

RX

Drug Name: Fentanyl Citrate
Trade Name: Sublimaze, Atiq (Lollypop form for Peds)
REVISED: November 1, 2017

Class:

- Synthetic Opiate, Narcotic Analgesic
- Opiate
- Schedule II Controlled Substance

Mechanism of Action:

Fentanyl is a powerful synthetic opiate with mechanism of action similar to Morphine. It is considered both faster acting and of shorter duration than Morphine. Interacts with opiate receptors decreasing pain impulse transmission at the spinal cord level and higher in the CNS. Fentanyl is a potent μ -opiate receptor agonist. Also causes peripheral vasodilatation increasing venous capacitance and decreases venous return (chemical phlebotomy) by depressing the responsiveness of alpha-adrenergic receptors. Since it decreases both preload and afterload it may decrease myocardial oxygen demand.

Fentanyl is metabolized in the liver, excreted by the kidneys, and stored in body fat.

Indications:

- Moderate to Severe Pain
- Adjunct for Intubation

Contraindications:

- Hypovolemia
- Hypotension
- Myasthenia Gravis (causes severe muscle rigidity/)
- Patients who have taken MAOI (Anti-depressants such as Nardil and Parnate) within 14 days. MAOIs may cause paradoxical excitation, and in some cases seizures, hyperthermia, hypertension, and death.
- Hypersensitivity
- Head injury

Precautions:

- Respiratory depression
- Severe heart disease
- Geriatrics
- Pregnancy (C) (*increases to D if used for prolonged periods or high doses close to term*)
- May worsen bradycardia or heart block in inferior MI (*vagotonic effect*)
- Liver Failure/Kidney failure (may prolonged duration)

Dosage:

Adults:

- IV/IO/IM/IN: 1 mcg/kg initial dose (max initial dose 100 mcg)
- Give slowly over 2 min (with the exception of the IN route)
- May repeat every 10 min PRN. Max total dose 200 mcg.

Pediatrics (Greater than 2 years of age):

- IV/IO/IM/IN: 1-2 mcg/kg initial dose (Max initial dose 75 mcg)
- Give slowly over 2 min (exception with IN route)
- May repeat every 10 min PRN Max dose 150 mcg.

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This document is for **reference only**. Please refer to SWO's for specific indications, dosages, and applications

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Onset:

- IV, IN, IO: 1-3 minutes
- IM:10-20 minutes

Duration:

- 1-2 hours (typical, see precautions)
- Peak effects in 30 minutes

Side Effects:

- Dizziness
- Altered L. O. C.
- Hallucinations
- Euphoria
- Mental impairment
- Hypotension
- Seizures (rare)
- Lightheadedness
- Bradycardia, Tachycardia
- N/V
- CNS Depression
- Respiratory Depression
- Muscle Rigidity

Interactions:

- CNS depressants may enhance effects (antihistamines, antiemetics, sedatives, hypnotics, barbiturates, and alcohol.
- No not mix in line with heparin

PEARLS

- **Fentanyl MUST be given slowly, as chest wall muscle rigidity, seizures, and hypotension have been associated with rapid administration.**
- Fentanyl is significantly more potent than Morphine (approx. 50-100 times as potent, mg to mg). At clinically equivalent doses, Fentanyl is similar in effectiveness to morphine, with a quicker onset and shorter duration.
- Compared to other opiates (e.g. Demerol or Morphine), it has less profound adverse effects, minimal histamine release, and does not adversely affect the seizure threshold.
- Apnea and significant respiratory depression have been noted with doses > 5 mcg/kg.
- Any opiate analgesics can cause spasm of the sphincter of Oddi and the renal tract. Fentanyl is not believed to have any more adverse effect on this than Morphine.
- Narcotic analgesia used to be considered contraindicated in the prehospital setting for abdominal pain of unknown etiology. It was thought that analgesia would hinder the ER physician or surgeon's evaluation of abdominal pain. It is now becoming widely recognized that severe pain actually confounds physical assessment of the abdomen and that narcotic analgesia rarely diminishes all of the pain related to the abdominal pathology. It would seem to be both prudent & humane to "take the edge off of the pain" in this situation, with the goal of reducing, not necessarily eliminating the discomfort. Additionally, in the practice of modern medicine the exact diagnosis of the etiology of abdominal pain is rarely made on physical examination alone, but also includes laboratory tests, x-ray, ultrasound, and CT scan, essential in the diagnosis of abdominal pain. **Therefore medication of abdominal pain is both humane and appropriate medical care.**

REFERENCE ONLY