



*Last Days
of Life*



CLINICAL
EXCELLENCE
COMMISSION

Clinical Excellence Commission Last Days of Life Toolkit

Guidance for Prescribing Last Days of Life
Medications – Adult Patients

April 2017



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|--------------------------|-----------------------------|----------------------------|
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Version control and change history

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1.0	Original Version	Bernadette King / Dr Sarah Wenham	April 2017



Introduction

Dying patients are cared for in many settings including intensive care units, general medical and surgical wards, aged care units and mental health units. Good management of symptoms in the terminal phase is one of the main concerns of patients and their families. Clinicians have a duty to ensure patients receive appropriate and timely relief from symptoms and distress. The general principles of symptom management the last days of life are:

- dying patients are assessed regularly to allow existing and emerging symptoms to be detected, assessed and treated effectively
- if symptom(s) are present, non-pharmacological measures are instigated in the first instance
- if non-pharmacological measures are ineffective, as required (PRN) medication is given
- if the medication ineffective, patients are reassessed and further intervention and/or escalation is implemented to manage the symptom(s)
- the likely cause and management of the symptom(s) is communicated and explained to patients and their families¹.

This guidance document, outlining the use of the anticipatory prescribing guide and flowcharts, has been developed to provide generalist (non-specialist palliative care) clinicians caring for patients dying in all in-patient hospital settings guidance on how to prescribe anticipatory subcutaneous medications for the symptoms that may be experienced by patients in the last days of life. It is designed to promote and systematise consistent, best practice, patient-centered use of medication in the last days of life.

When a patient is diagnosed as dying and being in the last days of life, it is expected that they will have as required (PRN) subcutaneous medication prescribed for anticipated symptoms. Recommended **STARTING PRN** doses for the five symptoms commonly experienced by patients in the last days of life and the rationale for choosing the drug and dose for each symptom are provided. In addition, guidance is also provided for starting doses of regular medication via a 24 hour syringe driver or, as some in-patient facilities and wards are not able to access subcutaneous syringe drivers, by regular subcutaneous injection.

¹ Clinical Guideline for the Pharmacological Management of Symptoms for Adults in the Last Days of Life, SA Health, 2015.



Purpose of the Medication Management Guides

These medication resources have been developed to improve symptom control of dying patients in the last days of life by guiding:

- doctors to prescribe anticipatory medications for symptoms commonly experienced in last days of life
- clinicians to regularly assess for uncontrolled symptoms
- nurses to instigate symptom control, using non-pharmacological measures and administering last days of life medications
- clinicians to review, escalate and consult Specialist Palliative Care when symptoms remain uncontrolled

These guidelines and flowcharts have been designed for use by generalist (non-specialist palliative care) clinicians caring for patients dying in all in-patient hospital settings; however, they can also be used by Primary Health Care clinicians into the community setting too. These resources have NOT been designed for a Specialist Palliative Care audience, and are not intended to replace either local Specialist Palliative Care guidelines or consult advice given by Specialist Palliative Care clinicians.

Keeping this generalist audience in mind, **these guidelines are intentionally conservative to assist the safe use of medications to manage symptoms associated with the last days of life**; therefore, the guidelines and flowcharts recommend safe starting doses and frequencies, with review and escalation principles. They have been developed by an expert group of multidisciplinary specialist and generalist clinicians who have achieved consensus opinion by reviewing the current literature alongside current best practice from across NSW, Australia and Internationally. They are as evidence-based as possible, and are in keeping with NSW Health policy and National prescribing requirements. Once published, these medication management recommendations will be reviewed annually to ensure they remain current.

Points to note regarding the medication guides:

Nomenclature:

- The drug names used throughout the guides/flowcharts are generic
- Where used, glycopyrrolate (old generic name) and glycopyrronium (new generic name) are dually listed, in line with the TGA alignment to international medication ingredient names introduced in April 2016 and continued for three years thereafter (see <https://www.tga.gov.au/updating-medicine-ingredient-names-list-affected-ingredients> for the TGA Updating medicine ingredient names list, November 2015)
- Trade names, in addition to the generic name, are only used for glycopyrrolate / glycopyrronium (robinul) and hyoscine butylbromide (buscopan) to reduce the risk of confusion given that these drugs are commonly referred to by their trade names in the clinical setting

Dose:

As the toolkit is designed to be used by generalist clinicians, **single dose prescribing is recommended in the tools.**

Route:

Single route prescribing is recommended throughout the tools. The subcutaneous route must be prescribed as 'subcut' (NOT s/c), and the sublingual route prescribed as 'subling' (NOT s/l).



