
	<b>Flinders University</b> <b>Safe Work Method Statement</b> <b>Basic First Aid for Animals in</b> <b>Animal Facility 18/06/19</b>			
				<b>College of</b> <b>Medicine and</b> <b>Public Health</b> <b>Animal Facility</b>
SWMS Number	RA Number		RA Score	
SWMS-	RA-			
Contact Person	SWMS prepared by	AWC Approval Date	Review Date	
Lewis Vaughan	Lewis Vaughan	18/06/2019	June 2021	

**Contents**

The SWMS **Basic First Aid for Animals in Animal Facility** contains the following sections:

- Legislation
  - University Policy
  - Local Policy
  - Safe Work Method Statement
  - Personal Protective Equipment Required
  - Hazards and Controls
  - Before Work Commences
  - General Information
- Location of First Aid Equipment
- First Aid Treatment of Injured or Sick Animals in Animal Facility
  - Treatment of Minor Wounds
  - Treatment of Eye Abrasions (Ulcers)
  - Skin Problems
  - Use of Antibiotics in Water
  - Fluid Therapy
- Examples of Indications for Euthanasia

### Legislation

- *Australian Code for the Care and Use of Animals for Scientific Purposes 8<sup>th</sup> Ed, 2013*
- *Animal Welfare Act 1985*
- *Animal Welfare Regulation 2012*
- [Gene Technology Act 2000](#) (the Act)
- [Gene Technology Regulations 2001](#)
- *Work Health and Safety Regulations 2012*

### University Policy

- Work Health and Safety Policy 2013
- Responsible Conduct of Research Policy 2016
- NHMRC Guidelines

### Local Policy

Use of the College of Medicine and Public Health Animal Facilities by all staff and researchers of the College of Medicine and Public Health, Flinders University, is subject to awareness of, and adherence to the following:

#### Research Involving Animals:

- The University holds a licence for the use of animals for teaching and research purposes. To satisfy the requirements of the licence, anyone wishing to undertake teaching and research with animals must submit a proposal to the Animal Welfare Committee (via the Animal Ethics Review Sub-Committee). No work with animals may commence until written approval has been received from the Animal Welfare Committee. Standardised application forms for Research and Teaching can be found on the Flinders University website listed below. It is your responsibility to regularly check this site for updates to guidelines, forms etc  
[http://www.flinders.edu.au/research/researcher-support/ebi/animal-ethics/animal-ethics\\_home.cfm](http://www.flinders.edu.au/research/researcher-support/ebi/animal-ethics/animal-ethics_home.cfm)
  - **First aid procedures rendered to animals according to this SWMS will be deemed to be within the AWO emergency veterinary powers, provided that the AWO is informed of all such treatments within 24 hours and that that AWO is consulted regarding any additional treatments.**
- 
- **All staff and students involved in animal research must complete Animal Ethics Online Training (AEOT) and must also regularly attend Animal Researcher Information Sessions (ARIS).**

### Safe Work Method Statement

Refer to Risk assessments, Safe Work Method Statement for chemicals, processes and plant equipment where appropriate. All projects must have an accompanying Risk Assessment signed by the Animal Facility Manager

- SWMS 1.0 Mouse- Sexing, Handling, Restraint and Ear Notching
- RA 1.0 Mouse- Sexing, Handling, Restraint and Ear Notching
- SWMS 1.1 Mouse- Injection techniques
- RA 1.1 Mouse- Injection techniques
- SWMS 7.0 Compliance - Emergency Contingency
- RA 7.0 Compliance - Emergency Contingency
- SWMS 7.1 Compliance -Transportation
- RA 7.1 Compliance -Transportation

SWMS 7.2 - Rodent Importation  
RA 7.2- Rodent Importation

### Personal Protective Equipment Required

- **Gloves**
- **Gown**
- **Mask**
- **Hair Net**
- **Shoe Covers**

### Hazards and Controls

- **Animal bites- training, demonstrate competency, adhere to SWMS.**
- **Animal Scratches- training, demonstrate competency, adhere to SWMS.**
- **Needle Stick- DO NOT recap needles, dispose immediately into sharps containers, adhere to SWMS.**
- **Chemical exposure- wear PPE and goggles.**

