



Johns Hopkins University

Animal Care and Use Committee

Toe Clipping of Rodents^{1, 2}

PURPOSE: This document provides guidance on toe clipping as a means of permanent identification in rodents.

BACKGROUND: The *Guide for the Care and Use of Laboratory Animals*³ suggests several means of animal identification including room, rack, pen, stall, and cage cards with written, bar-coded information or radiofrequency identification information. In addition, animals may wear collars, bands, plates, and tabs or be marked with colored stains, ear notches and tags, tattoos, subcutaneous transponders and freeze brands.

Under certain circumstances “toe clipping” (removal of the first bone of certain toes, corresponding to a predetermined numbering code⁴) may be necessary for the purpose of permanent and unambiguous identification in long-term studies. Toe-clipping as a method of identification of small rodents should be used only when no other individual identification method is feasible. According to the *Guide*, “It may be the preferred method for neonatal mice up to 7 days of age as it appears to have few adverse effects on behavior and well-being, especially if toe clipping and genotyping can be combined”⁵.

GUIDELINES:

- The principal investigator must provide a strong justification in their protocol for use of toe clipping and explain why alternative methods cannot be used.
- Toe-clipping should be performed ≤ 7 days of age and can be done without the use of anesthesia. Exceptions to the 7 day old age limit must be addressed in the animal protocol. If toe-clipping is performed at >7 days of age anesthesia must be used.
- It is recommended that only one toe per foot (preferably the hind foot) be clipped. The amount taken should be limited to the distal phalynx whenever possible.
- Under all circumstances, aseptic practices should be followed.

¹ Approved by the Animal Care and Use Committee: 1/20/2005, revised 7/2011 for consistency with approved Mouse Breeding Guidelines, reviewed 2/12/15

² Adapted from the National Institutes of Health Office of Animal Care and Use Guidelines

³ Guide for the Care and Use of Laboratory Animals, National Research Council, National Academy Press, 2011, 8th ed., p75.

⁴ Assistant Laboratory Animal Technician Manual, P. Timothy Lawson (ed.), American Association for Laboratory Animal Science, 2001, p45.

⁵ Castelhana-Carlos, MJ et al., Identification methods in newborn C57/BL/6 mice: a developmental and behavioural evaluation. *Laboratory Animals* 2010; 44; 88-103.