Rationale for Recommended Medications

MORPHINE is the recommended opioid for the management of pain and/or breathlessness in the last days of life:

- Morphine is the first-line opioid recommended due to of choice as it is generally well tolerated by patients in the last days of life, it is the most well-known opioid amongst generalist prescribers, it is easily accessible from hospital and community pharmacies, and is available in a number of different strengths (5mg/mL (non-PBS), 10mg/mL 15mg/mL, 20mg/mL and 30mg/mL) as well as a high-concentration formulation (120mg/1.5mL) which allows administration of smaller subcutaneous volumes. It can be used safely in most patients in the last days of life, even those with mild to moderate renal impairment when used cautiously with lower starting doses, longer intervals between doses, regular monitoring and dose adjustment if required for adverse effects.
- If an opioid is required for pain and breathlessness, a single order should be prescribed for both indications:

Date	Medication (Print Generic Name)		Date													
1/1	MORPHINE															
Route	Dose & Hourly Frequency		Max PRN dose/24 hrs	Time												
SUB	2.5mg 1 hourly PRN		15mg													
Indication	Pharmacy		Dose													
PAIN & BREATHLESSNESS	Lorraine		Route													
Prescriber Signature	Print Your Name		Contact	Sign												
[Signature]	E.BENNETT		x12345													

The use of HYDROMorphone in the last days of life

HYDROMorphone is approximately **FIVE** times more potent than morphine. As this guideline is for generalist prescribers, HYDROMorphone has NOT been recommended following a number of fatal incidents and safety alerts (NSW Health Safety Notice 011/10, and Safety Alerts 004/11 and 001/17). It is acknowledged that some Specialist Palliative Care services use HYDROMorphone in their practice routinely, particularly in patients with end stage renal failure. However, for safety reasons, it was decided not to include HYDROMorphone, but rather recommended seeking advice from the local Specialist Palliative Care Team to ensure that the care of patients who require symptom management with this highly potent opioid is overseen by a specialist who is familiar with the drug and can ensure it's safe prescription and administration.



METOCLOPRAMIDE is the recommended first-line antiemetic for the management of nausea and/or vomiting in the last days of life:

- Metoclopramide is the first-line antiemetic recommended in the last days of life due to its dual action as a prokinetic and dopamine antagonist.
- The maximum subcutaneous stat dose of metoclopramide is 10mg, which is limited by a maximum volume of 2mLs that can be given at one site subcutaneously.
- Metoclopramide should be used cautiously in abdominal colic, and not be used if bowel obstruction is suspected. It should be avoided in Parkinson's disease and Lewy Body Dementia.
- The maximum recommended daily dose of metoclopramide for adults is usually 30mg due to the increased adverse effect profile with higher doses and/or prolonged use. However, in the last days of life, symptom control needs to be balanced against the burden of adverse effects. Extrapyramidal features side effects to be aware of include repetitive and involuntary movements, abnormal restlessness and Parkinsonism such as tremor, rigidity and bradykinesia.

HALOPERIDOL is the recommended second-line antiemetic for the management of nausea and/or vomiting and antipsychotic for the first-line management of restlessness and/or agitation in the last days of life:

- Haloperidol, an antipsychotic and dopamine antagonist is recommended for the management of nausea and/or vomiting and restlessness and/or agitation; it is the preferred antiemetic for nausea associated with renal failure.
- Haloperidol should not be used in patients with Parkinson's disease and Lewy Body Dementia.
- Side effects to be aware of include extrapyramidal features, such as repetitive and involuntary movements, abnormal restlessness and Parkinsonism including tremor, rigidity and bradykinesia.
- As with morphine for pain and breathlessness, if haloperidol is required for nausea and/or vomiting and restlessness and/or agitation, a single order should be prescribed for both indications.
- It is acknowledged that recent evidence has been published regarding the use of antipsychotics in palliative care, and that there are differing opinions, interpretations and extrapolations of this and other evidence amongst Palliative Care Specialist Clinicians. As the current published studies excluded patients in the last days of life, haloperidol was included in these recommendations for the management of nausea and/or vomiting and restlessness and/or agitation in line with current national guidelines and expert consensus opinion. If further evidence becomes available in the future that demonstrates that haloperidol is not effective and/or causes harm in this specific patient population (in the last days of life), then these medication management recommendations will be reviewed and amended accordingly. In all cases, caution should be taken when prescribing haloperidol, adverse effects monitored and the medication discontinued if the burden of these outweighs the symptom control benefit gained.



