

Reminder: Opiate Restrictions/Recommendations

Adult and Pediatric Patient Controlled Analgesia (PCA) Dosing (Table 1, 2, 3)
Dosing for Morphine and Hydromorphone Injection (Table 4)
Guidelines for Opioids in Kidney and Liver Disease (Table 5)

Table 1 **Standard Adult PCA Order Sets***
All Have 8 Minute Bolus Interval and Maximum of 8 Bolus Doses per Hour

Patient Type	Morphine 1 mg/mL 100 mL		Hydromorphone 1 mg/mL 50 mL		Fentanyl 25 mcg/mL 100 mL	
	Bolus Dose	Max Hourly Dose	Bolus Dose	Max Hourly Dose	Bolus Dose	Max Hourly Dose
Opiate Naïve	0.5 mg	4 mg	0.1 mg	0.8 mg	10 mcg	80 mcg
Standard	1.4 mg	11.2 mg	0.2 mg	1.6 mg	18 mcg	144 mcg
Opiate Tolerant	1.8 mg	14.4 mg	0.3 mg	2.4 mg	22 mcg	176 mcg

*Basal rates are restricted to Pain/Anesthesia and Pall care.

Table 2 **Maximum Number of Doses per Hour for Bolus Intervals**

Bolus Interval	Maximum Number of Doses per Hour	Availability
6	9	Pediatrics, Pain Service, Anesthesia and Palliative Care
7	9	Pediatrics, Pain Service, Anesthesia and Palliative Care
8	8	Standard PCA
9	7	Pediatrics, Pain Service, Anesthesia and Palliative Care
10	6	Pediatrics, Pain Service, Anesthesia and Palliative Care
15	4	Pediatrics, Pain Service, Anesthesia and Palliative Care
20	3	Epidural (Anesthesia Only)
30	2	Epidural (Anesthesia Only)

(SEE OVER)

Table 3

Pediatric PCA Order Recommendations

	Morphine 1 mg/mL 100 mL	Hydromorphone 1 mg/mL 50 mL	Fentanyl 25 mcg/mL 100 mL
Basal Rate	0.01 – 0.02 mg/kg/hour	0.003 mg/kg/hour	0.5 – 1 mcg/kg/hour
Bolus Dose	0.01 – 0.02 mg/kg	0.003 mg/kg	0.25 – 0.5 mcg/kg
Bolus Interval	6 – 10 minutes	6 – 10 minutes	6 – 10 minutes
Maximum Number of Bolus Doses per Hour	6 - 10 doses per hour	6 – 10 doses per hour	6 – 10 doses per hour
Maximum Hourly Dose	0.15 mg/kg/hour or 12 mg/hour	0.02 mg/kg/hour or 2 mg/hour	2 mcg/kg/hour or 150 mcg/hour

Table 4

Hydromorphone and Morphine IV intermittent dosing limits:

Hydromorphone Injection	Morphine Injection
0.2 mg	1 mg
0.4 mg	2 mg
0.6 mg	4 mg
0.8 mg	6 mg
1 mg	8 mg
1.2 mg	10 mg
1.4 mg	

These changes will allow practitioners to address patient pain needs while providing the additional safety of limited risk of over sedation. For doses outside of the established ranges, IV methadone or injectable meperidine for pain practitioners should contact Pain Service (pager 2738) or Palliative Care (pager 9399 / 917 632-6906).

Table 5

Guidelines for Opioids in Kidney and Liver Disease*

	Kidney Disease		Liver Disease	
	Renal Failure	Dialysis	Stable Cirrhosis	Severe Disease
Morphine	Not recommended	Not recommended Not Dialyzed	Caution ↓dose ↓frequency	Not Recommended
Oxycodone	Caution ↓dose ↓frequency	Caution	Caution ↓dose ↓frequency	Caution ↓dose ↓frequency
Hydromorphone	Preferred ↓dose ↓frequency	Preferred Not dialyzed, but minimal toxicity	Caution ↓dose ↓frequency	Caution ↓dose ↓frequency
Fentanyl	Preferred	Preferred Not dialyzed, but minimal toxicity	Preferred	Preferred
Codeine	Do not use	Do not use	Do not use	Do not use
Methadone (Consult with an experienced clinician before initiating or adjusting the dose of methadone)	Preferred-with consultation only	Preferred-with consultation only. Not dialyzed, but minimal toxicity	Preferred-with consultation only	Preferred-with consultation only

*Avoid sustained-release oral opioids in kidney disease. Note that even the “safest” opioids are not dialyzed.

If you require further information regarding this or any other medication related issues, please contact the Drug Information Center, Monday through Friday between 9:00AM and 5:00PM at extension 46619.

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