### Before Work Commences

**Ensure that you are aware of the locations of the following:**

- **Spill Kit**
- **Fire Extinguisher**
- **Eye Wash**
- **Exits**

**Risk Assessment and SDS (Safety Data Sheet) - Ensure that you have read and understood for all the substances being used.**

**Equipment**

- **Check for safety and electrical compliance**
- **Ensure that you have read and understood the Risk Assessment and Safe Work Method Statement**
- **Obtain training before using any equipment**

### General Information

- **All procedures are to be performed by trained competent staff.**
- **Training is available from senior animal house staff or Animal Welfare Officer.**
- **Evidence of training is available in the “Staff Training Needs Analysis”.**

## Location of First Aid Equipment

1. Basic treatment items for first aid can be found in the drawer in the office in Animal Facility. Most medications, such as antibiotics, Chlorsig and Flamazine, are Schedule 4 drugs. This means that they can only be used under veterinary prescription, and must be secured.
2. At the beginning of each calendar year, the expiry date of the drugs should be checked. Due to regulatory requirements, expired drugs should not be given to animals.
3. A sterile suture kit is available for veterinary treatment of lacerations, cyst removal, or exploration of wounds.
4. Anaesthesia must be used if suturing is involved. The anaesthetic machines are located in the theatres.

## First Aid Treatment of Injured or Sick Animals in Animal Facility

- Minor wounds occur to rodents in Animal Facility. These injuries are most often a consequence of fighting. Loss of fur, bite wounds, cuts to the skin, and abrasions to the surface of the eye are occasionally seen. This document provides guidelines to provide basic first aid to these animals until they are assessed by the AWO.

### Treatment of Minor Wounds

1. The wound should be flushed with 0.9% sterile saline to remove debris.
2. The wound is inspected. If it is only part thickness of the skin, such as a bite wound or mild scratch, apply a thin layer of Flamazine cream to the affected area.
3. Contact the AWO for further advice if the condition is appears more complicated.
4. An injection of carprofen may be given in some circumstances, under AWO instruction.
5. The animal should be checked twice daily, and Flamazine applied each time. Give further medication as requested by the AWO.
6. Continue treatment until redness and swelling have resolved.

### Treatment of Eye Abrasions (Ulcers)

1. Occasionally rodents that fight may scratch the eye of a companion. In the case of guinea pigs, a piece of straw or grass seed may become stuck in the eye.
2. The eye will be closed, a discharge (clear tears or pus) is present.
3. Use a cotton bud moistened with saline to remove any object that is present from the eye.
4. Flush the eye copiously with 0.9% sterile saline.
5. Prior to any further treatment, contact the researcher and the AWO.
6. If signs of infection are present, apply Chlorsig eye ointment to the affected eye only, twice daily, for a minimum of 3 days, or as directed by the AWO.

7. Contact the AWO for advice on ongoing treatment.
8. Give an injection of carprofen (Carpreive), if indicated, under AWO instruction.
9. Medication may be stopped when the eye is open and no longer tearing.

### Skin Problems

- Mice may suffer from dermatitis, which can become generalised and pruritic. This can lead to significant suffering, and requires action.
- If areas of skin inflammation and hair loss are present, a sticky tape fur impression should be examined under a microscope to determine if fur mites are present. If fur mites are not present, ensure that all toe claws are trimmed so they are not sharp, and apply a sliver sulphadiazine cream thinly to the affected areas, twice daily, until the condition resolves. If problems persist contact the AWO.
- Barbering involves a dominant mouse chewing the fur around the face of a submissive mouse. It occurs around muzzle and eyes. If there is no break in the skin, the submissive mouse can be left with its companion, unless its Clinical Record Sheet score is high. But a reduction in density of mice, or environment enrichment in the form of nesting material or gnaw blocks etc, should be considered. If there is a break in the skin, the affected rodent should be separated, and treatment begun as for treatment of minor wounds.

