Specialist Palliative Care

Dr Emma Lundy

Belfast Community Palliative Care Hub

Belfast Health and Social Care Trust
caring supporting improving together

About me .....

- GP for 5 years
- Locum shifts in NI Hospice
- 3 years SAS Macmillan Unit, AAH
- Retrained in 2014
- Consultant in 2020
- Worked in NIH and Mater 5 years
- 2025 Belfast Community Palliative Care Hub with one day MND

Firstly……

- Fully aware majority of palliative care is done by primary care teams
- Not here teach my granny to suck eggs
- Very happy to discuss symptom management but I'll be led by you.

Thoughts…

- More useful to discuss our ‘less used medications’
- Give example of a case
- Bleeding
- Discussion, Q&A
- Also interested in your experience of SPC

Medications

- Opioids
- CSCI meds that we are now using in community
- Ketamine
- Methadone
- Fentanyl CSCI
- Clonazepam
- Levetiracetam CSCI
- Phenobarbitone
- Clonidine

Opioids



- Codeine
- Tramadol
- Tapentadol

- Morphine
- Oxycodone

- (Diamorphine)
- Alfentanil
- Fentanyl**
- Buprenorphine
- Hydromorphone
- Methadone**

CSCI meds

- Parecoxib
- Esomeprazole
- Tranexamic acid
- Octreotide



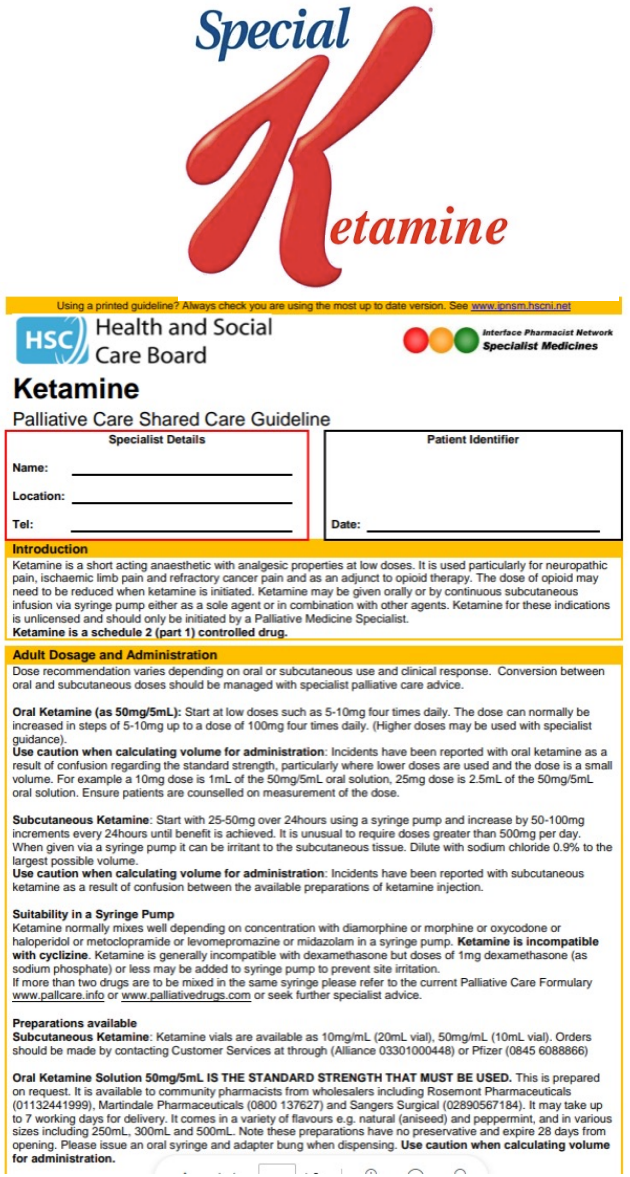
Ketamine



- Oral or CSCI
- Works best for neuropathic pain
- 2022 systematic review showed statistically significant reduction in neuropathic pain. Low level evidence.
- Mixed opinions
- Works short term
- Side effects – psychoactive, cardiac, bladder
- Contra-indications – ICP, BP, seizures/ CVA

