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BARNSLEY HOSPICE

Palliative Care Formulary 2024 - 2027

This formulary for pain and symptom management in adults is intended as a guide for prescribers in hospital and community.

Special care should be taken when prescribing strong opioids, particularly in opioid naïve patients, because of the risk of adverse effects. The dose and frequency should be carefully stated on the prescription. For further guidance see BNF.

Many drugs listed are unlicensed in their use or route and as such the clinician takes personal responsibility for prescribing.

If symptoms are not controlled, contact Specialist Palliative Care for advice. Advice should be sought early to avoid symptom crisis - see contact numbers, page 11.

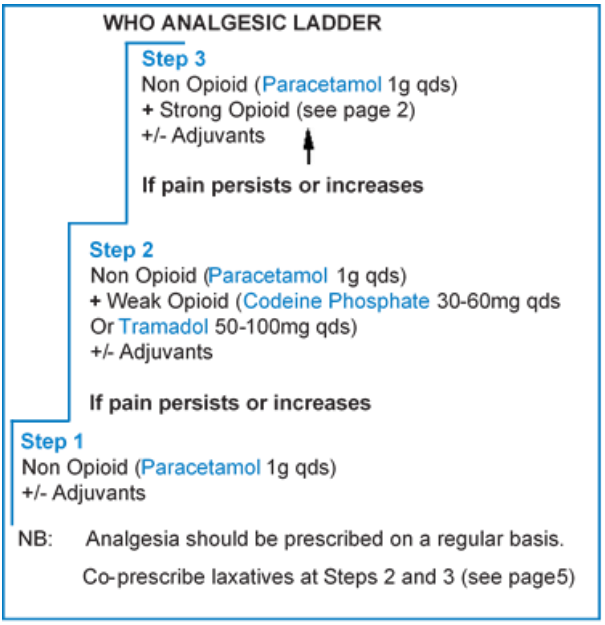
CONTENTS:

1.
MANAGEMENT OF PAIN

Consider patient's TOTAL PAIN
Physical + Psychological + Spiritual + Social

Assess pain using a pain assessment tool—professionals should use a tool with which they are familiar such as a verbal rating scale (VRS) or visual analogue scale (VAS)

WHO Analgesic Ladder is only applicable to pain in advanced, life limiting disease. Any intervention needs regular review regarding effectiveness and side effects.



Step 2:

Step 2 opioid	Usual max oral dose	Approx 24-hr Oral Morphine equivalent
Codeine Phosphate	240mg	25mg
Tramadol	400mg	30 to 40mg

2.

Step 3:
See information on page 5 about prescribing in renal and hepatic impairment

Titration:
Paracetamol **AND**
Strong opioid to replace Step 2 weak opioid
Oral Morphine Solution 10mg/5ml: 2.5 to 5mg 4 hourly plus PRN
(Dose depends on previous opioid use - see conversion chart)

Co-prescribe laxatives (see page 5) plus anti-emetic,
eg Haloperidol 750microg

Maintenance:
Once pain stabilised on a regular 4 hourly Oral Morphine Solution, calculate total dose given over previous 24 hours (regular plus PRN)
Administer in divided doses as twice daily Modified Release Morphine

Co-prescribe Oral Morphine Solution PRN of 1 to 4 hourly equivalent to approximately 1/6th total daily dose of Modified Release Morphine**.** Do not make changes to the PRN dose if this is effective for the patient, irrespective of the background dose.

ALTERNATIVE CHOICE/ROUTES
Oral:
Oxycodone available as:
Immediate Release Oxycodone solution 5mg/5ml or capsules and
Modified Release Oxycodone

NB Morphine and Oxycodone solution are both also available as Concentrate solution. Do **not** prescribe these.
Prescription of this in error has led to cases of respiratory arrest.

