Handling Tamoxifen

Standard Operating Procedure

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It was discovered that individuals had been using animal changing tables in housing rooms to inject mice with tamoxifen. This practice was stopped immediately after discovery.

The following is the correct SOP to utilize in the LSB to safeguard the staff and students from an accidental exposure to tamoxifen or its metabolites.

**Preparation:**

1. Any person who will be injecting animals with tamoxifen must use a half-mask respirator that has been fit tested by Risk Management. Contact Risk Management to set up a fit test.
2. Reserve room 1109C at cac.byu.edu to ensure that the biosafety cabinet is available.
3. Contact Warren Bingham ([wwb@byu.edu](mailto:wwb@byu.edu)) or Russ Matheson ([russm@byu.edu](mailto:russm@byu.edu)) to request the following:
   1. A Tyvek jumpsuit
   2. Disposable cages. Please mention how many are required in the request; each cage can house 1-3 animals and will contain feed. Prepped cages will be kept on the rack in the quarantine room.
4. Syringes used for Tamoxifen injection must be:
   1. Safety engineered with self-sheathing technology etc. Risk Management must approve any exceptions prior to syringe use
   2. Prepared in the chemical fume hood of the lab
   3. Transported to the vivarium in a Ziploc or similar bag within a puncture proof container. Disinfect the bag with Oxivir before entering the vivarium.
5. Personnel should don PPE as normal when entering the vivarium.

**Procedure:**

1. Take mice that will receive Tamoxifen from their housing room into 1109C.
2. Take the prepped disposable cages from the quarantine room to 1109C.
3. Don appropriate PPE: including the Tyvek suit, a properly-fitted half mask respirator, and two pairs of nitrile gloves.
4. Uncap and prepare the syringe in the biosafety cabinet. Restrain the mouse by scruffing.
5. Keep the mouse in the biosafety cabinet while performing the injection.
6. Dispose of syringe in the sharps container.
7. Place the injected mouse in the disposable cage, inside the biosafety cabinet.
8. When the cage has the maximum or pre-determined number of injected mice, securely attach the disposable lid.
9. Take the cage to the quarantine room and place the cage securely on the disposable cage rack.
10. Write the injection date directly on the disposable cage. Tape the cage card to the cage.
11. The cage should not be changed or opened for the next 20 days, while the mouse metabolizes the tamoxifen. If opening within 20 days is required, it must be done in the biosafety cabinet in 1109C.
12. After 20 days, use the biosafety cabinet to transfer the mouse to a standard reusable cage and return to the normal housing room of the mouse. Be extremely careful to not stir up the dirty bedding. It will contain metabolized tamoxifen constituents, which are too small to be caught in a HEPA filter and present a risk to human health.
13. Replace the lid on the disposable cage before removing it from the biosafety cabinet. The entire cage and contents should be double bagged with regular can liners and placed in a cardboard box labeled 'Chemical Waste, Tamoxifen.'
14. The box should then be removed from the vivarium and placed in front of 1104E. Animal Care Staff will arrange for its disposal.

Vivarium Manager: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Russ Matheson

University Veterinarian: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Sandy Garrett