Ketamine

- Useful for neuropathic pain that is not responding to other analgesics
- Ischaemic pain
- Fungating wounds
- Ideally last 6 months of life as monitoring is not required
- Usual stating dose 10mg PO QID or 50mg in CSCI



Special Ketamine

Using a printed guideline? Always check you are using the most up to date version. See www.ipnsm.hscni.net

HSC Health and Social Care Board

Interface Pharmacist Network Specialist Medicines

Ketamine

Palliative Care Shared Care Guideline

Specialist Details	Patient Identifier
Name:	
Location:	
Tel:	Date:

Introduction

Ketamine is a short acting anaesthetic with analgesic properties at low doses. It is used particularly for neuropathic pain, ischaemic limb pain and refractory cancer pain and as an adjunct to opioid therapy. The dose of opioid may need to be reduced when ketamine is initiated. Ketamine may be given orally or by continuous subcutaneous infusion via syringe pump either as a sole agent or in combination with other agents. Ketamine for these indications is unlicensed and should only be initiated by a Palliative Medicine Specialist.
Ketamine is a schedule 2 (part 1) controlled drug.

Adult Dosage and Administration

Dose recommendation varies depending on oral or subcutaneous use and clinical response. Conversion between oral and subcutaneous doses should be managed with specialist palliative care advice.

Oral Ketamine (as 50mg/5mL): Start at low doses such as 5-10mg four times daily. The dose can normally be increased in steps of 5-10mg up to a dose of 100mg four times daily. (Higher doses may be used with specialist guidance).
Use caution when calculating volume for administration: Incidents have been reported with oral ketamine as a result of confusion regarding the standard strength, particularly where lower doses are used and the dose is a small volume. For example a 10mg dose is 1mL of the 50mg/5mL oral solution, 25mg dose is 2.5mL of the 50mg/5mL oral solution. Ensure patients are counselled on measurement of the dose.

Subcutaneous Ketamine: Start with 25-50mg over 24hours using a syringe pump and increase by 50-100mg increments every 24hours until benefit is achieved. It is unusual to require doses greater than 500mg per day. When given via a syringe pump it can be irritant to the subcutaneous tissue. Dilute with sodium chloride 0.9% to the largest possible volume.
Use caution when calculating volume for administration: Incidents have been reported with subcutaneous ketamine as a result of confusion between the available preparations of ketamine injection.

Suitability in a Syringe Pump
Ketamine normally mixes well depending on concentration with diamorphine or morphine or oxycodone or haloperidol or metoclopramide or levomepromazine or midazolam in a syringe pump. **Ketamine is incompatible with cyclizine**. Ketamine is generally incompatible with dexamethasone but doses of 1mg dexamethasone (as sodium phosphate) or less may be added to syringe pump to prevent site irritation.
If more than two drugs are to be mixed in the same syringe please refer to the current Palliative Care Formulary www.pallcare.info or www.palliativedrugs.com or seek further specialist advice.

Preparations available
Subcutaneous Ketamine: Ketamine vials are available as 10mg/mL (20mL vial), 50mg/mL (10mL vial). Orders should be made by contacting Customer Services at through (Alliance 03301000448) or Pfizer (0845 6088866)

