

<b>Institutional Animal Care &amp; Use Program - UTEP</b>	
<b>Title:</b> Anesthetic Care of Rodents	
<b>Policy:</b> #036	<b>Date in Effect:</b> 19 May 2025
<b>Version #:</b> A	<b>Rev Date:</b>
<b>In Effect</b> <input checked="" type="checkbox"/> <b>Rescinded</b> <input type="checkbox"/>	<b>Date Rescinded:</b>

## A. RESPONSIBILITIES

It is the responsibility of all personnel using animals at the University of Texas at El Paso (UTEP) to abide by this policy. It is the responsibility of the Institutional Animal Care and Use Committee (IACUC) to review for approval, properly justified requests for an exception to this policy.

## B. BACKGROUND

This Guideline provides detailed descriptions of procedures to be followed unless alternate procedures have been outlined in an IACUC Protocol Application. If an investigator wishes to deviate from the approved guideline, all changes must be outlined and justified in the protocol application (approval of the protocol indicates approval of the deviation from the guideline for that project only).

It is the researcher's responsibility to ensure that adequate post-operative/post-anesthetic care is provided. The individual(s) providing post-operative care must be familiar with the approved IACUC Protocol, have the skills and abilities to perform the assessments as indicated below, and must be able to provide support in case of complications. It is important to note that these guidelines are **MINIMUM STANDARDS**.

## C. POLICY

Compliance with these guidelines is required unless a written exception has been approved by the UTEP IACUC on the grounds of accomplishing scientific objectives. The aim of this guideline is to:

- Provide for a rapid, smooth and pain free recovery

- Reduce the chances of complications frequently associated with anesthesia
- Identify and correct as quickly as possible, any complications that occur

#### **D. PRE-ANESTHETIC EXAMINATION**

All animals must be evaluated immediately prior to anesthesia to ensure that they are healthy and capable of tolerating a general anesthetic event. Animals that are showing signs of disease should be evaluated by a veterinary staff member prior to the administration of anesthesia. Animals that are hunched and scruffy have reduced activity, or any changes in respiratory status (increased rate or effort) are particularly susceptible to anesthetic complications.

#### **E. ANESTHETIC SELECTION**

If inhalant anesthetics (isoflurane) are used, it should be administered in oxygen via a precision vaporizer. In certain instances, a drop jar method of anesthesia may be appropriate; however, it should only be used for non-surgical procedures requiring short anesthetic episodes.

#### **F. SUPPORTIVE CARE**

All anesthetized animals undergoing a procedure that will take >5 minutes must receive heat support to prevent the development of hypothermia, one of the most common causes of anesthetic complications in rodents. Circulating hot water blankets and rodent specific electric heating pads are the preferred methods of heat support.

Prior to a procedure that will take >5 minutes, eye lubricant must be applied to both eyes to prevent drying of the corneas and subsequent ocular inflammation. The lubricant should be re-applied every 30-60 minutes until recovery. For surgical procedures longer than 30 minutes and/or where fluid loss due to hemorrhage or evaporation is anticipated; fluid support should be provided. Warmed (warmed to body temperature (35-38°C)) subcutaneous, intravenous, or intraperitoneal fluids (Lactated Ringer's or normal saline) are given at the rate of 10-25ml/kg. If given IV, it should be given slowly over 5-10 minutes. The volume of fluid administered IP at one time should not exceed 50% of the total blood volume of the animal. Total blood volume is estimated as 6 % of the total body weight. The calculation for IP fluids is:

[Blood volume 0.06 x Body weight (grams)] x 0.50 = Fluid volume (ml)

## **A. ANESTHETIC MONITORING**

During anesthesia and recovery, animals must never be left unattended and should be monitored throughout the procedure to ensure that anesthetic depth is adequate to the procedure being performed. During recovery, animals must be monitored until ambulatory and swallow reflexes are present.

General indicators of adequate anesthetic depth include regular respirations, lack of response to toe or tail pinch, and lack of palpebral (eyelid) or whisker reflexes and adequate oxygenation should be observed by pink mucous membrane color.. Excessive anesthetic depth will most often manifest as a slowing respiratory rate that progresses to irregular, deep, forced breaths (i.e. abdominal respiration with effort). Adjust anesthetic depth accordingly if the animal is responsive to painful stimuli (animal too light), demonstrates an increase in respiration rate (animal too light) or decrease in respiration rate (animal too deep) or, has lack of color of the ears, tail, gums, or foot pads (animal too deep).

## **H. INITIAL RECOVERY**

The researcher must stay in the room to monitor anesthetized animals until they are fully recovered from anesthesia. Animals should be visually/physically assessed at least every 5 minutes. The animal is placed in a clean dry cage without bedding, as it may be ingested or inhaled during recovery. Place the animal in sternal recumbency on a paper towel to allow absorption of expelled urine, replace when soiled. To prevent possible injury to the anesthetized animal, recovering animals must be single housed until they return to their home cage.

Supplemental heating must be continued through the immediate recovery period. The heat source (water circulating heating pad or electric heating pad-use a towel for insulation to decrease the chance of thermal burns or overheating when using an electric heating pad) should be placed under half of the cage with the animal placed on the heated side. Preferably, the researcher should drape half the cage during recovery to help decrease light and exposure to movements in the environment. This provides a calmer initial recovery. Recovery progress

should be evaluated through one or more of the following methods: rate and depth of respiration, color of mucous membranes, ears and/or tail and reflexes (i.e. pedal, palpebral, whisker). Once the animal has regained normal ambulation and displays grooming behavior, the animal must be returned to its normal housing cage and placed back in **Laboratory Animal Resource Center (LARC)**, unless otherwise described in the protocol. Additional supportive care will be provided by the research team.

## I. RECORD REQUIREMENTS

The procedure date and time must be noted on the animal's cage card. Notations of monitoring should be included in the PI's records.

Review History	
Revision Version:	Revision Date:
A	19 May 2025