

Rocuronium for Neonatal Endotracheal Intubation

Margarita Vasquez, MD

Assistant Professor of Pediatrics, UTHSCSA

Kay Green, R.Ph., BCPS

Clinical Specialist, NICU

Objective: To expand the University Health System (UHS) formulary restrictions for rocuronium bromide to include premedication for intubation for patients in the Neonatal Intensive Care Unit (NICU).

Background: Endotracheal intubation is a commonly performed procedure in the NICU. Although premedication with sedatives, analgesics, and neuromuscular blocking agents is standard of practice for pediatric and adult intubations, it is not as commonly used for neonatal intubations. However, in addition to discomfort, intubation in neonates has been associated with increased blood pressure and increased intracranial pressure, placing premature neonates at risk for intracranial hemorrhage.^{1,2} Premedication for intubation can attenuate these physiological responses while also reducing the number of attempts to achieve successful intubation.^{3,4}

Rocuronium bromide, a neuromuscular blocking agent with a rapid onset of action, is commonly used to facilitate endotracheal intubation (along with sedatives and/or analgesics) in pediatric and adult intubations. Rocuronium has recently been shown to provide quick paralysis and facilitate successful intubation in neonates.⁵ Currently, the use of this agent at UHS is restricted to anesthesia, E.C., and AirLife. The division of neonatology is requesting that the formulary restrictions for rocuronium be expanded to include intubation of patients in the NICU. Rocuronium will be used in conjunction with morphine as premedication before intubation attempts in nonemergent situations (see attached algorithm).

References:

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3. Shah V, Ohlsson A. The effectiveness of premedication for endotracheal intubation in mechanically ventilated neonates: a systematic review. *Clin Perinatol* 2002;29:535-54.
4. Lemyre B, Coucette J, Kalyn A, Gray S, Marrin M. Morphine for elective endotracheal intubation in neonates: a randomized trial. *BMC Pediatr* 2004;4:20.
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Algorithm for Premedication for Neonatal Endotracheal Intubation

