

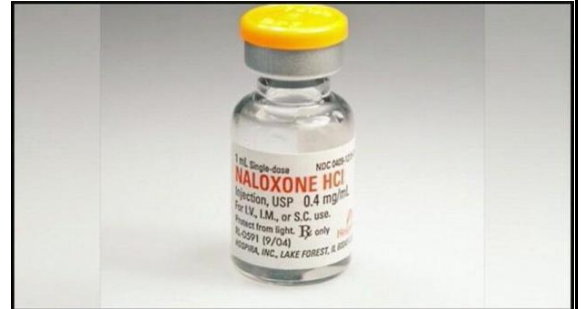
TOXICOLOGY

NALOXONE FOR OPIATE OVERDOSE



Reduced conscious level is usually used to predict patients at risk of severe respiratory depression. If the patient is unrousable:

- **Consider airway adjuncts**
- **Give oxygen**
- **Naloxone IV bolus:** Naloxone IV 100–200micrograms, then 100micrograms every 2 minutes PRN



Observe patient carefully for recurrence of CNS and respiratory depression.

The plasma half-life of naloxone is shorter than that of all opioid analgesics – repeated doses of naloxone may be required.

- **Naloxone IV infusion**

N.B. Administration guidance from TOXBASE.

Naloxone infusion may be useful where repeated doses are required. An infusion of **60% of the total dose, infused over 1 hour** is a useful starting point.

Dilution: Make up a solution of naloxone 10mg/50ml as follows:

- Draw up 10mg of naloxone (25 ampoules of 400micrograms/ml (total volume: 25ml). (Takes a long time!!!)
- Dilute the 10mg concentrate with 25ml of glucose 5% to give a final volume of 50ml and a concentration of 200micrograms/ml.
- Infuse solution using an IV pump, **adjust dose to clinical response.**

Dose example: If the total repeated doses required to maintain patient with satisfactory ventilation for at least 15 minutes add up to 4mg then the infusion rate would be 60% of this dose which is 2.4mg (12ml)/hour.

- **Observe patients for at least 6 hours after the last dose of naloxone** (obviously not in the ED, they will probably IRD before then anyway). Monitor BP, pulse, respiratory rate, oxygen saturation and conscious level at least every 15 minutes initially.
- If no response to naloxone, do not delay establishing a clear airway, adequate ventilation and oxygenation
- **If pulmonary oedema is a complication, then assisted ventilation with positive end-expiratory pressure may be necessary.**

Approximate Opiate Equivalency

Analgesic	Strength (relative)	Equivalent dose (10mg ORAL morphine)	Bioavailability	Half life of active metabolites (hours)
Paracetamol*	1/360	3600mg	63- 89%	1-4 hours
Ibuprofen	1/222	2220mg	87- 100%	13.- 3
Codeine	1/10	180mg PO	≈90%	2.5- 3
Tramadol	1/10	>200mg	75- 90%	5.5- 7
Dihydrocodeine	1/5	50mg	20%	4
Morphine (oral)	1	10mg	≈25%	2-3
Morphine (IM/IV)	3	3.33mg	100%	2-3
Methadone** (acute)	3-4	2.5-3.33mg	40-90%	15-60**
Methadone (chronic)	2.5- 5	3.33mg	40- 90%	15- 60
Diamorphine (Heroin)†	4- 5	2- 2.5mg	100%	<0.6
Fentanyl	50- 100	0.1mg (100mcg)	33%	0.4 (IV) 7 (transdermal)

*Paracetamol has a synergistic effect with opiates so will reduce the amount of morphine necessary to control pain- give it!

**Note the half- life of methadone is up to 60 hours, beware the greedy IVDU who has taken their full weekend dose with a heroin chaser, they may wake up with Narcan... but not for long.

† Street heroin will be cut with other substances so won't be pure, who knows how much is in "a wee tenner"