every four hours when required | May be reversible bronchoconstriction even in absence of wheeze |
| Hypoxia | • If hypoxic (resting $S_aO_2$ <90%) give oxygen 2L/min as required. Titrate according to oxygen saturations | Caution if there is a history of hypercapnia<br><br>Patients and carers must be warned verbally and in writing of the fire risks of oxygen therapy |
| To Thin/Loosen Secretions | • Consider **Sodium Chloride 0.9%***◊ 5ml nebulised every two hours when required | Limited evidence |
| Breathlessness in Last Days of Life | • See Breathlessness algorithm in Last Days of Life chapter | |

Links and Alerts

MHRA Drug Safety Update - Lorazepam Dec 2014

Drugs and driving: the law

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## The Adult Sheffield Palliative Care Formulary: Fatigue

Fatigue is difficult to manage because of lack of understanding of causes and mechanisms. Where possible, treat reversible causes e.g. pain, depression, emotional distress, infection, anaemia, sleep disturbance, nutrition, activity level, co-morbidities, electrolyte imbalances/hypercalcaemia and medication side-effects.

First line management, after treating contributing factors are:

- Patient education - providing information and support and allowing patients to talk about fatigue, its meaning and implications
- Modifying patients' activity and rest patterns - help patients to prioritise activities, limit naps to 20-30 minutes, taking frequent short breaks rather than one long rest period
- Exercise and activity enhancement - consider referral to occupational therapy and physiotherapy
- For people with a cancer diagnosis consider referral to Active Everyday (Macmillan cancer support)
- Psychosocial interventions e.g. cognitive behavioural therapy, educational therapy to manage stress and increase support and energy conservation
- Complementary therapies e.g. massage
- Ensure adequate nutrition and hydration - consider dietician referral.

Pharmacological interventions are not useful for first line management of fatigue. They are adjuvants for fatigue refractory to correction of underlying contributory factors.

| Indication | Drug and Dose | Comments |
|---|---|---|
| Fatigue/Sleepiness /Opioid Related Drowsiness | • **Methylphenidate*◊☎** initially 2.5-5mg PO morning and lunchtime titrated according to response up to 20mg twice daily | Dose times 8am and no later than 2pm to allow time to wear off and allow nocturnal sleep<br><br>Caution: cardiac disease, psychiatric illness, epilepsy.<br>MR products not appropriate for this indication |

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## The Adult Sheffield Palliative Care Formulary: Hiccup

Hiccup has many possible causes but the most common is gastric distension. Hiccups often stop spontaneously. Treatment is only required if hiccups are persistent.

- Identify possible causes and treat where possible e.g. gastric stasis, gastro-oesophageal reflux disease, metabolic disturbances, hepatic disease
- Consider non-drug approaches e.g. sipping iced water or swallowing crushed ice, interrupting normal breathing, breathing into a paper bag
- If persistent, consider treatment by indication as below. Treat for 3 days, if little or no improvement, consider alternative treatment

| Indication | Management | Comments |
|---|---|---|
| Gastric Distension | • Antiflatulant e.g. **Peppermint oil** capsules◊ 1-2 capsules PO three times daily when required or **Peppermint water***◊ 10ml PO twice daily when required<br>• Prokinetic agent 15-30 minutes before meals e.g. **Domperidone***◊ 10mg PO three times daily OR **Metoclopramide***◊ 10mg PO/SC three times daily | Meals - 'small and often' may be beneficial |
| Reflux | • Alginates e.g. **Peptac**® 10ml PO after meals and before bed<br>• Antacid with simeticone e.g. **Maalox**®◊ 10ml PO after meals and before bed<br>• Prokinetic agent 15-30 minutes before meals e.g. **Domperidone***◊ 10mg PO three times daily OR **Metoclopramide***◊ 10mg PO three times daily (short term use only)<br>• PPI e.g. **Lansoprazole** 15-30mg PO daily | |
| Other Indications (anecdotal evidence only) | • **Baclofen***◊ 5-10mg PO twice daily increasing up to a maximum of 20mg three times daily<br>• **Gabapentin***◊ 300-400mg PO three times daily for 3 days, then 300-400mg once daily for 3 days then stop. Repeat burst treatment if necessary (In frail/ elderly patients start at 100mg three times daily)<br>• Prokinetic agent 15-30 minutes before meals e.g. **Domperidone***◊ 10mg PO three times daily OR **Metoclopramide***◊ 10mg PO three times daily (short term use only)<br>• **Haloperidol***◊ 0.5-1.5mg PO three times daily<br>• **Midazolam***◊ 10-60mg/24 hours CSCI if patient in last days of life | Avoid abrupt withdrawal |

Links and Alerts

MHRA Drug Safety Update - Domperidone Dec 2014

MHRA Drug Safety Update - Metoclopramide Dec 2014

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## The Adult Sheffield Palliative Care Formulary: Insomnia

Take a detailed sleep history from the patient AND those close to them. Advise the patient not to drive or operate tools/machinery if they feel sleepy due to insomnia or medication.

Treat or modify precipitating factors including:

- Drugs e.g. steroids, xanthines, β-blockers, CNS stimulants (e.g. methylphenidate, caffeine)
- Avoiding alcohol
- Nicotine withdrawal. Note: nicotine replacement itself can cause sleep disturbances
- Modifying timings of medication regime e.g. avoid giving diuretics or steroids late in the day, avoid sedating drugs in the daytime which can cause reverse circadian rhythms
- Treating anxiety and/or depression
- Addressing unrelieved nocturnal symptoms e.g. dyspnoea/cough, pain, cramps/restless legs, pruritus
- Environmental factors e.g. reduce ambient light and noise, allocate side room (inpatients only) if possible.

Address sleep hygiene:

- Optimise sleep environment (e.g. avoid watching television in bed)
- Improve circadian rhythm (e.g. rise same time each day and increase activity)
- Maintain a regular pre-sleep routine
- Try a hot bath/milky drink before bed.

Non-drug management:

- Cognitive behavioural therapy combined with sleep hygiene and reduced focus on sleep, is effective in 70-80% of patients
- Relaxation techniques.

Drug management:

Drugs for management of insomnia should be prescribed at the lowest effective dose for the shortest necessary period of time. Side-effects include: increased risk of falls, daytime somnolence, cognitive impairment, tolerance and withdrawal symptoms/ rebound insomnia on discontinuing.

| Type | Management | Comments |
|---|---|---|
| Benzodiazepines and Z-drugs | • **Zopiclone** 3.75-7.5mg PO at bedtime | Zopiclone - short acting<br><br>Short term use only |
| | • **Temazepam**◊ 10-20mg PO at bedtime | Temazepam - long acting<br><br>Short term use only |
| Other medicines that aid sleep | Antidepressants, antipsychotics, sedative antihistamines | Use if needed for treatment of other symptoms |

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| | | |
|---|---|---|
| Melatonin | • **Melatonin M/R**◊☎ 2mg PO one to two hours before bedtime | For initiation by experienced clinicians only<br>Licensed for short-term use (SmPC states up to 13 weeks) in adults who are aged >55 years |

Links and Alerts

NICE TA77 - Guidance on the use of zaleplon, zolpidem and zopiclone for the short-term management of insomnia Apr 2004

Drugs and driving: the law

Sheffield IAPT self-help guide 'Sleeping problems'

NHS How to get to Sleep

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## The Adult Sheffield Palliative Care Formulary: Lymphoedema and Chronic Oedema

### Description

- Lymphoedema results from a failure of the lymphatic system. Consequences are swelling, skin and tissue changes and a predisposition to infection
- It can affect any area of the body, but it usually affects the limbs
- It may cause significant physical and emotional distress, impacting on mobility and function, body image, self-esteem and relationships
- 'Chronic oedema' is often used interchangeably with the term 'Lymphoedema'. Chronic offers a description of persistent oedema for 3 months or longer, regardless of the cause
- Two types of lymphoedema:
  - Primary - Where there is an abnormality of the development of the lymphatics. It may be present at birth or become apparent at a later stage. Some forms may be hereditary
  - Secondary - Where the lymphatics failure is a result of damage to an otherwise normal lymphatic system; due to surgery, radiotherapy, infection (especially cellulitis), trauma, filariasis, venous disease, immobility and obesity.

### Management

- Most of the underlying causes of lymphoedema are irreversible so appropriate treatment should be implemented to reduce the swelling and keep it to a minimum
- Specialist management of lymphoedema encompasses four areas - skin care, compression, lymphatic drainage and exercise

| Area | Aim | Management |
|---|---|---|
| Skin Care | • To keep skin/tissues in good condition and prevent/reduce infection | Keep area clean, dry well and apply an emollient |
| Compression Bandaging /Garment | • To prevent/reduce swelling building up | For legs prescribe compression with support from the Practice Nurse/ Community Nurse<br><br>For arms, complex legs, head and neck, genital and truncal, refer to Lymphoedema Service |
| Lymphatic Drainage | • Gentle massage technique to move swelling from affected area | Can be taught to patients and carers by Lymphoedema specialist/video guidance on Lymphoedema Support Network website www.lymphoedema.org |
| Exercise | • To try and maximise drainage without causing sprain or strain | Encourage patient to be as active as possible whilst wearing compression hosiery |

- Avoid (if possible) injections into/taking blood from the affected limb
- Furosemide has minimal effect on lymphoedema
- Monitor for infection of lymphoedematous areas. Patients may require antibiotics and/or antibiotic prophylaxis. Seek advice from lymphoedema and/or Palliative Care teams
- If a patient has “lymphorrhoea” or leaking of lymphatic fluid through the skin, lightweight compression bandaging must be applied appropriately and competently by the Practice Nurse/Community Nurse or Tissue Viability Team
- If the patient has truncal oedema (breast, head and neck, genital) the patient should be referred on to the Specialist Macmillan Lymphoedema Service

## Specialist Contact Details

Sheffield Macmillan Lymphoedema Service
Fairlawns
621 Middlewood Road
Sheffield
S61TT
Tel: 0114 232 0689
Email: sht-tr.lymphoedema@nhs.net

08.30 - 16.30 Monday to Friday
The service is clinic based only

## Service Description

- The Sheffield Macmillan Lymphoedema Service is a nurse lead clinic providing lymphoedema and lipoedema care and support for all patients diagnosed with these conditions regardless of the cause
- The treatment duration depends on the severity and location of the condition
- Care is predominantly aimed at providing information and education to allow patients to self-manage. Patients will be discharged from service if the condition allows
- Patients must be willing to comply with treatment plans and abide by the Clinical Guidelines of the Lymphoedema Service and the Discharge of Patients from the Lymphoedema Service
- Lymphoedema is not considered an emergency as far as physical management of the condition is concerned and there is no on-call system

## The Adult Sheffield Palliative Care Formulary: Nausea and Vomiting

Identify possible causes/exacerbating factors and treat where possible e.g. medication side-effects, constipation, severe pain, infection, cough, hypercalcaemia, raised intracranial pressure, bowel obstruction, anxiety and oral candidiasis.

### Non-Drug Measures

- Control odours from colostomy, wounds and fungating tumours
- Minimise strong cooking smells and decrease sight of food if this is a trigger
- Regular small palatable portions rather than large meals
- Consider acupressure wrist bands
- Maintain a calm/reassuring environment

### Advise on Oral Care and Hygiene

- Rinse mouth with water after vomiting
- See Oral Care chapter for treatment of candidiasis, halitosis and dry mouth

### Hydration status

- Ensure fluid intake is adequate to avoid dehydration. Consider IV/SC fluid if appropriate

### Review Medication

- For persistent vomiting, the oral absorption of (all) medication may be unreliable. Consider an alternative route for essential medications
- Avoid using oral electrolyte replacement when nauseous or vomiting, as this is likely to exacerbate both issues

### Treatment

- Treat where necessary with antiemetic(s) appropriate to the identified cause, see table below. Consider using short term parenteral antiemetics until vomiting settles. If treatment ineffective after 24-48 hours, consider alternative antiemetic and consider seeking Specialist Palliative Care advice.
- Avoid, where possible, prescribing prokinetic drugs (e.g. metoclopramide, domperidone) with drugs that slow the gut (hyoscine butylbromide, cyclizine, levomepromazine, ondansetron)
- Avoid dopamine antagonist antiemetics in Parkinson's disease e.g. metoclopramide, haloperidol, levomepromazine, prochlorperazine (See treatment options under 'Parkinson's disease' in the table below)

| Indication | Management | Comments |
|---|---|---|
| Gastric Stasis/ Ascites/ GI Tract Tumour Infiltration/ Gastritis | • **Metoclopramide*◊** 10mg PO/SC* three times daily 15-30 minutes before meals or CSCI 30-80mg/24 hours<br>• **Domperidone*◊** 10mg PO two to three times daily 15-30 minutes before meals<br>• Consider PPI/ $H_2$- receptor antagonist | Licensed for short term use only<br>Licensed for short term use only |
| Biochemical/Drug Causes e.g. uraemia, hypercalcaemia, digoxin, opioids | • **Haloperidol◊** 0.5-1.5mg PO/SC* at night or CSCI 0.5-1.5mg/24 hours and/or 0.5-1.5mg every four hours when required. Max 5mg/24 hours<br>• **Metoclopramide◊** 10mg PO/SC* three times daily 15-30 minutes before meals or CSCI 30-80mg/24 hours<br>• **Levomepromazine*◊** 6.25mg PO/SC at night or CSCI 6.25-12.5mg/24 hours and/or 6.25mg every two hours when required. Max 25mg/24 hours | If eGFR <30ml/min/1.73m$^2$, increase 'when required' frequency to every six hours<br>More sedating than haloperidol and metoclopramide.<br>Unlicensed 6mg tablets available on a 'named patient' order (Note higher cost) |
| Raised Intracranial Pressure | • **Dexamethasone** 4-16mg PO/3.8-15.2mg SC (Aspen® brand*) once daily in the morning or in two divided doses, morning and lunchtime<br>• **Cyclizine◊** 25-50mg PO/SC* three times daily or every eight hours when required or CSCI 50-150mg/24 hours. Max 150mg/24 hours | Caution in patients with diabetes.<br>For non-diabetic inpatients monitor blood sugars on a daily basis<br>Potential incompatibility problems in syringe pump |
| Fear and Anxiety | • **Lorazepam◊** 0.5-1mg PO/sublingual* twice daily when required. Increase dose if needed to max 4mg/24 hours | Sublingually use Genus® brand |
| Chemotherapy or Radiotherapy | • See Chemotherapy Induced Nausea and Vomiting (CINV) Antiemetic Guideline<br>• See WPH Radiotherapy induced nausea guidelines | |
| Bowel Obstruction | See Bowel Obstruction chapter | |

