Doncaster and Bassetlaw Teaching Hospitals
NHS Foundation Trust

Doncaster & Bassetlaw Cancer Locality

Palliative Care Core Formulary

Approved by Doncaster & Bassetlaw Teaching Hospitals NHS Foundation Trust Drugs and Therapeutics Committee.

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Graphic Design DBTH. Tel: 01302 644246

Introduction

This formulary for pain and symptom management is intended as a brief and simple guide for prescribers in hospital, community and primary care.

The contributors believe that the vast majority of symptoms can be effectively managed within the formulary and that its acceptance and use will enhance the quality and consistency of palliative care for patients.

More detailed prescribing advice can also be found in the Palliative Care Formulary (7th ed) edited by Wilcock, Howard and Charlesworth or A Guide to Symptom Management in Palliative Care (via https://www.yorkhospitals.nhs.uk/seecmsfile/?id=4770)

Note at the time of publishing this guidance:
Many drugs listed are recommended for off-label or unlicensed use, and as such, the prescriber takes personal responsibility for prescribing.

Specialist palliative care advice should be sought early to avoid symptom crisis – see contact numbers on page 3.

For further information or advice contact:

Doncaster

Hospital Specialist Palliative Care Team (available seven days a week, including bank holidays):

Macmillan Specialist Palliative Care Nurses

Tel: 01302 644093 (9am – 5pm)

Medicines Information Department

Tel: 01302 644325 (9am – 5pm)

Community Palliative Care Clinical Nurse Specialists

Tel: 01302 566666 (8.30am – 4.30pm Mon to Sun)

Bassetlaw

Hospital Specialist Palliative Care Team (Mon to Fri):

Macmillan Specialist Palliative Care Nurses

Tel: 01909 572981 (9am – 5pm)

Community Palliative Care Clinical Nurse Specialists

Tel: 01777 274422 (9am – 5pm Mon to Fri)

Consultants in Palliative Medicine

Dr. Lucy Adkinson

Dr. Madhubrata Hazra

Dr. Maurice Fernando

Advice can be sought (via DRI switchboard) regarding Doncaster and Bassetlaw patients at any time.