MIDAZOLAM and CLONAZEPAM are the recommended benzodiazepines for the management of breathlessness (particularly with anxiety) and/or the second-line management of restlessness and/or agitation in the last days of life:

- Midazolam if the benzodiazepine of choice by PRN and regular dosing in a syringe driver due to its rapid onset of action and short half-life for symptomatic management of breathlessness and restlessness and/or agitation. Midazolam is not available by PBS subsidy for these indications.
- Midazolam is NOT the drug of choice when regular benzodiazepine is required, but administration via a syringe driver is not available or possible. Due to its longer half-life, clonazepam is the benzodiazepine of choice in this circumstance. In addition to being given regularly by subcutaneous injection, clonazepam oral liquid can be given by the sublingual route as an alternative to the subcutaneous route if parenteral access not available. Clonazepam oral liquid is commercially available, but is not subsidised by the PBS for this indication. A sublingual dose of clonazepam 0.5mg is equivalent to 5 drops of clonazepam 2.5mg/mL oral liquid; it is recommended that the drops are counted onto a spoon and then administered, and not counted directly into the mouth.

GLYCOPYRROLATE / GLYCOPYRRONIUM and HYOSCINE BUTYLBROMIDE (BUSCOPAN) are the recommended anti-secretories for the management of respiratory tract secretions in the last days of life:

- It is acknowledged that respiratory tract secretions are a normal part of dying process; and they are usually not distressing to the patient, although often are for family, carers and staff. If they occur, prompt management is required. Non-pharmacological measures are an essential first step, along with provision of information, explanation and reassurance for the family and carers.
- As there is no conclusive evidence of superior efficacy between the different anticholinergic medications, glycopyrrolate / glycopyrronium and hyoscine butylbromide (Buscopan) are recommended as they do not cross the blood-brain barrier and so are unlikely to cause central neurological side effects.
- Hyoscine hydrobromide has not been recommended as a first line agent as it is contraindicated in renal impairment and, as it does cross the blood-brain barrier, may potentiate delirium and sedation.
- Care must be taken when prescribing hyoscine butylbromide (Buscopan), with the drug name being written in full to avoid risk of confusion with hyoscine hydrobromide which is often referred to only as 'hyoscine'.
- It is recognised that historical prescribing practices determine the choice of antisecretory depending as to whether the patient is conscious (historically prescribed glycopyrrolate / glycopyrronium due to the lower side effect profile) or unconscious (historically prescribed hyoscine hydrobromide). For the reasons outlined above, hyoscine hydrobromide is not recommended in these guidelines, and the current evidence, national guidelines and expert consensus opinion recommend the use of antisecretories that do not cross the blood brain barrier irrespective of the patient's conscious level. It is acknowledged that this recommendation may be a significant change in current thinking, and require a shift in understanding and clinical practice for some generalist and specialist clinicians alike.



- It is acknowledged that the level of evidence to support the use of anticholinergics in drying terminal secretions is limited; however, as there are differing opinions and interpretations of this evidence amongst Palliative Care Specialist Clinicians, a trial of antisecretory with review for effect has been recommended in line with current national guidelines and expert consensus opinion. As further evidence and clarity becomes available in the future, these medication management recommendations will be reviewed and amended accordingly.

Tips for safe prescribing of last days of life medications

1. Before writing up medication orders:

- Discuss with the patient and/or person(s) responsible and family.
- Review the patient's current medications and consider:
- Check for allergies and for potential contraindications, interactions or side effects.

2. When writing up the medication orders:

- Ensure that medications are prescribed safely, clearly, and unambiguously by using the generic name and as a single dose (not a dose range) for each medication
- Ensure that the reason for administering the medication is documented in the 'indication' box of each medication using terms consistent with the symptoms listed in the prescribing guide and flowcharts.

