Opioid Dose Equivalence

In order to calculate an oral Morphine Equivalent Daily Dose (oMEDD), multiply the current daily opioid dose by the conversion factor in column 3.

Calculation example for a patient taking oxycodone 40mg/day:

- oMEDD of oxycodone 40 mg/day = 40 x 1.5 = morphine 60 mg/day = oMEDD 60 mg
- Given that calculated oMEDD is ≥ 40 mg, recommend take home naloxone (THN) and provide education

CURRENT OPIOID	CONVERSION FACTOR		PROPRIETARY NAMES
ORAL (SWALLOWED) PREPARATIONS *Note: Modified release formulations are marked MR*			
Morphine	mg/day	1	Anamorph, Kapanol (MR), MS Contin (MR), MS Mono (MR), Ordine, Sevredol
Oxycodone	mg/day	1.5	Endone, OxyContin (MR), OxyNorm, Targin (MR)
Hydromorphone	mg/day	5	Dilaudid, Jurnista (MR)
Codeine	mg/day	0.13	Aspalgin, Codalgin, Panadeine, Panadeine Forte, Mersyndol, Nurofen Plus, others
Dextropropoxyphene	mg/day	0.1	Di-Gesic, Doloxene
Tramadol	mg/day	0.2	Durotram-XR (MR), Tramal, Tramadol SR (MR), Zydol, Zydol SR (MR), others
Tapentadol	mg/day	0.3	Palexia-SR (MR), Palexia-IR
SUBLINGUAL PREPARATIONS			
Buprenorphine	mg/day	40	Suboxone, Subutex, Temgesic
RECTAL PREPARATION *Note: Absorption from rectal administration is highly variable*			
Oxycodone	mg/day	1.5	Proladone
TRANSDERMAL PREPARATIONS			
Buprenorphine	mcg/hr	2	Norspan
Fentanyl	mcg/hr	3	Denpax, Durogesic, Dutran, Fenpatch, Fentanyl Sandoz
PARENTERAL PREPARATIONS			
Morphine	mg/day	3	DBL morphine sulphate injection, DBL morphine tartrate injection
Oxycodone	mg/day	3	OxyNorm FI
Hydromorphone	mg/day	15	Dilaudid FI, Dilaudid-HP FI
Codeine	mg/day	0.25	Codeine phosphate injection USP
Pethidine	mg/day	0.4	Pethidine injection BP
Fentanyl	mcg/day	0.2	DBL fentanyl injection, Sublimaze
Sufentanil	mcg/day	2	
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CURRENT oMEDD	Take Home Naloxone (THN) to mitigate harm for outpatients
Adjust the following recommendations based on **individual and contextual risks for opioid harm**	
oMEDD 1 - 40mg	**Consider THN** and patient-education
oMEDD > 40mg	**Recommend THN** and patient-education
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Practical considerations

1. This opioid dose equivalence table is intended for comparison of different opioid and opioid formulations in individual patients or in patient cohorts.
2. Caution is required if opioid dose equivalence tables are used to guide opioid switching, as the administration of a calculated 'equivalent' dose of the replacement opioid may lead to overdosage.
3. It should be noted that there is considerable variability in pharmacokinetics and pharmacodynamics of the different opioids, within and between individual patients. In addition, interactions with non-opioid drugs can strongly influence opioid pharmacokinetics.
4. Modified-release formulations can be sub-classified as delayed- or extended- release. Extended release of a drug can be achieved using sustained- or controlled-release delivery systems. When the opioid regimen includes modified- and immediate-release preparations, both should be included in calculation of the oMEDD.
5. Methadone, fentanyl lozenges and neuraxial opioids are not included in this table due to their complex and variable pharmacokinetics.
6. The conversion factors listed are derived from pooled data in the peer-reviewed literature and pharmaceutical company product information.
7. Opioid Safety and TakeHome Naloxone (THN)

7.1. The oMEDD dose at which THN should be recommended remains a matter of conjecture and is more nuanced and complex than a simple number.

7.2. The literature suggests that there is no safe dose of opioid and that THN should be **considered** with all/every opioid prescription based on risk assessment. The 2022 Queensland study showed that widely available THN and brief education about recognizing an overdose and how to use THN saved an estimated 3 lives per day from inadvertent over doses.[2 7]

7.3. Risk factors such as frailty, age <18 or >65 years, weight <50 kg, comorbid medical conditions (respiratory conditions, liver or kidney disease, hypothyroid, body mass), concomitant medications, palliative care, disordered sleep, mental health disorder, and a child <18 in household, need to be considered in determining individual prescription and patient risk.

7.4. Although an oMEDD >40 mg and an oMEDD >100 mg are respectively associated with a four-fold and eleven-fold increased risk of a cardiorespiratory event.[20] The risk factors listed above and co-prescription of other sedatives, such as benzodiazepines, gabapentanoids and alcohol use elevates the risk and makes it nonlinear.

7.5. FPM ANZCA provides the following guidance on take home naloxone (THN):

a. Prescribers **consider THN** and patient-education with **ALL out-patient** opioid prescriptions, adjusted for individual risk

b. Prescribers **recommend THN** and patient-education with an **oMEDD > 40 mg**, adjusted for individual risk

For more detail, see *PS01(PM) Opioid analgesics in chronic non-cancer pain*

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