Equi-analgesic doses for common opioids used in ITU

	Potency Ratio with Oral Morphine	Equivalent dose to 10 mg oral morphine	Approximate Time of Onset	Approximate Duration of analgesia
Buprenorphine 72hr Patch: TD	75-100	See Guidelines for guidance on dosing	Steady state achieved by day 3	Continuous once steady state achieved. Approx 26hrs from cessation
Codeine Phosphate: PO	0.1	100mg	30-60 minutes	4-6 hours
Diamorphine: IM, IV or SC	3.3	3mg		
Dihydrocodeine: PO	0.1	100mg	10-30 minutes	4-6 hours
Fentanyl: IM, IV, SC	150-200	Approx 50mcg	IM:7-8 minutes IV: Almost Immediate	IM: 1-2 Hours IV: 30-60 minutes
Fentanyl 72hr Patch: TD	150-200	See Guidelines for guidance on dosing	Approx 6 hours	Continuous once steady state achieved Approx 20-27hrs from cessation
Hydromorphone: PO	7.5	1.3mg	Immediate Release: 15-30 minutes Prolonged Release: 6 hours	IR: 3-4 hours PR: Approx 13 hours
Methadone: PO	*	*		
Morphine: PO	1	10mg	30 minutes	4-6 hours
Morphine: IM, IV, SC	2	5mg	5-10 minutes	4-6 hours
Oxycodone: PO	2	5mg	10-15 minutes	3-6 hours
Tramadol: PO	0.1	100mg	60 minutes	Approx 9 hours

** The relative potency of **methadone** depends on the starting dose and the duration of administration. Conversions to and from methadone should always be undertaken with specialist advice*

All information dose conversion has been taken from the BNF[2] with the exception of Fentanyl, which has been calculated utilising the widely accepted conversion ratio of 100:1 of parenteral Morphine vs perenteral Fentanyl[3, 4].

Switching from one opioid to another may be necessary to improve analgesia, minimise undesirable effects or step down from a PCA to oral analgesia. It is difficult to give absolute guidance on dose equivalence on switching opioids. Patient factors should be taken into consideration.

Based on expert consensus it is recommended to reduce the calculated equivalent dose of the new opioid by 25-50%, and a dose reduction of 50% is prudent when switching from high doses particularly in the elderly or frail particularly if there has been a rapid escalation in doses of the first opioid.

PRN doses can be administered for breakthrough pain to maintain good analgesia and allow re-titrating to an effective dose of the new opioid.

All opiates are metabolised hepatically, so caution should be used in patients with impaired Liver Function. Similarly, many opiates and/or their metabolites are excreted renally, and so dose reductions may be necessary for patients in renal failure.

For further guidance, please see the EKHUFT **Pain Management Guidelines for Non-Specialist Clinicians**, or seek specialist advice.

References

1: Faculty of Pain Medicine. **Dose Equivalent and Changing Opioids** (2016) https://www.rcoa.ac.uk/faculty-of-pain-medicine/opioids-aware/structured-approach-to-prescribing/dose-equivalents-and-changing-opioids

2: BNF. **Prescribing in Palliative Care** (2019) https://bnf.nice.org.uk/guidance/prescribing-in-palliative-care.html

3: Electronic Medicines Compendium. **Fentanyl** (2019) https://www.medicines.org.uk/emc/medicine/22167#PHARMACOLOGICAL_PROPS

4: Pareira, J., Lawlor, P., Vigano, A., et al. **Equianalgesic Dose Ratios for Opioids** (2001) https://www.jpsmjournal.com/article/S0885-3924(01)00294-9/fulltext#Fentanyl

5: Archer, Steinvoort, and Odera. **Drug Class Review: Short-Acting and Rapid-Acting Opioid Agents** (2014) http://www.health.utah.gov/pharmacy/ptcommittee/files/Criteria%20Review%20Documents/02.14/Short-Acting%20Opioid%20Drug%20Class%20Review.pdf