



17. FENTANYL

(Required unless Morphine OSP approved)

Pharmacology

- (1) Synthetic opioid binds with opiate receptors in the CNS, altering both perception and emotional response to pain.
- (2) Fentanyl is significantly more potent than morphine. 100 mcg of fentanyl is equivalent to 10 mg of morphine.

a) Pharmacokinetics

Onset of action is 2–3 minutes after IV dose and effects last 30 minutes to 1 hour.

b) Indications

- (1) The patient reports moderate to severe pain.
- (2) In the clinician's judgment the patient will benefit from treatment with an opioid analgesic, including patients who are MOLST and/or EMS/DNR patients or being pre-medicated for a procedure.

c) Contraindications

- (1) Hypersensitivity or known allergy to fentanyl
- (2) Uncorrected respiratory distress or hypoxemia refractory to supplemental oxygen
- (3) Uncorrected hypotension, defined as a persistent systolic pressure less than 90 mmHg.

d) Adverse Effects

- (1) Respiratory depression/arrest
- (2) Altered mental status
- (3) Increased vagal tone due to suppression of sympathetic pathways (slowed heart rate)
- (4) Constricted pupils (pinpoint)
- (5) Increased cerebral blood flow

e) Precautions


- (1) Naloxone reverses all effects.
- (2) To reduce the risk of chest wall rigidity (especially in children), fentanyl should be administered slowly and titrated to effect.
- (3) Vital signs should be monitored frequently.
- (4) Hypotension is a greater possibility in volume-depleted patients.
- (5) Elderly patients and those with impaired renal function may be more sensitive to the medication's effects.

f) Dosage

- (1) Adult: Fentanyl IN preferred IV/IO/IM
 - (a) Administer 1 mcg/kg to a maximum initial dose of 200 mcg (For IN route, dosing may be limited due to volume limitations - administration of max 1mL per nare).
 - (b) Reassess in 5–10 minutes. If pain remains moderate to severe, then administer a second dose of fentanyl 1 mcg/kg to a maximum dose of 200 mcg.

- (c)  Obtain on-line medical direction for additional doses, if required.



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- (2) Pediatric: Fentanyl IN. If IN route not accessible, IV/IO/IM
 - (a) Administer 1 mcg/kg to a maximum initial dose of 200 mcg (For IN route, dosing may be limited due to volume limitations - administration of max 1mL per nare).
 - (b) Reassess in 5–10 minutes. If pain remains moderate to severe, then administer a second dose of fentanyl 1 mcg/kg to a maximum dose of 200 mcg.
 - (c)  Obtain on-line medical direction for additional doses, if required.