Process of Care Measure: NMB 02

Administration of Neostigmine Before Extubation for Cases With Nondepolarizing Neuromuscular Blockade

Measure Summary:

The Administration of Neostigmine measure tells you the percentage of your patients that receive neostigmine after you have given a non-depolarizing neuromuscular blocker. The purpose of this quality measure is to help reduce the number of patients who have residual neuromuscular blockade after extubation. To account for cases where a dose of muscle relaxant was given early in the case, and then not redosed, this measure does not require that neostigmine to be given if a non-depolarizer was not administered for 4 hours before extubation. Several older studies have been published that found associations between the use neuromuscular blockade agents and anesthesia related mortality. A more recent study found an association between use of neuromuscular blockers and adverse postoperative respiratory outcomes, but did not find benefit from the use of train of four monitoring or administration of neostigmine. Still, a mainstay of residual blockade prevention is continues to be monitoring to allow for detection.

Inclusions:

All patients that have received either by bolus or infusion a non-polarizing neuromuscular blocker (NMB) AND were extubated post-operatively or in the PACU. The following NMBs were included:

- Atracurium
- Cisatracurium
- Pancuronium
- Rocuronium
- Vecuronium

Older drugs (Mivacurium and Doxacurium) were not included

Exclusions:

- Cardiac Cases
- Liver Transplant Cases

The responsible provider is the provider signed in at time of extubation or Anesthesia End time if extubation time is not available.

Success counted as documentation of neostigmine BEFORE extubation or greater than 4 hours between last dose of non-depolarizing medication and extubation.

References

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