3. After medication orders are written up:

- Ensure handover to all medical and nursing staff involved in the care of the patient
- Ensure the patient is monitored and commence medications as soon as symptoms are identified, that treatment outcome for effectiveness and side effects, and that the management plan is reviewed regularly

(Adapted from: Clinical Guideline for the Pharmacological Management of Symptoms for Adults in the Last Days of Life, SA Health, October 2015)



Anticipatory Prescribing Guide

Anticipatory prescribing, or ordering medicines ahead of time, enables prompt management when symptoms occur. Recognising symptoms enables timely treatment, and continued monitoring and review with the patient and nominated carers/family members ensures further intervention if there is inadequate relief.

When a patient is diagnosed as dying and being in the last days of life, it is expected that all patients will have as required (PRN) subcutaneous medication prescribed for anticipated symptoms; the doctor will be prompted to do this from the *Initiating Last Days of Life Management Plan*. The guidance provides recommendation for STARTING PRN doses for the five symptoms commonly experienced by patients in the last days of life. In addition, guidance is also provided for STARTING doses of regular medication via a 24 hour syringe driver or, as some in-patient facilities and wards are not able to access subcutaneous syringe drivers, by regular subcutaneous injection dosing.

General prescribing information

Included in the recommendations are recommendations regarding:

- ✓ Starting doses
- ✓ Medication titration
- ✓ Patients with pre-existing end stage kidney disease
- ✓ Patients dying in ICU
- ✓ Advice regarding escalation and contact details for how to seek advice from local Specialist Palliative Care service

Last Days of Life ANTICIPATORY PRESCRIBING RECOMMENDATIONS for in-patient setting – ADULT					
MEDICATION	INDICATION(S)	STARTING PRN DOSE for PRN medication	STARTING DOSE for REGULAR medication		GUIDANCE NOTES
MORPHINE	PAIN & 1st line for BREATHLESSNESS	If not taking regular opioid (not on regular opioid for previous 7 days)			
		2.5 mg subcut 1 (one) hourly PRN max PRN dose in 24 hours = 15mg (equivalent to 6 PRN doses)	See pain and/or dyspnoea management flowchart for guidance on commencing regular subcutaneous morphine		
		If on regular opioid (regular opioid use during the previous seven days)			
		See PAIN and/or BREATHLESSNESS management flowchart AND opioid chart on reverse of pain flowchart for guidance on conversion of oral/transdermal opioid to equivalent subcutaneous morphine			<ul style="list-style-type: none">Morphine is recommended as first line subcut opioid for majority of patients in the last days of lifeSee guidance notes overleaf for prescribing recommendations for patients with pre-existing end stage kidney disease (eGFR <30)Seek advice from local Specialist Palliative Care Team if conversion to alternative subcut opioid is required (see overleaf for contact details)
METOCLOPRAMIDE	1st line for NAUSEA and/or VOMITING	10 mg subcut 8 hourly PRN max PRN dose in 24 hours = 30mg (equivalent to 3 PRN doses)	30 mg subcut in 24 hr syringe driver (plus PRN haloperidol)	OR 10 mg subcut 8 hourly regularly (plus PRN haloperidol)	<ul style="list-style-type: none">Seek advice from local specialist palliative care team if recommended antiemetic(s) is contra-indicated: Metoclopramide <ul style="list-style-type: none">Maximum subcut stat volume = 10mg (2mLs)Caution with abdominal colicDo not use if bowel obstruction suspected Haloperidol <ul style="list-style-type: none">Preferred antiemetic in renal impairment Metoclopramide & Haloperidol <ul style="list-style-type: none">Do not use in Parkinson's Disease or Lewy Body DementiaWatch for extrapyramidal side effects (repetitive and involuntary movements, abnormal restlessness and parkinsonism including tremor, rigidity and bradykinesia)
HALOPERIDOL	2nd line for NAUSEA and/or VOMITING & 1st line for RESTLESSNESS and/or AGITATION	1 mg subcut 4 hourly PRN max PRN dose in 24 hours = 3mg (equivalent to 3 PRN doses)	2 mg subcut in 24 hr syringe driver (plus PRN haloperidol)	OR 1 mg subcut 12 hourly regularly (plus PRN haloperidol)	
BENZODIAZEPINE	2nd line for RESTLESSNESS and/or AGITATION & 2nd line for BREATHLESSNESS with ANXIETY	MIDAZOLAM* 2.5 mg subcut 2 hourly PRN max PRN dose in 24 hours = 15mg (equivalent to 6 PRN doses)	MIDAZOLAM* 10 mg subcut in 24 hr syringe driver (plus PRN midazolam)	OR CLONAZEPAM ** 0.5 mg subcut 12 hourly regularly (plus PRN midazolam)	
GLYCOPYRRONIUM/ GLYCOPYRROLATE	RESPIRATORY TRACT SECRETIONS	0.2 mg subcut 4 hourly PRN max PRN dose in 24 hours = 1.2mg (equivalent to 6 PRN doses)	1.2 mg subcut in 24 hr syringe driver (plus PRN glycopyrrolate)	OR 0.2 mg subcut 4 hourly regularly (plus PRN glycopyrrolate)	<ul style="list-style-type: none">If respiratory tract secretions occur, prompt management is requiredAnticholinergic medications may be ineffective or only partially effectiveThere is no conclusive evidence of superior efficacy between the different anticholinergicsHyoscine hydrobromide HAS NOT BEEN RECOMMENDED as a first line agent as it is contraindicated in renal impairment and may potentiate delirium and sedation
OR HYOSCINE BUTYLBROMIDE (BUSCOPAN)		20 mg subcut 4 hourly PRN max PRN dose in 24 hours = 120mg (equivalent to 6 PRN doses)	120 mg subcut in 24 hr syringe driver (plus PRN hyoscine butylbromide)	OR 20 mg subcut 4 hourly regularly (plus PRN hyoscine butylbromide)	



