

The logo for LOROS, featuring the word "LOROS" in white, bold, serif capital letters on a red rectangular background.

Hospice Care for Leicester, Leicestershire & Rutland

Guidelines for the Management of Common Symptoms in the Last Few Days of Life

Objectives:

- To help make the last days of life comfortable and dignified
- To give guidance on the effective and safe use of drugs
- To increase confidence and satisfaction in providing care in the last days of life

General Guidelines

In tandem with an individualised plan of care to manage the symptoms of a patient who is dying it is helpful to consider prescribing something for pain, sickness, secretions, breathlessness and agitation. It is often helpful to explain to relatives what dying may be like so they have some preparedness for these symptoms should they happen.

Think ahead: This will reduce the delay in responding to a symptom.

- Anticipate that the oral route for a drug will not be possible, if not immediately, then in the near future and **prescribe** and **authorise** injectable drugs via the subcutaneous (SC) route

Think before you use a drug: Always consider how symptoms can be improved without using drugs:

- Are there any underlying causes that need to be managed?
For example, urinary retention can cause agitation.
- Are drugs the best treatment? Are non-drug treatments possible?
For example, would changing the patient's position help noisy respiratory secretions?
- *Start with the lowest dose in any prescribed range*

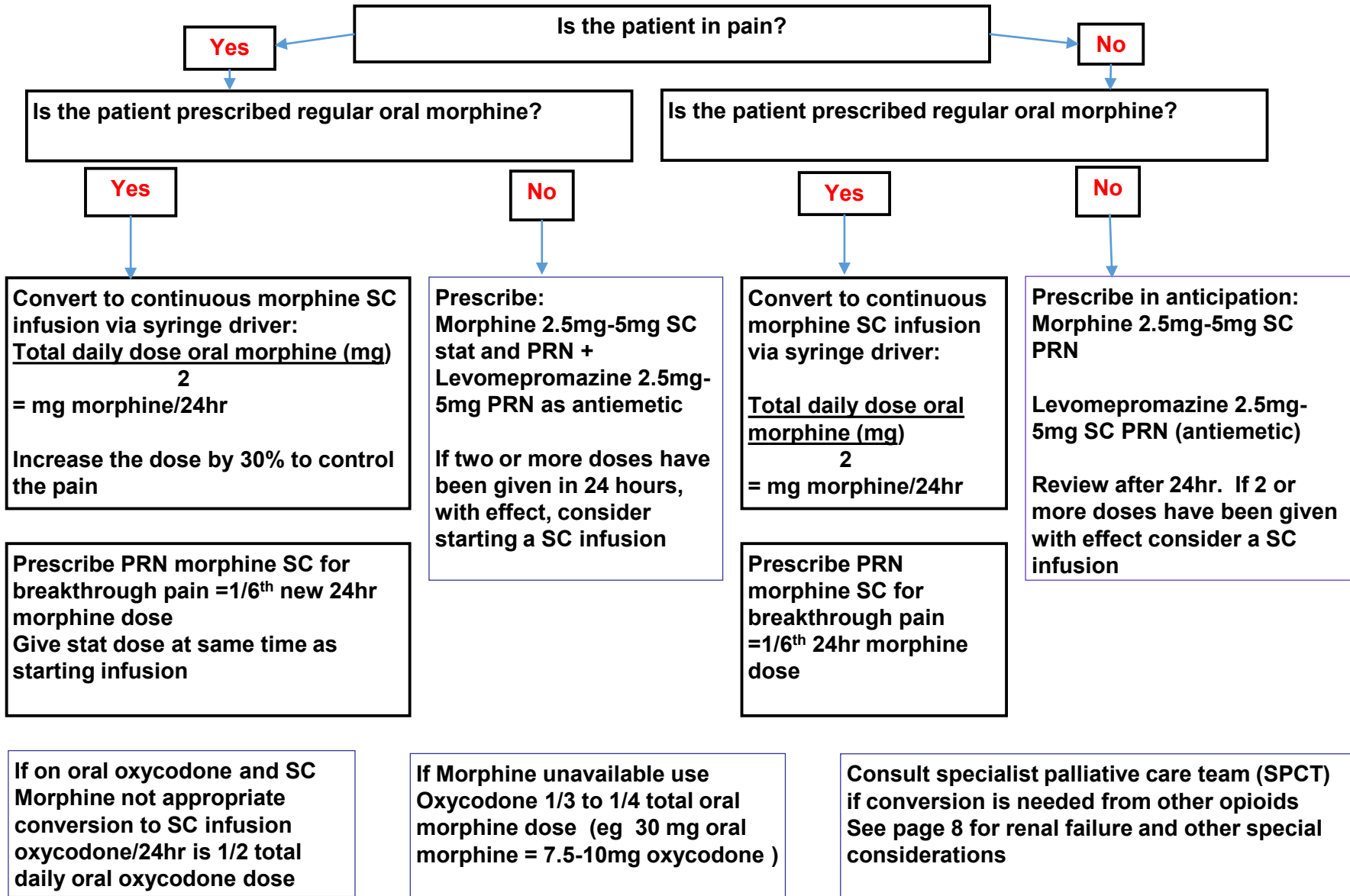
Review frequently: The patient's needs may change. If more than two doses of PRN drugs have been used in a 24hr period a subcutaneous infusion via a syringe pump may be useful. The drugs discussed in this guidance are compatible using water for injection unless a very high dose is in use. Compatibilities can be checked in: 'The Syringe Driver' (Dickman A and Schneider J) 2016. 4th Edition. Oxford University Press

