

<b>Current Status:</b> <i>Active</i>	<b>PolicyStat ID:</b> 7112015
	<b>Origination:</b> 01/2016
	<b>Effective:</b> 01/2020
	<b>Last Approved:</b> 01/2020
	<b>Last Revised:</b> 06/2019
	<b>Next Review:</b> 01/2023
	<b>Owner:</b> <i>Erin Maxwell: Resident-Pharm/Ta</i>
	<b>Policy Area:</b> <i>Patient Care - Medication Management</i>
<b>Policy Tag Groups:</b>	
<b>Applicability:</b> <i>UNC Medical Center</i>	

## Medication Management: Use of Multi-Dose Vials/Pens of Injectable Medications and Vaccines in Acute Care and Ambulatory Care Environments

### I. Description

Management of multi-dose vials of parenteral medications and vaccines

### II. Rationale

This policy outlines the management of multi-dose vials/pens of injectable medications and vaccines in both institutional and clinic practices.

### III. Policy

1. In general, the use of multi-dose vials is discouraged. If a single-dose vial is not available and a multi-dose vial is the only available option, the Pharmacy Department will strive to provide the smallest available size.
2. All patient care areas will treat manufacturer produced multi-dose vials as single use products. These products will be removed from the automated dispensing cabinets as a whole vial (or number of vials), and any unused portion discarded. Exceptions to this are listed in Attachment A.
3. An Assistant Director of Pharmacy or the Pharmacy and Therapeutics Committee may allow for an exception for a vial to be used as a true multi-dose vial, on a medication specific basis, in the event of a drug shortage. Medications that have been approved for such use are noted on the Pharmacy Intranet Drug Shortages page on the Drug Shortages Tracker.
4. Pharmacy use of multi-dose vials is addressed in UNCMC [Policy, "Compounded Sterile Preparations \(CSPs\)."](#)
5. All IV-based solutions (e.g., NS, D5W, etc.) are considered single-dose items. These IV-based solutions do not contain preservatives and may not be used as a multi-dose bag. These items should never be used for multiple patients.
6. In the operative environment (e.g., OR, Holding, PACU, PCS, and L&D OR's), multi-dose vials may be used for a period of 24 hours.
7. If the manufacturer's expiration date of recognized multi-dose vials/pens is prior to 28 days, then the

medication expires on the manufacturer's expiration date.

## IV. Procedure

1. Practitioners should discard multi-dose vials when:
  - a. Suspected contamination has occurred
  - b. Contents are discolored or have otherwise altered in appearance
  - c. 28 days after opening has passed, unless otherwise specified by the manufacturer
  - d. The manufacturer's expiration date on the vial or pen has passed
  - e. Particulate matter is present
2. When it is necessary to discard a partially used or contaminated controlled substance multi-dose vial, the destruction must be witnessed by another licensed healthcare provider, and documented as per UNCMC [Policy, "Medication Administration"](#) and UNCMC [Policy, "Automated Dispensing Cabinets."](#)
3. Locations:
  - a. Clinics
    - i. All vaccines being used in clinics are managed per the State Vaccine Policy and Centers for Disease Control guidelines/recommendations.
    - ii. Botulinum Toxin Type A vials can only be used on a **single** patient once reconstituted. Botulinum Toxin Type A vials cannot be used on multiple patients based on package insert information.
    - iii. It is the responsibility of the individual opening the multi-dose vial to label with date of expiration, time (if applicable), and initial the vial. An opened vial that does not contain this information must be discarded.
    - iv. All opened and/or punctured multi-dose vials should be discarded every 28 days, unless otherwise specified by the manufacturer.
    - v. Single dose vials must be discarded after each use and should never be used for multiple patients.
  - b. Operative Environment (OR, Holding, PACU, PCS, and L&D OR's):
    - i. Multi-dose vials may be used for a period of 24 hours.
    - ii. It is the responsibility of the individual opening the multi-dose vial to label with date of expiration and initial the vial. An opened vial that does not contain this information must be discarded.
    - iii. After 24 hours, unless otherwise specified, nursing must dispose of multi-dose vials in the red biohazard box. If desired, nursing may return vial(s) to the OR Pharmacy for disposal.
  - c. Department of Radiology (CT, MRI, Diagnostic Radiology, Nuclear Medicine, PET, VIR):
    - i. It is the responsibility of the individual opening the multi-dose vial to label with date of expiration and initial the vial. An opened vial that does not contain this information must be discarded.
    - ii. After the shelf-life has expired, technologist or nursing staff must dispose of multi-dose vials in the radioactive waste container or red biohazard box as appropriate.
  - d. WakeBrook
    - i. WakeBrook will follow the guidelines in Attachment A on the use of multi-dose vials in the Acute

Care setting and Ambulatory Care settings.

- ii. Expiration date stickers to be placed on opened vials are located within the automated dispensing cabinet (ADC).
  - iii. It is the responsibility of the individual opening the multi-dose vial to label with date of expiration, time (if applicable), and initial the vial. An opened vial that does not contain this information must be discarded.
  - iv. Pharmacy staff will monitor MDV usage to ensure that the appropriate expiration date is programmed into the ADC.
4. Multi-dose vials in patient care areas and other medication storage areas will be inspected every 28 days to ensure that this policy is followed. These inspections will be performed according to the UNCMC [Policy, "Inspections of Medication Management within Pharmacy Areas and Patient Care Units."](#)
5. Pyxis Clinical Data Category alerts will be used to remind nursing personnel of multi-dose vial procedures. When appropriate (e.g., drug shortage), a dispensed multi-dose vial will trigger a (Clinical Data Category) alert that the vial must be labeled with date of expiration and initialed when first opened and must be discarded within 28 days, according to the Clinical Data Category or the manufacturer's expiration date if less than the Clinical Data Category.
6. Proper aseptic technique handling of multi-dose vials is outlined in the Infection Control Policy.
7. See Attachment titled Attachment A for allowable multi-dose vials in Acute Care, including the Department of Radiology, and Ambulatory Care environments.

## V. Related Policies

[Ambulatory Care Clinical Services](#)

[Automated Dispensing Cabinets](#)

[Compounded Sterile Preparations \(CSPs\)](#)

[Inspections of Medication Management within Pharmacy Areas and Patient Care Units.](#)

[Medication Administration](#)

## VI. Responsible for Content

**Medication Safety Committee**

Pharmacy & Therapeutics Committee

### Attachments:

[Attachment A: Allowable Multi-Dose Vials in Acute Care Department of Radiology and Ambulatory Care Environments.docx](#)

### Approval Signatures

Step Description	Approver	Date
PolicyStat Administrator	Patricia Ness: Clin Nurse Education Spec	01/2020
	Jacqueline Jacobs: VP Assoc CNO UNCH	01/2020

<b>Step Description</b>	<b>Approver</b>	<b>Date</b>
	Angela Overman: Dir Clinical Surgery	12/2019
	Lindsey Amerine: Dir Pharmacy	12/2019
P&T Chair	David Weber: MD/IM: Infectious Disease	12/2019
	Jennifer Cruz: Pharmacist	10/2019

**Applicability**

UNC Medical Center

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