

Instruction Number: VS-WI-01**Title:** Mouse Restraint Techniques

Revised 10/30/2017

1. GENERAL GUIDELINES

- 1.1 Always handle rodents gently
- 1.2 Mice may bite, so use caution when handling them
- 1.3 Restraining awake mice causes stress. When performing procedures on awake animals work quickly and release animals as soon as possible.
- 1.4 Use clean gloves or soft-touch style forceps to pick up a mouse
- 1.5 Mice should not be suspended by their tails for more than a few seconds
- 1.6 If unable to capture or restrain an animal after a few attempts, stop and allow the animal to calm down before resuming capture.

2. MANUAL RESTRAINT PROCEDURES

- 2.1 Hand scoop - Place one or both hands in cage and capture animals by scooping it up in-between the palm(s)
 - 2.1.1 This method is the gentlest and can be used with mice that have been handled frequently and do not jump or bite
 - 2.1.2 This method may be used to transfer animals from one cage to another.
- 2.2 Capture and transfer technique



- 2.2.1 Using the non-dominant hand, grasp the mouse near the base of the tail; between thumb and index finger
 - * Grasping near the tip of the tail may induce a “de-gloving” injury in which the skin on the tip of the tail is removed

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- * Lift the animal out of cage and place it in new cage or other firm surface. Again, DO NOT suspend the mouse by the tail for a prolonged time period.

2.3 Two Hand Skin Scruff - suitable for technical manipulations

- Ear tag placement
- To facilitate reading the ear tag
- Intrascapular subcutaneous injection

2.3.1 Using the dominant hand, grasp the mouse near the base of tail; in between the thumb and the index finger. Lift the animal out of the cage and place it on a firm surface.

2.3.2 Using the non-dominant hand, place the thumb and index finger of the non-dominant hand on either side of dorsal neck, and press down and grasp the skin tightly

2.3.3 Place the tail in-between the fingers to secure and control the animal.

- * Be careful not to grasp the nape too tight as this may compromise breathing.

2.4 One Hand Fingertip scruff restraint technique – suitable for technical manipulations

- To facilitate reading the ear tag
- Intrascapular subcutaneous injection

2.4.1 Using the non-dominant hand, grasp the mouse near the base of the tail in-between the thumb and the index finger



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- 2.4.2 Lift the animal out of cage and place it on a firm surface
- 2.4.3 Slide the thumb and the index finger to the mid-tail region



- 2.4.4 Place the base of tail in-between the middle and ring fingers



- 2.4.5 Grip the tail between the middle and ring fingers
- 2.4.6 Release tail from the thumb and index finger



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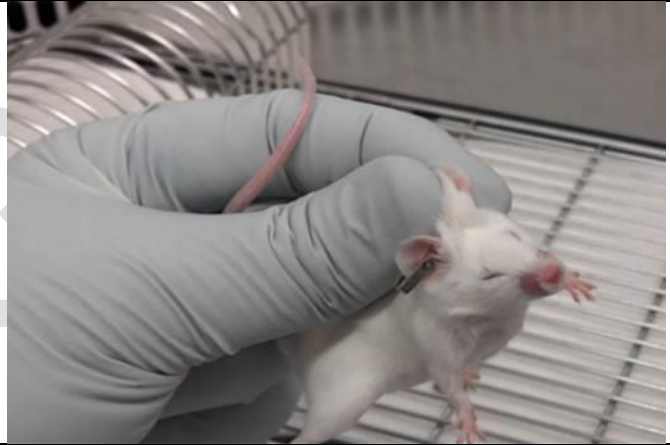
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2.4.7 Place the thumb and index finger on either side of the nape or dorsal neck, and press down and grasp skin tightly



* Be careful not to grasp too tightly as this may compromise breathing

2.4.8 The mouse is now ready for technical manipulations



2.5 The following one hand immobilizing restraint technique is suitable for the following technical manipulations:

- Oral gavage
- Intramuscular injections – multiple sites
- Subcutaneous injections – multiple sites
- Intraperitoneal injections
- Hock injections

2.5.1 Perform steps as described in sections 1.2.1 through 1.2.6

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2.5.2 Place the thumb and index finger (with index finger bent so that the area between the proximal and distal knuckle is almost parallel with mouse spine) on either side of the nape or dorsal neck, press down and grasp skin tightly



* Be careful not to grasp too tightly as this may compromise breathing

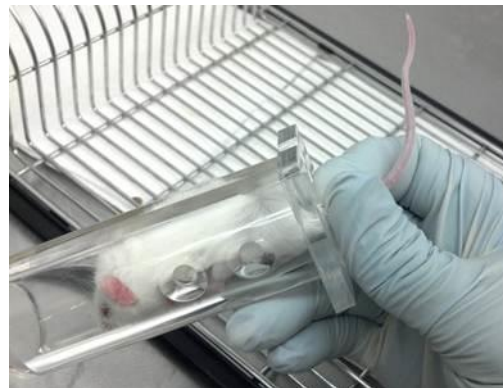
2.5.3 The mouse is now ready for technical manipulations



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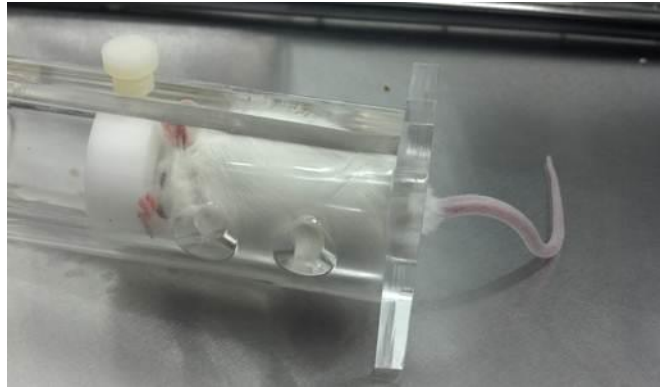
3. **MECHANICAL RESTRAINT PROCEDURES** - These restraints are intended for use with procedures that require a moderate duration of restraint or restraint for minor procedures
- 3.1 Restrainer selection
- 3.1.1 Size – Select restraining device appropriate for animal size
- 3.1.2 A device that is too large will allow the animal to turn inside restraint; resulting in possible injury to animal and/or handler
- 3.1.3 A device that is too small may restrict animals breathing or cause injury to the animal
- 3.1.4 Carefully monitor animals when in restraining devices, as these devices often do not allow for the dissipation of body heat and can result in injury or death of animal
- 3.1.5 Access to anatomy - select a restraining device which allows visualization/access as needed for the procedure to be performed
- 3.2 Tube Type Acrylic Restraints are suitable for the following technical manipulations:
- Intravenous (IV) injections into tail vein
 - Blood collection by tail nick
- 3.2.1 Grasp the mouse using capture and transfer technique described in section 1.1
- 3.2.2 Hold restrainer at a 30-degree angle with the opening down and close to a hard surface
- 3.2.3 Draw the mouse into the cylinder tail first, allowing the front feet to remain in contact with the surface while the hind limbs are drawn into tube
- 3.2.4 Gently pull the mouse into the tube until the base of tail is through the slot at the end of tube



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- 3.2.5 Place stopper into tube and move it toward the distal end of tube until the mouse has just enough space to breathe comfortably; without being able to move around



ORIGINAL