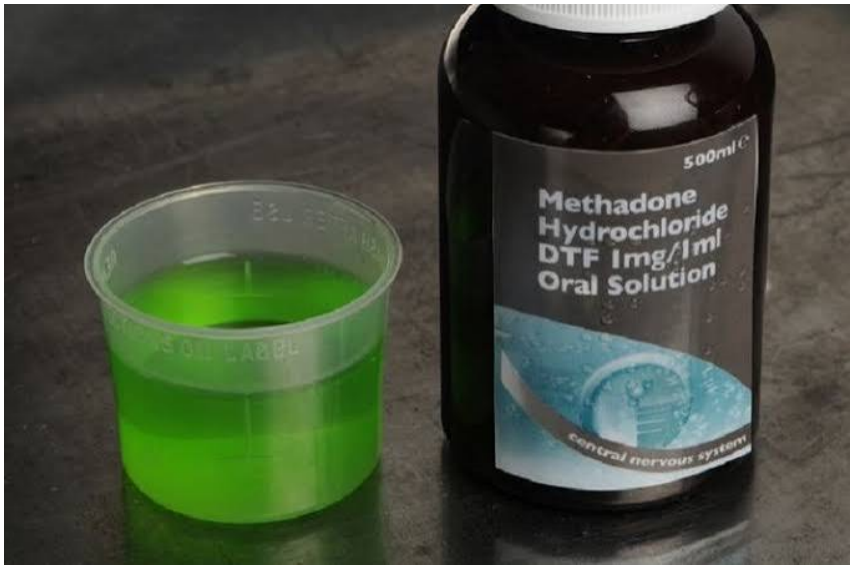
Oral Ketamine Solution 50mg/5mL IS THE STANDARD STRENGTH THAT MUST BE USED. This is prepared on request. It is available to community pharmacists from wholesalers including Rosemont Pharmaceuticals (01132441999), Martindale Pharmaceuticals (0800 137627) and Sangers Surgical (02890567184). It may take up to 7 working days for delivery. It comes in a variety of flavours e.g. natural (aniseed) and peppermint, and in various sizes including 250mL, 300mL and 500mL. Note these