

Fentanyl

Indications: Pain management, ACS or STEMI, Constant Crush Injury > 4 hours, Procedural sedation

Contraindications: Hypotension or Respiratory depression

Concentration: 50 mcg/mL

ADULT DOSING

Indication	Dose	Rate & Route	Note
Pain management	25 – 100 mcg 0.5 to 2 mL Max total dose: 300 mcg	IV/IO/IM/IN	Titrate to pain management & may repeat 25-50 mcg q 5 minutes. Maintain MAP > 65
ACS			
Constant crush injury > 4 hours			
Procedural sedation			

ADULT DOSING

PEDIATRIC DOSING

Indication	Dose	Rate & Route	Note
Pain management	1 st : 1.0 mcg/kg 2 nd and 3 rd : 0.5 mcg/kg	IV/IO/IM/IN	Do not administer repeat doses if < 6 kg May repeat q 5 min up to max total 2 mcg/kg Maintain SBP > 70 + (age in years x 2) mmHg
Constant crush injury > 4 hours			
Procedural sedation			

PEDIATRIC DOSING

Pediatric Dosing Fentanyl

3 kgs	4kgs	5 kgs	6-7 kgs	8-9 kgs	10-11 kgs	12-14 kgs	15-18 kgs	19-23 kgs	24-29 kgs	30-36 kgs
6.6 lbs	8.8 lbs	11 lbs	13-15 lbs	17-20 lbs	22-24 lbs	26-30 lbs	33-40 lbs	42-50 lbs	53-64 lbs	66-80 lbs
in18.25-20.25	in20.25-21.5	in21.5-23.25	in23.25-26.25	in26.25-29.25	in29.25-33	in33-37.5	in37.5-42.5	in42.5-47.75	in47.75-51.25	in51.25-56.25
1st Dose Fentanyl for IV/IO/IM/IN Concentration = 50 mcg/ml										
0.1 ml	0.1 ml	0.1 ml	0.1 ml	0.2 mL	0.2 mL	0.3 mL	0.3 mL	0.4 mL	0.5 mL	0.7 mL
2nd and 3rd Dose Fentanyl for IV/IO/IM/IN Do not administer second or third doses if < 6 kg Concentration = 50 mcg/ml										
None	None	None	0.1 mL	0.1 mL	0.1 mL	0.1 mL	0.2 mL	0.2 mL	0.3 mL	0.3 mL

Precautions

Narcan should be available, Lower doses should be considered in elderly and frail patients.

Adverse/Side Effects

Fentanyl may cause muscle rigidity, particularly involving the muscles of respiration. As with other narcotic analgesics, the most common serious adverse reactions reported to occur with fentanyl are respiratory depression, apnea, rigidity, and bradycardia. Other adverse reactions that have been reported are hypertension, hypotension, dizziness, blurred vision, nausea, emesis, laryngospasm, and diaphoresis. May cause Respiratory Depression.

Class

Opioid, Schedule II controlled substance

Mechanism of Action

Competitive agonist that binds to opioid receptors which are found principally in the central and peripheral nervous system.

Onset of Action

Immediate (IV)
7 – 8 minutes (IN/IM)

Peak Effect

Rapid (IV)
15 to 21 minutes (IM/IN)

Duration of Action

30 – 60 minutes (IV)
1 to 2 hours (IM)