

CURRENT SHORTAGES

- [Atropine Injection](#)
- [Bumetanide Injection](#)
- [Cefoxitin Injection](#)
- [Ceftazidime / Avibactam \(Avycas\) Injection](#)
- [Dextrose 50% Injection](#)
- [Hepatitis B Vaccine – DIALYSIS formulation](#)
- [Hepatitis B Vaccine – PEDIATRIC formulation](#)
- [Immune Globulin, Intravenous \(IVIG\)](#)
- [Lorazepam Continuous Infusion](#)
- [Methadone Injection](#)
- [Methyldopa Tablet](#)
- [Monsel’s \(Ferric Subsulfate\) Solution](#)
- [Nalbuphine Injection](#)
- [Prochlorperazine Injection](#)
- [Sodium Acetate Injection](#)
- [Thrombin Topical Solution](#)

To: Medical Staff, Nursing Staff, Pharmacy Staff

From: Department of Pharmacy Services

Subject: **SBAR: Cisatracurium Injection Shortage**

Date: June 24th, 2020

This communication applies to ALL sites within the Yale New Haven Health System

S: There is currently a CRITICAL shortage of cisatracurium

B: Current supplies of neuromuscular blocking agent (NMBA), including cisatracurium, are in critical short supply. Cisatracurium and atracurium are intermediate-acting agents in the benzyliisoquinolinium class.^{1,2} Both cisatracurium and atracurium are metabolized through Hoffman elimination.³ Metabolites of both agents produce laudanosine which is associated with neuroexcitation at higher levels.⁴ Atracurium has also been associated with hypotension due to the adverse effect of histamine release associated with faster infusion rates. One retrospective cohort analysis reviewed critically ill patients who received atracurium or cisatracurium, and found no difference in the rates of hypotension.⁵

A: As an alternative to our currently used NMBA continuous infusion (cisatracurium) and in the setting of critical shortages, atracurium is a safe and effective alternative agent for paralyzing intubated ARDS patients.

R: For adult patients, rocuronium continuous infusion should be used as the first line paralytic agent. Utilize atracurium in mechanically ventilated patients during drug shortage of cisatracurium.

Atracurium is restricted to pharmacist order entry only. Atracurium is restricted to patients with acute kidney injury, chronic kidney disease (defined as CrCl <30 mL/min), on renal replacement therapy, and/or hepatic dysfunction.

Recommendations and actions will be incorporated into EPIC ordering screens and will be effective as of today, June 24th, 2020.

References

1. Moore L, Kramer CJ, Delcoix-Lopes S, Modrykamien AM. Comparison of cisatracurium versus atracurium in early ARDS. *Respir Care* 2017;62(7):947–52.
2. Lexi-Comp, Inc. (Lexi-Drugs®). Atracurium. Lexi-Comp, Inc.; Accessed March 31th, 2020.
3. Murray MJ, et al. Clinical practice guidelines for sustained neuromuscular blockade in the adult critically ill patient. *Crit Care Med.* 2016;44(11):2079-2103.
4. Fodale V, Santamaria LB. Laudanosine, an atracurium and cisatracurium metabolite. *Fur J Anaesthesiol.* 2002;19(7):466-73.
5. VanderWeide LA, Abdel-Rasoul M, Gerlach AT. The incidence of hypotension with continuous infusion atracurium compared to cisatracurium in the intensive care unit. *Int J Crit Illn Inj Sci.* 2017;7(2):113-118.