

TECHNIQUES TRAINING: M O U S E



A VISUAL GUIDE TO RESEARCH TECHNIQUES



AMERICAN ASSOCIATION FOR LABORATORY ANIMAL SCIENCE

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David DeOrnellis, RLATG, CPIA

Amy Bergstedt, RLATG

Keith M. Astrofsky, DVM

Project Review

AALAS Educational Resources Committee

Margaret L Delano, MS, DVM, ACLAM

Leta D. Eng, BS, RLATG

Roxanne E. Fox, BS, RLATG

Tracy Gluckman, MS, DVM, DACLAM

David Scott Green, LATG

Lynda L. Lanning, DVM, DABT

James Magrath, LATG

Michael P. McGarry, PhD

Mia McArthur Nettik, AA, RLATG

Cecilia M. Pate, MBA, CPIA, CMAR, RLATG

Production

American Association for Laboratory Animal Science

Pam K. Grabeel, MA

Melissa Hunsley, PhD, CPIA

Nicole Duffee, DVM, PhD

Layout

Amy B. Tippett, BFA

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— Introduction —

This book was created for trainers and trainees as a pictorial, step-by-step guide to perform basic techniques in mice. **It is not intended to replace a formal training program or guidance by trainers.**

Please refer to your institution's standard operating procedures (SOPs) and guidelines for anesthesia and analgesia requirements, dosing volumes, route of blood collection, and needle size, etc. Other AALAS references that support training include the Laboratory Animal Technician Training Manual¹ and various bi methodology courses included in the AALAS Learning Library (www.aalaslearninglibrary.org).

Generally only one method for a given technique is shown in this publication; however, other acceptable variations may be used at your institution. Where appropriate, adaptations or alternative materials are mentioned. In the development of this book, the mice undergoing any minor procedure not typically requiring anesthesia were anesthetized to facilitate photography. For the nonsurgical procedures demonstrated, recommendations are included to guide the reader regarding the need for anesthesia. In these and other locations, readers are referred to their institutional policies for specific requirements.

Before attempting the procedures illustrated here, please ensure that they comply with your institution's SOPs and policies and are part of an approved protocol.

A procedure is any activity carried out on the animal, such as applying an ear tag, blood collection, or a surgery. All of the federal laws, regulations, policies and guidelines applicable to animal research have a core requirement for the humane treatment of the animals involved in a study. Accordingly, your IACUC will have requirements for the proper care of your animals prior to, during, and after a research procedure (peri-procedural care).

This peri-procedural care requirement covers:

- properly preparing the animal to humanely undergo the procedure,
- supporting the animal's physiological function during the procedure, and
- providing additional supportive care to aid the animal in recovering from the procedure.

Before performing any procedures on live animals, personnel must have the appropriate training. This training should include how to do the procedure itself, as well as how to provide appropriate peri-procedural care to the animal. Training may be obtained from a variety of sources, such as the qualified veterinary, training, or research staff. This book is intended to be an adjunct resource for the training that personnel need to become competent and qualified for performing the basic procedures presented here.

The following directional terms in veterinary anatomy are used in this book and are included here as a reference for describing technical procedures.

Directional Terms²

| | |
|----------|--|
| Caudal | Closer to the tail; used on the head, neck, trunk, and limbs proximal to the carpus and tarsus. |
| Cranial | Closer to the cranium; used on the neck, trunk, and limbs proximal to the carpus and tarsus. |
| Distal | Toward the periphery, away from the origin of the limbs and tail, the free end of them. |
| Dorsal | Closer to the dorsum. This term refers to the back or dorsum of the neck, trunk, and tail, to the corresponding surface of the head, the dorsum of the feet. |
| Lateral | More distant to, or away from, the median plane. |
| Medial | Closer to the median plane. |
| Palmar | Refers to the inner (caudal) surface of the palm (of the forefoot). |
| Plantar | Refers to the inner (caudal) surface of the planta (of the hindfoot). |
| Proximal | Toward the trunk, near the origin of the limbs and tail. |
| Rostral | Closer to the tip of the nose or the orifice of the mouth; used on the head. |
| Ventral | Closer to the ground in the standing position of a quadruped. |

¹Laboratory Animal Technician Training Manual. Memphis (TN): American Association for Laboratory Animal Science. Forthcoming.

²Adapted from Constantinescu, GM. 2011. Comparative Anatomy of the Mouse and Rat. Memphis (TN): American Association for Laboratory Animal Science.