If problems persist or if you are unsure contact the Specialist Care Team (SPCT) in UHL, the community (ICSPCT): 03005555255 or LOROS: 0116 231 8415

For further information please consult:

The East Midlands Palliative Care Network Guidelines, available at: <http://book.pallcare.info/>

PAIN



Restlessness and Agitation

A human presence often helps to calm agitated patients

Prescribe in anticipation of the symptom developing:

- Midazolam 2.5mg-5mg by SC injection PRN

Reduce confusion, restlessness & agitation

Consider underlying causes:

- Uncontrolled pain
- Full bladder
- Full rectum
- Dyspnoea
- Anxiety or fear and resolve where possible

Where anguish and anxiety are predominant:

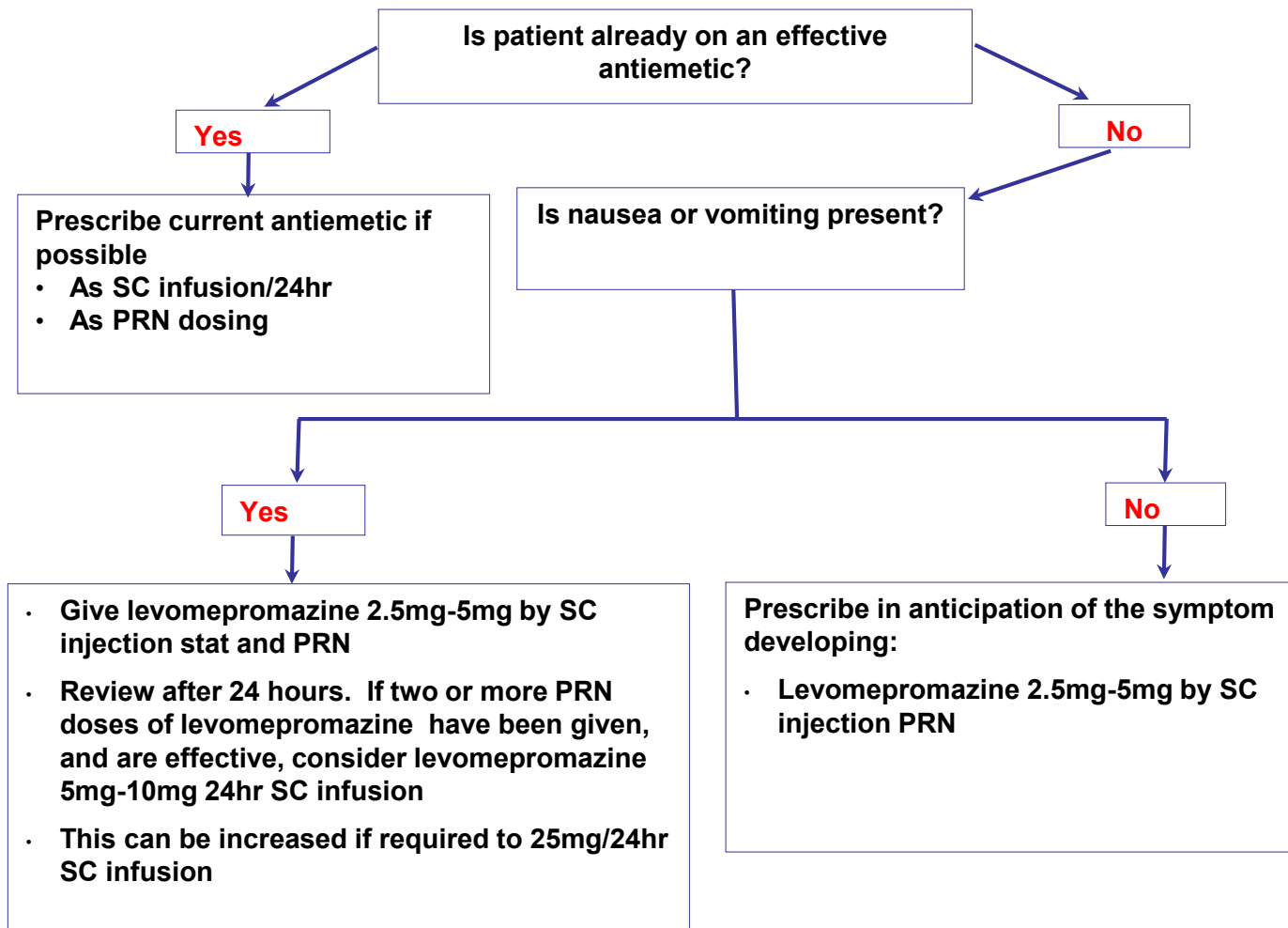
- Give midazolam 2.5mg-5mg stat and PRN SC (this may need to be repeated after 30 minutes)
- If two or more doses have been given in 24 hours, with effect, consider starting a SC infusion of 5mg-10mg/24hr midazolam
- The SC infusion dose may need to be increased gradually to midazolam 30mg/24hr