### Use of Antibiotics in Water

1. Antibiotics are prescribed by the AWO on an individual case basis, and used only for the prescribed duration.
2. Continuous use of antibiotics is not encouraged. Ongoing use may lead to antibiotic resistance, and introduce confounding variables for research.
3. Indications for antibiotic use in water will be to treat a specific disease, and should be commenced after an initial injection of the same agent. Examples may include diarrhoea or respiratory tract disease. Clinical and post-mortem examination of affected animals with culture and sensitivity testing is encouraged to direct antibiotic use.
4. Antibiotics must be made up according to instructions. The water bottle should be shaken daily to ensure that antibiotics are mixed evenly in the water. Affected animals should be monitored daily, or more frequently if indicated.
5. Some antibiotics are not palatable. Flavouring agents, such as raspberry cordial, may be added to the water to improve palatability. However, if the animals are not drinking the water, the medication should cease and discussion held with the AWO on how to proceed.

### Fluid Therapy

- Fluid therapy is an important treatment that should be considered in many conditions where water consumption has been limited or body fluid has been lost because of the clinical condition of the animal. If animals show signs of dehydration, such as a sudden

drop in bodyweight within a 24 hour period, crinkled skin, loss of skin elasticity, or sunken eyes, fluid therapy may be administered by the following methods:

- (i) Additional food may be soaked in water, but should be changed daily.
- (ii) An additional source of water can be provided containing an oral electrolyte mix, such as Lectade or Gastrolyte (NOTE: rodents are often neophobic and may not drink or eat newly introduced formulations, and therefore an additional source of water must be provided).
- (iii) Alternative fluid and electrolyte sources may be provided to rodents in the form of gel packs, such as Necta Punch Raspberry available from Able Scientific.
- (iv) Body temperature Sterile Normal Saline for Injection, or Hartmans Solution, may be administered by injection. An initial injection up to 5% of bodyweight divided into two injections on either flank can be given if using the subcutaneous route, or a single intraperitoneal injection may be administered using aseptic technique. Administer injections according to the respective species SWMS injection techniques document. The AWO should be consulted for guidance regarding any additional fluid administration by injection.

#### Examples of Indications for Euthanasia

1. If the animal has reached a humane end point, as described in the Clinical Record Sheet.
2. Amputation or crush injuries of limbs or tail.
3. Self-mutilation.
4. Broken limbs.
5. Birthing difficulty.
6. Rectal prolapse of > 5 mm.
7. Generalised dermatitis.
8. Tail de-gloving injury (where skin on tail has been removed by picking up too far from the base of the tail).
9. Collapse, hypothermia, sepsis, severe dehydration, and non-responsive to human presence.
10. Emaciation (body condition score of 1 out of 5). For a description of body condition score criteria, see "*Hankenson CF 2014, Critical Care Management for Laboratory Mice and Rats, CRC Press, Florida*".

#### SWMS Review

This SWMS currently applies to the animals housed in the College of Medicine and Public Health Animal Facility. This SWMS will be reviewed 3 yearly, but also updated more frequently as policies, techniques and animal care requirements change.

Position	Name	Contact Details
Animal Facility Manager	Roxanne Collingwood	Phone: 82044488 <a href="mailto:Roxanne.Collingwood@flinders.edu.au">Roxanne.Collingwood@flinders.edu.au</a>
Animal Welfare Officer	Lewis Vaughan	Phone: 0450 424 143 <a href="mailto:awo@flinders.edu.au">awo@flinders.edu.au</a>

--	--	--

## **Useful References**

Quesenberry K.E and Carpenter J.W., 2012, *Ferrets, Rabbits and Rodents Clinical Medicine and Surgery*, 3<sup>rd</sup> ed, Elsevier.

Harkness J.E, Turner P.V., 2010, Woude S.V and Wheler C.L, *Harkness and Wagener's Biology and Medicine of Rabbits and Rodents*, 5<sup>th</sup> ed, Wiley-Blackwell.

Ullman-Cullefé M.H, and Foltz J.F, 1999, Body condition scoring: a rapid and accurate method for assessing health status in mice, *Laboratory Animal Science*, Vol 49, No 3

<http://www.nhmrc.gov.au>

<http://www.ogtr.gov.au/internet/ogtr/publishing.nsf/Content/home-1>

<http://www.adelaide.edu.au/ANZCCART/>

[http://www.flinders.edu.au/research/researcher-support/ebi/animal-ethics/animal-ethics\\_home.cfm](http://www.flinders.edu.au/research/researcher-support/ebi/animal-ethics/animal-ethics_home.cfm)

[http://www.medipoint.com/html/for\\_use\\_on\\_mice.html](http://www.medipoint.com/html/for_use_on_mice.html)

Any questions regarding the above guidelines and any technical advice/ assistance required can be directed to Animal Facility Manager and Animal Welfare Officer.




