GUIDELINES ON THE CONDITIONAL USE OF EXPIRED MEDICAL MATERIALS IN ANIMALS

In keeping with Federal guidelines, all drugs and medical materials administered to any live vertebrate animal must be used within the manufacturer’s listed expiration date. Most medical materials (e.g., drugs, fluids, disinfectant solutions, catheters, sutures, etc.) are imprinted with an expiration date. Beyond this date, the manufacturer does not guarantee the sterility, safety, or stability of the item. The use of expired materials on animals is not consistent with acceptable veterinary care and is generally prohibited. However in very limited cases, some medical materials may be approved for terminal procedures only.

General Rules:
1. *Expired anesthetic, analgesic, euthanasia or resuscitative drugs may never be used on live animals, under any circumstances.* Pain-relieving drugs may lose potency after the expiration date, resulting in unpredictable effects that can jeopardize humane animal use even in a non-survival setting.

2. Other expired medical supplies may NOT be used for any SURVIVAL procedures, but may be used for non-survival procedures.

3. All drugs and sterile medical supplies must be marked with an expiration date.

4. *Expired materials must be clearly labeled as such* (e.g. “Expired – Use ONLY for TERMINAL procedures” or “Expired – for in vitro use only”) and segregated. Such materials must be stored in a different location (cabinet, drawer, etc) than the materials used for survival surgical procedures.

Guidelines:
Use a clear dating system for drugs and medical materials:
The expiration date is generally printed on the label/package for those materials that have a manufacturer’s expiration date.

- In cases where drugs have been aliquoted and are no longer in original bottles marked with a manufacturers’ expiration date, write the manufacturer’s expiration date on each new bottle aliquoted. These secondary containers should keep the original expiration date (except if he drug is packaged in a special atmosphere such as argon or nitrogen).
- For dilutions, preparations, reconstitutions or mixtures of drugs or fluids – These must be prepared using sterile technique and maintained under proper storage conditions. The expiration date is generally acceptable as one month from the date of preparation, unless otherwise indicated. Such materials should be labeled BY NAME, drug concentration, and include the new expiration date as soon as they are prepared. Any such bottles that are discolored, cloudy, or contains precipitates should be assumed to be contaminated and discarded.
• Ketamine-xylazine rodent anesthetic cocktail, when prepared in a sterile manner and stored in a sterile sealed container, may be kept up to 1 month. This solution does not need to be refrigerated.

• Non-pharmaceutical grade pentobarbital solutions prepared using sterile technique and under proper storage conditions expire in one week. (See specific IACUC Guidelines on this topic)

• IV fluids (e.g. normal saline, lactated Ringers) expire in 24 hours after opening if kept unrefrigerated, or may be kept up to a week if refrigerated.

Segregate expired drugs and medical materials
All drugs for anesthesia, analgesia, euthanasia or resuscitation purposes that have expired must be marked EXPIRED – DO NOT USE and promptly discarded by appropriate channels. Medical materials that are to be kept in inventory and used for non-survival or in vitro procedures must be clearly and individually labeled as “Expired materials-for non-survival use only” and be kept in an area physically separate from all other medical materials and drugs.

Sterile medical devices and supplies
Pre-packaged sterile medical devices (e.g., sutures, sterile gloves, catheters, etc.) are distributed with an expiration date or with a statement to indicate that the contents are “sterile if the packaging is undamaged.” Medical devices marked with an expiration date cannot be used for survival procedures after that date, and should usually be discarded or, if applicable, re-sterilized. If retained past the expiration date, these materials must be stored in a separate location and labeled “Expired materials-for non-survival procedures only.”

Sterile surgical packs
Instruments or supplies sterilized by the investigator must be marked with an expiration date based on the date of sterilization. They must be marked with an external “process indicator” (e.g., autoclave or ethylene oxide tape) and must contain a sterilization indicator (usually a chemical indicator strip that indicates exposure to sufficient heat or ethylene-oxide to verify sterilization). Cloth-wrapped, paper wrapped, or Dennison® wrapped sterilized equipment has a shelf life of one month. Plastic-wrapped sterilized items (e.g., peel-packs) have a shelf life of 6 months.

Inventory Control:
In order to assure that expired items are identified in a timely fashion so that they can either be discarded or appropriately labeled for conditional use, each research group should inspect their animal drug and material storage areas on a regular basis (every month is recommended).
Ordering Considerations:
When ordering drugs or materials that are not used routinely, it is wise to inquire at the time of ordering about the expiration date of the lot that the company plans to send you, and make sure they don’t send items that will be expiring soon. (Request a “long expiration date” when placing the order.) Alternatively, order in smaller amounts. Most common drugs and solutions have a shelf life of at least two years but there are exceptions. You may wish to check with others using the same materials and look into the possibility of sharing an order (the exception being controlled substances, which cannot be shared).

References
1. USDA APHIS Animal Care Resource Guide Policies, AC 3.1
3. NIH OLAW FAQ F.5, “May investigators use expired pharmaceuticals, biologics and supplies in animals?”
4. Public Health Service Policy on the Humane Care and Use of Laboratory Animals, Section IV.