CONVERTING FROM	TO	FACTOR
Oral Morphine	Oral Oxycodone	Divide by 2
Oral Morphine	Subcut Morphine	Divide by 2
Oral Oxycodone	Subcut Oxycodone	Divide by 2

NB Conversion varies widely between individual patients – careful monitoring required

Transdermal:
1. Fentanyl
Fentanyl patches (each patch over 72 hrs.)
Fentanyl is a potent opioid - a 25microgram/hr patch is approx. equivalent to 90mg/day Oral Morphine
Fentanyl is **not suitable for unstable pain** and should **NOT** be used as a 1st line strong opioid. It is more likely to cause respiratory depression than oral opioids. Should only be considered when patient has been taking strong opioid eg morphine 60mg/day for at least a week.

Seek specialist advice if the Fentanyl dose exceeds 75microgram/hr

3.

When converting to Fentanyl transdermal patch from Modified Release Morphine 12 hourly:
Apply the first patch at the same time as taking the final dose of Modified Release Morphine

At end of life **CONTINUE TO APPLY FENTANYL PATCH**. Patients may require additional analgesia consider using SC opioid eg oxycodone **seek specialist advice.**

Approximate Dose equivalence for Fentanyl

Oral Morphine (mg/day)	**Fentanyl patch (microgram/hr)**
30 to 60	12
60 to 90	25
90 to 135	37
135 to 180	50
180 to 225	62
225 to 315	75

2. Buprenorphine

Buprenorphine is probably slightly less potent than Fentanyl. A 5microg/h patch is equivalent to approximately oral morphine 12mg in 24 hours.

It is available in two formulations: seven day patches of 5, 10 and 20microgram/h, and twice weekly patches of 35, 52.5 and 70microgram/h Buprenorphine is not suitable for unstable pain.
The weekly patch may be useful for patients in the community who have been using a weak opioid and are no longer able to swallow

Subcutaneous:
See section on syringe drivers on page 9
Alfentanil may be useful for patients with severe renal impairment who are experiencing opioid toxicity with other opioids. Alfentanil has a short half-life (30minutes) so its PRN utility is limited

Methadone may also be used especially if toxicity is experienced with other opioids. Initiation and dose changes should only be done under close supervision by experienced practitioners. – seek specialist advice

ADJUVANT ANALGESICS:

Adjuvant analgesics are recommended at all 3 steps of the analgesic ladder

Neuropathic pain (neuro-modulatory agents):
Amitriptyline 10mg nocte increasing to 75mg nocte (larger doses may be used by specialists). Caution in cardiac disease and patients aged over 75.
Gabapentin, Pregabalin or Duloxetine - see titration in BNF but caution in elderly and renal impairment
Clonazepam, Ketamine and other drugs may be used - seek specialist advice.

4.

Bone pain:
Consider neuro-modulatory agents as above
NSAIDs (e.g. Ibuprofen or Naproxen) +/- gastroprotection as per local guidelines, bisphosphonates and/or palliative radiotherapy may be helpful

Raised intracranial pressure:
Dexamethasone 8mg od (bd if severe symptoms) for 5 days titrating down according to symptoms/ response. Discuss with Oncologist re radiotherapy. Consider gastroprotection; steroids alone do not significantly increase risk of GI bleed but do by around a factor of 4 when given with NSAIDs.
Initiate anticonvulsants after first seizure; Levetiracetam 250mg od starting dose is recommended - consider specialist neurological advice.

Hepatic distension syndrome (liver capsule pain):
First line: follow WHO analgesic ladder; usually responds well to opioids.
If pain uncontrolled, consider Dexamethasone under specialist advice.
Monitor closely for steroid induced side effects e.g. hyperglycaemia, proximal myopathy, and limit to a short course only (two weeks max).

SIDE EFFECTS ASSOCIATED WITH OPIOIDS

All patients on opioids can have small pupils; this alone does not indicate toxicity

Constipation:
Always co-prescribe a laxative (softener plus stimulant) - see page 5.