Consultant Pharmacists

Dr Helen Meynell tel: 01302 644327

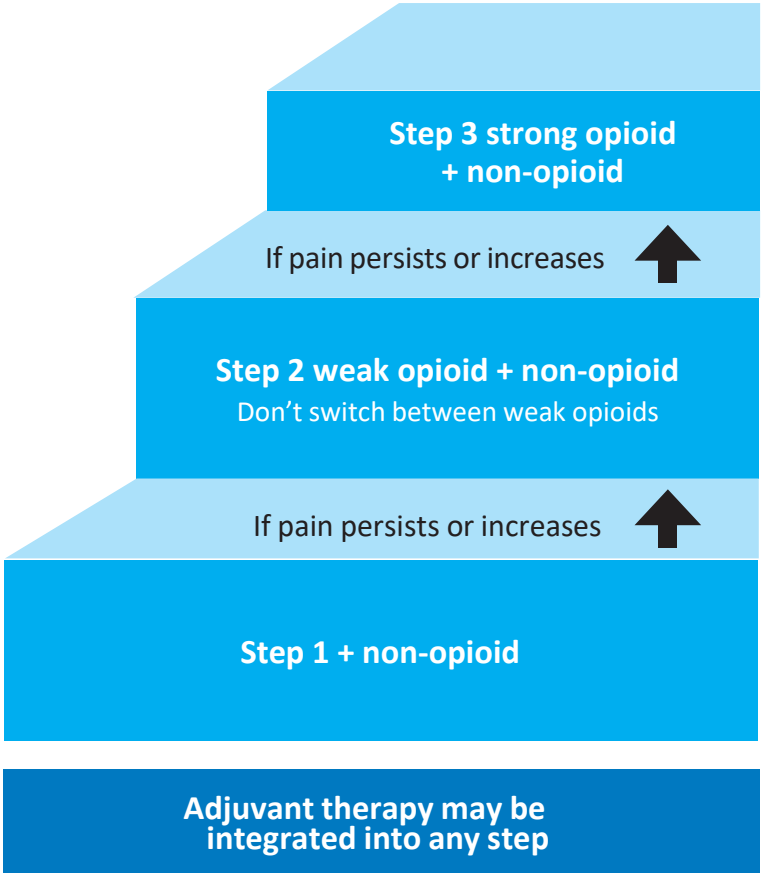
Lee Wilson tel: 01909 572888

Management of Pain

Evaluate patient's total pain

- Physical
- Psychological
- Social
- Spiritual

WHO Analgesic Ladder



Oral Medication

Step 1: Non-opioid

Paracetamol 1g four times daily (maximum 4g in 24 hours) and/or NSAID e.g. Ibuprofen 400 mg three times daily or Naproxen EC 500mg twice daily

Step 2: Non-opioid + weak opioid

e.g. Codeine phosphate 30 to 60mg four times daily or
Tramadol 50 to 100mg four times daily
Always prescribe Step One and Two analgesics regularly

Step 3: Non-opioid + strong opioid

Use either Scheme One or Scheme Two

Scheme One

1. Convert total daily dose (TDD) weak opioid administered to morphine equivalent e.g. Zomorph
2. Divide TDD morphine by 2 and give as modified release preparation twice daily
3. Also prescribe breakthrough pain dose of immediate release morphine

   Breakthrough dose = 1/6th TDD morphine

Scheme Two

1. Prescribe 2.5 to 5mg immediate release morphine as required
2. After 24 to 48 hours calculate TDD morphine required to control pain

   TDD morphine = sum of all as required (or PRN) doses given over last 24 hours
3. Convert to modified release preparation (see steps 2 and 3 of Scheme One).

Opioid requirements should be reviewed regularly.
If two or more as required doses are required in 24 hours, the regular modified release dose should be increased appropriately (not by more than 50% of the total daily dose).
Always remember to increase breakthrough dose (= 1/6th TDD regular modified release strong opioid) accordingly.

Additional prescribing information

- Co-prescribe laxatives (see constipation section).
- Consider co-prescription of anti-emetics (see nausea and vomiting section), to cover initiation/dose increase.
- See current edition of the BNF for list of preparations available. BNF is available as an app that is updated monthly.

Morphine Intolerance

Before changing from oral morphine remember that only a few patients have genuine morphine intolerance. However, it is worth switching to another opioid if:

- Patients are suffering severe side effects such as nausea, itch, confusion, myoclonic jerks, bronchospasm etc.
- Patients are unable to swallow.
- Patients are in renal failure and therefore are in danger of opioid toxicity. Such patients should be switched to opioids which have inactive metabolites e.g. fentanyl or alfentanil.
- Seek specialist advice if needed.

Fentanyl Transdermal

Do not use in opioid naive patients.

NB Fentanyl 25mcg = 60 to 90mg Morphine daily
(i.e. Zomorph 30 to 45mg twice daily).

Contraindicated in unstable pain where rapid titration of opioid is required.

Change patch every 72 hours.

Co-prescribe breakthrough doses of immediate release strong opioid and titrate to pain.

For breakthrough pain dose - see opioid conversion chart on page 10.

Analgesic concentrations are reached in 12 hours.

- 4 hourly opioid – continue to give until pain controlled.
- Modified release opioid – apply patch when last dose of MR opioid given.
- Syringe driver – discontinue driver 12 hours after applying patch.

Disposal of fentanyl patches

Ensure the patches have been folded in half with the sticky sides inwards. Place in the original packet and dispose of in domestic waste / sharps bins away from the reach of children. Wash hands before and after handling fentanyl patches.

Buprenorphine

There are limited therapeutic reasons for buprenorphine usage in palliative care, and fentanyl is preferred. The following is for dosage equivalence information only.

Transtec 35microgram/hr	=	84mg morphine	(4 day patch)
Transtec 52.5 microgram/hr	=	126mg morphine	(4 day patch)
Transtec 70 microgram/hr	=	168mg morphine	(4 day patch)
Butec 5 microgram/hr	=	12mg morphine	(7 day patch)
Butec 10 microgram/hr	=	24mg morphine	(7 day patch)
Butec 20 microgram/hr	=	48mg morphine	(7 day patch)

Subcutaneous route via syringe driver

Indications

- Persistent nausea and vomiting.
- Patient unable to swallow or absorb.
- Terminal phase.

