

Toe Clipping Policy/Guideline

Background:

Toe clipping is a method used for identifying and obtaining tissue for genotyping in small rodents. Advantages of this method include permanent designation of animals and reduced risk for misidentification. According to *The Guide for the Care and Use of Laboratory Animals*, “toe-clipping, as a method of identification for small rodents, should be used only when no other individual identification method is feasible and should be performed only on altricial neonates.”

Guidelines:

Toe clipping may be considered for research that requires unique animal identification that is permanent and unambiguous. Indications for using this method include:

- Group housing animals of mixed genotype or experimental treatment.
- Longitudinal studies greater than six months duration
- Use of breeder animals for 6 months or longer
- Research projects that require easy and clear-cut identification of animals by 3 or more individuals from the laboratory and/or collaborator.

The PI must submit a written justification for IACUC approval prior to using the toe-clip method. This explanation must clearly indicate why alternate methods of identification are not possible and cannot be based solely on the number of animals requiring unique tags. If tail snipping is requested in addition for genotyping, justification must be provided for the harvest of additional tissue.

Method:

1. Toe clipping can only be performed in 1-12 day old mice and 1-7 day old rats. The ideal time is between postnatal day five and seven when the toes are large enough to work with yet bones are not calcified.
2. Digit removal is limited to two toes per foot, two feet per animal. Whenever it is feasible, amputating half of a digit is sufficient.
3. Instruments (surgical scissors, scalpel blade) must be sterilized before use and cleaned and disinfected between animals.
4. Confirm bleeding has stopped prior to returning animals to their cage.
5. If needed, removed tissue should be used for genotyping.

Currently, it is generally accepted that anesthesia is not required for this procedure in altricial rodents. However, evidence exists suggesting that surgical procedures performed without anesthetics in altricial rodents can induce long lasting or permanent changes in the nervous system. Investigators are advised to consult with VCS on the use of topical anesthetic agents when considering the toe clip method.