preparations have no preservative and expire 28 days from opening. Please issue an oral syringe and adapter bung when dispensing. **Use caution when calculating volume for administration.**

Case

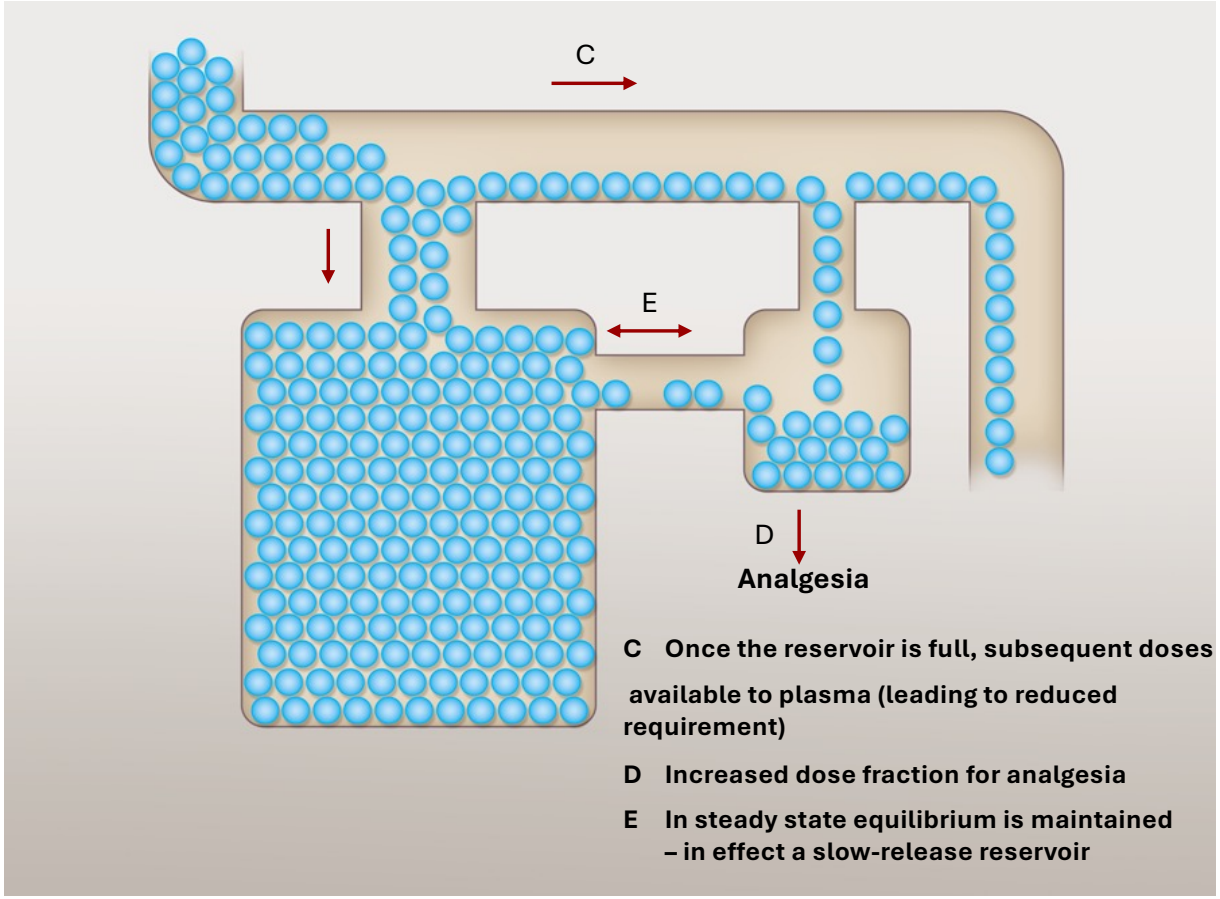
- Patient with oesophageal ca
- Stented
- Rapid progression of disease
- Very severe epigastric and chest pain
- Doubled over
- Minimal benefit from opioids
- Rapidly deteriorating, likely days of prognosis
- Ketamine 50mg in CSCI with good effect. Uptitrated and pain now controlled.

