




NEUROMUSCULAR BLOCKERS



Mechanism of action Neuromuscular blockers compete for acetylcholine receptors. They cause prolonged stimulation of acetylcholine receptors, resulting in desensitization.

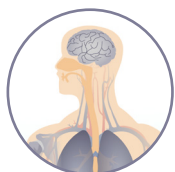
How do they work?	When are they used?
Neuromuscular blocker medications (NMBs) prevent acetylcholine from activating the nicotinic _M receptors post-synaptically at the skeletal neuromuscular junction.	  
They paralyze all skeletal muscles, including those used for breathing (the diaphragm). Mechanical ventilation is required.	
They do not affect the CNS. Client is completely paralyzed, but fully conscious. Sedatives should always be given before NMBs.	

NMB classifications

NMB	Competitive (antagonist)	Depolarizing (agonist)
Onset of paralysis	Rapid	Rapid
Peak	Peak effects persist 20–45 minutes and then decline.	Peaks at 1 minute, fades after 4–10 minutes
Recovery	Complete recovery in 1 hour	Ultrashort-acting
Used for longer procedures?	Yes	No
Reversed by	Acetylcholine	Acetylcholine inhibitors
Drug names	<ul style="list-style-type: none"> • Atracurium • Pancuronium • Vecuronium 	<ul style="list-style-type: none"> • Cisatracurium • Rocuronium <p>Succinylcholine</p>
Adverse effects	<ul style="list-style-type: none"> • Tachycardia • Respiratory arrest • Hypotension (histamine release) 	<ul style="list-style-type: none"> • Hemodynamic instability • Seizures • Bronchospasm



All NMBs are given IV, there are no oral forms.



NMBs cannot cross the blood-brain barrier: no impact on CNS and minimal effects on a fetus



Dantrolene is used to treat malignant hyperthermia:

- Reduces heat production and rigidity within minutes
- Has a risk of hepatotoxicity

NOTES

