Saline Flush Shortage

# The HealthTrust/Belmont Pharmacy Services Team has evaluated the question and formulated the following response to address the issue of saline flush shortages.

**Summary/Considerations:**

After searching the literature and discussion with the team/colleagues, there are limited options and insufficient information for a formal document. In asking for strategies from the clinical and operations boards, several facilities reported moving away from reconstitution/compounding with small volume vials (e.g. 10 mL, 20 mL) and instead hanging a 1 liter bag of saline in the hood and using the bag as the diluent. The bag is given a beyond use date of 6 hours. While originally created to conserve the supply of small volume saline vials, this strategy would also allow the remaining small volume vials to be drawn into empty syringes for use as saline flushes. One facility also mentioned using heparin 10 unit/mL to lock IV sites that would normally be saline locked. However, heparin may not be appropriate for use in all patients and presents patient safety issues with the potential for inadvertent administration.

The potential strategy of drawing 1 liter saline bags into empty syringes was also discussed. USP <797> classifies single volume transfers of sterile dosage forms into other sterile containers as a low risk compound. However, low risk compounds also specify no more than 2 entries into any one sterile container. Depending on a facility’s interpretation of the USP <797> guidance, the removal of sterile saline from a 1 liter bag to multiple sterile syringes via a single entry into the 1 liter bag (e.g. repeater pump) may be considered a low‐risk compound and be given a 48 hour beyond use date.

HealthTrust does not make any recommendation in this space and would advise any interpretation to be approved by appropriate facility committees/personnel.

**Search criteria utilized:**

Medline was searched with combinations of the following keywords: ‘flush’; ‘shortage’; ‘alternative’; ‘syringe’; ‘syringe fill’; ‘saline flush’; ‘shortage’. Embase was searched with combinations of the following Emtree terms and keywords: Emtree ‘sodium chloride’; keyword ‘saline flush’; keyword ‘alternative’; keyword ‘flush solution’; keyword ‘syringe fill’; keyword ‘shortage’. The ASHP Connect database was also searched for threads related to flush shortages.

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