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| Indication | Management | Comments |
|---|---|---|
| Vestibular Disorders | • **Cyclizine**◊ 25-50mg PO/SC* three times daily or every eight hours when required or CSCI 50-150mg/24 hours. Max 150mg/24 hours | Potential incompatibility problems in syringe pump |
| | • **Prochlorperazine** 5-10mg PO three times a day or 3-6mg BUCCAL twice daily or 12.5mg IM STAT followed by oral dosing 6 hours later | |
| | • **Hyoscine Hydrobromide**◊ 0.8-1.2mg/24 hours CSCI or 1 x 1.5mg transdermal patch (releasing 1mg/72hours) applied behind the ear, replaced every 72 hours or chewable tablets 150-300micrograms PO every six hours when required up to max 900micrograms/24 hours | For transdermal patch, site replacement patch behind the opposite ear |
| Parkinson's Disease | • Avoid centrally acting dopamine antagonists | |
| | • **Domperidone*** 10mg PO two to three times daily 15-30 minutes before meals | |
| | • **Cyclizine**◊ 25-50mg PO/SC* three times daily or every eight hours when required or CSCI 50-150mg/24 hours. Max 150mg/24 hours | Potential incompatibility problems in syringe driver |
| | • **Ondansetron**◊ 4-8mg PO/SC* twice daily or 8-24mg/24 hours CSCI | Can cause constipation |

Links and Alerts

MHRA Drug Safety Update - Domperidone Dec 2014

MHRA Drug Safety Update - Metoclopramide Dec 2014

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## The Adult Sheffield Palliative Care Formulary:
## Oral Care

Assessment is essential to exclude/treat any precipitating factors. Attention should be paid to ensure:

- Good oral hygiene
- Adequate hydration
- Proper fitting dentures
- Regular dental checks.

Refer to STH Oral Hygiene Guidelines

| Indication | Management | Comments |
|---|---|---|
| **Candidiasis** | • **Nystatin** (100,000 units/ml) suspension 1ml four times daily until 48 hours after symptoms have resolved (5ml* four times daily if immunosuppressed). Use after meals (avoid eating/drinking until 30 minutes after administration) and after mouth care to maximise contact with the mucosa | Hold in the mouth for as long as possible before swallowing<br><br>A longer course may be needed if dentures worn or patient immunocompromised |
| | • **Miconazole** oral gel 2.5ml four times daily until 48 hours after symptoms have resolved. Use after meals (avoid eating/drinking for 30 minutes after administration) and after mouth care to maximise contact with the mucosa | Hold in the mouth for as long as possible before swallowing |
| | • **Fluconazole** 50mg PO once daily for 7 days | Check for drug interactions |
| | **Soaking regimen for dentures:** | |
| | • **Chlorhexidine gluconate 0.2%** (Corsodyl®) solution. Soak and cleanse dentures for 15 minutes twice daily with enough solution (used neat) to completely cover. Rinse dentures thoroughly before returning to patient or putting in a labelled denture pot filled with fresh, cold water | Not compatible with nystatin - rinse thoroughly after use<br><br>Check allergy status to chlorhexidine |
| | **Second-line:** | |
| | • Dilute **Sodium hypochlorite 2%** (Milton®) solution 1 part hypochlorite to 160 parts water for **plastic** dentures. **Do not use** for dentures with **metal** parts | |

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| Indication | Management | Comments |
|---|---|---|
| **Stomatitis/ Mucositis** | | |
| • First Line | • **Benzydamine** 0.15% mouthwash (**Difflam**®) 10ml four times daily increasing to 10ml every 1½ to 3 hours as appropriate OR **Benzydamine** 0.15% spray (**Difflam**®) 4-8 sprays PO four times daily increasing to 4-8 sprays every 1½ to 3 hours as appropriate<br>• **Choline salicylate** 8.7% gel (**Bonjela**®)◊ 1-2cm topically every 3 hours when required | Difflam® mouthwash contains alcohol so may sting (can dilute in water to limit this)<br><br>Refer to relevant STH guidelines:<br>• Chemotherapy Induced Mucositis<br>• Radiotherapy induced mucositis<br>• Management of Oro-Pharyngeal Mucositis in Haem-Onc and BMT patients |
| • 2nd Line | • **Antacid and Oxetacaine** suspension*◊☎ 10ml 15 minutes before food or every 4 hours - swirl around mouth and if pharyngeal and/or oesophageal pain swallow<br>• Switch **Benzydamine** to **Lidocaine 0.2%** mouthwash*◊☎ 10mls every 4 hours - swirl around mouth and if pharyngeal & oesophageal pain swallow. Alternate **Lidocaine 0.2%** mouthwash with **Antacid and Oxetacaine** suspension<br>• For pain, **Oxycodone** 5mg/5ml oral solution<br>If opioid naïve, 1.25-2.5mg PO every hour when required. Max 6 doses/24 hours**. If already on an opioid, calculate the 'when required' dose from current analgesia requirements. Max 6 doses/24 hours** | If 2nd line management is not effective, seek Specialist Palliative Care advice☎ |
| • Infected lesions | • Broad Spectrum antibiotic | Refer to antibiotic guidelines |
| **Halitosis**<br><br>If due to malodorous malignancy | • Establish good oral hygiene including mouthwashes<br>• **Metronidazole*** 400mg PO three times a day or 500mg rectally twice a day (to reduce odour) | Patients on longer term therapy may be maintained at a reduced dose |

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| Indication | Management | Comments |
|---|---|---|
| **Xerostomia (Dry Mouth)** | • **Sugar-free chewing gum** e.g. Orbit®<br>• **Pastilles** e.g. **Salivix®**<br>• **Artificial saliva** spray choose neutral pH spray e.g. **Xerotin®, BioXtra®**<br>• **Artificial saliva** gel e.g. **BioXtra®** gel<br>• **Mouthwash** e.g. **BioXtra®** mouthwash◊ 10ml up to five times daily<br>• **Pilocarpine** tablets*◊☎ 5-10mg PO three to four times daily or **Pilocarpine 4%** eyedrops*◊☎ PO 3 drops (6mg) three to four times daily | Xerotin® spray and Salivix® pastilles can be prescribed for any condition giving rise to a dry mouth<br><br>BioXtra® products have ACBS approval (for primary care prescribing) for dry mouth associated only with radiotherapy or sicca syndrome<br><br>Note: BioXtra® preparations contain animal products (milk and egg) and Salivix® contains E120 colourant derived from Peruvian insects |
| **Bleeding Mouth/ Gums**<br>• Mild/ Moderate<br>• Severe | • **Tranexamic acid** 500mg/5ml solution*◊☎ Use 5-10ml as a gargle/ mouthwash four times daily<br>• Refer to Specialist☎ | Prescribers should advise the patient whether to 'spit out' or 'swallow' |
| **Symptomatic Management of Pain in the Mouth** (alongside disease specific treatments) | • **Gelclair®** concentrated oral gel◊. Dilute contents of sachet with 3 tablespoons (~40ml) water and stir. Rinse around the mouth for at least one minute to coat oral cavity. Expel any remaining rinse. Use one hour before food and drink, three times daily or as needed | Classed as a medical device. Ordered from NHS supplies in STH (code ELZ012)<br><br>Use after other mouthcare products to ensure their efficacy. **Gelclair®** will create a protective barrier |

Links and Alerts

MHRA Drug Safety Update - Chlorhexidine Dec 2012

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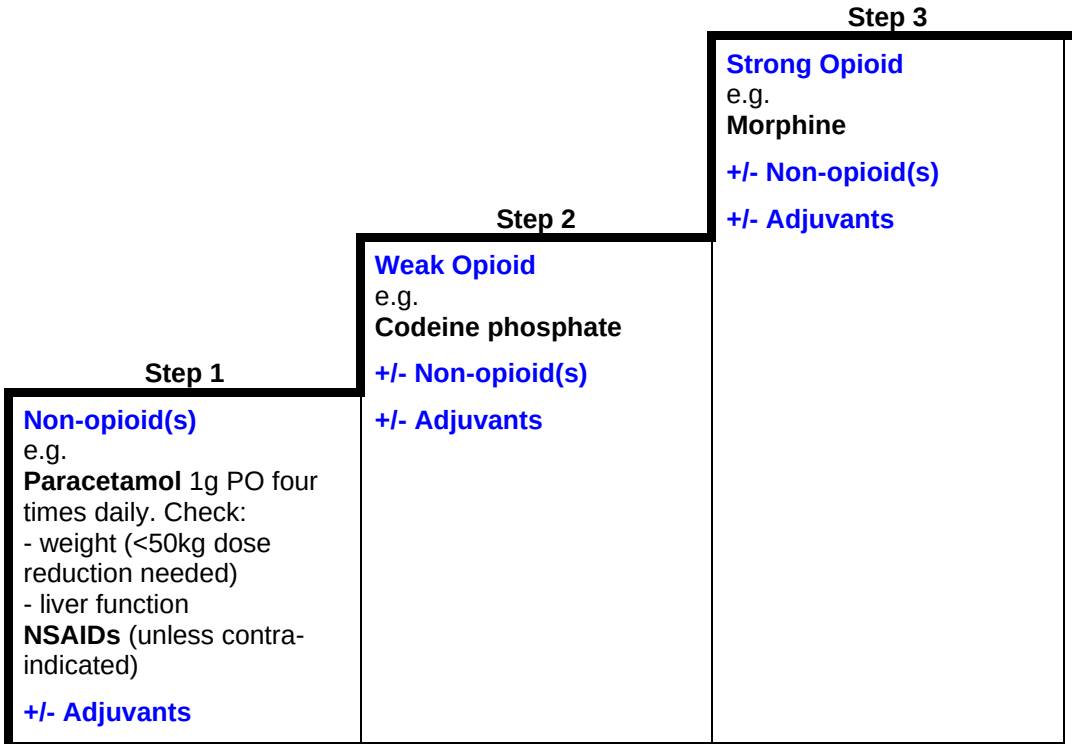
## The Adult Sheffield Palliative Care Formulary: Pain

**A framework for the logical manipulation of an analgesic regime is based on the World Health Organisation 3-step analgesic ladder for the management of cancer pain.** This strategy may not be appropriate for patients with other causes of pain, especially when the pain is of a chronic nature.

The WHO analgesic ladder suggests a structured but flexible approach is used in the management of pain and is summarised in 5 phrases:

- By mouth - oral route is preferred
- By the clock - in persistent pain give analgesics regularly not 'when required'
- By the ladder - to maximise effect
- For the individual
- Attention to detail.




At all steps in the analgesic ladder consider:

- Specific measures to moderate the cause of the pain e.g. surgery, radiotherapy, physiotherapy, nerve blocks, TENs, stenting, chemotherapy, hormonal therapy, antibiotics, bisphosphonates
- Emotional, social and spiritual supportive care
- Patients may have well controlled background pain, but still require relief from incident pain on multiple occasions e.g. for dressing changes, repositioning. Do not automatically increase someone's background analgesia based on their 'when required' usage.

## Choice of Adjuvant Analgesics

The choice depends on the mechanism of the pain.

## Nociceptive Pain

| Nociceptive Pain Indication | Management | Comments |
|---|---|---|
| Due to soft tissue, bone or joint disease, pelvic disease or originating in the renal tract or retroperitoneal pain | • Non-steroidal anti-inflammatory drugs (**NSAIDs**) e.g. **Ibuprofen** 400mg PO three times daily or **Naproxen** 500mg PO twice daily with PPI/ $H_2$-receptor antagonist cover or **Celecoxib*** ◊ 100-200mg PO twice daily<br>• **Ketoralac*** ◊ ☎ 15-90mg/day SC or CSCI with PPI/ $H_2$-receptor antagonist cover if patient at risk of gastrointestinal adverse effects | Ibuprofen has the lowest risk of gastrointestinal adverse effects (doses ≤ 1200mg/24 hours)<br>Max 60mg/day if > 65 years and/or < 50kg<br>Monitor renal function |
| Metastatic bone pain | • **NSAIDs** (see dosing above) or **Celecoxib*** ◊ 100-200mg twice daily + adjuvant - seek specialist advice ☎<br>• **Denosumab** ◊ SC may be started by Oncology<br>OR<br>• **Zoledronic acid** ◊ IV by Specialist Palliative Care/Oncology team ☎ | Either denosumab or a bisphosphonate is used but not both concurrently<br>Takes approximately 2 weeks for a response |
| Due to muscle spasm | • **Diazepam** 2mg PO three times daily or **Baclofen** ◊ 5mg PO three times daily. Titrate dose according to response | |
| Due to intestinal colic | • Antispasmodics e.g. **Mebeverine** 135mg PO three times daily or **Hyoscine Butylbromide** ◊ 60-120mg/24 hours CSCI and/or 20mg SC hourly when required. Max 240mg/24 hours | Hysocine Butylbromide doses >60mg/24 hours may cause constipation and/or drug induced ileus |
| Due to liver capsule pain | • **NSAIDs** (see dosing above)<br>• **Dexamethasone*** 4mg PO once daily in the morning for 5-7 days trial | Caution in patients with diabetes.<br>For non-diabetic inpatients monitor blood sugars on daily basis |