Where delirium and psychotic features are predominant (e.g. hallucinations, confusion):

- Give levomepromazine 6.25mg-12.5mg stat and PRN by SC injection up to a maximum total daily dose of 50mg.
- If two or more doses have been given in 24 hours, with effect, consider starting a SC infusion of 12.5mg-25mg/ 24hr levomepromazine
- The SC infusion dose may need to be increased gradually to levomepromazine 50mg/24hr

Occasionally a combination of midazolam and levomepromazine is required. Seek specialist advice if patient is not settled with midazolam 30mg and levomepromazine 50mg

Nausea and Vomiting



Alternative antiemetics: Cyclizine 25mg SC PRN up to TDS or 75mg/24hr SC infusion; Ondansetron 4mg SC PRN up to 16mg/24hr SC infusion; Haloperidol 1mg-2.5mg SC PRN 1.5-5mg/24hr SC infusion.

BREATHLESSNESS

Is amelioration of underlying cause appropriate?

- Treatment of chest infection
- Treatment of heart failure
- Treatment of pulmonary emboli

Calm and reassure the patient and carers by touch, talking and explaining

- Position patient:
- Sit up in bed
- Reclining armchair with foot stool
- Lean forward on a Pillow on a tray table over bed

Helps with Breathlessness

Trial of oxygen if SaO₂ <90%

Air flow across the face is helpful: use a hand held fan or open a window

Medication (if symptom not currently present then prescribe in anticipation)

•For relief of anxiety

lorazepam 0.5mg-1mg sublingual PRN (maximum 4mg/24hr)
midazolam 2.5mg SC stat and PRN

•For relief of breathlessness

morphine 2.5mg-5mg SC stat and PRN
or if already on opioid then consider increase in the PRN dose (1/6th total daily dose) by 30%.

Consider morphine 10mg and/or midazolam 10mg/24hr SC infusion

NB: Prescribe prophylactic antiemetic (e.g. levomepromazine 2.5mg-5mg PRN if opioid naïve patient)

Respiratory Tract Secretions

- Noisy respiratory tract secretions can be a normal part of dying
- Consider whether they are troublesome or need treating at all
- Changing the positioning of the patient is the first step of management
- If the patient is unconscious reassure relatives and friends that the patient is unaware and not suffering
- This can be a difficult symptom to resolve and drugs may not be effective.

