

Instruction Number: VS-WI-01**Title:** Mouse Restraint Techniques**1. GENERAL GUIDELINES**

- 1.1 Disinfect gloves, forceps and any other item used to pick up a rodent prior to use and between animals
- 1.2 Rats and Mice may bite, use caution when handling
- 1.3 Restraining awake mice and rats causes stress in these animals, when performing procedures on awake animals work quickly, release animals as soon as possible
- 1.4 Mice and rats should not be suspended by tails for more than a few seconds
- 1.5 Always handle rodents gently
- 1.6 If unable to capture or restrain animal after a few attempts, stop and allow animal to calm down

2. MANUAL RESTRAINT PROCEDURES

- 2.1 Hand scoop - Place one or both hands in cage and capture animals by scooping into palm(s)
 - 2.1.1 This method is the most gentle 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 cage
- 2.2 Capture and transfer technique



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

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- * 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
- 2.2.1 Lift animal out of cage and place in new caging or on firm surface
 - * DO NOT suspend mouse by the tail for a prolonged time period
- 2.3 Two Hand Skin Scruff - suitable for technical manipulations
 - Ear tag placement
 - Read ear tag
 - Intrascapular subcutaneous injection
- 2.3.1 Using dominant hand, grasp mouse near base of tail between thumb and index finger Lift animal out of cage and place on firm surface.
- 2.3.2 Place thumb and index finger, of non-dominant hand, on either side of dorsal neck, press down and grasp skin tightly
- 2.3.3 Place tail between fingers to secure and control animal.
 - * Be careful not to grasp too tight as this may compromise breathing.
- 2.4 One Hand Fingertip scruff restraint technique – suitable for technical manipulations
 - Ear tag placement
 - Read ear tag
 - Intrascapular subcutaneous injection

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



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



- 2.4.4 Place base of tail between middle and ring fingers



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



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



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

2.4.8 Mouse is now ready for technical manipulations



2.5 One hand immobilizing restraint technique – 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 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 dorsal neck, press down and grasp skin tightly



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

2.5.3 Mouse is now ready for technical manipulations



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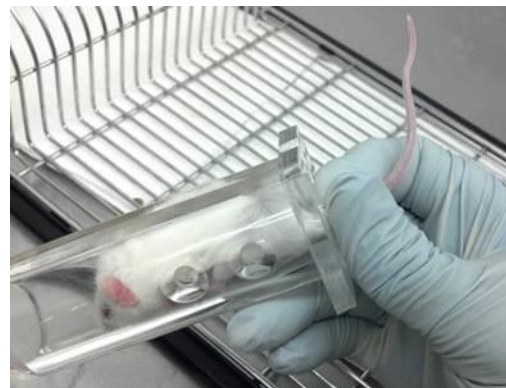
3. MECHANICAL RESTRAINT PROCEDURES - These restraints are intended for use with procedures that require a moderate duration of restraint or restraint for minor procedures

3.1 Restrainer selection

- 3.1.1 Size – Select restraining device appropriate to 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 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 procedure to be performed

3.2 Tube Type Acrylic Restrainers - suitable for the following technical manipulations:

- Intravenous (IV) injections into tail vein
 - Blood collection by tail nick
- 3.2.1 Grasp mouse using capture and transfer technique described in section 1.1
 - 3.2.2 Hold restrainer at a 30 degree angle with opening down and close to hard surface
 - 3.2.3 Draw mouse into cylinder tail first, allowing front feet to remain in contact with surface while hind limbs are drawn into tube
 - 3.2.4 Gently pull mouse into tube until base of tail is through the slot at end of tube



- 3.2.5 Place stopper into tube

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- 3.2.6 Move stopper toward distal end of tube until mouse has just enough space to breathe comfortably without being able to move around

