Starting Dose Guidance for Adult Patients in the Last Days of Life

ANTICIPATORY MEDICINES	It is recommended that anticipatory medications are available at home for patients with an estimated prognosis of less than 3 months. Prescribe 10 ampoules each of: **an opioid**, **midazolam** for agitation, **an antiemetic**, **glycopyrronium** (for respiratory secretions) and **water for injection 10ml** (diluent).	
PAIN **Please seek specialist advice if concerned re opiate toxicity**	MORPHINE 1st line	**USE:**ANALGESIA/DYSPNOEA **SC DOSING:** If opioid naïve; 2.5mg-5mg 2-4hourly *when required* or 10mg over 24hours *via syringe pump*. **PRESCRIBING INFORMATION:** Max bolus at 1 site=60mg/2ml, therefore doses of greater than 360mg in a syringe pump may require switch to diamorphine. Available as: 10mg/ml, 15mg/ml, 30mg/ml all 1ml & 2ml size amps. Pack size 10.
	OXYCODONE 2nd line (if morphine allergy or eGFR <30ml/min)	**USE:** ANALGESIA/DYSPNOEA **SC DOSING:** If opioid naïve; 2.5mg 2-4hourly *when required* or 5-10mg over 24hours *via syringe pump*. **COMPATIBILITY ISSUES (not exhaustive):** At higher concentrations may be incompatible with cyclizine. **PRESCRIBING INFORMATION** Available as: 10mg/1ml, 20mg/2ml, 50mg/1ml amps. Pack size 5.
	DIAMORPHINE 2nd line (if volume of morphine unsuitable for administration)	**USE:** ANALGESIA/DYSPNOEA **SC DOSING:** if opioid naïve; 2.5mg 2-4hourly *when required* or 5-10mg over 24hours *via syringe pump*. **COMPATIBILITY ISSUES (not exhaustive):** At higher concentrations may be incompatible with cyclizine. **PRESCRIBING INFORMATION:** Available as: 5mg, 10mg, 30mg, 100mg, 500mg amps. Pack size 5. Due to high solubility may be dissolved in small volumes of water for injection. NB also prescribe water for injection.
NAUSEA & VOMITING **First determine the cause of the nausea to guide prescribing choice**	LEVOMEPROMAZINE 1st line if unknown cause	**USE:** NAUSEA & VOMITING. Useful as broad-spectrum or if sedation is desired. **SC DOSING:** 5mg-12.5mg 4hourly *when required* or 6.25mg over 24hours *via syringe pump*. Max 25mg over 24hours. Seek specialist advice if requiring higher doses. **USE:** TERMINAL AGITATION (2nd line after midazolam - NB if myoclonus present start with midazolam) **SC DOSING:** starting dose 12.5mg-25mg 4hourly *when required*. Max 200mg over 24hours. **CONTRAINDICATIONS & DOSE ADJUSTMENTS:** Caution in Parkinson's disease & epilepsy (can lower seizure threshold). Caution in ambulant patients as can cause sedation/postural hypotension. **COMPATIBILITY ISSUES (not exhaustive):** Can turn purple in UV light – discard. **PRESCRIBING INFORMATION:** 12.5mg orally approx. equal to 6.25mg subcutaneously. Prescribe as: 25mg/1ml amps. Pack size 10. Can give in syringe pump over 24hours or as a once daily at night SC dose.
	CYCLIZINE	**USE:** NAUSEA & VOMITING. Useful for cerebral irritation, vertigo, visceral distortion/obstruction, oropharyngeal irritation. **SC DOSING:** 50mg 4hourly max three times a day *when required* or 100mg-150mg over 24hours *via syringe pump*. Max 150mg over 24hours (or 200mg to include 150mg in a 24hour syringe pump plus a stat dose of 50mg). **CONTRAINDICATIONS & DOSE ADJUSTMENTS:** Caution in severe CCF (consider an alternative choice) **COMPATIBILITY ISSUES (not exhaustive):** Dilute to maximum volume with water for injection. Incompatible with sodium chloride. At usual doses incompatible with hyoscine butylbromide. May be incompatible at higher concentrations with alfentanil, diamorphine and oxycodone (check references before prescribing). **PRESCRIBING INFORMATION:** Constipating. Prescribe as: 50mg/1ml amps. Pack size 5.
