

Fentanyl Citrate

Classification: Opioid analgesic (synthetic)

Actions: Narcotic agonist analgesic which binds to opioid receptors increasing pain threshold

Indications: Moderate or Severe Acute Pain
Cardiac Chest Pain Refractory to Nitrates

Contraindications:

- Known opioid intolerance, hypersensitivity
- Hypotension (<90 SBP) or shock
- Significant hypovolemia or hemorrhage
- Pathology or injury impairing respirations
- Respiratory depression or hypoxia

Precautions:

- COPD, active asthma, other causes of respiratory impairment
- Active breastfeeding (24 hours after administration)
- History of opioid addiction or tolerance
- Pre-existing sedation due to intoxication with benzodiazepines other CNS depressants
- Use of monoamine oxidase inhibitors (MAOI)
- Head injuries, or other conditions with risk of increased ICP
- Gastrointestinal obstruction

Adverse Effects (select list):

>10%

- CNS: Confusion, dizziness, **drowsiness and sedation**, headache
- Resp: Dyspnea
- GI: constipation

1-10%

- Hypersensitivity reaction
- CV: **Hypotension and syncope**, arrhythmia (A-fib, Sinus Tachycardia, PVC's), palpitations
- CNS: Dysphoria, hallucinations, anxiety, mental status changes, hypertonia
- Resp: **hypoventilation and apnea**, wheezing and asthma
- GI/GU: **Nausea and vomiting**, Abdominal distention and pain, urinary retention
- Other: Tremor, pallor, diaphoresis, hot flashes

<1%

- **Anaphylactic shock, bradycardia, chest wall rigidity**, miosis, flushing

Administration: **ADULT DOSE**
Pain management
50-100 mcg **SLOW** IVP (over 1 min)
1. May repeat if needed after 5 min
a. Max total of 200 mcg without base orders

2. Consider starting at 25 mcg in cardiac chest pain, in elderly patients and for maintenance doses

ADULT DOSE

Pain management (cont.)

50-100 mcg IM/IN (using 1 mcg/kg as guideline)

1. May repeat if needed after 15 min
 - a. Total max of 200 mcg without base orders

PEDIATRIC DOSE

Pain management

1.5 mcg/kg IN, split dose between nares

- May repeat if needed after 15 min
 - a. Max total of 4 doses without base orders
- 1 mcg/kg **SLOW** IVP (over 1 min)/IM, max of 34 mcg
- May repeat if needed after 5 min
 - a. Max total of 4 doses without base orders

Pharmacology:

Onset:

- IV onset <1 min, peak <5 min
- IM 8-15 min
- IN 5-10 min (documented in children), peak 15-21 min

Duration:

- IV 30-60 min
- IM up to 2 hrs

Notes:

- Transient but severe thoracic muscle rigidity may develop with large doses or IV administration that is too rapid
- Use caution with patients taking MAOIs, consider base consult
 - MAOIs are infrequently prescribed antidepressants
 - Isocarboxazid (Marplan), phenelzine (Nardil), selegiline (Emsam), tranylcypromine (Parnate)
- Increased risk of sedation and respiratory depression with ethanol intoxication and head injury with ICP
- Consider lower dose (25 mcg) in patients with hepatic or renal impairment and geriatric patients with respect to: age, weight, physical status, opiate-naïve status
- If administering pediatric fentanyl via IV consider diluting volumes <1 mL to facilitate slow administration
- IN fentanyl is first line route of administration in pediatric patients unless vascular access is already established, or indicated for other reasons

IV/IM Fentanyl Dose Chart (1 mcg/kg) for Peds		
Concentration – 50 mcg/mL		
WEIGHT	DOSE	VOLUME (<i>undiluted</i>)
5 kg	5 mcg	0.1 mL
10 kg	10 mcg	0.2 mL
15 kg	15 mcg	0.3 mL
20 kg	20 mcg	0.4 mL
25 kg	25 mcg	0.5 mL
30 kg	30 mcg	0.6 mL
34 kg	34 mcg	0.7 mL