



Institutional Animal Care and Use Committee (IACUC)
Office of Research Compliance (ORC)

Mouse Toe Clipping SOP

Effective: September 30, 2013
Last Updated: May 2016

SOP Owner:
Bloomington Institutional Animal Care and Use Committee

Responsible University Officer:
Fred H. Cate
Vice President for Research

SOP Contact:
IACUC Administrator

Statement

This SOP describes when mouse toe clipping may be used for individual pup identification and delineates the standard procedures used to perform this technique. Any deviation from this SOP **must be approved** by the IACUC prior to implementation.

Reason for SOP

Toe clipping may be considered when individualized animal identification is required to be permanent and definitive, and only when no other individual identification method is feasible (e.g., ear punch, ear tag, microchip, indelible markers, or tattoo).

Procedures

Scientists must receive IACUC approval for toe-clipping as a method of identification prior to its use. Scientists must scientifically justify use of toe clipping in their research proposal and address the reason(s) why alternate identification methods are unsatisfactory. This justification must clearly indicate why alternative methods of identification are not appropriate; it cannot be based solely on the number of animals requiring unique identification, or on the cost of using other methods.

Toe clipping can only be performed on animals twelve (12) days of age or younger, and may be approved in the animal protocol under the following circumstances:

- Mice up to 7 days of age may be toe clipped for identification purposes.
 - No anesthesia is required.
- Mice 8-12 days of age may be toe clipped **ONLY** if the toe tissue is also used for genetic analysis. This would be considered a refinement by making it unnecessary to perform tail biopsies for tissue sampling.
 - Topical anesthesia is required and achieved by: 1) immersion of the foot in ice-cold alcohol for 10 seconds, 2) spraying the foot with ethyl chloride, a topical freezing agent/anesthesia, or 3) application of a topical anesthesia with epinephrine.

The numbering system used should be designed to minimize the total number of toes clipped per animal. Similarly, a given foot should have as few toes clipped as possible.

The following procedures **MUST** be followed:

- No more than 2 toes per foot may be clipped.
 - Avoid clipping toes on fore paws, if possible.
 - DO NOT clip the 1st digit (i.e. thumb) on either fore paw.
 - Remove the 3rd phalanx (i.e. toe-nail bearing, last bone of a digit); cutting the very distal portion of the 2nd phalanx to remove the complete nail bed.
- Aseptically prepare the digit before clipping (i.e. wipe with povidone-iodine or 70% alcohol).
- Use very sharp scissors (fine pointed tips work best).
- Scissors must be cleaned and disinfected initially, and between animals, with 70% ethanol or povidone-iodine.
- To achieve hemostasis, apply digital pressure using a piece of gauze for several seconds. (A small amount of bleeding is expected.) Monitor animals continuously until bleeding has stopped.
- **ALL animals (regardless of age) must be monitored for 5 minutes** after returning to their cage for any signs of bleeding from the site.
- Monitor animals on a defined, regular basis to ensure appropriate healing and use of affected limb(s). Promptly contact the LAR veterinary staff if toe(s) does/do not heal properly, or if the animal cannot ambulate normally following the procedure.

Reference: *Guide for the Care and Use of Laboratory Animals*, 8th edition, National Research Council, National Academy Press, 2011. (Page 75)

Contacts

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Web Address for this SOP

<https://research.iu.edu/policies/bloomington-animal-care-and-use.html>