

DEPARTMENT OF ANESTHESIOLOGY

VANDERBILT  UNIVERSITY
MEDICAL CENTER

Standard Operating Procedure Title: Neuromuscular Blockade Monitoring Protocol

Policy Number: C 50

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Purpose

The purpose of this protocol is to standardize the approach to monitoring of neuromuscular blockade for surgical patients in order to reduce the risk of unintended patient movement during critical surgery or to reach undesirable levels of blockade when neuromuscular function monitoring is required during surgical procedures involving or near nerve structures.

Procedure:

1. Neuromuscular blockade planning
 - a. In the process of creating the anesthetic plan for patients undergoing surgical procedures on critical structures that might require absolute immobilization or require the demonstration of intact neuromuscular function (see list below) there should be a conversation with the surgeon to confirm the desired level and time sequence of neuromuscular blockade.
2. If complete blockade is desired, consider the following:
 - a. Induction method:
 - i) Rapid sequence protocol / succinylcholine
 - (1) Rapid sequence induction proceeds as normal
 - (2) Prior to surgical incision
 - (a) Return of neuromuscular function is verified by nerve stimulator
 - (b) Nondepolarizing muscle relaxant is administered
 - (c) Neuromuscular blockade is verified by nerve stimulator response of zero or one twitch
 - (d) Surgical team informed of blockade status
 - (i) surgical team repeats back blockade status
 - ii) Rapid sequence protocol / nondepolarizing agent
 - (1) Nerve stimulator applied to patient prior to induction
 - (2) Induction agents given
 - (3) Nerve stimulator proper function verified at time of loss of lid reflex
 - (4) Prior to surgical incision
 - (a) Neuromuscular blockade is verified by nerve stimulator response of zero or one twitch
 - (b) Surgical team informed of blockade status
 - (i) surgical team repeats back blockade status
 - iii) Normal sequence induction
 - (1) Induction agent given
 - (2) Nerve stimulator applied and function verified prior to administration of nondepolarizing agent
 - (3) Prior to surgical incision

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- (a) Neuromuscular blockade is verified by nerve stimulator response of zero or one twitch
- (b) Surgical team informed of blockade status
 - (i) surgical team repeats back blockade status
- b. Maintenance
 - i) Anesthesiology provider verifies neuromuscular blockade q 15 min
 - ii) Twitch response > 1 treated with incremental dose of NMB
- c. Emergence
 - i) Provider verifies discontinuation of still protocol with surgical team
 - ii) NBM allowed to dissipate or reversed
- 3. Neuromuscular blockade contraindicated
 - a. Induction
 - i) Rapid sequence protocol
 - (1) Rapid sequence induction proceeds as normal
 - (2) Prior to surgical incision
 - (a) Return of neuromuscular function is verified by nerve stimulator
 - (b) Surgical team informed of blockade status
 - (i) surgical team repeats back blockade status
 - ii) Normal sequence induction
 - (1) Induction agent given
 - (2) Nerve stimulator applied and function verified prior to administration of nondepolarizing agent
 - (3) Prior to surgical incision
 - (a) Neuromuscular blockade cessation is verified by nerve stimulator response
 - (b) Surgical team informed of blockade status
 - (i) surgical team repeats back blockade status