Prescribe in anticipation of the symptom being troublesome:

- Glycopyrronium 200-400 microgram by SC injection PRN

Absence of troublesome secretions

Consider:

- Patient positioning
- Stopping IV or subcutaneous fluids or PEG feed
- In a small number of patients, suction may be helpful

If secretions troublesome:

- Give glycopyrronium 200microgram SC and PRN, up to 2hrly
- If two or more doses of glycopyrronium have been given and are effective, consider a SC infusion of glycopyrronium 600microgram/24hr
- Review after 24hrs

If symptoms persist, increase to a maximum of 1.2mg/24hr glycopyrronium

Alternative (instead of glycopyrronium): Hyoscine butylbromide 20mg SC PRN 60-180mg/24hr

Other Symptom Management Considerations

Essential points in using opioids for pain management

- Morphine is the opioid of first choice
- To convert from oral morphine to subcutaneous morphine, divide the total 24 hr oral morphine dose by 2 to obtain the total 24hr morphine infusion dose.
- Ensure adequate breakthrough (PRN) analgesia is prescribed = 1/6th daily dose
- Increase dose if required by 30% increments

Fentanyl/Buprenorphine Patch(es)

- Leave the patch in situ and add an SC infusion if further regular analgesia is required. Continue to change the patch at the prescribed frequency.
- PRN dose of morphine should be roughly 1/6th of the total 24 hr opioid dose including both equivalent patch and SC infusion doses (see conversion table page 9)

Renal Impairment

- Oxycodone is often used as an alternative to morphine in mild to moderate renal impairment (caution is still needed).
- Most other symptom control medications can be used in renal impairment with caution. Consider starting with lower doses and/or longer dosing intervals. Seek specialist advice where needed
- Alfentanil can be used but only under the direction of specialist palliative care team. To convert oral morphine to SC alfentanil infusion divide total daily oral morphine by 30: e.g. 30mg morphine/24hr oral =1mg alfentanil/24hr infusion. Alfentanil has a short duration of action and is not recommend as PRN.

End Stage Renal Failure

- Drug elimination will be significantly slower so symptoms may be manageable with PRNs alone.
- PAIN: Prescribe in anticipation of the pain developing: oxycodone 1mg-2mg SC PRN 6hrly (if not already on opioid)
- OTHER SYMPTOMS: Use lower doses and/or increased dose intervals of midazolam, levomepromazine and glycopyrronium

Heart Failure

- Heart failure medications may offer significant symptom relief: so, where possible, do not abruptly stop these medications just because the patient is entering their last days of life.
- Opioids and Midazolam can be helpful for breathlessness. Adjust dose if patient has concurrent renal impairment.
- Avoid cyclizine.
- Diuretics can sometimes be given subcutaneously - seek advice from the heart failure team or specialist palliative care team

Parkinson`s Disease

- If unable to take oral Parkinson`s medications then use a rotigotine transdermal patch .
- Avoid anti-dopaminergic medications e.g. haloperidol, metoclopramide and levomepromazine. Ondansetron is the antiemetic of choice
- Seek advice from Pharmacy, the Parkinson`s team or the specialist palliative care team if needed

Other considerations

- If unable to take oral anti-epileptic medication, this is likely to need converting to a subcutaneous medication. Seek specialist advice
- Do not stop insulin in type 1 diabetes. The Diabetes UK end of life care guidance is helpful: <https://www.diabetes.org.uk/for-professionals/improving-care/clinical-recommendations-for-professionals/diagnosis-ongoing-management-monitoring/end-of-life-care>

Compatibility chart for 2 drugs in water for injection (WFI) over 24 hours in palliative care

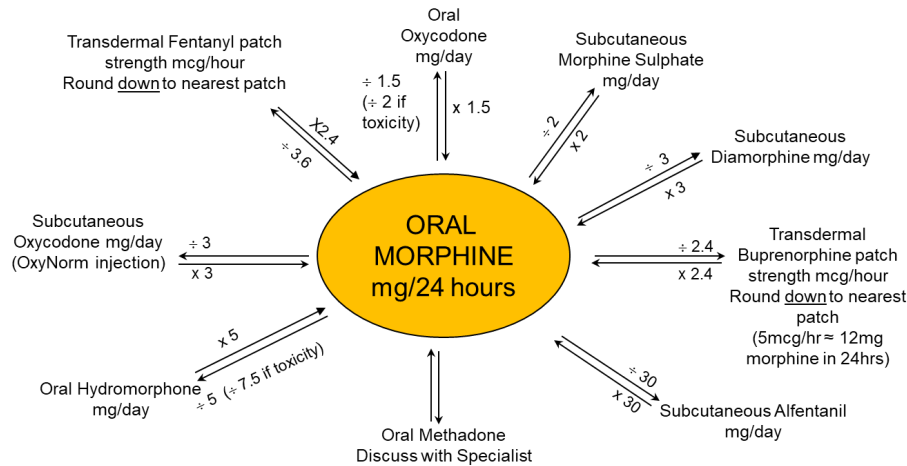
Glycopyrronium	ND							ND	ND
Haloperidol		ND						ND	NA
Hyoscine Butylbromide	Incompatible with cyclizine 150mg	NA ND	Use NaCl 0.9% diluent only					ND	ND
Levomopromazine	NA But if using is compatible		NA					Use NaCl 0.9% diluent only	
Metoclopramide	NA but if using not compatible		ND but if using are compatible	NA				ND	Use NaCl 0.9% diluent only
Midazolam				ND				Use NaCl 0.9% diluent only	ND
Morphine Sulfate		ND			Use NaCl 0.9% at higher doses of morphine		NaCl 0.9% at higher doses of morphine	Use NaCl 0.9% diluent only	
Oxycodone	Incompatible with doses of oxycodone >150mg							ND	
	Cyclizine	Glycopyrronium	Haloperidol	Hyoscine Butylbromide	Levomopromazine	Metoclopramide	Midazolam	Levetiracetam	Ondansetron