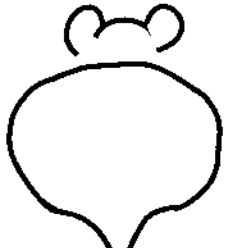
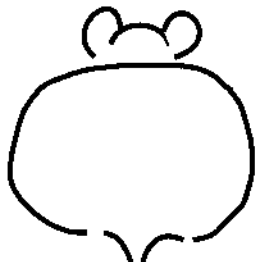
## Appendix 1: Drugs kept in Animal Facility

Category	Drug	Dose rate	Frequency and duration	Indication
Eye/ear drops	Chlorsig 1% eye ointment.	Apply 1 drop to eyes or ears twice daily for 5 days.	1-2 x daily for 5-7days on affected eye. Keep refrigerated once open. Discard in 30 days.	Eye problem: closed, weeping, ulcer present
Topical treatments	Flamazine cream (silver sulfazadiazine)	Apply as thin layer onto affected area	Topically once daily on affected area for 7days	Minor wounds, bites, scabby sores
	Betadine 1%	Apply to gauze square and gently wipe on affected area.	Apply topically to affected area, once	Clean surface of skin of minor wounds prior to flamazine
Analgesia	Carprofen (carprieve) 50mg/ml	Rats, mice: 5mg/kg SC q 24h GP: 1mg/kg SC q 24h	5mg/kg under skin once daily for 3-5days	Wounds, eye problem, post-surgery, painful
	Temgesic (buprenorphine 0.3mg/ml)	Rat, mice: 0.05 mg/kg SC q 12h where indicated GP: 0.05mg/kg SC q 12h	Dose frequency may be increased to once every 8 hours	Wounds, post-surgery, pain
Antibiotics *	Bactrim (trimethoprim/sulfamet hoxazole)	Add 5ml water to 200ml drinking water.	Change treated water on alternate days. Shake bottle daily to ensure even suspension	Broad spectrum antibiotics for diarrhoea
	Enrofloxacin; Baytril oral (25mg/ml)	1ml (25mg) in 250ml drinking water for 7 – 10 days GP: 10mg/kg PO q 12h (0.4ml/1kg GP)	Change on alternate days. Tastes bitter.	Respiratory tract infections. Do not use in young rodents < 3 weeks

- GP = guinea pig
- Antibiotics must not be used as an in water treatment without veterinary direction.



## Appendix 2. Body condition scoring criteria in mice

	<b>BC 1</b>
<p>Mouse is emaciated.</p> <ul style="list-style-type: none"> <li>◦ <i>Skeletal structure extremely prominent; little or no flesh cover.</i></li> <li>◦ <i>Vertebrae distinctly segmented.</i></li> </ul>	
	<b>BC 2</b>
<p>Mouse is underconditioned.</p> <ul style="list-style-type: none"> <li>◦ <i>Segmentation of vertebral column evident.</i></li> <li>◦ <i>Dorsal pelvic bones are readily palpable.</i></li> </ul>	
	<b>BC 3</b>
<p>Mouse is well-conditioned.</p> <ul style="list-style-type: none"> <li>◦ <i>Vertebrae and dorsal pelvis not prominent; palpable with slight pressure.</i></li> </ul>	
	<b>BC 4</b>
<p>Mouse is overconditioned.</p> <ul style="list-style-type: none"> <li>◦ <i>Spine is a continuous column.</i></li> <li>◦ <i>Vertebrae palpable only with firm pressure.</i></li> </ul>	
	<b>BC 5</b>
<p>Mouse is obese.</p> <ul style="list-style-type: none"> <li>◦ <i>Mouse is smooth and bulky.</i></li> <li>◦ <i>Bone structure disappears under flesh and subcutaneous fat.</i></li> </ul>	
<p><b>A "+" or a "-" can be added to the body condition score if additional increments are necessary (i.e. ...2+, 2, 2-...)</b></p>	

From: Ullman-Cullefe M.H, and Foltz J.F, 1999, Body condition scoring: a rapid and accurate method for assessing health status in mice, *Laboratory Animal Science*, Vol 49, No 3