Methadone

- Oral or CSCI
- “Atypical opioid with special pharmacology”
- Long half life
- Takes time to fill stores due to high protein binding, volume of distribution and lipophilia



Methadone Pharmacology
At Steady State (3 – 5 days +)

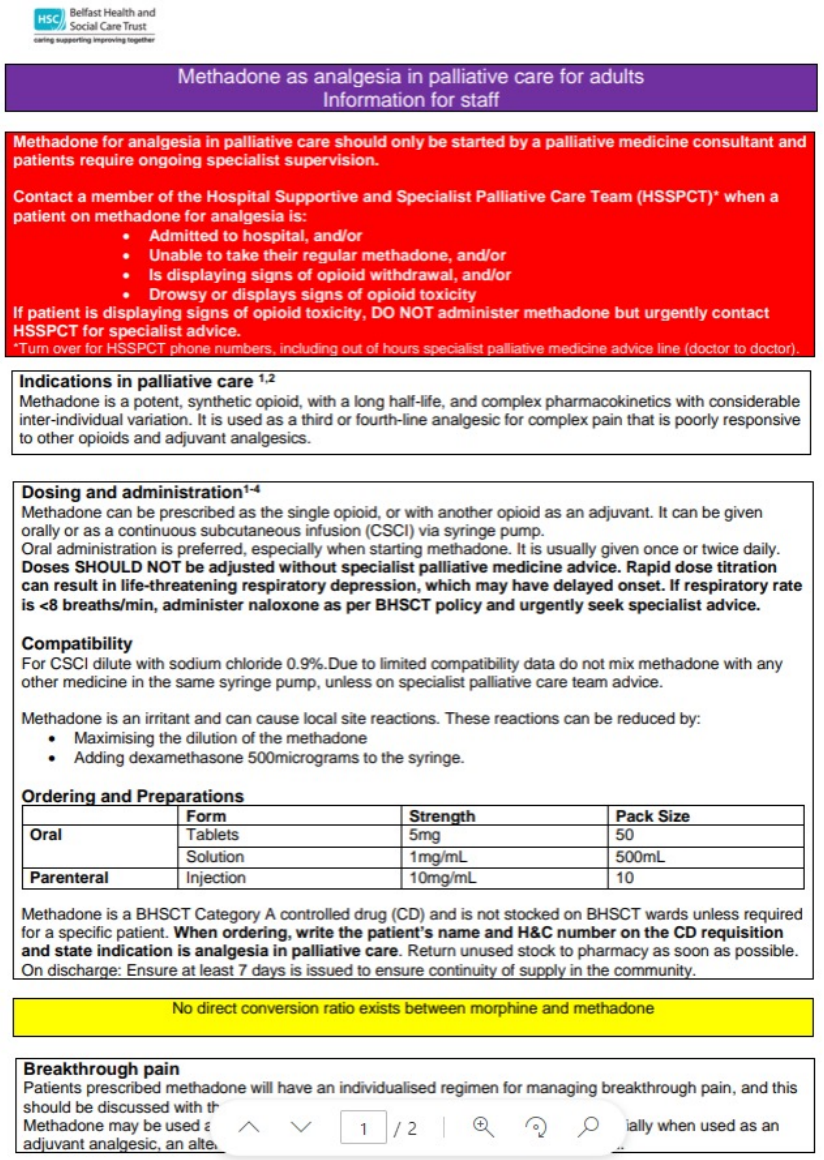


Methadone

- Start and titrate slowly
- Beware of delayed side effects
- Only initiated as an inpatient

(mostly in hospices)

- Doses should only be changed under SPC guidance



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Methadone as analgesia in palliative care for adults
Information for staff

Methadone for analgesia in palliative care should only be started by a palliative medicine consultant and patients require ongoing specialist supervision.

Contact a member of the Hospital Supportive and Specialist Palliative Care Team (HSSPCT)* when a patient on methadone for analgesia is:

- **Admitted to hospital, and/or**
- **Unable to take their regular methadone, and/or**
- **Is displaying signs of opioid withdrawal, and/or**
- **Drowsy or displays signs of opioid toxicity**

If patient is displaying signs of opioid toxicity, DO NOT administer methadone but urgently contact HSSPCT for specialist advice.

*Turn over for HSSPCT phone numbers, including out of hours specialist palliative medicine advice line (doctor to doctor).

Indications in palliative care [1,2]

Methadone is a potent, synthetic opioid, with a long half-life, and complex pharmacokinetics with considerable inter-individual variation. It is used as a third or fourth-line analgesic for complex pain that is poorly responsive to other opioids and adjuvant analgesics.

Dosing and administration[1-4]

Methadone can be prescribed as the single opioid, or with another opioid as an adjuvant. It can be given orally or as a continuous subcutaneous infusion (CSCI) via syringe pump.
Oral administration is preferred, especially when starting methadone. It is usually given once or twice daily.
Doses SHOULD NOT be adjusted without specialist palliative medicine advice. Rapid dose titration can result in life-threatening respiratory depression, which may have delayed onset. If respiratory rate is <8 breaths/min, administer naloxone as per BHSCT policy and urgently seek specialist advice.

Compatibility

For CSCI dilute with sodium chloride 0.9%.Due to limited compatibility data do not mix methadone with any other medicine in the same syringe pump, unless on specialist palliative care team advice.

Methadone is an irritant and can cause local site reactions. These reactions can be reduced by:

- Maximising the dilution of the methadone
- Adding dexamethasone 500micrograms to the syringe.

Ordering and Preparations

	Form	Strength	Pack Size
Oral	Tablets	5mg	50
	Solution	1mg/mL	500mL
Parenteral	Injection	10mg/mL	10

Methadone is a BHSCT Category A controlled drug (CD) and is not stocked on BHSCT wards unless required for a specific patient. **When ordering, write the patient's name and H&C number on the CD requisition and state indication is analgesia in palliative care**. Return unused stock to pharmacy as soon as possible.
On discharge: Ensure at least 7 days is issued to ensure continuity of supply in the community.