Sedative effect:
Expect a mild sedative effect for the first 2 to 3 days after starting opioids. If this persists consider seeking specialist advice. Patients may require an opioid switch, dose reduction or/and addition of an adjuvant. Specialists may initiate Methylphenidate to counteract sedation.

Nausea and vomiting:
Nausea and vomiting may occur for first 5-7 days (30% of patients).
Consider co-prescription of PRN anti-emetics.
Review regularly as anti-emetics may not be required long term.
Oral
eg Haloperidol 750microgram to 1.5mg PRN (maximum 2.5mg over 24 hours)

Respiratory effects:
Opioids reduce respiratory rate but increase tidal volume so minute ventilation is not significantly affected.
Significant respiratory depression is rare with chronic oral opioid administration. Reduced conscious level alone is not an indication to give naloxone. Think: is the patient dying?
Do not administer naloxone without seeking specialist advice.
Do not administer naloxone unless RR<8 **AND** Oxygen sats <92%
Naloxone use in palliative care:
Dilute a standard ampoule containing 400microgram to 10mL with 0.9% NaCl
Administer 0.5mL (20microgram) IV every 2 minutes until respiratory status satisfactory. Do not titrate against conscious level. Be aware using larger emergency stat doses of naloxone eg 200microg can cause acute severe pain and make subsequent pain management challenging.

Confusion/delirium:
Exclude other possible causes before attributing to opioids. Seek advice.

5.

Opioid toxicity:

This may occur if pain is poorly responsive to opioids, or if opioids and their metabolites are accumulating due to renal or hepatic impairment. Signs are:

- Increased drowsiness or/and confusion
- Vivid dreams/hallucinations
- Muscle twitching/myoclonus

It may respond to a reduction in dose or frequency, or an opioid switch.-seek specialist advice.

Renal and Hepatic Impairment- seek specialist advice

Oxycodone may be better tolerated than morphine in moderate renal impairment. Fentanyl and buprenorphine dosing remains unchanged in renal impairment.

Proceed with caution, starting with low dosing and slow titration in patients with hepatic impairment as all opioids can precipitate or worsen encephalopathy.

Always seek specialist advice in cases of severe renal or hepatic impairment

Opioid induced hyperalgesia:

Increasing pain associated with rapidly escalating opioid doses. Characterised by change in pattern of pain, becoming more diffuse and associated with hyperalgesia, allodynia and myoclonus. Will require a reduction in background opioid. May need ketamine and/or a switch to methadone or buprenorphine Seek Specialist advice.

Serotonin Syndrome:

Palliative care patients may be prescribed multiple drugs affecting serotonin release, putting them at higher risk of serotonin syndrome. Drugs include SSRIs, SNRIs, TCAs, tramadol, fentanyl, methadone, metoclopramide and ondansetron.

It is characterised by autonomic disturbance (increased pulse, BP and temp), neuromuscular dysfunction (tremor, clonus and hyperreflexia) and altered mental state (anxiety and agitation). It may progress to coma and death.

Consider serotonin toxicity and seek specialist advice early.

PHARMACOLOGICAL MANAGEMENT OF COMMON SYMPTOMS

Constipation:

Consider cause, non-drug management , PR

Please consider volume and palatability when prescribing e.g., Macrogols and Lactulose are often poorly tolerated; patients rarely have adequate additional fluid intake for these to be effective

Prevention and maintenance:

Prescribe **softener plus stimulant**, eg:

Docusate 100mg caps and Senna 7.5mg. Titrate as needed.

Sodium Picosulfate 5-10mg ON

Naldemedine 200microg is a peripherally acting opioid antagonist for opioid induced constipation-seek advice regarding use if unresponsive to laxatives.

Persistent constipation/impaction:

Rectal:	Suppositories: Bisacodyl 5-10mg
	Glycerin 4gram, 1 to 2 od
	Enemas:Sodium Citrate Micro-lax
	Phosphate enema
Oral:	Macrogols (Laxido ®) up to 8 sachets daily have been used

6.

