HSC Health and Social Care in Northern Ireland

Northern Ireland guidelines on converting doses of opioid analgesics for **adult use 2018**

Prescribing Opioid Analgesics

Morphine is the first line choice ofstrong opioid.

*In severe renal impairment or dialysis patients, buprenorphine, fentanyl or alfentanil may be the preferred opioid.

Prescribe oral, transdermal and transmucosal opioids by brand name and injections generically.

Remember to ensure you are clear on the duration of action when prescribing branded products:

- Short-acting preparations e.g. Oramorph®, Sevredol®, Shortec®†, Oxynorm® or Palladone® approximately 4 hours.
- Long-acting preparations e.g. MST®, Longtec®†, OxyContin® or Palladone® SR approximately 12 hours.
- Opioid patches e.g. Mezolar®†, Durogesic®, replace every 3 days. Butec®†, BuTrans®, replace every 7 days. Transtec® replace twice weekly (every 3 or 4 days).

† *preferred NI Formulary Brand*

In persistent non-malignant pain, patients should not routinely require breakthrough analgesia except prior to events likely to cause pain e.g. dressing changes.

Breakthrough Analgesia in Palliative Care

In palliative care the standard dose of a strong opioid for breakthrough pain is usually one-sixth of the regular 24 hour dose, repeated every 4 to 6 hours as required.

The BNF prescribing in palliative care guidance also supports use (outside the product licence) every 2 to 4 hours as required (up to hourly may be needed if pain is severe or in the last days of life).

References

British National Formulary 74 (September 2017)
Palliative Care Formulary 5th Edition (2014)
Palliative Adult Network Guidelines (PANG) 2016. www.book.pallcare.info
Health and Social Care Board NI Formulary http://niformulary.hscni.net
Royal College of Anaesthetists. Opioids Aware: A resource for patients and healthcare professionals. www.rcoa.ac.uk/faculty-of-pain-medicine/opioids-aware
National Patient Safety Agency. 2008. Reducing dosing errors with opioid medicines. NPSA/2008/RRR005
Electronic Medicines Compendium 2017. Summary of Product Characteristics
Tapentadol. Personal communication. Grunenthal June 2017

Disclaimer: *Conversion ratios vary and these are an approximate guide only. They may differ from other published conversions but have been chosen to reflect best evidence and safety. Users are advised to monitor patients carefully for pain and side effects. Responsibility for the use of these recommendations lies with the healthcare professional(s) managing each patient. Seek specialist palliative care advice when necessary, especially at higher doses.*

The development of this guidance was led by the Regional Palliative Medicine Group and Macmillan Palliative Care Service Improvement Pharmacists, with the input of a multi-disciplinary team.
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- Ensure you are familiar with the following characteristics of that medicine and formulation: usual starting dose, frequency of administration, standard dosing increments, symptoms of overdose, common side effects.
- Confirm the most recent opioid dose, formulation, frequency of administration and any other analgesic medicines prescribed for the patient.
- Ensure where a dose increase is intended, the calculated dose is safe for the patient (e.g. generally by a third but **not normally** more than 50% higher than the previous dose). Use caution in higher doses.
- When making a planned opioid switch, if there is no stated opioid equivalent, usual practice is to convert to the oral morphine equivalent and then to the chosen opioid.
- Consider reduced doses in elderly, cachectic and debilitated patients. In renal or significant hepatic impairment, seek further advice.*
- When switching opioids it is recommended that a 25 - 50% reduction of the calculated dose of the new opioid should occur. This is to allow for cross tolerance, where tolerance to a currently administered opioid may not extend completely to other opioids. The new regimen may need to be increased or decreased accordingly. Monitor patients closely, especially at higher doses.
- The addition of adjuvant analgesia may require reduction of the opioid dose.
- Before prescribing opioids or increasing doses:
  - All patients should be made aware of the potential risks, side-effects and potency of opioids. Patient information available at http://niformulary.hscni.net
  - When considering prescribing opioids for **persistent non-malignant pain**, medication will achieve a 30-50% pain reduction at best. The risk of harm increases substantially above daily doses of oral morphine sulfate 120mg (or equivalent), without significant benefit. Suitable pain self management should also be explored www.paintoolkit.org
- **Transdermal Opioid Conversion**
  - Transdermal patches are NOT appropriate when rapid titration of opioids is required e.g. acute pain. Use in stable pain.
  - On first applying or increasing patch, systemic therapeutic levels are not reached for at least 12 hours. Doses should not be changed more regularly than every 48 hours.
  - On removal of an opioid patch a reservoir of the drug remains under the skin with levels falling by 50% (half-life) approximately every 18 to 24 hours.
  - For information on initiating, changing or stopping transdermal opioids refer to Palliative Adult Network Guidelines **www.book.pallcare.info**