No direct conversion ratio exists between morphine and methadone

Breakthrough pain

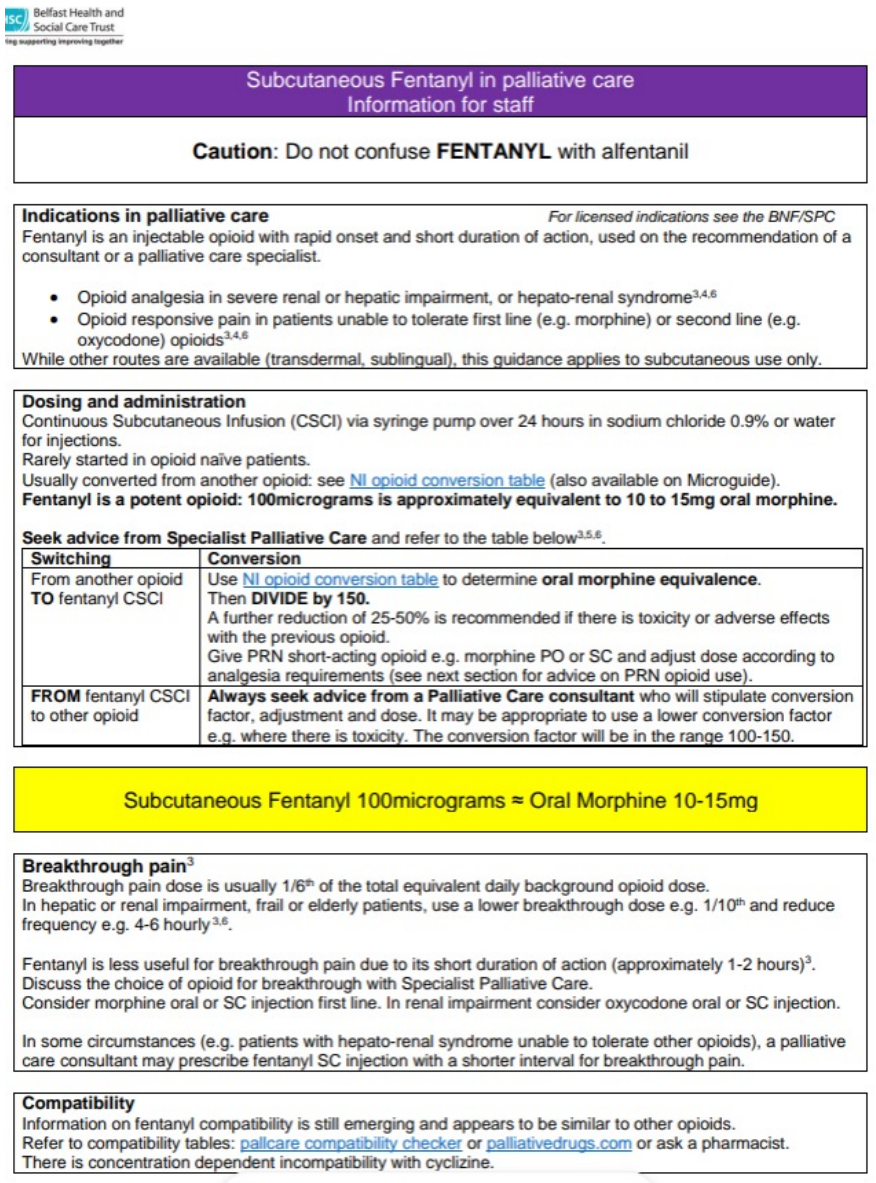
Patients prescribed methadone will have an individualised regimen for managing breakthrough pain, and this should be discussed with th
Methadone may be used a
adjuvant analgesic, an alte

1 / 2

ally when used as an

Fentanyl

- Hepato-renal syndrome
- Administered via CSCI
- Not used for PRN dosing
- Do not confuse with alfentanil
- Very potent
- Volume issues at moderate dosing



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Subcutaneous Fentanyl in palliative care
Information for staff

Caution: Do not confuse **FENTANYL** with alfentanil

Indications in palliative care *For licensed indications see the BNF/SPC*

Fentanyl is an injectable opioid with rapid onset and short duration of action, used on the recommendation of a consultant or a palliative care specialist.