Symptom Management Flowchart/Guides

Symptom Management in the Last Days of Life

Assess patient at least every four hours: to allow existing and emerging symptoms to be detected, assessed and treated effectively

If symptom(s) present:

1. Instigate non-pharmacological measures in the first instance eg urinary retention can cause agitation; changing position can improved and/or relieve respiratory symptoms
2. If non-pharmacological measures ineffective, give PRN medication and review to assess effectiveness
3. If medication ineffective, reassess and instigate further intervention to manage symptom

Communicate: explain likely cause and management of symptom to patient and family

Five flowcharts have been designed to assist assessment and management of the five symptoms commonly experienced by patients in the last days of life:

- Pain (includes a guide to switch to subcutaneous opioids)
- Breathlessness
- Nausea and / or vomiting
- Restlessness and / or agitation
- Respiratory tract secretions

These flowcharts provide step by step guidance on:

- Symptom assessment
- Instigation of non-pharmacological measures
- Prescription and administration of PRN and regular medications
- Review of symptoms following intervention
- Regular review and assessment of symptom control
- Advice regarding escalation and seeking advice from local Specialist Palliative Care service

It is expected that the symptom assessment is documented on the *Last Days of Life Comfort Observation and Symptom Assessment (COSA) Chart*, and therefore these flowcharts have been designed to work alongside the COSA Chart.

Recommendations for STARTING doses

- The guide includes the recommended starting dose for first line medications to be pre-emptively prescribed for patients
- Doses should be adjusted up or down to take into account the needs of the individual patient, including frailty and co-morbidities



- Lower starting doses and/or PRN frequencies should be considered in the elderly or in patients with severe renal or hepatic impairment
- Higher starting doses and/or PRN frequencies can be used if appropriate.

Recommendations for dose TITRATION

- Patients should be assessed regularly, **at least every 4 hours** or more often if symptomatic
- Response to non-pharmacological interventions and/or PRN medication doses must be assessed following intervention; further management should be instigated if symptom remains despite initial intervention
- Symptom control should be reviewed at least daily, or more often if symptoms are uncontrolled, and background medication doses titrated upwards accordingly.

If >3 PRN doses are required in previous 24 hours and/or symptoms persist, regular medications should be commenced or regular doses increased: see symptom management flowcharts for specific guidance on dose titration for each of the common symptoms.

For patients with pre-existing end stage kidney disease (eGFR <30)

All of the starting medications recommended in the guides can be used in renal impairment. For specific prescribing guidance seek advice from local Specialist Palliative Care teams.

