



Rancho Los Amigos National Rehabilitation Center

ADMINISTRATIVE POLICY AND PROCEDURE

SUBJECT: ADULT ICU NEUROMUSCULAR BLOCKING AGENT

Policy No.: B878
Supersedes: February 2018
Revised: April 2022
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PURPOSE:

To outline the safe management of patients receiving neuromuscular blocking agents (NMBAs). NMBAs are used for muscle relaxation (partial or complete muscle paralysis) for the temporary management of selected patients such as those undergoing mechanical ventilation, rapid sequence intubation (RSI), or targeted temperature management/therapeutic hypothermia.

POLICY:

1. Prior to administration of NMBAs, all patients must have their airway controlled via intubation or there is preparation for immediate airway control and mechanical ventilation.
2. It is recommended that the ideal body weight is used for calculating the dose of NMBAs in obese patients rather than the actual weight.
3. During the effects of NMBAs, the following must be provided:
 - a. Adequate sedation and analgesia with the goal of achieving deep sedation.
 - b. Documentation of patient's condition and reason for continued use of NMBAs
4. Initial administration orders and follow-up orders must be entered only by an ICU physician or anesthesiologist.
5. Administration of the initial dose will be done under the direct supervision of the ordering physician.
6. The initial dose is given by bolus injection followed by titration to desired effect.
7. In some patients, repeated bolus doses may be ordered. These should also be titrated in dose and frequency to meet the goals:
 - a. Adequate relaxation/paralysis to accomplish purpose of medications.
 - b. Minimum amount to accomplish relaxation or paralysis.

PROCEDURE:

- Nursing Assessment
 - a. Verify dose and accurate pump settings upon initiation and with each titration
 - b. Assess concentration, and dose, and verify accurate pump settings within 1 hour of assuming responsibility for the care of the patient.
 - c. Assess the following at a minimum of every 1 hour
 - Vital signs
 - Oxygen saturation
 - ETCO₂
 - Pupil size and reactivity
 - Cardiac rhythm

EFFECTIVE DATE: July 2000

COUNTY OF LOS ANGELES • DEPARTMENT OF HEALTH SERVICES

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- Physiologic signs of pain and anxiety
- Signs of ineffective sedation, which may include:
 1. Sweating
 2. Tachycardia
 3. Hypertension
 4. Change in vital signs with stimulation
- Signs of ineffective paralysis may include:
 1. Spontaneous respirations
 2. Increased peak inspiratory pressure on the ventilator
 3. Asynchrony with the ventilator
 4. Blinking
 5. Tongue movement
- Twitch response – Train-of-Four goal: 1-2 twitches
 1. Assess prior to NMBA administration
 2. Assess 30 minutes after initiation of therapy and after each titration
 3. Assess at a minimum of every 2 hours
- d. Provide corneal protection at scheduled intervals
 - Administer ocular lubricant as ordered
 - Maintain patient's eyelids closed at all times
- e. Monitor the following as ordered
 - Blood glucose level
 - BUN and creatinine
 - Electrolytes
 - Blood gases
 - Liver function tests

DOCUMENTATION:

1. The administration and titration will be documented in the MAR as outlined in nursing policy C152 – Medication Management Guidelines.
2. Nursing Assessments will be documented in the Medical Record

NEUROMUSCULAR BLOCKING AGENTS

Drug Name	Recommended Loading Dose
Succinylcholine	1-1.5 mg/Kg IVP
Rocuronium	0.6-1.2 mg/Kg IVP
Vecuronium	0.08-0.1 mg/Kg IVP
Cisatracurium	0.15 mg/Kg IVP

REFERENCE:

Neuromuscular Blocking Agents – ICU; Nursing Clinical Protocol; LAC + USC Healthcare Network.

Neuromuscular Blocking Agents; Emergency Nursing Specialty Manual; Los Angeles County Harbor – UCLA Medical Center, Department of Nursing

Wiegand, D. L. (2017). *Procedure manual for high acuity, progressive, and critical care* (7th ed.). Elsevier
Murray, M. J., DeBlock, H., Erstad, B., Gray, A., Jacobi, J., Jordan, C., . . . Mehta, S. (2016). Clinical practice guidelines for sustained neuromuscular blockade in the adult critically ill patient. *Critical Care Medicine*, 44(11), 2079-2103.

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