- Opioid analgesia in severe renal or hepatic impairment, or hepato-renal syndrome[3,4,6]
- Opioid responsive pain in patients unable to tolerate first line (e.g. morphine) or second line (e.g. oxycodone) opioids[3,4,6]

While other routes are available (transdermal, sublingual), this guidance applies to subcutaneous use only.

Dosing and administration

Continuous Subcutaneous Infusion (CSCI) via syringe pump over 24 hours in sodium chloride 0.9% or water for injections.
Rarely started in opioid naïve patients.
Usually converted from another opioid: see NI opioid conversion table (also available on Microguide).
Fentanyl is a potent opioid: 100micrograms is approximately equivalent to 10 to 15mg oral morphine.

Seek advice from Specialist Palliative Care and refer to the table below[3,5,6].

Switching	Conversion
From another opioid **TO** fentanyl CSCI	Use NI opioid conversion table to determine **oral morphine equivalence**. Then **DIVIDE by 150.** A further reduction of 25-50% is recommended if there is toxicity or adverse effects with the previous opioid. Give PRN short-acting opioid e.g. morphine PO or SC and adjust dose according to analgesia requirements (see next section for advice on PRN opioid use).
FROM fentanyl CSCI to other opioid	**Always seek advice from a Palliative Care consultant** who will stipulate conversion factor, adjustment and dose. It may be appropriate to use a lower conversion factor e.g. where there is toxicity. The conversion factor will be in the range 100-150.

Subcutaneous Fentanyl 100micrograms ≈ Oral Morphine 10-15mg

Breakthrough pain[3]

Breakthrough pain dose is usually 1/6th of the total equivalent daily background opioid dose.
In hepatic or renal impairment, frail or elderly patients, use a lower breakthrough dose e.g. 1/10th and reduce frequency e.g. 4-6 hourly[3,6].

Fentanyl is less useful for breakthrough pain due to its short duration of action (approximately 1-2 hours)[3].
Discuss the choice of opioid for breakthrough with Specialist Palliative Care.
Consider morphine oral or SC injection first line. In renal impairment consider oxycodone oral or SC injection.

In some circumstances (e.g. patients with hepato-renal syndrome unable to tolerate other opioids), a palliative care consultant may prescribe fentanyl SC injection with a shorter interval for breakthrough pain.

Compatibility

Information on fentanyl compatibility is still emerging and appears to be similar to other opioids.
Refer to compatibility tables: pallcare compatibility checker or palliativedrugs.com or ask a pharmacist.
There is concentration dependent incompatibility with cyclizine.

Fentanyl conversion

- Oral morphine 150mg : Fentanyl 1mg if going **TO** fentanyl

- Fentanyl 1mg : oral morphine 100mg if coming **FROM** fentanyl

Case

- 34-year-old, metastatic colorectal ca with liver mets
- Rapidly progressive disease
- AKI eGFR 30
- Significant liver impairment
- Switched from morphine to fentanyl and discharged home for EOLC
- Stressful!!!!

Clonazepam

- Benzodiazepine
- PO or CSCI
- 1:1 conversion
- Long-acting
- Neuropathic pain



Levetiracetam (Keppra)



- Anti-seizure medication
- Able to put in a CSCI
- 1:1 conversion from oral dose
- But what if they are not on levetiracetam???

