Last Days of Life: ANTICIPATORY PRESCRIBING RECOMMENDATIONS for in-patient setting: PAEDIATRIC & NEONATAL

MEDICATION	INDICATION	STARTING PRN DOSE For more in-depth guidance review *LDOL: P&N PAIN, BREATHLESSNESS & NAUSEA/VOMITING* Documents **IF YOU HAVE DOUBTS OR CONCERNS ABOUT MEDICATION PRESCRIBING, CONTACT A SPECIALIST PAEDIATRIC PALLIATIVE CARE SERVICE (SPPC) VIA ANY OF THE NSW CHILDREN'S HOSPITAL'S SWITCHBOARDS (INCLUDING OUT OF HOURS)** See next page for non-pharmacological symptom management	IMPORTANT NOTES
MORPHINE		**If patient has NOT been on regular opioid in last 7 days**	**Morphine** is recommended as first-line subcut opioid for the majority of patients in the last days of life. If on regular opioid, continue as previously and refer to *LDOL: P&N PAIN and/or BREATHLESSNESS Management* documents (refer to Opioid Conversion Table) Be aware of longer clearance time in neonates. Seek advice from SPPC if conversion to alternative subcut opioid is required. **Avoid intramuscular injections**
	First line for **BREATHLESSNESS**	**< 50 kg patient (including neonates)** **Starting PRN MORPHINE dose:** • **Enteral:** 0.05 mg/kg hourly prn for breathlessness (Maximum 6 prn doses in 24 hrs) • **Subcut or intravenous:** 0.02 mg/kg hourly prn for breathlessness (Maximum 6 prn doses in 24 hrs) **> 50 kg patient** **Starting PRN MORPHINE dose:** • **Enteral**: 2.5 mg hourly prn for breathlessness (Maximum 6 prn doses in 24 hrs) • **Subcut or intravenous:** 1 mg hourly prn for breathlessness (Maximum 6 prn doses in 24 hrs) *Use clinical judgement and review patient regularly. If PRN dosing remains ineffective, commence regular/continuous dosing (see LDOL: P&N Breathlessness)*	
	First line for **PAIN +/- BREATHLESSNESS** *Pain dose of Morphine will treat breathlessness. Do not chart 2 separate doses to treat both symptoms	**< 50 kg patient (including neonates)** **Starting PRN MORPHINE dose:** • **Enteral**: 0.1 mg/kg hourly prn for pain/breathlessness (Maximum 6 prn doses in 24 hrs) • **Subcut or intravenous:** 0.05 mg/kg hourly prn for pain/breathlessness (Maximum 6 prn doses in 24 hrs) **> 50 kg patient** **Starting PRN MORPHINE dose:** • **Enteral:** 5 mg hourly prn for pain/breathlessness (Maximum 6 prn doses in 24 hrs) • **Subcut or intravenous:** 2.5 mg hourly prn for pain/breathlessness (Maximum 6 prn doses in 24 hrs) *Use clinical judgement and review patient regularly. If PRN dosing remains ineffective, commence regular/continuous dosing (see LDOL: P&N Pain)*	
BENZODIAZEPINES	First line for **ANXIETY and/or AGITATION** **BREATHLESSNESS*** (Refer to notes)	**< 50 kg patient (including neonates)** **Starting PRN MIDAZOLAM dose:** • **Enteral/buccal/subcut/intravenous:** 0.05 mg/kg hourly prn for anxiety/agitation/breathlessness (Maximum 6 prn doses in 24 hrs) **> 50 kg patient** **Starting PRN MIDAZOLAM dose:** • **Enteral/buccal/subcut/intravenous:** 2.5mg hourly prn for anxiety/agitation/breathlessness (Maximum 6 prn doses in 24 hrs)	**Morphine is first-line treatment for breathlessness. If anxiety or delirium is associated with breathlessness then a benzodiazepine may be required in addition to morphine. **CLONazepam** can be a useful option as it has a long-half life (30-40 hours) and is dosed less frequently than midazolam, but not in a syringe driver due to compatibility issues. (Seek advice from SPPC for patients <10kg)
	Second line for **DELIRIUM** **BREATHLESSNESS***** (Refer to notes)	**< 50 kg patient (including neonates)** **Starting CLONazepam dose:** • **Enteral/buccal/subcut:** 0.01 mg/kg every 6-8 hours prn for anxiety/agitation/breathlessness (Maximum 4 prn doses in 24 hrs) **>50 kg patient** **Starting CLONazepam dose:** • **Enteral/buccal/subcut:** 0.5 mg every 6-8 hours prn for anxiety/agitation/breathlessness (Maximum 4 prn doses in 24 hrs) *N.B. for Buccal administration of CLONazepam 1 drop = 0.1 mg & 25 drops = 2.5 mg =1 mL (2.5mg/1 mL)* *Use clinical judgement and review patient regularly. If PRN dosing remains ineffective, commence regular/continuous dosing (see LDOL: P&N Breathlessness)*	
ANTI-EMETICS	**NAUSEA and/or VOMITING**	**First Line PRN ONDANSETRON dose** • **Enteral/subcut/intravenous:** 0.1 mg/kg every 8 hrs prn for nausea/vomiting (Maximum 8 mg/dose) (Maximum 3 prn doses in 24 hours) **Second Line PRN METOCLOPRAMIDE dose:** • **Enteral/subcut/intravenous:** 0.15 mg/kg every 6 hrs prn for nausea/vomiting (Maximum 10 mg/dose) (Maximum 3 prn doses in 24 hours) *Use clinical judgement and review patient regularly. If PRN dosing remain ineffective, commence regular dosing (see LDOL: P&N Nausea & Vomiting)*	Seek advice from SPPC if patient <4weeks age. **Metoclopramide** Watch for oculogyric crisis or acute dystonia or extrapyramidal side effects. Caution with abdominal colic. Do not use if bowel obstruction suspected.
GLYCOPYRRONIUM BROMIDE (GLYCOPYRROLATE)	First line for **RESPIRATORY TRACT SECRETIONS**	**Starting PRN GLYCOPYRRONIUM BROMIDE (GLYCOPYRROLATE) dose:** • **Subcut:** 4 micrograms/kg every 6-8 hrs prn for secretions (Maximum 200 micrograms/dose) *Use clinical judgement and review patient regularly.*	**Glycopyrronium bromide (Glycopyrrolate)** Will cause dry mouth & thicken secretions.
HALOPERIDOL	First line for **DELIRIUM** Third line for **NAUSEA and/or VOMITING**	**Starting PRN HALOPERIDOL dose:** • **Enteral/subcut/intravenous:** > 1 month old : 0.01 mg/kg every 8-12 hrs prn for delirium/nausea/vomiting (Maximum starting dose: 0.5 mg every 8-12 hrs prn) (Maximum 3 prn doses in 24 hrs) *Use clinical judgement and review patient regularly. If PRN dosing remains ineffective commence regular dosing (see LDOL: P&N Nausea & Vomiting)*	**Haloperidol** Watch for oculogyric crisis or acute dystonia or extrapyramidal side effects.