Treatment of pain using a syringe driver

1 Morphine sulphate (most cost-effective opioid, compatibility in syringe drivers better).
2 Alfentanil (in renal impairment - see also section below).
3 Oxycodone.
4 Diamorphine (for very high doses of opioid).
5 Methadone (only if initiated and stabilised by specialist palliative care team).

Dose of opioid to prescribe depends upon previous requirements and patients' condition. Refer to opioid conversion chart on page 10 for equi-analgesic conversions. (NB all conversions are approximate).

For opioid naive patients prescribe:

Morphine	10 to 20mg in 24 hours
Alfentanil	0.5 to 1mg in 24 hours
Diamorphine	5 to 10mg in 24 hours

- **Seek specialist advice if needed.**

Converting from oral morphine to subcutaneous opioid

To convert oral morphine to subcutaneous morphine divide the TDD of oral morphine by 2 e.g. On Zomorph 60mg twice daily = 120mg TDD = 60mg subcutaneous morphine.

To convert oral morphine to subcutaneous diamorphine divide the TDD of oral morphine by 3 e.g. On Zomorph 60mg twice daily = 120mg TDD = 40mg subcutaneous diamorphine.

A guide to equivalent doses for opioid drugs

NB this is to be used as a guide rather than a set of definitive equivalences. Most data on doses is based on single dose studies so is not necessarily applicable in chronic use, also individual patients may metabolise different drugs at varying speeds. Therefore by necessity doses have been rounded up or down to fit in with the preparations available.

Oral Morphine			Subcutaneous morphine		Subcutaneous diamorphine		Oral Oxycodone			Subcutaneous oxycodone		Subcutaneous alfentanil	Fentanyl patch
Break-through dose (mg)	12hr MR dose (mg)	24hr total dose (mg)	Break-through dose (mg)	24hr total dose (mg)	Break-through dose (mg)	24hr total dose (mg)	Break-through dose (mg)	12hr MR dose (mg)	24hr total dose (mg)	Break-through dose (mg)	24hr total dose (mg)	24hr total dose (mg)	Microg/hr
5	15	30	2.5	15	1.5	10	2.5	7.5	15	1.25	7.5	1	12
10	30	60	5	30	3	20	5	15	30	2.5	15	2	25
15	45	90	7.5	45	5	30	7.5	25	50	3.75	22.5	3	25#
20	60	120	10	60	7.5	40	10	30	60	5	30	4	37#
30	90	180	15	90	10	60	15	45	90	7.5	45	6	50#
40	120	240	20	120	12.5	80	20	60	120	10	60	8	62#
50	150	300	25	150	15	100	25	75	150	12.5	75	10	75
60	180	360	30	180	20	120	30	90	180	15	90	12	100
70	210	420	35	210	25	140	35	105	210	17.5	100	14	125
80	240	480	40	240	27.5	160	40	120	240	20	120	16	125*
90	270	540	45	270	30	180	45	135	270	MAX	135	18	150*
100	300	600	50	300	35	200	50	150	300	SUB	150	20	175*
110	330	660	55	330	37.5	220	55	165	330	CUT	165	22	175*
120	360	720	60	360	40	240	60	180	360	VOL	180	24	200

These fentanyl conversions do not fully reflect the current BNF recommendations up to 100micrograms of fentanyl. The BNF conversions apply to patients that have been stabilised long term on opioids. Doses should be used as a guide only and should be carefully titrated according to clinical response.
*fentanyl conversions become less reliable as the dose of morphine (or equivalent) increases. Ensure adequate breakthrough doses are prescribed to enable titration. Patients on fentanyl patches over 150microg/hr (or equivalent opioid dose) should receive specialist palliative care input.

Fentanyl Patches in Terminal Care

When initiating a syringe driver in terminal care DO NOT REMOVE PATCH.
Continue to change every 72 hours (to maintain existing therapy).
Add subcutaneous strong opioid as required and titrate to control pain.
If more than 2 breakthrough doses in 24 hours convert to syringe driver.