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| Nociceptive Pain Indication | Management | Comments |
|---|---|---|
| Due to oesophageal (smooth muscle) spasm | • **Hyoscine butylbromide**◊ 60-120mg/24 hours CSCI and/or 20mg SC hourly when required**.** Max 240mg/24 hours<br>• **Glyceryl trinitrate (GTN)*** patch starting with 5mg/24 hours<br>• **Nifedipine MR*** 20mg PO twice daily or **Nifedipine XL/LA*** 30-60mg PO once daily | |
| Due to localised superficial pain | • **Morphine sulphate 0.1% in intrasite*** ◊☎ Apply topically once daily and/or at each dressing change<br>• **Lidocaine 2% in lutrol** gel*◊☎ Apply topically up to four times daily | Needs to be applied directly from the fridge whilst in liquid form. Solidifies at room temperature |

## Neuropathic Pain

| Neuropathic Pain Indication | Management | Comments |
|---|---|---|
| Due to infiltration by tumour, zoster, scar tissue or compression unrelieved by steroid or specific therapies | *To maximize the ability of patients to tolerate medications and keep side-effects to a minimum, titrate up the following agents slowly* | |
| | • **Amitriptyline** 10-75mg PO daily at night (higher doses under Pain/Palliative Care team☎) | |
| | • **Gabapentin** 300-3600mg/24 hours PO in three divided doses | |
| | • **Pregabalin** 25-600mg/24 hours PO in two divided doses | |
| | • **Duloxetine*** 30mg PO once daily titrating to 60mg twice daily | |
| | • **Clonazepam***◊☎ 125microgram-4mg/24 hours PO/SC at night or in two divided doses | Dilute clonazepam injection before use |
| | • **Oxcarbazepine***☎ 150-1200mg/24 hours PO in two divided doses | Monitor sodium |

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| Neuropathic Pain Indication | Management | Comments |
|---|---|---|
| Due to compression by tumour | • **Dexamethasone*** 4-8mg PO once daily in the morning. Can be given subcutaneously if unable to swallow (3.8mg/ml Aspen® brand only) | Consider PPI/ $H_2$-receptor antagonist cover<br><br>Caution in patients with diabetes<br><br>For non-diabetic inpatients monitor blood sugars on daily basis |
| Due to trigeminal neuralgia | • **Carbamazepine** 100mg PO once to twice daily, increase gradually according to response; usual dose 200 mg three to four times daily, increased if necessary up to max 1.6g/24 hours<br>• **Oxcarbazepine*☎** 150mg PO twice daily, increase gradually according to response; usual dose 300-600mg twice daily | Monitor sodium |
| Due to localised superficial pain | • **Capsaicin 0.075%** cream*◊ Apply sparingly three to four times daily (avoid contact with mouth and eyes)<br>• **Lidocaine 5%** plaster*◊ Apply 1-3 for 12 hours in a 24 hour period | Items which should not routinely be prescribed in primary care: Guidance for CCGs |

## Weak Opioids

In patients with moderate/severe pain experts in the palliative care field are increasing moving directly from a non-opioid to a low dose of a strong opioid as they tend to provide quicker and more effective relief with fewer side-effects (like for like dosing).

| Type | Management | Comments |
|---|---|---|
| Weak Opioids | • **Codeine** 15-60mg PO either four to six hourly when required or regularly four times a day. Max 240mg/24 hours<br>• **Tramadol** 50-100mg PO either every four to six hours when required or regularly four times daily. Max 400mg/24 hours | Causes more constipation than tramadol. Consider prescribing laxatives<br><br>Causes more CNS side effects than codeine |

If maximum doses of either codeine or tramadol do not work, do not rotate to the other weak opioid. Stop the weak opioid and convert to the equivalent strong opioid (see conversion table) and titrate up as needed.

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## Strong Opioids

Things to consider:

- Is the patient opioid naïve or not?
- Are they able to take medication orally or is another route more appropriate? (e.g. CSCI, transdermal)
- Does the patient have renal or liver impairment?
- Oral and subcutaneous doses of the same drug are not equivalent potency (see conversion table)

Morphine sulphate is the first line opioid of choice except in patients with moderate to severe renal impairment☎. **MST® should only be prescribed for 5mg M/R doses. Use Zomorph® preparation for other strengths.**

**Initiating and titrating Morphine**

| | |
|---|---|
| Initiating Morphine | **Option 1:**<br>**Morphine Sulphate** immediate release (**Morphine Sulphate** 10mg/5ml liquid)<br>Either<br>1.25-2.5mg PO every four hours when required<br>Or for more constant pain<br>1.25-2.5mg PO every four hours and 1.25-2.5mg PO every four hours when required<br>**OR**<br>**Option 2:**<br>**Morphine Sulphate** modified release (**Zomorph®/MST®◊**)<br>5-10mg PO every twelve hours and **Morphine Sulphate** immediate release 1.25-2.5mg PO every four hours when required |
| Assess | Assess pain control after 2-3 days and for:<br>**Option 1:**<br>Titrate four hourly dosage until adequate pain relief achieved<br>**Option 2:**<br>Titrate the modified release dose based on the 24 hourly 'as required' usage and also increase the immediate release dose to give 1/6$^{th}$ - 1/10$^{th}$ of the new total 24 hour regular morphine dose |
| Convert to regular M/R dosing | **Option 1 only:**<br>Once pain controlled on four hourly dosage convert to modified release morphine every 12 hours by adding up the total morphine used in 24 hours, dividing by 2 and prescribing the nearest sensible dose of **Zomorph®/MST®◊** |
| Continuation of regular M/R dose | **Options 1 and 2:**<br>Continue the regular **Zomorph®/MST®◊** every 12 hours at the same dose. Also prescribe **Morphine Sulphate** immediate release every four hours when required. Give 1/6 - 1/10$^{th}$ of the total 24 hour regular morphine dose |

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| | |
|---|---|
| Review | Review pain control after 2-3 days and if necessary titrate regular twelve hourly dose based on the total regular and 'when required' dosage over the previous 24 hours. Increase 'when required' dose in line with regular (background) dose.<br>Guide - if consistently more than 2 'when required' doses are needed in 24 hours and are effective, consider increasing the regular dose to incorporate these doses. When titrating the dose leave 2 days between dose changes |

Side effects of opioids

- Nausea & Vomiting: 50% of patients prescribed opioids experience nausea or vomiting. Generally transient and improves after 5-7 days. Warn patient and provide 'when required' antiemetic (See Nausea and vomiting chapter)
- Constipation: Most patients prescribed opioids experience constipation. Prescribe prophylactic laxatives (See Constipation chapter). Titrate to patient's response
- Central effects: Cognitive impairment, drowsiness, myoclonic jerks, dysphoria and respiratory depression are dose-related side effects indicating a need to reduce opioid dose, review adjuvants or substitute the opioid
- Acute respiratory depression/bradypnoea: Refer to STH/SLH Guidelines for the use of Naloxone in Adults. Aiming to reverse respiratory depression rather than analgesic effect
- Tolerance and Dependence: Psychological addiction to opioids is rare in patients with cancer pain but is more likely in patients who have had previous addictions. Opioids should be reviewed regularly and titrated up or down according to symptoms

## Refractory pain

Patients with unresponsive pain, needing rapidly escalating doses or opioid toxicity may need to be referred to the Palliative Care Service☎ contact numbers.

- In patients with acute deterioration in renal and/or liver function, consider a dose reduction pre-emptively

## Opioid substitution

Pain may be opioid resistant, consider other treatment options e.g. adjuvant analgesics, nerve blocks, TENs, physiotherapy, bisphosphonates.

Patients who experience poor analgesic effect or suffer from significant side effects with a particular opioid may benefit from a change in the opioid used, particularly if the addition of co-analgesics is unhelpful. The choice of opioid may be influenced by:

- Individual patient factors
- Route of administration
- Drug profile
- Side effect profile.

Patients will require regular review after opioid switch - seek specialist advice☎. The general principle is to switch from one to another opioid, but under Specialist Palliative Care advice and review, some patients may be on multiple opioids. Conversion information can be found on pages 51-54. Considerations when substituting opioids include the following:

| Medication | Comments | Preparations |
|---|---|---|
| **Oxycodone**◊ | • Orally 1.5-2 times more potent than morphine<br>• Last Days of Life Algorithms (Palliative Pre-emptive Algorithms) recommends to use oxycodone for eGFR<30ml/min/1.73m$^2$ | • Immediate release capsules (e.g. **Shortec**®) and liquid (normal strength liquid 5mg/5ml (1mg/1ml) and Oxycodone concentrate liquid 10mg/1ml)<br>• Modified release tablets (e.g. **Longtec**®, **Oxycontin**®)<br>• 10mg/ml injection<br>(50mg/ml☎ injection available only for patients on a very high dose) |
| **Diamorphine** | • Given subcutaneously<br>• 3 times more potent than oral morphine | • Available in 5mg, 10mg, 30mg and 100mg ampoules |
| **Fentanyl** | • Pain needs to be stable i.e. not fluctuating or acute pain<br>• Safer to use in renal failure<br>• Useful when poor oral compliance<br>• Takes several days to reach steady state. When titrating the dose leave 48-72 hours between dose changes<br>• Be alert to serotonin syndrome when used in combination with other serotonergic drugs<br>• Avoid direct contact with heat e.g. heat pads, hot bath, saunas, and be cautious in patients who are pyrexial or sweating as this may increase absorption<br>• Patient may need to remove patch prior to MRI - this is brand dependent - discuss with radiology or medicines information<br>• Provide clear information to patients and caregivers about how to minimise the risk of accidental exposure and the importance of appropriate disposal of patches | • Patches applied every 3 days (72 hours)<br>• Use immediate release morphine/oxycodone for breakthrough pain ('when required' use)<br>• Fentanyl immediate release preparations seek specialist advice☎. Items which should not routinely be prescribed in primary care: Guidance for CCGs<br>• See p51 for information on converting to/from Opioid Patches from/to an Oral Opioid<br>• Fentanyl skin patches: How to use and dispose of them safely Oct 18 MHRA PIL |

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| Medication | Comments | Preparations |
|---|---|---|
| **Buprenorphine** | • Pain needs to be stable i.e. not fluctuating or acute pain<br>• Safer to use in renal failure<br>• Useful when poor oral compliance<br>• Takes several days to reach steady state. When titrating the dose leave 72 hours between dose changes<br>• Avoid direct contact with heat e.g. heat pads, hot bath, saunas, and be cautious in patients who are pyrexial or sweating as this may increase absorption<br>• Not completely reversed by naloxone<br>• Patient may need to remove patch prior to MRI - this is brand dependent - discuss with radiology or medicines information<br>• Provide clear information to patients and caregivers about how to minimise the risk of accidental exposure and the importance of appropriate disposal of patches. | • Patches applied every:<br>  • 7 days for BuTec®/BuTrans® (Note off-licence when used for cancer pain)<br>  • 4 days/twice weekly for Transtec®<br>  • 3 days for Hapoctasin®<br>• Use immediate release morphine/oxycodone for breakthrough pain ('when required' use)<br>• Immediate release preparations seek specialist advice☎<br>• See p51 for information on converting to/from Opioid Patches from/to an Oral Opioid |
| **Methadone*◊☎** | • Seek specialist advice. Prescribed either PO, SC or CSCI (regular and/or every three hours when required) | • Liquid 1mg/ml and 10mg/ml<br>• Tablets 5mg<br>• Injection 10mg/ml & 50mg/ml |
| **Ketamine*◊☎** | • Hospital/Community Specialist Palliative Care prescribing only<br>• Seek specialist advice. Prescribed either PO, SC or CSCI (regular and/or when required)<br>• For IV see Guidelines for the Administration of Intravenous Ketamine by Palliative Care Consultants & Registrars | • Liquid 50mg/5ml (special order)<br>• Injection 500mg/10ml |

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| Medication | Comments | Preparations |
|---|---|---|
| **Alfentanil*◊☎** | • Seek specialist advice<br>• Short acting. Usually used in CSCI<br>• Safer to use in renal failure<br>• 10 times more potent than diamorphine/30 times more potent than oral morphine<br>• Dose unit is micrograms | • Injection comes in two strengths: 500micrograms/ml (2ml and 10ml amps) & 5mg/ml intensive care injection |

## Converting to Opioid Patches from 12 hourly M/R Oral Opioid Preparations

Buprenorphine Patches
When converting patients from an oral opioid onto buprenorphine patches, the regular opioid needs to be continued for the first 12 hours after the patch is applied to allow plasma buprenorphine to increase to a therapeutic level. For example, give the last dose of a 12 hour MR preparation at the same time the patch is applied.

Fentanyl Patches
When converting patients from an oral opioid onto fentanyl patches, the regular opioid needs to be continued for the first 12 hours after the patch is applied to allow plasma fentanyl to increase to a therapeutic level. For example, give the last dose of a 12 hour MR preparation at the same time the patch is applied.

## Converting from Opioid Patches to an Alternative Oral Opioid

Buprenorphine Patches
Be aware that when a patch is removed buprenorphine serum levels decrease gradually over time. As a general rule, the new long acting opioid (morphine/oxycodone) should not be administered until 24 hours after removal. Titrate with immediate release opioid to analgesic effect.

Fentanyl Patches
Be aware that a reservoir of fentanyl within the subcutaneous tissue will continue to provide clinically significant levels of fentanyl for several hours after the patch has been removed. As a general rule, the new long acting opioid (morphine/oxycodone) should not be administered until 12 hours after removal. Titrate with immediate release opioid to analgesic effect.

## Opioid Patches and End of Life Care

For patients using opioid patches that are entering the terminal phase of their illness and are requiring further opioid analgesia, and for those with rapidly escalating pain:

- Continue the transdermal opioid patch, changing it at the usual prescribed frequency
- Prescribe a subcutaneous opioid for breakthrough pain
- If more than 2 doses in 24 hours of breakthrough analgesia are required, consider starting a CSCI. Total the breakthrough doses given in that period and give this dose via CSCI over the next 24 hours in addition to the opioid patch
- Review at least every 24 hours.