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ANTICIPATORY PRESCRIBING IN THE LAST DAYS OF LIFE: P & N
Prescribing Information

All patients in the last days of life should have prn medications prescribed pre-emptively to ensure that there is no delay in treating the common symptoms that may be experienced in the last days of life.

Recommendations for STARTING DOSES in last days of life

- This guide includes the recommended starting dose 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 patients with severe renal or hepatic impairment
- Higher starting doses and/or prn frequencies can be used if appropriate

Recommendations for DOSE TITRATION

- Assess patient regularly, a minimum of every 4 hours or more often if symptomatic
- Assess response to non-pharmacological interventions and/or prn medication doses following intervention; further management should be instigated if symptom persists
- Review overall symptom control at least daily or more often if symptoms uncontrolled. Titrate medications (background and prn) accordingly.
- If 3 or more prn doses are required in previous 24 hours, regular medications should be commenced or regular doses increased: see symptom management document for specific guidance on dose titration for each of the common symptoms

Route of medication administration

Enteral: Whilst the patient is able to tolerate this, the enteral route (oral/PEG/NG/buccal) is preferred. (NB: absorption will be slower with enteral administration in the last days of life). If the patient has acute, severe pain use parenteral medication

Parenteral: Consider using subcutaneous (subcut) route of administration or use intravenous access if available (IVC/CVAD) as per local policy.
Avoid intramuscular injections

Syringe Driver Drug Combinations and Compatibilities

- Compatibility data supports the combination of most anticipatory medications in a single syringe driver when diluted with 0.9% sodium chloride (neonatal/paediatric minimal diluent). Avoid adding CLONazepam to syringe drivers
- Consider an additional subcut line for bolus doses
- Local policy and procedures must be followed when prescribing and administering medications via an intravenous subcut syringe driver
- Syringe driver: use locally supported device which is familiar to staff and can deliver small volumes (e.g. Nikki syringe drivers are used in community palliative care)

If required, seek advice from local Specialist Paediatric Palliative Care team
Or
IF AFTER HOURS CONTACT SPECIALIST PAEDIATRIC PALLIATIVE CARE VIA ANY NSW CHILDREN'S HOSPITAL'S SWITCHBOARD.

