RECOMMENDED EQUIVALENT DOSES FOR OPIOID DRUGS FOR USE IN ADULTS IN PALLIATIVE CARE OR WITH CANCER PAIN

N.B. This table is to be used as a guide rather than as a set of definite equivalences.

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Morphine					**Subcutaneous Diamorphine**		**Subcutaneous Alfentanil**	**Oxycodone**					**Fentanyl**	**Buprenorphine**	**Tramadol***	**Codeine Phosphate**
Oral (mg)			**Subcutaneous (mg)**					**Oral (mg)**			**Subcutaneous (mg)**		**Transdermal Patch (mcg/hr)**	**Transdermal Patch (mcg/hr)**	**Oral (mg)**	**Oral (mg)**
4hr dose	12hr dose	24hr total dose	4hr dose	24hr total dose	4hr dose (mg)	24hr total dose (mg)	24hr total dose (mg)	4hr dose Oxynorm liquid/ capsule	12hr dose Oxycontin tablet	24hr total dose	4hr dose	24hr total dose	Patch strength STABLE PAIN ONLY Change 72 hrly	Patch strength STABLE PAIN ONLY Change at intervals indicated	24hr total dose	24hr total dose
		5														60
		10												5 7 days	100	120
		20												10 7 days	200	240
5	15	30	2.5	15	1.25	10	1	2.5	10	15	1.25	7.5	12	20 7 days		
10	30	60	5	30	2.5-5.0	20	2	5	15	30	2.5	15	25	35 96 hours		
15	45	90	7.5	45	5.0	30	3	7.5	25	50	3.75	25	37	52.5 96 hours		
20	60	120	10	60	7.5	40	4	10	30	60	5	30	37	70 96 hours		
30	90	180	15	90	10	60	6	15	45	90	7.5	45	50	105 96 hours		
40	120	240	20	120	12.5	80	8	20	60	120	10	60	75	140 96 hours		
50	150	300	25	150	15	100	10	25	75	150	12.5	75	75			
60	180	360	30	180	20	120	12	30	90	180	15	90	100			
70	210	420	35	210	25	140	14	35	105	210	17.5	100	125			
80	240	480	40	240	27.5	160	16	40	120	240	20	120	125			
90	270	540	45	270	30	180	18	45	135	270	22.5	135	150			

*Max dose of tramadol is 400mg in 24 hr equiv to 40mg of oral morphine in 24 hrs

How to use this table:

Look for the name of the drug you wish to prescribe. Then decide which route you wish to use. For parenteral use we recommend the subcutaneous route. If you are giving a long acting opioid (12 hrly dose or patch), you will need to prescribe a prn dose for breakthrough pain – this is one sixth of the 24 hour dose, or the 4hourly dose of the same drug, or, in the case of fentanyl or buprenorphine, use the correct 4hrly dose of morphine for breakthrough pain (this should be prescribed PRN, maximum hourly so that patients do not have to wait for rescue analgesia).

Most data on doses is based on single dose studies so it is not necessarily applicable in chronic use, also individual patients may metabolise different drugs at varying rates. The advice is to always calculate doses using morphine as standard and to adjust them to suit the individual patient and the situation.
Caution should be used in renal and hepatic failure. Some doses have been rounded up or down to fit with the preparations available. Avoid initiating patch use in unstable pain.
At higher doses e.g. the equivalent of 180mg of oral Morphine in 24 hours or more, consider reducing the equianalgesic dose by 30-50% if converting from a less sedating Opioid e.g. Fentanyl to Morphine or Diamorphine (as the sedative effects may be much greater for an 'equianalgesic' dose)
For further advice please discuss with either the Palliative care team or the Acute pain team as appropriate.

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Worked Examples:

You wish to prescribe Slow Release Morphine (Zomorph or MST) 30mg bd
This is the same as 60mg oral Morphine in 24 hours
One sixth of this is the PRN dose – 10mg
Prescribe 30mg bd Slow Release Morphine (Zomorph or MST) and 10mg Immediate Release Morphine (Oramorph) PRN, max hourly

You wish to prescribe a Fentanyl 100mcg/hr patch
This is the same as 360mg oral Morphine in 24 hours
One sixth of this is the PRN dose – 60mg
Prescribe Fentanyl patch 100mcg/hr (renew patch every 72 hours) and 60mg Immediate Release Morphine (Oramorph) PRN, max hourly

You wish to prescribe Slow Release Oxycodone (Oxycontin tablets) 60mg bd
This is the same as 120mg oral Oxycodone in 24hrs (The same as 240mg Morphine in 24hrs)
One sixth of this is the PRN dose – 20mg
Prescribe Oxycontin Tablets 60mg bd and Oxynorm Liquid 20mg PRN, max hourly

You wish to change a patient from 30mg bd Slow Release Morphine onto a syringe driver
This is the same as 60mg oral Morphine in 24hrs
This is the same as 20mg subcutaneous Diamorphine in 24 hours – this is the dose to go in the syringe driver
One sixth of this is the 4hrly dose – prescribe 2.5 – 5mg Diamorphine subcutaneously PRN, max hourly

References:

Adapted with kind permission from guidance produced by Hampshire Hospitals NHS Foundation Trust
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