Approximate equivalent doses of opioid analgesics for adult use

Read page 1 before using these equivalence tables

PO (Oral) to SC (Subcutaneous)

Oral Morphine to **Subcutaneous (SC) Diamorphine** – Divide by 3
E.g. 30 mg Oral Morphine = 10 mg SC Diamorphine

Oral Morphine to **SC Morphine** – Divide by 2
E.g. 30 mg Oral Morphine = 15 mg SC Morphine

Oral Morphine to **SC Alfentanil** – Divide by 30
E.g. 30 mg Oral Morphine = 1 mg SC Alfentanil

Oral Oxycodone to **SC Oxycodone** – Divide by 2
E.g. 10 mg Oral Oxycodone = 5 mg SC Oxycodone

Oral Hydromorphone to **SC Hydromorphone** – Divide by 2
E.g. 4 mg Oral Hydromorphone = 2 mg SC Hydromorphone

Specialist Palliative Care only. Oral Morphine to SC Fentanyl
Divide by 150 e.g. 15mg Oral Morphine = 100 micrograms SC Fentanyl

PO (Oral) to PO

Oral Morphine to **Oral Oxycodone** – Divide by 2
E.g. 30mg Oral Morphine = 15mg Oral Oxycodone

Oral Morphine to **Oral Hydromorphone** – Divide by 7.5
E.g. 30mg **Oral Morphine** = 4mg **Oral Hydromorphone**

Oral Tapentadol‡ to **Oral Morphine** – Divide by 2.5
E.g. 50mg Oral Tapentadol = 20mg Oral Morphine

Oral Tapentadol‡ to **Oral Oxycodone** – Divide by 5
E.g. 50mg Oral Tapentadol = 10mg Oral Oxycodone

Oral Tramadol‡ to **Oral Morphine** – Divide by 10
E.g. 100 mg Oral Tramadol = 10 mg Oral Morphine

Oral Tramadol‡ to **Oral Tapentadol‡** – Divide by 4
E.g. 200mg Oral Tramadol modified release = 50mg Oral Tapentadol modified release

Oral Codeine / Dihydrocodeine to **Oral Morphine** – Divide by 10
E.g. 240 mg Oral Codeine / Dihydrocodeine = 24 mg Oral Morphine

SC (Subcutaneous) to SC

SC Diamorphine to **SC Alfentanil** – Divide by 10
E.g. 10 mg SC Diamorphine = 1 mg SC Alfentanil

SC Morphine to **SC Diamorphine** – Divide by 1.5
E.g. 15 mg SC Morphine = 10 mg SC Diamorphine

SC Morphine to **SC Oxycodone** – Divide by 2
E.g. 20 mg SC Morphine = 10 mg SC Oxycodone
Note this may differ from other available conversions

SC Morphine to **SC Alfentanil** – Divide by 15
E.g. 15mg SC Morphine = 1mg SC Alfentanil

Transdermal to Oral

Buprenorphine Patch e.g. Butec®, BuTrans®
Replace patch EVERY 7 DAYS

Patch strength (micrograms per hr)	Oral dose over 24 hours (mg)		
	Morphine	Tramadol	Codeine / Dihydrocodeine
5 micrograms/hr	~10 - 12	~100	~120mg/day
10 micrograms/hr	~20 - 24	~200	~240mg/day
20 micrograms/hr	~40 - 48	~400	

Buprenorphine Patch e.g. Transtec® Patch
Replace patch TWICE WEEKLY (every 3 or 4 days)

Transtec® Patch (micrograms/hr)	24 hour Oral Morphine Dose
35 micrograms/hr	~ 63 - 97mg
52.5 micrograms/hr	~ 95 - 145mg
The doses below are **not** recommended for persistent non-malignant pain	
70 micrograms/hr	~ 126 - 193mg
140 micrograms/hr	~ 252 - 386mg

Transdermal to Oral

Fentanyl Patch e.g. Mezolar®, Durogesic®
Replace patch every 3 days

Fentanyl Patch (microgram/hr)	Equivalent 24 hourly Oral Morphine Dose (mg)
12	30-59
25	60-89
37	90-119
50	120-149
The doses below are **not** recommended for persistent non-malignant pain.	
62	150-179
75	180-239
100	240-299
125	300-359
150	360-419
175	420-479
200	480-539
225	540-599
250	600-659
275	660-719
300	720-779

‡Analgesia only partly opioid-mediated. Potential for increased opioid-related side effects when switching to other opioids.