NON-PHARMACOLOGICAL SYMPTOM MANAGEMENT IN THE LAST DAYS OF LIFE: P&N
Supporting Information

PRINCIPLES OF SYMPTOM MANAGEMENT IN THE LAST DAYS OF LIFE

- Assess the patient a minimum of every 4 hours: to allow existing and emerging symptoms to be detected, assessed and treated effectively
- If symptom(s) present:
  1. Instigate non-pharmacological measures which are cognitively and developmentally appropriate.
  2. If non-pharmacological measures are ineffective, give prn medication and review to assess the effectiveness.
  3. If medication ineffective, reassess and instigate further intervention to manage symptom.
- Communicate: explain likely cause and management of symptom to the patient (where appropriate) and parent/carer.

GENERAL NON-PHARMACOLOGICAL SYMPTOM MANAGEMENT SUGGESTIONS IN THE LAST DAYS OF LIFE

Environmental comfort measures may include:

- Decrease room lighting, stimulation and noise (low volume music may be helpful e.g. favourite songs.
- Promoting the presence of parents/carers/significant others.
- Promote reassuring touch i.e. kangaroo cuddles/gentle massage.
- Rationalise visitors.
- The addition of familiar objects e.g. favourite toys/pillows/blankets/smells/books/electronics.
- Specific strategies for neonates may include bathing, pacifiers, feeding, and kangaroo cuddles.

These strategies must be appropriate to the cognitive/developmental age of the patient and their clinical condition.

PAIN – refer also to *LDOL: P&N Pain Management document and OPIOID Conversion Table*

Consider and manage causes of pain such as constipation and urinary retention or symptoms which may present as pain such as distress related to anxiety and fear.
Review general non-pharmacological symptom management suggestions-above.
Non-pharmacological measures:

- Ensure a comfortable position; consider repositioning and pressure relieving mattress.

NAUSEA/VOMITING – refer also to ***LDOL: P&N Nausea and Vomiting Management document***

Nausea/Vomiting can have multiple and contributing causes (i.e. constipation, raised intracranial pressure and psychological).
Non-pharmacological measures:

- Consider patient comfort- reduce/stop artificial and oral nutrition replacing with regular effective mouth care/sips of water/ice if appropriate.
- Remove strong odours.
- Minimise movement.
- Provision of tissues and vomit bag within easy reach.
- Cool cloth, increase airflow.

BREATHLESSNESS - refer also to **LDOL: P&N Breathlessness Management document and OPIOID Conversion Table**

Breathlessness may be present and is often associated with increasing anxiety for the patient and may be distressing for the parent/carer/family
Non-pharmacological measures:

- Reassure the patient and parent/carer/family when necessary and maintain a calm environment with an explanation of cause and management.
- Position to maximise comfort and airway.
- Increase room airflow (e.g. fan).
- Decisions around the use of supplemental oxygen may be complex; refer to local guidelines.

RESTLESSNESS/AGITATION/DELIRIUM - guidance documents are in development contact SPPC for advice

Agitation/Delirium/Terminal restlessness can be distressing for the patient/parent/carer and family. Non-pharmacological measures should be considered before medications are introduced e.g. exclude constipation or urinary retention (manage appropriately if present).

- Assess for emotional, psychological and existential distress; address appropriately if present.

Non-pharmacological measures:

- Promote a calm and safe environment (Review general non-pharmacological symptom management suggestions-above).
- Speak calmly, clearly and encourage patient to express their thoughts and feelings (if appropriate).
- Gentle, reassuring touch (holding their hand, massage) as tolerated.

RESPIRATORY TRACT SECRETIONS –guidance documents are in development contact SPPC for advice

Respiratory tract secretions may be present and can be a normal part of the dying process; they are not distressing to the patient, but often are for family and carers.
Non-pharmacological measures:

- Reassure family with explanation of the symptom cause and measures used to relieve secretions.
- Position patient to encourage postural drainage and comfort.
- Initiation or continuation of medical fluids (IV/NG/gastrostomy) and nutrition can contribute to excess secretions.
- Provide mouth care and consider background music to decrease focus on breathing and promote relaxing environment.
- Oral suctioning may be appropriate but deep suctioning is NOT RECOMMENDED and can be distressing to the patient.