For patients dying in ICU

The existing intravenous route may be preferred over the subcutaneous route for patients dying in the ICU setting; all last days of life anticipatory medication recommendations in these guidelines can be given intravenously in the ICU setting

Syringe Driver Drug Combinations and Compatibilities

- Compatibility data supports the combination of life anticipatory medications in a single syringe driver when diluted to maximum volume with 0.9% sodium chloride
- When using alternative medications for symptom control advice regarding drug compatibility combinations should be sought from a medical officer or specialist nurse with appropriate knowledge and experience prior to administration
- LHD policy and procedure must be followed when prescribing and administering medications via a subcutaneous syringe driver



Pain

Pain is a common and distressing symptom for the patient, family and carers and commonly occurs in the last days of life. Morphine is the first-line opioid of choice for treating pain in the last days of life². Subcutaneous morphine is the medication of choice for the management of pain in the last days of life medication guides. The flowchart provides dosages for those patients that have:

- **not** been on a regular opioid;
- for those patients that have been taking a **regular** oral opioid; and
- for those patients who have a **transdermal** opioid.

Doses should be adjusted up or down to cater to the needs of the individual patient, including frailty and co-morbidities and Specialist Palliative Care services contacted for advice as required.

If an opioid is prescribed for pain, the same opioid order may also be used for breathlessness, and vice versa.

The use of HYDROmorphine in the last days of life

HYDROmorphine is approximately **FIVE** times more potent than morphine. As this guideline is for generalist prescribers, HYDROmorphine has NOT been recommended following a number of fatal incidents and safety alerts (NSW Health Safety Notice 011/10, and Safety Alerts 004/11 and 001/17). It is acknowledged that some Specialist Palliative Care services use HYDROmorphine in their practice routinely, particularly in patients with end stage renal failure. However, for safety reasons, it was decided not to include HYDROmorphine, but rather recommended seeking advice from the local Specialist Palliative Care Team to ensure that the care of patients who require symptom management with this highly potent opioid is overseen by a specialist who is familiar with the drug and can ensure it's safe prescription and administration.

Guideline for switching from oral to subcutaneous opioids in the last days of life

This is **NOT** an opioid equivalence chart, but rather a table of common opioid conversions used in the last days of life to assist generalist prescribers to determine dose of regular and PRN subcutaneous morphine to prescribe depending on their patient's previous use of opioids for pain and breathlessness.

The conversions used within this guideline are intentionally cautious. In particular, the conversion used for oral : subcutaneous morphine is 3:1– this is consistent with the majority of guidelines currently in use across NSW and Australia, including resources referenced by generalist such as Palliative Care Therapeutic Guidelines, Australian Medicine Handbook, RACF Palliative Approach Toolkit and Palliative Care Formulary.

² www.grampiansml.com.au/resources/gp_doc_bag_270411_1_1.pdf



Nausea and/or vomiting

Nausea and/or vomiting are not usually a great problem in the last days of life unless there is intestinal obstruction or it has not been previously controlled. It is recommended that all patients on regular antiemetic have their oral medications converted to the subcutaneous route when they are unable to swallow.

Metoclopramide is the first-line antiemetic of choice; Haloperidol may be useful in patients where metoclopramide is contraindicated or ineffective, in patients with renal failure, and/or with or at risk of concurrent delirium or agitation.

Metoclopramide:

- Maximum subcut stat volume = 10mg (2mLs)
- Use in caution with abdominal colic, and do not use if bowel obstruction suspected
- Do not use in Parkinson's disease or Lewy Body Dementia. Watch for extrapyramidal side effects (repetitive and involuntary movements, abnormal restlessness and parkinsonism including tremor, rigidity and bradykinesia)

Haloperidol:

- Preferred antiemetic in renal impairment.
- As with metoclopramide, do not use in Parkinson's Disease or Lewy Body Dementia, and watch for extrapyramidal side effects

Metoclopramide & Haloperidol

- Do not use in Parkinson's disease or Lewy Body Dementia
- Watch for extrapyramidal side effects (repetitive and involuntary movements, abnormal restlessness and Parkinsonism including tremor, rigidity and bradykinesia)

Breathlessness

As with pain, breathlessness is a common and distressing symptom that can occurs in the last days of life.