## Switching to Subcutaneous Preparations of Opioids

Patient unable to swallow or with poor gastrointestinal absorption:

- Keep on the same opioid which they received orally i.e. change **Morphine** PO to **Morphine/Diamorphine** SC; change **Oxycodone** PO to **Oxycodone** SC
- **Diamorphine** SC and **Morphine** SC are not interchangeable i.e. dose conversion required

## Equianalgesic tables

**The conversion ratios shown in the following tables serve as a guide only. Doses shown are approximated to the most practical, based on current formulations.**

- Variations can occur due to:
  - inter-patient variability
  - drug interactions
  - different brands of products
- Initial dose conversions should be conservative; it is preferable to under dose and provide breakthrough ('when required') medication for any shortfall
- If there has been a recent rapid escalation of the first opioid, use the pre-escalation dose to calculate the initial dose of the second opioid
- When switching opioids regular and frequent assessment of response should be made and doses amended as necessary
- Prescribe all oral and patch opioids by brand to ensure continuity of therapy
- These tables have been generated using manufacturers and PCF6 recommendations

## Opioid Conversion Chart (doses have been rounded up or down to convenient dose volumes)

| | Morphine (mg) | | | | Diamorphine (mg) | | Oxycodone (mg) | | | | Fentanyl patch (microgram/hr) | Buprenorphine (microgram/hr) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Route | Oral | | SC | | SC | | Oral | | SC | | TD | TD |
| | **q4h** prn | **24h** total | **q4h** prn | CSCI **24h** | **q4h** prn | CSCI **24h** | **q4h** prn | **24h** total | **q4h** prn | **CSCI** 24h | hourly dose (over 72 hrs) | hourly dose (check frequency)# |
| Dose | - | 12 | - | - | - | - | - | - | - | - | - | 5 microgram (BuTec/Butrans) |
| | 2.5 | 24 | 1.25 | 10 | 1.25 | 10 | - | - | - | - | - | 10 microgram (BuTec/Butrans) |
| | 5 | 30 | 2.5 | 15 | 2.5 | 10 | 2.5 | 15 | 1.25 | 7.5 | - | - |
| | 5-10 | 45 | 2.5-5 | 20 | 2.5 | 15 | 5 | 30 | 2.5 | 15 | 12 microgram* | 20 microgram (BuTec/Butrans) |
| | 15 | 90 | 7.5 | 45 | 5 | 30 | 7.5 | 45 | 2.5 | 20 | 25 microgram | 35 microgram (Transtec) |
| | 20 | 120 | 10 | 60 | 5 | 40 | 10 | 60 | 5 | 30 | 37 microgram | 52.5 microgram (Transtec) |
| | 25 | 150 | 10 | 75 | 10 | 50 | 10 | 75 | 5 | 40 | 50 microgram | - |
| | 30 | 180 | 15 | 90 | 10 | 60 | 15 | 90 | 7.5 | 45 | 62 microgram | 70 microgram (Transtec) |
| | 40 | 240 | 20 | 120 | 10 | 80 | 20 | 120 | 10 | 60 | 75 microgram | - |
| | 45 | 270 | 25† | 135 | 15 | 90 | 25 | 135 | 10 | 70 | 75 microgram | - |
| | **Seek specialist advice if the pain is not responding or when reaching doses equivalent to 360mg oral morphine over 24 hours** | | | | | | | | | | | |

**Notes:** This table does **not** indicate incremental steps. Increases are normally in 30-50% steps

† Consider switch to diamorphine or give as two separate injections as SC volumes over 2ml are uncomfortable.

* The 12micrograms/hour strength of Fentanyl patch is not licensed as a starting dose.

# Buprenorphine patches are changed every 7 days for BuTec®/Butrans®; every 4 days/twice weekly for Transtec® ; every 3 days for Hapoctasin®

**Conversion factors (equivalent dose over 24 hours)**

| | | | |
|---|---|---|---|
| oral codeine/dihydrocodeine | to | oral morphine | **divide by 10** |
| (tramadol – see note below)***** | to | oral morphine | **divide by 10** |
| oral morphine (either MR or IR) | to | oral oxycodone | **divide oral morphine by 2** |
| oral morphine (either MR or IR) | to | SC diamorphine | **divide oral morphine by 3** |
| oral morphine (either MR or IR) | to | SC morphine | **divide oral morphine by 2** |
| oral oxycodone (either MR or IR) | to | SC oxycodone | **divide oral oxycodone by 2** |
| SC diamorphine | to | SC alfentanil | **divide diamorphine by 10** |

*****Note conversion from tramadol to other opioids is not recommended in practice due to dependence on cytochrome CYP2D6 for analgesic activity and risk of withdrawal reactions.

Links and Alerts

MHRA Drug Safety Update - Cox-2 selective inhibitors and non-steroidal anti-inflammatory drugs' (NSAIDs): Cardiovascular safety Jan 2015

MHRA Drug Safety Update - Transdermal fentanyl patches: life-threatening and fatal opioid toxicity from accidental exposure, particularly in children Oct 2018

MHRA Drug Safety Update - Hyoscine butylbromide (Buscopan) Feb 2017

MHRA Drug Safety Update - NSAIDs and coxibs: balancing of cardiovascular and gastrointestinal risks Dec 2014

NICE CG 140 - Palliative care for adults: strong opioids for pain relief Aug 2016

NICE CG 173 - Neuropathic pain in adults: pharmacological management in non-specialist settings Nov 2013

STHFT - Guidelines for prescribing non-selective NSAIDs for acute pain management

CCG - Items which should not routinely be prescribed in primary care:  Guidance for CCGs

CCG - Neuropathic Pain, Primary Care Pharmacological Management

GOV.UK - Drugs and driving: the law

## The Adult Sheffield Palliative Care Formulary: Palliative Care Emergencies ☎

| Emergency | Signs and Symptoms | Management and Comments |
|---|---|---|
| **Metastatic Spinal Cord Compression (MSCC)** | • Onset/Change in back pain<br>• Limb weakness and/or alteration in gait<br>• Ataxia without objective evidence of weakness<br>• Sensory and motor changes<br>• Bowel and/or bladder dysfunction<br>**Spinal cord compression may present without neurological signs** | • Contact MSCC co-ordinator via switchboard or oncology with a view to radiotherapy if not for surgery<br>• For further information refer to North Trent Cancer network MSCC guideline<br>• Give **Dexamethasone** 16mg PO/15.2mg SC (Aspen® brand*) STAT and then follow local guidelines<br>• Prescribe VTE prophylaxis, analgesia, laxatives and PPI cover whilst on dexamethasone |
| **Superior Vena Cava Obstruction (SVCO)** | • Swelling and/or discolouration of face, neck, torso and/or arms<br>• Dilated veins on anterior chest and neck<br>• Non-pulsatile raised jugular venous pulse<br>• Breathlessness<br>• Headache or feeling of fullness in the head<br>• Cough<br>• Hoarseness/Stridor<br>• Syncopal attacks<br>• Chest pain | • Seek **urgent** oncology opinion<br>• Prescribe **Oxygen**<br>• Give **Dexamethasone** 16mg PO/15.2mg SC (Aspen® brand*) STAT |
| **Hypercalcaemia**<br>Consider treatment if corrected calcium is >2.6mmol/L & patient symptomatic | • Nausea and/or vomiting<br>• Constipation<br>• Polyuria and polydypsia<br>• Lethargy<br>• Fatigue<br>• Mental dullness, leading to confusion and coma<br>• Cough<br>• Anorexia<br>• Arrhythmias<br>• Seizures | • See WPH Guidelines for the Management of Hypercalcaemia |

◊ - Not included in Sheffield Formulary/Not included for indication referenced
* - Unlicensed use/Off-license use ☎ - Seek specialist advice

| Emergency | Signs and Symptoms | Management and Comments |
|---|---|---|
| **Major/Large (terminal) bleed**<br><br>See Bleeding chapter | • Major catastrophic bleeds are rare, but can occur when a major vessel is eroded by tumour | • Consider giving **Midazolam*** 5-10mg STAT IV/IM/SC to reduce awareness and fear<br>• A major bleed usually leads to death within a matter of minutes. There is unlikely to be time to administer medication; it is more important to stay with the patient and provide reassurance<br>• Sit the patient up if bleeding is coming from chest/upper gut<br>• Apply pressure to bleeding site if appropriate (surface lesion)<br>• Provide explanation, support and reassurance to the family and other observers<br>• If the bleed is visible, dark coloured towels can make the appearance of blood less frightening |
| **Opioid Toxicity** | • Acute respiratory depression/bradypnoea | • Refer to STH/SLH Guidelines for the use of Naloxone in Adults<br>• Aim to reverse respiratory depression rather than analgesic effect |
| **Seizures** | | • See Seizure chapter |

## The Adult Sheffield Palliative Care Formulary: Pruritus/Itch

Treat reversible causes if possible e.g. medication side effects, dry skin, scabies, allergic reaction, urticaria, uraemia, dermatitis, systemic disease. Sometimes the cause may be multifactorial.

Non-drug treatments include:

- Gentle rubbing not scratching
- Keeping finger nails short
- Avoiding prolonged hot baths. Add 500mg bicarbonate of soda to evening bath to give prolonged nocturnal skin hydration
- Drying skin by 'patting'
- Avoiding overheating and sweating
- Increasing bedroom air humidity to avoid skin drying.

Consider the following for pruritus of unknown cause or when other options exhausted or inappropriate.

| Type | Treatment | Comments |
|---|---|---|
| Routine skin care - pruritus often associated with dry skin | • Standard emollients - apply twice to three times daily e.g. **Diprobase**® cream ◊, **Zerobase**® cream, **Epimax**® cream, **Emulsifying**® ointment<br>• Emollients containing urea - apply twice daily e.g. **Imuderm**® cream, **Balneum Plus**® cream ◊ | Standard emollients can also be used as soap replacement<br>Consider an emollient bath additive<br>Fire hazard with paraffin based emollients: avoid fire/flames; do not smoke; do not use oxygen |
| Topical antipruritic agents | • Preparations containing phenol, menthol and camphor available OTC<br>• Topical steroid e.g. **Hydrocortisone 1%** cream/ointment, **Betamethasone 0.025%** cream | **Levomenthol 2% in Aqueous** cream◊ is available to order from special-order manufacturers<br>For inflamed localized itching |
| Antihistamines - only effective if due to histamine release | • **Chlorphenamine** 4mg PO every four to six hours. Max 24mg/24 hours<br>• **Cetirizine** 10mg PO daily<br>• **Hydroxyzine**◊ 10-25mg PO once to three times daily. Max 50mg/24 hours in elderly | A sedating anti-histamine may be used in combination with a non-sedating anti-histamine in resistant cases according to patient's tolerance |
| Steroids - for severe, resistant drug induced itch | • **Dexamethasone**◊ 2-8mg PO once daily in the morning for 1 week | |

Other treatment options are dependent on the cause.

| Indication | Treatment | Comments |
|---|---|---|
| For severe localized itch | • **Capsaicin 0.025-0.075%** cream*◊ applied once to twice a day | Wash hands after application |
| Cholestasis | • Seek specialist advice ☎ | |
| Uraemia | • Ensure routine skin care followed (see above)<br>• If localised, **Capsaicin 0.025-0.075%** cream*◊ applied once to twice a day<br>• Consider low dose **Gabapentin***◊☎ | Wash hands after application |
| End stage lymphoma | • **Prednisolone***◊ 10-20mg PO three times daily<br>• **Cimetidine***◊ 400mg PO twice daily | |
| Paraneoplastic pruritus | • **Paroxetine***◊ 5-20mg PO once daily | |

Links and Alerts

MHRA Drug Safety Update - Paraffin-based skin emollients on dressings or clothing: fire risk Apr 2016

MHRA Drug Safety Update - Hydroxyzine (Atarax, Ucerax): risk of QT interval prolongation and Torsade de Pointes Apr 2015

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## The Adult Sheffield Palliative Care Formulary: Respiratory Tract Secretions (see Palliative Pre-emptive Algorithms)

- The secretions that cause noisy breathing (also known as 'death rattle') are generally caused by build-up of the normal pharyngeal and respiratory tract secretions that a dying person is unable to shift. Secretions are not usually relieved by drug treatment once they are established, so may be unavoidable. Treatment should therefore be started at the first sign of noisy breathing however this should be balanced against the risk of any likely antimuscarinic side-effects.

- Semi-conscious or unconscious patients will not usually be distressed by the noisy breathing; however the noise can be upsetting for carers and health care workers. Explanation that the noise is part of a normal physiological process and reassurance that the patient is not distressed or being choked by the secretions should always be provided. Repositioning the patient may improve the situation.

| Indication | Management | Comments |
|---|---|---|
| **Respiratory Tract Secretions** | • **Hyoscine Butylbromide◊ (Buscopan®)** 20mg SC hourly when required and/or 60-240mg/24 hours CSCI. Max 240mg/24 hours | Non-sedating<br>Note: incompatible with Cyclizine in CSCI |
| | • **Glycopyrronium bromide (glycopyrrolate)◊** 200 micrograms SC hourly when required and/or 600-2400 micrograms/24 hours CSCI. Max 2400 micrograms/24 hours | Non-sedating |
| | • **Hyoscine Hydrobromide◊** 400 micrograms SC hourly when required and/or 400-2400 micrograms/24 hours CSCI. Max 2400 micrograms/24 hours | Sedating<br>Can cause agitation |
| **Purulent/ Offensive Secretions** | In addition to respiratory tract secretions management, consider the use of parenteral antibiotics for symptom management | |
| **Heart Failure** | In addition to respiratory tract secretions management, consider parenteral diuretics if pulmonary oedema is the cause of excessive secretions<br>• **Furosemide*◊☎** 20mg/2ml SC STAT when required or CSCI up to max 220mg/24 hours depending on response | |

Links and Alerts

MHRA Drug Safety Update - Hyoscine butylbromide (Buscopan) Feb 2017

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## The Adult Sheffield Palliative Care Formulary: Seizures

This chapter refers to general and chronic seizure management in palliative patients, or those receiving end of life care.

