HSC Health and Social Care in Northern Ireland

NIPCPG NI Palliative Care Pharmacy Group

Palliative Care in partnership

Northern Ireland guidelines on converting doses of opioid analgesics for adult use 2023

- Ensure you are familiar with the medicine's formulation, dose and frequency, safe dosing increments and adverse effects.
- Signs of opioid toxicity include drowsiness, myoclonic jerks, confusion/agitation, hallucinations, vivid dreams, cognitive impairment and respiratory depression. Pinpoint pupils are not a reliable sign of opioid toxicity in long-term opioid use.
- Confirm any recent opioid dose, formulation and frequency, and any other analgesics in use.
- Consider reduced doses in elderly, cachectic and debilitated patients and in patients with renal or significant hepatic impairment. Seek specialist advice.
- When changing dose or switching opioids, always **monitor the patient for pain control and signs of opioid toxicity**.
- Where a dose increase is intended, ensure the calculated dose is safe for the patient. Increase by no more than one third. Use caution in higher doses.
- When making a planned opioid switch, if there is no stated opioid equivalent, convert to the oral morphine equivalent and then to the chosen opioid.
- When switching opioids, a 25-50% reduction of the calculated dose of the new opioid is recommended, because tolerance to the initial opioid may not extend completely to other opioids. Review the new regimen at 24 hours and adjust accordingly, using caution at higher doses. For palliative care patients, ensure an "as required" opioid is prescribed.
- The addition of adjuvant analgesia may require reduction of the opioid dose.
- Before prescribing opioids or increasing doses, inform patients of risks, side-effects and potency of opioids. Patient information is available at https://niformulary.hscni.net/patient-zone

Chronic pain (excluding palliative or cancer pain)

- In chronic pain, there is limited benefit from medicines, around 30% pain reduction.
- Do not initiate opioids for chronic primary pain. If a patient is already using an opioid, explain the lack of evidence, risks of continuing, and agree a shared plan for continuing, reducing or stopping (see NICE CG 193 1.2.11).
- Offer patients non-pharmacological strategies (see NICE CG 193 1.2.1-1.2.6). Signpost to resources on NI Formulary Chronic Pain and https://niformulary.hscni.net/patient-zone.
- For chronic secondary pain refer to NICE guidance for the underlying condition and NI Formulary Chronic Pain.

Transdermal Opioid Conversion

- Transdermal patches are NOT appropriate when rapid titration of opioids is required e.g. acute pain. They are suitable in stable pain, if the transdermal route has a clear advantage.
- On first applying or increasing a patch, systemic therapeutic levels are not reached for at least 12 hours. Do not adjust the dose until at least 48 hours have passed.
- On removal of a patch a reservoir of the opioid remains under the skin with levels falling by 50% (half-life) approximately every 18-24 hours. Consider this when switching to an alternative opioid or route.
- For information on starting, 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 **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
Oral Morphine to SC Diamorphine - Divide by 3 e.g. 30 mg Oral Morphine = 10 mg SC Diamorphine
Palliative Medicine Consultant only **Oral Morphine to SC Fentanyl** Divide by 150 e.g. 15mg PO Morphine ≈ 100micrograms SC Fentanyl SC fentanyl to PO morphine: only as stipulated by palliative medicine consultant. The conversion will be in the range 100-150.

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 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
SC Morphine to **SC Diamorphine** - Divide by 1.5 e.g. 15 mg SC Morphine = 10 mg SC Diamorphine

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.

Developed by NI Palliative Care Pharmacy Group, Regional Palliative Medicine Group and Strategic Planning and Performance Group (SPPG) March 2023.
For review March 2026.

Prescribing Opioid Analgesics

Morphine is the first line strong opioid.
Consider oxycodone as the first line choice in persistent renal impairment.

In hepatic impairment (without concomitant renal impairment) morphine is preferred.

In severe renal and/or hepatic impairment, or dialysis patients, seek specialist advice. Alfentanil, fentanyl or buprenorphine may be preferred.

Remember:

- Prescribe in mg or micrograms, not mL.
- Injected and oral routes are not equipotent. Specify one route for opioids. Never write PO/SC/IV in the route box.
- Prescribe in whole numbers. Avoid decimal points to reduce risk of error.
- Take care with sound alike names e.g. alfentanil and fentanyl.
- Know the product's duration of action:

COMMON LONG ACTING (last 12 hours)
Oral modified release products
MST®, Zomorph®, Longtec®, Palladone SR®
COMMON SHORT ACTING (last around 4 hours)
Oral standard release products
Morphine sulfate oral solution, oxycodone oral solution, Shortec® capsules, Sevredol® tablets, Palladone® IR capsules
Transdermal opioid patches
Mezolar®, Durogesic®: replace every 3 days.
Butec®, BuTrans®: replace every 7 days.
Transtec®, replace every 3 - 4 days.

Breakthrough Analgesia in Palliative Care

The standard regimen for strong opioids for breakthrough pain is usually one-tenth to one-sixth of the regular 24 hour dose, repeated every 4 hours as required.
In palliative care, BNF supports prescribing every 2 to 4 hours as required, or hourly if pain is severe or in the last days of life (outside the product licence).

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

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 advice when necessary, especially at higher doses.

References

1. British National Formulary Prescribing in Palliative Care bnf.nice.org.uk [accessed 24/11/22]
2. Palliative Care Formulary 8th Edition (2022)
3. Palliative Adult Network Guidelines (PANG) 2016. **www.book.pallcare.info**
4. Health and Social Care Board NI Formulary **www.niformulary.hsci.net**
5. Royal College of Anaesthetists. Opioids Aware: A resource for patients and healthcare professionals. **www.rcoa.ac.uk/faculty-of-pain-medicine/opioids-aware**
6. National Patient Safety Agency. 2008. Reducing dosing errors with opioid medicines. NPSA/2008/RRR0057. Electronic Medicines Compendium 2022. Summary of Product Characteristics
8. Tapentadol. Personal communication. Grunenthal June 2017
9. Scottish Palliative Care guidelines **www.palliativecareguidelines.scot.nhs.uk/guidelines/pain/pain-management** [accessed 29/11/22]
10. NICE CG 193 Chronic pain (primary and secondary) in over 16s: assessment of all chronic pain and management of chronic primary pain. Available at: **https://www.nice.org.uk/guidance/ng193** [accessed 25/01/23]