

Instruction Number: VS-WI-02**Title:** Rat Restraint Techniques

1. GENERAL GUIDELINES

A. BASIC HANDLING AND RESTRAINT

- * Rats are basically docile, curious animals and usually develop closer bonds with humans than mice do.
- * Rats respond positively to quiet, gentle handling. They are normally not aggressive (except for some strains/stocks, e.g. Fisher 344), but if frightened or distressed can inflict painful bites.
- * Like any animal, rats are creatures of habit. Everyday events do not tend to stress or excite rats. However, out of the ordinary events such as being picked up, handled, and restrained are stressful and can result in the rats being fractious. Conditioning the rats to handling and restraint will prevent the rats from associating being handled with “negative” things (like being stuck with a needle) and often makes the animals much easier with which to work.
- * Work quietly among the animals, and try to avoid performing procedures in the animal housing room. This will minimize the excitement of the rats from smells and noises, and will allow you to easily perform your tasks on a more tractable, less stressed animal.

Oh Hi! My name is Sam, and I'll be your rodent for this evening.



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2. RAT RESTRAINT TECHNIQUES - FOR REMOVAL FROM CAGING AND TRANSPORT

2.1 Tail Hold Procedure

2.1.1 With the non-dominant hand, grab the base of the tail with the thumb and index finger (Image 1) to keep the rat from running away especially if it is an aggressive rat. DO NOT suspend the rat by the tail or the upper body for a prolonged time period because of the stress on the animal. Support the body weight quickly.

* 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

2.1.2 Lift the rat out of cage and place in new caging or on a firm surface or hands. (Image 2)

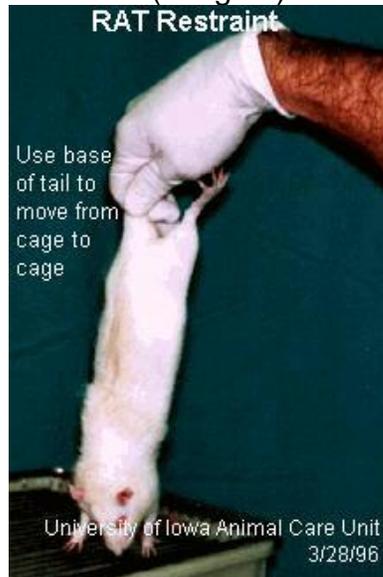


IMAGE 1



IMAGE 2

2.2 Thoracic Hold Procedure - If the rat is docile, you may just grasp the rat straight out of the cage with your hand

2.2.1 With firm but gentle pressure, grasp the rat around the thorax with the thumb and fingers under each of the front legs. Alternatively, one or two fingers can be in front of the foreleg.

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3. MANUAL RESTRAINT FOR TECHNICAL PROCEDURE

3.1 Two Hand Restraint Technique

- 3.1.1 With the non-dominant hand, grab the base of the tail with the thumb and index finger to keep the rat from running away. (Image 1)
- 3.1.2 With firm but gentle pressure, grasp the rat around the thorax with the thumb and fingers under each of the front legs. Alternatively, one or two fingers can be in front of the foreleg. (Image 3)
- 3.1.3 For a greater degree of restraint, slide the thumb across the ventral thorax and underneath both forelegs. This allows greater control of the head (Image 4)
- 3.1.4 The rat is now ready for technical manipulations
- 3.1.5 The base of the tail may be held or the rear quarters supported by the other hand for additional control



IMAGE 3



IMAGE 4

3.2 One Hand Restraint Technique

- 3.2.1 With the non-dominant hand, grab the base of the tail with the thumb and index finger to keep the rat from running away. (Image 1)

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- 3.2.2 With the other hand, place the palm of the hand on the rat's back. With the thumb and fingers gather the loose skin along the dorsum including that along the dorsal neck. The thumb and index finger are utilized to stabilize the head while the other three fingers stabilize the trunk (Image 5)
- 3.2.3 Be careful not to grasp too tight as this may compromised breathing.



- 3.2.4 Perform steps as described in sections 1.2.1 through 1.2.6

4. MECHANICAL RESTRAINT FOR TECHNICAL PROCEDURES

- * Restraint devices and length of time each animal is restrained should be approved by IACUC
- 4.1 Restraint with Plexiglas restraint tube
 - 4.1.1 With the non-dominant hand, grab the base of the tail with the thumb and index finger to keep rat from running away. (Image 1)
 - 4.1.2 With firm but gentle pressure, grasp the rat around the thorax with the thumb and fingers under each of the front legs. Alternatively, one or two fingers can be in front of the foreleg (Image 3)
 - 4.1.3 Place the rat's head into the opening of the restraint box
 - 4.1.4 Release hold on the body, while maintaining grasp on the tail.
 - 4.1.5 Place securing block in appropriate slot for necessary restraint

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- * Observe animal to insure it can breathe normally, if rat is restrained to tightly it can suffocate

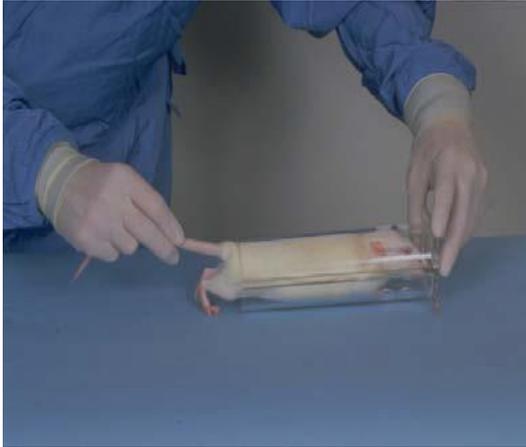


IMAGE 6

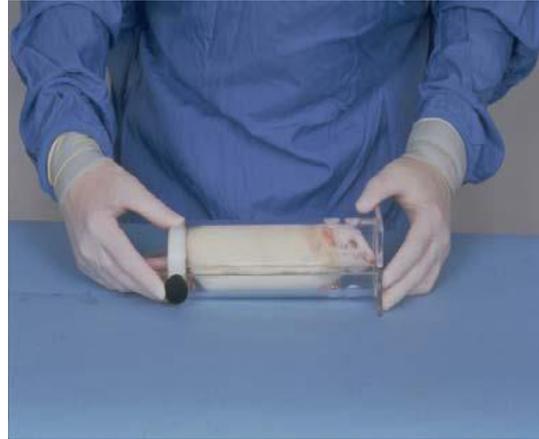


IMAGE 7

- 4.2 Restraint using DecapiCones® (Image 8)
 - 4.2.1 Grab the base of the tail with the thumb and index finger (Image 1)
 - 4.2.2 With the head first, place animal in DecapiCone®
 - 4.2.3 Gentle restraint is done by wrapping DecapiCone® around snug around the animal (Image 9)
 - 4.2.4 The animal is now ready for technical manipulations such as IP injections or decapitation
 - * Note that decapitation of conscious rodents can only be performed when scientifically justified and approved in the IACUC protocol



IMAGE 8

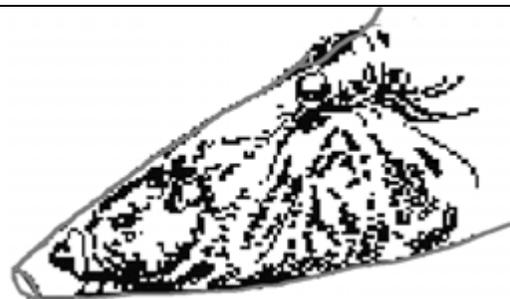


IMAGE 9