**For management of acute seizures please refer to local acute medicine protocols.**

Convulsions or seizures (generalised or partial) occur in palliative care patients due to primary or secondary brain tumours, metabolic complications (e.g. hyponatremia, hypoglycaemia or hypercalcaemia), pre-existing epilepsy or cerebrovascular disease.

If seizures are suspected:

- Assess the patient for causes of loss of consciousness and/or uncontrolled limb or facial movements (e.g. hypoglycaemia, vasovagal syncope, extrapyramidal side effects)
- Clarify the patient's past medical history e.g. previous seizures, epilepsy, known or suspected intracerebral metastasis
- Take a full medication history:
  - Confirm dose of anti-epileptics and corticosteroids, if prescribed
  - Consider patient's ability to take oral medication(s). If swallowing difficulties, consider an alternative route as drug levels may be reduced
  - Assess for and review the need for any medications that may decrease the seizure threshold
  - Consider drug interaction(s) and their effect on drug levels.

Seizures can be distressing, and may be frightening for family or carers to witness. Actively seek to discuss any worries or concerns about seizure management.

| Indication | Management | Comments |
|---|---|---|
| Prolonged acute seizure | Follow local acute medicine protocols<br>If IV access is not possible/available, consider:<br>• **Midazolam*◊** 5mg SC STAT or 10mg BUCCAL STAT<br>• **Diazepam◊** rectal solution 10mg PR or via stoma* STAT | If seizure persists seek specialist advice from neurology and/or palliative care<br>10mg pre-prepared buccal syringes available |
| Chronic seizure management of a structural cause | Initiate anticonvulsant therapy following first seizure. Seek specialist advice on the choice of anticonvulsant☎<br>• **Levetiracetam*◊**, **Midazolam*◊** and **Phenobarbital sodium*◊** can be used in a CSCI on specialist advice☎ | **Levetiracetam*◊** has fewer interactions than other anti-convulsants (check BNF/SmPC) |
| | • Corticosteroids may need to be initiated or the dose titrated up | Seek specialist advice☎ |

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| Indication | Management | Comments |
|---|---|---|
| Seizures in a dying patient (last hours to days of life) | Seek specialist advice☎<br>• Consider **Midazolam***◊☎ 10-20mg/24 hours CSCI as maintenance therapy | |
| Dying patient unable to take oral anti-epileptic medications (but seizures previously well controlled) | Many anticonvulsants have a long half-life so additional therapy may not be needed.<br>• If on a stable dose of **Levetiracetam***◊ this can be delivered via CSCI. Seek specialist advice☎<br>• Consider **Midazolam***◊☎ 10-20mg/24 hours CSCI as maintenance therapy | |

Other points to remember:

- If the patient is being discharged from hospital for end of life care and has had or is at risk of seizures, consider an emergency care plan for management of seizures at home. Seek specialist advice☎
- If the patient is still driving, then having a seizure and initiating anticonvulsant therapy has implications. In the UK, patients suffering from seizures/epilepsy must notify the DVLA. Generally, a seizure-free period of one year is required before driving can resume (longer for heavy goods vehicles), although this varies e.g. where a seizure was due to a transient illness.

## The Adult Sheffield Palliative Care Formulary: Swallowing Difficulties (Dysphagia)

It is important to try to diagnose and treat the underlying cause. As well as treating the cause it is also important to use symptom directed treatments. All treatments must be reviewed regularly (frequency depending on severity of swallowing difficulty), for efficacy and side effects. Consider parenteral fluids (IV or SC) depending on severity of symptoms, intake, hydration status, likely length of symptoms, patient's prognosis and wishes.

Specific causes include:

- painful mouth/pharynx - ulceration, infection (fungal, bacterial, viral), local tumour, radiotherapy or chemotherapy, iron or vitamin deficiency
- painful swallowing (odynophagia)/oesophageal pain - see causes of painful mouth above, post stent insertion
- dry mouth - poor hydration, medication, radiotherapy
- neurological deficit - local tumour invasion, CNS dysfunction.

Other considerations:

- Check dentures fit correctly (if appropriate)
- Consider thickening fluids
- Contact medicines information/pharmacy regarding availability of liquid medication or possibility of opening capsule/crushing tablet (CCG Dysphagia guidance)
- Refer to speech and language therapist and/or dietician where appropriate.

| Indication | Management | Comments |
|---|---|---|
| Viral Ulceration Due to Herpes Simplex | Contact Virology for advice on treating the infection | Refer to Oral Care chapter for symptom control |
| Local Bacterial Infection | Refer to local infection policy<br>Consider sending a swab to microbiology and taking their advice | |
| Oral Candidiasis | Refer to Oral Care chapter | |
| Oesophageal Candidiasis | • **Fluconazole** 50-100mg PO daily for 7-14 days | Check for drug interactions |
| Oesophageal Pain | • Consider treating infection (see above)<br>• Treat reflux oesophagitis<br>• If spasm, stop prokinetics e.g. domperidone, metoclopramide. Consider **Hyoscine Butylbromide**◊ 60-120mg/24 hours CSCI and/or 20mg SC hourly when required**.** Max 240mg/24 hours<br>OR<br>• **Mebeverine** 135mg PO three times daily | See Dyspepsia chapter |

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| Indication | Management | Comments |
|---|---|---|
| Iron or Vitamin Deficiency | Check serum levels<br>• Supplementation as appropriate | |
| Dry Mouth | Identify causative medications and reduce or stop if appropriate | Refer to Oral Care chapter |
| Tumour in Mouth, Pharynx | May respond to radiotherapy or chemotherapy - seek oncology advice | |
| Tumour in Oesophagus | Stenting may be an option - contact Upper GI CNS team or on-call surgeons for advice<br>May respond to radiotherapy or chemotherapy - seek oncology advice | |
| Temporary or Permanent Dry Mouth Due to Radiotherapy | • Consider **Carboxymethylcellulose** (Mucilage) liquid*◊ (unlicensed special order) 10ml PO pre-meals and when required | For treatment of dry mouth refer to Oral Care chapter |
| Acute Mucositis Due to Radiotherapy | Refer to Oral Care chapter | |

| Symptom | Management | Comments |
|---|---|---|
| Pain in Mouth/ Stomatitis/ Mucositis | Refer to Oral Care chapter | |
| Excessive Secretions (which may be caused by dysphagia) | • **Hyoscine Butylbromide**◊ 20mg SC three times daily or CSCI 60mg/24 hours<br>• **Hyoscine Hydrobromide**◊ 1 x 1.5mg transdermal patch (releasing 1mg/72hours) applied behind the ear, replaced every 72 hours<br>• **Atropine 1% eye-drops***◊☎ PO or sublingually 4 drops every four hours when required<br>• **Glycopyrronium bromide***◊☎ liquid 200 micrograms PO STAT then 200 micrograms PO every eight hours. Titrate according to response up to max 1mg every eight hours | May cause drowsiness or confusion<br>For transdermal patch, site replacement patch behind the opposite ear |

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## The Adult Sheffield Palliative Care Formulary: Sweating (Hyperhidrosis)

Treatment of excessive sweating depends on the cause. Where possible treat/remove the cause. Drug management in isolation is often ineffective.

In all cases ensure fluid intake is maintained to avoid dehydration.

| Indication | Treatment |
|---|---|
| High ambient temperature | Reduce heating; increase ventilation; use an electric fan; advise cotton clothing and bed linen |
| Infection | Treat referring to local guidelines |
| Alcohol | Reduce intake where possible |
| Fever | • **Paracetamol** 500mg-1g PO every four to six hours (weight <50kg dose reduce to 15mg/kg every four to six hours)<br>and/or<br>• NSAIDs e.g. **Ibuprofen** 200-400mg PO three times daily, **Naproxen*** 250-500mg PO twice daily.<br>Consider PPI/ $H_2$-receptor antagonist cover |
| Medication<br>• *SSRI/tricyclic antidepressants*<br>• *Opioids*<br>• *Hormone therapies (tamoxifen, aromatase inhibitors, gonadorelin analogues)* | • Consider alternative antidepressant e.g. **Mirtazapine**◊<br>Consider an opioid switch<br>Seek advice from Oncology |
| Endocrine (oestrogen deficiency, androgen deficiency, hypoglycaemia, hyperthyroidism) | Seek advice from Endocrinology |

In cancer patients there can be extreme sweating with no obvious cause.

| Indication | Treatment | Comments |
|---|---|---|
| Localised sweating e.g. hands, feet, axillae | • High aluminium content deodorants e.g. **Aluminium chloride 20%** solution◊ apply topically once daily | Caution: flammable. Avoid fire/flames; do not smoke; do not use oxygen |

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Limited evidence suggests the following may be useful for treatment of sweating of unknown or unavoidable cause.

| Type | Treatment | Comments |
|---|---|---|
| Antimuscarinics | • **Propantheline*◊** 15-30mg PO two to three times daily. Max 120mg/24 hours<br>• **Hyoscine Hydrobromide** 1 x 1.5mg transdermal patch*◊ (releasing 1mg/72hours) applied behind the ear, replaced every 72 hours<br>• **Amitriptyline*◊** 10-50mg PO at night | For transdermal patch, site replacement patch behind the opposite ear |
| Sweating due to hormone-related malignancy | Refer to Oncology team | |

Links and Alerts

MHRA Drug Safety Update - Cox-2 selective inhibitors and non-steroidal anti-inflammatory drugs (NSAIDs) Jan 2015

MHRA Drug Safety Update - NSAIDs and coxibs Dec 2014

STHFT - Guidelines for prescribing non-selective NSAIDs for acute pain management

## The Adult Sheffield Palliative Care Formulary:
## Syringe Pump

**For general advice on the use of syringe pumps please refer to the local policy.**
**Local policies state that a maximum of THREE medications may be mixed in a syringe.**

### Conversion Doses of Opioids

- Information for conversion of opioids from oral to subcutaneous administration can be found in the Pain chapter
- Further information can be obtained by contacting the Palliative Care team or the appropriate Medicines Information department. contact details

### Recommended Diluents

- **Water for Injection** should be used to dilute the contents of the syringe with the exceptions detailed below. If irritation occurs at the infusion site, consider switching to **Sodium Chloride 0.9%** where compatibility allows
- **Sodium Chloride 0.9%** should be used for the following medications:

  **Furosemide*** ◊ ☎
  **Granisetron*** ◊ ☎
  **Ketamine*** ◊ ☎
  **Ketorolac*** ◊ ☎
  **Octreotide**◊ ☎
  **Ondansetron*** ◊ ☎

### Drug Compatibility Problems

- Incompatibilities have been reported with many drug combinations administered via a syringe pump
- Drugs that are used in palliative care and are known to cause problems in combination with others include:

  **Cyclizine*** ◊
  **Hyoscine Butylbromide*** ◊
  **Ketamine*** ◊ ☎
  **Ketorolac*** ◊ ☎

- The risk of incompatibility is increased with:
  - Increasing doses
  - Increasing number of drugs in combination
- It is not recommended that the following drugs be used in a syringe driver:

  **Chlorpromazine*** ◊
  **Diazepam***
  **Prochlorperazine***
  **Dexamethasone*** (except at a dose <1mg in combination with **Ketamine*** ◊ ☎)

- Compatibility charts and a compatibility search function are available at www.palliativedrugs.com (free login required). A compatibility search function is also available at www.pallcare.info
- For further information on compatibility please contact the Palliative Care team or the appropriate Medicines Information department. contact details

## Infusion-site Reactions

- Infusion site reactions have been most commonly reported with the following drugs:

  **Cyclizine*** ◊
  **Levomepromazine**◊
  **Ketamine*** ◊ ☎
  **Methadone*** ☎

- Site reactions are possible with any drug and the risk is increased with higher doses/concentrations contained within the infusion. If a reaction occurs the following can be tried to resolve/improve the problem:
  - Review the need and appropriateness of medications likely to cause the reaction and adjust the regime accordingly
  - Consider changing the diluent (see diluent section above)
  - Consider separating medications into different syringe pumps to reduce the drug concentrations and/or avoid drug interactions
  - Consider changing the site more frequently
- Further information can be sought from the Palliative Care team or the appropriate Medicines Information department. contact details

## Troubleshooting

- Within STHFT, see the reverse of the BD BodyGuard™ T Syringe Pump Prescription & Observation Chart for common troubleshooting advice
- The contents of the syringe should be checked regularly for signs of degradation e.g. cloudiness, precipitation. Check local policy for frequency i.e. STHFT every four hours; primary care at every patient contact
- Physical appearance does not guarantee chemical stability. Any untoward reaction should be noted and if necessary, further information can be sought from the appropriate Medicines Information department contact details
- **Levomepromazine**◊ (Nozinan®) is known to turn purple when exposed to strong light. This is from a highly coloured but inert degradation product. All syringe pumps containing **Levomepromazine** should be covered or placed in a bag/holster to avoid this reaction.

## The Adult Sheffield Palliative Care Formulary: Prescribing in the Last Days of Life

As a patient approaches the last few days of their life they may experience difficulties taking oral medication or find the process of taking medicines burdensome. In such circumstances the following are considered:

- Current medication is assessed and any non-essential medication discontinued. The rationale behind any decision made is documented in the patient's medical record.

- Consider alternative route/formulation for essential medications e.g. syringe pump (CSCI) to administer regular analgesia and antiemetics, sublingual/oro-dispersible preparations (e.g. lorazepam, lansoprazole), transdermal preparations (e.g. nitrate patches, nicotine patches), single daily injections (e.g. haloperidol, clonazepam). Seek guidance from specialist teams for alternative routes of administration of critical medicines e.g. anti-Parkinson's medicines and anticonvulsants.

- As with all treatments, any changes to medications should be discussed with the patient (where able) and those important to them.