- Subcutaneous morphine is the medication of first-line choice for the management of breathlessness, and subcutaneous benzodiazepine for second-line management with/without anxiety in the last days of life medication guides. It is recommended that all patients on regular opioids and/or benzodiazepines have their oral medications converted to the subcutaneous route when they are unable to swallow.
- Starting doses should be adjusted up or down to cater to the needs of the individual patient, including frailty and co-morbidities including renal impairment; contact local Specialist Palliative Care service for advice as required.
- If an opioid is prescribed for breathlessness, the same opioid order may also be used for pain, and vice versa. Similarly, if a benzodiazepine is prescribed for breathlessness and anxiety, the same order may be used for restlessness and/or agitation, and vice versa.



Restlessness and/or agitation

Restlessness and/or agitation can be extremely distressing symptoms in the last days of life, and prompt recognition and treatment is essential to provide relief for both the patients, families and carers.

Midazolam

- Is the benzodiazepine of choice for PRN dosing and regular dosing in a syringe driver

Clonazepam

- Due to its long half-life, Clonazepam should be used when regular subcutaneous benzodiazepine is required, but not in a syringe driver
- Clonazepam can also be given by the **SUBLINGUAL** route as an alternative to SUBCUTANEOUS route if parenteral access not available

Respiratory tract secretions

Respiratory tract secretions in dying patients usually cannot be cleared by coughing and swallowing and result in gurgly or noisy breathing. If respiratory tract secretions occur, prompt management is required. There is no conclusive evidence of superior efficacy between the different anticholinergics, which may be ineffective or only partially effective

- **Hyoscine hydrobromide HAS NOT BEEN RECOMMENDED** as a first line agent as it is contraindicated in renal impairment and may potentiate delirium and sedation

Medication Management Information Sheet

This tool includes information for patients, families and carers on:

- Symptoms that may be experienced in the last days of life
- Medications used to treat these symptoms
- How the medication is given
- Prompts to guide families and carers to seek advice from nursing and medical staff
- Advice on what to do with any medications when they are no longer needed
 - including advice regarding destruction of injectable medication based on advice the RUM (Return Unwanted Medicines) project (<http://www.returnmed.com.au/>), in line with NSW Health PD2013_043 Medication Handling in NSW Public Health Facilities



Implementing the Medication Management Guides

An implementation plan is required to facilitate a robust process for rollout and sustainability of all aspects of the Last Days of Life toolkit.

Before you commence using the various tools it is essential to your success to have the following elements in place:

- agreement that there is a problem worth solving
- a nominated organisation and facility executive sponsor and support processes established
- a governance plan for all levels of the organisation e.g. outcomes discussed at LHD End of Life committee; the tools and any issues / outcomes are discussed at monthly unit team meeting
- a data collection plan – who will do it, what will be collected and how will it be collected
- prepared staff and wards

Resources available:

- Guidance Document
- PowerPoint Presentation

Essential Elements for Implementation

In order to implement these medication management resources each LHD should have the following in place:

- ✓ Approval from the local LHD Drugs and Therapeutics Committee, or equivalent for the use of these medication guidelines
- ✓ The *National Inpatient Medication Chart* (NIMC), for prescribing and documenting administration of last days of life medications in the in-patient setting
- ✓ If being used in the community care setting by a NSW Health community service:
 - A LHD approved local policy for the handling of medications in the community
 - The *National Inpatient Medication Chart* (NIMC) or a LHD approved community medication chart, for the prescribing and documenting administration of last days of life medications in the community (home and/or RACF) setting
- ✓ Local education, training and governance processes for the medication management resources incorporated into the broader local implementation of the Last Days of Life Toolkit
- ✓ Engagement with Local Specialist Palliative Care Team to support education and training on caring for patients in the last days of life, particularly with regards to symptom assessment, symptom management and the use of medications in the last days of life.



Medication Management References and Attributions

These medication resources were developed by an expert group of multidisciplinary specialist and generalist clinicians who achieved consensus opinion by reviewing the current literature alongside current best practice from across NSW, Australia and Internationally. As these resources were developed de novo, there are no specific documents to reference; however, the expert group would like to acknowledge all NSW Health LHDs who generously shared documents during the development of the medication management guides. A list of the local and Australian references reviewed is also listed.