	HALOPERIDOL	**USE:** NAUSEA & VOMITING Useful for biochemical disturbance (drug, metabolic, toxic) / AGITATED DELIRIUM **SC DOSING:** starting dose 0.5mg-1.5mg 4hourly *when required* or 1.5mg-5mg over 24hours *via syringe pump* (usual max total dose in 24hours is 5mg, seek specialist advice if requiring up to 10mg). **CONTRAINDICATIONS & DOSE ADJUSTMENTS:** Avoid in Parkinson's disease. **PRESCRIBING INFORMATION:** Can give in syringe pump over 24hours or as once daily SC dose. Prescribe: 5mg/1ml amps. Pack size 10
	METOCLOPRAMIDE	**USE:** NAUSEA & VOMITING Useful for gastric stasis, reflux, "squashed stomach", ascites **SC DOSING:** starting dose 10mg 6hourly (max three times a day) *when required* or 30mg over 24hours *via syringe pump*. Usual max total dose in 24hours is 80mg. **CONTRAINDICATIONS & DOSE ADJUSTMENTS:** Avoid in GI obstruction, perforation or haemorrhage, history of neuroleptic syndrome or metoclopramide-induced tardive dyskinesia, epilepsy, Parkinson's, caution in age <20years. Risk of extrapyramidal side-effects. **PRESCRIBING INFORMATION:** Max bolus at 1 site = 10mg/2ml. Prescribe as: 10mg/2ml amps. Pack size 10.

AGITATION **NB levomepromazine can also be used – see above**	MIDAZOLAM	**USE:** AGITATION/RESTLESSNESS (1st line) or DYSPNOEA (2nd line) **SC DOSING:** starting dose 2.5mg-5mg 2hourly *when required* or 10mg over 24hours *via syringe pump*. Max 5mg-10mg *when required* or 60mg over 24hours *via syringe pump*. Seek specialist advice if requiring higher doses. Paradoxical agitation/aggression may occur at higher doses. **USE:** CATASTROPHIC TERMINAL EVENT e.g. haemorrhage **DOSING:** *IV, IM or buccal* route (NOT SC route) 5mg-10mg titrated to requirements. Max 30mg per episode. Prescribe if patient at risk. **USE:** ANTI-CONVULSANT **SC DOSING:** starting dose 5mg-10mg *when required* & 10-30mg over 24hours *via syringe pump*. Max 60mg/24hours. Seek specialist advice if requiring higher doses. **PRESCRIBING INFORMATION:** Max bolus at 1 site = 10mg/2ml. Prescribe as: 10mg/2ml amps. Pack size 10.
EXCESSIVE RESPIRATORY TRACT SECRETIONS	GLYCOPYRRONIUM	**USE:** EXCESSIVE RESPIRATORY TRACT SECRETIONS (1st line)/anti-spasmodic **SC DOSING:** 200mcg 3hourly *when required* or start 600microgram over 24hours *via syringe pump*. Max 1200microgram over 24hours. **CONTRAINDICATIONS & DOSE ADJUSTMENTS:** Caution in CCF/IHD/tachycardia (infusion via syringe pump preferable to bolus doses) **PRESCRIBING INFORMATION:** Available as: 200mcg/1ml amps, 600mcg/3ml amps. Pack size 10.
