Policy No. 2011-3: Toe Clipping Mice and Rats (1, 2, 3, 4, 5)

Approved: 9/21/1011

1. Toe clipping (at any age) must be described in the Animal Use Protocol Appendix 3(2, 3).
   a. Provide justification that no other methods of identification are feasible(2, 3).
   b. Aseptic practices must be followed(2, 3).
   c. Provide evidence that the procedure is conducted in the least painful & most humane manner possible(2, 3).
   d. When used as a method of identification, toe clipping should also be used as a source of tissue for genotyping, rather than also performing a tail or ear punch biopsy.

2. Toe clipping may only be performed on pre-weanling rodents; preferably 5-10 days old(2).

3. Specific Age Considerations and Guidelines:
   a. The recommended age is 5 – 10 days old.
      i. No anesthesia is required.
      ii. Hemostasis is generally spontaneous. Apply digital pressure if bleeding occurs and observe for 30 seconds before returning mouse to cage.
   b. For rodents 10-21 days old, local anesthesia is required.
      i. ONE of TWO methods can be used:
         1. Immersion of foot in ice cold alcohol for 10 seconds
         2. Spray with ethyl chloride (topical – freeze anesthesia)
         3. Hemostasis must be assured by digital pressure(10-14 days) or cautery(15-21 days) and observation for lack of bleeding at the amputated stump
   c. Toe clipping of rodents greater than 21 days old can only be performed under exceptional circumstances. It is not to be performed routinely.
      i. The IACUC requires that ear tags, ear punches, ear notches or radio-frequency identification chips (rfid) be used as an alternative unless scientifically justified.
         -Instruments and assistance for such methods are available from the IAS.
      ii. Exceptions to the 21 day age limit must be rigorously addressed in the Animal Use Protocol or an amendment, providing sound evidence that alternatives to toe clipping are not feasible.
      iii. If toe clipping beyond 21 days of age has been approved by the IACUC as necessary and scientifically justified:
         1. The veterinary care staff must be contacted before the procedure.
         2. Toe amputation must be performed as soon as possible after 21 days.
         3. The procedure must be conducted under general anesthesia.
         4. The amputated stump must be cauterized.

4. To amputate, cut with sterile scissors at the joint between second and last phalanx. Only the third (toe-nail bearing) phalanx of the digit is to be removed.

5. Hemostasis: ALL Animals (regardless of age) must be monitored for 5 minutes after return to cage for any signs of bleeding from the amputation site. In addition:
a. Mice & Rats 7-12 days – little bleeding is expected - apply digital pressure for a few seconds  
b. Mice & Rats 12-21 days – apply digital pressure or cautery of amputated stump  
c. Mice & Rats greater than 21 days old – cautery required  
d. Acceptable means of cautery: Silver Nitrate Stix, Quik-Stop Powder or electro-cautery pen

(1) NIH-Animal Research Advisory Committee http://oacu.od.nih.gov/ARAC/  