

KEY PRINCIPLES OF OPIOID ADMINISTRATION

1. Always calculate the MEDD (morphine equivalent daily dose) prior to any titration

The MEDD = oral morphine total mg dose in 24 hours

2. Breakthrough dose: 10-15% of the 24 hour total dose or MEDD (most easily applied to oral dosing)

3. Titrating dosage: If 3 or more breakthrough doses in a 24 hour period, re-titrate opioid

- Calculate increase based upon 24 hour total opioid dose or MEDD (scheduled + breakthrough)

- Consider increasing both the scheduled and breakthrough doses

Pain score can also be used to aid in opioid titration: general guidelines

- Pain >7 Increase dose by 50% to 100%
- Pain 4-7 Increase dose by 25% to 50%
- Pain <4 Increase dose by 25%

4. Converting among opioids at high doses

- Incomplete cross tolerance must be factored into conversion

(tolerance to one opioid does not imply equivalent tolerance to another due to different opioid receptor affinity)

- Begin new opioid at 50%-75% of projected dose (25-50% reduction in MEDD)

5. Equianalgesic Conversion Table

Drug Name	Equianalgesic Dose		Oral to Parenteral Ratio
	Oral (mg)	Parenteral (mg)	
Morphine	30	10	3:1
Hydromorphone	7.5	1.5	5:1
Oxycodone	20	N/A	N/A
Hydrocodone	30	N/A	N/A
Codeine	200	130	1.5:1

Factor of conversion from oral morphine to and from oral hydromorphone is 4:1

Factor of conversion from oral morphine to and from oral oxycodone is 3:2

Factor of conversion from oral morphine to and from IV hydromorphone is 20:1

Factor of conversion from oral morphine to and from codeine is 1:6.67

6. Fentanyl

Transdermal (from MEDD to transdermal fentanyl only)	24 hr Oral Morphine (mg)	to Fentanyl dose (mcg/hr)
	45-134	25
	135-224	50
	225-314	75
	315-404	100
	405-494	125
	495-584	150
	585-674	175
	675-764	200

OR 2mg oral morphine = 1ug of transdermal fentanyl (i.e. 50mg oral morphine = 25mcg fentanyl)

Parenteral Approximate conversion morphine 10mg IV = Fentanyl 100mcg IV for single dose
(above conversion is approximation only;always use with caution)

7. Methadone Oral:IV is 2:1

Enteral From morphine (MEDD) to oral methadone/24 hrs only	24 hr. Oral Morphine	Oral Morphine: Methadone Ratio
	<30mg	2:1
<u>This is just one of a few proposed methods.</u>	31-99mg	4:1
	100-299mg	8:1
	300-499mg	12:1
	500-999mg	15:1
	>1000mg	20:1