

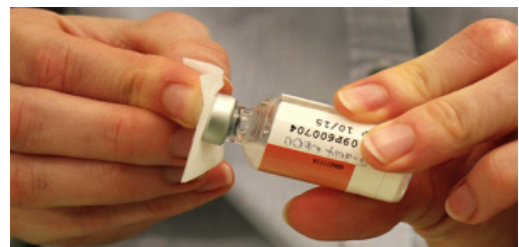
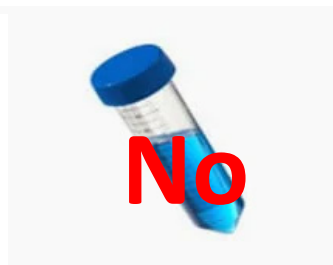
**USE OF INJECTABLE FLUIDS AND
MEDICATIONS
IACUC Guideline
Effective Date: May 2024**

Purpose: This guidance provides researchers information on the use and storage of commercially available and compounded injectable medications (original stock and diluted solutions) and fluids. By ensuring proper storage and handling of injectable medications and fluids, researchers and staff can prevent administration of expired and contaminated substances, which may negatively impact research animals' health.

Scope: The guidelines apply to all investigators withdrawing fluids from multi-use containers or diluting and/or mixing medications. Details on disposal and usage of expired drugs and materials in terminal versus survival surgeries are provided in the [Expired Drugs, Medical Materials & Devices policy](#). Usage of controlled substances, including dilutions, must be properly [documented](#) according to [Environment, Health and Safety's Controlled Substances Manual](#).

Procedures for multi-use containers:

1. For dilutions or mixed substances:
 - a. Use sterile vials with a rubber seal. Eppendorf and falcon tubes do not maintain sterility and are not acceptable.
 - b. Label the vial with the name(s) of the substance/agent, concentration(s), and dates of dilution and expiration.
 - c. Diluted or mixed drugs are considered expired after 30 days or according to the manufacturer expiration date or disposal interval after opening, whichever occurs first. Label the vial with the appropriate expiration date and properly dispose of expired agents.
 - d. Mixtures with glucose and dextrose must be discarded after initial use due to risk of bacterial growth.
 - e. Check the vial for any signs of contamination. If cloudiness and/or discoloration is observed, immediately discard the vial.



2. For commercially produced multiuse containers (e.g. vial with rubber septum, fluid bags):
 - a. A sterile needle and syringe must be used for each withdrawal of solution.

- b. Use the smallest gauge needle possible and limit number of punctures.
- c. It is strongly recommended that the rubber septum be wiped with a solution of at least 70% isopropyl alcohol or ethanol before each use.
- d. Do not leave a needle in the rubber septum for multiple withdrawals. Open needles in vials provide a direct route of entry for contamination by microorganisms.
- e. For stock medications, label the vial with the date of “opened on.” Some compounds (e.g. Rimadyl, Ethiq) will have an abbreviated expiration date once the vial is punctured.
- f. Check the vial for any signs of contamination before each use.

References:

Assessment of Sterility in Fluid Bags Maintained for Chronic Use

Authors: Matthews, Kristin A; Taylor, Douglas K

Source: [Journal of the American Association for Laboratory Animal Science](#), Volume 50, Number 5, September 2011, pp. 708-712(5)

CDC Guidelines, Injection safety, Question about Multidose vials