- Pre-emptive prescribing of medication for the five key symptoms which can occur in the last days/hours of life ensures that there is no delay in effectively treating these symptoms. Prescribe subcutaneous 'as required' medication for the following symptoms as per the algorithms (see below):

    - **Pain**
    - **Respiratory Tract Secretions**
    - **Breathlessness/Dyspnoea**
    - **Agitation (including Terminal Restlessness)**
    - **Nausea and Vomiting**

    **Algorithms for Use in both Community & Hospital:**

    - **For Normal Renal Function (eGFR >30ml/min/1.73m$^2$)** **p70-74**

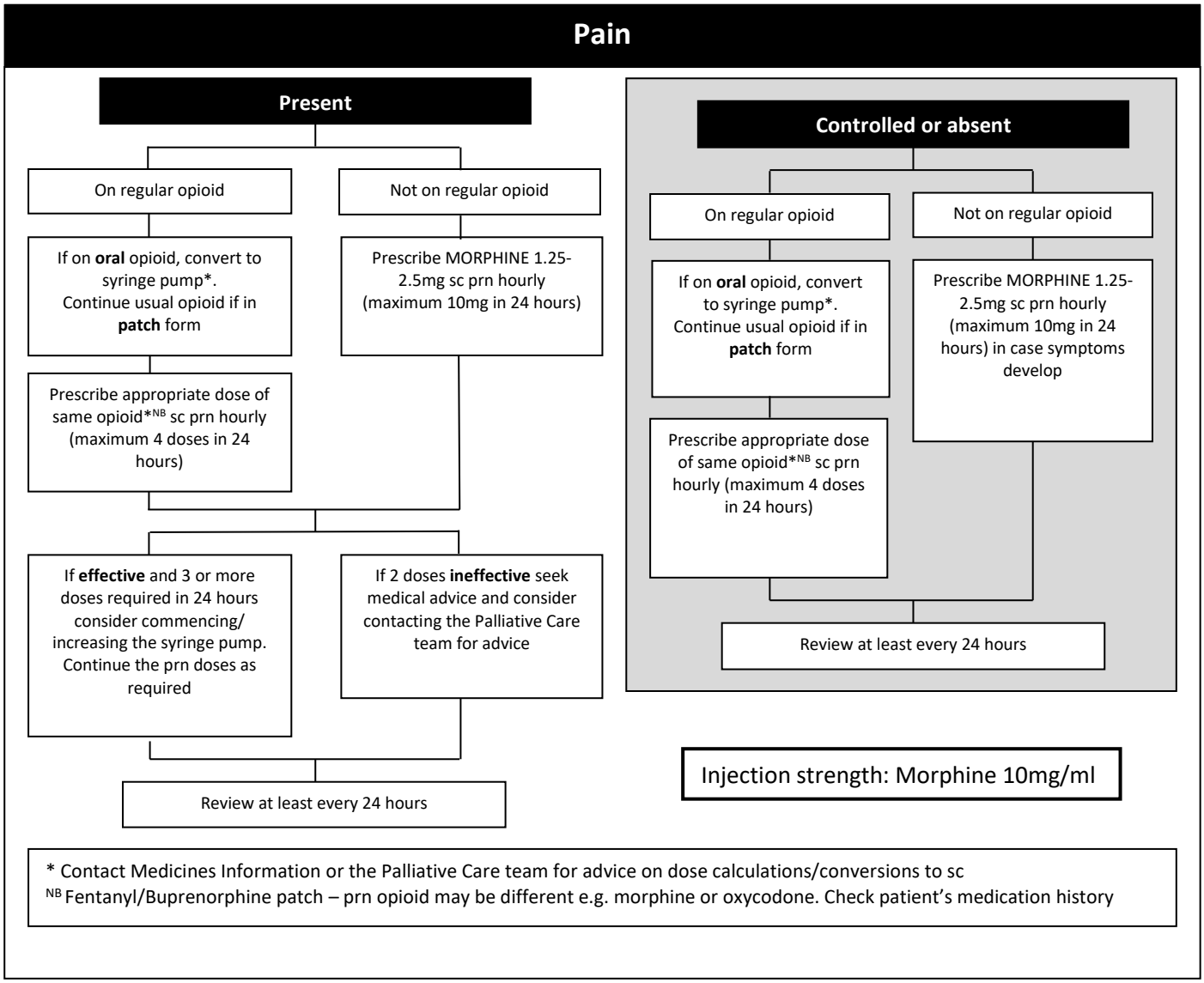
    - **For Renal Impairment (eGFR <30ml/min/1.73m$^2$)** **p75-79**

- It is important that these medications are available in the patient's home or on the ward should they be needed. Therefore, prescribing in a timely fashion is important.

- Also see:

    - STH End of Life Care Intranet Site for further information and guidance e.g. 'Guidance for Medicines Management of Adult Patients in the Last Few Days of Life' and 'Diabetes: During the Last Few Months and Days of Life'.
    - Sheffield CCG Palliative Care website.

## Normal Renal Function Algorithms (eGFR >30ml/min/1.73m$^2$)

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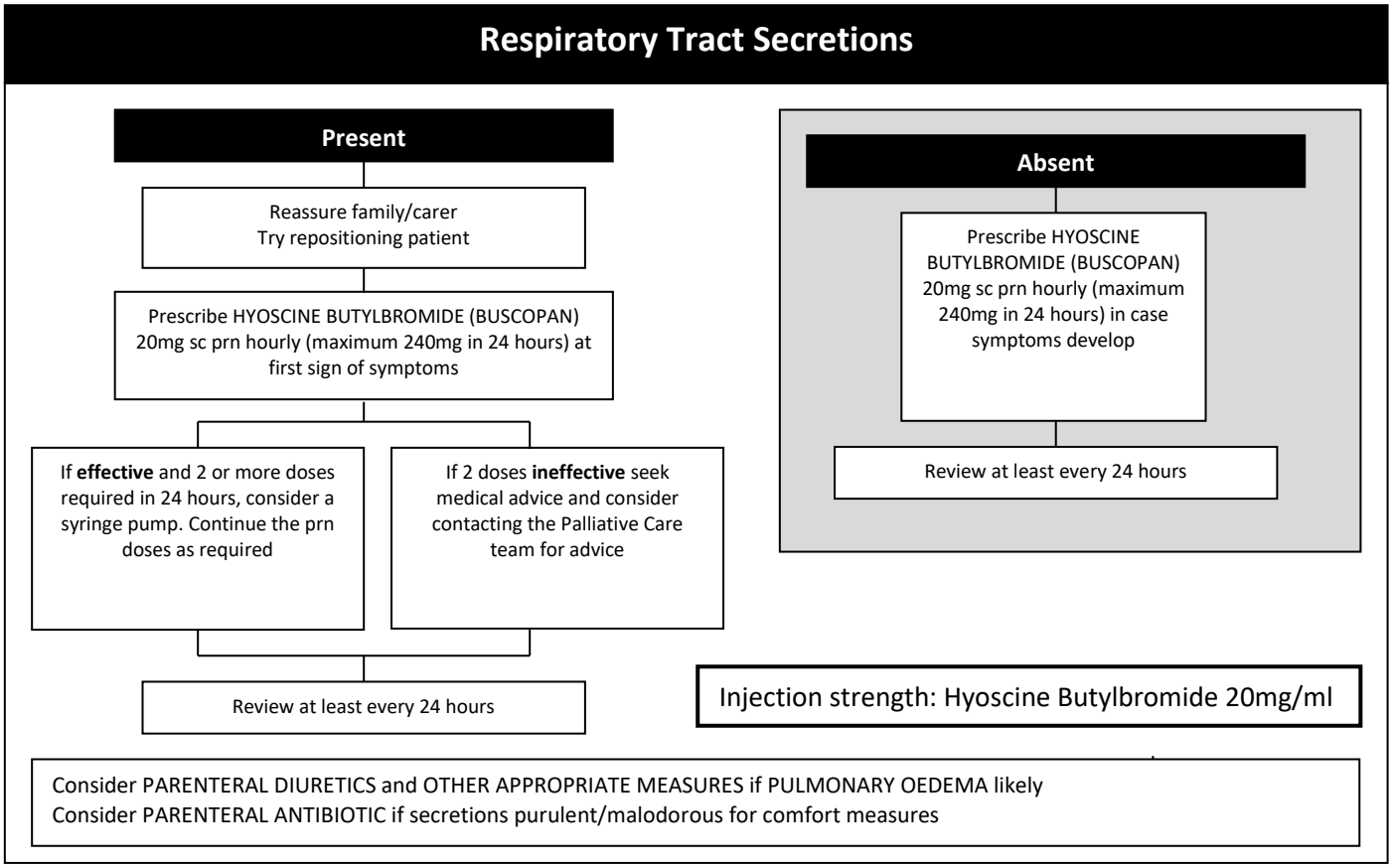
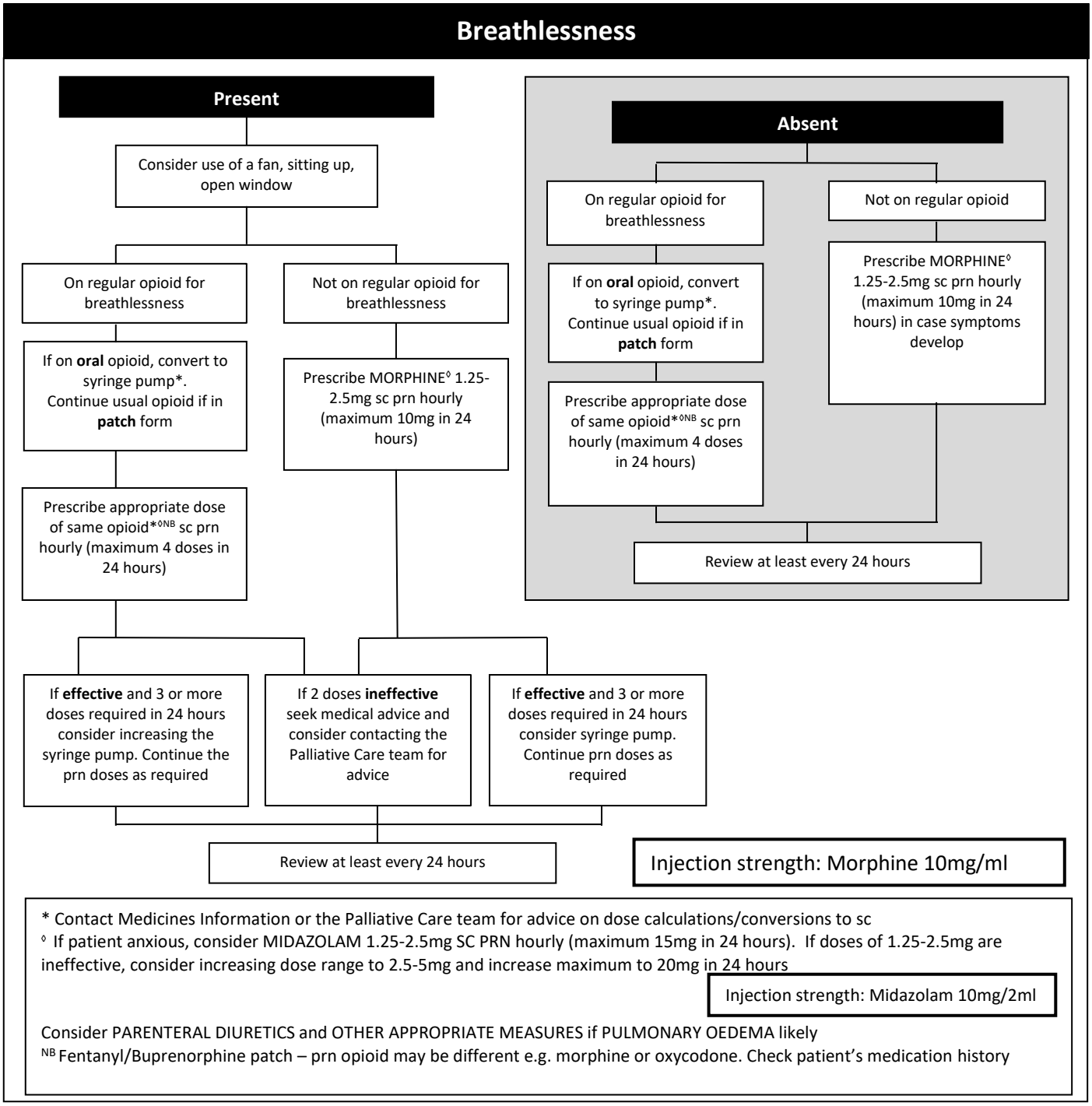
## Normal Renal Function Algorithms (eGFR >30ml/min/1.73m$^2$)



## Normal Renal Function Algorithms (eGFR >30ml/min/1.73m$^2$)




* Contact Medicines Information or the Palliative Care team for advice on dose calculations/conversions to sc

◊ If patient anxious, consider MIDAZOLAM 1.25-2.5mg SC PRN hourly (maximum 15mg in 24 hours). If doses of 1.25-2.5mg are ineffective, consider increasing dose range to 2.5-5mg and increase maximum to 20mg in 24 hours

Injection strength: Midazolam 10mg/2ml

Consider PARENTERAL DIURETICS and OTHER APPROPRIATE MEASURES if PULMONARY OEDEMA likely

NB Fentanyl/Buprenorphine patch – prn opioid may be different e.g. morphine or oxycodone. Check patient's medication history

