

Improve Safe Use of Neuromuscular Blocking Agents

Hospitals are refocusing on safety of neuromuscular blocking agents (NMBAs)...as a deadly error and conviction make headlines.

Over one third of NMBA errors are due to the wrong drug.

Confirm that appropriate safeguards are in place.

Dispensing and stocking. Limit NMBAs to automated dispensing cabinets (ADCs) in areas where patients can be ventilated...peri-op, ICU, etc. Check if your software can block NMBA loads in other ADCs.

Store NMBAs in locked-lidded containers or rapid sequence intubation (RSI) kits. Add labels with wording, such as "Warning: causes respiratory arrest - patient must be ventilated."

Also add this warning to vials...syringes...and IV bags, including the port where the nurse will attach tubing.

Take steps toward requiring 5 letters to be typed in the ADC during lookup. Include both brand and generic names in the ADC search...and ask admin about adding the med class next to the name.

For NMBA overrides, require an independent double check...plus confirmation in the ADC that the patient will be ventilated.

Ordering and monitoring. Use actual body weight to dose succinylcholine. But generally use an ideal or adjusted body weight for other NMBAs...to prevent prolonged blockade.

For ICU patients, ensure that analgesics and sedatives are titrated to deep sedation before starting an NMBA. But don't give an NMBA with dexmedetomidine alone...its sedation is too light.

Check for NMBA ancillary meds, such as eye lubricant to prevent corneal abrasions...and VTE prophylaxis, if not contraindicated.

Use the lowest NMBA dose and shortest duration...to minimize complications, such as prolonged muscle weakness.

Ensure that monitoring includes both "train-of-four" plus clinical endpoints, such as vent synchrony.

Try to review daily to see if patients can be weaned off the NMBA, especially if they're on it for a few days...or getting other meds that prolong neuromuscular blockade, such as aminoglycosides.

Get our resource, *Neuromuscular Blocking Agents in Adults*, to compare agents...and for more on precautions and monitoring.

Key References:

-ISMP Med Safety Alert! Acute Care 2022;27(7):1-5

-ISMP Med Safety Alert! Acute Care 2019;24(1):1-6

-Pa Patient Saf Advis. 2009 Dec;6(4):109-4

-Crit Care Med. 2016 Nov;44(11):2079-2103

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