

Remifentanil

Class: Analgesic, Opioid; Anilidopiperidine Opioid

Indications: Analgesic for use during the induction and maintenance of general anesthesia; for continued analgesia into the immediate postoperative period; analgesic component of monitored anesthesia

Unlabeled: Management of pain in mechanically-ventilated patients

Available dosage form in the hospital: Solution Reconstituted, Intravenous: 1 mg, 2 mg, 5 mg.

Dosage: Anesthesia: I.V. continuous infusion:

-Induction of anesthesia: 0.5-1 mcg/kg/minute; if endotracheal intubation is to occur in <8 minutes, an initial dose of 1 mcg/kg may be given over 30-60 seconds

-*Coronary bypass surgery:* 1 mcg/kg/minute

-Maintenance of anesthesia: Supplemental bolus dose of 1 mcg/kg may be administered every 2-5 minutes. Consider increasing concomitant anesthetics with infusion rate >1 mcg/kg/minute. Infusion rate can be titrated upward in increments of 25% to 100% or downward in decrements of 25% to 50%. May titrate every 2-5 minutes.

- *With nitrous oxide (66%):* 0.4 mcg/kg/minute (range: 0.1-2 mcg/kg/minute)
- *With isoflurane:* 0.25 mcg/kg/minute (range: 0.05-2 mcg/kg/minute)
- *With propofol:* 0.25 mcg/kg/minute (range: 0.05-2 mcg/kg/minute)
- *Coronary bypass surgery:* 1 mcg/kg/minute (range: 0.125-4 mcg/kg/minute); supplemental dose: 0.5-1 mcg/kg

-Continuation as an analgesic in immediate postoperative period: 0.1 mcg/kg/minute (range: 0.025-0.2 mcg/kg/minute). Infusion rate may be adjusted every 5 minutes in increments of 0.025 mcg/kg/minute. Bolus doses are not recommended. Infusion rates >0.2 mcg/kg/minute are associated with respiratory depression.

-*Coronary bypass surgery, continuation as an analgesic into the ICU:* 1 mcg/kg/minute (range: 0.05-1 mcg/kg/minute)

-Analgesic component of monitored anesthesia care: Note: Supplemental oxygen is recommended:

-*Single I.V. dose given 90 seconds prior to local anesthetic:*

- Remifentanil alone: 1 mcg/kg over 30-60 seconds
- With midazolam: 0.5 mcg/kg over 30-60 seconds

-*Continuous infusion beginning 5 minutes prior to local anesthetic:*

- Remifentanil alone: 0.1 mcg/kg minute
- With midazolam: 0.05 mcg/kg/minute

-*Continuous infusion given after local anesthetic:*

- Remifentanil alone: 0.05 mcg/kg/minute (range: 0.025-0.2 mcg/kg/minute)
- With midazolam: 0.025 mcg/kg/minute (range: 0.025-0.2 mcg/kg/minute)

Note: Following local or anesthetic block, infusion rate should be decreased to 0.05 mcg/kg/minute; rate adjustments of 0.025 mcg/kg/minute may be done at 5-minute intervals

-Critically-ill patients (unlabeled dose): Loading dose: 1.5 mcg/kg; followed by 0.008-0.25 mcg/kg/minute (or 0.5-15 mcg/kg/hour) (Barr, 2013)

Geriatric

Elderly patients have an increased sensitivity to effect of remifentanyl; doses should be decreased by 50% and titrated. Refer to adult dosing.

Common side effects:

Cardiovascular: Hypotension (2% to 19%), bradycardia (1% to 7%; dose dependent)

Central nervous system: Headache (<2% to 18%)

Dermatologic: Pruritus (<2% to 18%)

Gastrointestinal: Nausea (<36% to 44%), vomiting (<16% to 22%)

Neuromuscular & skeletal: Muscle rigidity (<1% to 11%; includes chest wall rigidity)

Pregnancy Risk Factor: C