When using a syringe driver and patch concurrently, remember to include fentanyl dose when calculating breakthrough dose.

Example:
Patient on 100microgram/hr fentanyl patch. Do not remove patch.
Has had 3 x 20mg morphine subcutaneous doses in last 24 hours.

- Start syringe driver with 60mg morphine over 24 hours.
- Add up total morphine equivalence to calculate breakthrough doses.

100microgram/hr fentanyl patch = 180mg subcutaneous morphine + 60mg in driver = 240mg morphine total.
Breakthrough dose is 1/6th of 240mg = 40mg morphine.

Titrate dose to patients need.

Review previous 24 hours breakthrough doses and adjust syringe driver dose accordingly – remember to calculate the appropriate breakthrough dose too at each dose change.

If a greater than 50% increase is required, seek specialist advice.

Breakthrough pain dose = 1/6th 24 hours subcutaneous strong opioid dose.

Breakthrough pain management in renal impairment

Alfentanil is too short acting to be used effectively in breakthrough pain and therefore conservative doses of Oxycodone should be used eg. 1mg prn every 2 hours in opioid-naive patients.

Adjuvant Analgesics

Consider adjuvant analgesics at all steps of the analgesic ladder:

Bone pain and soft tissue pain

NSAID:	or	Ibuprofen 400mg three times daily Naproxen EC 500mg twice daily

Neuropathic Pain

Amitriptyline 10mg at night. Titrate to maximum 75mg at night.

Gabapentin	300mg at night on Day 1 and then 300mg twice daily increasing gradually up to 600 to 800mg three times daily (or the lowest effective dose)

(Elderly – start at 100 mg three times daily or lower)

Pregabalin	75mg twice daily Increase dose on day 3 and 10 if required Maximum dose 300mg twice daily

(Elderly – start at 25mg twice daily)

For dosing in renal impairment, seek specialist advice.

Patients already taking weak or strong opioids may find the opioid dose can be reduced if there is a good response to adjuvant analgesics.

Seek specialist advice if symptoms uncontrolled or major side effects.

Specialist team may consider drugs like Clonazepam, Ketamine or Methadone. No specific dose information is included here in the formulary for these agents as they should be initiated by the specialist palliative care team only.

Colic

Consider cause e.g. constipation.

Acute spasm:	Hyoscine butylbromide (Buscopan) 20mg as required subcutaneously.
Persistent colic:	Hyoscine butylbromide 40 to 120mg over 24 hours subcutaneously (via a syringe driver).

Please note: Hyoscine butylbromide is incompatible with cyclizine in a syringe driver.

Liver Pain

Dexamethasone:	4 to 8mg daily in the morning for 3 days then review.

Raised Intracranial pressure

Dexamethasone:	8mg twice daily (morning and lunchtime) for 3 days then review.

Management of Common Symptoms

Dry Mouth

Ensure good oral hygiene, keep mouth moist, maintain fluid intake where possible, suck pineapple chunks or chew gum, then consider:

- artificial saliva prepartions (eg. Saliva Orthana) or
- as a second line (or on the advice of the specialist palliative care team), an oral mucosal protectant (eg. Gelclair).

Oral Thrush

Fluconazole 50mg once daily (seven days). If potential for drug interactions with Fluconazole (eg with methadone), consider using Nystatin oral suspension 100,000 units/ml 1ml four times daily.
If no improvement after 1 week treatment, consider sending oral swab.

Constipation

All patients prescribed opioids should be prescribed a laxative.
Consider rectal examination.
Consider other drug and metabolic causes e.g. antimuscarinics, hypercalcaemia.
Avoid bulking agents.
The aim of laxative therapy is to achieve comfortable defecation rather than any particular frequency of evacuation. Doses or frequency of administration should be altered to achieve this.

ASSESS WHETHER IMPACTED

IMPACTED

Initially insert Bisacodyl Supp and Glycerine Supp.