NSW Health Policy Directives and Guidelines

- PD2013_043 - Medication Handling in NSW Public Health Facilities
- SMR130.024 – Continuous Opioid Infusion Management Guidelines, including administration and observation charts

Other NSW State Guidelines and References

- Calvary Health Care Sydney
- NSW Emergency Care Institute (ECI) - End of life care in the ED: Palliative Medications (2013)
- HammondCare Pain Management in Palliative Care (book, 2014)
- eVIQ - Opioid Conversion Calculator (2015) (online resource – free subscription required)
- ACI Renal Supportive Care Network (NSW)
 - St George Hospital: End of life Symptom Control in End Stage Kidney Disease (2015)

Australian State Guidelines and References

- Queensland: Brisbane South Palliative Care Collaborative
- Queensland: Prince Charles Hospital, Metro North Health Service
- Queensland: Residential Aged Care Palliative Approach Toolkit
- South Australia: Palliative Care Clinical Network
- South Australia Health Safety and Quality Strategic Governance Committee, Clinical Guideline for the Pharmacological Management of Symptoms for Adults in the Last Days of Life
- Tasmania: Department of Health and Human Services Tasmania
- Victoria: Ballarat and District Division of General Practice
- Victoria: Eastern Metropolitan Region Palliative Care Consortium
- Victoria: Palliative Care Victoria
- Western Australia: Western Australian Cancer and Palliative Care Network

Australian National Guidelines, References and Texts

- Australian and New Zealand Society of Palliative Medicine (ANZSPM): End of Life Symptom Australian
- Cancer Institute: Australian cancer pain management in adults clinical practice guidelines (2014)
- Australian Commission on Safety and Quality in Healthcare (ACSQHC): National terminology, abbreviations and symptoms used in prescribing and administering of medicines in Australian hospitals (2006)
- Australian Commission on Safety and Quality in Healthcare (ACSQHC) factsheet, *Recommendations for Terminology, Abbreviations and Symbols used in the Prescribing and Administration of Medicines* (see <https://safetyandquality.gov.au/wp-content/uploads/2012/01/32060v2.pdf>, January 2011).
- Australian Medicines Handbook (2015)
- Motor Neurone Disease Australia: Medications at the end of life factsheet (2014)
- palliAGED Decision Assist App: Prescribing guidance for end of life symptoms (2015) (online resource and mobile device app)



- Palliative Care Therapeutic Guidelines Ltd: Version 3 (2010); internal consistency with Version 4 (to be published mid-2016)
- Rowett & Currow (2014): Pharmacovigilance in palliative care (Australian Prescriber, 2014)
- The National Return & Disposal of Unwanted Medicines (RUM) Project (2011)

International Guidelines and References

- Bailey et al. (2014): Palliative care: The last hours and days of life (UpToDate 2014)
- Beller et al. (2015): Palliative pharmacological sedation for terminally ill adults (Cochrane Review 2015)
- Lokker et al. (2013): Prevalence, Impact and Treatment of Death Rattle: A systematic review (Journal of Pain and Symptom Management, 2013)

Europe:

Caraceni et al (2012): European Association of Palliative Care (EAPC) Recommendations for use of analgesics in treatment of cancer pain (Lancet, 2012)

Cherny et al (2014): European Society for Medical Oncology (ESMO) Clinical Practice Guidelines for the management of refractory symptoms at the end of life and the use of palliative sedation (Annals of Oncology, 2014)

Ripamonti et al (2011): European Society for Medical Oncology (ESMO) Clinical Practice Guidelines for management of cancer pain (Annals of Oncology, 2011)

Kloke et al (2015): European Society for Medical Oncology (ESMO) Clinical practice guidelines for treatment of dyspnoea in advanced cancer patients (Annals of Oncology, 2015)

United Kingdom

Douglas et al (2009): UK Expert Consensus Group: Symptom management for the adult patient dying with advanced chronic kidney disease (Palliative Medicine, 2009)

Leadership Alliance for the Care of Dying People (2014): Priorities of Care for the Dying Person

Marie Curie Palliative Care Institute Liverpool (MCPCIL): Liverpool Care Pathway - Guidelines for LCP Drug Prescribing in Advanced Chronic Kidney Disease (2008)

Marie Curie Palliative Care Institute Liverpool (MCPCIL): Liverpool Care Pathway - Symptom Control Algorithms (2010)

National Institute of Health and Care Excellence (NICE): Opioids in palliative care prescribing guideline (2012)

Palliative Care Formulary: Version 5 (2015)

Scottish Intercollegiate Guidelines Network (SIGN): National clinical guideline for control of pain in adults with cancer (2008)

United States

Novant Health: Code Comfort Order Set (2014)



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*Last Days
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