◊ - Not included in Sheffield Formulary/Not included for indication referenced

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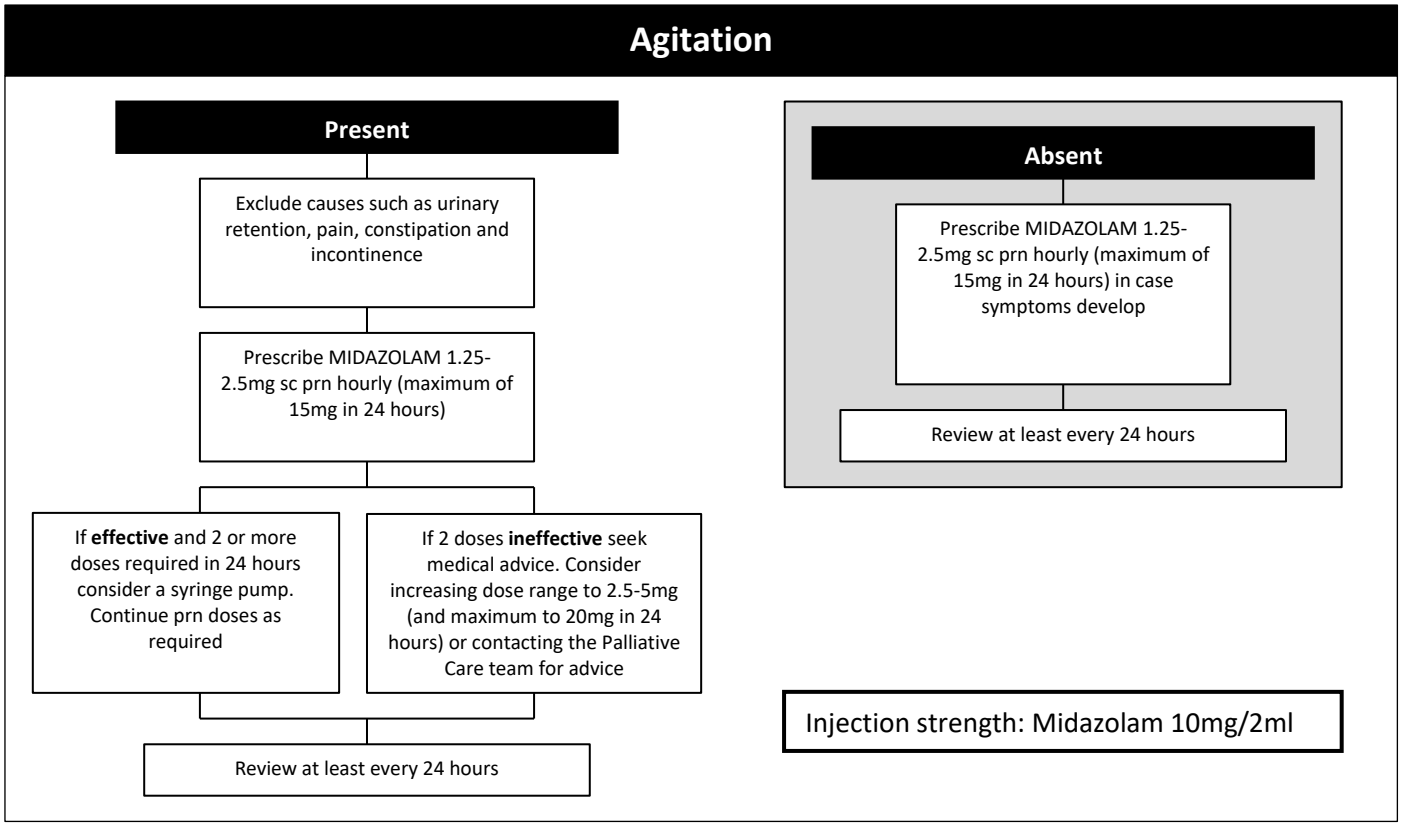
## Normal Renal Function Algorithms (eGFR >30ml/min/1.73m$^2$)

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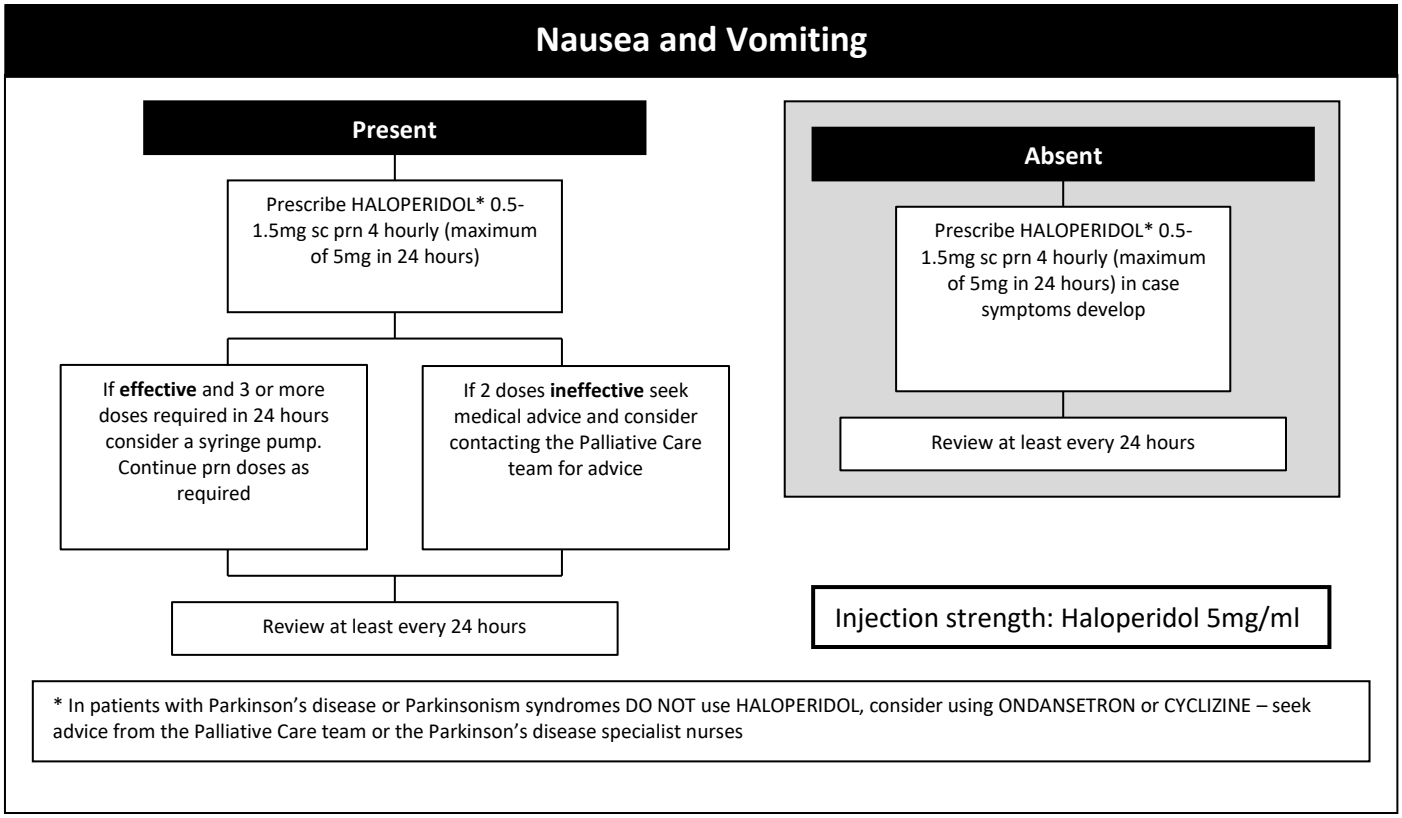
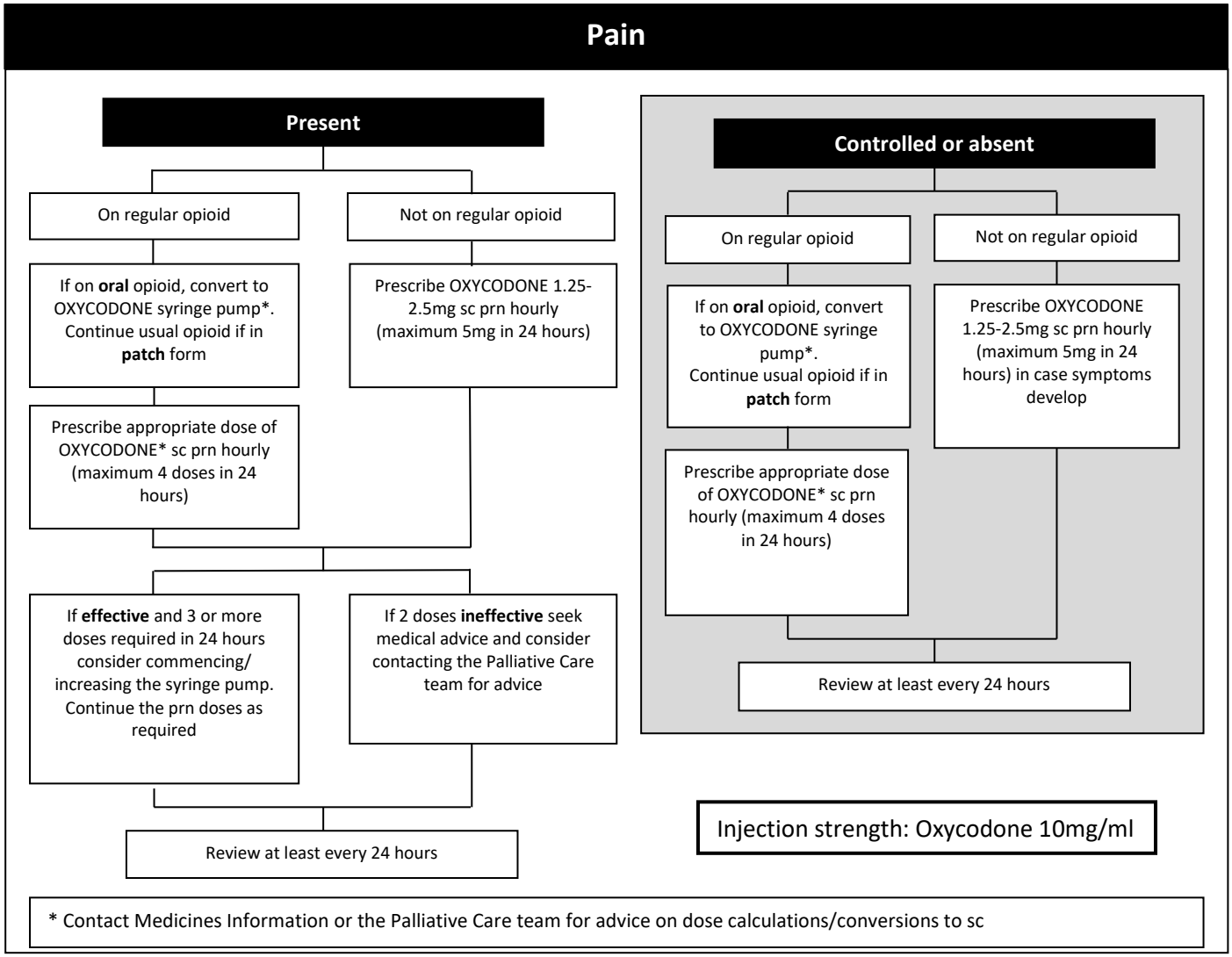
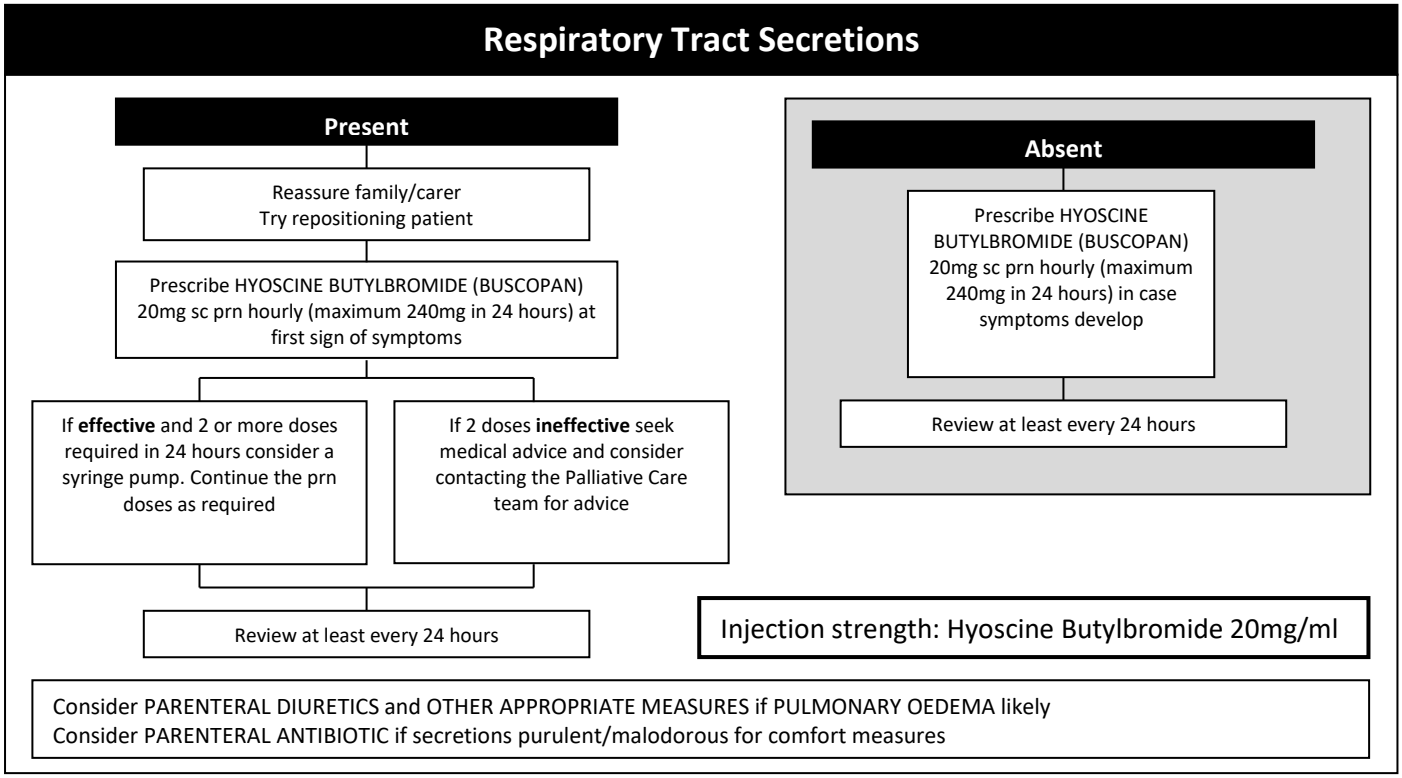
## Normal Renal Function Algorithms (eGFR >30ml/min/1.73m$^2$)



