



## University Animal Care Committee Standard Operating Procedure

**Document No:**  
10.22

**Subject:**  
The Supportive Care of Rodents During  
Research Procedures

**Date Issued:**  
November 27, 2014

**Revision:**  
1

**Page No:**  
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**Location:** Queen's University

**Responsibility:** Principal Investigators (PI), Research Staff, Veterinary Staff

**Purpose:** The purpose of this Standard Operating Procedure (SOP) is to describe the supportive care measures to be utilized when rodents undergo research procedures.

**1. Introduction and Definitions:** While historical data on side effects and adverse reactions to established treatments or surgical procedures in rodents may be available, such information on new or novel treatments and surgical procedures may be sparse. If there is little data available on a proposed new treatment or procedure, very close monitoring will be required to ensure success.

**Abbreviations:** intramuscular **IM**, intraperitoneal **IP**, Intravenous **IV**, subcutaneous **SC**, per os **PO**

### 2. Materials:

- Sterile syringes (assorted sizes: 1 – 3ml)
- Sterile needles (assorted sizes: 25g – 30g)
- Fluids: Lactated Ringers or 0.9% NaCl
- Heating disc or heat lamp
- Eye lubricant
- Analgesic agents
- Weigh scale
- Oxygen source
- Isoflurane anesthetic machine
- Injectable anesthetic agents
- Physiological monitor, thermometer
- Lab books
- Animal cage cards

### 3. Procedures:

- If a new or novel substance is to be administered, ensure the appropriate compounding/formulation is conducted, taking into account concentration and sterility. If the product is obtained from a commercial source and requires re-constitution for use, ensure that the appropriate diluent is used to re-constitute the substance. Adhere to the manufacturer's instructions for storage and multiple dose vials.
  - Perform a literature search to identify any documentation that might be available on adverse reactions or interactions that the study compound may have with any other substances that might be used at the same time.
  - Weigh the rodent and calculate the dose to be given. Determine if the dose rate may vary depending on the route of administration.
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- Determine prior to treatment if the animal will be manually restrained; see SOP #7.20 and 10.20.
- Determine prior to treatment which route of injection will be used, see SOP #7.9 and 10.9.
- Fluids are given SC and ideally should be warm: 1 ml per mouse once or twice daily depending on response to treatment.
- Information regarding the substance given, route of administration and any additional treatments must be written on the back of the rodent's cage card.
- If analgesics are required, refer to the Animal Use Protocol for the approved regimen.
- After administration of the substance, monitor the rodent closely for the first two days, up to four times daily. The rodent should be weighed daily following treatment and this weight must be documented on the back of the rodent's cage card. Health parameters, including weight, should be recorded in the student's lab book which is kept in the ante or treatment room (or the lab).
- As outlined in the Animal Use Protocol, monitoring of the rodent should include observations on appetite, grooming, activity level, weight and hydration status. Abnormal signs, such as piloerection, hunched posture, changes in mobility or behaviour, weight loss and dehydration are to be documented in the lab book as well. Veterinary staff should be consulted if such signs are observed.
- If a new surgical procedure is attempted, anesthesia is followed as outlined in the Animal Use Protocol and SOP #7.6/10.6.
- Surgery is performed following Aseptic Technique as outlined in SOP #7.3/10.3 and the UACC policy. Body temperature is maintained using a heat source such as a heating disc or heat lamp. Fluid therapy is given as previously noted and analgesics are given as per the protocol.
- Post-operative care includes visual examination, weighing and treatment with additional fluids and analgesics for three to five days or depending on how the rodent recovers from surgery. Visual monitoring is done up to four times daily for the first two days and written records of observations are made at least daily. Any abnormal signs are noted during the visual checks as well. Again, notations about the surgery, anesthetic agent used and supportive treatments given should be written on the back of the rodent's cage card.
- Veterinary staff should be consulted if any abnormalities are observed during the recovery period.

*Revised: February 28, 2019*

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