- Starting dose 500mg-1g over 24 hours

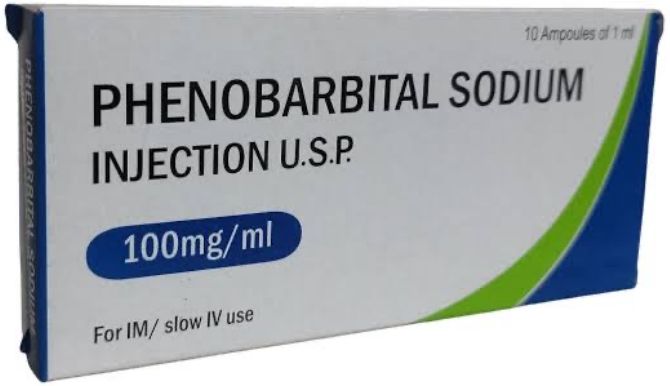
Levetiracetam



- Compatible with **morphine sulfate** and **midazolam**
- However, high doses of **levetiracetam** will require a significant volume in a syringe pump (vials are 500mg/5mL).
- For example, a 2.5g dose of levetiracetam will require 25mLs in a syringe pump. Consider whether additional medication will fit in the syringe.
- Max dose is usually 4g with advice from neurology (2 x CSCIs)

Phenobarbitone

- Long-acting barbiturate with anti-convulsant properties
- Terminal agitation
- If patient is already on CSCI with midazolam 120mg and levomepromazine 200mg
- Usually load with 200mg IM and then start a CSCI with 600-800mg



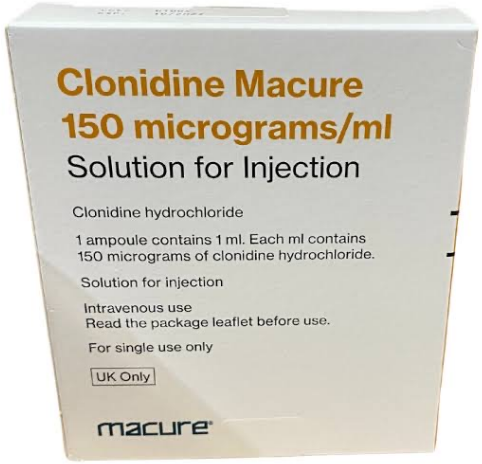
A Case study:

- Our Patient, 43 years old, with malignant melanoma with haemorrhagic brain metastases.
- Emergency discharge from hospital.
- Confused, agitated and paranoid but family were agreeable to bring him home.
- Full handover from Hospital Specialist Palliative Care Team to Hub consultant.
- Triaged by Hub the following day and urgent Hub response by Hub CNS.
- Referred on to Belfast Community Specialist Palliative Care Nursing Team(BCSPCNT).
- Joint medical and nursing visits daily, sometimes twice daily, as patient was very agitated, aggressive and paranoid.

A Case study:

- **Our patient died peacefully at home, surrounded by his family.**
- Bereavement call by BCSPCNT CNS.
- We respected patient's preferred place of care and preferred place of death.
- We expedited a hospital discharge and prevented an emergency readmission.
- We provided consistent and regular holistic support for the patient and family.
- This was a complex case that required collaborative working and specialist level care.
- Collaborative working between BHSCT Palliative Care Team, District Nurses, Belfast Community Palliative Care Hub, NI Hospice, Marie Curie Hospice, GPs and Care Provider.

Clonidine



- Alpha2 adrenergic agonist
- Sedation, anxiolysis, reduced autonomic arousal and reduced sympathetic activity
- Main issue is hypotension
- 75mcg sc stat
- 150mcg in CSCI
- Usually don’t go higher than 600mcg

Bleeding



- Antiplatelets and anticoagulants
- NSAIDs, SSRI, Steroids
- Crisis dose
  - Midazolam 10mg IM
  - Buccolam 10mg/2ml oromucosal solution

Discussion