

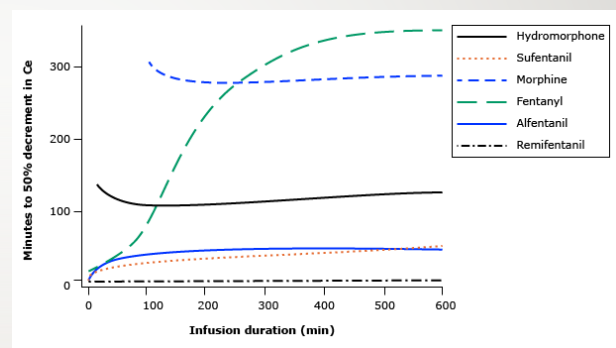
# Remifentanil Induction

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## What is it?

- Ultrashort acting
  - Metabolism through
    - Plasma, RBC, interstitial esterase
- Potency 1-2 x fentanyl
- Highly lipophilic



[Perioperative uses of intravenous opioids: Specific agents - UpToDate](#)

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## Why Remifentanil over a paralytic?

- Considerations for succinylcholine
  - Paraplegic
  - Muscular dystrophy
  - Increased ICP
  - Hyperkalemic
  - Burn patients
  - Malignant hyperthermia
  - Plasma cholinesterase deficiency
  - Anaphylaxis
- Considerations for Rocuronium
  - Anaphylaxis
  - Renal dysfunction
  - Hepatic dysfunction
  - Myasthenia gravis
  - Pulmonary hypertension
  - Residual blockade
  - Quick cases requiring ET tube

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## Why Remifentanil over a paralytic?

- Case factors
  - Neuro monitoring
  - ENT
  - Open Globe

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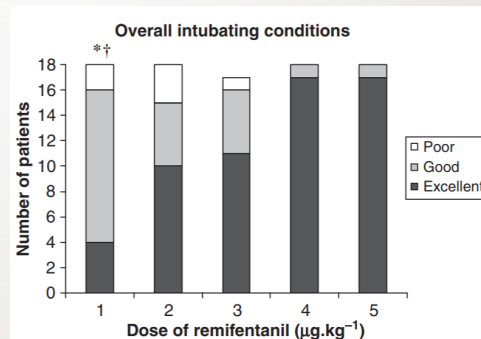
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- Inclusion
  - ASA 1-2
  - Age 18-65
  - BMI 20-25
- Exclusion
  - History/evidence difficult airway
- Propofol 2.5mg/kg & Remifentanyl
  - 1,2,3,4,5 mcg/kg

Variable	Intubation conditions		
	Clinically acceptable		Clinically not acceptable
	Excellent	Good	Poor
Laryngoscopy			
Jaw relaxation	Relaxed	Not fully	Poor
Resistance to laryngoscope	None	Slight	Active
Vocal cords			
Position	Abducted	Intermediate	Closed
Movements	None	Moving	Closing
Reaction to tube insertion or cuff inflation			
Movement of limbs	None	Slight	Vigorous
Coughing	None	Diaphragm	Sustained (>10 s)

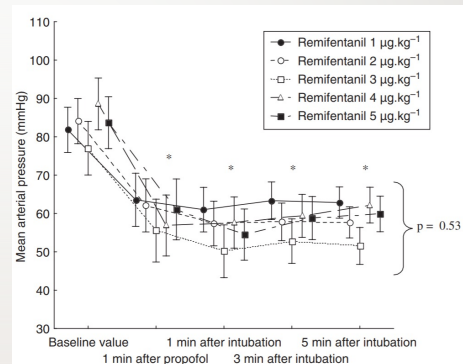
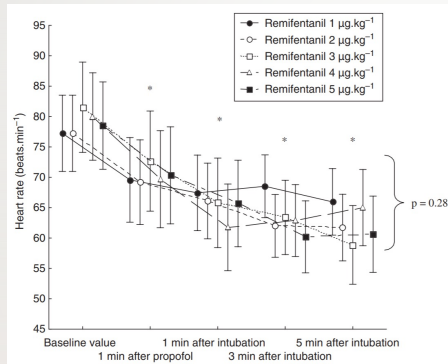
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- Maximum decrease less than 30%
- No significant difference in ephedrine requirements across the groups
- No atropine required
- IED 95% Excellent intubating conditions
  - Propofol 2.5 mg/kg
  - Remifentanyl 4 mcg/kg

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## Muscle wall rigidity?

- Largely case reviews
- Primarily in pediatrics
- Proposed MOA
  - Mu opioid receptors in CNS via dopaminergic pathways resulting in skeletal muscle rigidity
  - Highly lipophilic
- Dose dependency debated (50mcg/hr)
- Tense abdominal muscles
- Locked jaw
- Stiff extremities

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## Muscle wall rigidity?

- Bag mask difficult (high resistance)
- Treatment
  - Naloxone
    - 0.2-0.4 mg increments
  - NDMR
- Benefit from remifentanyl's rapid metabolism

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## How do I do it?

- Ephedrine 10 mg 3-5 min before induction
- Propofol 2-2.5 mg/kg
- Remifentanyl 3-4 mcg/kg
- Wait for HR to increase
- When eyes close with propofol ready to intubate
- Chords are more slack than abducted

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## How do I do it?

- Ephedrine 10 mg 3-5 min before induction
- Propofol 2-2.5 mg/kg
- Remifentanyl 3-4 mcg/kg
- Caution
  - Bradycardia or conduction delay
  - Hemodynamic instability
  - Pediatric

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## Links

- <https://associationofanaesthetists-publications.onlinelibrary.wiley.com/doi/pdf/10.1111/j.1365-2044.2009.05916.x>
- <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6074535/>
- <https://www.clinicalkey.com#!/content/playContent/1-s2.0-S0952818012001845?returnurl=https:%2F%2Flinkinghub.elsevier.com%2Fretrieve%2Fpii%2FS0952818012001845%3Fshowall%3Dtrue&referrer=https:%2F%2Fpubmed.ncbi.nlm.nih.gov%2F>
- [. Perioperative uses of intravenous opioids in adults: General considerations – UpToDate](#)
- <https://journals.sagepub.com/doi/10.1177/23247096211034036>
- <https://www.distancecme.com/fentanyl-induced-chest-wall-rigidity/>
- <https://pubs.asahq.org/anesthesiology/article/78/4/629/33435/Fentanyl-induced-Rigidity-and-Unconsciousness-in>
- <https://www.pfizermedicalinformation.com/en-us/rocuronium-bromide-injection?section=all&anchor=f36139f3-3227-42da-ac9e-aba09830f62d#f36139f3-3227-42da-ac9e-aba09830f62d>