

TYPICAL OPIOID CLINICAL PHARMACOKINETICS

DRUG NAME	Equivalence to 30 mg codeine PO (References) - see note 1	Approx. Time of Peak Plasma Level	Half Life
<u>Very Slow Onset (2hr), Prolonged Resp. Effects (7-14hr)</u>			
Diphenoxylate	30 mg PO (1,3)	120 min	2.5 hr
Loperamide	50 mg PO (1)	-	7-15 hr
<u>Moderate Onset (1hr), Mod. Prolonged Resp. Effects (4-8 hr)</u>			
Methadone	10 3 mg PO (1,3) 2 mg IM, SC (1,3)	60 - 120 min	15-40 hr
<u>Rapid Onset (15min), Limited Resp. Effect Duration (1-2hr)</u>			
Codeine	1 30 mg PO 20 mg IM (1,4)	30 min	2-4 hr
Dihydrocodeine	0.75 40 mg PO (1)	90 - 110 min	4 hr
Fentanyl	1500 20 ng PO, IM (same as 0.020 mg (3,1)		
Heroin	20 0.5 mg IV (3) 0.6 mg IM, SC (1,4) 1.5 mg PO (4,1)	-	0.5 hr
Hydrocodone	2 15 mg PO (1,4)	-	4 hr
Hydromorphone	33.3 0.25 mg IM, SC (3,1) 0.9 mg PO (1)	90 - 120 min	2-3 hr
Levorphanol	50 0.6 mg PO (1,4) 0.3 mg IM, SC (1,4)	-	12-16 hr
Meperidine	0.86 35 mg PO (3,1) 15 mg IM, SC (3,1)	120 min	3-4 hr

Morphine	3	10 mg PO (3,1) 1.5 mg IM, IV, SC (3,1)	15 - 120 min	2 hr
Oxycodone	7.5	4 mg PO (3) 1.5 mg IM (1,3)	60 min	2-5 hr
Oxymorphone	33.3	0.15 mg IM, SC (4,1) 0.9 mg PO (1)	—	2-3 hr
Pentazocine (Mixed agonist-antagonist)	1.5	7 mg IM, SC (3) 20 mg PO (1,4)	120 - 180 min	4-5 hr
Propoxyphene	0.43	70 mg PO (1,3)	60 - 120 min (<i>parent compd.</i>); 240 min (<i>nor-propoxy- phene</i>)	6-12 hr

Notes: 1. These equivalencies are approximate, and emphasize the respiratory depressant properties and analgesic potencies of these agents. Where these properties diverge, as indicated by an asterisk next to the codeine-equivalent dose, the respiratory depressant dose is weighted more heavily in assigning a value.

References

1. Allen T. "Narcotics", in Rosen P et al (eds). Emergency Medicine: Concepts and Clinical Practice. Ed 3. St. Louis: Mosby, 1992: 2603-2617.
2. Baselt RC, Cravey RH. "Oxycodone", in Baselt RC, Cravey RH. Disposition of Toxic Drugs and Chemicals in Man. Ed 3. Chicago: Yearbook Medical, 1989.
3. Ellenhorn MJ, Barceloux DG. "Opiates, Opioids, and Designer Drugs", in Ellenhorn MJ, Barceloux DG. Medical Toxicology: Diagnosis and Treatment of Human Poisoning. NY: Elsevier, 1988: 689-751.
4. Jaffe JH, Martin WR. "Opioid Analgesics and Antagonists", in Goodman AG et al (eds). Goodman and Gilman's The Pharmacological Basis of Therapeutics. Ed 8. NY: Pergamon Press, 1990: 509-521.

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