	HYOSCINE BUTYLBROMIDE	**USE:** EXCESSIVE RESPIRATORY TRACT SECRETIONS (2nd line if glycopyrronium unavailable) **SC DOSING:** 20mg 3hourly *when required* or start 60mg over 24hours *via syringe pump*. Max 120mg over 24hours. **CONTRAINDICATIONS & DOSE ADJUSTMENTS:** Caution in CCF/IHD/tachycardia (infusion via syringe pump preferable to bolus doses) **COMPATIBILITY ISSUES (not exhaustive):** At normal doses incompatible with cyclizine. **PRESCRIBING INFORMATION:** Prescribe as: 20mg/1ml amps. Pack size 10.
FURTHER INFORMATION Consider need for specialist input in severe liver and renal impairment	SYRINGE PUMP	**PRESCRIBING INFORMATION:** Consider if the patient is unable to swallow or has nausea/vomiting. It is best practice to prescribe at point of need. *Always prescribe a DILUENT:* Use water for injection first line. 10ml amps. Pack size 10. Sodium chloride 0.9% is less irritant but may be incompatible with some drugs e.g. cyclizine or diamorphine. *Maximum volumes in syringe pump:* if using a McKinley T34: 17ml in a 20ml luer lock syringe or 22ml in a 30ml luer lock syringe. *Patients on transdermal opioids*: continue to use and change patch as before, adding only the additional analgesia required to the syringe pump. Take both patch and syringe pump into account when calculating breakthrough doses. **COMPATIBILITY ISSUES:** For further information contact local hospital's medicines information department, 24 hour hospice advice line, or online palliative care adult network guidelines: http://book.pallcare.info/index.php?op=plugin&src=sdrivers
	RENAL DYSFUNCTION (If eGFR known)	**MORPHINE/DIAMORPHINE:** If eGFR 30-50ml/min use 75% of normal starting dose *or* oxycodone may be better tolerated. If eGFR <30ml/min suggest oxycodone *or* opioid with no active metabolite e.g. alfentanil (seek specialist advice). **OXYCODONE:** eGFR 10-50ml/min use 75% of normal starting dose e.g. 1-2mg 4hourly when required. If eGFR <10ml/min use 50% of normal starting dose *or* opioid with no active metabolite e.g. alfentanil (seek specialist advice) **LEVOMEPROMAZINE:** eGFR <10ml/min use lower starting dose e.g. 5mg at night, lower doses e.g. 2.5-3mg may be sufficient. **HALOPERIDOL:** eGFR <10ml/min use lower starting dose e.g. 0.5mg-1mg **MIDAZOLAM:** eGFR <10ml/min use lower starting dose e.g. 2.5mg, monitor for accumulation
	LIVER DYSFUNCTION Indicators of severe: Bilirubin>100µmol/L Encephalopathy Ascites Raised INR/PT	**MORPHINE/ DIAMORPHINE:** mild: use lower starting dose, moderate/severe: use lower starting dose and increase dosing interval. **OXYCODONE:** mild: use lower starting doses e.g. 1-2mg 4hourly when required, moderate/severe: avoid if possible **LEVOMEPROMAZINE and HALOPERIDOL:** use lower starting doses and titrate slowly **METOCLOPRAMIDE:** severe: start with 5mg twice daily, recommended maximum of 10mg twice daily. **MIDAZOLAM:** start with low dose e.g. 2.5mg, monitor for accumulation.

Further advice: See contact details on front page. Palliative Care Guidelines from both the North West Coast and Greater Manchester Strategic Clinical Network may be used as a reference source.
NWCSCN website: https://www.nwcscnsenate.nhs.uk/strategic-clinical-network/our-networks/palliative-and-end-life-care/audit-group/clinical_standards_and_guidelines/
GMSCN guidelines: ePAIGE website: http://www.cheshire-epaige.nhs.uk/SitePages/Home.aspx and Central and Eastern Cheshire MMT website: http://www.centralandeasterncheshiremmt.nhs.uk/resources
List of pharmacies who stock palliative care medicines also found on: http://www.centralandeasterncheshiremmt.nhs.uk/resources