Colic:
Consider cause and treat cause e.g. constipation
Hyoscine butylbromide SC 20mg 1-2 hrly PRN or
Hyoscine butylbromide 60 to 120mg/24 hrs SC via syringe driver plus 20mg PRN 1-2 hrly

Nausea and vomiting:
Consider cause and non-drug management
Exclude bowel obstruction
Consider SC route early - convert to oral route once symptoms resolved

Haloperidol 750microgram to 1.5mg PRN, 1.5 to 5mg SC /24 hours
- good for metabolic causes

Cyclizine 50mg tds or 50 to 150mg/24 hrs in syringe driver
- may worsen heart failure

Domperidone 10 to 20mg oral every 4-8 hours; useful in gastric stasis
Metoclopramide 10 to 20mg tds oral or 30 to 100mg/24 hours via syringe driver- useful for gastric stasis as prokinetic -remember antimuscarinics e.g., buscopan/cyclizine will antagonise this action.

Guideline about limiting use of metoclopramide and domperidone are less applicable to patients with short prognosis with symptom control prioritised.
Levomepromazine 6.25 to 12.5mg nocte orally
6.25mg PRN 4-6 hourly
6.25mg stat or 12.5 to 25mg SC via syringe driver
Use 2nd line - broad spectrum, more sedating, lower incidence of extrapyramidal side effects (EPSE)

Ondansetron is generally not useful in palliative care, apart from in chemotherapy, post-op and some cases of bowel obstruction. It causes constipation.

Breathlessness:
Consider cause and remember non drug management. A fan is as good as oxygen in palliative care patients who are breathless but not hypoxic. Avoid prescribing oxygen in patients who are not hypoxic (O_2 sat >92%).

Oral Immediate Release opioids titrated according to response using small doses e.g. morphine sulfate liquid 1 to 2.5mg PRN
Lorazepam tablet 500microgram oral or sublingual (maximum 2mg in 24 hours) if associated with anxiety

Agitation/terminal delirium:
Consider reversible causes (for example hypercalcaemia, constipation, urinary retention) and non-drug management

If panic, anxiety and restlessness predominate – use benzodiazepine
For altered sensorium with delirium, hallucinations, disorientation – consider use of low dose antipsychotic if causing distress

Oral:
Haloperidol 750microgram to 1.5mg 4 hourly PRN
Lorazepam 500microgram sublingual PRN (maximum 2mg in 24 hours)

Buccal:
Midazolam can be used under specialist advice

7.

Subcutaneous:
Haloperidol 1.5mg stat or 1.5 to 5mg/24 hours in a driver
Levomepromazine 12.5mg stat or 12.5-50mg/24 hours in syringe driver
Midazolam 2.5-5mg stat or 10mg -30mg/24 hours in syringe driver.
Higher doses of both drugs can be used under specialist advice.

Benzodiazepines may cause a paradoxical increase in agitation

Oral thrush:
Ensure good oral hygiene and denture care
Nystatin oral suspension 1mL qds
Miconazole gel 5 to10mL qds if end of life/unable to tolerate nystatin
Fluconazole 50mg od for 7 days (not if on methadone)

Please refer to local mouthcare guidelines

Excessive respiratory secretions:
Subcutaneous:
Hyoscine butylbromide 20mg stat or prn
or 60mg to 120mg/24 hours via syringe driver

Transdermal:
Hyoscine hydrobromide patch 1mg/72 hours
Can cause confusion and drowsiness

Antisecretory drugs may prevent secretions but they do not affect secretions that have already formed. Repositioning may be more useful with explanation and reassurance of those close to the patient.

