

Cisatracurium

Class: Neuromuscular Blocker Agent, Nondepolarizing.

Indications: Adjunct to general anesthesia to facilitate endotracheal intubation and to relax skeletal muscles during surgery; to facilitate mechanical ventilation in ICU patients; does not relieve pain or produce sedation.

Available dosage form in the hospital: Solution, intravenous: 2 mg/ml 10 ml vial.

Trade Names:

Dosage: Neuromuscular blockade: I.V. (not to be used I.M.):

Operating room administration:

Intubating dose: 0.15-0.2 mg/kg as components of propofol/nitrous oxide/oxygen induction-intubation technique. (**Note:** May produce generally good or excellent conditions for tracheal intubation in 1.5-2 minutes with clinically effective duration of action during propofol anesthesia of 55-61 minutes.) Initial dose after succinylcholine for intubation: 0.1 mg/kg; maintenance dose: 0.03 mg/kg 40-60 minutes after initial dose, then at ~20-minute intervals based on clinical criteria.

Continuous infusion: After an initial bolus, a diluted solution can be given by continuous infusion for maintenance of neuromuscular blockade during extended surgery; adjust the rate of administration according to the patient's response as determined by peripheral nerve stimulation. An initial infusion rate of 3 mcg/kg/minute may be required to rapidly counteract the spontaneous recovery of neuromuscular function; thereafter, a rate of 1-2 mcg/kg/minute should be adequate to maintain continuous neuromuscular block in the 89% to 99% range in most pediatric and adult patients. Consider reduction of the infusion rate by 30% to 40% when administering during stable isoflurane, enflurane, sevoflurane, or desflurane anesthesia. Spontaneous recovery from neuromuscular blockade following discontinuation of infusion of cisatracurium may be expected to proceed at a rate comparable to that following single bolus administration.

Intensive care unit administration:

Per the manufacturer: Loading dose: 0.15-0.2 mg/kg; at initial signs of recovery from bolus dose, begin the infusion at a dose of 3 mcg/kg/minute and adjust rate accordingly (follow the principles for infusion in the operating room); dosage ranges of 0.5-10 mcg/kg/minute have been reported. If patient is allowed to recover from neuromuscular blockade, readministration of a bolus dose may be necessary to quickly re-establish neuromuscular block prior to reinstating the infusion.

or

Loading dose: 0.1 mg/kg (additional boluses of 0.05 mg/kg until train-of-four response is $\frac{3}{4}$ or less can be used); then initiate an infusion at 2.5-3 mcg/kg/minute and adjust rate accordingly (Lagneau, 2002; Baumann, 2004).

or

Loading dose: 0.1 to 0.2 mg/kg; immediately following loading dose administration, begin an infusion at 1-3 mcg/kg/minute and adjust rate accordingly (Greenberg, 2013).

Dosing: Renal Impairment

Because slower times to onset of complete neuromuscular block were observed in renal dysfunction patients, extending the interval between the administration of cisatracurium and intubation attempt may be required to achieve adequate intubation conditions.

Dosing: Hepatic Impairment

No dosage adjustment provided in manufacturer's labeling. The time to onset of action was ~1 minute faster in patients with end-stage liver disease, but was not associated with clinically significant changes in recovery time.

Common side effects: <1%: Effects are minimal and transient, bradycardia and hypotension, flushing, pruritus, rash, bronchospasm, acute quadriplegic myopathy syndrome (prolonged use), myositis ossificans (prolonged use)

Pregnancy Risk Factor: B