Key: compatible
 Some caution required
 NA Not usually applicable or recommended
 ND No data available

Opioid Conversion Guide

Some people find calculating conversions easier using the figure and others using the table below

Drug Conversion Chart



Always go through the centre of the chart (via oral morphine) when converting between opioids.

Patches

NB. At lower doses, fentanyl conversions are less accurate

Buprenorphine patch microgram/hr	Approximate 24 hour oral morphine dose mg	Breakthrough oramorph dose mg
5	12	2.5
10	24	5
20	48	7.5
35	84	15
52.5	126	20
70	168	30
Fentanyl patch microgram/hr	Approximate 24 hour oral morphine dose mg	Breakthrough oramorph dose mg
12	30-45	5
25	60-90	10
37.5	90-135	15
50	120-180	20
75	180-270	30
100	240-360	40

Opioid	Potency factor to morphine	Equivalent dose to 30 mg oral morphine	Equivalent oral morphine dose to 10mg of opioid
Codeine (oral)	0.1 or 1/10th	300mg (NB Max daily dose =240mg)	1mg
Morphine (sc)	2	15mg	20mg
Diamorphine (sc)	3	10mg	30mg
Oxycodone (oral)	1.5-2	15-20mg	15-20mg
Oxycodone (sc)	3-4	7.5-10mg	30-40mg
Alfentanil (sc)	30	1mg	300mg
Hydromorphone (oral)	5-7.5	4-6mg	50-75mg

Use the **potency factor** to:

- divide the morphine dose by this factor to estimate the alternative opioid dose
- multiply the alternative opioid dose by this number to estimate oral morphine dose

Injectable medicines

Medication	Indication	Starting PRN dose and Typical 24hr infusion		Ampoules
Opioid Morphine	Pain	1/2 total daily oral dose 2.5mg-5mg SC Stat		10mg/1ml 15mg/1ml 20mg/1ml 30mg/1ml 60mg/2ml
	Dyspnoea	2.5mg-5mg SC stat		
Oxycodone	Pain	1/2 total daily oral dose 2.5mg-5mg SC stat		10mg/1ml 20mg/2ml 50mg/1ml
Alfentanil	Pain in severe renal impairment	1/30 th total daily dose of oral morphine. Used only as 24hr infusion		500micrograms/ml in 2ml and 10ml vials i.e. 1mg/2ml and 5mg/10ml
Anti-emetic Levomepromazine	Impaired gastric emptying	2.5mg-5mg SC stat	12.5-25mg/24hr	25mg/1ml
Cyclizine		25mg SC stat	75mg/24hr	50mg/1ml
Ondansetron		4mg SC Stat	4mg-16mg/24hr	4mg/2ml 8mg/4ml
Metoclopramide		10mg SC Stat	30mg/24hr	10mg/2ml
Haloperidol		1mg-2.5mg SC Stat		5mg/1ml
Medications for agitation Midazolam		Terminal restlessness	2.5mg-5mg SC Stat	5mg-30mg/24hr
	Anticonvulsant	5-10mg SC stat	5mg-30mg/24hr	
Levomepromazine	Terminal agitation/delirium	6.25mg-12.5mg SC Stat	12.5mg-25mg/24hr	25mg/1ml
Respiratory secretions Glycopyrronium	Also used in colic and intestinal obstruction	200mcg SC Stat	200-1200mcg/24hr	200 microgram/1ml 600 microgram/3ml
Hyoscine Butylbromide		20mg SC Stat	60mg-180mg/24hr	20mg/1ml