Day 1 / 2
Microlax Enema in the evening and the following morning

Day 2 / 3
Movicol up to 8 sachets per day or consider sodium picosulfate (liquid) 5mg at night (seek specialist advice)

NOT IMPACTED

Day 1 / 2
Prescribe senna 2 at night and docusate 200mg twice daily

Day 3 / 4
Prescribe Movicol sachets 1-3 daily or co-danthramer* liquid 10ml at night

Consider rectal treatment (see impacted)

Co-prescribe regular oral laxative therapy
- usually senna 2 at night and docusate 200mg twice daily

*Note: this currently costs around £150 for a 300ml bottle, so this should normally be reserved for patients not responding to other laxatives.

Nausea and Vomiting

Exclude bowel obstruction because caution is required with prokinetic agents. Consider subcutaneous route initially , then convert to oral route once symptoms resolve.

Consider the cause:

- **Opioid induced or chemical toxins**
  Haloperidol 1.5mg orally at night or up to 5mg over 24 hours subcutaneously (via a syringe driver).
- **Motion sickness, brain metastases or labrynthitis**
  Cyclizine 50mg three times daily or 150mg over 24 hours subcutaneously (via a syringe driver). Caution in renal impairment or heart failure.
- **Gastrointestinal stasis**
  Metoclopramide 10 to 20mg orally three times daily or 30 to 100mg over 24 hours subcutaneously (via a syringe driver), or domperidone 10 to 20mg orally three times daily. Refer for specialist advice, if required.
  Do not use metoclopramide or domperidone with cyclizine.
- **Multifactoral or refractory symptoms**
  Consider combination treatment e.g. cyclizine plus haloperidol or levomepromazine 6.25 to 12.5mg orally or subcutaneously at night or 6.25 to 25mg over 24 hours (via a syringe driver).

Uncontrolled nausea and vomiting or bowel obstruction: seek specialist advice.

Dyspnoea

Exclude reversible causes and treat if appropriate.

Remember non-drug management e.g. cool draught, fan, reassurance.

Opioids see page 4

If already taking regular strong opioid e.g. for pain.

Assess response to administration of breakthrough dose of strong opioid. If effective titrate according to symptoms.

Increase regular slow release dose as appropriate.

An equivalent dose of subcutaneous strong opioid can be used if the patient has swallowing difficulties.

Consider lorazepam 0.5mg sublingually as required for associated anxiety.

Benzodiazepines for dyspnoea

Lorazepam 0.5mg orally at night (tablet can also be administered sublingually), titrating the dose in 0.5 to 1mg increments to a maximum dose of 4mg in 24 hours.

or

Midazolam 2.5 to 5mg subcutaneously as required (total daily dose required to control symptoms could be administered via a syringe driver).

Hallucinations

Consider reversible causes (e.g. brain metastases, opioids).

Haloperidol 0.5 to 1.5mg orally once or twice daily or 2.5 to 5mg subcutaneously as required.

Agitation

Consider reversible causes (e.g. hypercalcaemia, urinary retention, constipation) and non-drug management.

Lorazepam 0.5 to 1mg orally as required (maximum dose: 4mg in 24 hours).

Diazepam 2 to 5mg orally as required (maximum dose: 20mg in 24 hours).

or

Midazolam 2.5 to 5mg as a single subcutaneous dose.

Seek specialist advice if uncontrolled symptoms.

Terminal Agitation

Midazolam 2.5mg to 5mg as a single subcutaneous dose and as required.

Then consider commencing on 10mg in syringe driver over 24 hours, increasing as appropriate.

If requiring more than 30mg of midazolam in 24 hours (including as required), seek specialist advice.

Excessive Respiratory Secretions (Death Rattle)

Stop any subcutaneous or intravenous fluids.

Hyoscine butylbromide.

20mg as a single subcutaneous dose and commence syringe driver 60mg over 24 hours with 20mg as required.

or

Hyoscine hydrobromide

400micrograms as a single subcutaneous dose and commence syringe driver 1200micrograms over 24 hours with 400micrograms as required.

Titrate according to symptoms, if symptoms persist after 12 to 24 hours increase syringe driver to 2000micrograms over 24 hours with 400micrograms as required.