

Appendix
Table 32 Opioid Conversion Charts (note: – rounded to convenient doses)

Route	Morphine mg				Diamorphine mg			Oxycodone † mg			Hydromorphone mg	
	Oral		SC *		CSCI 24h	q4h	Oral		CSCI 24h	q4h	Oral	
	24h total	q4h 4 hrly	24h total	q4h			24h total	q4h			24h total	q4h
Dose	30	5	15	2.5	10	2.5	15	2.5	10	2.5	4	1.3
	60	10	30	5	20	5	30	5	20	5	8	1.3
	90	15	45	7.5	30	5	45	7.5	30	5	12	2.6
	120	20	60	10	40	5	60	10	40	5	16	2.6
	150	25	75	12.5	50	7.5	75	12.5	50	7.5	20	3.9
	180	30	90	15	60	10	90	15	60	10	24	3.9
	240	40	120	20	80	15	120	20	80	15	32	5.2
	360	60	180	30	120	20	180	30	120	20	48	7.8
	480	80	240	40	160	25	240	40	160	25†	64	10.4
	600	100	300	50	200	30	300	50	200	30†	80	13
	800	130	400	65	260	40	400	65	260	40†	106	16.9
	1000	160	500	80†	330	60	500	80	330	60†	132	22.1
	1200	200	600	100†	400	70	600	100	400	70†	160	26

This table does **not** indicate incremental steps. Increases are normally in 30-50% steps - more, if indicated by need for p.r.n. doses.
 † SC volumes > 2ml are uncomfortable; oxycodone injection is available as either 10mg/ml per ml or 50mg/ml; morphine is 30mg/ml; consider using alternative opioid or 2 injection sites per p.r.n. dose if injection volume would be >2ml

Conversion factors:

Oral morphine to SC morphine -divide by 2; oral morphine to SC diamorphine – divide by 3

Oral morphine to oral oxycodone – divide by 2

Oral morphine to oral hydromorphone – divide by 7.5

Oral oxycodone to SC oxycodone – divide by 1.5

*** Parenteral use of morphine,diamorphine and equivalent doses of oxycodone see opioids page 7 and safety guidance NPSA 2006/012**

Table 33 Dose conversion for weak opioids and buprenorphine to oral morphine

Drug	To obtain equivalent oral morphine dose, multiply by:	For example if the patient is having:	Dose in 24h	Approximate oral morphine equivalent in 24h
Dihydrocodeine	1/10	30mg q.d.s	120mg	12mg
Codeine	1/12	30mg q.d.s.	120mg	10mg
Tramadol***	1/10	100mg q.d.s.	400mg	40mg
Buprenorphine (sublingual)	80	200microgram t.d.s	600microgram	50mg
Buprenorphine (transdermal patch e.g. Transtec®, BuTrans®)	100	35microgram/h	840microgram	84mg

***Note dose conversion for tramadol in line with guidance from <http://www.palliativedrugs.com/tramadol.html>

Table 34 Comparative doses of buprenorphine and morphine.

These recommendations are based on a PO morphine:TD buprenorphine dose ratio of 100:1 derived from published data, which is in keeping with the manufacturer's dose ratio range of 75–115:1 (see Summary of Product Characteristics; it is an approximation, and inevitably there will be individual variation).

Buprenorphine patch strength (microgram/h)	Equivalent codeine dose	Equivalent oral morphine dose (mg/24 h)	p.r.n dose of oral morphine (mg) *
Bu Trans®			
5**	30mg qds	12	2
10**	60mg qds	24	5
20	-	48	10
Transtec®			
35	-	84	15
52.5	-	126	20
70	-	168	30

* using traditional 1/6 of total daily dose as p.r.n. dose and rounded to a convenient dose

** At these doses p.r.n. codeine may suffice.

Table 35 Converting from Oral Morphine to Fentanyl Transdermal Patches

24-hrly morphine dose (mg)	Fentanyl Transdermal (microgram/h)	Oral short -acting morphine breakthrough dose
60 - 90	25	15
90 - 134	37	20
135 - 189	50	30
190 - 224	62	35
225 - 314	75	45
315 - 404	100	60
405 - 494	125	75
495 - 584	150	90
585 - 674	175	105
675 - 764	200	120
765 - 854	225	135
855 - 944	250	150
945 - 1034	275	165
1035 - 1124	300	180

Note: The fentanyl 12 microgram/h patch is licensed for dose titration between the steps 25 - 50, 50 - 75 micrograms/h

For fentanyl doses outside the ranges above, seek advice from the specialist palliative care team.

For parenteral doses of morphine, oxycodone and diamorphine equivalent to oral morphine see Table 32

For other opioids, calculate the equivalent morphine dose from Table 33. If in doubt, seek advice