Seizures
Benzodiazepines are first line treatment for acute seizures including status epilepticus.
Midazolam 5-10mg buccal/subcut/IM stat and repeat after 10minutes if needed.
If dying and unable to take oral anti-epileptics consider midazolam 20mg/24hr CSCI.
If desirable to avoid potential sedation/seizures difficult to control seek specialist advice and may consider levetiracetam (PO/IV/SC dosing is the same and can be given in CSCI over 24hr)

Heart Failure
Seek specialist advice if struggling with symptom management.
Furosemide can be given SC/CSCI as a means of managing heart failure when oral medication becomes ineffective/problematic in potentially the last weeks of life.

Parenteral steroids
When steroids are required and oral route not available dexamethasone 3.3mg/ml or 3.8mg/ml given subcut is approx. equivalent to dexamethasone 4mg PO**.**

8.

PALLIATIVE CARE EMERGENCIES	
HYPERCALCAEMIA	Symptoms may be non-specific e.g. drowsiness. Think: is patient dying? If Ca>2.8mmol/l and symptomatic; admit to rehydrate if necessary and then consider Zoledronate 4mg IV. Seek advice if reduced GFR
METASTATIC SPINAL CORD COMPRESSION (MSCC)	**Early detection is key.** Refer to NICE guidelines. Any patient with symptoms suggestive of spinal metastases and neurological symptoms such as radicular pain, limb weakness or difficulty walking needs MRI/referral **immediately**. Objective neurological examination may be normal. Dexamethasone 8mg bd. Discuss with spinal surgeon on-call/oncologist.
SUPERIOR VENA CAVA OBSTRUCTION	Dexamethasone 8mg bd may be used though evidence lacking. Discuss with oncologist/ interventional radiologist regarding stent, chemotherapy or radiotherapy as appropriate.
CATASTROPHIC TERMINAL HAEMORRHAGE	Sit patient up and give reassurance. If time, consider Morphine 10mg IV/IM and Midazolam 5mg to10mg IV/IM.

ACUTE ONCOLOGY NATIONAL INITIAL MANAGEMENT GUIDELINES
http://ukons.org/news-events/acute-oncology-initial-management-guidelines-latest-version/
For local guidance and referral processes please contact Barnsley AO team

PRE-EMPTIVE PRESCRIBING AT THE END OF LIFE
These are a guide for prescribing for patients **not** currently requiring opioids or antiemetics. For other patients, please seek advice. More information can be found in guidance associated with My Care Plan.

Morphine sulfate 10mg/mL injection 2.5 to 5mg sc hourly PRN
For pain or dyspnoea
Supply 10 (ten) x 1mL ampoules CD2

Midazolam 10mg/2mL injection 2.5 to 5mg sc hourly PRN
For agitation, distress or dyspnoea
Supply 10 (ten) x 2mL ampoules CD3

Hyoscine butylbromide 20mg/mL injection 20mg sc hourly PRN
For respiratory secretions or colic
Supply 10 x 1mL ampoules
Seek advice over 120mg/24 hours

Haloperidol 5mg/mL injection
500microgram to1.5mg sc 2 to 4 hourly PRN max 5mg/24 hours
For nausea or agitation/delirium
Supply 5 x 1mL vials
Seek advice over 5mg/24 hours

Also supply: water for injection 10 x 10mL vials
Clear film dressings 6x7cm x 3 dressings

9. SYRINGE DRIVER COMPATIBILITY:

Compatibility information for mixing two drugs

Drugs listed below for use in a syringe driver should be diluted with water for injection. If more than two drugs are used, please seek specialist advice or see www.pallcare.info

DRUG	COMPATIBLE WITH
Strong opioids, i.e. Morphine Oxycodone For others, seek advice	Cyclizine Haloperidol Hyoscine butylbromide Levomepromazine Metoclopramide Midazolam
Haloperidol	Cyclizine Hyoscine butylbromide Metoclopramide Midazolam Strong opioids
Hyoscine butylbromide	Haloperidol Midazolam Levomepromazine Metoclopramide Strong opioids
Levomepromazine	Cyclizine Hyoscine butylbromide Metoclopramide Midazolam Strong opioids
Metoclopramide	Haloperidol Hyoscine butylbromide Midazolam Levomepromazine Strong opioids
Midazolam	Cyclizine Hyoscine butylbromide Haloperidol Levomepromazine Metoclopramide Strong opioids

All combinations should be checked for signs of precipitation before and during administration.