## Renal Impairment Algorithms (eGFR <30ml/min/1.73m$^2$)



## Renal Impairment Algorithms (eGFR <30ml/min/1.73m$^2$)



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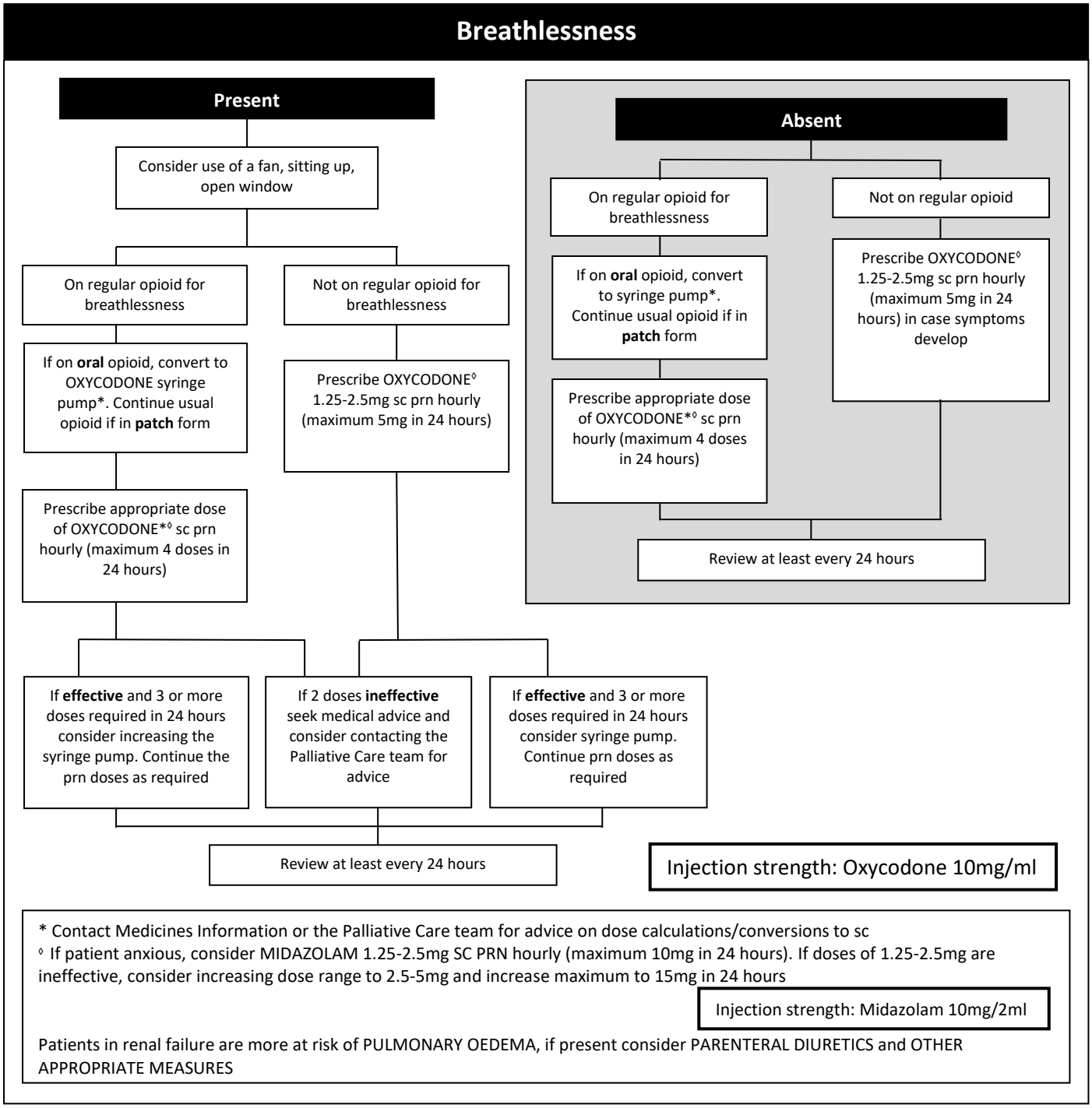


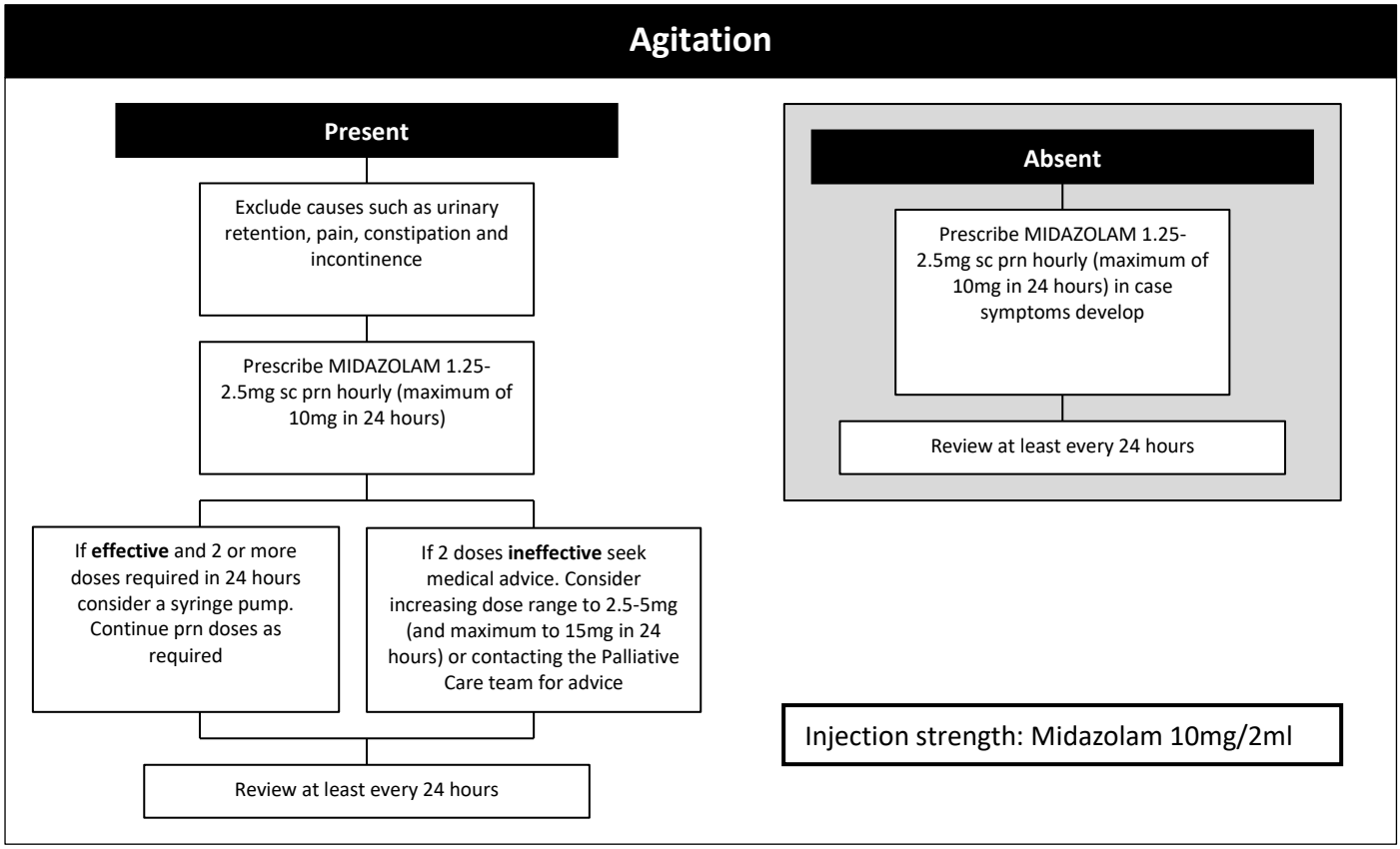

* Contact Medicines Information or the Palliative Care team for advice on dose calculations/conversions to sc

◊ If patient anxious, consider MIDAZOLAM 1.25-2.5mg SC PRN hourly (maximum 10mg in 24 hours). If doses of 1.25-2.5mg are ineffective, consider increasing dose range to 2.5-5mg and increase maximum to 15mg in 24 hours

Injection strength: Midazolam 10mg/2ml

Patients in renal failure are more at risk of PULMONARY OEDEMA, if present consider PARENTERAL DIURETICS and OTHER APPROPRIATE MEASURES

## Renal Impairment Algorithms (eGFR <30ml/min/1.73m$^2$)

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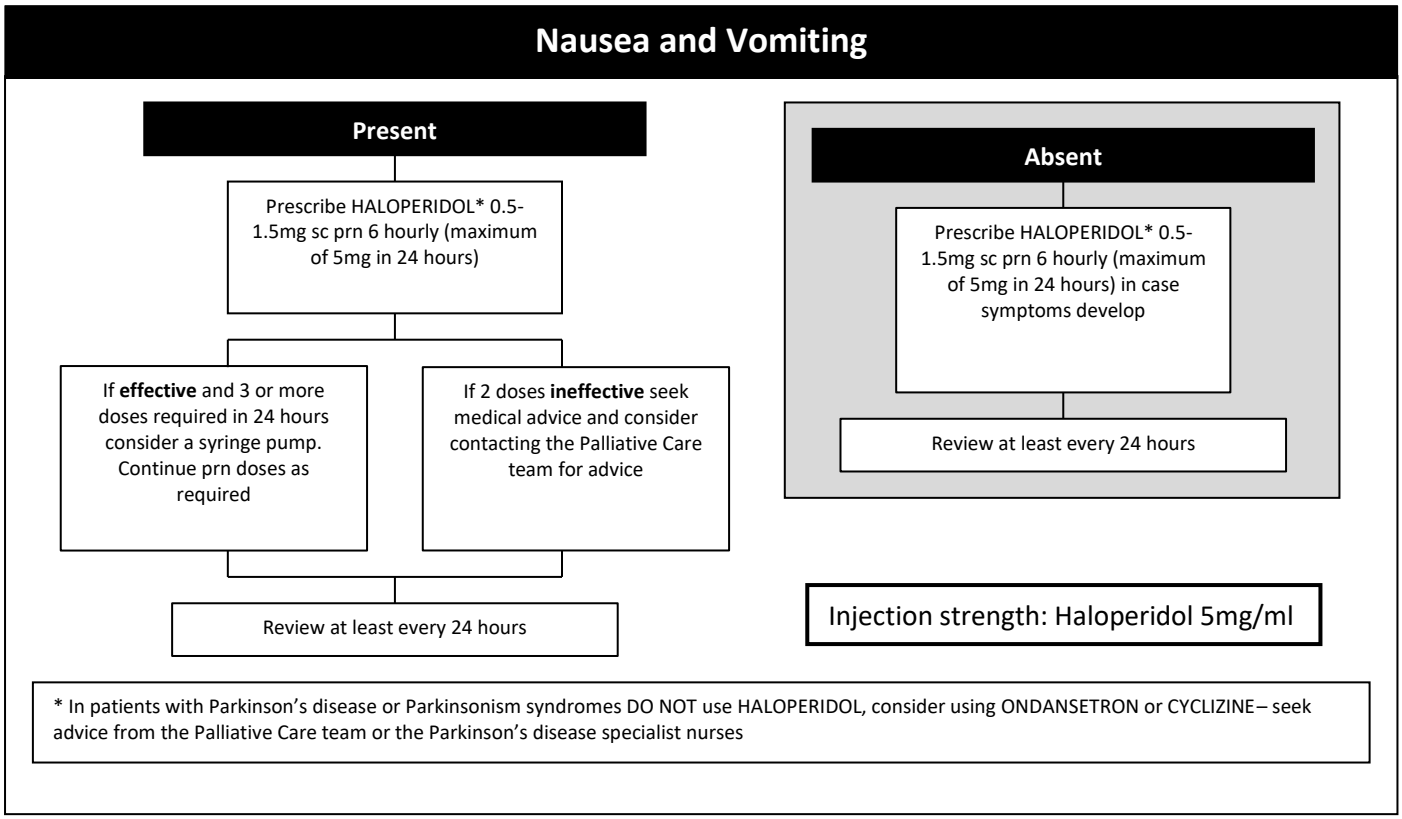

## The Adult Sheffield Palliative Care Formulary: Pack Sizes

For Primary Care pre-emptive prescribing, below are listed the strengths and pack sizes of commonly used medications:

| Symptom | Medication | No. vials in box | Comments |
|---|---|---|---|
| Pain | Morphine 10mg/ml injection | 10 | Controlled Drug |
| | Morphine 15mg/ml injection | 10 | Controlled Drug |
| | Morphine 30mg/ml injection | 10 | Controlled Drug |
| | Diamorphine 5mg injection | 5 | Controlled Drug |
| | Diamorphine 10mg injection | 5 | Controlled Drug |
| | Oxycodone 10mg/ml injection | 5 | Controlled Drug |
| Dyspnoea | Morphine as above | | |
| | Midazolam as below | | |
| Terminal Restlessness/ Agitation | Midazolam 10mg/2ml injection | 10 | Controlled Drug |
| Nausea & Vomiting | Haloperidol 5mg/ml injection | 10 | |
| | Metoclopramide 10mg/2ml injection | 10 | |
| | Cyclizine 50mg/ml injection | 5 | |
| | Levomepromazine 25mg/ml injection | 10 | |
| Respiratory Tract Secretions | Hyoscine Butylbromide 20mg/ml injection | 10 | |
| | Glycopyrronium bromide 200microgram/ml injection | 10 | |

## The Adult Sheffield Palliative Care Formulary: Acknowledgements

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## The Adult Sheffield Palliative Care Formulary: Drug Index