The compatibility of some combinations listed is concentration dependent: Cyclizine in particular can cause any other drugs to precipitate at high concentrations.

Syringe drivers and sites must be checked 4-hourly for irritation; once skin is irritated absorption of drugs may be affected. This may be ameliorated by dexamethasone 0.5mg sc daily at the driver site.

10.

CORE DRUG STOCKIST SCHEME

The following is a list of core palliative care drugs that a number of pharmacies across Barnsley have agreed to keep in stock. When medication is required urgently prescribers should therefore try to prescribe from within this list when possible at the set vial doses or tablet sizes. The drugs stocked will be reviewed as necessary - please see the Barnsley CCG website for additions and amendments (address below).

Clonazepam tablets 500microgram
Cyclizine injection 50mg/mL
Dexamethasone injection 3.8mg/mL or 3.3mg/ml
Dexamethasone tablets 2mg
Haloperidol injection 5mg/mL
Hyoscine butylbromide injection 20mg/mL
Hyoscine hydrobromide patches 1mg
Levomepromazine injection 25mg/mL
Levomepromazine tablets 25mg
Lorazepam tablets 1mg
Metoclopramide injection 10mg/2mL
Midazolam injection 10mg/2mL
Morphine injection 10mg/mL, 30mg/mL
Oxycodone injection 10mg/ml
Oxycodone oral liquid 5mg/5mL
Water for injection 10mL

Participating pharmacies can be found on the Barnsley ICB website:

Palliative Care Participating Pharmacies.pdf
(barnsleyccg.nhs.uk)

KEY

od	once a day	stat	immediately
bd	twice a day	hrly	hourly
tds	three times a day	IV	intravenous
qds	four times a day	SC	subcutaneous
nocte	at night	PR	per rectum
PRN	as required		

11. USEFUL CONTACTS

Community Macmillan Specialist Palliative Care Team:
Seven days a week including bank
holidays 9am to 4.45pm
Via Barnsley RightCare Integrated SPA
01226 644 575

Hospital Specialist Palliative Care Team:
Seven days a week excluding bank holidays, 9am to 5pm
01226 434921 or 01226 730000 Ext 4921
Ap phone 1674 / 1675

Barnsley Hospice:
01226 244244
bdg-tr.barnsleyhospice@nhs.net

Palcall:
Palliative medicine advice line Call to be made by senior practitioner
01226 244244 (nights, weekends and bank holidays)

BHNFT Acute oncology CNS team Mon-Fri 9am-5pm

01226 431321 or 01226 434980

On call Acute Oncologist 24hour 0114 226 5000

Drug Information Centre:
Monday - Friday, 9.00 am - 5.00 pm
01226 432857 or 01226 730000 Ext 2857
Barnsley Hospital NHS Foundation Trust

Palliative Care Information Websites: www.pallcare.info

CONTRIBUTORS

This formulary was produced by a multidisciplinary working party with representatives from primary and secondary care.

BIBLIOGRAPHY

Back, I N 2001 Palliative Medicine Handbook 3rd Edition BPM Books, Cardiff book.pallcare.info

BNF 84 2023 Sept 2022-March 2023 BMA RPSGB

Dickman A, Schneider J, Varga J 2016 – The Syringe Driver 4th Edition – Oxford University Press

Oxford Handbook of Palliative Care 2nd Edition

Oxford Handbook of Palliative Drugs 3rd Edition

Twycross R, et al (2022) Palliative Care Formulary 8th Edition Radcliffe Press, Oxon

Twycross R, Wilcock A (2001) Symptom Management in Advanced Cancer 4th Edition Radcliffe Press

Refer a patient to Barnsley Hospice
Scan the QR code for more information.